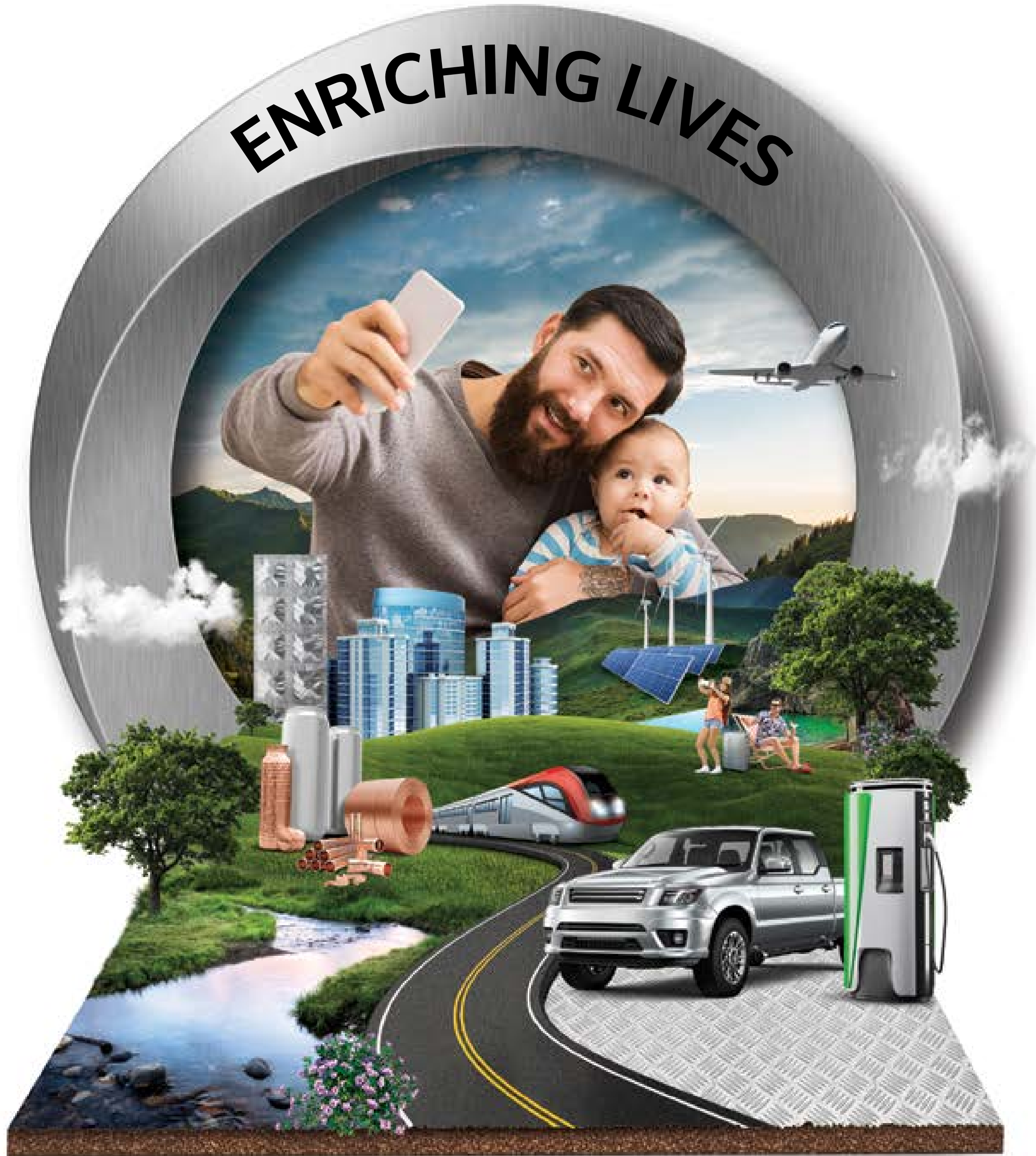


HIGHEST ESG SCORE FOR THE THIRD CONSECUTIVE YEAR#

ADITYA BIRLA

HINDALCO

INTEGRATED ANNUAL REPORT **2022-23**

HINDALCO INDUSTRIES LIMITED

Mr. Aditya Vikram Birla
14.11.1943 - 01.10.1995

WE LIVE BY HIS VALUES.
INTEGRITY, COMMITMENT, PASSION, SEAMLESSNESS AND SPEED.

[#]Hindalco achieved the highest score out of 29 companies assessed in the Aluminum Industry in the S&P Global Corporate Sustainability Assessment (ESG Score in 2022 was 83/100).

PRESENTING
OUR GROUP PURPOSE STATEMENT

TO ENRICH LIVES, BY BUILDING DYNAMIC AND RESPONSIBLE BUSINESSES AND INSTITUTIONS, THAT INSPIRE TRUST.

PRESENTING
5 GROUP PURPOSE PRINCIPLES

Our Group Purpose is not a statement. It is the core reason for our being.

The five Group Purpose Principles provide a framework for thinking, behaving and acting – influencing our thinking, inspiring and guiding our actions.

VALUE MAXIMISATION

Value for us is multi-dimensional.

Creating sustained value for all stakeholders is part of our muscle memory. And we are always energised at the prospect of creating new value.

ENDURING BONDS

Our bonds last. Over time and across business cycles.

They last because they are underpinned by mutual trust and respect. Our bonds are never transactional and reflect a shared passion and commitment to collective growth.

MULTIPLE FORMS

We recognise the implications of our conglomerate form and remain deeply committed to it.

It is the foundation from which multiple forms burst into life. We passionately challenge the 'one-form-fits-all' approach.

GROUNDS UP ENTREPRENEURSHIP

We like to build. Anew and from scratch.

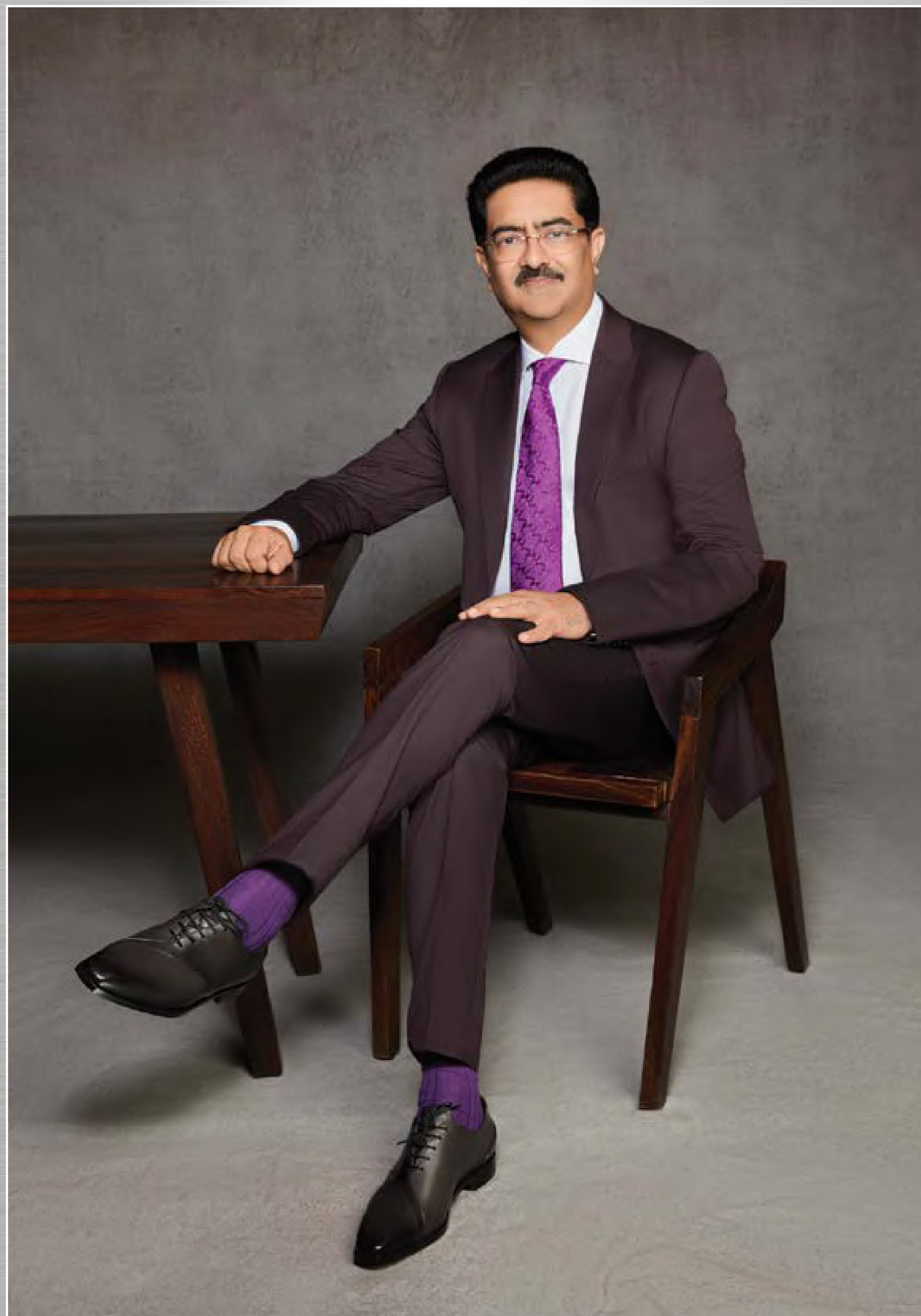
The founding spirit of entrepreneurship is core to the way we do business. The bigger we get, the more entrepreneurial we become.

FORCE FOR GOOD

The founding philosophy of trusteeship has animated our actions over a long arc of time.

Therefore, we see corporations as institutions of collective prosperity. A force for good.

Message from the Chairman



Dear Shareholders,

Our Group's foundation rests upon a trusteeship philosophy, which imagines corporations as institutions that drive collective prosperity. This philosophy has played an integral role in shaping our actions for generations, guiding our quest to enrich lives. Over the years, this purpose, though unstated, has been our unwavering anchor.

In FY2022-23, we formally put to words our Group's purpose statement. At its heart is the commitment to enriching lives by building dynamic, responsible businesses and institutions that inspire trust.

We strive to honour this commitment daily through our brands, products, services, solutions, actions, relationships, and institutions.

Our purpose statement stands both timeless and fresh against the backdrop of our extensive history. In a world of increasing opportunity and accelerating uncertainty, our purpose statement is meant to act as a talisman and remain at the core of our business decisions.

Our purpose offers us a unique lens through which to view the world, bring perspective, and thrive in it. Guided by this unique perspective, we navigate the evolving global landscape with resilience and foresight.

As we turn our attention to the current state of the global economy, it is evident that we are charting a course through a 'new normal'.

> Our enduring success amidst global uncertainties stems from our unyielding commitment to purpose, anchored in principles that are much more than words.

Global Economy: Finding a New Normal

The global economy continues to pull itself out of the pandemic-triggered shock. It does so amid a complex environment marked by the ongoing conflict in Ukraine, geo-economic fragmentation, soaring interest rates, and looming risks of a banking contagion.

Reflecting these concerns, the International Monetary Fund (IMF) expects global economic growth to dip from 3.4% in CY22 to 2.8% in CY23. Developed countries are predicted to experience a more pronounced deceleration, their aggregate growth stumbling to just 1.3% in CY23 – the slowest pace in a decade, excluding the pandemic-impacted CY20.

On the brighter side, China's economy marches towards normalisation after lifting its Covid-related restrictions. Both China and India are set to significantly contribute to global economic growth in CY23, providing a much-needed stimulus as developed economies grapple with challenges.

Meanwhile, global supply chain pressures have largely normalised, helping ease commodity prices and peak inflation levels in most economies. Central banks, led by the US Federal Reserve, are nearing the end of their rate-hiking phase, signalling cautious optimism for the global economy and financial markets.

However, vigilance remains crucial in the face of potential risk events in this fragile environment.

India: The Shining Star

India's economic narrative paints a much brighter picture. With a government-led push to infrastructure investments and pragmatic policies such as the production-linked incentives scheme, private capex has seen a surge.

This rise triggers a multi-year boom, providing valuable support to economic growth in the face of softening global demand.

A decadal reshaping of supply chains is underway. As global corporations start to look at countries across Asia as part of their China + 1 strategies, India is well-positioned to benefit. The dynamism of its tech-based 'new economy' enterprises and the expanding digitisation across sectors supports India's growth momentum.

The Reserve Bank of India (RBI) projects India's economy to grow 6.5% in FY24, demonstrating the nation's resilience amidst subdued global economic conditions. Inflation has peaked

Message from the Chairman

Driven by purpose, the fiscal year 2022-23 is a testament to the breadth and scope of entrepreneurial ventures we have embarked upon. We are exploring uncharted territories, backing our conviction with capital and talent.

globally and in India. Easing inflation, robust foreign exchange reserves, and improving bank assets' quality provide a cushion against potential destabilising events in global markets.

A vital component of the rise of any industrial ecosystem is the presence of a confident and skilled workforce. This year, India surpassed China in population and already has the largest and youngest working-age population globally. The lessons learnt from the transformations of other economies through the last few decades point to the importance of this demographic dividend.

In the grand theatre of global economic evolution, India is not a mere spectator but a charismatic lead.

Aditya Birla Group in Perspective

As India takes centre stage in this grand narrative, the Aditya Birla Group finds itself in a unique position to contribute to this monumental journey. Our enduring success amidst global uncertainties stems from our unyielding commitment to purpose, anchored in principles that are much more than words.

And therefore, the articulation of our Purpose was just the first step. We cultivated a deep understanding of our Purpose across the depth and breadth of the Group, including the last mile. To transform Purpose from a concept to an embodied experience, approximately 600 of our senior leaders and managers took the initiative to receive training and facilitate introspective dialogues on Purpose. This strategy enabled their teams to internalise, personalise, and actualise our Purpose in a manner that was both unique and authentically representative of their roles within our dynamic Group.

Driven by purpose, the fiscal year 2022-23 represents the breadth and scope of entrepreneurial ventures we have embarked upon.

We are exploring uncharted territories, backing our conviction with capital and talent. Our robust platform is a launch pad for new initiatives, allowing us to tap into opportunities across traditional and sunrise sectors.

This year, we've emphasised the implementation of our 3-year HR Strategy, guided by our Purpose Principles. This approach has enabled us to build enduring bonds with our stakeholders, including crucial employee segments like early professionals, and attract high-quality talent across traditional and digital businesses.

As we continue to expand, our employer brand has empowered us to attract over 11,000 employees in FY2022-23 – a diverse pool of new skills and capabilities.

Furthermore, our commitment to diversity is evident in the increasing representation of women in our workforce. Culture champions have fostered an inclusive and collaborative environment where every employee feels heard, valued, and respected.

Amidst shifting market dynamics, Learning and Leadership Development remains a key pillar, helping us equip over 35,000 employees with the skills necessary to drive business outcomes. Over 400 senior leaders, including CEOs, CXOs, and Unit heads, have bolstered their capabilities in geopolitical analysis, interpretation of complex megatrends, inspirational leadership, and agile leadership methodologies. Our adaptability was made apparent in our diverse learning approaches, both in terms of design and implementation. Beyond the traditional classroom environment, we provided learning in various accessible forms – including bite-sized modules, self-paced curricula, and certification courses – thereby benefiting 87% of our management cadre employees.

With two-thirds of our workforce under 35, we focus on equipping early-career employees to fulfil their evolving aspirations and needs. Through a unique program titled 'CareerAbility', these employees have engaged in self-guided learning bytes, self-assessments, psychometric evaluations, and leadership-led career guidance sessions. This diverse range of resources has been utilised more than 40,000 times.

Our commitment to the identification and cultivation of talent has remained resolute. We have recognised over 900 pivotal roles within our Group for which a robust succession pipeline is firmly in place.

Consolidated turnover*

₹ 2,23,202 Crore

Consolidated EBITDA

₹ 24,131 Crore

Hindalco added one more feather to its cap as 'Great Place to Work' certified Hindalco amongst India's 40 Best Workplaces in Health & Wellness category.

We have undertaken an avant-garde learning journey to equip our future C-suite leaders, encompassing roles such as CFOs, CMOs, CIOs, and CHROs, with the skills and insights required for leadership in a rapidly evolving business landscape. This focus has significantly enhanced our internal versus external hiring ratio for leadership positions.

Our integrated approach to talent identification, development, and internal mobility facilitates this shift.

Over the past three years, 14% of our employees and 27% of our talent pool members have transitioned into new roles, bringing our vision of 'A World of Opportunities' to life and fostering enduring bonds within our organisation. This approach represents our steadfast commitment to talent growth and mobility, which is crucial for building a resilient and adaptive organisation.

Your Company's Performance

Your Company delivered a resilient financial and operational performance in FY2022-23 in a challenging business environment.

This performance was driven by record results by the copper business, the highest-ever EBITDA by India's aluminium downstream business, and steady performance by Novelis.

Despite headwinds, your Company registered a consolidated EBITDA of ₹24,131 Crore on a turnover of ₹2,23,202 Crore in FY2022-23.

Your Company's aluminium business in India and Novelis delivered a resilient financial performance in the face of tough market conditions arising from inflationary challenges and higher input costs. All the plants operated at their designated capacities during the year in the aluminium and copper businesses.

Your Company's copper business delivered an exemplary performance backed by the highest-ever copper rod production and sales. Cathode production was 407 Kt in FY2022-23 versus 359 Kt in the previous year, and Continuous Cast Rod production was 347 Kt versus 259 Kt. Copper metal sales stood at a record 439 Kt in FY2022-23 versus 405 Kt, while CCR sales were also at a record 347 Kt this year versus 262 Kt in the previous year.

Novelis reported shipments of 3,790 Kt, an adjusted EBITDA of $1.8 Billion, and an adjusted EBITDA/tonne of $478 in the reporting year.

Novelis continued to improve its product mix with the share of beverage can sheets at 58%, automotive body sheets at 19%, specialities at 20% and aerospace at 3% in FY2022-23. Novelis retained its position as the world's largest aluminium recycler, reporting a 61% share of recycled content.

Since announcing its capital allocation plan in 2021, your Company has demonstrated financial prudence, allocating free cash flow towards growth projects, deleveraging, and dividend distribution.

As part of the capital allocation strategy, we have deleveraged significantly, with consolidated Net Debt-to-EBITDA lower than 2x at the end of the financial year 2022-23.

Enabled by a strong balance sheet, your Company has embarked on a transformational growth phase at Novelis and our India business. Your Company has announced a total capital expenditure of $4.43 Billion for India and Novelis to be spent over the next five years.

All these investments are directed at organic growth through expansion in the downstream businesses. Novelis is pacing its growth capex spends, prioritising $3.3 Billion of growth projects already underway.

*The details provided are for FY2022-23.

Message from the Chairman

Your Company is on a path to advance from a manufacturing company to a manufacturing solutions provider by moving further down the value chain and co-creating solutions with customers.

In the India business, your Company has announced organic growth investments of around $1.13 Billion that shall primarily be allocated to high-growth downstream projects in EVs, e-mobility, packaging, batteries, building and construction, consumer durables, and resource securitisation through the acquisition of captive coal mines.

An unwavering dedication to responsible business practices matches your Company's commitment to value-enhancing growth.

Your Company has, for the third year in a row, achieved the highest ESG Score in the aluminium industry in the S&P Global Corporate Sustainability Assessment (ESG Score of 83/100 in 2022).

These affirmations propel your Company to devise more ground-breaking solutions that would pave the way to achieve carbon neutrality by 2050.

> In the India business, your Company has announced organic growth investments of around $1.13 Billion that shall primarily be allocated to high-growth downstream projects in EVs, e-mobility, packaging, batteries, building and construction, consumer durables, and resource securitisation through the acquisition of captive coal mines.

Conclusion

In conclusion, our Purpose broadens our perspective, enabling us to pursue even greater horizons. The bedrock propels us towards the future, emboldening us to venture into more significant commitments and pursuits.

As we grow, we expand our capacity to receive by enhancing our absorption of talent, technology, and capital. Indeed, with each stride in growth, we deftly weave in more threads of insights and capabilities, enriching the tapestry of our collective endeavour. This philosophy, in turn, enables us to increase our ability to give back, create impact, and improve lives. This virtuous cycle is at the heart of being a successful purpose-driven organisation.

Your Company doesn't just pride itself on being a purpose-driven entity— it embodies it, living out this ethos in every endeavour, every relationship, and every venture. This commitment to purpose continues to steer us towards an even brighter, more impactful future.

Kumar Mangalam Birla
Chairman

Aditya Birla Group (ABG), a global conglomerate with a turnover of $63 Billion, is in the league of Fortune 500 companies.

Headquartered in India, the Group has a diversified business portfolio and presence across 14 industry sectors, employing more than 1,40,000 employees belonging to 100 nationalities. It has achieved global and national market leadership in several sectors like metals, pulp and fibre, chemicals, textiles, carbon black, cement, financial services, and fashion retail.

All the Group companies are driven by five core values – Integrity, Commitment, Passion, Seamlessness and Speed.

ABG believes in following a sustainable business model with responsible stewardship, stakeholder engagement and future-proofing as its three pillars.

ABG has embarked on sustainability journey 2.0 with a focus on mainstreaming ESG. Our sustainability journey follows a four-dimensional approach which considers industry, sectoral and operational uniqueness, geographies of operation, and value chain approach to include key stakeholder expectations and short and long-term time horizons.

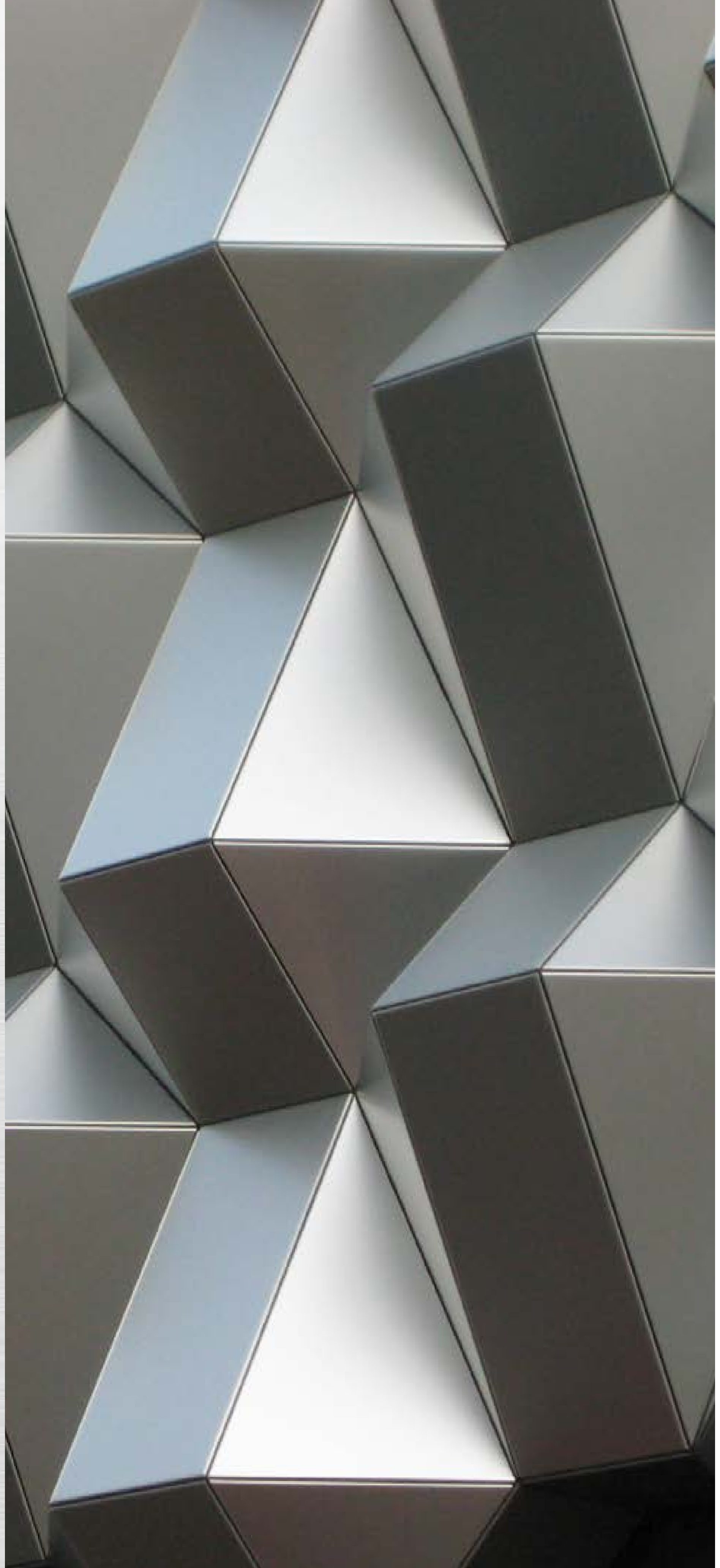
Aditya Birla Group Presence

ADITYA BIRLA GROUP

14 industry sectors I 1,40,000+ employees I 36 countries

For more details visit: www.adityabirla.com

What's Inside



About the Report

We are delighted to present our third Integrated Annual Report for the financial year 2022-23. We exhibit our objectives, strategies and initiatives in this report, which show our contribution towards being a positive global influence. This report offers a comprehensive picture of our performance and future possibilities, leading to value creation for all our stakeholders in the short, medium, and long term.

We have prepared this report following the Integrated Reporting <IR> framework of The International Financial Reporting Standards (IFRS) Foundation. The IFRS Foundation's International Accounting Standards Board (IASB) and International Sustainability Standards Board (ISSB) have jointly developed the Integrated Reporting Framework.

Through the six capitals, i.e., financial, manufactured, human, natural, intellectual, social and relationship, we aim to give our stakeholders a glimpse of our value-generating initiatives, ensuring our Company's long-term viability.

Reporting Principles

The non-financial performance has been reported under the Global Reporting Initiative (GRI) 2021 Universal Standards. The report also covers reporting requirements of the Business Responsibility and Sustainability Report (BRSR) framework of the Securities and Exchange Board of India (SEBI), principles of the United Nations Global Compact (UNGC), Sustainability Accounting Standards Board (SASB), World Economic Forum (WEF)-core metrics as well as the United Nations Sustainable Development Goals (UN SDGs).

The financial statements comply with all material aspects of the Indian Accounting Standards as prescribed under section 133 of the Companies Act 2013, other relevant provisions of the Act as notified under the Companies (Indian Accounting Standards) Rules, 2015 (including subsequent amendments), and other accounting principles generally accepted in India.

Reporting Period

The information is reported for the period from 1st April 2022 to 31st March 2023. We aspire to disclose our performance and ESG initiatives annually through our integrated reporting practice.

Scope and Boundary

The report covers our business strategy, key risks, opportunities, challenges, overall performance, results, and future outlook for the year under consideration.

The report predominantly covers the financial and non-financial information of Hindalco Industries Limited, which includes our India operations in Aluminium and Copper businesses (including Utkal Alumina International Ltd. and Birla Copper Asoj Private Ltd.) along with information about our wholly owned subsidiary Novelis Inc.

Independent Assurance

Price Waterhouse & Co Chartered Accountants LLP has audited the Company's standalone and consolidated financial statements enclosed in the Integrated Annual Report. Ernst and Young Associates LLP carry out the Company's non-financial assurance. The assurance is based on International Standard on Assurance Engagements (ISAE) 3000 (Revised) and AccountAbility's AA1000 Assurance Standard (AA1000AS v3). The Company's senior management also reviews the report for clarity, reliability, and accuracy.

Forward-looking Statement

Certain statements in this report depict forward-looking information related to our business operations.

These statements and the identified risks are based on projected results and industry trends. Hence, the statements could differ from the actual results. Other than historical facts, performance highlights, strategy and mitigation plans, and objectives, all other assertions fall under this category.

Feedback

Our reports are released yearly, and the previous integrated annual report, released in July 2022, can be accessed on our website. We appreciate your feedback, which will help us disclose pertinent information most efficiently and transparently. We are pleased to answer any questions or concerns you may have about our performance or this report. You may write to us at hilinvestors@adityabirla.com or contact us at (+91-22) 69477000.

THE MOST SUSTAINABLE ALUMINIUM COMPANY THREE YEARS IN A ROW

At Hindalco, we are guided by the Group Purpose: 'To Enrich Lives, by Building Dynamic and Responsible Businesses and Institutions, that Inspire Trust'.

Over the years, we have enriched many lives by maximising value for all our stakeholders, including employees, business partners, communities, shareholders, customers, and suppliers, in building a **Greener, Stronger, and Smarter world.**

We have consistently delivered resilient and robust performance by expanding operations, enhancing capacities, and enriching our product portfolio. Through our sustainable actions and people-centric approach, we positively impact people and the environment.

We continued to prioritise our long-term ESG commitments in FY2022-23. With people and the natural ecosystem at the core, we made significant strides in biodiversity, renewable energy, waste management, safety, and water management.

Over the last three years, we achieved the highest score out of 29 companies assessed in the Aluminium Industry in the S&P Global Corporate Sustainability Assessment (2022 ESG Score 83/100). We have retained our position as an industry leader in the Aluminium sector for the third year running.

Hindalco Industries Limited
Materials, Aluminium Industry

Top 1%
S&P Global ESG Score 2022

83 /100

As of February 7, 2023.
Position and Score are industry specific and reflect exclusion screening criteria. Learn more at spglobal.com/esg/yearbook

S&P Global   Sustainable1

Our performance has helped us retain our position in the World and Emerging Markets Index of S&P Global Dow Jones Sustainability Indices.

As we advance from being a manufacturing company to a manufacturing solutions provider, our approach to ESG continues to be comprehensive across the value chain. With organic expansion across businesses, including aluminium, copper, and chemicals in India, and Novelis, we continue our focus on creating value and enriching the lives of our stakeholders.

Enriching Lives through our robust ESG performance

Environment

- Specific GHG emissions for aluminium#*: ▼20 %
- Specific energy consumption for aluminium#*: ▼19 %
- Waste utilisation with 8 percentage points increase@: 88 %
- Zero Waste to Landfill sites: 5 (Hirakud FRP, Hirakud Power, Belur, Ohle, and Nachterstedt)
- Endof the life recycled content across Novelis portfolio: 61 %
- Environmental investments: ₹ 1,297.84 Cr.
- Specific freshwater consumption for aluminium operations*: ▼6 % (Baseline FY2018-19)
- Samri Mines* recognised with: Water positivity certification
- Renewables capacity in execution*: ~71 MW
- Aluminium Stewardship Initiative Standards Certified: 21 Sites
- Biodiversity Management Plans (BMPs)^*: 14 BMPs (Introduced till date and for 4 sites)

Social

- Permanent women employees and workers: 7.92%
- Training-hours: 5.10 Mn
- LTIFR from FY2021-22: ▼16 %
- Community Expenditure: ₹ 136 Cr.
- Lives impacted: 534,000 (Through STEM initiative at Novelis operations globally)
- Procurement Spend: ₹ 172,661 Cr.
- Beneficiaries supported: 2 Mn+ (Through our community development programmes)
- Beneficiaries supported*: 16,000 + (Through Project Aarogya in Hirakud)
- Customer Satisfaction Score: 90.20 % (for Novelis)
- Women empowered*: 21,793 (Through 1,660 Self-Help Groups)

Governance

- Revenue from operations: ₹ 223,202 Cr. ▲14%
- Operating Cash Flow: ₹ 19,208 Cr.
- Primary aluminium metal production*: 1.32 Mn MT (Highest-ever)
- Alumina production*: 8 %▲ (Highest-ever)
- Copper Cathode production*: 11.79 %▲
- Patents Filed: 529
- Patents Granted: 427
- New products developed: 62
- R&D Spend: ₹ 796 Cr.

*The details provided are for India Operations | #From base year 2011-12 | @From FY2020-21 | ▼Reduction | ^For FY2022-23 | ▲YoY growth

About Hindalco

Driving growth with diverse ventures

Hindalco Industries Limited is the metals flagship company of the Aditya Birla Group and an industry leader in aluminium, copper and Specialty Alumina (chemicals) manufacturing.

We are among the world's largest non-ferrous metals companies with a full suite of packaging, automotive, building and construction, and aerospace solutions.

Today, we rank among the major global aluminium players as an integrated producer, with a footprint in 10 countries, including India.

We are the largest fully integrated aluminium manufacturing company in India. One of Asia's largest producers of primary aluminium (excluding China), we are India's most significant downstream aluminium player, providing customised solutions in flat rolled products and extrusions. We operate one of the largest custom copper smelters at a single location in Asia. Furthermore, we are the third largest manufacturer of copper cathode rods outside of China.

Our specialty alumina (Chemicals) business is at the forefront of the industry in India and is recognised as a prominent global player in specialty alumina and hydrates.

We are the largest fully integrated aluminium manufacturing company in India.

We are India's largest aluminium downstream player, providing customised solutions in flat-rolled products and extrusions.

Novelis, our wholly-owned subsidiary, is the world's largest aluminium flat-rolled products (FRP) producer and recycler. Novelis' diversified product portfolio caters to beverage cans, automotive, aerospace, and specialties end markets.

Being a global player with a strong presence in the Indian and an international market, our operations span 19 manufacturing units in India, 21 mining operations in India and 33 overseas manufacturing facilities. Out of 33 overseas facilities, 17 facilities have recycling capabilities.

We are committed to sustainable growth and are expanding our business to increase our value-added product portfolio.

We are moving beyond our traditional role as an upstream player and expanding into distinct B2B and B2C business models, prioritising materials, value-added products, and solutions.

Vision

To be a premium metals major, global in size and reach, excelling in everything we do, and creating value for our stakeholders.

Values

Integrity
Honesty in every action

Commitment
On the foundation of integrity, doing what it takes to deliver, as promised

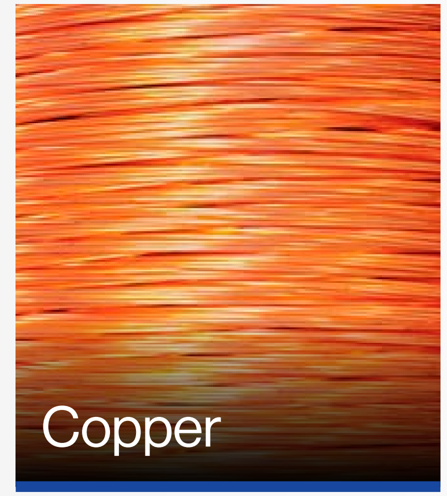
Passion
Missionary zeal arising out of an emotional engagement with work

Seamlessness
Thinking and working together across functional silos, hierarchy levels businesses and geographies

Speed
Responding to stakeholders with a sense of urgency

Our Diversified Offerings

We are an industry leader operating in mainly three business verticals- aluminium, copper, and chemicals. More details of our assets and offerings can be found in the manufactured capital in later chapters.



	Aluminium	Copper	Chemicals
Operations	**Upstream** ▸ Bauxite Mining ▸ Alumina Refining ▸ Smelting **Downstream** ▸ Manufacturing of value-added products	▸ Custom copper smelters ▸ Refineries ▸ Rod plants ▸ Captive power plant ▸ Captive oxygen plant ▸ Precious metal recovery plant ▸ Captive jetty and other utilities	▸ Manufacturing of chemicals
Products	**Upstream** ▸ Alumina ▸ Primary Aluminium in the form of ingots, billets and wire rods **Downstream** ▸ Flat rolled products, including foils ▸ Extrusions ▸ Recycling	▸ LME grade copper cathodes ▸ Continuous cast copper rods ▸ Precious metals – gold and silver	▸ Coarse alumina hydrate ▸ Metallurgical alumina ▸ Specialty alumina and alumina hydrate
Markets Served	▸ Beverage packaging ▸ Automotive and transport ▸ Aerospace ▸ Pharmaceuticals ▸ Food packaging ▸ Consumer durables ▸ Kitchenware ▸ Building and construction ▸ Electricals and electronics ▸ Industrial application ▸ Alternate energy	▸ Automotive and transport ▸ Consumer durables ▸ Electrical equipment including wires and cables ▸ Railway electrification ▸ Electric Vehicles and renewables	▸ Advanced ceramics and catalysts ▸ Refractories ▸ Polishing ▸ Glass ▸ Electrical and electronic equipment ▸ Water treatment (Alum/PAC) ▸ Fire retardant fillers: cables and composites
Brands	▸ Eternia ▸ Maxloader ▸ Hindalco Extrusions ▸ Hindalco Everlast ▸ Freshwrapp ▸ Superwrap	▸ Birla Copper ▸ Birla Copper-II ▸ Birla Balwan	

Our global footprint

We are primarily involved in the business of aluminium and copper, operating across 10 countries with 52 established units. Our operational footprint across India has been indicated on the map.

Domestic Operations

1. Aditya Aluminium	8. Gare Palma (IV/IV)	15. Mahan	22. Taloja
2. Alupuram	9. HAAL	16. Mouda	23. Utkal Alumina
3. Asoj	10. Hirakud FRP	17. Muri	24. Bhiwadi
4. Baphlimali	11. Hirakud S&P	18. Netarhat (4 mine sites)	25. Silvassa
5. Belagavi	12. Kathautia	19. Renukoot	
6. Belur works	13. Kuppam	20. Renusagar	
7. Dahej	14. Lohardaga (4 mine sites)	21. Samri	

■ CPP ■ Refinery ■ Smelter ■ Extrusion/FRP/Foil ■ Bauxite ■ Coal ■ Copper

Novelis' Global Operations

North America and South America
Novelis Inc.
1. US
2. Canada
3. Brazil

Europe and the UK
4 Germany
5 UK
6 Switzerland
7 Italy

Asia
8 China
9 South Korea

■ R&D/Technology Centre ■ Automotive Finishing ■ Cold Rolling ● Finishing Lines ● Casting ● Hot Rolling ◆ Recycling Facility

Note: The map is not to scale and an artistic representation only.

Board of Directors

Mr Kumar Mangalam Birla
Non-Executive Chairman

NRC

Mr. Birla is the Chairman of the Board of Directors of the Company and the Chairman of Aditya Birla Group, which operates in 36 countries across six continents. He is a Chartered Accountant and holds an MBA degree from the London Business School.

I T F C S M E R H G

Mrs Rajashree Birla
Non-Executive Director

CSR

Mrs. Birla is an exemplar in the area of community initiatives and rural development. Mrs. Birla spearheads the Aditya Birla Centre for Community Initiatives and Rural Development, the Aditya Birla Group apex body responsible for development projects.

I C E G

Mr Satish Pai
Managing Director

SRC CSR RM&ESG PIT FC

Mr. Pai joined the Company in August 2013 as CEO Aluminium Business. He is a Mechanical Engineer from IIT Madras. He began his career in 1985 with Schlumberger Ltd. and held variety of senior global roles in Operations, Technology Services, IT Services, Human Resources and large manufacturing units.

I T F C S M E R H G

Skills and Competencies

- I Industry Knowledge (Metals & Mining)
- T Innovation, Technology and Digitization
- F Finance Literacy
- C Corporate Governance, Legal and Compliance
- S Strategic Expertise
- M Marketing
- E Environmental and Social Sustainability
- R Risk Management
- H Human Resource
- G General Management

Committee and Composition

ACM	Audit Committee
NRC	Nomination and Remuneration Committee
SRC	Stakeholders Relationship Committee
CSR	Corporate Social Responsibility Committee
RM&ESG	Risk Management & ESG Committee
PIT	Prevention of Insider Trading (PIT) Regulations Committee
FC	Finance Committee

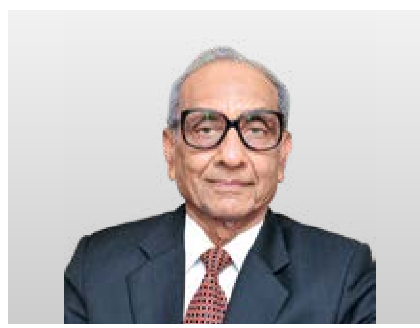
■ Chairperson ■ Member

Mr Praveen Kumar Maheshwari
Whole-Time Director & CFO

RM&ESG

Mr. Maheshwari, a Chartered Accountant with an MBA from IIM - Ahmedabad, has over 40 years of work experience in areas of General Management and Finance, including mergers & acquisitions, fundraising, investor relations in India and global financial markets. Prior to joining the Company, he was a Group CFO & Executive Director – Finance of Bharat Forge Limited.

I T F C S E R H G



Mr Askaran Agarwala
Non-Executive Director

SRC CSR RM&ESG FC

Mr. Agarwala joined the Company since its inception in 1958 and under his stewardship, Hindalco became one of the most cost-efficient producers of Aluminium in the world. He was, therefore, referred as 'The Aluminium Man of India'. He is involved in various special projects under the aegis of "The Aditya Birla Centre for Community Initiatives & Rural Development" and many other strategic and sustainability initiatives of the Group.

I T F C S M E R H G

Mr Kailash Nath Bhandari
Independent Director

ACM NRC SRC RM&ESG

Mr. Bhandari has served as the Chairman cum Managing Director of the New India Assurance Company Ltd. and United India Insurance Company Ltd. He has served as a Director of General Insurance Corporation of India, Loss Prevention Association of India Ltd., and Ken India Insurance Co. Ltd. Mr. Bhandari received a Bachelor of Arts and a LLB. degree from Jodhpur University.

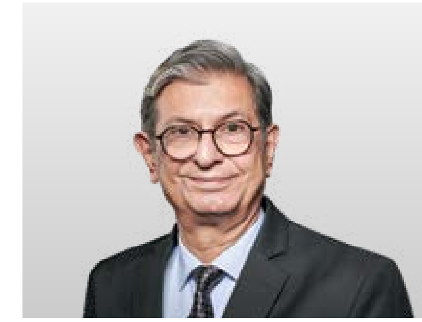
I F C S E R H G

Dr Vikas Balia
Independent Director

ACM

Dr. Balia is the founding partner at Legalsphere, a full service law firm specializing in corporate, commercial, constitutional & other Civil matters, Litigation and non-litigation work including transactions, Due Diligences and advisory work. He began his career with Mulla & Mulla & Craigie Blunt & Caroe. He is a rank holding Chartered Accountant and a Lawyer and has a Master's degree in Mercantile Laws with doctoral research (Ph. D) on Securitization Laws.

I T F C S E R G



Mr Yazdi Piroj Dandiwala
Independent Director

ACM NRC CSR PIT

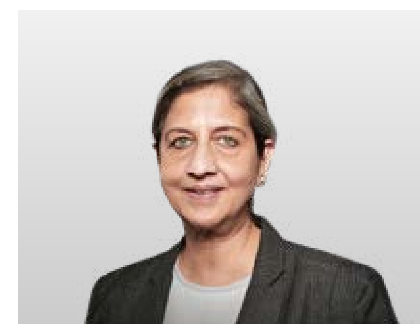
A Solicitor by profession, Mr. Dandiwala is a partner of Mulla & Mulla and Craigie Blunt & Caroe, Advocates & Solicitors. He is a corporate commercial lawyer and has vast experience in Corporate and Commercial Transactions.

I F C S E R G

Mr Anant Maheshwari
Independent Director

Mr. Maheshwari is the President at Microsoft Corporation Pvt Ltd. He is PGDBM, IIMA, 1998 having dual degrees from BITS Pilani. Also, MSc (Hons) Economics and a BE (Hons) Electricals & Electronics. He is highly experienced and proficient in his profession having well-rounded work experience spanning Microsoft, Honeywell and McKinsey. Further, he has expertise in several areas such as Technology and automation, enterprise and industrial market and strategic development among others.

I T F C S M E H G



Ms Alka Marezban Bharucha
Independent Director

Ms. Alka Bharucha co-founded Bharucha & Partners which, on inception, was ranked by RSG Consulting, London among the top fifteen firms in India. She began her career with Mulla & Mulla & Craigie Blunt & Caroe and joined Amarchand & Mangaldas as partner in 1992. Ms. Bharucha has been ranked by Chambers Global, Legal 500 and Who's Who Legal amongst India's leading lawyers. Her core areas of expertise are Mergers and Acquisitions, Joint ventures, Private Equity, Banking and finance.

I F C S E R G

Mr Sudhir Mital
Independent Director

Mr. Mital, has been a former member of the Indian Administrative Service from the Punjab Cadre, Secretary to Department of Fertilizers – Government of India, and Special Secretary to Ministry of Corporate Affairs. He was also a former acting Chairman of Competition Commission of India (CCI). He has rich professional experience in the fields of public policy and governance after nearly four decades of service.

I F C S E H G

Leadership Team

Left page (Left to right)

Mr Rohit Pathak CEO, Copper Business , **Mr Anil Mathew** Head – Policy Advocacy and Chief Risk Officer,
Mr Samik Basu Chief Human Resources Officer, **Ms Geetika Anand** Company Secretary,
Mr Praveen Kumar Maheshwari Chief Financial Officer, **Mr Kailash Pandey** Head – Sambalpur Cluster
Mr N. Nagesh Head – Renukoot Cluster, **Mr Satish Pai** Managing Director,
Mr Chandan Agrawal CEO-Eternia Business,

Right page (Left to right)

Mr Rajesh Kumar Gupta Head-Mining & Minerals,
Ms. Kopal Agrawal Chief-Procurement Officer, **Mr Sukanta Das** Head – Logistics, **Mr V.R. Shankar** Head – Legal,
Mr S. Kanakanand Head-Manufacturing Centre for Excellence, **Mr Saurabh Khedekar** Head – Chemicals Business,
Mr Aniruddha Kulkarni Chief Strategy Officer **Mr Mazharullah Beig** Unit Head – Utkal Alumina International Limited,
Mr Nilesh Koul Head-Downstream Aluminium Business,

Not in Picture
Mr B. Arunkumar Head – Aluminium Downstream Strategic Projects

Message from the Managing Director

Responsible Progress

Dear Stakeholders,

Amid the persisting geopolitical instability and dynamic market environment, Hindalco stayed buoyant and delivered a good performance. Before delving into the annual performance review, I would like to talk about the engine that powers our performance and achievements year after year – our Group Purpose. In April 2022, Aditya Birla Group articulated the Group Purpose: 'To enrich lives by building dynamic and responsible businesses and institutions that inspire trust.' This simple thought captures the underlying philosophy that has inspired the vision and actions of Group Businesses for decades.

The Purpose encapsulates Hindalco's values, culture, inclusivity, social consciousness, and future-readiness attributes. It also explains Hindalco's dynamism and resilience.

All our endeavours are driven by the objective of maximising value for all our stakeholders, including our customers, employees, shareholders, suppliers, business partners, associates, and communities. Despite challenging conditions, the Company remains unwavering in its pursuit of growth opportunities, a journey that has seen us progressively advancing from a manufacturing company to an innovative manufacturing solutions provider. Our consistent efforts alongside our stakeholders have been instrumental in expanding our geographic footprint across 10 countries, strengthening our position as the world's largest producer and recycler of aluminium Flat Rolled Products (FRP) and India's largest integrated aluminium player with a strong downstream presence.

> The Group's Purpose encapsulates Hindalco's values, culture, inclusivity, social consciousness, and future-readiness attributes. It also explains Hindalco's dynamism and resilience.

The Purpose also underscores Hindalco's steadfast mission to work towards a Greener, Stronger, Smarter world. We have undertaken dedicated initiatives to power our sustainability actions and progress towards carbon neutrality, zero waste to landfill, no net loss to biodiversity, water positivity, and health and safety. As a result, your Company has consistently been ranked at the top for ESG scores in the global aluminium sector in the S&P Dow Jones Indices since 2020.

Embedding Resilience

Even amid an uncertain business environment, the India aluminium business achieved industry-leading EBITDA margins of 25%. The copper business delivered an exemplary performance with record EBITDA and a higher share of value-added products. Our India aluminium downstream business also reported its highest-ever EBITDA growth this year, reflecting our strategic focus on enhancing this segment. Despite macroeconomic headwinds, Novelis' performance was supported by improved pricing and a favourable product mix.

Consolidated revenue for the full year was ₹223,202 Crore, up by 14% year on year, primarily driven by growth in value-added products across all our businesses. In the reporting year, 72% of our revenue was delinked from LME volatility, reflecting the strength of our integrated business model. The net revenue of Novelis reached an all-time high of $18.5 Billion.

Despite an increase in consolidated revenue, our net profit for the reporting year was impacted mainly due to various transitory factors, including higher energy costs, inflationary pressures, and supply chain disruptions.

Our decisive response to the fluctuations in the business environment has helped cushion the impact, enabling us to progress with our long-term strategic plans. We have prioritised cost optimisation and enhanced resource securitisation of coal and bauxite. We envisage that net debt-free Indian operations, a resilient balance sheet, and prudent capital allocation will firmly position our business for the future.

Exploring Customer-focused Solutions

We remain resolute in our commitment to drive value through organic expansion and have developed a wide range of downstream solutions in aluminium, copper, and specialty alumina. Our diverse portfolio is equipped with flexible capabilities that allow for capacity enhancement across regions.

Novelis' low-carbon, state-of-the art aluminium recycling and rolling facility being built in Alabama will serve the growing demand for aluminium beverage can sheet and automotive aluminium in North America. Novelis is the largest supplier of beverage can sheet with 40% global market share (excluding China). The company is also the #1 player in the automotive aluminium sheet market and a top player in aerospace and specialty products markets. Novelis is the largest recycler of aluminium in the world, recycling 2.3 Mt of aluminium scrap in FY23, including 82 billion used beverage cans. Novelis' established global network of customer solution centres enhances its capacity to serve the growing aluminium sheet market.

In addition to this, the increasing popularity of aluminium, as an alternative to other materials, such as steel and PET, adds to Novelis' traction. To support its growth plans, Novelis is fast pacing its capital expenditure, with $3.3 Billion of projects already underway.

The copper business delivered an exceptional performance as the demand for the precious metal saw a strong recovery in India with the push on renewables, acceleration in urbanisation and infrastructure creation, and digitalisation. We were able to significantly increase the utilisation of our copper rod mills (including the recently acquired Ryker facility now Asoj) to emerge as a top-3 copper rod player globally outside of China.

Further, seeing the opportunity, we are investing in creating new downstream products needed in India (such as inner-grooved tubes for air conditioning and refrigeration) and speciality copper alloys for high-speed railways. We are also setting up India's first-of-its-kind, state-of-art copper and e-waste recycling facility.

Message from the Managing Director

Our specialty alumina business has also showcased remarkable growth. In FY2022-23, the business successfully expanded its portfolio and introduced several new high-demand products. These include VAPs like High Precision SMA Series, HCA series with reduced soda content, and IC series of alumina with enhanced purity. The business has also commenced the construction of its first Precipitated Superfine Hydrates project targeted at specialised halogen-free flame retardants markets.

The consumption trends for specialty alumina on both the global and domestic fronts are highly promising, providing ample opportunities for further advancement and market success.

Envisaging a Green Future

We are cognisant of climate change and believe that organisations must act urgently to limit the likely loss to the environment and society. We have established milestones across different focus areas by translating our thoughts into strategy and action and aligning with India's target of achieving net zero by 2070. By 2025, we aim to reduce specific energy consumption and specific GHG emissions by 25% vis-à-vis the base year 2011-12. For our Novelis operations, our plans include a 30% reduction in carbon footprint and a 10% decrease in energy intensity by 2026. Furthermore, we are committed to expanding our renewable energy capacity in India to 300 megawatts by 2025.

Central to our strategies is the principle of circularity. Novelis recycled 2.3 Million Mt of aluminium scrap, amounting to 61% of the material used in production in FY23.

Meanwhile, we have utilised over 100% of fly ash and bauxite residue in three of our four alumina refineries in India. We recognise the critical importance of water conservation and are on track to cut down our specific freshwater consumption in Indian operations by 20% by 2025 from 2019 levels.

> We recognise the critical importance of water conservation and are on track to cut down our specific freshwater consumption in Indian operations by 20% by 2025 from 2019 levels.

Ensuring Responsible Progress

We are honoured to receive numerous accolades recognising our efforts to adopt best-in-class ESG practices.

For the third consecutive year, we achieved the highest score in the S&P Global Corporate Sustainability Assessment 2022, where we were assessed against 29 companies from the aluminium industry.

Our endeavour to attain long-term business sustenance is demonstrated by several targeted initiatives we have taken over the years. Underscoring our commitment to biodiversity and fostering a healthier ecosystem, we have completed CII's biodiversity index and carbon sequestration field study for six sites in India.

Additionally, we have conducted an all-season study of the Biodiversity Management Plan which has been launched at five sites. We have attained single-use plastic (SUP) free certifications across 12 sites in India. In our quest to achieve water positivity across all mines by 2025, we have effectively conserved groundwater in Chhattisgarh's water-scarce Samri mines area, contributing to a higher water positivity rate.

Regarding renewable energy integration in India, we have increased our consumption by 54% from the previous year, taking our capacity to 108 MW by the end of FY2023.

We are enhancing biomass co-firing in all our thermal plants in India. Another notable initiative is the Novelis Net Zero Lab in Valais, Sierre, Switzerland. These projects are pivotal in reducing our carbon footprint and transitioning to a more sustainable energy mix.

Additionally, our Wind-Solar Hybrid project in Dahej and Belagavi in India and the Utkal Red Mud Roads initiative further exemplify our commitment to renewable energy and sustainable infrastructure development.

As we continue our journey, we are proud to contribute to the global efforts to create a more sustainable and resilient future.

Targeted reduction in specific energy consumption and specific GHG emission by 2025 (base year 2011-12)

25%

Our targeted renewable energy capacity in India by 2025

300 MW

Planned reduction in carbon footprint for Novelis operations

30%

Inspiring Trust

The Great Place to Work Institute® India has certified Hindalco as a 'Great Place to Work' in 2022 for the second consecutive year. We have witnessed a remarkable improvement across all dimensions, with our overall score increasing from 75 to 87/100.

Adding to our accomplishments, we are listed among the top 40 companies in India for Health and Wellness for successfully creating a psychologically and emotionally healthy work culture that fuels high performance. Moreover, we have been recognised by Great Place to Work® as one of India's Best Employers Among Nation-Builders in 2023.

These accolades reinforce our ongoing efforts to build a high-trust, high-performance culture towards making Hindalco a High Performing Contemporary Organisation (HPCO).

Our employees and workers provide us with implicit strength as we proceed onward. We have pledged to safeguard our employees and workers from harm, resulting in the industry's lowest LTIFR of 0.25. We intend to ensure a completely safe environment for our employees and workers: safety is a key concern on the job and off it.

> Great Place to Work® has recognised us as one of India's Best Employers Among Nation Builders in 2023.

Strengthening our relationships with communities around us is an ongoing endeavour, and our well-structured CSR initiatives cut across education, health, sustainable livelihood, infrastructure, and other social causes which help enrich their quality of life.

We also proactively engage with our suppliers and vendors and ensure that the suppliers demonstrate the same level of commitment to ethics, people, safety, and communities. Through such initiatives, we have touched over 2 Million lives. Our community expenditure on a consolidated basis for FY2022-23 stands at ₹136 Crore.

Advancing Together

We find inspiration in our achievements and failures alike, which continuously drives us to raise the bar. I express my heartfelt appreciation to every individual at Hindalco for their unstinting cooperation and dedicated efforts. I extend my gratitude to all our stakeholders for their trust and support throughout our journey.

It gives me great pleasure to present the Integrated Report for the fiscal year 2022-23, and I eagerly anticipate your continued trust and confidence in our future endeavours.

Satish Pai
Managing Director

Our Business Model

Enriching lives through sustainable growth

Inputs

Financial Capital

₹94,806 Crore Equity

₹58,335 Crore Gross debt

₹19,208 Crore Operating cash flow

Manufactured Capital

52 Manufacturing units

Production Capacity

3.60 Million MT alumina (including 0.36 Million MT specialty alumina)

1.30 Million MT primary aluminium (including 0.40 Million MT aluminium VAP)

4.10 Million MT Novelis rolling capacity

0.54 Million MT copper rods (including 0.42 Million MT copper cathode)

21 Operational Mines*

~$4.5 Billion growth projects under execution

Human Capital

76,800+ Total workforce

₹13.5 Crore Investment in trainings & development*

Organisational effectiveness calendar

Intellectual Capital

₹796 Crore R&D expenditure and allocated capex

529 Number of patents filed

12 Number of R&D centres

New collaborations and associations

Natural Capital

16.38 Million MT Material consumption

77.27 Million m³ Fresh water consumption

61% Recycled input material for Novelis

312.89 Million GJ Energy consumption

0.91 Million GJ Renewable energy consumption*

₹1,297.84 Crore Environmental investments

Biodiversity risk assessment and technical standards for all operating sites*

Social and Relationship Capital

₹136 Crore Community expenditure

11,120 Supplier base*

₹172,661 Crore Procurement spend

Brittle, Anxious, Nonlinear, and Incomprehensible (BANI) – External Environment

Performance | Governance | Outlook

Vision

To be a premium metals major, global in size and reach, excelling in everything we do, and creating value for our shareholders.

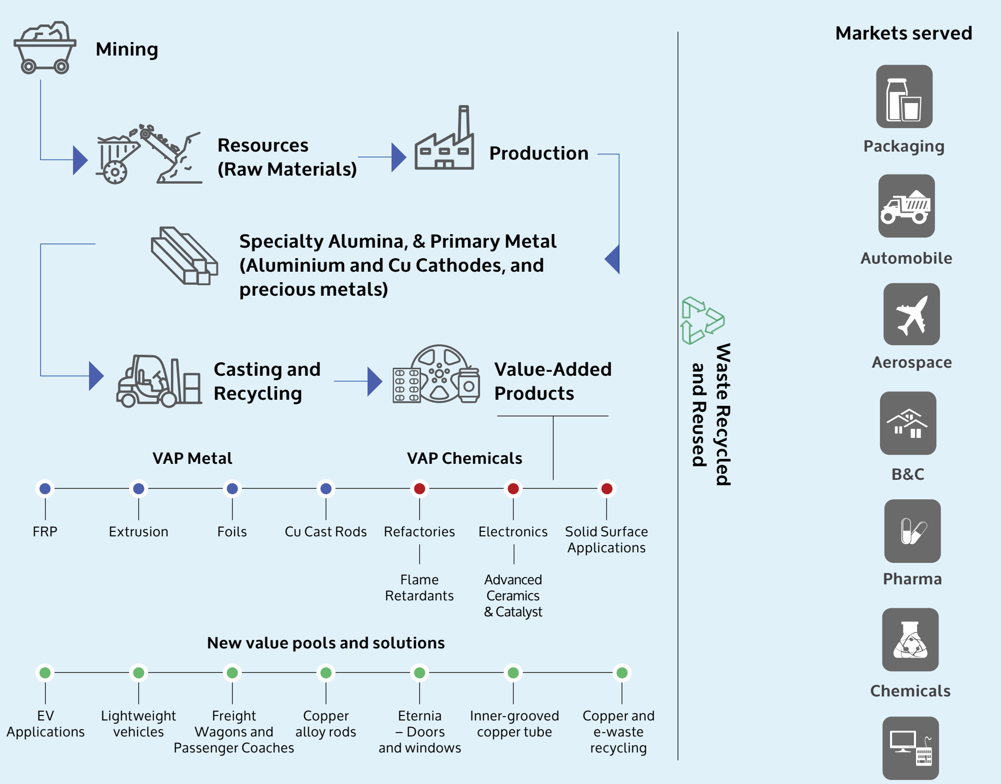
Values

- Integrity
- Commitment
- Seamlessness
- Passion
- Speed

Strategic Priorities

- SP-1 Prudent Capital Structure
- SP-2 Value-Enhancing Growth
- SP-3 Strong ESG Commitment
- SP-4 Portfolio Enrichment

We manufacture materials that make the world Greener, Stronger, Smarter



Long-Term Objectives

- Advancing from manufacturing company to manufacturing solutions provider
- Becoming 'The Industry Leader in Sustainability'

Risk and Opportunities | Strategy & Resource Allocation

Outputs

Planet-friendly and future-focussed metals

Aluminium

Primary aluminium production **1.32 Million MT**

Flat-Rolled Products produced **0.29 Million MT**

Extrusion products **0.06 Million MT**

Aluminium foil products **0.03 Million MT**

Copper

Cathodes **0.41 Million MT**

Rods **0.35 Million MT**

Alumina

Metallurgical and chemical alumina **3.53 Million MT**

Novelis

FRP **3.79 Million MT**

Emissions

GHG emissions (Scope 1 & 2) **29.80 MTCO$_2$e**

NOx emissions **0.04 Million MT**

SOx emissions **0.08 Million MT**

PM emissions **0.01 Million MT**

Waste

Waste generated **12.94 Million MT**

Waste disposed to landfills **0.15 Million MT**

Bauxite residue & ash utilised* **9.57 Million MT**

Outcomes

Financial Capital

₹223,202 Crore Revenue

₹24,131 Crore EBITDA

₹10,097 Crore PAT

1.39x Consolidated net debt to EBITDA#

Net Debt-Free Hindalco India operations*

11.67% Return on Equity

11.43% Return on Capital Employed

Manufactured Capital

Highest-ever primary aluminium metal production

11.79%* y-o-y growth in copper cathode production

8%* yoy growth in alumina production

100% IT systems **ISO 27001**-certified

Integrated Management System Certification (ISO 9001, ISO 14001, ISO 45001) at corporate and all locations

Human Capital

7.92% Permanent women employees and workers

5.10 Million hours of trainings provided

7.21% Employee turnover rate*

3,433 Employees hired

87 Employee engagement score

16% reduction in LTIFR

Intellectual Capital

427 Number of patents granted

62 Number of new products developed

Net Zero Lab in Sierre, Valais canton, Switzerland

Natural Capital

0.97 Million GJ Energy savings

19% Reduction in specific energy consumption for Al from FY2011-12*

20% Reduction in specific GHG emissions from FY2011-12*

6% Reduction in specific freshwater consumption for aluminium (baseline FY2018-19)*

14 Locations with biodiversity management plan and 12 with green belt management plans*

88% Waste utilisation – an increase of 8 percentage points from FY2020-21

6% Increase in green cover*

Carbon sequestration study completed for six sites*

Social and Relationship Capital

2 Million+ Lives touched

65% NPS Score for Aluminium Extrusions*

80% NPS Score for Copper*

75% NPS Score for Chemicals*

90.20% Customer Satisfaction Score for Novelis*

62% of significant suppliers assessed*

SDGs

* Represents data for India operations #Excluding lease liabilities as a part of gross debt

Our Capitals and their interlinkages

Financial Capital

The financial resources that we deploy in manufacturing and enabling, developing our products and strategy.

Capitals impacted

MC HC IC NC SRC

SDGs impacted

page 54

Key Strategic Priorities

SP-1 SP-2

Key Risks

R3 R4 R7

Key Stakeholders

Manufactured Capital

The infrastructure, technology, and processes that we use while manufacturing and developing our products.

Capitals impacted

FC HC IC NC SRC

SDGs impacted

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Key Strategic Priorities

SP-2 SP-3 SP-4

Key Risks

R2 R3 R4 R9

Key Stakeholders

Human Capital

The pool of talented and diversified employees that assist us in the development of our products.

Capitals impacted

FC IC SRC

SDGs impacted

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Key Strategic Priorities

SP-2 SP-3

Key Risks

R7

Key Stakeholders

This schematic represents our approach towards allocating our resources in alignment with our strategic priorities. They help us mitigate critical risks while ensuring we conserve and create value for our stakeholders.

Strategic Priorities

- SP-1 Prudent Capital Structure
- SP-2 Value-Enhancing Growth
- SP-3 Strong ESG Commitment
- SP-4 Portfolio Enrichment

Key Stakeholders

- Workforce
- Investors and Shareholders
- Consumers
- Customers
- Suppliers/ Vendors
- Regulatory Authorities/ Industry Associations
- Media

Intellectual Capital

It signifies our collaborations, partnerships and efforts towards research and development to integrate innovation into our products.

Capitals impacted

FC MC NC

SDGs impacted

page 110

Key Strategic Priorities

SP-2 SP-3 SP-4

Key Risks

R8 R10

Key Stakeholders

Natural Capital

The business resources that we derive from the ecosystem.

Capitals impacted

FC HC IC MC SRC

SDGs impacted

page 126

Key Strategic Priorities

SP-3

Key Risks

R1 R5 R6 R7 R9

Key Stakeholders

Social and Relationship Capital

Our relationship with stakeholders to build a thriving society, maintain our brand and reputation and develop strong financial fundamentals.

Capitals impacted

FC HC MC

SDGs impacted

page 160

Key Strategic Priorities

SP-2 SP-3

Key Risks

R2

Key Stakeholders

Risks and Opportunities

- R1 Increased focus on Decarbonisation
- R2 Supply chain risks
- R3 Price volatility of aluminium
- R4 Increased import of aluminium
- R5 Solid Waste Management
- R6 Depletion of natural resources
- R7 Shareholders/ lenders focus on ESG
- R8 Product development strategy risks
- R9 Changes in the regulatory requirements
- R10 Cyber Security & Data Protection risks

Our Strategic Priorities

Driving Excellence through a Strong Foundation

In this Brittle, Anxious, Nonlinear, and Incomprehensible (BANI) world, our strategic priorities have paved the way for building resilience in a dynamic business landscape, simultaneously enriching the lives of our stakeholders and sustaining our competitive edge in the market.

Our unique strengths and capabilities have empowered us to withstand headwinds, resulting in a strong and consistent performance during the reporting period. Our cash flows were allocated to maintain financial prudence and create value-enhancing growth.

With the emergence of growing markets for aluminium and copper, we are streamlining our production processes to advance from being a manufacturing company to a manufacturing solutions provider. This evolution includes a suite of solutions in packaging, automotive, electric vehicle applications, lightweight commercial vehicles, railway freight wagons, railway passenger coaches, building and construction, aerospace segments, and conventional value-added products.

Similarly, our copper operations focus on innovative downstream products such as superior copper alloy rods for railways and inner-grooved copper tubes for refrigeration and air conditioning. Our first-of-its-kind copper and e-waste recycling facility of 50 KT is in progress.

Our ESG commitments are evident through efficient resource allocation, which is the core of our strategic priorities. Therefore, we invest in our resources, enabling them to adapt to modern technologies and industry trends.

	SP-1 Prudent Capital Structure	SP-2 Value-enhancing Growth	SP-3 Strong ESG Commitment	SP-4 Portfolio Enrichment
Our approach	▸ Financial prudence in capital allocation ▸ Growth Capex supported by robust cashflows and strong balance sheet	▸ Focus on shareholder value creation by organically expanding downstream businesses ▸ Cost optimisation through resource securitisation	▸ Focus on ESG implementation across the value chain ▸ ESG commitments to strengthen our position as the Industry Leader in Sustainability	▸ Advancing from manufacturing company to a manufacturing solutions provider ▸ Enrich product mix by increasing the share of high-end value-added products
Impact	▸ Reduction in consolidated net debt to EBITDA at 1.39x ▸ Net debt-free Hindalco India operations is an enabler for organic growth	▸ Enhanced resource security ▸ Enabling downstream expansions	▸ Ranked as the most sustainable aluminium company as per S&P's Dow Jones Sustainability Index for three consecutive years ▸ Increase in renewable energy consumption by 56% as compared to FY2021-22 ▸ Achieved water positivity at Samri Mines	▸ Aluminium battery enclosures for cars and two-wheelers ▸ Lightweighting solutions for commercial vehicles ▸ Superior copper alloy rods for railways
Way forward	▸ Committed organic growth projects of $3.3 Billion for Novelis and $1.1 Billion for Hindalco India operations	▸ 80% of capex allocated for organic expansion of downstream business in India ▸ Chakla coal mine expected to be operational by FY2025-26, resulting in resource securitisation and cost optimisation ▸ Minimising impact of price volatility in aluminium business	▸ Plan to cover all sites in India under a carbon sequestration study	▸ Aluminium value-added products portfolio to grow from existing 400 KT to around 600 KT in the next five years ▸ Two out of three presses commissioned at the new Silvassa extrusion facility ▸ Inner-grooved copper tube facility is underway ▸ First-of-its-kind copper and e-waste recycling facility underway ▸ 150 KT specialty alumina expansion underway ▸ Integrated greenfield recycling and rolling mill for Novelis expected to be commissioned by FY2026 ▸ Other projects for India operations and Novelis are on track

Risk and Opportunities

Navigating Uncertainty Through Effective Risk Management

Businesses today are impacted by rapid shifts in consumer preferences, a dynamic geo-political environment, increasing impacts of climate change and a swiftly evolving regulatory landscape. Thus, risk management becomes integral to the decision-making process while operating in such an environment.

At Hindalco, our three-pronged approach comprising a robust Enterprise Risk Management (ERM) framework, Crisis Management, and Business Continuity Management helps us to navigate business risks effectively. Hindalco bases its risk management policy on the Enterprise Risk Management Policy, which the Risk Management and the ESG Committee regularly review. The policy is applicable across all our operations.

We follow both bottom-up and top-down approaches to risk management. The Board-level Risk Management and ESG committee, headed by one of the Board members, is the apex body that oversees risk management across the organisation. The committee meets quarterly and provides guidance and strategic directions to manage risks.

The Chief Risk Officer (CRO) manages theenterprise risk management and heads the central risk management team. The latter is the custodian of the risk management process at all locations.

To manage the risks at the grassroots, we have an established team structure at cluster, site, and department levels. These teams are responsible for implementing risk mitigation plans and regularly reporting to the Risk Management Head. The Risk Management Head is responsible for monitoring and auditing the risk management performance. Risk management and compliance with risk procedures are part of senior management's Key Result Areas (KRAs) and are linked to their variable incentives.

Board of Directors
Risk Management and ESG Committee of the Board

↓

Chief Risk Officer

↓

Risk Management Head

↓

Cluster Level Risk Managers	Site Level Risk Champions	Department Level Risk Coordinators

Risk Management Process

We at Hindalco follow an ERM framework developed following COSO and ISO 31000 guidelines and fully integrated with our strategic priorities.

During the reporting period, we bolstered the framework to adapt to the BANI world and embraced the RAAT (Resilience, Attention, Adaption, Transparency) approach.

Risk Identificaton and Assessment

↓

Risk Prioritisation and Mitigation

↓

Risk Monitoring and Reporting

Risk identification and assessment is the first step in the risk management process. We classify risks into four categories: Strategic, Operational, ESG, and Projects. We conduct detailed due diligence using tools such as Root Cause Analysis and Consequence Analysis to assess the likelihood and impact of risks. The risks are prioritised based on their risk scoreand then translated into a Risk Heat Map representation consisting of four zones: Red, Amber, Yellow, and Green. We review and assess the risks at least twice a year.

The prioritised risks are analysed, and mitigation plans are prepared, considering the risks' short, medium, and long-term implications on us. Periodic sensitivity analysis and stress testing are conducted on these mitigation plans.

Once mitigation actions are completed, we incorporate them into applicable Standard Operating Procedures (SOPs) to enhance our practices. The risk management framework is audited internally and externally during the Integrated Management System (IMS) audits. In addition, we regularly monitor and evaluate existing and emerging risks.

We have structured training programmes to inculcate the risk management culture across Hindalco.While annual training programmes are part of a training calendar available for existing employees, new employees are trained on risk management during onboarding. We have customised workshops for senior leadership and the Board of Directors.

Risk and Opportunities

Risk	Significance and Impact	Mitigating Actions	Reference Capitals	Strategic Priorities
R1 **Increased focus on decarbonisation**	▸ The global decarbonisation efforts in various industries can lead to shifts in the demand and supply of the material. ▸ Operation costs might be impacted by policies such as carbon pricing in the near future.	▸ We have increased our renewable energy consumption by 54% compared to the previous year, with a renewable energy capacity of 108 MW. ▸ We are executing another 71 MW of renewable energy to meet our targets. ▸ We are finalising our renewable hybrid energy project using pumped hydro storage to deliver 100–300 MW of round-the-clock power.	▸ Natural Capital ▸ Manufactured Capital	SP-3
R2 **Supply chain risks**	▸ Supply chain disruptions can extensively impact our operations, strategy, and society. ▸ This may impact our revenue, customer base, inventory costs, etc.	▸ We are strengthening our supply chain strategy through a systematic supplier screening approach to identify significant suppliers. ▸ We consider risks for negative environmental, social, and governance impacts related to a country's political, social, economic, environmental, or regulatory situation in the screening process for significant suppliers. ▸ Additionally, we have taken various initiatives to digitalise our supply chain and logistics.	▸ Social & Relationship Capital ▸ Manufactured Capital	SP-3
R3 **Price volatility of aluminium**	▸ Fluctuations in the price of aluminium can have a significant impact on the profitability of our business.	▸ To minimise risk, we have deployed strategies such as hedging against price fluctuations and diversifying our product portfolio. ▸ The strategy to mitigate this risk involves regular reviews and stress tests to optimise hedge levels. We follow price offset hedging in the aluminium business to insulate it from commodity price and currency fluctuations.	▸ Financial Capital ▸ Social & Relationship Capital	SP-2 SP-4

Risk	Significance and Impact	Mitigating Actions	Reference Capitals	Strategic Priorities
R4 **Increased import of aluminium**	▸ Our market share might be affected by the increasing import of aluminium and scrap.	▸ We are organically expanding our downstream facilities to enhance the product mix and meet customer demands. ▸ At Aditya, we are building a can recycling facility with a tolling partner to utilise secondary aluminium.	▸ Financial Capital ▸ Social & Relationship Capital	SP-2 SP-4
R5 **Solid waste management**	▸ Waste management rules are constantly evolving, and the availability of land is becoming a challenge for waste storage. ▸ Therefore, waste management in operations is essential for environmental protection and societal safety.	▸ Each unit has a dedicated Waste Management Task Force (WaMTF) to streamline the waste management process. ▸ Our waste management strategy is aligned with UN SDG 12 and follows the 5R+1S approach of Reduce, Redesign, Recover, Rehabilitate, Recycle and Storage. Our goal is to achieve Zero Waste to Landfill by 2050. ▸ To create value from waste, we have adopted in-house processes. In addition, we have partnered with cement manufacturing companies to utilise our by-products. We are also collaborating with research institutes and think tanks to explore the effective utilisation of waste.	▸ Natural Capital	SP-3
R6 **Depletion of natural resources**	▸ With the increasing consumption of natural resources, the cost of materials also rises. ▸ Furthermore, it is creating water and mineral shortages and disturbing the ecosystem in which we operate.	▸ We have increased our recycling capabilities and recycled 18.08 Million m^3 of wastewater in FY2022-23. ▸ We are introducing a seawater reverse osmosis system with mechanical vapour recompression technology at Dahej to recover and recycle water from existing RO reject. ▸ We have embedded circularity into every aspect of our business, encompassing mining, aluminium production and scrap recycling to reduce reliance on natural resources.	▸ Natural Capital	SP-2 SP-3

Risk and Opportunities

Risk	Significance and Impact	Mitigating Actions	Reference Capitals	Strategic Priorities
R7 **Shareholders/ lenders focus on ESG**	▸ The pandemic and the dynamic regulatory changes have heightened shareholders' attention to environmental and social responsibility and created long-term shareholder value. ▸ Shareholders are also mindful of an organisation's impact on the community and people not directly involved or related.	▸ The need for organisations to understand and address the externalities is likely to become essential to maintain our social license. Therefore, we have taken various initiatives, including goals and targets around ESG. ▸ We regularly track and disclose our performance on ESG goals and targets. ▸ We have also integrated sustainability parameters into our Annual Incentive Scheme.	▸ Intellectual Capital ▸ Social & Relationship Capital ▸ Natural Capital ▸ Human Capital ▸ Financial Capital	SP-2 SP-3
R8 **Product development strategy risks**	▸ We risk losing opportunities and market share if we focus on producing similar products.	▸ Besides increasing our existing market share, we are also exploring new product verticals. For instance, innovative solutions like AC Fin Stock Coatings can support our efforts to capture new markets. ▸ We aim to focus on new research areas, including copper anode and cathode quality, optimisation of copper refinery bleed generation, purification, and recycling, as well as reducing ETP load and advanced applications for zero waste to landfill. ▸ We successfully developed 62 new products in the reporting year at our Innovation Centres.	▸ Intellectual Capital ▸ Social & Relationship Capital	SP-2 SP-4
R9 **Changes in the regulatory requirements**	▸ The regulatory landscape around ESG, such as the carbon trading system, is rapidly evolving. ▸ EU's CBAM regulation will impact aluminium imports into the EU. Its reporting requirements will start in October 2023.	▸ We are engaging with government agencies and industry bodies to adapt to the evolving regulatory environment. ▸ We also focus on developing low-carbon products and implementing decarbonisation plans across all our sites. ▸ We are aligning our reporting in line with the EU's CBAM requirements.	▸ Intellectual Capital ▸ Social & Relationship Capital	SP-2 SP-3

New employees are trained on risk management during onboarding.

Risk	Significance and Impact	Mitigating Actions	Reference Capitals	Strategic Priorities
R10 **Cyber Security & Data Protection risks**	▸ Digital tools play a crucial role in modern technology. The growing use of these tools has increased cybercrimes, posing threats such as privacy breaches, data loss, fraud, and theft. These cybersecurity risks can potentially impact businesses, operations and customer base.	▸ We have developed an Information Technology Policy to guide our cybersecurity practices. ▸ Our entire IT infrastructure is certified with ISO 27001 Information Security Management System, and we conduct periodic audits to strengthen the systems. ▸ Our intranet portal has an Incident Reporting Form on which employees can report any actual or suspected information security breaches.	▸ Intellectual Capital ▸ Social & Relationship Capital	SP-3

Above mentioned risks are not in any specific order of priority / risk grade.

Risk and Opportunities

Unveiling Emerging Risks

At Hindalco, we believe in a proactive approach to managing emerging risks while seizing opportunities in the business landscape.

Emerging risks have the potential to impact operations both directly and indirectly. We build resilience in a dynamic environment by effectively managing these risks and ensuring business continuity.

We are building resilience in a dynamic environment and ensuring business continuity

Emerging Risks	Impact	Mitigation Strategy
Climate action failure Failure to adopt, enforce and invest in climate change adaptation and mitigation	▸ Unprecedented natural events lead to disruptions in operations as some of our sites face exposure to physical risks. ▸ Four of our sites lie in water-stress areas and face the risk of droughts during summer. ▸ Some sites will also be prone to heat waves in the long term.	▸ Conducted location-wise detailed climate risk assessment and formulated mitigation strategies for the same. ▸ Identified levers and undertook initiatives to minimise the carbon footprint.
Degradation of natural ecosystem impacting operations Human interventions affect global ecosystems and trigger reactions such as biodiversity loss, water stress, climate change, natural resource consumption and other socio-economic impact. Considering our dependence on natural resources, it is essential to address the risk.	▸ Lack of raw materials and fuel availability may lead to operational disruptions. ▸ Degradation of the ecosystem will impact operational efficiency.	▸ We are mapping ecosystems through biodiversity management plans. ▸ Our Sustainable Mining Charter supports our responsible mining practices. ▸ We have enhanced resource optimisation by increasing operational and energy efficiency and recycling and reusing waste. ▸ We have undertaken afforestation programmes around our operational sites and mines.

Opportunities

Both aluminium and copper markets present business opportunities in various sectors like automotive, building and construction, packaging, and electronics.

We are leveraging these opportunities by advancing from manufacturing products to manufacturing solutions. Our enriched portfolio aligns us with customer demands and enables us to cater to their needs.

Further, aluminium is a potential changemaker in the journey of decarbonisation, offering opportunities in areas such as circular economy, low-carbon products, and lightweighting.

Opportunities	Description	Resource Allocation
Rising demand for aluminium and copper products	▸ By 2033, aluminium consumption is expected to double in India from 4.5 Million MT to 9 Million MT, and copper consumption is set to increase from 1 Million MT to 2 Million MT. ▸ The increase in consumption will open a pool of opportunities in sectors like automobiles, urban infrastructure, pharma, air conditioning, among others. ▸ Rising demand from OEM manufacturers for lightweight materials and growing electric mobility space.	▸ We are enhancing our downstream capacity for extrusions, FRP, battery enclosures and foils, and coated AC fins to cater to the market. ▸ Capital allocation for expansion and downstream product development. ▸ Manufacturing of superior copper alloy rods for railways. ▸ Under the Product Linked Incentive scheme, we are developing an Inner Grooved Copper Tube facility and coated AC fins.
Development of low-carbon products	▸ With rising carbon prices and increasing commitments to decarbonisation, the industry will have a growing appetite for low-carbon products. ▸ Low-carbon products will be a differentiator compared to other products. ▸ Investments in renewable energy, inert anodes, hydrogen, and biofuels will be significant.	▸ We are developing our renewable energy portfolio and investing in research and development for carbon-neutral solutions and low-carbon products. ▸ The Novelis portfolio includes products manufactured from recycled aluminium. ▸ We are developing a first-of-its-kind recycling facility for copper and e-waste.
Recycling and circular economy	▸ Aluminium and copper, with their high recycling properties, may prove to be building blocks for the circular economy. ▸ With the projected increase in consumption, the volume of post-consumer aluminium and copper is also set to rise. ▸ Using recycled metals will help meet consumer demands while reducing the consumption of virgin metals.	▸ We are developing a can recycling facility where a tolling partner will provide the hot metal. ▸ We are developing a state-of-the-art recycling facility for copper and e-waste. ▸ We are collaborating with cement manufacturers to use fly ash and bauxite residue. ▸ We are testing the use of bauxite residue in road-making.
Emerging applications for specialty alumina	▸ Due to evolving industry requirements, there is an increased demand for developing high-end sophisticated products in existing markets, such as refractories, ceramics and flame retardants, and emerging markets like Li-ion batteries and semiconductors.	▸ The business is focused on expanding its value-added product capacity and portfolio with projects up to 150 KT underway.

Stakeholder Engagement

Enriching Lives through Meaningful Stakeholder Collaboration

Engaging With Our Stakeholders

Our efforts to create value for stakeholders are guided by the Group Purpose of enriching lives by building dynamic and responsible businesses and institutions that inspire trust. At Hindalco, we have always collaborated with our stakeholders as part of our journey to build a Greener, Stronger, and Smarter world.

We regularly connect with our stakeholders to identify their concerns and inputs. Our concerted efforts to address stakeholder concerns and inputs are instrumental in meeting our strategic priorities.

Aditya Birla Group's Stakeholder Engagement Policy is the guiding principle for our stakeholder engagement process.

Our three-step approach for effective stakeholder engagement:

1. Identification and prioritisation of stakeholders (individuals and groups)
2. Engaging with stakeholders
3. Understanding expectations and develop action plan to address concerns (if any)

Our stakeholder groups comprise employees, customers, suppliers and vendors, communities, investors and shareholders, government and regulatory authorities, NGOs, industry associations, and media. We engage with respective stakeholders through various modes and channels to understand their expectations. We regularly communicate the expectations of our stakeholders to the ESG or CSR Committee, which are further briefed to the Board quarterly.

Stakeholder Engagement

Stakeholder	Engagement modes and channels	Stakeholder expectations	Our approach
Employees **Frequency of Engagement** Continuous **Significance of the relationship** Our employees play an important role in our journey towards enriching the lives of our stakeholders. Employees are integral to our Human Capital, contributing to all other capital	▸ Hi-intranet and knowledge portals ▸ Coverage of Shillim events ▸ Leadership townhalls ▸ Unit level journals ▸ Employee satisfaction surveys ▸ Feedback mechanism ▸ Employee engagement programmes ▸ Grievance redressal mechanism ▸ Website ▸ Social Media	▸ Fair wages and equal opportunities ▸ Training and skill development with career growth ▸ Rewards and recognition ▸ Employee well-being ▸ Occupational health and safety ▸ Transparent communication ▸ Medical facilities and operational continuity	▸ 60.7% of the employees are covered under the provision of collective bargaining at Hindalco ▸ Ensuring compliance in terms of payment of minimum wages ▸ Providing technical and behavioural training ▸ E-learning events and development programmes by Hindalco Technical University (HTU) ▸ Awareness programmes on health and wellness ▸ Occupational health and safety training ▸ Sufficient notice period regarding any significant operational change
Customers **Frequency of Engagement** Continuous **Significance of the relationship** As drivers of our revenues, customers also provide valuable inputs for improving products and solutions, service excellence, and operational efficiency.	▸ Emails and meetings ▸ Customer satisfaction surveys ▸ Periodical site visits ▸ Grievance redressal mechanism	▸ Post-sales support ▸ Sustainable product offerings and solutions ▸ Innovative solutions	▸ Key account management ▸ Net Promoter Score (NPS) model combining a top-down and bottom-up approach ▸ Enhanced product portfolio with customer-centric solutions
Suppliers / Vendors **Frequency of Engagement** Continuous **Significance of the relationship** Suppliers and vendors provide us with raw materials, associated process materials, equipment and services required in our operations.	▸ Emails and meetings ▸ Vendor assessments and review ▸ Supplier audits ▸ Training workshops and seminars ▸ Stakeholder engagement surveys	▸ Continuity of orders ▸ Capacity building ▸ Embedding ESG principles across the supply chain	▸ Sustainable procurement policy ▸ Supplier Code of Conduct ▸ ESG assessment of suppliers ▸ Contractor safety management system
Government and Regulatory Bodies **Frequency of Engagement** As per requirement **Significance of the relationship** Conforming to applicable laws, regulations and policies	▸ Annual Reports ▸ Communication with regulatory authorities ▸ Formal dialogues ▸ Policy advocacy	▸ Compliance with laws and regulations	▸ Implementation of compliance tracking framework. ▸ Ensuring compliance with applicable laws and regulations
Local communities **Frequency of Engagement** Continuous **Significance of the relationship** Community engagement enhances our reputation as a responsible corporate entity and reinforces our commitment to maintaining a social license to operate	▸ Stakeholder engagement surveys ▸ Community need assessment exercise ▸ Meetings directly or through NGO partners ▸ Community development initiatives	▸ Community Infrastructure development ▸ Local employment ▸ Community development programmes ▸ Livelihood opportunities	▸ Development of community infrastructure in villages ▸ Identifying affected communities and range of stakeholders ▸ Implementing a stakeholder engagement plan ▸ Focus on livelihood and skill development programmes ▸ Social awareness camps ▸ Responsible mining practices ▸ Focus on societal reforms ▸ Conducting socio-economic baseline assessments
Investor and Shareholders **Frequency of Engagement** Quarterly **Significance of the relationship** Provides financial resources to compound business growth	▸ Board meetings ▸ Annual reports ▸ Newsletters ▸ Quarterly briefings ▸ Investor meets / roadshows	▸ Sustainable growth and returns ▸ Market share ▸ ESG commitment and disclosure ▸ Operational and financial performance ▸ Risk management ▸ Corporate governance ▸ Ethics and integrity	▸ Regular updates on operational and business performance ▸ Focus on cost optimisation and value-added products ▸ Enterprise risk management framework ▸ Corporate governance framework
Industry associations **Frequency of Engagement** As per requirement **Significance of the relationship** Industry associations help share knowledge of leading practices and support policy advocacy efforts	▸ Meetings and seminars	▸ Compliance with industry standards ▸ Business collaborations ▸ Knowledge sharing	▸ Participation in meetings, conferences and discussions related to the industry ▸ Sharing of leading industry practices ▸ Policy advocacy efforts
Media **Frequency of Engagement** Periodically **Significance of the relationship** Media helps in projecting our vision and strategy to various stakeholders	▸ Digital platforms such as websites and social media ▸ Press releases ▸ Interviews	▸ Transparent communication	▸ Regular communication of progress through press releases and interviews

Materiality Assessment

As part of our ESG efforts, we focus on multiple aspects related to our business's impacts on stakeholders. Given the broad scope of ESG topics and frameworks, it is important that we must prioritise areas directly impacting our stakeholders. We conduct a dedicated materiality assessment every two years. The assessment helps us identify, refine and assess potential material topics that may affectthe environment and society, including human rights. The outcome of the materiality assessment helps us align our ESG efforts with strategic priorities, risks, and opportunities.

We conducted a materiality assessment the previous year based on the Impact of Materiality defined in GRI Standards 2021. The assessment considered responses from both internal and external stakeholders. However, with the evolving ESG landscape, we have aligned our current material topics in coherence with the concept of double materiality during the reporting period.

Impact Materiality

From the perspective of impact materiality, we considered the context of our organisation, its sector, and operations to determine several actual/potential and positive/negative impacts. We assessed their influence and effects on respective internal and external stakeholder groups. We conducted the assessment based on the responses from individual stakeholder groups in the previous financial year.

Financial Materiality

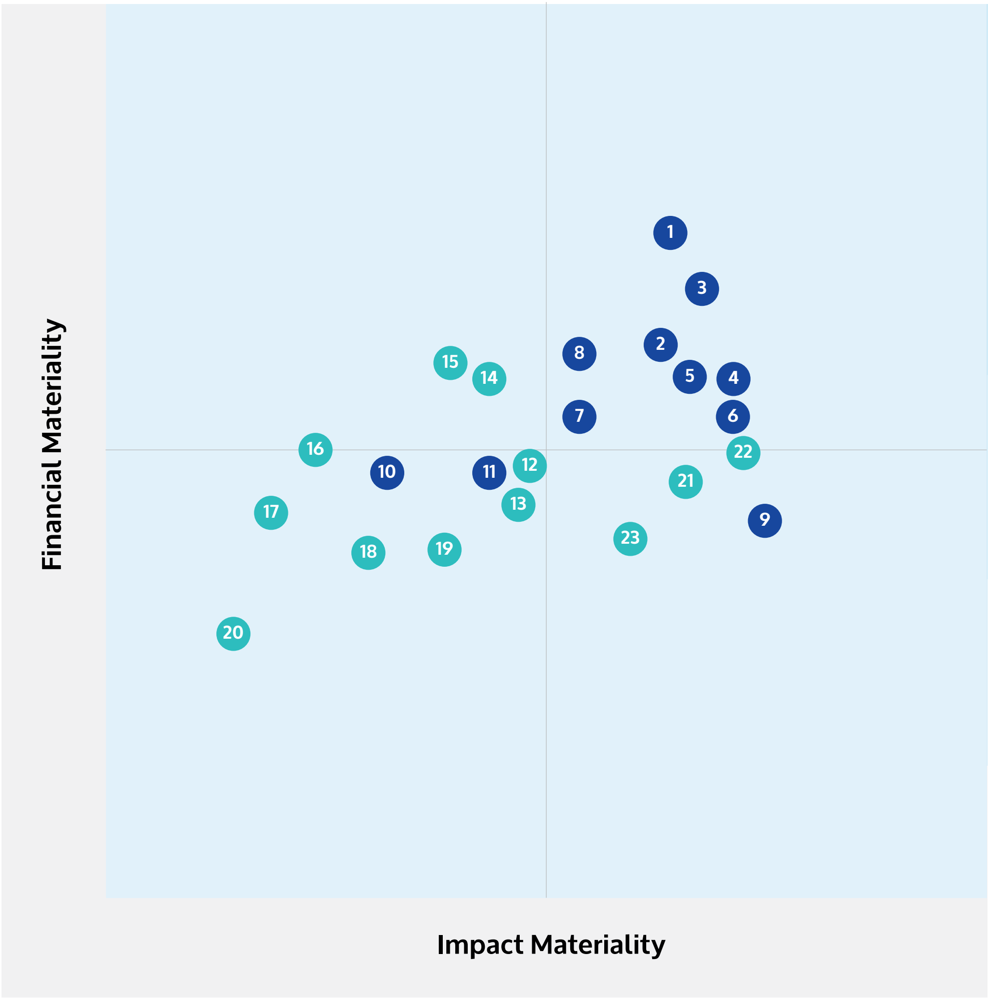
We identified the risks and opportunities of the identified impacts to determine financial materiality. Our leadership assessed key material topics to determine the financial implications based on the probability of occurrence and financial effects of risk and opportunities.

After analysing the results, we developed a matrix depicting 11 high-priority material topics which are significant from both impact and financial materiality perspectives.

Our Board of Directors/ Senior Management has duly signed off on the materiality matrix after evaluating it.

Our ESG Key Performance Indicators (KPIs) are mapped to respective material topics and further aligned with respective SDGs, strategic priorities, and risks. Additionally, these material topics are integrated into our Enterprise Risk Management (ERM) framework and are reviewed annually to align with our business strategy.

Materiality Matrix



Material Topics

1. Energy & GHG Emissions Management
2. Waste and Hazardous Materials Management
3. Economic performance
4. Market presence
5. Water Management
6. Compliance Management
7. Community Relations
8. Air Emissions
9. Occupational Health and Safety
10. Biodiversity
11. Supply Chain Transformation
12. Material Management
13. Product Stewardship
14. R&D Innovation and Technology
15. Digitalisation and Cyber Security
16. Macro-Economic Fluctuations
17. Land Use
18. Diversity and Inclusion
19. Communicable Disease and Public Health
20. Artisanal and Small-Scale Mining
21. Employee Wellbeing
22. Ethics and Integrity
23. Security and Human Rights

Materiality Assessment

Material Topic	GRI Topic	SDG Alignment	Reference in IR	Alignment with Strategic Priority and RIsk	Risk or Opportunity	Approach to Mitigation, in Case of Risk	Financial Implications	KPIs
Environment								
Energy and GHG Emissions Management	▸ Energy Emissions	7, 12, 13	▸ Natural Capital	SP-3 R1	**Risk:** Coal is one of the primary sources of energy for Indian operations. We are engaged in a continuous process industry dependent on coal. Hence, it is challenging to replace coal with any alternate material soon.	▸ We have invested in renewable energy projects to run other operations, such as townships. ▸ We are also evaluating the feasibility of other energy sources, including increasing the use of biomass in power plants. ▸ We have also been working on carbon capture as well as energy storage.	Negative	▸ Energy consumption (within the organisation) ▸ Energy intensity ▸ Reduction of energy consumption ▸ Direct (Scope 1) GHG emissions ▸ Energy indirect (Scope 2) GHG emissions ▸ Other indirect (Scope 3) GHG emissions ▸ GHG emissions intensity
Waste and Hazardous Materials Management	▸ Effluents and Waste	12	▸ Natural Capital	SP-3 R5	**Risk:** Proper waste disposal from operations is essential for protecting the environment and safety. Some of the waste is stored in a secured area for which substantial land is required. Land availability is becoming complex, and waste storage in 'ponds' also has its own risks. We need to adhere to evolving regulatory requirements within specified time frames.	▸ We have set up a year-on-year target of 5% for recycling and reusing generated waste to achieve zero-waste-to-landfill by 2050. ▸ Several pipeline initiatives include utilising bauxite residue for backfilling and road building and establishing long-term contracts with cement/road developers. We monitor the progress of these initiatives regularly.	Negative	▸ Waste generated ▸ Waste diverted from disposal ▸ Waste directed to disposal
Water Management	▸ Water	6, 12	▸ Natural Capital	SP-3 R6	**Risk:** Natural resource depletion is a risk all over the world and can eventually impact our immediate environment and operations. Our business depends on coal supply, bauxite, copper concentrate, and water. Four of our plants are in water-stress areas.	▸ We have planned several initiatives for water recycling and rainwater harvesting at various plants. We aim to achieve zero liquid discharge and water positivity across mining and downstream verticals by 2025.	Negative	▸ Water withdrawal ▸ Water discharge ▸ Water consumption
Air Emissions	▸ Emissions	13	▸ Natural Capital	SP-3 R7	**Risk:** Our non-GHG air emissions result from both fuel combustion and production processes. Our aluminium smelting process contributes to fluoride emissions, while the burning of fossil fuels contributes to Oxides of Sulphur (SOx), Oxides of Nitrogen (NOx) and Particulate Matter (PM).	▸ We are taking up several projects to minimise emissions from our operations. We are installing pilot Flue Gas Desulphurisation (FGD) units at Mahan, Aditya, and Renusagar.	Negative	▸ Nitrogen oxides (NOx), ▸ Sulphur oxides (SOx), and other significant air emissions
Biodiversity	▸ Biodiversity	13, 15	▸ Natural Capital	SP-3 R6	**Risk:** Our operations depend on coal and bauxite mines. Furthermore, many of our locations are situated near areas of high biodiversity. Proper biodiversity management is critical for continued operations at our sites.	▸ We are taking up several initiatives towards biodiversity conservation, including developing biodiversity management plans.	Negative	▸ Operational locations in areas with high biodiversity value.
Social								
Occupational Health and Safety	▸ Occupational Health and Safety	3, 8	▸ Human Capital	SP-3 R9	**Risk:** Health and safety is of utmost importance. However, we face injuries due to safety-related risks in our manufacturing processes.	▸ We have implemented the 'Serious Injuries and Fatality (SIF) prevention programme', a unique initiative in Indian manufacturing which standardises contractor safety management processes across Hindalco. Additionally, we are incorporating digitalisation to reduce human intervention.	Negative	▸ Work-related injuries ▸ Work-related ill health

Materiality Assessment

Material Topic	GRI Topic	SDG Alignment	Reference in IR	Alignment with Strategic Priority and RIsk	Risk or Opportunity	Approach to Mitigation, in Case of Risk	Financial Implications	KPIs
Social								
Community Relations	Local Communities		Social and Relationship Capital	SP-2 R7 SP-3	**Opportunity:** To actively contribute to underserved communities' social and economic development, lifting the burden of poverty and helping bring inclusive growth in sync with the UN Sustainable Development Goals. In doing so, we are building a better, sustainable way of life for the weaker sections of society and raising the country's Human Development Index. In line with our Group's CSR vision, Hindalco has adopted socially responsible practices where these SDGs are enumerated through the five focus areas of education, health care, sustainable livelihood, social empowerment, and infrastructure development. We positively impacted more than 2 Million lives through our community development programme.	Not applicable	Positive	Operations with local community engagement, impact assessments, and development programmes Operations with significant actual and potential negative impacts on local communities
Governance								
Economic Performance	Economic Performance		Financial Capital	SP-1 R3 SP-2 R4	**Opportunity:** We have achieved our deleveraging target well ahead, leading to a strong balance sheet. This outperformance has resulted in increased trust between the shareholders and lenders. We have a robust approach to the capital allocation framework. Furthermore, our focus has been maximising shareholder return by directing our growth capex towards value-added downstream expansion projects.	Not applicable	Positive	Direct economic value generated and distributed
Compliance Management	Non-GRI		Natural Capital Social and Relationship Capital	SP-3 R9	**Risk:** Regulations in the metals and mining industry are essential in shaping the business. Frequent regulatory changes give rise to uncertainty in the surrounding environment. Our value chain is highly dependent on the resources available to the government.	We continuously engage with Government agencies and work on policy advocacy at various levels. We also actively participate in industry association activities. This approach helps us proactively engage with the government and prepares us for regulatory changes.	Negative	Environmental compliance Socio-economic compliance
Market Presence	Non-GRI	-	Intellectual Capital Manufactured Capital	SP-1 R1 SP-4	**Opportunity:** Increased demand for aluminium in various sectors allows Hindalco to expand its market presence.	Not Applicable	Positive	Technology and Innovation Enhanced customer experience
Supply Chain Transformation	Non-GRI	-	Natural Capital Social and Relationship Capital	SP-3 R2	**Opportunity:** Sustainable supply chain initiatives, effective use of natural resources, decarbonisation, ethical sourcing, and fair trade will enable risk reduction, increased innovation, and even more substantial returns on investment.	Not Applicable	Positive	Digitalisation of the supply chain

We aim to prioritise the impacts of these identified material topics while creating long-term value. We strive to reduce our emissions through initiatives such deploying new technologies for emission reduction, procurement and generation of renewable energy, and reducing fossil fuel-based energy. Water is an essential resource for our operations, so we utilise it judiciously, especially in the water-stress zones. Several projects have been identified and implemented to reduce the dependency on freshwater and reuse and recycle water. Furthermore, we adhere to the regulatory requirements and ensure that effluent discharge is within the permissible limits, providing the most negligible impact on the aquatic habitat and neighbouring communities.

Moreover, through our commitment, we enrich the lives of society, the environment, and our people.To ensure the health and safety of our workforce, we conduct regular safety training exercises and awareness sessions to sensitise them to workplace hazards and create a safe and healthy workplace for them. We also run several hazard identification and other assessments to ensure the incorporation of appropriate health and safety measures while reducing their impacts on our business operations.

Financial Capital

Enriching Lives by Maximising Value for Our Stakeholders

Prudent financial capital management becomes a critical success factor as we move towards a new pool of customer-centric solutions. As we prioritise long-term value creation, the financial capital fuels our operations and enables strategic investments.

It represents borrowings and Shareholder's Equity available to invest in assets, research and development, innovation, marketing efforts, and other initiatives, thereby enhancing value and ultimately enriching the lives of our stakeholders.

Focus Areas

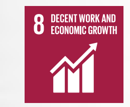
Prudent Capital Structure	Capital Allocation Policy
Value Enhancing Growth	Portfolio Enrichment

Key Highlights

EBITDA	PAT
₹ 24,131 Cr.	₹ 10,097 Cr.

Operating Cash Flow	Net Debt / EBITDA
₹ 19,208 Cr.	1.39 x

Contributions to SDGs



Interlinkages with material topics and other capitals

Material topics

- Economic Performance

Capitals connected

- Manufactured Capital
- Human Capital
- Intellectual Capital
- Natural Capital
- Social & Relationship Capital

Key Risks and Opportunities addressed

R3	Price volatility of aluminium
R4	Increased import of aluminium
R7	Shareholders/lenders focus on ESG

Alignment with Strategic Priorities

SP-1	Prudent capital structure
SP-2	Value enhancing growth

Financial Capital

Economic Value Creation

(in ₹ Crore)

Particulars	FY2021-22	FY 2022-23
Revenue from Operations	195,059	223,202
Other Income	1,136	1,257
Economic Value Generated	**196,195**	**224,459**
Operating Costs	128,686	158,116
Employee Wages and Benefits	12,023*	13,063
Payment to providers of capital	3,867	4,669
Payments to government	3,801	2,856
Community Investments	88	136
Depreciation and other expense	32,732*	36,443
Economic Value Distributed	**181,197**	**215,283**
Economic Value Retained#	**14,498**	**9,244**

Economic value retained = Direct economic value generated - Economic value distributed

* There is a reclassification of ₹87 Crore between employee benefits and other expenses

Robust volumes and better operational efficiencies enable our strength.

Financial Performance

In FY2022-23, we delivered stable financial and operational performance supported by a diversified product portfolio, improved operational efficiencies and a record performance by the copper business despite a challenging global economic environment. Our India aluminium operations and Novelis continued to deliver resilient performance.

Our consolidated revenue was up 14% at ₹223,202 Crore in FY2022-23 compared to ₹195,059 Crore in FY2021-22, primarily driven by higher global aluminium prices and local market premiums.

We maintain a strong balance sheet during the reporting period, resulting in 1.39x Net Debt-to-EBITDA at the end of the year and being net debt free for our India operations.

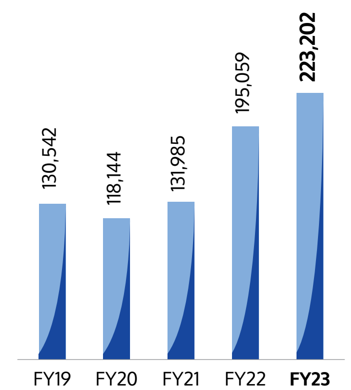
We are also actively pursuing ongoing strategic investments and partnerships to enhance our business ecosystem, seize emerging market opportunities and strengthen our positioning as an industry leader. In the future, the Company's raw material securitisation strategies in Indian operations would help in better availability of raw materials and cost optimisation.

Our ongoing growth projects — worth $1.13 Billion in Indian operations and $3.3 Billion in Novelis — would be executed over the next five years. These would be majorly funded through internal accruals.

Consolidated Financial Performance

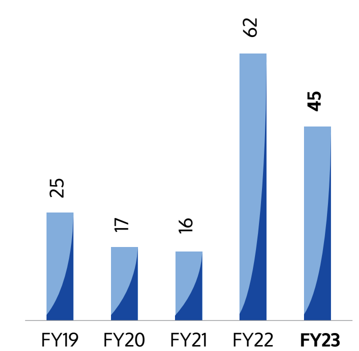
Revenue (₹ Crore)

₹223,202 Cr.



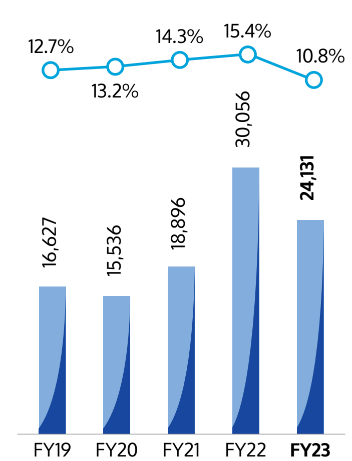
EPS (₹)

₹45



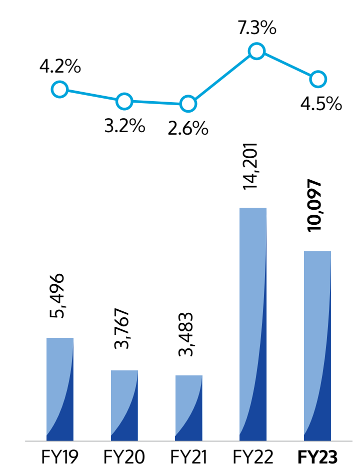
EBITDA (₹ Crore)
EBITDA Margin (%)

₹24,131 Cr.



PAT (₹ Crore)
PAT Margin (%)

₹10,097 Cr.

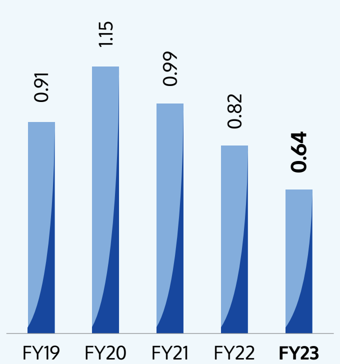


Financial Capital

Key Return Ratios

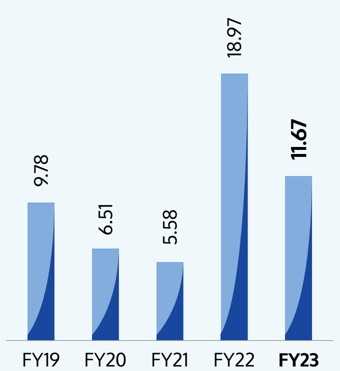
Debt Equity (in times)

0.64



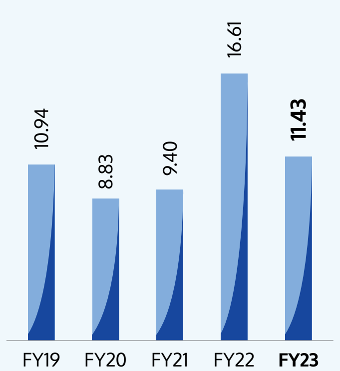
ROE (%)

11.67 %



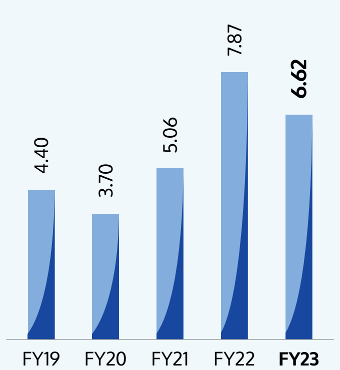
ROCE (%)

11.43 %



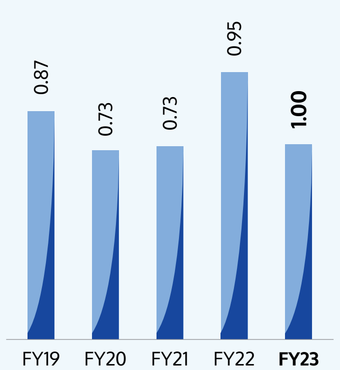
Net Interest Cover (in times)

6.62



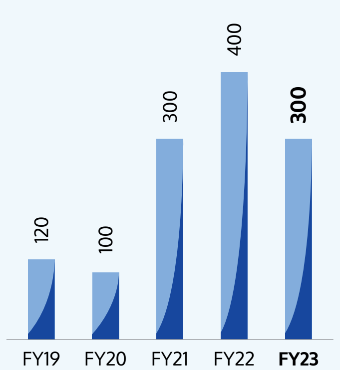
Asset Turnover (in times)

1.00



Dividend Payout (%)

300 %



Novelis Financial Performance Highlights

At Novelis, our net sales increased to $18.5 Billion in FY2022-23, an 8% jump over last year due to higher aluminium prices and a favourable product mix. There was a 2% decrease in total Flat Rolled Products (FRP) due to weaker consumer demand in the beverage can and specialities market.

Adjusted EBITDA decreased 11% to $1.8 Billion in FY2022-23, compared to $2.0 Billion last year, driven by higher energy costs because of geopolitical instability and less favourable metal benefits. Free cash flow from continuing operations was $443 Million compared to $649 Million last year due to a higher capex and unfavourable metal price lag. A favourable release in working capital partially offsets this.

Capacity Expansions

As a part of the $3.3 Billion ongoing organic expansion projects, Novelis is investing $2.5 Billion to build a new low-carbon, state-of-the-art aluminium recycling and rolling facility of 600 KT in Bay Minette, Alabama. This facility will cater to the growing demand for can sheets and an undersupplied market, especially in North America.

Novelis will also invest $365 Million in a 240 KT automotive-focused sheet ingot recycling facility in Guthrie, USA.

This strategy will serve the automotive aluminium body sheet industry, which is growing at a CAGR of 11% in the segments of high-end SUVs, pickup trucks and electric vehicles.

In line with its long-term downstream expansion strategy, Hindalco is foraying into high-end value-added segments in India's aluminium, copper, and specialty alumina.

This endeavour, worth $1.13 Billion, is set to be executed over the next five years. These organic growth projects are expected to improve our margins and the Company in advancing from a manufacturing company to a manufacturing solutions provider.

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Financial Capital

Key Focus Areas

Prudent Capital Structure

Our constant endeavour to create long-term shareholder value and strengthen our balance sheet over the past few years has laid the foundation for us to capitalise on upcoming growth opportunities.

The company has implemented a prudent debt management strategy, maintaining a healthy Net Debt-to-EBITDA ratio and managing its debt maturity profile. Our Consolidated Net Debt-to-EBITDA has reduced from 2.50x in March 2019 to 1.39x in March 2023.

Capital Allocation Policy

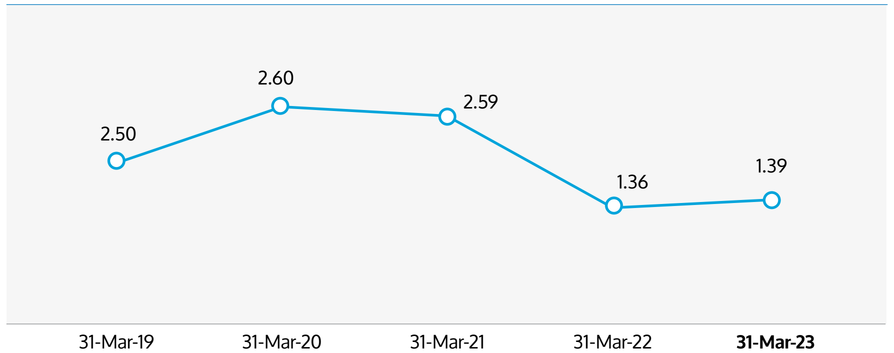
Till FY2021-22, our capital allocation policy framework stated that 75% of operating cash flow be spent for capex; around 15% be reserved for debt reduction.

The balance was to be distributed to the shareholders. Given our comfortable debt position, internal accruals would be deployed towards our organic growth phase. As a result, our capital allocation would be majorly used for growth capex and dividend distribution to shareholders.

In FY2022-23, the board has recommended a healthy dividend of ₹3 per equity share (i.e., 300% of the face value of ₹1 each) subject to the approval of shareholders of the Company.

Hindalco is one of the largest producers of primary aluminium in Asia

Consolidated Net Debt/EBITDA (x) trend



Several initiatives for cost optimisation are underway, such as strengthening backward integration, investing in renewables, and bolstering our supply chain for sources of raw materials.

Value-Enhancing Growth

We are organically expanding our downstream businesses across product segmentsin India operations and Novelis. This approach allows Hindalco to capture new markets, strengthen customer relationships and improve margins.

Growth Projects Planned in the Next Five Years

Aluminium (India Operations)

- High-End Extrusions facility at Silvassa
- New Flat-Rolled Products (FRP) casting at Aditya
- Cold Rolling facility at Hirakud
- Coated Air Conditioning Fins facility (under the PLI scheme of Govt of India) at Taloja
- New Battery Foil Mill at Aditya
- New Battery Enclosures facility at Pune

Specialty Alumina (Chemicals) Business

- Precipitated Hydrate plant at Belagavi

Copper

- Superior copper alloy rod project at Vadodara
- First Inner-grooved copper tubes at Vadodara
- First-of-its-kind recycling facility for Copper and E-waste

Novelis

- State-of-the-art greenfield rolling and recycling facility in Bay Minette, US
- Automotive recycling centre in Guthrie, US
- Recycling expansion in Ulsan, South Korea
- Other investments in Debottlenecking/high-return rolling capacity release in North America, South America and Asia

We are working rigorously on cost optimisation and fortifying our resource security in coal and bauxite.

Several initiatives such as strengthening of backward integration, investments in renewables, and bolstering our supply chain for sources of raw materials are in various stages of implementation.

We are also investing in procuring captive coal mines to become self-reliant and safeguard ourselves from the volatility of energy prices and provide supply and quality assurance.

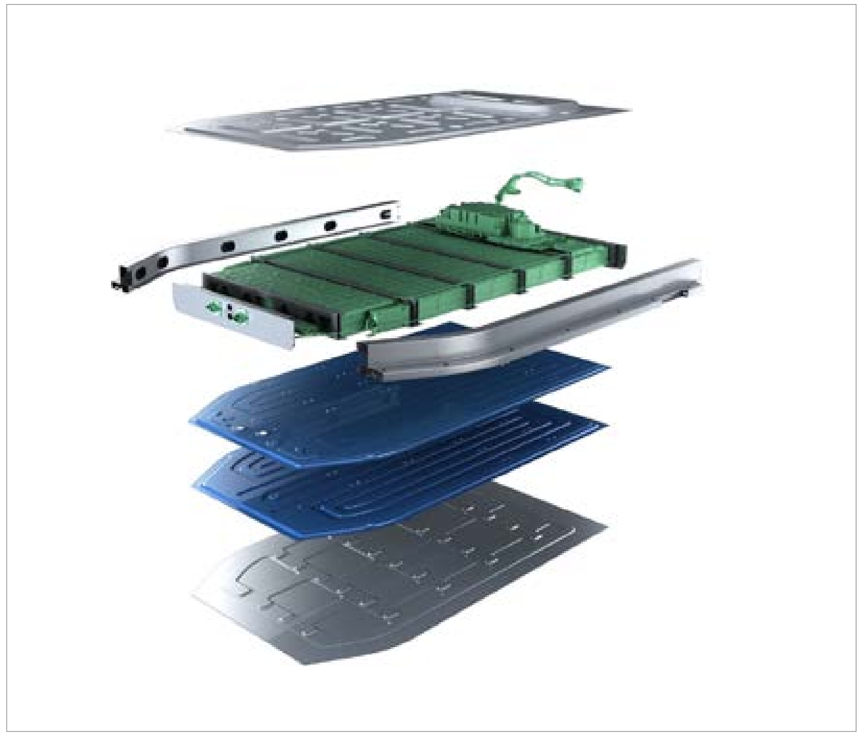
Chakla coal mine with a capacity of 4.5 Million MT is expected to be operational by FY2025-26. Meenakshi coal mine with a capacity of 10-12 Million MT is awaiting regulatory approvals.

Portfolio Enrichment

With its portfolio enrichment strategy, Hindalco is advancing from a manufacturing company to a manufacturing solutions provider.

We are investing more than a billion dollars in various projects to develop innovative products and solutions that will cater to the evolving needs of our customers. We can access an extended value pool in emerging markets through our fabrication and precision engineering solutions.

These solutions shall set us apart in the market, increase our pricing power, and enable us to capture higher margins. Here are some of our key initiatives:



Aluminium-based battery enclosures for cars and two-wheelers

To serve as a solution provider for OEMs, we are setting up a 4-wheeler battery enclosure plant with a capacity of 164,000 units/annum to be commissioned by Dec-23.

Aluminium panels and railway freight wagons for passenger rail coach

We are co-designing aluminium panels and wagons in collaboration with railway coach manufacturers. This project aims to provide the Indian Railways with efficient, and sustainable solutions.

We introduced the first aluminium rake this year (FY2022-23) in Odisha, demonstrating our commitment to innovation.

Building aluminium trailers for Commercial Vehicles (CVs)

We have started manufacturing lightweight bodies for commercial vehicles to help operators reduce dead load, increase fuel efficiency and extend their range. A dedicated facility manufacturing 10,000 containers was established in January this year.

Customised window solution under the 'Eternia Fenestration Solutions' brand

To take advantage of the rapidly growing real estate market, we provide customised doors and windows solutions by combining advanced design with unique alloys.These solutions are meant for consumers seeking reliable and efficient fenestration solutions.

Precipitated Superfine Hydrate for halogen-free wires

We are commissioning a Precipitated Hydrate plant with a 20 KT capacity by FY2023-24. The fine particles, ranging from 1 to 2 microns in size, produced by this plant have diverse applications in different sectors, particularly in meeting the new safety standards for halogen-free wires in flame retardants.

With its portfolio enrichment strategy, Hindalco is advancing from a manufacturing company to a manufacturing solutions provider.

Manufactured Capital

Striving to Lead the Industry with Excellence

To become a global high-performing contemporary organisation, we have significantly expanded our product portfolio, focusing strongly on downstream and value-added products.

We at Hindalcobelieve that aluminium and copper are the fundamental building blocks for a sustainable future. We are determined to contribute significantly to India's Net Zero transition journey, aligning with our commitment to environmental stewardship.

Our products play a vital role in various applications and sectors, including electric vehicles, energy-efficient buildings, and modernised electrical grids, which are instrumental in reducing GHG emissions. Our products enrich the lives of our customers by offering enhanced performance, increased convenience, and an overall superior experience. By collaborating closely with our customers and partners, we are committed to supporting India in achieving its ambitious Net Zero goal.

Focus Areas

Downstream expansions in aluminium and copper	Driving operational excellence
Process digitalisation	ESG integration across the value chain

Key Highlights

Manufacturing Facilities*
19

Operational Mines*
21

Overseas units of Novelis
33

Primary aluminium metal production*
1.32 Mn MT
(Highest-ever)

Alumina production*
8 % ▲
(Highest-ever production)

Copper Cathode production*
11.79 % ▲

*India Operations | ▲ YoY growth

Contributions to SDGs

8 Decent work and economic growth | 9 Industry, innovation and infrastructure | 12 Responsible consumption and production

Interlinkages with material topics and other capitals

Material topics

- Market Presence

Capitals connected

- Financial Capital
- Natural Capital
- Intellectual Capital
- Human Capital
- Social & Relationship Capital

Key Risks and Opportunities addressed

- R3 Price volatility of aluminium
- R4 Increased import of aluminium
- R2 Supply chain risks
- R9 Changes in the regulatory requirements

Alignment with Strategic Priorities

- SP-2 Value Enhancing Growth
- SP-3 Strong ESG Commitment
- SP-4 Portfolio Enrichment

Manufactured Capital

Production Capacity

Alumina	Specialty Alumina	Primary Aluminium	Aluminium VAP
3.6 Mn MT	0.36 Mn MT	1.30 Mn MT	0.40 Mn MT
Copper Cathode	**Copper Rods**	**Novelis Rolling Capacity**	
0.42 Mn MT	0.54 Mn MT	4.1 Mn MT	

We are a leading aluminium, copper, and chemicals producer with over 52 manufacturing locations across 10 countries.

Our copper division, which operates one of the largest custom smelters in the world at a single location, meets more than half of India's copper requirements. We are one of the leading manufacturers of specialty alumina, supplying our high-quality products to customers across major geographies.

Overview of Our Production

We observed a robust domestic demand for aluminium and copper across sectors, with a 14% jump year on year in aluminium consumption and a 22% jump year on year in copper consumption.

This steep demand arose due to the increased use of aluminium and copper in the electrical, automotive, building and construction sectors.

Hindalco's integrated portfolio encompasses the entire value chain, starting with bauxite mining, alumina refining, smelting, and converting primary metal into downstream value-added products.

Our finished products includes alumina, primary aluminium in the form of ingots, billets, and wire rods, as well as an array of value-added products such as flat rolled products, extrusions, and foils. We utilise metallurgical alumina for our captive needs. In contrast, chemical alumina and hydrates find applications across various industries, such as water treatment, cable and plastic fillers, refractories, ceramics, and glass manufacturing.

During FY2022-23, our wholly owned subsidiary Novelis, the world's largest flat-rolled aluminium producer and recycler, sold 3.79 Million MT of FRP in beverage cans, automotive, aerospace and specialties sheets.

We anticipate a 3% year-on-year increase in global demand for FRP aluminium.

To cater to this demand, Novelis is well-equipped with a rolling capacity of 4.1 Million MT and uses more than 2.3 Million MT of recycled material inputs.

Novelis operates in 33 units spread across nine countries, with 15 equipped with recycling capabilities. Novelis recycles post-consumer aluminium, such as used beverage cans and post-industrial aluminium, such as class scrap and is the largest recycler in the world.

Hindalco has the largest custom copper smelter in Asia (ex. China), where we conduct smelting and refining operations and manufacture value-added downstream products. Our product range includes copper cathodes, continuous cast copper rods (CCR) in various sizes and precious metals such as gold and silver. In our manufacturing process, sulphuric acid is a major by-product.

	Production details from FY2019-20 to FY2022-23 ('000 MT)				
Segment	**Parameter**	**FY2019-20**	**FY2020-21**	**FY2021-22**	**FY2022-23**
Aluminium Upstream	Alumina*	2,768	2,699	3,235	3,525
	Primary	1,319	1,229	1,294	1,322
Aluminium Downstream	Flat-Rolled Products	291	233	301	287
	Extrusions	41	37	50	52
	Foils**	18	19	28	29
Copper	Copper Cathodes	326	262	359	407
	Copper Cast Rods	245	235	259	347
Novelis	Flat-Rolled Products (Shipments)	3,273#	3,613	3,858	3,790

* Hydrate as alumina | **Part of Flat-Rolled Products production | # Excluding Aleris

Specialty Alumina (Chemicals) Business

Our chemicals business is committed to delivering the highest quality products and services to our customers.

The business is committed to delivering sustainable products through various initiatives like biomass utilisation, harnessing renewable energy and complete utilisation of bauxite residue leading to a green alumina road map.

We operate as a customer-centric market-serving team by engaging with customers and delivering tailored solutions. These efforts have resulted in remarkable growth in EBITDA over the past two years, and we anticipate a two-fold growth in the next three to four years.

We constantly invest in new technologies and processes to take advantage of emerging markets and ensure we are at this industry's forefront. Our two manufacturing units in Belagavi and Muri have been manufacturing hotspots for the chemicals business for the past four decades. These facilities have empowered us to serve customers across 42 countries globally.

We are supported by Hindalco Innovation Centre – Alumina, recognised by the Department of Scientific & Industrial Research (DSIR), Government of India, for our research and development activities. Our key market segments include water treatment chemicals, ceramics, refractories, glass, and abrasives, reflecting our expertise and reach in these domains.

Alumina's remarkable mechanical properties, thermal stability, strength, and chemical inertness make it a material of choice primarily in three major applications: refractory, ceramics, and polishing.

Also, alumina's insulating properties make it ideal for electrical insulators, circuit boards, batteries, and other electronic applications. Aluminium hydrate, an effective flame retardant, is used in the wire and cable industry.

Journey of Our Chemical Business

1968-69
- Installation and Commissioning of Bayer Plant

1970-90
- Addition of Specialty Alumina Kilns and downstream equipment commissioning

1995-2000
- Increased focus on Specialty Alumina due to Smelter Shutdown
- Launch of low viscosity alumina hydrates

2001-10
- Expansion in downstream kilns for low soda aluminas
- Acquisition of Ouro Preto plant, Brazil

2011-21
- Specialty hydrate and alumina mills expansion
- Launch of reactive alumina

2021 & Beyond
- Addition of PPT Hydrate
- Enhancing global footprint

Manufactured Capital

Hindalco's chemicals business has diverse manufacturing capabilities. Our alumina refinery and downstream operations in Belagavi, Karnataka, have a capacity of 340 KT for producing specialty chemicals. Similarly, our alumina refinery and downstream operations in Muri, Jharkhand, have a capacity of around 400 KT. Moreover, our carbon manufacturing plant in Belagavi, with a capacity of 45 KT, is a leading producer of high-quality carbon products.

Belagavi and Muri have obtained ISO 50001 certification highlighting our commitment to energy management and sustainable practices. Muri Operations has received the National Award for Manufacturing Competitiveness.

The Hindalco Innovation Centre in Belagavi is a modern research and development facility dedicated to developing new technologies and processes to improve our products and operations.

We are proud to be a part of the global specialty alumina chemicals industry and are committed to continue growing and expanding our business. Our focus on quality, customer service, and innovation will help us achieve our goals.

The domestic market for specialty alumina is experiencing double-digit growth in India, while global markets are seeing a steady 5% to 6% growth in various applications. Given this promising trend, we have set our sights on expanding our current production capacity and aim to double it by FY2026-27.

We are currently converting our Muri operations to produce specialty alumina. The expansion goes beyond mere operational growth; it also involves the integration of modern technologies to enhance processes and product quality. The plant can now produce multiple grades serving water treatment, refractory and ceramics markets within India and East Asia.

Our primary objective is to broaden our product portfolio by focusing on Value-Added and Super Value-Added Products. In our primary market, India, very few manufacturers who offer Value-Added Products and Super Value-Added Products, resulting in a heavy reliance on imports. As an integrated player, we have abundant resources that give us a unique advantage to become a key player in these markets. Our goal is to not only substitute domestic imports but also to export products in large volumes, strengthening our global presence.

We are expanding our in-house development capabilities for halogen-free fire retardants and high-end ceramic products. These offerings have gained significant interest across various industries, such as semiconductors and lithium-ion battery separators for electric vehicle batteries. We recognise the growing demand for these items and are committed to meeting the needs of our customers in these sectors.

Our primary objective is to broaden our product portfolio by focusing on Value-Added Products.

CO-DEVELOPMENT OF HIGH-END SERIES OF ALUMINA WITH CUSTOMERS

Alumina needs to be tailored to specific grades for applications on parameters such as specific surface area and particle size. We collaborate with our customers throughout development to fulfil these particular needs. For example, in FY2022-23, we partnered with Hindalco Innovation Centre (alumina) to develop grade SMA4 for refractory applications.

The product underwent a series of application studies and analytical tests to assess its suitability for refractory end-use. We also provided the customer with product samples at various process stages to ensure alignment with their requirements. This close collaboration allowed us to meet their needs, fostering a solid and enduring customer relationship.

We are commissioning a precipitated (PPT) hydrate plant with a capacity of 20 KT by FY2023-24. The precipitates and hydrates due to be produced by this plant are fine particles of about 1 to 2 microns in size, and they find applications in various sectors. Notably, these particles are essential for meeting the new safety standards for halogen-free wires in flame retardants. They are also used in producing paints and other industries.

In addition to PPT hydrate, our product portfolio enrichment includes development of white fused alumina and tabular alumina for applications in refractories and abrasives; high precision sub-micron alumina with excellent insulation properties & protection, high purity 3N/4N alumina and high crystalline alumina for advanced applications in industrial ceramics; activated alumina used as an adsorbent/catalyst in petrochemical and refinery industries.

To become the global leader in terms of technical superiority and customer centricity and to enhance our relationships with stakeholders, we are strategically expanding our presence worldwide.

This expansion includes setting up warehouses, processing offices, and sales offices in the US, Europe, and Southeast Asia regions. We recently have set up a sales office in Japan to cater to the far-east Asia markets.

Growing Our Operational Footprint

Over the next decade, the demand for aluminium in the Indian industry is projected to double from 4.5 Million MT to ~9 Million MT. This growth will likely be supported by strong demand in packaging, automotive and transport, building and construction, and industrial machinery.

Across our upstream locations, we currently have an alumina capacity of 3.6 Million MT, and we have strategically planned brownfield expansions at various sites. One such expansion project is underway at the Utkal refinery. The debottlenecking project, with a capacity of about 350 KTPA, will elevate the refinery's current capacity of 2.2 Mn TPA to approximately 2.6 Mn TPA by the end of FY2023-24. In alignment with our ESG commitments, we have decided to refrain from any expansion based on thermal power at our smelters.

As we continue to expand, we focus on ramping up low-carbon aluminium production to at least 30% of its output within three to four years. This move is driven by the increasing demand from global consuming industries, seeking to clean up their supply chains.

We are finalising a contract with a renewable energy provider for a round-the-clock (RTC) power supply sourced from pumped hydro water storage. With a 100-megawatt capacity, this pilot project is expected to start operations in 2024. Its primary objective is to supply reliable and sustainable power to our existing smelter at Aditya through the grid. The outcome of this pilot programme will be decisive in assessing the viability of utilising Round-The-Clock renewable energy in our smelters. It will pave the way for integrating RTC renewable energy to achieve low-carbon aluminium production in India.

In FY2022-23, we entered into a commercial agreement with Greenko Group, one of India's largest renewable energy companies. This agreement entails the provision of RTC carbon-free electricity for our Odisha smelter for 25 years. This initiative shall help us enable a CO_2 reduction of 680,000 MT annually through 100 MW of captive power, which shall be enhanced to 350 MW in the future. The project is slated to be the first such in the world for the aluminium sector. Hindalco could become the first aluminium company in the country to use RTC's carbon-free power for smelting. Furthermore, we are pivoting towards integrating cleaner energy sources into our operations to fulfil the potential demands of implementing the European Union's Carbon Border Adjustment Mechanism (CBAM), which imposes levies on carbon-intensive aluminium imports from other countries.

Manufactured Capital

As a result of our efforts, we successfully shipped about 200 MT of low-carbon aluminium during FY2022-23.

In the next 10 years, we anticipate global copper consumption to double. To meet the ever-growing demand, we acquired Polycab's CCR unit, Ryker (now Asoj), in FY2021-22, which can produce 225,000 MT copper rods. This acquisition has positioned us among the world's top 3 copper rod players outside of China.

Copper products play an important role in expanding markets such as electric vehicles and renewable power, where their exceptional electrical conductivity is essential.

As a result, we are making new forays into the copper market and expanding our presence in downstream applications. We plan to enter the market for superior copper alloy rods used in railways and inner-grooved copper tubes for air conditioning and refrigeration applications. Additionally, we plan to install a copper and e-waste recycling facility of 50 KTPA.

Eternia, our new-age doors and windows brand, provides customised window solutions that deliver high performance by combining advanced design with unique alloys.

It serves the direct consumer market and allows us to establish closer relationships with our customers while enhancing our brand reputation.

At Novelis, we have a transformational growth planned of about $4.5 Billion worth of capital expansions for the next five years. Out of these, $3.3 Billion worth of project expansions across different categories are already underway. These expansions include an integrated rolling and casting facility of 600 KT capacity in Bay Minette, Alabama, expected to be commissioned in FY2026. The facility is expected to be the world's most sophisticated, automated, safest, and greenest aluminium rolling mill.

We also have planned an automotive-focused sheet ingot recycling facility of 240 KT capacity. The facility is expected to be commissioned in FY2025 at Guthrie, Kentucky.

Moreover, we are expanding our facilities in Korea and have planned a 100 KT casting and recycling facility.

The plant shall help us progress towards our ESG goals as it will reduce our carbon footprint by 420,000 MT annually.

We are investing more than $30 Million to build a new continuous annealing line at our facility in Plettenberg-Ohle, Germany. The investment shall double the plant's aluminium production capacity for coffee capsules. It will cater to the increasing demand for sustainable packaging solutions as these capsules are 80% recycled aluminium. Furthermore, we have partnered with Sortera Alloys, an innovative industrial scrap metal sorting and recycling company, to utilise their advanced sorting technologies, such as AI imagery, data analytics and advanced sensors. The collaboration shall aid in increasing the recycling and reuse amounts of automotive post-production and post-consumer scrap at our Guthrie recycling facility.

Novelis integrated rolling and casting facility of 600 KT capacity in Bay Minette, Alabama, likely to be commissioned in FY2026, is expected to be the world's safest and greenest aluminium rolling mill.

Expanding Our Downstream Capability

Hindalco is the only large and organised player in the downstream sector in India. We delivered a strong performance in the downstream business due to an enriched product mix and improved operational efficiencies. Our downstream strategy includes product enrichment, adding new products/solutions, and debottlenecking assets.

We plan to enrich our product mix by commissioning the Silvassa extrusion facility with a capacity of 34 KT by FY2023-24. Silvassa will service the fast-growing market for extruded aluminium products in western and southern India. Our 170 KT FRP project with casting and cold rolling in Aditya and Hirakud will contribute to enhancing our downstream capacity. Furthermore, our coated aluminium AC fin project in Taloja, Maharashtra and the copper IGT project in Waghodia, Gujarat, under the Government's PLI scheme is on track as per the scheduled timeline.

Across the world, countries, including India, are encouraging people to transition to electric vehicles (EVs) to reduce their dependency on fossil fuels and achieve the global goal of zero carbon emissions.

In pursuit of its Net Zero target by 2070, India has implemented various incentive schemes and measures to drive the adoption of EVs by reducing their costs. As a result, the Indian EV market has grownrapidly over the past few years and is likely to multiply. We are developing new products such as battery enclosures and battery foils to capitalise on this opportunity .

Towards this, we are targeting commissioning our battery enclosure facility (6.5 KT) in FY2023-24 and Battery Foil mill (24 KT) by FY2025-26.

Hindalco is the only large and organised player in the downstream sector in India.

Debottlenecking projects across our plants continue to enhance downstream capacity.

For instance, we have commissioned a new line to augment circle blanking capacity by ~8 KTPA and a new degreasing line of 24 KT capacity in Renukoot. This initiative will help us enhance our product offerings and expand our downstream capacity from ~400 KT to 600 KT by FY2026-27.

Copper's versatility and suitability for diverse applications make it an ideal metal to help us align with our commitment to ESG initiatives and meet our Company's and customers' sustainability goals.

Consequently, we have planned to move further in the downstream segment and incorporate circularity for the copper value chain.

Major initiatives

- We have installed a superior manufacturing facility with a capacity of 5 KTPA, capable of manufacturing various copper alloy rods, including Copper Magnesium. With high tensile strength and a better environmental footprint, this alloy will have applications in railways.
- We are installing India's first Inner Grooved Copper Tube facility with a planned capacity of 25 KTPA. These thin-walled, small-diameter tubes have applications in air conditioning and refrigeration.
- We are installing the first-of-its-kind copper and e-waste recycling facility with a capacity of 50 KTPA cathode.

These strategic ventures will enable us to enter new markets, reduce our reliance on imported products and positively impact our profitability.

Manufactured Capital

Driving Operational Excellence

We are committed to operational excellence by investing in the right capabilities, capacities and conducting internal and external benchmarking to adopt best practices.

We are also adapting to new-age technologies to streamline costs, process efficiencies and new product developments. Our initiatives, such as World Class Manufacturing (WCM), as well as Maintenance Strategy and Execution Framework (MSEF), have helped us to improve process excellence. We hold Kaizen competitions across all our operations to increase employee engagement and develop problem-solving skills in our employees.

Our employees submitted a total of 32,334 Kaizen projects. We also implemented a total of 850 continuous improvement (CI) projects, which helped us achieve a saving of ₹51.03 Crore during FY2022-23.

Sustainability initiatives remain a continuous focus of our operations. For instance, we invested in revamping a soaking pit and annealing furnace to reduce the energy consumption to less than 1150 kWh/MT.

We have plans to start an RO plant in Taloja Unit to achieve Zero Liquid Discharge while also increasing our solar capacity in Alupuram by 2 MW. Solar power accounts for ~26.4% of total power consumption at our Alupuram facility.

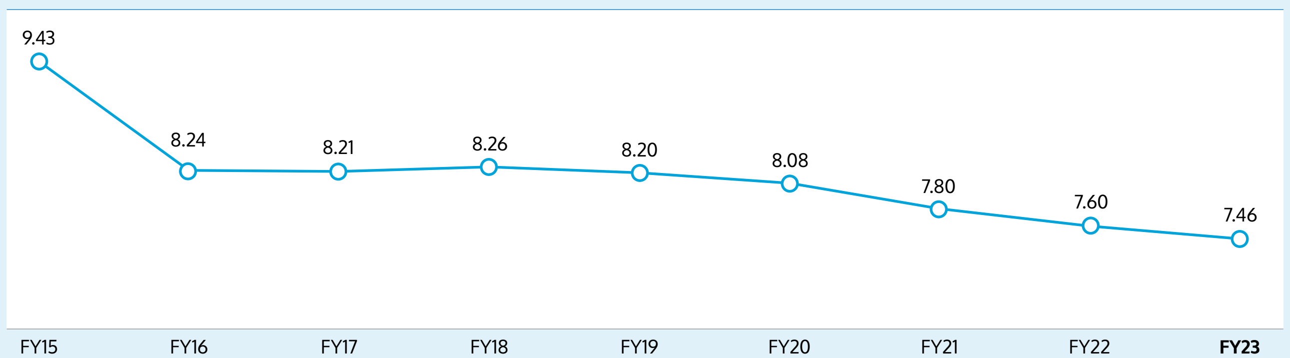
REDUCTION IN AUXILIARY POWER CONSUMPTION ACROSS HINDALCO POWER PLANTS

Through a collaborative approach, we continuously conduct process improvements to reduce auxiliary power consumption (APC) in our Captive Power Plants at Aditya, Mahan, Hirakud, and Renusagar.

The initiatives included de-staging of BFP pumps, ID fan loading optimisation, change in the construction material of cooling tower fans and optimising running hours of various equipment.

Through the various initiatives taken, there has been a year-on-year improvement in APC consumption. Along with FGD operation at Aditya and Mahan, we achieved an overall APC consumption reduction of 0.14% in FY2022-23 compared to FY2021-22. This reduction resulted in approx. annual coal cost saving of ₹10 Crore and 2.3 Million tCO_2 emission.

Overall Hindalco auxiliary power consumption (%)



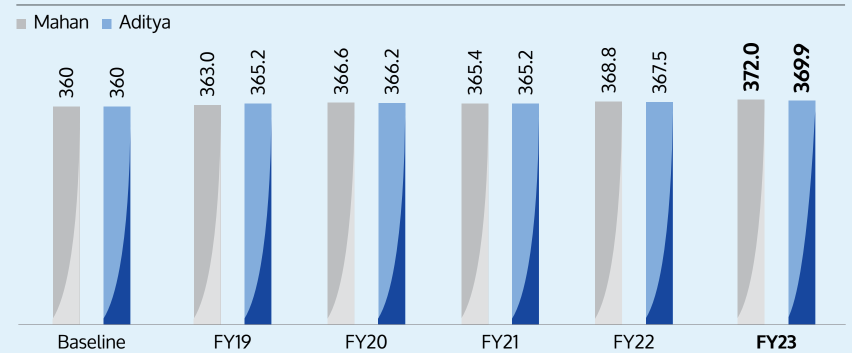
AMPERAGE INCREASE IN ALUMINIUM SMELTER

We have consistently worked to increase amperage and enhance metal productivity at our new-age smelters, Mahan and Aditya.

We have achieved an exit current of 374 KA at Mahan and 372 KA at Aditya, respectively, against the designed capability of 360 KA. Mahan Aluminium is the first Indian smelter to achieve 374 KA in FY2022-23.

Some initiatives taken to increase the amperage comprise using copper insert collector bar, new lining design implementation, digital twin, and various simulations by Aditya Birla Science and Technology Company (ABSTC).

Amperage increase in Mahan & Aditya (Avg Current (KA))



DUMMY LUBRICATION SYSTEM FOR EXTRUSION PROCESS

The output of the extrusion press is proportional to the number of billets processed. Hence, to reduce the dead cycle time of the press, we introduced an automatic lubrication system which improved plant utilisation and productivity.

Previously, the lubricant used to be applied after stopping the ram, which increased the time taken for the billet processing. This system increased the dead cycle time of the press.

However, the new pumping system has ensured that the lubricant doesn't come in direct contact with directional control valves, thus providing the press with a clog-free long operational life.

HIGH PURITY METAL PRODUCTION

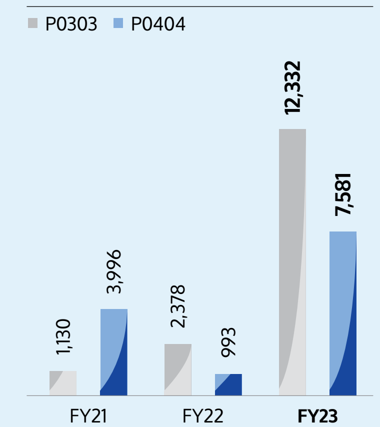
We strive to innovate our processes to produce metal of the highest purity among primary producers in the world.

OurMahan smelter has been producing metal with the lowest ferrous (Fe) content among the AP30 smelters for five years.

Mahan has produced 12 KT P0303 grade and 7.5 KT P0404 grade in FY2022-23, which is by far the purest Aluminium metal in India with about 99.90% and above aluminium content.

This outperformance was made possible by using the finest quality raw materials for anode making, implementing specialised operation and process control in pots, and maintaining close coordination between the pot room and cast house teams.

High Purity Production (in MT)



Maintenance Strategy and Execution Framework

We introduced the Maintenance Strategy and Execution Framework (MSEF) in FY2021-22 to assess and improve the maturity of maintenance and reliability practices across our locations. It has proved extremely useful in helping us achieve the highest equipment reliability and availabilitylevels while reducing costs and minimising downtime.

Building on the success of our MSEF framework, we launched the MSEF 2.0 in FY2022-23, representing a significant milestone in our journey towards maintenance excellence. The framework incorporates the latest best practices and technologies in maintenance. It also covers digital asset management, predictive and prescriptive maintenance, connected workforce and IT/OT security. The framework, built on the principles of strategy, execution, and results, has enabled us to improve equipment reliability, availability, and performance significantly.

Asset Performance Management for Aluminium Upstream

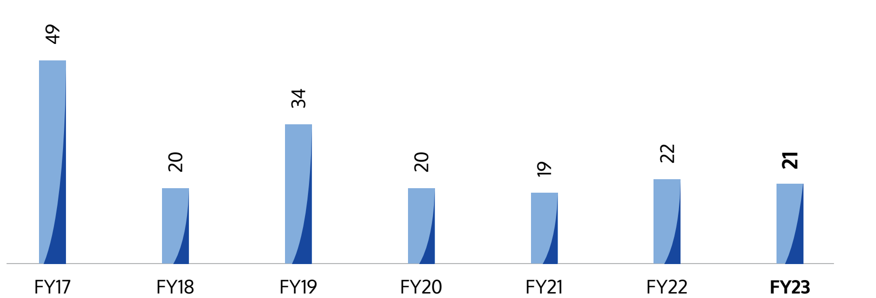
To further strengthen the maintenance and reliability practices across our manufacturing operations, we have established second and third-level leading indicators to provide a comprehensive understanding of the reliability and performance of the assets. We have leveraged cutting-edge technologies for online and offline Condition Based Maintenance (CBM) and prescriptive maintenance technologies, which help detect anomalies well in advance, utilising real-time equipment and data processing.

We have also developed standards which provide corporate guidelines and industry best practices to standardise our reliability practices regularly. Adhering to these standards, ensures consistency, efficiency, and effective risk management across all asset-intensive operations. This compliance has significantly reduced the risk of unexpected failures, thus improving the overall asset uptime and reliability.

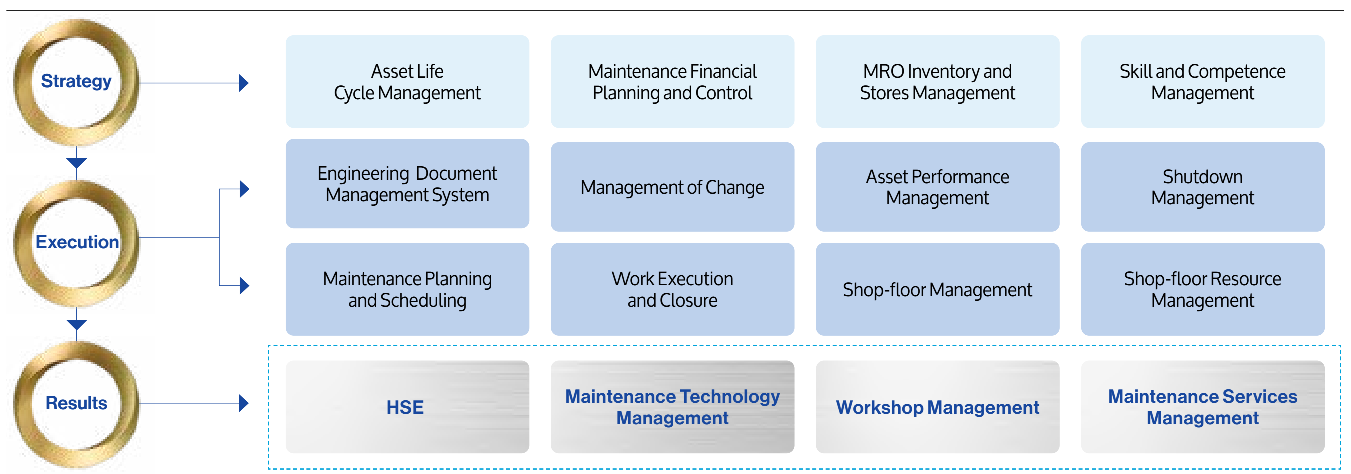
Consequently, our concerted efforts resulted in outpacing our defined targets such as:

- Improved availability of critical circuits of hydrate and calciner by approximately ~0.5 to ~1% at our Refineries.
- Improved mean time between failure (MTBF) for critical ball mills from 636 hours to 700 hours as compared to FY2021-22 in our refineries.
- Improved the overall carbon plant availability by ~1% and maintained the availability of Pot Tending Machine (PTM) and electric overhead travelling (EOT) cranes by close to 95% in all our smelters.
- Reduced the incidents of boiler tube leakages (BTL) by ~57% since FY2017, in line with the established reduction roadmap at our power plants.

Reduction in boiler tube leakages (Numbers)



Maintenance Strategy and Execution Framework (MSEF)



* MRO- Maintenance, Repair and Operations

REDUCTION IN TOTAL HARDNESS OF WATER TREATED IN EFFLUENT TREATMENT PLANT (ETP) AT BIRLA COPPER

Due to elevated calcium, magnesium, and sodium sulphate levels in ETP-treated water, we undertook aqueous simulations and laboratory studies to address the high total hardness in the treated water.

The results of these initiatives were implemented in our plants, resulting in a reduction of 30% in soda ash consumption and a 20% decrease in conductivity at the reverse osmosis (RO) facility.

Build Quality in Process (BQiP) Framework to improve our Downstream Quality

Our products' quality and timely delivery are essential for nurturing strong customer relationships and maintaining our credibility in the market.

Therefore, in our commitment to enhancing our downstream products' quality, we introduced the BQiP Framework in FY2021-22. The Framework consists of a comprehensive evaluation process based on 24 criteria. These criteria include Material Handling, Packing and Storage Standard, RCA & Horizontal replication of learning (Reliability Calls), and Computerised Maintenance Management System (CMMS), among others.

The result of this evaluation helps us identify the strengths and opportunities for improvement at our downstream operations and helps us quantify the improvement at all locations. For instance, our Renukoot operations showed a year-on-year improvement of 24% across all criteria.

> To enhance the quality of our downstream products, we introduced the BQIP Framework in FY2021-22

This change was seen after multiple process improvement projects were implemented, resulting in the efficient utilisation of resources, reduced energy consumption, enhanced product quality, and safety.

Integrated and Robust Management Systems

We have implemented robust processes and systems across all our locations. Our integrated management systems are certified at our offices and manufacturing units within Hindalco's India operations. The units hold certifications such as ISO 9001 for Quality Management Systems, ISO 14001 for Environment Management Systems and ISO 45001 for Occupational Health and Safety Management Systems. Additionally, six of our units – Aditya Aluminium, Utkal Alumina, Renukoot complex, Mahan Aluminium, Hirakud Power and Smelter and Birla Copper at Dahej – have obtained ISO 50001 certifications for Energy Management.

Furthermore, our extrusions plant in Alupuram, Renukoot downstream and Hindalco-Almex Aerospace Limited (HAAL) plants have received AS 9100 certifications. These certifications enable these facilities to meet the stringent criteria for manufacturing automobile and aerospace-grade products. Our Mouda plant has obtained the license and approval from the Bureau of Indian Standards (BIS) to manufacture marine-class supplies.

Alupuram, Belur and Renukoot downstream plants have obtained NABL ISO/IEC 17025 certification.

Additionally, our Kuppam and Taloja operations have received the IATF 16949 certificate, signifying their commitment to producing high-quality automobile-grade aluminium. Our Alupuram, Hirakud, and Belur plants hold certifications to develop products for the Navy.

Along with Mouda, Hirakud and Taloja have also achieved the Aluminium Stewardship Initiative (ASI) performance standard certification. All our products comply with the Restriction of Hazardous Substance (RoHS) directive requirements. Moreover, we periodically conduct tests through NABL-accredited labs to ensure we stay within the prescribed limit of restricted materials.

At Novelis, all the manufacturing sites are certified with internationally recognised management systems – ISO 9001 or ISO/TS 16949 Quality Management System Standards and ISO 14001 Environment Management Standard. Out of the total locations, 80% are EMAS-certified, and seven sites are internally certified for the Environment Management System. The aerospace plants at Koblenz, Germany and Zhenjiang, China, are certified with accreditations of DIN EN ISO 9001, EN 9100/AS 9100, ISO 14001, NADCAP – Heat Treating, and NADCAP – Non-destructive Testing.

Adopting Digitalisation

Over the last five years, we have adopted digital technological innovations in our processes and systems, such as IoT platforms, analytics, rapid cloud adoption, AR, blockchain, and drones. This approach has enabled us to digitalise core operations while better understanding operating imperatives. We also continuously raise awareness and take our employees' input to understand and deploy relevant digital technologies.

To transfer ownership to the plants and build capability within our operational teams, we introduced a comprehensive people capability programme – DISHA (Digital Shiksha). DISHA is designed to upskill our workforce on key digital technologies. It also focuses on using technology to improve aspects of operational performance such as energy reduction, reduction in water consumption, and safety enhancement, among others.

Our aim is to raise awareness and engage our employees in providing inputs and ideas to incorporate digitalisation and enhance operational efficiency.

We are focused on enhancing the skills of our maintenance and reliability teams using digital training programmes like AR/VR, interactive training modules, and simulation-based learning, among others. These programmes have enabled us to provide targeted and personalised training to our employees, ensuring they have the knowledge and skills to operate and maintain our equipment effectively.

We have ventured into digital and predictive/prescriptive analytics for asset performance management. We have made significant progress in leveraging digital technologies to improve the efficiency and effectiveness of equipment at our plants.

One key initiative has been the implementation of predictive and condition-based maintenance. Deployment of sensors and advanced analytics,and technologies like vibration analysis, thermography, ultrasound, and oil analysis, has helped us proactively anticipate equipment failures and perform maintenance activities, thus minimising downtimes and reducing costs.

In FY2022-23, we observed a significant improvement in data infrastructure across all our plants. The focus was to continue to create a big business impact by scaling up adoption and completing ongoing projects across plants.

We implemented IoT platforms for real-time real-time visibility of operational parameters at all our downstream operations. Astate-of-the-art extrusion management system is already implemented at all our extrusion manufacturing facilities. At our mines, we have incorporated a coal supply chain automation project that covers the entire supply chain cycle from mines to consumption. Our digital initiatives have improved equipment reliability, increased efficiency, and reduced costs. Moreover, we remain committed to to continuously leveraging digital technologies to improve the maintenance and reliability of our processes.

We incorporate innovations in our processes and systems, such as IoT platforms, analytics, rapid cloud adoption, AR, blockchain, and drones.

We engage our employees in providing inputs and ideas to incorporate digitalisation and enhance operational efficiency.


Our digital initiatives have improved equipment reliability, increased efficiency, and reduced costs.

Digital initiatives taken up for specific KPIs at our operations

KPIs addressed through Digitalisation	Initiatives
Increasing productivity & efficiency	• Industrial IoT platform • Robotic process automation • Real-time data • Video analytics • Data warehouse
Increased yield and quality	• Digital Twin for Mahan, Aditya, and Hirakud Smelter & CPP, Taloja Downstream • In-house development & advance analytics • Vision analytics
Improved asset availability (uptime)	• AI / ML-based predictive maintenance platforms
Continuous safety & inspection	• Real-time monitoring and alerts through AI and drones
Customer-centricity (logisitics)	• Smart warehouse • Track & trace • Video analytics • e-Bill of lading • Logistics Insight Tower (LIT) 2.0

PROCESS CONTROL AND PRODUCT QUALITY CONTROL DASHBOARD AT UTKAL REFINERY

At our operational locations, most process parameters were monitored through Excel sheets.

The objective of the dashboard was to shift to real monitoring of parameters.

The dashboard also conducted a trend analysis for all process parameters and an online future prediction of intermediate and product fines for the next 18 days. The dashboard is helping to save 90 to 120 minutes per day.

We plan to continue aligning digital outcomes with business outcomes and imbibing a digital culture across our workforce. We have developed detailed plans for our plants while incorporating digitalisation to improve energy efficiency through initiatives like smelter digital twin, power plant digital twin and energy management platform. Our plans also focus on quality improvement and customer return reduction in downstream and copper rods.

We aim to drive digitalisation in sustainability and safety through Integrated Safety Systems, increased traceability, moving towards zero paper in our operations, and end-to-end visibility.

Human Capital

Enriching the Workforce

Our people drive our journey towards becoming a global High Performing Contemporary Organisation. As we strive to evolve into an innovative manufacturing solutions provider and expand into new market segments, the capabilities of our people become paramount. They are the key enablers in building a competitive advantage in the new market spaces we will enter in this downstream and value-added segment expansion phase.

We constantly review, re-examine, and redefine the contours of our HR strategic priorities to align with our dynamic business needs. We firmly believe in empowering our people to further our core purpose of creating a Greener, Stronger, and Smarter world. The Group's vision principles of 'Enriching Lives', 'Responsible Business' and 'Inspiring Trust' guide our operations.

Focus Areas

Organisation Effectiveness	Employee Well-being and Human Rights	Human Capital Development
Diversity, Equity and Inclusion	Occupational Health and Safety	

Key Highlights

Global workforce	Permanent women employees and workers
76,800+	7.92%
Investment in trainings and development*	New hires
₹ 13.5 Cr.	3,433
Training hours	Reduction in LTIFR
5.10 Million	16 %

*The details provided are for India Operations

Contributions to SDGs

4 QUALITY EDUCATION
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES

Interlinkages with material topics and other capitals

Material topics

- Occupational Health and Safety

Capitals connected

- Financial Capital
- Intellectual Capital
- Social & Relationship Capital

Key Risks and Opportunities addressed

R7 Shareholders/lenders focus on ESG

Alignment with Strategic Priorities

SP-2 Value-Enhancing Growth

SP-3 Strong ESG Commitment

Human Capital

Our HR strategy is aligned with our organisational goals and objectives that help us consistently deliver strong performance across business verticals.

Over the years, we have strengthened our practices and policies across key focus areas of organisation effectiveness, safety, diversity and inclusion, employee well-being, human rights, and human capital development. The core values of Integrity, Commitment, Passion, Seamlessness, and Speed are deeply ingrained across our operations.

Human Rights Policy

Safety and Occupational Health Policy

Corporate Principle and Code of Conduct

Prevention of Sexual Harassment at Workplace

Organisation Effectiveness

Over 60 years 'young', Hindalco has grown from a single plant to a dynamic, global organisation. Our multi-cultural, multi-lingual, multi-generational, diverse workforce has been a core driver of this growth.

Our global footprint, sustainability initiatives, innovative solutions and constant customer focus make Hindalco an enriching workplace.

We continuously strive to build a culture of meritocracy, empowerment, and encouragement to help foster a culture of high performance and excellence for our diverse global workforce.

In our India operations, we have 63,258 employees, while Novelis' employee strength is around 13,585.

In India, three of our employees are from the USA, one each from Germany, Japan, and Switzerland, respectively, while the rest comprises Indian nationals. The table below represents our workforce for our India operations for FY2022-23.

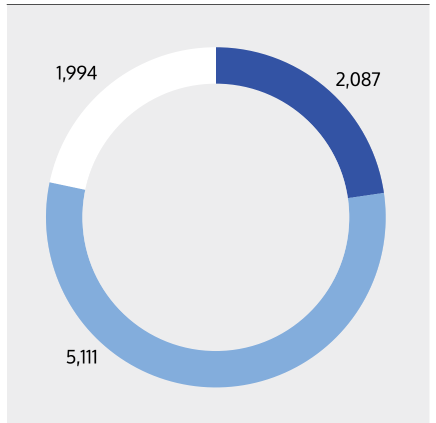
> The core values of Integrity, Commitment, Passion, Seamlessness, and Speed are deeply ingrained across our operations.

Workforce – India operations FY2022-23

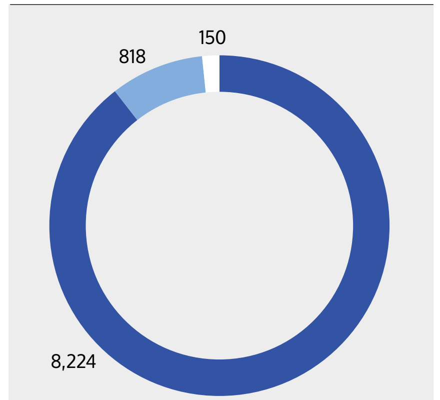
	Male		Female		Total
Type of Employment*	**Number**	**Percentage**	**Number**	**Percentage**	**Number**
Permanent Employees	8,423	91.63%	769	8.37%	9,192
Total Employees	**8,423**	**91.63%**	**769**	**8.37%**	**9,192**
Permanent Workers	13,395	99.41%	79	0.59%	13,474
Other than permanent workers (contractual workforce)	38,792	95.57%	1,800	4.43%	40,592
Total Workers	**52,187**	**96.52%**	**1,879**	**3.48%**	**54,066**

*We do not have other than permanent employees at our India operations

Employees Strength – India Operations (by Age)



Employees Strength – India Operations (by Management Levels)



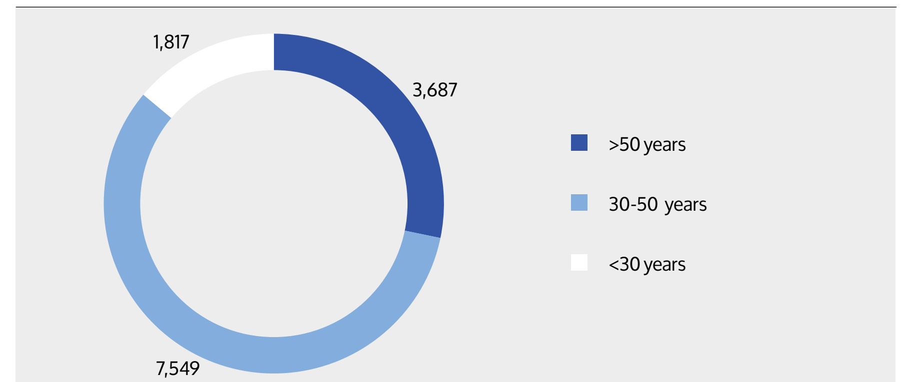
We inspire people to step up and take ownership for a more accountable, agile, inclusive and collaborative culture.

Management-wise work force – Novelis operations

Parameter	Male	Female	Total
Top Management	52	12	64
Senior Management	155	49	204
Middle Management	1,103	388	1,491
Junior Management	1,717	880	2,597
Total Management	**3,027**	**1,329**	**4,356**
Total Non-Management	**8,536**	**693**	**9,229**
Total*	**11,563**	**2,022**	**13,585**

*The total employee count for Novelis includes temporary employees

Employees Strength – Novelis Operations (by Age)



Talent Management and Retention Strategy

Enriching the workforce is crucial to fostering a thriving and successful organisation. We provide a healthy and supportive work environment where our people feel valued and engaged, which helps in enhancing productivity and improving employee retention. We inspire people to step up and take ownership for a more accountable, agile, inclusive and collaborative culture.

Talent management is at the core of our people policy. Our strategic pillars include:

- Hiring young talent
- Learning and Development
- Gender Diversity
- Focus on building technical/ specialist capability
- Increased people movements

Satisfied employees are less likely to leave, leading to higher employee retention rates and increased organisational stability. We follow a methodological process for analysis of current employees, determining future employee needs and identifying talent gaps in the current workforce. Curated, planned interventions help us work on these gaps with our employees, which helps us groom our talent to meet professional and personal growth goals. This focus has helped us achieve improved employee satisfaction, increased retention, better alignment with our company goals, steady knowledge transfer, and improved succession planning.

Our talent management strategy has helped us identify causes of early attrition in respective departments and job roles. Our holistic approach to creating a work-life balance through our continuous focus on employee wellness initiatives makes us a magnet for attracting the best talent.

Human Capital

Our Talent Management Strategy

1. **Workforce planning to identify future requirements and current gaps**
2. **Identifying positions which can be filled internally Vs that need to be hired externally**
3. **Posting vacant positions internally (within Hindalco and Aditya Birla Group) to enable interested candidates to apply**
4. **Selection and offer**

We focus on hiring people with anentrepreneurial spirit, strong principles, a results-oriented attitude, and an innovative mindset and are committed to professional growth. These people help us in furthering our core purpose.

We follow a transparent process while hiring and do not discriminate with respect to sexual orientation, race, or ethnicity. We hired 1,347 employees in India and 2,086 at Novelis during the reporting period. The percentage of open positions filled by internal candidates was 63% for India operations. Our average hiring cost per employee for India operations was ₹20,511. The table below provides a breakdown of our new hires for our India operations in FY2022-23 with respect to gender, age and management level.

New hires – India operations FY2022-23

Employees Hired	Total
Male	1,122
Female	225
>50 years	23
30-50 years	557
<30 years	767
Junior Management	1,291
Middle Management	50
Senior Management	06
Total	**1,347**

During the year, our total permanent employee turnover rate was 7.21%, and the voluntary employee turnover rate was 5.05% for our India operations. Our voluntary employee turnover includes only resignation. The permanent worker turnover for the reporting period for males and females was 5.15% and 72.15%, respectively, with a total permanent worker turnover of 5.55% for our India operations. Novelis's total employee turnover rate was 10.06%, and the voluntary employee turnover rate was 5.36%.

The table below provides a breakdown of the total permanent employee turnover for our India operations in FY2022-23 with respect to gender, age and management level.

Total permanent employee turnover – India operations FY2022-23

	Number of employees separated (Total)	Total Employee Turnover Rate
Male	573	6.80%
Female	90	11.70%
>50 years	212	10.16%
30-50 years	214	4.19%
<30 years	237	11.89%
Junior Management	600	7.30%
Middle Management	52	6.36%
Senior Management	11	7.33%
Total	**663**	**7.21%**

During FY2021-22, in our India operations, the permanent employee turnover rate for males and females was 4.78% and 7.89%, respectively, with a total permanent employee turnover of 5.02%. For FY2020-21, the permanent employee turnover rate for males and females was 4.80% and 6.30%, respectively, with a total permanent employee turnover of 4.90%.

During FY2021-22, the worker turnover rate for males and females was 4.54% and 19.15%, respectively, with a total worker turnover rate of 4.63%. In the previous year, during FY2020-21, the permanent worker turnover rate for males and females was 0.10% and 7.20%, respectively, with a total worker turnover of 0.20%.

Employee Productivity

Our framework for organisational effectiveness is built on the principle of increasing employee productivity. Therefore, all our employee wellness programmes focus on keeping our workforce healthy, happy and content. The framework is based on the following steps.

1. **Listening to employees, understanding the business needs and developing solutions**
2. **Making Hindalco an inclusive workplace for employees**
3. **Focusing on employee well-being**
4. **Creating an enabling environment through R&R and communication**

Based on our framework, we have taken up various initiatives during the year in culture, wellness, diversity, listening, communication and recognition, community building and other interventions. These initiatives are a combination of regular initiatives implemented in the past along with new programmes designed based on the emerging needs assessed during the year. Some of the key highlights are listed below.

- We covered 100% of our employees, including workers under ABG Purpose Awareness.
- Over 85% of job band 3 and above employees have been trained to conduct reflective dialogues workshops with their team members.
- We conducted a pilot workshop for personal purpose discovery and linkage with the ABG purpose. A batch of 15 participants (employees from various functions) were covered in the workshop.
- The ABG Values boot camp was organised for pan Hindalco units that covered more than 2,500 employees and their family members.

Our approach to employee well-being is a critical element towards building employee productivity, highlighted in the further sections of this capital.

We also have a robust reward and recognition programme through a multitude of platforms, such as Praise, Pride, Chairman Awards, Bhoomika Recognition, and Employee Appreciation Day celebrations, among others.

Our employee wellness programmes are tailored to guide our employees on exercise, balanced nutrition, stress management, self care and fostering positive relationships.

Hindalco Organisation Effectiveness (OE) Calendar FY2022-23

Integrator

Wellness

Workshops for Wellness Champs
Q1

Wellness workshops for Managers
Q2-Q3

Wellness Awareness Session
One every month

Wellness Activities & Contest
Once every Quarter

Unit Hobby Club
Q2-Q4

Hygiene Charter & Awareness Camps
Q1-Q4

Values

Values Celebration
December & February

Values Reinforcement
Q1 – Q4

Enabler

Recognition

Pride Awards
Cycle 1: Q1
Cycle 2 : Q3

Champion of Champions
Q4

Employee Appreciation Day
Q4 - February

Praise Platform
Q1-Q4

Chairman's Award
Q3 – Q4

Scholarship

AWOO & Pratibha Scholarship
Q1-Q4

AWOO Donation Campaign
Q2

Change Agents

Shillim

Shillim 5.0 at Business
Q1

Shillim 5.0 at Units
Q2-Q3

Generation Dialogues and Sensitivity
Q1-Q4

Employee Voice

MEffect Survey and manager Action Plan
Q4

Manager Vibes Report and Action Plan
Q4

Vibes Unit Action Plan & Tracking
Q1 and Q3

GPTW
Q3

Voice
Q3-Q4

People Champion

Diversity

Gender Intelligence & Unconscious Bias Sessions
Q2-Q4

Interaction with Women Employees
Q2-Q4

Psychological Safety Sessions for Managers
Q2-Q4

WAH Conclave
Q4

POSH Awareness
Q1 - Q4

Communication

Business Townhalls
May, Aug, Nov, Feb

Cluster /Unit Townhalls
April, Sept, Jan

Round Tables
April, July, Oct, Jan

Skip level Meetings
June, Oct, Feb

*Subject to changes. For details, please contact your Unit/ Location OE Leads or write to **hil-oe.communication@adityabirla.com**

Human Capital

Employee Engagement Initiatives

Culture
- ABG Purpose-branding, recognition
- Post Shillim OE Intervention

Wellness
- Hygiene Governance to be monitored – Champs to be trained for conducting cross unit audits
- AMTL – Audits (training the team)
- Awareness and monthly sessions, contests, challenges around the Wellness Wheel
- Onboarding and training of Wellness SPOCs
- Emotional Wellness Bootcamps by Life Unlimited
- Other wellness agendas like creating gaming zones and virtual fun sessions, among others.

Diversity
- Diversity Strategy – next steps: gender and generation, this can include training managers and young workforce, among others.
- WAH Celebration
- Forming Employee Resource Groups (ERGs)
- POSH Training

Listening
- GPTW
- MEFFect Survey – Manager effectiveness
- Vibes 2023

Communication and Recognition
- Communication Framework roll-out
- Praise
- Pride -only CoC

OE Community Building
- Monthly OE Connects
- OE Capability Building Phase 2

Other Interventions
- ABG Values Reinforcement

Employee Engagement

Our focus on health and wellness is deeply ingrained into our people strategy and workplace culture at Hindalco.

At the Group level, we conduct a standard employee engagement survey, VIBES, every two years.

However, we have also partnered with Great Place to Work to conduct the 'Great Place to Work' (GPTW) employee engagement survey, which helps us gain an external perspective of our practices and a benchmark within the industry. This survey is conducted by collecting responses from across management, staff, and workers levels from different age groups and gender on a sample basis.

We were awarded 'India's Best Workplaces in Health and Wellness', a testament to our commitment to creating an enriching work environment.

Highlights

- There has been a remarkable improvement in our scores across all dimensions over the past year, and our Trust Index has improved from 69 to 83 and the overall score on employee engagement to 87.
- Feedback was collected from over 6,500 employees (which included representation of blue-collar workers).
- In addition, this was the first year we participated in the wellness survey of GPTW and scored 82.
- We were featured among the top 40 companies in India for its Health & Wellness practices by Great Place to Work Institute (India).
- We were also recognised as one of India's Best Employers Among Nation-Builders – 2023.

The above surveys included assessing employees on various parameters – including job satisfaction, a sense of purpose, happiness at the workplace, and managing stress at the workplace, among others. The results of assessments depict our employees' sense of belonging towards the organisation and further contributes to building an inclusive workplace while exhibiting high trust and performance.

APNI ZIMMEDARI – DRIVING CULTURE AT HINDALCO

Shillim culture journey is our effort to systematically enable the organisation to experience and enshrine the message of Apni Zimmedari, building a sense of ownership.

During the year, we identified and trained close to 200 Culture Change Ambassadors (CCAs) to ensure the rollout of programmes seamlessly across various locations. The CCAs are involved in driving new compelling experiences like the "Bhoomika Board Celebration", which focuses on recognising behaviours that define the five key promises (ALERT- Being Accountable, Learning fast & Learning from mistakes, Empowering & Trusting, Responding quickly and win with Team & Ecosystem) to achieve our five key priorities (CREST- Customer Centricity, Return on Capital Employed, Leading ESG, Sustained Peak Performance and Home to Exceptional Talent).

The leaders have dedicated more than 600 hours to training team members, enabling knowledge transfer through these conversations. Another initiative we rolled out was the "Hindalco My Resolve card" to enable each leader to outline their actions and cascade them to their teams.

As we progress in this cultural journey, 50 CCAs have been identified to become Culture Change Champions to pioneer the culture transformation initiatives in the organisation. Shillim 365 is the next phase of this journey where we are looking to deepen the theme of 'Apni Zimmedari' to make it 'Ab kisse nahi, Aadat' – make it a habit or way of life by displaying or living the behaviours at the organisation. To strengthen the roots of Shillim, we hosted Shillim 365 distributed events in our locations before the plenary session in Mumbai.


Our people are trained to achieve greater heights in their professional careers and get recognised for their excellence

Performance Discussion and Potential Assessment

As an organisation that has been steadily expanding, we want our people to achieve greater heights in their professional careers and get recognised for their excellence.

Our structured employee evaluation includes conducting appraisals twice a year based on mid-year and annual performance reviews. All our permanent employees (100%) received regular performance and career development reviews during the reporting period. 42.67% of our permanent workers were covered under the appraisal system for our India operations. The yearly performance assessment applies to all our permanent employees, rated on a 5-point scale. We also assess all our management cadre employees' potential through a structured potential assessment process followed by detailed talent reviews at different levels. This process helps identify our top 20% high potential employees across the organisation. Values are part of the performance evaluation, and any value violations make them ineligible to be considered for the potential assessment.

Our employees can integrate their objectives with organisational objectives and achieve them in a way that promotes and preserves business values through the goal-setting process for each fiscal year. This procedure empowers our workforce to take responsibility for their performance excellence, team performance facilitation, and career development.

Our process includes the following

- Annual goal-setting exercise to align our organisational goals with the goals set by employees, along with discussion and development of an action plan to achieve the goals within a stipulated timeline.
- Engaging employees in groups to promote self-evaluation and assist them in learning new skills from their team members.
- Conducting conversations as part of the evaluation process to focus on learning, new commitments, responding to new information during communication and building trust within the team.

We have structured the compensation system to take inputs from the performance appraisal system. We have a transparent and empowering approach in granting annual salary hikes and benefits.

We use our in-house online tool, 'Perform FIT'-for normalisation of employee performance ratings, promotion recommendations and salary corrections to work transparently based on relevant data.

Moreover, the Managing Director's goals are defined by the Company's 3C + 2S principle. The sustainability-related goals cover Hindalco's performance in air, water, waste, energy management, safety and overall ESG performance. Environment-specific metrics are covered in detail in the Natural Capital section of the report.

Employee Wellbeing and Human Rights

In line with our Group Purpose, "To Enrich Lives by Building Dynamic & Responsible Businesses & Institutions, That Inspire Trust", we take pride in our approach towards employee wellness.

Our employee well-being caters to various aspects, such as social, occupational, physical, emotional and intellectual well-being.

This tactic has been pivotal to our success over the years. While we are headquartered in Mumbai, our manufacturing locations and mining sites are spread across the country in remote areas.

Apart from basic facilities, all our townships have schools, health centres, gyms, young manager accommodations, gardens, parks, malls, community halls, and swimming pools to keep our people happy, motivated, and content. We offer several initiatives to cover the needs of our employees and their families – from health, sports, yoga and dance to insurance and grief counselling, to scholarships for children aspiring for higher education.

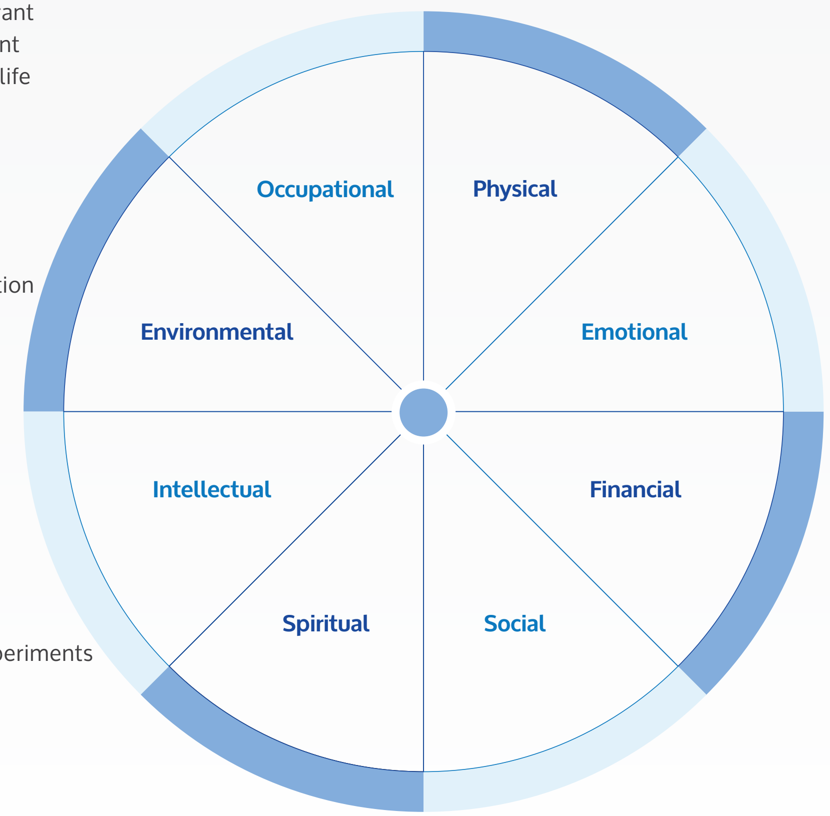
For example, we actively conduct tournaments, step-a-thons, and marathons to make physical wellbeing an integral part of the lifestyle, with a typical participation of around 6,000 people.

Our health and wellness initiatives are not limited to any cadre or level. We ensure maximum coverage of employees and their families. We recently launched the Wellness Wheel, which provides a snapshot of all our multi-faceted wellness initiatives.

Hindalco's Wellness Wheel

Occupational
- Ergonomics
- Safety
- Positive and vibrant work environment
- Managing work-life

Physical
- Exercises
- Physical recreation
- Nutrition
- Health check-ups



Environmental
- Plantations
- Water conservation
- Swach Unit
- Hygiene

Emotional
- Managing stress
- Psychological safety
- Self care
- Mental well-being

Intellectual
- Hobby clubs
- Reading clubs
- Learning circles
- Ideation and experiments

Financial
- Budget planning and management
- Retirement plans
- Investment plans

Spiritual
- Yoga
- Learning through mythology
- Self discovery

Social
- Friends at work
- Community service
- Relationship management

Wellness Initiatives

- Budget allocation of ₹444.43 Crore for five years from 2018 to 2023 towards our Quality-of-Life initiative 'Add More to Life' in townships.
- Flexible work arrangements and compulsory annual leave are provided for a positive work-life balance.
- Vitamin H is an informative portal offering health and wellness-related information with various possible solutions for employees and their family members.
- Multiply Wellness Program initially for our employees at Head Office and Taloja Unit as a pilot in partnership with Aditya Birla Wellness to empower and enable employees to focus on holistic Health & Wellness.
- Our Annual Health Check-Ups and doctor consultations are offered at all business locations. Family members can also avail of the programme at discounted rates.
- Health and wellness app VISIT allows employees to build quality healthcare experiences accessible anytime, anywhere. With this app, employees can avail of free teleconsultations, unlimited cashless in-clinic consultations free up to ₹1500, unlimited lab tests free up to ₹1500, and medicines at a discounted rate.
- Code Red emergency 24x7 helpline that caters to any exigency employees and their families face.
- Life Unlimited to cater to employees' and their family's mental wellbeing and Emotional First Aiders to spot warning signals of emotional breakdown.

Apart from monetary benefits, all our permanent employees are eligible for benefits such as maternity leave, paternity leave, health insurance, life insurance and others as applicable. We have defined core areas of focus around which we design and implement various initiatives for the well-being of our employees as follows:

- Work-life balance
- Health and wellbeing
- Safety
- Care

The health and wellness of our employees and their family members are at the core of our organisation's Employee Value Proposition (EVP).

AALAMB (CARE AT CORE) – A HEALTH AND WELLNESS PLAN

Employees' Health and Wellness are at the core of our organisation's employee value proposition (EVP).

We have designed a health and wellness plan for our employees and their families. We have also implemented several initiatives to ensure the well-being of employees and their family members for any medical needs.

However, over the years, we realised that a large part of employee expenses is spent on OPD consultations and diagnostic tests. Hence, to provide our people with best-in-class Employee Benefits, the Rewards Team launched and redesigned Hindalco OPD Insurance and Tele-Wellness Scheme 2023 - "AALAMB" to Cover employees and their Family Members.

This scheme covers more than 14,000 management and staff cadre employees and their families with additional features, newer benefits, and enhanced coverage.

Benefits cover unlimited on-call/chat doctor consultation, unlimited in-person doctor consultation & unlimited laboratory tests anywhere and anytime by connecting with a network of more than 31,000 doctors and 1,500 hospitals across 70 cities.

Employee Benefits and Support Programmes

Parental leave
Female employees are entitled to 26 weeks of paid leave with an option to add 60 days of privileged leaves. Male employees can avail a total of 5 paternity leaves

Support in local commute to work
Safe and comfortable local travel to work facilities for expecting mothers

Flexible working hours at Head Office

Privilege leave

Phase back programme for a seamless transition
Flexible work options like work from home, work from satellite office and part-time work for new mothers and expecting mothers

Accompanied outstation travel for mothers
Support in official work related travel to mothers

Mental, Emotional and Physical Wellness Support through Life Unlimited and more

Child adoption leave
To offer leave support to women employees who are adopting a child in the family

Transition guide
Guidance on emotional well-being and aspects of balancing personal and professional commitments during such a critical phase

Healthy pregnancy programme
Easy access to health education and online solutions for mothers

Childcare facilities
Developed a childcare facility for our corporate mothers at our head office

Add more to life (AMTL)

Career management support
To ensure minimal impact of maternity on the career of an employee by securing her performance and talent ratings

Miscarriage leave
All women employees can avail of six weeks of leaves in case of a miscarriage, as per Maternity Benefit Act 1961

Eldercare Support

Human Capital

All our permanent employees are eligible to take parental leave in alignment with our policy available internally. The return-to-work and retention rates for permanent workers were 100% during the year. Details of permanent employees who availed of parental leaves and returned to work in the same year have been given in the table below.

Permanent employees who availed of parental leaves and returned to work in the same year

	FY2021-22			FY2022-23		
Parameters	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Total employees who took parental leave	212	5	217	268	7	275
Total number of employees who returned to work in the reporting period after parental leave ended	211	5	216	268	7	275
Total number of employees who returned to work after parental leave ended and are still employed 12 months after their return to work	205	4	209	197	5	202
Return to work rate*	97%	100%	99.53%	100%	100%	100%
Retention rate#	97.61%	100%	98.13%	93.36%	100%	93.51%

* Return to work rate is the ratio of the total number of employees that returned to work after parental leave ended by the total number of employees due to return to work after parental leave ended.

Retention rate is the ratio of employees retained 12 months after returning to work following parental leave by the total number of employees returning from parental leave in the previous reporting period.

Measures taken for the well-being of employees and workers

		Health insurance		Accident insurance		Maternity benefits		Paternity benefits		Day care facilities	
Category*	**Total (A)**	**Number (B)**	**% (B/A)**	**Number (C)**	**% (C/A)**	**Number (D)**	**% (D/A)**	**Number (E)**	**% (E/A)**	**Number (F)**	**% (F/A)**
Permanent Employees											
Male	8,423	8,423	100%	8,423	100%	-	-	8,423	100%	8,423	100%
Female	769	769	100%	769	100%	769	100%	-	-	769	100%
Total	9,192	9,192	100%	9,192	100%	769	8.37%	8,423	91.63%	9,192	100%
Permanent Workers											
Male	13,395	5,335	39.83%	13,395	100%	-	-	-	-	13,395	100%
Female	79	46	58.23%	79	100%	79	100%	-	-	79	100%
Total	13,474	5,381	39.94%	13,474	100%	79	0.58%	-	-	13,474	100%
Other than permanent workers (Contractual Workers)											
Male	38,792	6,370	16.42%	38,792	100%	-	-	-	-	38,792	100%
Female	1,800	562	31.22%	1,800	100%	1,800	100%	-	-	1,800	100%
Total	**40,592**	**6,932**	**17.08%**	**40,592**	**100%**	**1,800**	**4.43%**	**-**	**-**	**40,592**	**100%**

* We only have permanent employees at our India operations.

Moreover, as applicable for the current and previous reporting year, 100% of our permanent employees and permanent workers were covered as a part of retirement benefits such as PF, Gratuity and ESI.

Human Rights

We are committed to providing an environment where the fundamental rights of all our stakeholders are protected. We also believe in providing equal employment opportunities without any discrimination. We stand committed to human rights while engaging with all our internal and external stakeholders. We also expect and encourage our business partners, suppliers and contractors to fully respect and abide by our Human Rights Policy.

Our process of human rights reviews or human rights impact assessment involves maintaining human rights-related risks in a risk register. This process has been implemented across all our units and mines. The compliance tool is another way for Hindalco to track human rights regulations and ensure compliance.

A periodic review is done to assess and mitigate human rights related-risks. We also have an external and internal audit system of compliance that covers human rights-related aspects in detail. We have also created a Human Rights Due Diligence Tool currently being piloted at our Utkal unit. Based on the feedback we receive, we will implement the same across other units of Hindalco. We also ensure human rights risk identification before any mergers or acquisitions.

We ensure that all complaints and grievances of our stakeholders are respected and protected through our unit-specific policy and committees. The supervisors address the complaints received promptly, and relevant corrective actions are taken on a timely basis.

We believe in maintaining effective communication and cooperation with our communities and local government bodies.

We ensure that all our stakeholders' complaints and grievances, including employees, contractors, suppliers, vendors and security forces are respected and protected through our unit specific policy and committees.

We have a grievance mechanism under the Whistleblower Policy wherein our employees at Hindalco units can register their complaints. The supervisors address the complaints received promptly, and relevant corrective actions are taken on a timely basis.

The Values Standard Committees at Hindalco ensure all grievances are addressed as per our Code of Conduct. In addition to our Business Values Standard Committee at the corporate level, there are also unit-level values committees. This approach facilitates our employees to reach out directly to the value committee. All Value violation cases (Breaches of COC) and closure reports are also forwarded to an independent auditor quarterly in line with the SEBI regulations.

In case of a breach of the code of conduct, the employee may be subjected to disciplinary action, which may impact on the employee performance evaluation to even termination from the organisation. The value committee governs this on a case-to-case basis.

Harassment, whether sexual or non-sexual, is a way of discrimination. At Hindalco, we respect the dignity of every person and interdict all forms of harassment. In FY2022-23, we assessed 100% of our plants and offices for various human rights aspects such as child labour, forced or involuntary labour, sexual harassment, human trafficking, discrimination at the workplace, collective bargaining, and wages. The assessment covered the following stakeholder groups including all employees and contractual workers, security personnel contractors, women, the local community, including indigenous people, migrant workers, and others as applicable. As part of the assessment, no significant risks related to human rights violations were identified, and thus, no remediation actions business process modifications were required.

Human Capital

However, we continuously monitor our human rights risks in the operation and take corrective actions in case of any violation. During the reporting period, we received nine complaints of sexual harassment against six cases in the previous reporting period and one complaint for discrimination at the workplace, with zero cases pending resolution. As a corrective action, we took appropriate disciplinary actions per Hindalco's policy and procedure. We did not receive any complaints on other aspects, such as working conditions and health and safety, from our employees and workers in the current reporting period (FY 2022-23) and the previous year (FY 2021-22).

To protect the interest of our employees in case of any operational changes, we offer a notice period of 60-90 days and 21 days for our workers as per Section-9 of the Industrial Disputes Act, 1947.

We encourage collective bargaining and freedom of association, and 60.7% of our workers at Hindalco are part of unions.

The salaries and remunerations we provide are based on the qualifications and experience of our employees. We also have a Remuneration Policy for employees at the executive level.

At the executive level the base salary of male employees is ₹5,933,443 (₹23,437,750 total remuneration), while that of female employees is ₹2,627,770 (₹10,382,360 total remuneration). At the management level, the average base salary of male employees is ₹612,930 (₹2,079,974 total remuneration), while that of female employees is ₹407,213 (₹1,450,286 total remuneration).

At the non-management level, the average base salary of male employees is ₹633,877 while that of female employees is ₹518,757.

All our permanent employees and permanent workers are paid more than minimum wage as per State Government notifications, whereas 70% of other than permanent workers are paid equal to minimum wage and 30% are paid more than minimum wage, applicable to respective locations during the reporting period.

There were zero cases reported on violations involving the rights of indigenous people. We have a Rehabilitation, Resettlement and Protection of Indigenous People Policy available to protect and support the rights of the indigenous people. Our HR and other functions are well-equipped to take care of any such incidents if they occur at our sites.

We believe in maintaining effective communication and cooperation with our communities and local government bodies. We regularly engage with the local communities through our CSR team to understand their concerns and resolve their queries. A separate budget is allocated for this purpose.

We expect all our employees and workers to abide by the employees' code of conduct guidelines. We carry out training exercises for our security personnel regularly on human rights.

The unit-specific team interacts with private security on a need basis, including monitoring, auditing and assessing security forces. During the reporting period, the security personnel were provided with 1,006 hours of training on human rights-related aspects.

We are committed to providing an environment where the fundamental rights of all our stakeholders are protected. We also expect and encourage our business partners, suppliers and contractors to fully respect and abide by our Human Rights Policy.

Details of Remuneration

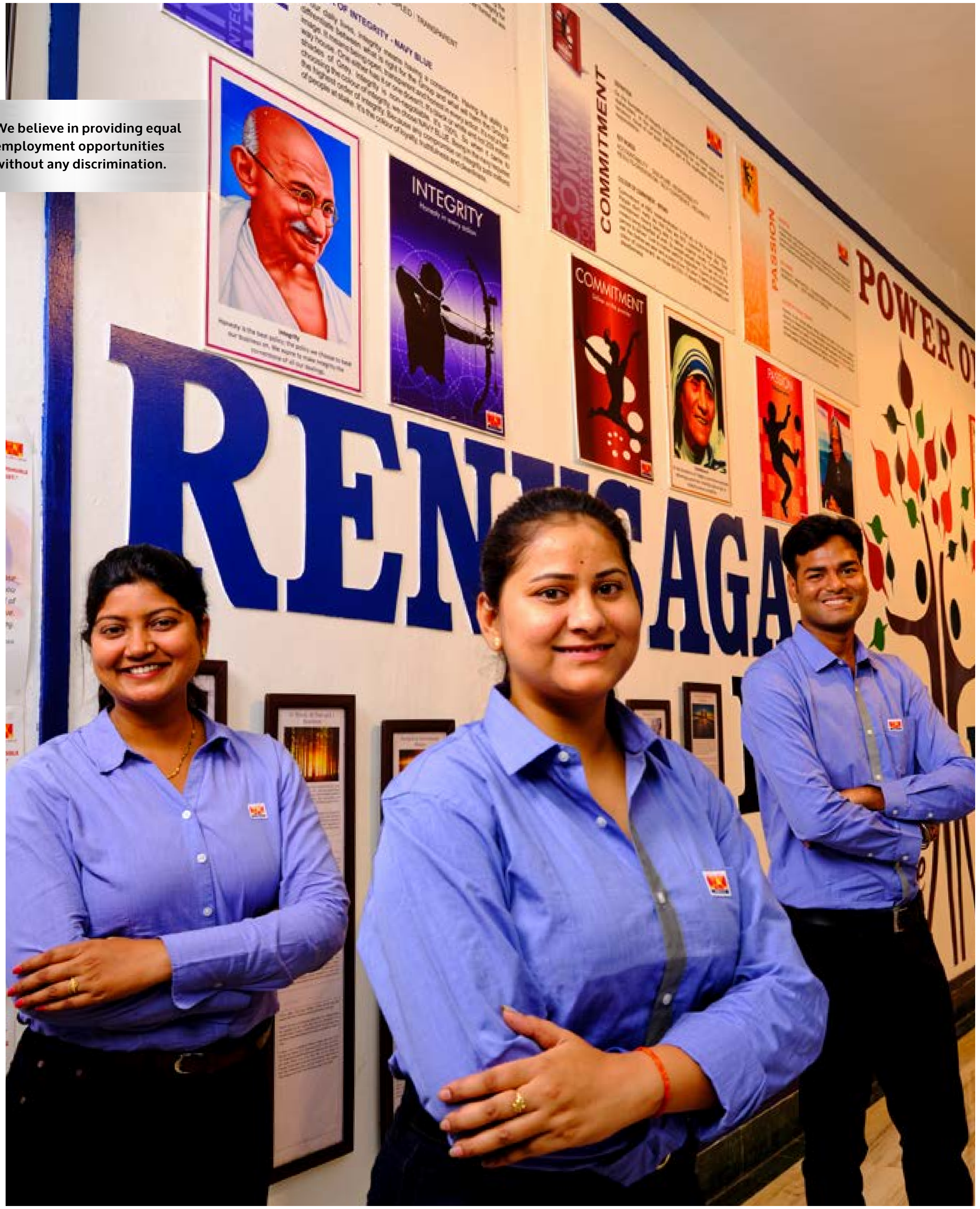
	Male		Female	
Category	**No**	**Median remuneration (₹)**	**No**	**Median remuneration (₹)**
Board of Directors (BoD)	9	7,020,000	2	165,050,000
Key Managerial Personnel/ Management	3	775,430,000	1	2,554,000
Employees other than BoD and KMP	8,418	940,040	768	680,000
Workers	13,395	594,000	79	528,564

Notes:

I. Mr. Anil Malik relinquished his position as Company Secretary & Compliance Officer w.e.f. November 30, 2022. Hence, the ratio of his remuneration to the median and increase in remuneration is not comparable.

II. Ms. Geetika Anand was appointed Company Secretary & Compliance Officer w.e.f. December 01, 2022. Hence, the ratio of her remuneration to the median and increase in remuneration is not comparable.

III. Remuneration excludes amortisation of fair value of employee share-based payments under Ind AS-102 and provision for gratuity and leaves encashment recognised based on actuarial valuation as separate figures are unavailable.



We believe in providing equal employment opportunities without any discrimination.

Human Capital Development

We believe in providing all our employees with 'A World of Opportunities' (AWOO), a key element of our EVP. We offer a variety of opportunities across our factories and geographies to help enrich employees' careers. Furthermore, we have platforms and processes to support the wealth of information and an organisational drive to support career advancement.

We ensure our employees discover new experiences, new opportunities, and new excitements, whether pursuing a general or specialised track or while prioritising family requirements such as the educational needs of children.

To help people embrace and reinforce India's rich culture and heritage within our organisational values, we organised "Value Boot Camps" across our plant locations in the country. We organised these in phygital mode covering more than 2,500 employees and their family members.

We have various channels through which we interact with our employees. We use town halls for mass communication between our employees and senior executives and management, among others, for business results, company initiatives, and personnel changes.

We ensure our employees discover new experiences, new opportunities, and new excitements, whether pursuing a general or specialised track or while prioritising family requirements such as the educational needs of children.

We also have skip-level and round-table meetings between the managers and subordinates to facilitate better communication.

Succession Planning at Hindalco

Succession planning is vital for an organisation with diverse businesses and operations in different geographic regions. From the point of business continuity, we mustdevelop the capabilities of the people who will assume key positions within the organisation. To build our successors, we need to understand the context of the business, unit or role and the suitability of a successor. To address this challenge, we have developed Contextual Leadership as a part of our strategy, which identifies leaders based on the type of role/job.

- High-growth leaders
- Niche business leaders
- Steady state leaders
- Turnaround leaders
- M&A leaders

We have a structured approach along with Guidelines on Succession Management Policy at Group level to identify prospective successors who are ready now, ready in 1-2 years and ready in 3-5 years for various critical roles. A detailed development plan is prepared for each successor to set them up for success.

To ensure that our employees stay ahead of the curve, we customise our learning and development programmes to cater to the needs of employees. The Executive Committee and the Senior Leadership team at Hindalco demonstrate a profound level of engagement and dedication towards the professional growth of all employees.

This atmosphere of partnership acts as an enabler in designing successful Leadership Pipeline development programmes. Our employees are provided with continuous opportunities to upgrade their knowledge and skills. Our programmes include internal and external training, focused group training, mentoring, coaching, on-job training (OJT), seminars, workshops, and boot camps, among others. Each manager guides employees to develop a robust skill roadmap through My Development Plan (MDP) on ABG's central HR platform, Poornata. We have also invested in the latest skilling technologies; employees at Aditya smelter can also train on Virtual Reality-based simulators.

There is a consistent focus from Excom & Senior Leadership on providing support to young professionals, women and HiPos (including all identified successors). Hindalco leverages all the learning offerings of Gyanodaya – the Aditya Birla Global Centre for Leadership Learning (e.g., Step up, Springboard, Turning Point, Cutting Edge, Coaching Certification) along with its own Flagship Leadership Programmes like XSEED (Excellence in Skill Enhancement and Employee Development), Future Leaders in You, Jumpstart and Fit for Future by Design.

The objectives of our leadership development programme are closely aligned with our business strategy, succession planning and employee development. Any specific input from the Leadership Development Programme project, including participant feedback, is used to improve our structures, systems, and processes. Moreover, multiple factors such as succession plans, potential assessments (e.g., Assessment Centres), and performance assessments are considered while choosing suitable participants for the programme.

Leadership Development Offerings

Jumpstart (Young Professionals)	**Employee Integration Programme** (JB 9, 10, 11)
GMP 2.0 Lead from Middle (JB 6, 7, 8)	**Cutting Edge** (JB 4 & above) O
Turning Point (FH) O	**Project Zoom - Developing Emerging Leaders** (<10 Yrs Exp.)
XSEED (JB 10)	**Future Leader in You** (JB 9)
Spring Board (JB 7,8) O	**GMP 2.0 Mines to Market** (JB 6, 7, 8)
Chairman Series (JB 7,8,9,3 & above) O	**Project Zoom - Practising Positive Leadership** (JB 3 & above)
Fit For Future by Design (HiPos)	**Step Up** (DH) O
Project Zoom - Leading with an Improv Mindset (JB 3 & above)	

HiPos - High Potential
FH - Function Head
DH - Department Head
O - Gyanodaya Programmes

We customise our learning and development programmes to cater to the needs of employees and to ensure they stay ahead of the curve.

These programmes run for up to 18 months, and the learning journey includes classroom sessions, individual coaching sessions, mentoring from senior leaders, immersion, and reflection exercises. Functional capabilities are developed through dedicated academies, while technical programmes are run by Hindalco Technical University (HTU), which has dedicated schools for Copper, Mining, Smelting, Refining, Extrusion and Rolling.

We also have a clear strategy for representing all key demographics at all levels of leadership. To assess the effectiveness of the programmes, The progress of participants is closely monitored through presentations to leadership on live projects and periodic reviews along with multi-rater (360-degree) feedback post-programme assessments to assess the effectiveness of the programmes.

During the reporting period, 24 employees were allowed to go to Novelis. In addition, 11 employees were sent to Novelis for short immersive training programmes for a period of 9-18 months. 42 employees were sent to the United Arab Emirates for a year for skill development and expertise training to nurture future leaders through specialist technical career paths.

Approach for Identifying Training Programmes

Training needs are identified after interaction with employees and leadership, applying the 70:20:10 principle of on-the-job training, other training, and classroom training, respectively.

These training exerciseslead to goal setting for each employee, followed by a training plan prepared by the unit HR and L&D team.

Besides behavioural, functional, and leadership training, we also offer e-learning, Sustainability training, Risk Management training, and Human rights training, among others.

At Hindalco, e-learning modules are an integral part of our learning methods. We leverage our Group's Virtual Campus, the Gyanodaya Virtual Campus, which has more than 275 channels with curated courses, 50+ Online Journey programmes, 4,000+ online courses, 350+ leadership courses, 450+ audiobooks and 1,250+ e-books. Employees are free to choose any of the courses, which can be made a part of their development journey. We have also partnered with Coursera, where behavioural competencies are identified, and customised programmes are developed for building behavioural capability. Details of permanent employees trained on human rights issues for India Operations are presented in the table below.

Permanent employees trained on human rights issues – India Operations

	FY2022-23		
	Total (A)	No. of employees / workers covered (B)	% (B / A)
Permanent Employees	9,192	5,575	61%

During the previous reporting period (FY2021-22), 100% of our permanent employees and workers received training on human rights and policies.

We have also started three new training initiatives in the following specific areas:

- **Speciality Knowledge Integration Programme (SKIP)**
  We designed this programme to offer focused learning for those in the Specialty Chemicals business. We implemented this initiative as a pilot programme at Muri and have conducted six sessions to date with the participation of more than 150 employees.
- **Intellectual Property Rights (IPR)**
  We conducted five sessions on IPR with the participation of more than 200 employees to strengthen the IPR portfolio and protect the intellectual property of technical resources.
- **Data Analytics through artificial intelligence (AI) and machine learning (ML)**
  We conducted one session for our plant professionals to understand the critical process parameters through big data analysis.

The below table represents details of training given to employees and workers on health and safety measures and skill upgradation for our India operations.

Employees and workers trained on health and safety measures and skill upgradation – India operations

	FY2021-22					FY2022-23				
	Total	Health and safety measures		Skill Upgradation*		Total	On health and safety measures		Skill Upgradation*	
Category	No. (A)	No. (B)	% (B/A)	No. ©	% (C/A)	No. (A)	No. (B)	% (B/A)	No. (C)	% (C/A)
Number of permanent employees										
Male	7,431	7,431	100%	-	-	8,423	8,423	100%	-	-
Female	621	621	100%	-	-	769	769	100%	-	-
Total	**8,052**	**8,052**	**100%**	**-**	**-**	**9,192**	**9,192**	**100%**	**-**	**-**
Number of Permanent Workers										
Male	14,140	14,140	100%	-	-	13,395	13,395	100%	-	-
Female	94	94	100%	-	-	79	79	100%	-	-
Total	**14,234**	**14,234**	**100%**	**-**	**-**	**13,474**	**13,474**	**100%**	**-**	**-**

* We are reconciling data related to training exercises organised for skill upgradation for our workforce. We plan to provide this data during the next reporting period.

Effectiveness of Training

We use the Kirkpatrick Model to measure the effectiveness of the training imparted to employees.

Level 1 of the model includes capturing the essence of training through feedback sheets. This level includes details such as the relevance of training at the workplace, presentation skills, and subject matter expertise of the facilitator and others.

For level 2, a learning phase, we focus on enabling the participants to sustain the programme's learnings. This level is carried out through different methods, such as writing a whitepaper, teaching colleagues, and reporting learnings to the training sponsor on the topics identified in the training.

Level 3 consists of the behavioural phase, where participants must complete chartering action learning projects within stipulated timelines with multiple reviews before giving a final presentation to business heads.

The average training hours per employee are shown below in the table. The average amount spent on training and development per full-time employee (FTE) is ₹14,687.

In addition to the above, several training exercises are carried out at respective site locations based on local requirements. The training exercises include various topics related to functional as well as technical aspects. We provided training on 149 topics covering various principles under BRSR to employees (100%) and 36 topics covering various safety-related aspects to our contract workers (100%).

During the reporting period, we provided 7,185 hours of training in risk management, 66,309 hours of e-learning, 1.10 Million hours of sustainability and ESG trainings, 1.92 Million hours of safety training, and 5,705 hours of human rights training for India operations. We also conducted the familiarisation programmes for the Board of Directors and key managerial personnel covering topics such as new provisions on the related party transactions and insider trading, changes in the code of conduct and other matters. Details of the total and average number of training hours provided to employees and workers are presented in the table below.

Total and average number of training hours provided to employees and workmen

Details of Training Hours (Hours)	Hindalco			Novelis			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Management and Staff	1,123,140	109,358	1,232,498	287,483	101,589	389,072	1,410,623	210,947	1,621,570
On-roll workmen	290,995	2,797	293,792	159,605	7,793	167,398	450,600	10,589	461,190
Total Training Hours	1,414,135	112,155	1,526,290	447,088	109,381	556,470	1,861,223	221,536	2,082,759
Average Training Hours per employee	64.82	132.26	67.34	38.67	54.10	40.96	55.76	77.19	57.45

Hindalco Technical University

We established Hindalco Technical University (HTU) in 2017, offering various programmes to our employees. Every year, we develop new and unique initiatives to enrich employees. This year we conducted the following conferences, workshops, and programmes:

- Four Physical Conferences on Reliability Maintenance Practices, Power, Alucon, and Safety Conclave covering more than 2,000 employees physically and in online mode.
- Launch of HTU's School of Copper in September 2022.
- Project management of six Programmes certifying 168 employees with PMP certification as a part of a New Business Project.
- 14 Industrial Automation Programmes on PLCs such as Rockwell, Yokogawa, and Siemens at locations covering more than 175 participants.
- XSEED (Excellence in Skill Enhancement and Employee Development) for junior managers covering 280 participants for Job band 10-11batches.

We believe our employees' achievements are our achievements. Hence, we foster an environment for our employees to grow personally and professionally.

During the year at Hindalco Technical University, we took the initiative to conduct an energy management workshop to aid in implementing an energy savings initiative. The workshop included managers, engineers, and supervisors. 7.2% of full-time employees participated in these aenergy-saving awareness workshops in mechanical, electrical, and thermal systems. These awareness workshops encouraged the employees to appear for BEE Energy Auditor and Manager examinations and introduce technical expertise on the shop floor.

Motivated by the keen interest of the employees, Hindalco Technical University (HTU) Team conducted nine programmes covering 349 participants. Two of our employees successfully qualified for BEE examinations as energy auditors, and 19 qualified for the energy manager exam through the BEE preparatory series of HTU.

Moreover, we formed an HTU expert council, the School of Specialty Alumina and Chemicals, to strengthen our technical capabilities.

We also conducted the Six Sigma Green Belt Certification programme for GET Batch 2019 and managers, engineers, and downstream plant engineers at Hindalco. The programme's objective was to develop the technical competency of our engineers and managers by providing various options based on the requirements. The HTU team conducted programmes covering 154 participants i.e. 3.2% of full time employees. As part of the programme, the participant submitted 35 projects with a projected potential savings of approximately ₹30 Crore.

We believe our employees' achievements are our achievements. Hence, we foster an environment for our employees to grow personally and professionally.

Human Capital

Diversity, Equity and Inclusion

We are completely aligned with the Group's vision, i.e., "Together, let's become an enabling force for a more inclusive, equitable and diverse work culture which will lead to better individual and business growth."

We are a melting pot of cultures with diverse ages, languages, and backgrounds. We have imbibed the 'unity in diversity' theme and disseminated values of mutual respect and trust amongst all our stakeholders.

Our policies and processes recognise the importance of diversity and how it enriches perspectives, encourages creativity, and brings together a variety of talents and experiences. Bringing the right talent into the organisation and ensuring their long-term association with us is at the core of our recruitment process. We don't discriminate among candidates during hiring and provide equal opportunity and remuneration. This philosophy facilitates a culture of inclusiveness among our people. Gender diversity is a crucial element of our talent strategy. We have been focusing on improving diversity for graduate engineer intakes by hiring 40% women.

Moreover, this year we initiated Diversity, Equity and Inclusion (DEI) visioning programme in which we worked with many stakeholders from various groups to understand their perspectives, aspirations, and belief systems. The results of this intervention will be used to develop a DEI roadmap for Hindalco.

We aim to develop and help them take leadership roles and build internal pipelines. Our focus is to create an ecosystem that will enable a shift in mindset and create an inclusive workplace. In the future, we also want to focus on other dimensions of diversity.

Fostering a more inclusive, equitable and diverse work culture.

Some of the programmes and initiatives that we implemented during the year are:

DEI Awareness E-Learning Module was designed and launched on our GVC App for over 4,500 management cadre employees.

Lego Caravan was an initiative launched for all women employees on Women's Day. The objective was to help them identify their inner potential and explore themselves by building a Lego Model, sharing stories, creating metaphors, listening, questioning, and making meaning, among others.

Collaborative Workplace was designed to instilownership and belongingness while working. This initiative led to different views and initiatives coming together, which can be implemented later. 27 Collaboration Champions were trained on ABG's way of collaboration. These champions are competent to train others in their units further. We have completed a pilot for our Sambalpur Cluster, which covered more than 70 employees, and we look forward to bringing this approach to all our locations.

In alignment with our Shillim journey of building ownership among employees, we will form Employee Resource Groups (ERGs) for women employees. These groups will be a community of the people, for the people, by the people who will drive initiatives to make their workplaces DEI-ready.

Our focus is to create an ecosystem that will enable a shift in mindset and create an inclusive workplace. In the future, we also want to focus on other dimensions of diversity.

Employee Resource Groups – Building ownership among employees

		(Generational ERG)		
	WAH - Women at Hindalco	**Trailblazers Gen X (1965-1980)**	**Core Leaders/Catalysts Gen Y (1981-1996)**	**Emerging Leaders Gen Z (1997-2015)**
Culture		Intergenerational Dialogues to work with Ageism a learning intervention		
	Gendered Social Stereotypes Dialogues learning intervention			
	Building allies for all ERG (the ERG members choose their allies) Allyship workshop to support the underrepresented groups			
Career & Development	Networking capability-building Achievement orientation	Building capability to give feedback (behavioural and career-focused)	Building capability to give feedback (behavioural and career-focused)	Exposure and Mentoring from leaders from other businesses
Commerce	Testing projects/women Competition study projects	Exposure to young startup leaders -Reverse Mentoring process (group company)	Exposure to young startup leaders Reverse Mentoring process (group company)	Relevant (external) technology study -Stretch Assignments
Community	Celebration of days, event relevant to the community (e.g. IWD)			
Communication	Monthly communication and Visibility			

There are several other initiatives that we have taken, such as introducing Dual Career Policy, providing daycare facilities, providing flexible working options, empathy building, and WAH (Women at Hindalco) Conclave, among others. Within three weeks, we conducted one-day visioning sessions at six locations, covering over 2,000 women employees and 150 young managers. Post the visioning session, the outcomes were presented to the ExCom Team along with an implementation plan. Details of the Representation of Women (in percentage) for our India operation are presented in the table below.

Representation of Women (%) – India operation

Employee Category	HIL Women Percentage	Novelis Women Percentage	HIL + Novelis Women Percentage
Women in total employees (as % of total employees)*	8.37% (Target for FY2023-24: 8.50%)	14.88%	12.25%
Women in all management positions, including junior, middle, and top management (as % of total management positions)	8.62% (Target for FY2023-24: 8.50%)	30.51%	18.95%
Share of women in junior management positions, i.e. first level of management (as % of total junior management positions)	9.28% (Target for FY2023-24: 9.30%)	33.89%	19.12%
Share of women in top management positions, i.e. maximum two levels away from the CEO or comparable positions (as % of total top management positions)	- (Target for FY2023-24: 5.00%)	18.75%	11.54%
Share of women in management positions in revenue-generating functions (e.g. sales) as % of all such managers (i.e. excluding support functions such as HR, IT, and Legal, among others)	3.59% (Target for FY2023-24: 6.00%)	32.61%	10.32%
Share of women in STEM-related positions (as % of total STEM positions)	4.89% (Target for FY2023-24: 5.75%)	6.85%	6.19%

*Does not include workers

The representation of females on the Board is two out of 11 with 18.18%, whereas it is one out of four in key management personnel with 25% for our India operations.

> I started my journey with many hopes and dreams in my eyes as a GET in July 2011 in Renukoot.
>
> These years have been a real learning experience for me as a young engineer. I worked in our 6 X 150 MW CPP power plant, starting from documentation jobs in electrical and advancing to a project leader – planning, resource management of Erection, Testing, Commissioning & CEI(G) Inspection of Units in Electrical, leading a team of 30, including contractual workers.
>
> As a woman, I have never experienced fear or gender bias in my plant. I proudly say, "Hindalco is really a very safe place for any woman employee." The next turning point that came in my journey was Internal Recruitment Scheme.
>
> I got selected as Manager, Technical Services CPP. Now I am involved in 'breakdown of electrical equipment to condition monitoring of electrical equipment'. My belief: "Gender is not a barrier to growth at Hindalco. Gender equality is real here."
>
> **Sephali Purohit**

Sephali Purohit in the centre, with her colleagues

Differently-abled employees and workers

Particulars	Total (A)	Male No. (B)	Male % (B / A)	Female No. (C)	Female % (C / A)
Permanent Employees	10	10	100.00%	-	-
Total Employees	**10**	**10**	**100.00%**	**-**	**-**
Permanent workers	20	17	85.00%	3	15.00%
Other than permanent workers	14	11	78.57%	3	21.43%
Total workers	**34**	**28**	**82.35%**	**6**	**17.65%**

Our premises and offices are accessible to differently-abled employees and workers, as per the requirements of the Rights of Persons with Disabilities Act, 2016.

Occupational Health and Safety

At Hindalco, we are committed to providing a safe and healthy workplace for all our stakeholders, including our workforce, with a goal of zero harm. Our occupational Health and Safety Policy guides our safety commitments, applicable across our operations.

We have developed a robust framework for occupational health and safety management. The safety performance across an organisation is driven by Apex Safety Board, chaired by the Managing Director.

Apex Safety Board conducts meetings monthly to review safety performance, understand any challenges and provide direction to the operational locations.

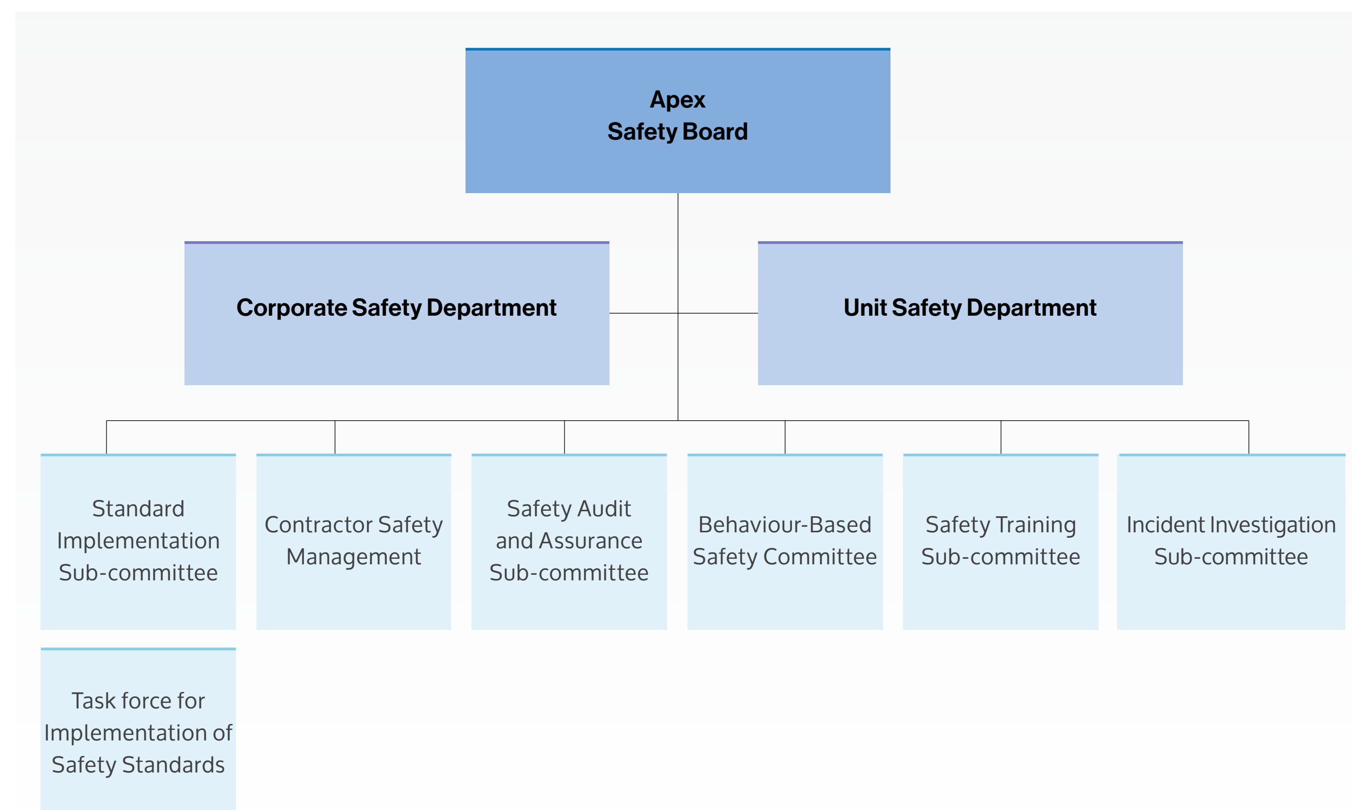
All manufacturing units and mine clusters have unit-level safety boards chaired by unit heads or facility heads. Every unit has six safety sub-committees, namely the Safety Standard Implementation sub-committee, Incident Investigation sub-committee, Safety Audit and Assurance sub-committee, Safety Training sub-committee, Behaviour Based Observation sub-committee and Contractor Safety Management sub-committee. A direct report of the unit head chairs each sub-committee.

Under the standard implementation sub-committee, several task forces working. Each task force is responsible for implementing one safety standard. These sub-committees and task forces are responsible for implementing and monitoring organisational safety protocols. All the task forces and sub-committees members are from line functions, including the leaders.

To support these task forces and sub-committees to work efficiently, at least two subject matter experts are members of each task force and sub-committees.

Each subject matter expert is chosen based on their qualification, length of experience and domain knowledge. They are further specially trained on the safety aspects of their respective domain by external experts.

Occupational health and safety management framework



All our manufacturing units, mines and corporate functions are certified with ISO 45001 – Occupational Health and Safety Management System.

Our commitment towards becoming a safer workplace is evident through carefully crafted objectives and goals for safety performance. Our objectives and goals are divided into short, medium and long-term, as follows:

Short-Term
(Current Year)

- Zero Fatality
- LTIFR less than 0.25
- TRIFR less than 0.70
- LTISR less than 75

Medium-Term
(Next two to three years)

- Making shift from independent culture to interdependent culture on Bradley's curve

Long-Term
(Beyond three years)

- Attaining position of a Torch bearer i.e., benchmark in safety holding No 1. rank in safety in metal industry globally

We also focus on minimising the exposure detrimental to health, employing industry best practices. We have carried out qualitative exposure assessment (QlEA) and quantitative exposure assessment (QnEA) in the last few years. These assessments have helped us identify areas, locations, and posts that need correction. We have complied with all the recommendations of QIEA and QnEA, and further mandated another assessment cycle. We have incorporated state-of-the-art technologies and solutions to monitor critical safety-related activities. An example of one such solution includes the use of drones for work-at-height activities and using a remote monitoring system for confined space jobs. We have also implemented various other digital initiatives such as e-Permit, e-MOC, Tap-Root cause, robotic cleaning, and CCTV monitoring, among others. We use ENABLON software for safety data management.

Behaviour-Based Safety

The safety programmes and initiatives have improved safety performance over the years. We implemented behaviour-based safety (BBS) programmes through appropriate technology and software to inculcate safety as a culture among the stakeholders. During the reporting period, each employee was asked to fill out observations per week that resulted in 52 BBSO/year.

We have a BBSO committee that performs technical and data analysis of the observations submitted by the management and shares the report with task forces to improve the quality of observations.

The safety culture across the organisation also includes rewarding good safety behaviour among our employees.

We have structured safety-related incentives, which are provided on an annual basis to employees at the unit level.

These initiatives have improved our workforce's behaviour, positively reinforcing safety rules and guidelines within day-to-day functioning.

Safety Training and Awareness

This year we invested more than three person-days per employee and contract workers on need-based safety training. Details of training provided to our employees and workers have been represented in the table below.

Employment Category for Safety Trainings	Unit	Hindalco	Novelis	Total
Management Staff	Hours	225,791	28,697	254,489
Permanent Work force	Hours	480,552	125,733	606,286
Contract Employees	Hours	1,215,687	1,956	1,217,643

FRONTLINE LEADER TRAINING

At Novelis, we designed a frontline leader programme to build the leadership capability of our frontline leaders through safety, foundational leadership skills, and culture. The programme focused on equipping the frontline leaders in positions of high influence with an hourly workforce with skills such as risk identification, incident management, risk mitigation, safety leadership and conflict resolution. Through the programme, we imparted training to 280 frontline supervisors to better understandtheir roles in safety while increasing their ability to identify and mitigate risks and how to intervene in others. This programme also improved North America's safety performance by 15% from the previous year.

Hazard Identification and Risk Assessment

Weuse structured techniques like Job Safety Analysis (JSA) and Hazard and Operability studies (HAZOP) for the hazard identification process. Risk assessment assesses the probability of a hazard occurring and its severity on a scale of 1 to 5.

All routine and non-routine activities are screened for Hazards and risks before attempting to execute them. Furthermore, we commence work once the activities are reviewed for risk assessment.

Hazard Identification and Risk Assessment (HIRA) is carried out by the team involved in the execution of the work.

This year we invested more than three person-days per employee and contract workers on need-based safety training.

Safety Performance

Our Safety performance during the year has been represented in the table below.

Parameter	Unit	Hindalco		Novelis		Total	
		Employees	Contractual Workers	Employees	Contractual Workers	Employees	Contractual Workers
Lost-Time Injuries/ Nonfatal, Days Lost (NFDL) cases	Numbers	15	18	20	4	35	22
Total Recordable Injuries	Numbers	49	43	79	13	128	56
Fatalities	Numbers	-	2	-	-	-	2
Total no. of Minor Injuries (Non-recordable injuries)	Numbers	134	149	405	36	539	185
Person-hours worked	Million hrs	47.61	86.23	32.79	6.32	80.4	92.55
Lost-Time Injury Rate (LTIR)	Number/ Million hours	0.06	0.04	0.12	0.13	0.09	0.05
Lost-Time Injury Frequency Rate (LTIFR)	Number/ Million hours	0.32	0.21	0.61	0.63	0.44	0.24
Total Recordable Injury Frequency Rate (TRIFR)	Number /Million hours	1.03	0.5	2.41	2.05	1.59	0.61

Note: (i) Lost-Time Injury Frequency Rate (LTIFR) = (No. of lost-time injuries x 1,000,000) / (person-hours worked)

(ii) Lost-Time Injury Rate (LTIR) = (No. of lost-time injuries x 200,000)/ (person-hours worked)

(iii) Total Recordable Injury Frequency Rate (TRIFR) = (Total No. of recordable injuries x 1,000,000) / (person-hours worked)

For our India operations in the previous reporting period (FY2021-22), the LTIFR for our employees and contractual workers was 0.39 and 0.22, respectively. The total recordable work-related injuries stood at 53 and 45 for our employees and contractual workers, respectively. Furthermore, two of our contractual workers suffered fatalities in FY2021-22.

LAUNCH OF SAFETY 360

We have continuously improved our safety standards in our units and mines through various programmes like serious injury and fatality prevention programmes, comprehensive investigation of serious near-misses and Category 4,5 accidents. During the year, we aimed to enhance safety outside factory premises, i.e., for employees' families and other external stakeholders through the Off-the-job safety task force.

To drive various safety awareness campaigns and safety enhancement, we constituted an off-the-job safety task force comprising members from factories, colonies, schools, contractors' families, school and college-going students, and subject matter experts. The task force members meet monthly to discuss the way forward and plan activities related to fire-fighting training, kitchen and home safety, electrical safety, road safety, rallies, demonstrations, safety parks, colony audits, emergency preparedness etc.

These measures have enhanced awareness of safety among the employees, family members and other stakeholders with a reduction in the overall acts and conditions in the township areas.

At Novelis, we have a Management of Change (MoC) procedure for considering health and safety impacts when implementing operational changes.

Although Novelis has zero cases of work-related ill health, the potential health hazards are identified via several methods including internal audits, employee observations, site inspections, and qualitative and quantitative industrial hygiene assessments, among others.

At Novelis, we also implemented machine guarding assessments to improve the conditions in work centres related to operator involvement hazards. The initiative was to generate a single-point inspection team and to carry out an in-depth physical gap analysis of machine safeguards on all process equipment in identified facilities.

Occupational Health Services

At Hindalco, we emphasise holistic employee health. We carry out initiatives that include lifestyle guidance, awareness and training on communicable diseases, ergonomics study and corrective sessions, emotional first aiders, self-care guide, happy workplace through diversity, happy employee through recognitions, psychological safety, exposure assessment, stress standard, hygiene camps, building capability of Managers for proper social connects, among others.

We have an Integrated Health Committee (IHC) consisting of CMOs, Industrial health physicians of all the units, Certified industrial hygienists, group CMO, Head IR / ER and Corporate OHS heads as members. This committee is chaired by a senior official directly reporting to MD. IHC monitors the working and progress of industrial health and hygiene monthly. Every unit has a full-fledged occupational health centre (OHC) operated by qualified industrial health physicians and trained medical and paramedical staff.

Further, Novelis has also significantly focused on mental health and well-being of employees in the past few years. Novelis has initiated an annual wellness week dedicated to focused topics including various wellness and health topics. Throughout the year, the wellness coordinators conduct seminars and workshops for employees that cover topics such as mindfulness, financial wellness, parenting skills, healthy lifestyles, proper nutrition and yoga.

Monitoring and Compliance

A dedicated team conducts Cross-unit audits for all the units once a year. The team is led by an Ex-Com member (Direct reports of the Managing Director) and subject matter experts of different standards from different units. The audit is quite comprehensive, wherein all the compliances are checked thoroughly. The line function manages this whole process of audit from planning to execution.

At Hindalco, we emphasise holistic employee health. We carry out initiatives that include lifestyle guidance, awareness and training on communicable diseases, and ergonomics study and corrective sessions, emotional first aiders, self-care guide, happy workplace through diversity, happy employee through recognitions, psychological safety, exposure assessment, stress standard, hygiene camps, and building capability of Managers for proper social connects, among others.

At Hindalco, we are committed to provide a safe and healthy workplace

Intellectual Capital

Enriching Lives by Enhancing the Product Mix and Improving Customer Experience

As the global industrial market demand constantly evolves, our commitment to enriching lives drives us to stay ahead. Innovation is not just our biggest tool; it is the foundation of our journey to unveil new products, combinations, and designs to cater to an array of opportunities.

Our innovation capabilities are one part of the equation, with external associations and industry learnings completing the loop. We invest in partnerships, specialised innovation centres, and state-of-the-art facilities to bolster our innovation capabilities. These investments empower us to create new products and processes and achieve breakthroughs that positively impact the lives of our stakeholders. By embracing innovation as our guiding principle, we are confident in our ability to enrich lives through exceptional solutions and experiences.

Focus Areas

Strengthening R&D for downstream products	New technological solutions
Product quality and performance	Digitalisation

Key Highlights

Patents Filed
529

Patents Granted
427

New products developed
62

R&D spend
₹796 cr.

Launched
Aluminium Freight-Trailer Rakes

Contributions to SDGs

9 Industry, Innovation and Infrastructure

12 Responsible Consumption and Production

Interlinkages with material topics and other capitals

Material topics
- Market Presence

Capitals connected
- Manufactured Capital
- Financial Capital
- Natural Capital

Key Risks and Opportunities addressed

R8	Product development strategy risks
R10	Cybersecurity and data protection risks

Alignment with Strategic Priorities

SP-2	Value Enhancing Growth
SP-3	Strong ESG Commitment
SP-4	Portfolio Enrichment

At Hindalco, we gauge ourselves by our innovations that can redefine and bring new vigour to our business. This relentless pursuit of ours is substantiated through new patents, well-equipped innovation labs and our increased spending on Research and Development (R&D).

We have been consistently increasing our R&D spending over the years. Our total R&D spending, which includes our Capex and Opex, stood at ₹796 Crore in the reporting year. Out of this, ₹763 Crore ($8.54 million) was spent in Novelis and ₹33 Crore in India Operations. Out of ₹33 Crore, we spent ₹6 Crore dedicatedly towards environmental benefits.

Our R&D efforts were recognised through various accolades. We received the Best Executor Award for Innovative Sustainable Solutions at ABG InnoSol Conference in March 2023.

We even received an appreciation certificate from SME for Chemical Safety, acknowledging our efforts in providing technical training.

Our relentless pursuit of innovation is substantiated through new patents, modern innovation labs, and increased spending on research and development.

Bolstering Our R&D: Hindalco Innovation Centres

Our Hindalco Innovation Centres, equipped with state-of-the-art infrastructure and facilities serve as the foundation for our R&D activities.

We have four innovation centres located at Belagavi, Taloja and Dahej - which have dedicated research focus areas.

Our innovation centres at Belagavi and Taloja are recognised by the Department of Scientific and Industrial Research (DSIR). The DSIR, a promotional wing under the Ministry of Science and Technology, Government of India, nurtures in-house technology and development at global standards. In addition to the dedicated innovation centres, all our plants are equipped with in-house R&D Centres and dedicated Technical Cells.

R&D Focus Areas of Hindalco Innovation Centres

Belagavi	Taloja	Dahej
HIC Alumina • Bauxite • Specialty Alumina and Hydrate • Bayer's Process	**HIC Tribology** • Oil and Lube • Aluminium Coating Technology **HIC Semi-Fab** • Metallurgical Applications related to aluminium	**HIC Copper** • Copper Smelting • Copper Refining • By-product applications • Copper Related Services

At Novelis, we are focusing on expanding our product portfolio through innovation and new technologies with our eight dedicated R&D facilities spread across North America, Europe, and Asia.

Our global research and technology centre in Kennesaw, Georgia, offers state-of-the-art R&D capabilities. This helps our plan to meet the global long-term demand for aluminium in the automotive, beverage, and aluminium specialties markets.

We also have a global casting engineering and technology centre in Spokane, Washington, specialising in molten metal processing.

At Hindalco, we gauge ourselves by our innovations that can redefine and bring new vigour to our business.

Additionally, we have research and technology centres in Shanghai, China, and Sierre, Switzerland which are focused on automotive research. Our research and technology centre in Göttingen, Germany specialises in the development of new products and processes for our can and specialties customers.

Additionally, our innovation centres in Koblenz, Germany and Zhenjiang, China, are dedicated to aerospace research, catering specifically to the aerospace product portfolio. We also have a dedicated automotive customer solution centre in Novi, Michigan to strengthen the partnerships we have with our customers.

Our R&D facilities are dedicated to developing new technologies and products, that will help us stay ahead of the competition. In the reporting period, our R&D team filed 529 patents and had 427 patents granted.

Innovate to Improve: Optimising Our Processes

Our process innovation initiatives play a crucial role in enhancing time and resource efficiency, resulting in cost benefits. Our R&D centres are constantly working to improve the value provided to customers by enhancing product performance and quality.

To ensure the quality delivery of products, we conduct Life Cycle Assessments (LCA) at downstream (FRP & Extrusion) and refinery plants to identify the potential impacts of products and services during their entire lifespan. The results of the LCA are used to implement measures to reduce the identified impacts of our products. In FY 2022-23, we commenced the process of refreshing the LCA for both our aluminium and copper manufacturing products. This is expected to be completed in FY 2023-24.

At Novelis, we completed a cradle-to-gate and gate-to-gate LCA for product-side and public-side lamination for can end sheet. The assessment did not identify any major environmental risks arising from the products.

TELLURIUM RECOVERY FROM ANODE SLIDES

In the electrolytic refining step in the copper manufacturing process, anode slime is generated as a by-product.

The composition contains significant amounts of copper, lead, tellurium, selenium, precious metals gold, silver, and platinum along with other impurities. Prior to the recovery of precious metals and selenium, the removal of copper is necessary.

During the copper removal stage in slime leachate, about 50-60% of tellurium in anode slime gets co-dissolved. The remaining tellurium remains in a solid residue, resulting in the loss of this valuable element. At HIC Copper, we developed a process to recover this tellurium from slime leachate in the form of Copper Telluride (Cu_2Te) powder. The laboratory scale development of the project is complete, and pilot implementation is in the pipeline.

LIBERATOR CAKE TREATMENT TECHNOLOGY

During copper refining operations, liberator cake is produced as a by-product. Liberator cake contains about 70 to 90% copper and 6 to 10% arsenic along with other impurities. This is usually consumed as feed input for smelters. However, due to a mismatch between the generation and consumption of liberator cake, there is a gradual build-up in the inventory.

Reprocessing/recycling of liberator cake in smelters and exports is also a challenge due to the high-level impurities present in it. This problem led us to develop a process that would treat liberator cake and reduce the piled-up inventory. After evaluating multiple approaches, a mineral beneficiation method was selected to separate the arsenic lean (less than 2%) material.

This solution converted non-saleable liberator cake to saleable copper products, thus adding value.

Further, we modified our process and reduced the arsenic content to less than 2% in the liberator cake. The penalty reduction of 70-80% will have a direct impact on the cost incurred in treating the liberator cake and make it a marketable product.

Innovate to Inspire: Developing New Products

We introduce new products to meet the growing demands of our customers and the market. Our product innovation focuses on exploring untapped opportunities in various sectors. In addition to increasing our existing market share, we are also venturing into new product verticals. For example, our new product developments like HLV206: a hydrate equivalent, AC Fin Stock Coatings, Battery Enclosures and Foils, Inner Grooved Copper tubes, and Superior Copper Alloy Rods enable us to capture new markets.

In the reporting year, we successfully developed 62 new products at our Innovation Centres.

We are dedicated to contributing to India's Net Zero Goals by leveraging innovative technologies. The adoption of electric vehicles plays an important role in mitigating fuel emissions. And we are utilising our capabilities to contribute to this transition. For instance, we have developed BB590 alloy-grade sheets that exhibit high wire bond strength and corrosion resistance, specifically for busbar applications in electric vehicles.

New Products at Our Innovation Centres

Innovation Centre	Products and applications developed and accepted by customers	New products and applications developed in lab
HIC Belagavi	9	11
HIC Tribology	3	12
HIC Semi-fab	6	4
HIC Dahej	3	2

Additionally, we have developed a hybrid manufacturing process combining additive technology with aluminium extrusions to create lightweight EV motor housings.

Battery enclosures and battery foils made of aluminium have proven to be superior choices for electric vehicle batteries. The lightweight nature of aluminium has contributed to an increasing trend in its use in automobiles and transport vehicles. Using aluminium not only improves fuel efficiency but also reduces the total cost of ownership.

As a result, we have developed and launched products such as aluminium freight rakes, aluminium trailers, aluminium boats for water metro, and aluminium container boxes to replace traditional container boxes.

We systematically evaluate market demands and closely monitor megatrends to proactively develop products ahead of time allowing us a first-mover advantage. The development of Spherical Alumina and Hydratable Alumina is a testament to this commitment. We aim to focus on new areas of research, such as copper anode and cathode quality, copper refinery bleed generation optimisation, purification, and recycling, as well as ETP load reduction and advanced applications for achieving zero-waste-to-landfill.

Additionally, we have developed a hybrid manufacturing process combining additive technology with aluminium extrusions to create lightweight EV motor housings.

In our chemicals business, we have recognised the versatility of alumina, leading us to introduce "NPD-30", which focuses on developing 30 projects for new product development. Currently, we have 26 projects in the new product development funnel, with 16 of them already in advanced stages.

Currently, our main focus is on integrating Super Value-Added Products (SVAPs) that are expected to have a high future demand and are currently very limited in terms of market players globally.

As an integrated player, we believe we have an edge over our competitors in the production of SVAPs.

An example of such a product is high-purity alumina which is experiencing rising demand in electric vehicles, LEDs, semiconductors, and other electronic applications due to its inert qualities and good thermal and electrical insulation properties.

At Novelis, we have developed various products having overall applications in our can portfolio, such as BPA – NI coating for can end sheets and public-side and product-side lamination for can end sheets.

Our specialties segment developed a water-based clear coat for specialty painted products and a wrinkle-free coating for painted products. The specialties segment also developed a high-recycle content aluminium sheet for coffee capsules.

In the automotive segment, we have developed a second-generation design for the aluminium EV battery pack enclosure.

Further, we are also exploring carbon capture and conversion technologies for plant operations and buildings, as well as water-based clear coats and extensions for painted products.

We have received appreciation from SME for Chemical Safety acknowledging our efforts in providing technical training.

Other Product Development Efforts

Turbine Oil and Compressor Oil

- Development of indigenous turbine oil (Mineral and Synthetic-based) of VG 32 and 46 for captive power plants.
- Improved resistance to foaming tendency and better oxidation stability.
- Use of In-house developed ISO VG 32 and 46 (Synthetic and Mineral) Oil for Compressors. Approval from an expert institute under progress.

Fume Free Billet cutting lubricant

- Development of fume-free cutting oil.
- Reduced health impacts caused by fumes and smoke.
- Reduced lubricant consumption and cost.
- Pilot trial completed at Alupuram Plant.

Development of Hot rolling lubricant for Roughing Mill and Finishing Mill of Hirakud FRP

- In-house lubricant has been successfully developed, and Laboratory Evaluation completed.
- Plant trial is planned in FY 2023-24.

Development of In-house AC Fin Stock Coating

- Epoxy/Polyester Primer base coat and PVA Hydrophilic topcoat for AC fin stock.
- Corrosion resistant, quick-dry organic coating for AC fin stock.
- Provides a 30% cost reduction compared to commercially available products.

Development of Hydrate Equivalent to Martinal ON921

- Developed and commercialised as grade name, HLV206.
- Approved by customers in lab scale evaluation and bulk trials are in progress to establish plant scale production.
- Shall facilitate our entry into the composite market of automotive, PU foam and other related applications.

Development of Hydrate for Electrical FRP Composite Application

- Developed and commercialised a product equivalent to Portaflame SG100LV flame retardants called MHB30.
- Applications in Electrical FRP composites.
- Successful bulk trials conducted in India and Spain; the product has now been commercialised.

In our quest of innovating to inspire, we are always developing new products to meet the growing demands of our customers and the market. Our product innovation focuses on exploring untapped opportunities in various sectors. In addition to increasing our existing market share, we are also venturing into new product verticals.

We are venturing into new product verticals; Inner Grooved Copper tubes, Superior Copper Alloy Rods, etc.

INDIA'S FIRST ALL-ALUMINIUM FREIGHT RAIL RAKES

Rail transport is an important mode of conveyance in India and caters to a large share of the Indian population. Supporting the country's ambitious plan to modernise freight transportation and enable large carbon savings for the Indian railways, we developed India's first all-aluminium freight rail rakes.

Our aluminium rakes are 180 MT lighter than existing steel rakes and can carry 5 to 10 % more payload. They consume less energy, are corrosion resistant and are 100% recyclable with relatively negligible wear and tear to rolling stock and rails. The new wagons are based on RDSO-approved designs and made from indigenously made high-strength aluminium alloy plates and extrusions.

The wagons are specifically designed to carry coal to reduce carbon footprint significantly. For every 100 kg weight reduction in the wagon, the lifetime CO-saving is 8 to 10 MT. This translates to a saving of more than 14,500 MT of CO-for a single rake. With the railways planning to deploy more than one lakh wagons in the coming years, we expect that there will be a 15 to 20% shift to aluminium wagons. A potential annual CO-reduction of over 25 lakh MT can be expected, thus making a notable contribution to the country's sustainability goals.

ALUMINIUM TRAILERS FOR COMMERCIAL VEHICLES: NUVOCO

Light-weight commercial vehicles not only reduce the logistics cost through higher payload and lower total cost of ownership (TCO) but also result in lower greenhouse gas emissions. Following a structured NPI approach, we used high-strength marine-grade aluminium alloys to build trailers for Nuvoco's commercial vehicles. The trailers, built in accordance with ARAI-approved design, are durable and have better load-bearing capacity yet weigh lighter than an equivalent steel truck. These features help to boost overall mileage by reducing fuel consumption and lead to savings of 28 MT of CO_2 emissions over a truck's lifetime.

CARGO SOLUTIONS FOR COMMERCIAL VEHICLES

Over the past two years, Hindalco has invested in the creation of an ecosystem of technology partners, vendors and fabricators to introduce lightweight, sustainable applications for last-mile connectivity in the transport sector. We developed the lightest cargo containers with a 30% weight reduction per trip for last-mile mobility operators such as e-commerce companies.

This enhances the battery range by approximately 15% for the users of EVs. The container boxes are made of high-strength aluminium alloys. They are designed with inputs from our partner OEMs using the latest aluminium joining technology to reduce the total cost of ownership (TCO) and thus benefit the end-users. We built 600 containers mounted on various EVs and about 10,000 cargo boxes for last-mile delivery vehicles.

PROPELLING INDIA'S FIRST WATER METRO AT KOCHI

Kochi Water Metro Project is the first-ever integrated water transport system of this size and scale in Asia. It is expected to connect 10 islands along a 76 km route using 38 jetties and 78 Electric Hybrid Catamarans. Our aluminium was chosen as the primary material for the construction of the Electric Hybrid Catamarans.

The boats, with a capacity of 100 passengers each, are powered by lithium titanate oxide batteries, and made of aluminium catamaran hulls and FRP superstructure. Marine-grade flats and angles supplied by our Alupuram Extrusions plant were used to build the aluminium hulls. The metal's unique combination of lightweight, high strength-to-weight ratio and superior corrosion resistance made it an ideal choice for this project. The boats have been designed uniquely to ensure negligible wave activity.

The project established us as a leading player in the water transportation industry, with enormous potential for growth in India and globally. Kochi Water Metro also won the prestigious Gussies Award (France) for the Best Commercial Passenger Electric Boat in the World.

BATTERY ENCLOSURE FOR PERSONAL MOBILITY EVs

There is an increased consumption of aluminium products in the personal mobility EV space. Catering to this, we have developed solutions such as Battery, Housing, Handlebars, Motor casing and Bus bars for OEMs of 2-wheelers. This was carried out by collaborating with OEMs throughout the cycle, from product development to commercialisation. We aim to emerge as leaders of aluminium-based sustainable product ranges in the sector and aspire to help India become a global design and manufacturing hub for aluminium products and components in the personal mobility space.

At Novelis, our Second-Generation Aluminium Sheet Intensive Battery

Enclosure Solution was developed in collaboration with our industry partners and automotive engineers.

It is designed in a way to maximise weight reduction, reduce costs, and deliver a higher pack energy density.

The product is 50% lighter and shows an improved 30% energy density and 20% better mass reduction compared to commercial battery enclosures.

DEVELOPMENT OF SPHERICAL ALUMINA FOR ADVANCED REFRACTORY/ POLYMER APPLICATIONS

Spherical alumina, which has applications in thermal conductive polymers, has the potential to cater to the growing market in refractories. It is normally used in high-end castable applications to get better rheological properties. It is also seeing an increasing demand from domestic refractory manufacturers who manufacture high-end castables. Considering this, we have also developed spherical alumina for polymer application. Our lab trials were conducted successfully, and evaluation of the material is in progress at the customers end.

LAMINATED ALUMINIUM SURFACES FOR BEVERAGE CAN END

Coloured aluminium beverage can-ends, especially black, are popular for new and innovative beverage products and energy drinks. However, producing lacquered black ends poses challenges in terms of colour stability and the can-making process.

Novelis has developed a new aluminium sheet, which comes with a black lamination film. The film is free of Bisphenol A (BPA) and per- and poly-fluoroalkyl substances (PFAS) and meets all food and beverage industry requirements.

The lamination film can be easily applied to the rolled aluminium sheets by a combination of pressure and heat. The lamination of aluminium coils for can-ends also reduces CO_2 emissions by 33%, compared to the conventional liquid coating, as the process requires less heat and chemicals.

The lamination film can also be removed in the recycling process by thermal pre-treatment and the waste heat can also be utilised.

The innovative application improves beverage container appearance, increase production process efficiencies, and lowers CO- emissions for European beverage brands and can makers, thus, advancing our leadership in the growing market.

DEVELOPMENT OF HYDRATABLE ALUMINA EQUIVALENT FOR NO CEMENT CASTABLE APPLICATION

The use of alumina refractory is increasingly becoming critical to enhance the efficiency and quality of products. Products like AA-101 and Alpha bond 300 are generally used in the export market but have very less usage in the domestic market. This has opened multiple opportunities to develop the right product for this application, which led to the development of hydratable alumina (HA).
HA is a calcium-free and high-refractoriness binder used in high-performance no cement refractory castable formulations. The product was developed successfully, and commercialisation is in progress.

HIGH-PERFORMANCE BATTERY FOILS

Spherical alumina, which has Battery grade aluminium foil, is used as a cathode current collector in Li-ion cells. At Hindalco, we have developed these battery-grade foils having superior mechanical properties to deliver high performance during manufacturing of Li-ion cells. Our foils are the requirements of various customers in electric vehicles and energy storage in India and abroad.

We have collaborated with the premier institute to develop in-house technology for differentiated foils and comprehensive testing of aluminium current collector foils. Further, we are working on coating technologies to develop high-performance battery foils to deliver better adhesion, corrosion resistance and reduced charge transfer resistance.

Innovate to Evolve: Our Partnerships

We actively seek collaborative partnerships to create scalable solutions. Our long-term associations with Aditya Birla Corporate R&D Centre at ABSTC, thought leaders, academic and research institutions and technology providers have supported us in developing new solutions and optimising our operational performance.

Further, we are constantly on the lookout to identify opportunities to participate in. Being active contributors and participants also enables us to increase our reach and scale and bring us impactful learning experiences.

Our collaboration with ABSTC is focused on developing sustainable technology solutions for core processes in Hindalco units. The major focus is on the reduction in specific energy consumption in the aluminium smelting process.

Over the last few years, the aluminium smelting team at ABSTC has worked on the 'Roadmap for Energy Reduction in Hindalco Smelters', and developed several innovative solutions like CuCB, Energy Saving Lining, Magnetic Compensation, Improved Anode Assembly, 400 kA pot design, New Pot Controller and Digital Twin, which are generating significant value to Hindalco. At the end of FY 2021-22, the ABSTC team developed three new roadmaps namely, (i) Low Energy High Productivity 400kA, (ii) Carbon Anode Technology, and (iii) Transformative Technology covering Process Control and Digital aspects and all aluminium smelting activities have been aligned to these three roadmaps.

In FY 2022-23, the ABSTC team worked closely with our team in Hirakud, Mahan, Aditya and Renukoot smelters, focusing on all the chartered research projects and technical support requirements. Some of the key highlights of the initiative were:

- Hindalco's management approved the proposal to install a booster section in Mahan potline to test the 400 kA solution,
- Trials of a new design (without booster) were initiated successfully at Mahan smelter,
- New collector bar and energy-efficient lining design trial initiated in Aditya,
- New copper insert collector bar, designed and trialled in 72 kA pot at Renukoot Smelter,
- Digital Twin with AWS cloud platform was implemented in Aditya smelter,
- New pot controller trial initiated in one pot of Hirakud 235kA smelter,
- Carbon anode process benchmarking and optimisation performed to improve the electrical resistivity and baking level of anode,
- CFD model of anode baking furnace (ABF) developed and validated for Renukoot and Mahan. This would be used for ABF design retrofitting analysis related to 400 kA.

Over the past few years, the aluminium smelting team at Aditya Birla Science and Technology Company has developed several innovative solutions to reduce energy consumption in Hindalco's smelters

We actively seek collaborative partnerships to create scalable solutions. We have partnered with IIT Bombay to conduct research on the neutralisation of our bauxite residue (bulk waste) and the identification of new applications. We have also collaborated with ICT- Mumbai to develop specialty coatings and lubricants.

Furthermore, we have partnered with CSIR-IMMT (Institute of Minerals and Materials Technology) Bhubaneswar to reduce arsenic in copper liberator cake by optimising the electrowinning process in a refinery. We also engaged with IIT-Gandhinagar to develop a suitable process for recovering gold from primary dore slag generated in our Precious Metal Recovery (PMR) plant. We also collaborated with renowned cement companies to use smelter ferro-sand and ETP gypsum in the cement industry. Our partnership with National Environmental Engineering Research Institute pertained to a project on the reclamation of a gypsum dump yard.

We are also working on alternate cell chemistries and have partnered with leaders in the oil & gas and energy sector for aluminium air battery technology. Further, we are developing novel aluminium alloys and solutions for the recycling of spent electrolytes for batteries. In addition, we are collaborating with various organisations in alternate cell chemistry for the development of raw materials.

ENHANCING ENERGY EFFICIENCY AT ADITYA THROUGH COPPER INSERTED COLLECTOR BAR

A new design of copper-inserted collector bar (CuCB) along with cell lining was developed along with the ABSTC team and tested in one pot. The objective of this trial was to validate the ideas of copper insert, PSW design, and usage of the high insulation material for high amperage operation. Learnings from the trial will help us to finalise the lining for the booster trial. Additionally, it is expected that the pot will operate at a reduced specific energy of approximately 70 kWh/MT of aluminium. The increased mass of copper will reduce the cathode voltage drop (CVD) along with an improved current distribution in the cathode. Sidewall insulation lining modification leads to a change in the bath cavity; thus, pot start-up parameters were tuned accordingly. The pot is under trial and is running smoothly.

IMPROVEMENT IN ENERGY EFFICIENCY AND PRODUCTIVITY AT HIRAKUD

Improved Cell design for existing pots: A new design for a steel shell of 235 kA was finalised to reduce steel shell temperature and avoid pot failures due to side wall leakage. The modified design resulted in a more uniform distribution of heat loss. The modified steel shell was found to reduce the temperature by 15°C. This reduced temperature indicates sufficient ledge thickness and no appearance of a red spot. The new busbar configuration is also being developed to operate the pot at above 235 kA and reduce the specific energy consumption further. This modified busbar design is planned to be tested in FY 2023-24.

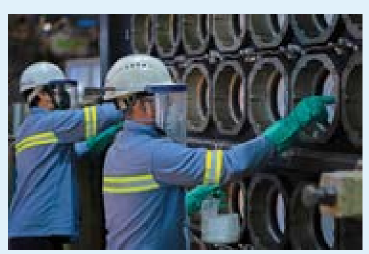
Horizontal deployment HiPoT-85kA bus bar design in line three: A 3-riser bus bar design was developed with better magnetic compensation, for line-4. Currently, the plant is in the process of horizontal deployment of this design in line-3. A feasibility study was performed through E-mag analysis and results confirmed that it will be safe to replicate this design in line-3.

LOW ENERGY 400kA HiPOT DESIGN AT MAHAN

The new 400kA cell design developed jointly by ABSTC and Mahan team was selected for plant trials. The trial at operating amperage will have challenges with respect to thermal balance, which would be taken care of by an additional voltage to maintain the required internal heat generation.

The trial will be followed by a premature shutdown and pot autopsy to assess the condition of the cathode lining. The position of the reaction front in the lining will be helpful to predict the pot life.

Based on the results of the pot autopsy, corrective actions will be taken, if required before implementation. The trial was initiated successfully in one pot using the existing anode at Mahan smelter.



Net Zero Lab Valais, a collaboration to advance carbon neutral solutions of Aluminium manufacturing

AL - SMELTER DIGITAL TWIN FOR HINDALCO

A digital twin of the smelter was developed with the ABSTC team for predicting the current efficiency of individual pots. The prediction model was tested and deployed at Mahan to improve process performance and reduce carbon footprint. Multiple deployment architectures have been explored for sharing of CE% model with different plant units. A cloud-based approach on the AWS environment was used for deployment at Aditya. The model is executed daily, and results can be visualised in a customised web-based GUI. The pot failure prediction model after being customised for Aditya smelter was validated by comparing the predicted remaining life to the actual remaining life obtained after the pot autopsy. The deployment of the pot failure prediction model and ROM for thermal health prediction has been planned and would be deployed in FY 2023-24.

NET ZERO LAB VALAIS: A COLLABORATION FOR A CARBON NEUTRAL FUTURE

Novelis signed a long-term collaboration agreement to start a joint research and development (R&D) laboratory, Net Zero Lab Valais. The lab will aid in advancing carbon-neutral solutions for aluminium manufacturing. The agreement was signed with HES-SO Valais-Wallis in collaboration with EPFL of Energypolis Campus, a Swiss innovation and research hub, as well as energy distributor OIKEN.

The lab will be located at Novelis' plant in Sierre, Switzerland. Due to the availability of renewable energy and strong research institutions, the Sierre site, the broader Valais region and Switzerland are an ideal fit for the planned initiatives. The lab will focus on research in identifying and implementing innovative solutions to neutralise the carbon footprint of Novelis manufacturing operations and neighbouring communities. The aim is to reach carbon neutrality for Scope 1 and 2 emissions at the plant by 2030.

The Net Zero Lab Valais is another lever for increasing energy efficiency, reducing waste, and supporting our communities. We will develop innovative solutions that we can later implement on a broader scale at our different production sites across the globe while we continue to work on increasing the recycled content in our products to deliver the lowest total carbon footprint for aluminium sheets.

Innovate to Excel: Our Digital Journey

With Industry 4.0 redefining the global manufacturing outlook, we have embarked on a journey to transform Hindalco into a digitally-enabled Company. Along with bringing in a myriad of opportunities for streamlining business and innovative data usage, it comes with inherent threats and risks. We recognise that cybersecurity poses an increased risk to our business and stakeholders. We are continually refining our internal policies, systems, certifications, and awareness and ensure no internal or external security events impact our business continuity. We have developed and continue to improve upon a comprehensive information security and cyber resiliency system.

In an ever-changing world, we are pioneering the use of blockchain in supply chain and sustainability, artificial intelligence (AI) initiatives in logistics and transportation, digital twins for key operations like power plants and smelters to optimise and reduce energy consumption as well as full traceability of the coal supply chain.

The current year saw significant improvement in the data infrastructure across all plants and the cyber security integration across IT and Operational Technology. The focus will continue to be on creating big business impacts by scaling up adoption and completing ongoing projects across plants. We are also creating a Hindalco Data Lake and democratising data in operational, sales and marketing.

We have transitioned from our old Enterprise Resource Planning (ERP) system to Ekaayan, which is one of the largest transformation programmes undertaken by a company in the Asian region.

We have embarked on a journey to transform Hindalco into a digitally-enabled Company.

This will accelerate the adoption of analytics to improve performance and sustainability goals.

Our digital strategy is well aligned and in synergy with our long-term goal of creating a more sustainable business model for the future. Our key focus areas include analytical assessments on emissions, energy, water and waste management and carbon capture opportunities. We are also strengthening our digital systems in logistics and transportation, process optimisation, workplace safety, employee upskilling, and eliminating the use of paper.

Along with this, we have invested in platforms that help collate data and facilitate real-time monitoring to identify trends and early indicators of failures, if any, across our operations. Our key IT initiatives include an industrial IoT platform, real-time data monitoring and analytics, video analytics, data warehouse, digital twin, visual analytics and AI/ML-based predictive maintenance platforms.

Hindalco Information Technology Policy guides our practices around cybersecurity and the protection of our information assets. The policy is available on our website and is accessible to all stakeholders, and is updated periodically to synchronise with the evolving IT landscape.

Our IT governance and strategy are monitored by the Risk Management Committee and headed by Chief Digital Information Officer (CDIO). We have also appointed a Chief Information Security Officer (CISO) who reports to the CDIO and is wholly responsible for overseeing the cybersecurity activities across the Company.

We have formed an Information Security Management Committee, which consists of the working committee members, including executives from all IT centres, such as corporate IT and location IT, and is chaired by the CISO. The working committee further reports to the steering committee, which includes senior executive members such as the MD, CFO, and CDIO.

We conduct regular training for our employees on IT and cybersecurity ensuring employees are aware of threats and better prepared to handle them

We conduct regular training for our employees on IT and cybersecurity ensuring employee awareness and better preparedness. Information Security is also an integral part of the new hire orientation programme. We observe Information Security Week every year to raise awareness about information security and integrate it into our culture. Further, to strengthen security awareness among employees, a comprehensive information security awareness programme was launched that keeps users engaged and updated throughout the year.

We ensure our systems and processes are resilient to face any potential threats. Our complete IT infrastructure is certified with ISO 27001 Information Security Management System. We aim to carry out vulnerability assessment and penetration testing for all our infrastructure semi-annually by external auditors to identify potential threats and contain them effectively. We have improved our threat landscape visibility and now have a deeper insight into telemetry. Network segmentation has been improved to contain the damage of any future adverse scenario. For faster detection and quick response, we have implemented architectural changes and adopted new technology solutions, i.e. End-point Detection and Response (EDR).

We have an Incident Reporting Form on our intranet portal on which any breaches of information security actual or suspected can be reported. The incident will be investigated by the security team and further action will be taken based on the severity.

Information security also forms a part of employee performance evaluation, and employees are liable to face disciplinary action for any non-compliance. Owing to our concerted efforts, we did not have any cases of data breach and information security failure in the reporting year, and no complaints were received from any stakeholder regarding data breaches, including customer privacy in the past two financial years.

Our digital strategy is well-aligned and in synergy with our long-term goal of creating a more sustainable business model for the future.

CYBER SURAKSHA ABHIYAN

Cyber Suraksha Abhiyan was implemented to increase employee awareness of information security.

The programme offers knowledge using several different modes, including threat simulation exercises, e-learning, online sessions, posters, infographics, wallpapers, screensavers, news, case studies, reference docs, events and celebrations, etc.

Users are engaged throughout the year, and their assessment is done regularly. It also offers a dedicated infosec helpline, where users can raise any query related to cyber security and get their doubts cleared.

This has played a pivotal role in transforming the weakest link of the security chain, i.e. employees to the first line of defence by raising their infosec awareness.

Natural Capital

Enriching Lives by Fostering a More Sustainable Future

At Hindalco, our unwavering commitment to enriching lives is intricately woven into our sustainability efforts. We firmly believe in creating a greener future, and to achieve this, we are committed to attaining our environmental goals. Our ESG commitment is deeply ingrained in our strategic priorities, which drive positive change and make a lasting impact on the planet. We have emerged as a leader in the Aluminium industry for the third consecutive time in the S&P Global Corporate Sustainability Assessment (2022 ESG Score 83/100).

We are steering our journey towards achieving environmental excellence by integrating sustainable practices across our operations and taking conscious steps to minimise the impacts on the environment.

Focus Areas

Net Carbon Neutrality	Water Positivity and Zero Liquid Discharge	Circular Economy & Recycling
Zero Waste to Landfill	Sustainable Mining	No Net Loss to Biodiversity

Key Highlights

Specific GHG emissions for aluminium*
▼ **20 %**
(from base year 2011-12)

Specific energy consumption for aluminium*
▼ **19 %**
(from base year 2011-12)

Waste utilisation – an increase of 8% points from FY2020-21
88 %

Zero Waste to Landfill sites
5

Specific freshwater consumption for aluminium operations*
▼ **6 %**
(baseline FY 2018-19)

Wastewater recycling in aluminium operations*
22.67 %

Trees planted in FY2022-23*
417,873

Cumulative green cover*
5,460 acres

Renewables capacity in execution*
~71 MW

Spent on waste utilisation initiatives*
₹356.77 Crore

*The details provided are for India Operations | ▼ Reduction

Contributions to SDGs

6 Clean Water and Sanitation; 7 Affordable and Clean Energy; 9 Industry, Innovation and Infrastructure; 12 Responsible Consumption and Production; 13 Climate Action; 15 Life on Land

Interlinkages with material topics and other capitals

Material topics

- Energy and GHG Management
- Waste and Hazardous Materials Management
- Water Management
- Air Emissions
- Biodiversity
- Compliance Management

Capitals connected

- Financial Capital
- Manufactured Capital
- Intellectual Capital
- Human Capital
- Social and Relationship Capital

Key Risks and Opportunities addressed

- R1 Increased focus on decarbonisation
- R7 Shareholders/ lenders focus on ESG
- R5 Solid waste management
- R9 Changes in the regulatory requirements
- R6 Depletion of natural resources

Alignment with Strategic Priorities

SP-3 Strong ESG Commitment

Environment Management

Robust governance is imperative for environmental sustainability and helps us to manage our resources effectively and comply with laws and regulations.

At Hindalco, we have implemented a multi-tiered environmental governance structure that enables effective management of the environment across various levels. At the top is the Risk Management and ESG (RM & ESG) committee, which includes the Board of Directors and Managing Director, who provide strategic guidance to improve environmental performance.

The Apex Sustainability Committee (ASC) is responsible for driving sustainability across Hindalco. It comprises the Chief Risk Officer, Chief Sustainability Officer, Chief Technology Officer, and Head of Energy and Green Energy. Every quarter, the ASC provides the RM & ESG committee with a report on environmental performance.

Additionally, we have established specialised teams at the cluster, corporate, department, and site levels to drive sustainability projects.

To deepen the roots of sustainability in the organisation, we have incorporated sustainability parameters into our annual incentive payout (AIP). The parameters include 100% fly ash and bauxite residue utilisation, a 5% reduction in specific water consumption, improving the biodiversity cover by 2% year-on-year and managing the energy consumption in line with the plan. This motivates our employees to take initiative and work towards driving change across the organisation.

Our Environment Policy, Sustainability Policy, Biodiversity Policy, and Energy & Carbon Policy serve as the foundation to achieve excellence and address the challenges faced in minimising environmental impact.

Through these policies, we also adhere to all the applicable laws and regulations. We conduct Environmental Impact Assessment (EIA) for the new operations.

Environmental Governance Structure

Risk Management and ESG Committee

Apex Sustainability Committee (ASC)

Cluster level	Site level	Department level
• Cluster sustainability heads • Risk ambassadors	• Energy Managers Sustainability SPOCs • Risk Champions	• Energy, Water, Waste task forces • Risk Coordinators

To enhance environmental performance, we have adopted robust environmental systems and practices. All our operations in India are ISO 14001: 2015 certified. 80% of Novelis' operations are EMAS certified, with additional seven sites audited internally as part of the ESG audit by the corporate team. In addition, four Hindalco and 17 Novelis sites have received certification for Aluminium Stewardship Initiative Standards.

To prioritise environmental initiatives, at Hindalco, we allocated ₹453.98 Crore in capital expenditure and ₹691.25 Crore in operational expenditure in FY 2022-23. At Novelis, we invested ₹8.03 Crore (US$1 million) in capital expenditure and ₹144.58 Crore (US$18 Million) in operational expenditure for environmental management. These investments led to cost savings of ₹155.64 Crore.

Building Resilience

As a prominent manufacturing Company, we are fully aware of the influence our business has on the environment. We acknowledge the impact of climate change and have integrated climate change considerations into business strategy, operations, and financial decision-making.

To understand the effect of climate change on our business, we conducted a detailed analysis considering various scenarios.

We used the Representation Concentration Pathways (RCP) scenarios by Intergovernmental Panel on Climate Change (IPCC) to evaluate physical risks, such as the effects of changes in temperature and precipitation at our sites.

Further, we have considered IEA scenarios developed by International Aluminium Institute (IAI) to analyse potential transition risks. This analysis has helped us to identify climate-related risks, steps to mitigate them and seize opportunities for the future.

We leverage climate change mitigation and adaptation efforts to our advantage, as they offer benefits such as improved resource efficiency and cost savings. By adopting low-emission energy sources and manufacturing products with a low carbon footprint, we align with the sustainability needs of our customers.

Embracing such green business opportunities also opens doors to new markets and enhances supply chain resilience. We have integrated these opportunities into our business strategy.

We periodically conduct climate risk assessments in alignment with Task Force on Climate-related Financial Disclosures (TCFD). The details of the latest assessment is provided in Hindalco's Task Force on Climate-related financial disclosure report FY2021-22.

Robust governance helps us to manage our resources effectively and comply with laws and regulations.

INTERNAL CARBON PRICING

At Hindalco, we have implemented an Internal Carbon Pricing (ICP) framework to associate the cost for each MT of CO_2e emitted from our operations.

After carrying out a technical analysis, we calculated the price based on the shadow pricing method. We have finalised the price of $31 (₹2,489.92) for 2021-2030, $43 (₹3,453.76) from 2031-2040 and $59 (₹4,738.88) for 2041-2050.

At present, we are considering Scope 1 and 2 emissions for pricing. ICP is integrated into our investment decisions and helps in the selection of projects with lesser emissions and higher cost savings.

With the existing and upcoming regulations on carbon emissions, it will help us address climate related-risks and opportunities.

Natural Capital

Decarbonisation Strategy

Aluminium is a vital commodity because of its applicability in various sectors, yet manufacturing it is carbon-intensive and reducing emissions is an arduous task. We recognise our responsibility in expediting the transition to a carbon-free society given the growing awareness of climate change and the efforts being made to mitigate the impacts of global warming.

At Hindalco, we have developed a well-defined decarbonisation plan, and we are committed to achieving Net Carbon Neutrality by 2050. In addition, we have set a target to reduce specific greenhouse gas (GHG) emissions by 25% by FY 2024-25, measured against the base year FY 2011-12.

For our Novelis operations, we plan to reduce the absolute carbon footprint by 30% by FY 2026 and 100% by 2050 against the base year FY 2016. Further, we aim to reduce energy intensity by 10% by FY 2026 against the base year FY 2020.

Energy efficiency, a shift in the energy mix with the use of renewables and low carbon fuel, and electrification of some of the thermal processes such as steam generation, recycling, Carbon Capture, Utilisation, and Storage (CCUS) and carbon offsets are some of the levers that we have considered for the decarbonisation journey.

We are continuously implementing innovative technology solutions and creative efforts to improve energy efficiency and have increased the amount of renewable energy in our portfolio.

By 2025, we aim to achieve 300 MW of renewable capacity of which 200 MW will be without storage and 100 MW with storage. We are researching the market for green hydrogen and exploring options for utilising captured CO_2 and intend to take up a pilot Carbon Capture project.

Since secondary aluminium requires less energy than primary aluminium, we are enhancing our existing recycling capabilities in Novelis operations. Our commitments and the initiatives taken demonstrate our dedication to mitigating climate change and transitioning to a sustainable future.

Reduction of Energy intensity through

- Energy efficiency
- Recycling
- Renewable Energy
- Hydrogen and CCUS

ERASE: Energy Reduction and Sustainable Engineering

ERASE is one of our initiatives that focuses on the technology landscape, roadmap and partnering with start-ups and established innovators in the sustainability realm. We will pilot small-scale demonstrators for feasibility analysis and scale them to commercial impact. Key focus areas of the collaborations are CCUS, waste heat recovery and energy reduction. ERASE will facilitate the evaluation, development and piloting of new technologies and methodologies to provide technologically sound and field-proven solutions for global implementation in Novelis operations.

This has been instrumental in laying the blueprint for the long-term decarbonisation strategy by providing a technical lens to Novelis operations. It has supported business case development for CCUS strategy for decarbonisation in our new plant being installed and energy reduction analysis for the North America facility.

Energy Management

At Hindalco, we recognise that energy plays a significant role in our operations hence, we regularly monitor the energy performance at all our sites. The Energy Managers and Energy Task Force are responsible for monitoring and identifying initiatives to improve energy efficiency and minimise losses.

We also conduct regular audits to track the progress against our targets and commitments.

To enhance our performance, we have established effective and efficient energy management systems at all our operations. A total of six large upstream plants are ISO 50001- Energy management system certified, and the certification of one plant is in progress.

In FY 2022-23, Hindalco and Novelis consumed 312.90 Million GJ of energy. The rise in energy consumption was due to an increase in production volume and ongoing organic expansions. Of the total energy consumed at Hindalco, 96% was consumed by aluminium operations and 4% by copper operations. In the reporting period, Novelis operations consumed 38.01 Million GJ of energy, which is 4% less than FY 2021-22.

At Hindalco, we recognise that energy plays a significant role in our operations hence, we regularly monitor the energy performance at all our sites.

Energy Consumption (Million GJ)

Year		Renewable Energy	Non-Renewable Energy	Total
FY 2019-20	Hindalco	0.23	272.73	272.96
	Novelis	-	30.51	30.51
	Total	**0.23**	**303.24**	**303.47**
FY 2020-21	Hindalco	0.28	254.90	255.18
	Novelis	-	37.28	37.28
	Total	**0.28**	**292.18**	**292.46**
FY 2021-22	Hindalco	0.59	270.21	270.80
	Novelis	-	39.69	39.69
	Total	**0.59**	**309.90**	**310.49**
FY 2022-23	Hindalco	0.91	273.97	274.88
	Novelis	-	38.01	38.01
	Total	**0.91**	**311.98**	**312.89**

Energy Type (Million GJ)

Year		Fossil Fuels	Electricity Purchased	Renewable Energy Source	Steam/Heating/Cooling and other energy (Non-renewable) Purchased	Total Non-Renewable Energy (Electricity, Heating and Cooling) Sold
FY 2019-20	Hindalco	273.79	3.03	0.23	0.002	4.10
	Novelis	21.55	8.69	-	0.27	-
	Total	**295.34**	**11.72**	**0.23**	**0.27**	**4.10**
FY 2020-21	Hindalco	255.65	1.90	0.28	-	2.70
	Novelis	25.64	11.42	-	0.21	-
	Total	**281.29**	**13.32**	**0.28**	**0.21**	**2.70**
FY 2021-22	Hindalco	269.72	2.68	0.59	0.01	2.20
	Novelis	29.34	10.05	-	0.30	-
	Total	**299.06**	**12.73**	**0.59**	**0.31**	**2.20**
FY 2022-23	Hindalco	272.12	3.56	0.91	0.01	1.71
	Novelis	27.93	9.84	-	0.23	-
	Total	**300.05**	**13.40**	**0.91**	**0.24**	**1.71**

Accelerating the Use of Renewable Energy

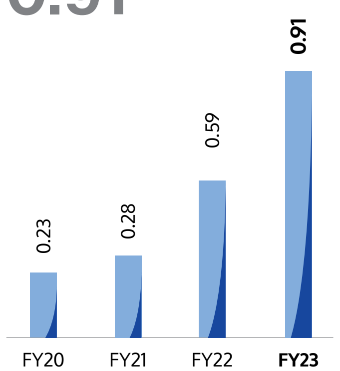
To expand our renewable energy portfolio and reduce the dependency on conventional sources, we have taken various initiatives at Hindalco. We have increased our renewable energy consumption by 54% as compared to last year.

Till FY2022-23, our renewable energy portfolio included solar, wind, hydroelectric and biomass-based projects, and their capacity stood at 108 MW. Some of the projects are:

- Biomass-based boiler at Belagavi to generate 4 MW of power and 33 TPH of process steam.
- 4.5 MW Hydel power plant dedicated to Taloja at Temghar
- 5 MW Wind Power plant at Taloja
- Co-firing of biomass in all our coal-based power plants
- 7.5 MW Solar plant at Mouda with battery storage

Renewable energy consumption
(Million GJ)

0.91



We are in the process of adding another 71 MW of renewable energy to the mix. This includes 41 MW Hybrid (Wind + Solar) in Dahej and 30 MW of Hybrid (Wind + Solar) in Belagavi. Other projects include a 9 MWp floating solar plant at Mahan and 2 MW of ground-mounted solar plant at Alupuram. A renewable hybrid energy project with pumped hydro storage to deliver 100–300 MW of round-the-clock power is also being finalised.

BIOMASS POWER PLANT – JOURNEY TOWARDS GREEN ALUMINA

As part of our decarbonisation journey, we have commissioned a biomass power plant at Belagavi, having a 4 MW extraction-cum-back pressure steam turbine, 33 TPH boiler, 67.0 kg/cm^2 working pressure, water tube, patented lambion grate technology with heat recovery systems and Electrostatic Precipitator (ESP). The plant is equipped with a generation capacity of 24,120 MWh/year.

The incorporation of grate technology has helped in burning different types of loose biofuels without adversely affecting the efficiency of the boiler. Furthermore, this initiative has resulted in a reduction of ~17,300 MT of furnace oil, ~54,400 MT of annual CO-and ~1,400 MT of SOx emission.

The initiative was the first of its kind in Hindalco and was awarded under CII's Most Innovative Project Category.

Energy Intensity

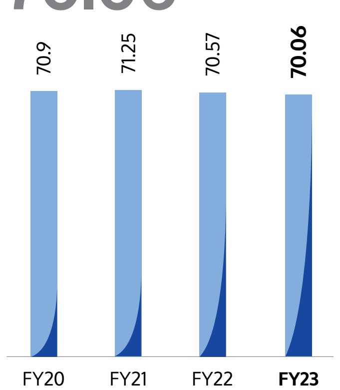
Specific energy consumption for our aluminium operations refers to the energy consumed per MT of primary aluminium produced in the smelter, alumina refinery, and anode plant operations. For copper operations, specific energy consumption refers to the energy consumed per MT of copper cathode produced.

Since FY 2020-21, we have achieved a 1.67% reduction in energy intensity for aluminium production and an impressive reduction of 24.45% for copper production.

At our India operations, the energy intensity with respect to turnover accounted for 3,575.54 GJ/₹Crore in the reporting period and 4,002.78 GJ/₹Crore in the previous year.

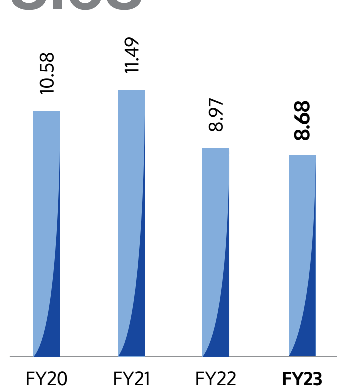
Energy Intensity Aluminium
(GJ/MT)

70.06



Energy Intensity Copper
(GJ/MT)

8.68



*Chemicals and specialty alumina business are not considered in the energy intensity calculations

IN-HOUSE DEVELOPMENT OF SOLAR POWERED VEHICLE

The large volume of materials transferred within the plant leads to high vehicular movement. As there weren't enough trucks to ferry materials a drop in productivity was observed. To curb this problem and reduce emissions from vehicular movement, the Captive Power Plant mechanical team at Mahan built a solar-powered vehicle. The vehicle, entirely built from scrap, is powered by one solar module.

The carrying capacity of the vehicle is 750 kg of material or six passengers.

It has decreased the requirement for fuel-powered vehicles, which has helped lower carbon emissions. Since it has become easier to carry supplies within the facility, the vehicle has also increased productivity. By deploying just two vehicles, we were able to save ₹10.22 lakh.

REDUCTION OF AUXILIARY POWER CONSUMPTION THROUGH DE-STAGING THE BOILER FEED PUMP

Mahan CPP is a 900 MW power plant consisting of 6 units of 150 MW each. Each unit has two Boiler Feed Pumps (BFPs). The BFPs are the highest power-consuming motors in the plant. Due to a change in duty point, the BFPs were not operating at their design efficiency, leading to higher power consumption. We decided to de-stage the BFPs to improve their efficiency and reduce power consumption. De-staging involves removing one or more stages from a multi-stage pump. This reduced the head and flow capacity of the pump, thus reducing the power consumption.

The average power consumption of the BFPs was reduced by 6.95%, which resulted in a direct monetary gain of ₹4 Crore/annum. The de-staging also resulted in a reduction of carbon footprint by 6,955 tCO_2 per annum.

REPLACING SCREW-TYPE AIR COMPRESSORS WITH TURBO COMPRESSORS

To improve energy efficiency at our Novelis operations, we replaced 10 screw-type air compressors with turbo compressors.

Turbo compressors have higher pressure ratios and mass flow rate per unit which leads to improved energy efficiency and power savings. Screw-type air compressors are typically less efficient than turbo compressors, and over time their efficiency is likely to decrease.

With this replacement, we expect an energy saving of 368 GJ/year and are likely to avoid 618 MT of CO_2 emissions.

The investment cost us ₹2.70 Crore ($328,000) and we expect to save ₹1.47 Crore ($179,000).

INSTALLATION OF OPC-M AT NOVELIS YEJ PLANT

At our YEJ plant in South Korea, we installed OPC-M, a patented technology that uses advanced control systems to optimise energy use.

The system has enabled an average energy saving of 26.3%. This translates to annual savings of 1,353 megawatt-hours (MWh) and avoidance of 631 MT of carbon emissions. The technology is also cost efficient with a payback period of 1.3 years.

Emissions Management

Reducing greenhouse gas (GHG) emissions is critical and we are continuously working to meet our targets.

We regularly monitor and track emissions at all plants and mines. We calculate our emissions based on the guidelines provided by the GHG protocol and IPCC and have used location-based method to calculate the Scope 2 emissions.

In FY 2022-23, we contributed 44.81 Million tCO_2e. At Hindalco operations, Scope 1 and 2 accounted for 27.56 million tCO_2e. The increase in emissions is due to the expansion of operations and an increase in production.

We are in the process of calculating Scope 3 emissions in five categories — purchased goods and services, fuel and energy-related activity not covered under Scope 1 or Scope 2, upstream transportation, waste generation and transportation and downstream transportation and distribution.

For all our Novelis operations, we have changed the GHG accounting method from operating boundary to equity control leading to a change in emissions for the past three years.

We regularly monitor and track emissions at all plants and mines.

Our total Scope 1 and 2 emissions amounted to 2.24 million tCO_2e in FY 2022-23. We monitor Scope 3 emissions in the categories of purchased goods and services, and upstream transportation and distribution.

In FY 2022-23, the total Scope 3 emissions accounted for 15.01 million tCO_2e. Of this, purchased goods and services contributed to 14.58 million tCO_2e and upstream transportation and distribution accounted for 0.43 million tCO_2e.

Emissions-Hindalco* (Million tCO_2e)

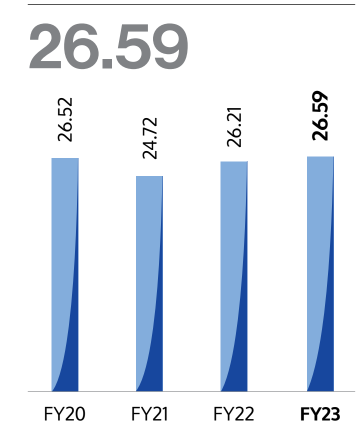
	Scope 1		Scope 2		
Year	Aluminium+ Mines	Copper	Aluminium+ Mines	Copper	Total (Scope 1+2)
FY 2019-20	25.94	1.00	0.58	0.11	27.63
FY 2020-21	24.33	0.83	0.39	0.04	25.59
FY 2021-22	25.76	0.79	0.45	0.14	27.14
FY 2022-23	26.07	0.79	0.52	0.18	27.56

Emissions-Novelis (Million tCO_2e)

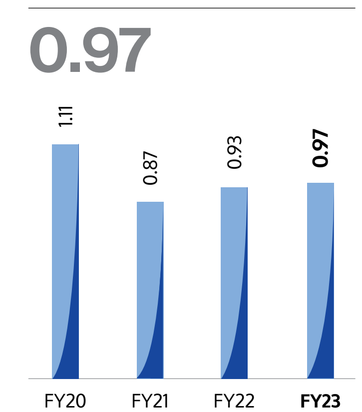
	Scope 1	Scope 2	Total (Scope 1+2)	Scope 3
FY 2019-20	1.32	1.11	2.43	15.48
FY 2020-21	1.45	1.10	2.55	13.34
FY 2021-22	1.42	0.91	2.33	17.80
FY 2022-23	1.38	0.86	2.24	15.01

*The gases considered for the calculation of GHG emissions are Carbon Dioxide (CO2) and Perfluorocarbon emissions (PFCs).

GHG Emissions Aluminium+Mines
(Million tCO_2e)



GHG Emissions Copper
(Million tCO_2e)



Emissions Intensity

In the reporting period, we successfully achieved a reduction in emissions intensity for both aluminium and copper operations. In aluminium operations, we have reduced our emissions intensity by 20.08% as compared to FY 2011-12.

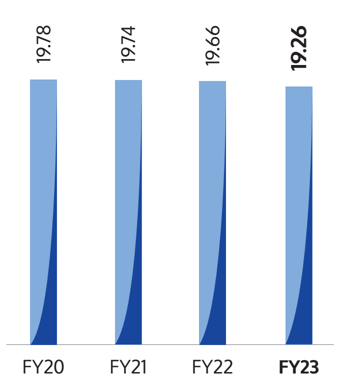
Our target is to reduce emissions intensity by 25% by FY 2024-25. Additionally, at our India operations, the emission intensity with respect to turnover for Scope 1+Scope 2 accounted for 358.49 tCO_2e/₹Crore in the reporting period and 401.14 tCO_2e/₹Crore in the previous year.

We successfully achieved a reduction in emissions intensity for both aluminium and copper operations.

GHG Emissions Intensity Aluminium*

(tCO_2e/MT)

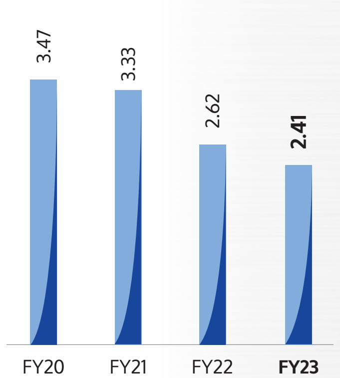
19.26



GHG Emissions Intensity Copper

(tCO_2e/MT)

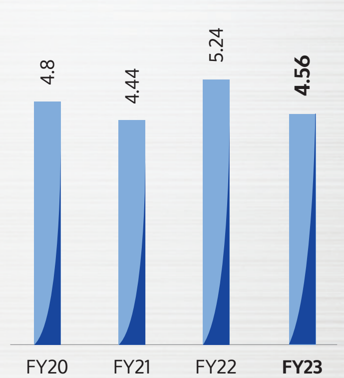
2.41



GHG Emissions Intensity Novelis

(tCO_2e/MT)

4.56



* Chemicals and specialty alumina business is not considered in the emission intensity calculations

Note : The above graph has been restated

Stack Emissions

To safeguard the health and safety of our employees and the surrounding communities, we have implemented projects to decrease pollution and maintain air quality.

We have installed an Online Continuous Emission Monitoring System (OCEMS) in the stacks to monitor our emissions. To enhance the tracking mechanism, we conduct offline monitoring regularly through NABL-accredited third-party labs.

Our upstream plants contribute to fugitive emissions, and we regularly conduct air quality assessments and monitor the Air Quality Index (AQI) to minimise impact and meet regulatory requirements.

At Novelis, the volatile organic compounds accounted for 2.44 KT. At the Novelis Ulsan plant, a new Selective Catalytic Reduction (SCR) technology was installed on three aluminium Soaking Furnaces. The SCR system reduced Nitrogen Oxide (NOx) emissions by 80%. The overall investment for this project is $1.5 million.

We faced one environmental non-compliance at our Novelis plant in South Korea for exceeding the levels of stack emissions. A fine of $45,588 was levied by the local authority for the non-compliance.

Further, Hindalco India operations recognised ₹ 5.54 Crore as environmental liability accrued at the end of the year pursuant to a report of a committee constituted by the National Green Tribunal (NGT). The report of the committee is pending for consideration by NGT and yet to be decided upon.

Air Emissions ('000 MT)

	FY 2021-22				FY 2022-23			
Pollutants	Aluminium	Copper	Novelis	Total	Aluminium	Copper	Novelis	Total
Oxides of Sulphur (SOx)	76.66	0.85	0.17	77.68	77.89	1.23	0.15	79.27
Oxides of Nitrogen (NOx)	32.90	0.12	2.23	35.25	34.23	0.32	2.30	36.85
Total Particulate Matter (PM)	9.31	0.22	0.73	10.26	13.26	0.33	0.65	14.25
Fluoride	0.05	-	-	0.05	0.04	-	-	0.04

INSTALLATION OF SEMI-DRY FLUE GAS DESULPHURISATION PLANT AT MAHAN AND ADITYA CPP

To reduce SO_2 and SO_3 emissions and comply with environmental regulations, we have commissioned a Circulating Fluid Bed Scrubber (CFBS) technology based Semi-Dry flue gas desulphurisation (FGD) system at CPP plants in Mahan and Aditya. Our third system at Renusagar is being installed. We are one of the first companies to install this technology. The technology comes with additional benefits such as less water consumption and no liquid wastage.

In the FGD process, reactive adsorbents like sodium carbonate, hydrated lime ($Ca(OH)_2$), and activated carbon are added to the scrubber vessel. There, it interacts with SO_2 and SO_3 pollutants in the flue gas to produce a solid by-product.

Further, water is added to the flue gas to regulate the temperature, bringing it down to the ideal temperature of 85°C. The by-product is separated from the flue gas using a fabric filter, allowing the cleaned flue gas to be released through the stack into the atmosphere. Due to the commissioning of the FGD system, we witnessed an 85% reduction in sulphur concentration in flue gas along with a reduction in PM emissions.

REDUCTION IN SPECIFIC ALUMINIUM FLUORIDE CONSUMPTION

In the Hirakud plant, we used thermography and advance condition monitoring techniques in the fluoride treatment plant (FTP). To reduce fluoride emissions, we replaced the ducts and filter bags older than four years and improved pot room's hooding efficiency from 70% to 90%. With the help of these activities, Alumina's Fluoride enrichment was increased, and the consumption of AlF_3 was reduced.

This resulted in annual savings of 265 MT of AlF_3 which translated to a cost saving of approximately ₹2.6 Crore.

ROTARY BAGHOUSE REPLACEMENT

At Novelis, we started the process of replacing Uhrichsville's 20-year-old shaker-type baghouses with newer, more dependable pulse jet baghouses in FY 2021–2022.

The extra volume of air collection for each new baghouse is 8,000 cubic feet per minute or a 13% increase. With this upgrade, we gained two advantages: a drop in the amount of lime reagent feed that went into the baghouses, and a reduction in the amount of waste that was disposed of in landfills.

The project's first phase has already been commissioned, and the second phase will be commissioned in FY 2023–2024. The overall investment for this project is $7.5 million.

Perfluorocarbon Emissions (PFCs)

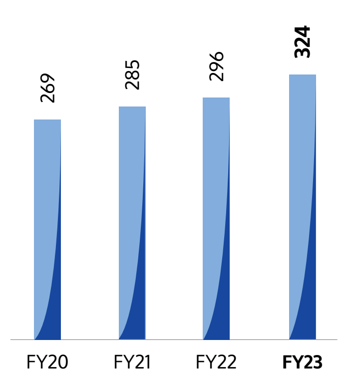
PFCs are potent GHG gases emitted during the anode effect that occurs when alumina content of the electrolytic bath falls below the levels optimal to produce aluminium. It is therefore crucial to avoid the anode effects to increase efficiency and productivity.

We are pursuing several upgrades to lower the PFCs considering the 9.45% increase in emissions from FY 2021-22 which is attributable to operations growth and technological problems in the smelter potlines.

Direct PFC emissions

(kg PFC/MT of aluminium)

324



Ozone Depleting Substances (ODS)

ODS are mostly utilised in air conditioners, chillers, refrigerators, and dryers as gas refills. We are committed to phasing out ODS from all the manufacturing units by FY 2025-26.

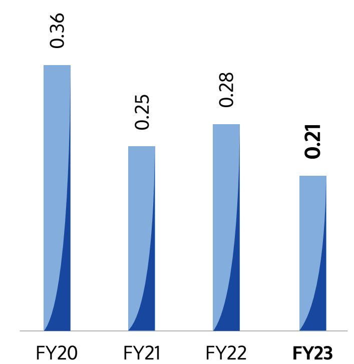
In FY 2022-23, our operations accounted for 0.21 kg of CFC-11eq which is a reduction of 24% from FY 2021-22.

We have started replacing R22 with zero ODP refrigerants. We have prepared a phase-out plan for the plants at a capex of ₹62.17 Crore.

Ozone Depleting substances

(kg of CFC-11eq)

0.21



Initiatives Taken to Reduce Energy Use and Emissions

We continuously strive to optimise energy consumption and reduce emissions at all our operations.

At Hindalco, we have invested ₹255.20 Crore in 108 projects during FY2022-23, which helped us save 649,419.8 GJ of energy and prevented 129,123.21 $MTCO_2e$ emissions. In addition, under the Perform, Achieve and Trade (PAT) scheme, we hold a total of 228,128 Energy Saving Certificates (ESCerts) of which 41,575 certificates are from Cycle-1. At Novelis, we took up 59 projects at an investment of $15.2 million (₹122.09 Crore) which helped us save 317,030 GJ of energy and prevented 18,367 $MTCO_2e$ emissions.

Projects undertaken at Hindalco & Novelis

167

Energy Saved (GJ)

966,449.80

Emissions Saved ($MTCO_2e$)

147,490.21

Cost Saving (₹ Crore)

195.05

Energy consumption optimisation

<table>
<tr><th>Designated Consumers</th><th>Cycle-2
Target: 4.7% reduction in specific energy consumption</th><th>Cycle-3
Target: 6% reduction in specific energy consumption</th></tr>
<tr><td>Renukoot</td><td rowspan="7">Achievement: 8.9% reduction in specific energy consumption</td><td></td></tr>
<tr><td>Mahan</td><td></td></tr>
<tr><td>Hirakud</td><td></td></tr>
<tr><td>Muri</td><td></td></tr>
<tr><td>Belagavi</td><td></td></tr>
<tr><td>Taloja</td><td></td></tr>
<tr><td>Mahan</td><td></td></tr>
<tr><td>Aditya</td><td></td><td>Achievement: 8.8% reduction in specific energy consumption</td></tr>
</table>

OPTIMISING SPECIFIC OIL CONSUMPTION IN BOILER OPERATION

To improve the operational efficiency of the boiler, we initiated a project to reduce the specific oil consumption (SOC) at Renusagar CPP.

Specific oil is an important factor in determining the cost of operating the boiler. Boilers with higher SOC require more fuel to operate, which increases the operating costs.

To reduce the SOC, we undertook several measures. This included preheating the boiler water up to 100 °C during the boiler cold start-up, developing a soft dry test button in the boiler for testing the oil gun, changeover of turbines, and installation of moisture traps in the boiler service lines to absorb line moisture. A detailed study was also conducted to optimise the oil gun hole size for effective oil atomisation.

With all the efforts, we were able to reduce SOC from 0.203 ml/kWh to 0.189 ml/kWh which is the lowest ever since the commissioning of the plant.

OPTIMISATION OF AUXILIARY POWER CONSUMPTION AT RENUSAGAR CPP

With an aim to reduce the auxiliary power consumption in the CPP unit at Renusagar, we undertook several initiatives to optimise current process and energy conservation projects. The initiatives included:

- Installation of air seal on the penthouse area of boilers to reduce air ingress in the boiler.
- Replacing the old ash slurry pump with new efficient pumps.
- Operating the spare boiler with a single fan instead of two fans.
- Replacing the impeller of the ID fans with efficient ones.
- Replacing the blades of the cooling tower to reduce auxiliary power consumption.
- Stoppage of standby lube oil pumps and closing the BCW valves to avoid the unnecessary flow of raw water.

As a result, Renusagar CPP has been able to achieve the lowest auxiliary power consumption of 7.68% against the target of 8.02%. This amounted to a reduction of overall power consumption by 234.4kW. The plant is committed to further improve its efficiency and performance.

ADOPTION OF NEW METHODOLOGY TO IDENTIFY APH LEAKAGE

In Renukoot plant, Air Preheater (APH) in the boiler heats the air before it is used in the combustion of coal. The boiler is paired with two primary fans having capacities of 530 kW and 375 kW that would supply an adequate amount of air to the air preheater.

Due to leaks in the APH tubes, there was an increased load on the induced draft (ID) fan. This resulted in problems such as a bottleneck at the boiler, high dry flue gas losses, and inadequate heat transfer in the air preheater.

During each overhaul, we identified defective tubes through a smoke test. This was unsafe and unreliable as leaks were being identified from outside, leaving a chance for error. To solve this problem, we changed the standard operating procedure (SOP) to pressurise the primary air duct up to 100 mmWC to detect leaky tubes in APH. This method accurately identified leaks in defective tubes in the flue gas path and eliminated smoke. Thus, the damaged APH tubes were rectified, and air optimisation was done during boiler operation. This resulted in a reduced APH outlet flue gas temperature and made it possible to run the boiler with the 375 kW motor fan, resulting in savings in auxiliary power.

With the help of this initiative, we were able to achieve a reduction of 5,038 CO_2 MT/annum and save ₹2.46 Crore per annum.

We prioritise water management at all our operations by conserving, recycling, reusing, and preventing the pollution of water bodies.

Water Management

Water Stewardship is at the core of our business and is encouraged by the Aditya Birla Group's Water Stewardship Policy and Hindalco's Environment Policy. To ensure water security, we have set targets and aim to achieve them.

Hindalco

- To achieve 20% reduction in specific freshwater consumption by 2025 against the baseline of FY 2018-19.
- To achieve water positivity across our mining sites by 2025 and across all our operations by 2050.
- To achieve Zero Liquid Discharge (ZLD) status by 2025 across all our plants.

Novelis

- To reduce water use by 10% at all our operations by 2026 from the base year of 2020.

We prioritise water management at all our operations by conserving, recycling, reusing, and preventing the pollution of water bodies. We also track the consumption of water for each process and non-process against the set targets.

At Hindalco, the Water Management Task Force (WMTF) comprising members from operations, utilities, and environment functions, reviews the performance at frequent intervals and reports to the senior management every month.

The WMTF focuses on maximising the 3Rs (Reuse, Reduce, Recycle) and developing risk mitigation plans in alignment with long-term physical, regulatory, stakeholder, and financial considerations. We are also planning to implement a dashboard and digital monitoring system across all locations for effective monitoring. We are also training our employees in water management.

To implement strategic plans in coordination with overall company-level priorities, Novelis has appointed regional representatives in each of the areas. These representatives are a part of our global water committee, which meets monthly. At Novelis, we track water use for each of our plants monthly.

We prioritise water management at all our operations by conserving, recycling, reusing, and preventing the pollution of water bodies. We also track the consumption of water for each process and non-process against the set targets.

Using WBCSD's India Water Tool (IWT) and WRI Aqueduct Tool, we did a thorough water risk assessment of all our plants in India to forecast future changes in water availability.

It included a risk assessment for the following variables: baseline water stress, annual variability, seasonal variability, flood frequency, severity of drought, upstream storage, and groundwater stress.

The assessment helped us to identify that 4 of our 19 plants-Dahej, Belagavi, Asoj and Kuppam lie in the water stress areas. None of our Novelis sites lies in water stress areas.

Water Withdrawal

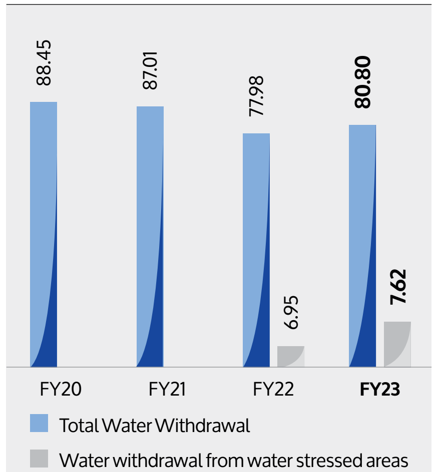
Our sources of water withdrawal are surface water, groundwater, rainwater, and water from third parties and municipalities. To decrease the water withdrawal from freshwater sources we have invested in a desalination plant at Dahej that is set up by Gujarat Industrial Development Corporation (GIDC) and have committed to withdraw 10 MLD from the plant.

Water withdrawal at Hindalco and Novelis was 93.26 million m^3 in the FY 2022–23, with Hindalco accounting for 80.80 million m^3 and Novelis for 12.46 million m^3. At Hindalco, 91.2% of water was withdrawn from surface water, 7% from municipalities, and only 0.25% from groundwater. Our water extraction from the water-stressed areas in FY 2022–23 was 7.62 million m^3 which is 9% of the total water withdrawn by Hindalco.

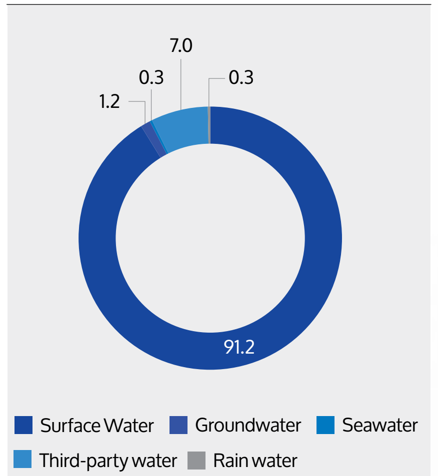
We are evaluating the infiltration potential and creating a methodology for estimating water credits to attain water positivity. Our Samri Mine has received third-party verification on water positivity.

At Novelis, 40% of water was withdrawn from surface water, 35% from municipalities, and 25% from groundwater.

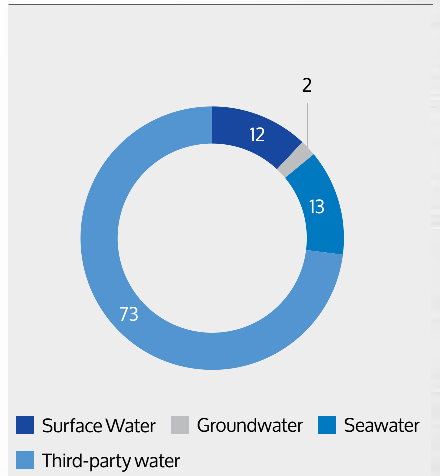
Water withdrawal
(Million m^3)



Total water withdrawal by Source
(%)



Water withdrawal from water stress areas
(%)



Water Withdrawal (Million m^3)

Source	FY 2021-22 Aluminium+ Mines	FY 2021-22 Copper	FY 2021-22 Total	FY 2022-23 Aluminium+ Mines	FY 2022-23 Copper	FY 2022-23 Total
Surface Water	70.92	-	70.92	73.70	-	73.70
Groundwater	0.09	-	0.09	0.10	0.10	0.20
Seawater	-	-	-	-	0.95	0.95
Third-Party Water	0.13	6.27	6.40	0.10	5.59	5.69
Total	**71.14**	**6.27**	**77.41**	**73.90**	**6.64**	**80.55**
Rainwater	0.57	-	0.57	0.25	-	0.25
Total water withdrawal	**71.71**	**6.27**	**77.98**	**74.16**	**6.64**	**80.80**

Water withdrawal from water stress areas (Million m^3)

Source	FY 2021-22	FY 2022-23
Surface Water	0.68	0.95
Groundwater	-	0.13
Seawater	-	0.95
Third-Party Water	6.27	5.59
Total water withdrawal	**6.95**	**7.62**

*Water withdrawal for Novelis is the same as water consumption.

Our sources of water withdrawal are surface water, groundwater, rainwater, and water from third parties and municipalities.

Water Consumption

Though water is consumed at all stages in the manufacturing process, most of it is used in cooling towers. At Alupuram, we are taking significant steps to achieve water efficiency in the operations such as replacing the GI pipes with PVC pipes to reduce leaks.

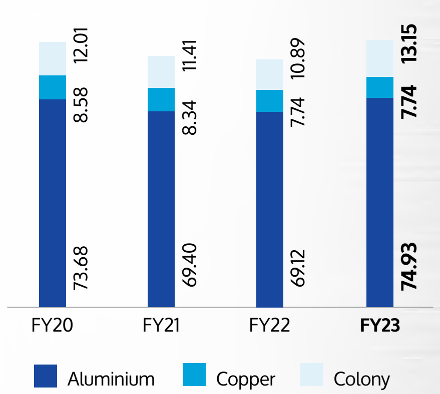
By constructing rainwater harvesting ponds at Mouda, we have reduced the dependency on other resources, making it self-reliant. Mouda is our first plant to apply for accreditation as a water-positive facility.

We consumed 8.10 million m^3 from the water stress areas during the reporting period.

By constructing rainwater harvesting ponds at Mouda, we have reduced the dependency on other resources, making it self-reliant. Mouda is our first plant to apply for accreditation as a water-positive facility.

Water consumption – Freshwater and recycled water

(Million m^3)



Freshwater consumption Aluminium, Copper, and Mines (Million m^3)

Parameter	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Total municipal water suppliers (or from other water utilities)	5.60	7.96	4.99	4.55
Fresh surface water (lakes, rivers, etc.)	61.11	49.29	55.32	59.88
Fresh groundwater	0.07	0.05	0.07	0.17
Rainwater consumption	0.09	3.55	0.44	0.21
Total Net freshwater consumption	**66.87**	**60.85**	**60.82**	**64.81**

Water consumption from water stress areas (Million m^3)

Parameter	FY 2021-22	FY 2022-23
Total municipal water suppliers (or from other water utilities)	6.46	6.07
Fresh surface water (lakes, rivers, etc.)	0.68	0.95
Fresh groundwater	-	0.13
Seawater	-	0.95
Total consumption	7.14	**8.10**

At Novelis, we consumed 12.46 million m^3 of freshwater, which is a 1.58% rise from FY 2021-22. We are constantly exploring options to enhance water quality and have taken initiatives for the same. Some initiatives are the installation of a filtering system at the Novelis Yeongju plant, to reduce pollution and meet the regulatory requirements.

Fresh water consumption – Novelis (Million m^3)

Parameter	FY2019-20	FY2020-21	FY2021-22	FY2022-23
Total municipal water suppliers (or from other water utilities)	2.28	3.17	3.44	3.15
Fresh surface water (lakes, rivers, etc.)	3.26	4.35	4.22	4.88
Fresh groundwater	3.92	4.69	4.61	4.44
Total Net freshwater consumption	**9.46**	**12.21**	**12.27**	**12.46**

We are focusing on optimising water use at cooling towers, blowdown water recovery and onsite water recycling to further reduce water intensity in our operations.

Water Intensity

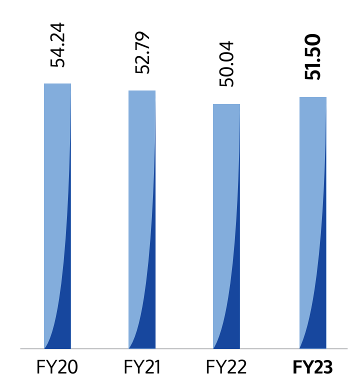
In FY 2022-23, our specific freshwater consumption in our aluminium and copper operations was 51.50 m^3/MT and 17.22 m^3/MT. At our India operations, the water intensity with respect to turnover accounted for 1,297.07 GJ/₹ Crore in the reporting period and 1,233.28 GJ/₹ Crore in the previous year. At Novelis, our specific water consumption was 3.26 m^3/MT of FRP sales.

To further reduce the water intensity, we are focusing on optimising water use at cooling towers, blowdown water recovery and onsite water recycling.

Specific freshwater consumption-Aluminium

(m^3/MT)

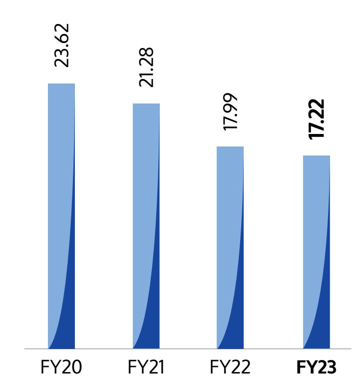
51.50



Specific freshwater consumption-Copper

(m^3/MT)

17.22



Natural Capital

We are constantly adopting new technologies to achieve water circularity.

Water Recycling

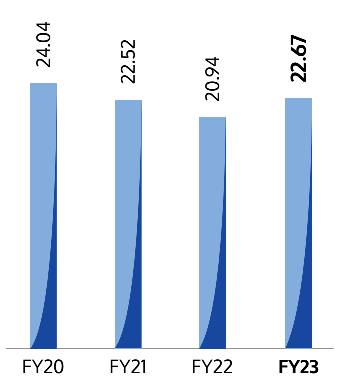
To reduce freshwater consumption, enhance water security and mitigate water scarcity risks, we are constantly adopting new technologies to achieve water circularity and Zero Liquid Discharge.

We have increased our recycling capabilities and recycled 18.08 million m^3 of wastewater in FY 2022-23.

Water recycled – Aluminium

(%)

22.67



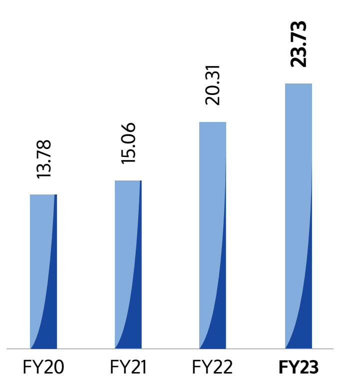
Aluminium and copper plants recycled 22.67% and 23.73% of effluents respectively.

To conserve water and achieve resource efficiency, we have adopted water recirculation projects at our operations. We are introducing a seawater reverse osmosis system with mechanical vapour recompression technology at Dahej to recover and recycle water from existing RO reject.

Water recycled – Copper

(%)

23.73



In Belagavi, we built a sizeable pond that serves as both a rainwater collection system and a holding area for water before treatment.

This initiative led to an increase in water recycling and reduced freshwater consumption by 40% from FY 2018-19 baseline.

We are also installing Effluent Treatment Plants and Sewage Treatment Plants to further enhance water recycling and reusing capabilities. At our Kuppam site, we are installing a water recycling facility of 60 KLD.

At our Novelis Ulsan facility, we installed an RO system in the hot mill operations to reuse wastewater from the pre-existing hot mill RO system. The RO system's ability to recycle treated water has led to annual water savings of roughly 23 KT/year.

We have expanded the Yeongju wastewater treatment plant to meet the regulatory requirements and to include chemical and biological treatment. The capacity of the treatment plant increased from 1,000 m^3/day to 1,289 m^3/day.

Effluent Management

Management of effluents is of paramount importance to us considering the nature of our operations and their impact on the environment.

Proper disposal of effluents prevents pollution, minimises risks of non-compliance, and reduces environmental impact. We at Hindalco adhere to the regulatory requirements of effluent discharge and ensure that we meet the necessary quality criteria.

In FY 2022-23, total discharge accounted for 7,035,336 m^3, of which Novelis accounted for 97% and Hindalco 3%. We discharged 166,175 m^3 into deep sea at Dahej which lies in the water stress area.

At Renukoot, we installed a 4000 m^3 Process Water Recycling Plant (PWRP) system to treat wastewater during the previous year and as a result there was no effluent discharge during the reporting period. Our total effluent discharge reduced from 340,370 m^3 in the previous year to 215,951 m^3 which translates to approximately 37% reduction.

In addition to the above, our sewage discharge accounted for 1,817,716.38 m^3.

We are taking initiatives to reduce the effluent discharge and achieve ZLD for all our sites in Hindalco. Our Renukoot and Taloja ZLD projects are currently under execution with state-of-the-art RO membranes and MVR-based evaporators.

At Novelis, we have implemented ZLD for automotive processing lines at the Changzhou plant and process water treatment at the Zhenjiang plant.

Total Effluent Discharged (m^3)

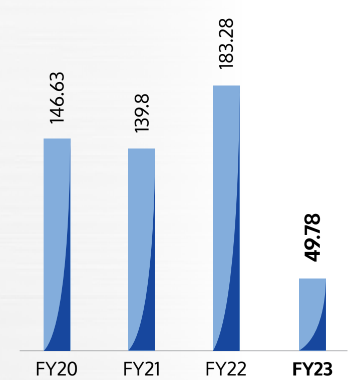
Discharge Outlet	Aluminium	Copper	Hindalco	Novelis
River/Surface water	-	-	-	3,731,728
Industrial drainage system	15,746	-	15,746	-
Deep-sea	-	166,175	166,175	-
Sanitary sewer	-			-
Municipal WWTP	34,030	-	34,030	-
Third parties	-	-	-	2,654,543
Groundwater	-	-	-	433,114
Total discharged effluent	**49,776**	**166,175**	**215,951**	**6,819,385**

In FY 2022-23, total discharge accounted for 7,035,336 m^3, of which Novelis accounted for 97% and Hindalco 3%.

Total Effluent Discharge - Aluminium

('000 m^3)

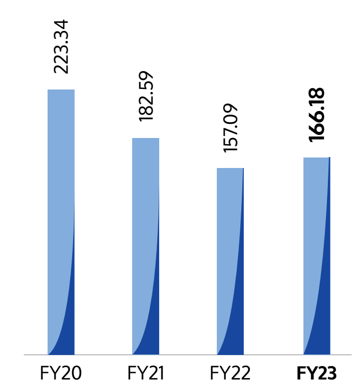
49.78



Total Effluent Discharge - Copper

('000 m^3)

166.18



INSTALLATION OF DISSOLVED AIR FLOATATION AT YEONGJU PLANT

The Yeongju plant uses cooling water to cool and solidify molten aluminium after recycling. The cooling water is recirculated and reused. When the cooling water chemistry is no longer fit for reuse, it is discharged to the wastewater treatment system. To extend the life of cooling water and reduce usage, we at Novelis installed Dissolved Air Floatation (DAF) system to remove suspended solids and oil and grease. The system has 80% efficiency in removing suspended solids. The wastewater discharged from the operation is reduced from 185 tpd to 80 tpd. The make-up water usage in casting has reduced from 480 tpd to 350 tpd.

ELECTRO-COAGULATION SYSTEM FOR TREATING EMULSIFIED WASTEWATER FROM ETP AT TALOJA PLANT

Effluent treatment is a critical aspect of industrial operations. The incomplete splitting of an emulsion into water and oil layers due to the variation in the quality of spent emulsion used to be a problem. To address this issue, it was important to implement a comprehensive treatment system that can effectively separate the emulsified oil from the wastewater.

The effluent treatment plant at Taloja is designed to manage a capacity of 10 m^3/day of spent emulsion, with an electro-coagulation process for the treatment of spent emulsion. Electro-coagulation is a process that uses an electrical charge to remove contaminants from wastewater. The electro-coagulation process has advantages over conventional treatment methods, such as the ability to remove an Emulsified Oil COD, and suspended solids. At Hindalco, this process has proven to be a highly efficient and cost-effective method for spent emulsion treatment.

With the help of this system, the Taloja plant has successfully reduced the emulsified oil to less than 5 ppm and the COD value to less than 100 ppm from 1 lakh ppm.

PINDA LAKE RECOVERY

Novelis' Pinda factory is situated near the Preto River in Pindamonhangaba, São Paulo, Brazil. The factory relies on water from the Preto River to cool down equipment and use it in the processes. A thorough assessment revealed that sediment and algae in the adjacent lake required significant water treatment prior to use in operations. The sediment was also reducing the storage capacity of the lake. To address this issue, the Pinda factory devised a comprehensive plan to restore the lake's water quality and enhance its water storage capacity.

The plan comprised several key components, namely the removal of sediment from the lakebed, implementation of algae control system, and the planting of trees around the lake. These measures were driven successfully, resulting in a significant improvement in the water quality of the lake. Additionally, the lake's water storage capacity increased by 40%, expanding from 24,000 m^3 to 40,000 m^3. The algae control system has been installed to ensure continuous monitoring and maintenance of the water quality.

Furthermore, 1,416 trees of native/indigenous species were planted in a designated preservation area surrounding the lake. This tree planting initiative aimed to prevent erosion, enhance water quality by filtering pollutants from both air and water, and provide a habitat for various wildlife, including birds, fish, and insects. Native tree species were chosen as they are well-suited to the local climate conditions.

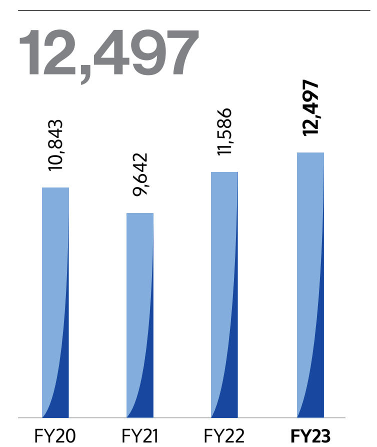
Raw Material Management

We believe in responsible raw material consumption and are committed to finding ways to reduce costs and improve the bottom line while protecting the environment. In FY 2022-23, we consumed 12,497 KT of raw materials. As we are expanding our business, there is an increase in bauxite consumption.

Our overall consumption of packaging material was 6.06 KT, whereas wood and paper accounted for 3.43 KT and 0.61 KT, respectively. In fiscal year 2022-23, 0.06% of the total input material from aluminium scrap was recycled or reused.

Novelis is a global leader in the production of aluminium rolled products, and its use of recycled scrap aluminium helps to reduce the environmental impact of its operations. In FY 2022-23, we consumed 2,325 KT of scrap aluminium and 1,556 KT of other materials that include primary sheet ingots and alloys. Around 61% of the total material used in production at Novelis was from recycled aluminium scrap.

Raw material consumption-Hindalco
(KT)



Material type - Hindalco (KT)

Material type	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Bauxite	8,511.77	8,097.12	9,598.77	10,386.73
Aluminium fluoride	19.44	17.82	21.78	18.27
Calcined petroleum coke	518.99	447.70	465.67	497.60
Caustic soda	222.49	206.24	254.36	254.23
Pitch	113.05	100.69	137.77	112.30
Ammonia	56.10	1.02	0.02	-
Rock phosphate	363.77	-	-	-
Copper concentrate	1,037.30	770.90	1,108.06	1,227.62

Waste Management

We embrace the philosophy of "Creating Value from Waste". We acknowledge the substantial amount of waste generated from our operations and take the initiatives to efficiently manage and utilise the waste.

Our strategy is aligned with UN SDG 12 and follows the 5R+1S approach, Reduce, Redesign, Recover, Rehabilitate, Recycle and Storage. We are committed to achieving Zero Waste to Landfill by 2050. At Novelis, our target is to reduce waste-to-landfill intensity by 20% by 2026.

At Hindalco, we have a dedicated Waste Management Task Force (WaMTF) in each unit for streamlining the waste management process.

The WaMTF's focus is on effective waste utilisation and disposal. The task force comprises team members from different line functions and their key responsibilities include complying with legal requirements related to waste, accurately identifying and quantifying waste, setting specific targets, understanding associated risks, and developing mitigation plans.

We collaborate with educational institutions and think tanks to explore and develop alternative applications for waste utilisation. Our corporate sustainability team, including the Chief Sustainability Officer (CSO), conducts half-yearly reviews of waste-related practices and projects and assesses them against their targets.

There is a global committee at Novelis responsible for developing and implementing and monitoring waste management policies and procedures. The committee is composed of representatives from production, engineering, environment, and sustainability functions.

At Novelis, all the waste-related data is entered into the EtQ management database monthly. The corporate EHS team validates the quarterly entries and conducts annual onsite audits of the Performance Standards. To ensure proper waste management, we have a Supplier Code of Conduct for upstream suppliers.

Throughout Hindalco's value chain, waste is generated at various stages, starting from the sourcing of raw materials to the delivery of finished products to our customers.

In our aluminium business, significant waste materials include bauxite residue (red mud), ash, spent pot lining, aluminium dross, and vanadium sludge. In the copper business, copper slag is generated in copious quantities.

At Novelis, the inputs into the process include primary aluminium, scrap aluminium, alloying agents, and processing agents. The primary waste outputs include dross, salt cake, filter wastes, baghouse wastes, and waste refractory materials, among others.

In FY2022-23 total waste generation at Hindalco and Novelis was at 12.94 million MT out of which 12.56 million MT was by Hindalco and 0.38 million MT by Novelis.

The details of the waste generated and waste utilised at our Hindalco operations is given in the following table. The other hazardous waste includes used oils, anode butts, spent pot lining, hazardous dross, among others and other non-hazardous waste includes bauxite residue, ash, non-hazardous dross, copper slag, phospho gypsum, etc. Further details on waste are given in the hazardous and non-hazardous waste sections.

Waste generation and utilisation - Hindalco (in MT)

Type of waste	FY2021-22				FY2022-23			
	Waste Generated	Recycled and reused	Waste to Landfill	Incinerated	Waste Generated	Recycled and reused	Waste to Landfill	Incinerated
Other non-hazardous waste	11,142,494.78	9,608,850.05	407.26	-	12,079,749.38	10,712,826.49	437.58	6.1
Plastic waste	1,793.04	1,056.98	-	-	2,406.74	2,582.09	-	-
Municipal Solid Waste	2,929.84	1,677.62	417.34	865	3,811.35	1,981.68	689.3	0
Construction and demolition waste	366.34	154	208.34	-	769.49	64	705.29	8
Other hazardous waste	453,346.17	368,046.33	95,062.31	276.3	476,802.46	363,190.82	115,553.95	1,735.35
E-waste	191.52	155.53	-	-	195.5	161.11	-	-
Bio-medical waste	17.27	2.17	0.13	34.67	16.99	181.57	-	2.69
Battery waste	66.32	59.92	-	-	111.31	68.45	-	-
Total	**11,601,205.28**	**9,980,002.60**	**96,095.38**	**1,175.97**	**12,563,863.22**	**11,081,056.20**	**117,386.12**	**1,752.14**

We adhere to Plastic Waste Management Rules specifically Extended Producer Responsibility (EPR) guidelines. As brand owners, we are registered and fully comply with the relevant EPR regulations.

In the reporting period, under EPR, our waste recycled accounted for 3,084.89 MT.

Till FY2022-23, 12 of our sites have been certified SUP-free by the Confederation of Indian Industry (CII). We plan to complete the certification for rest of our sites by FY2023-24.

With continuous efforts at Hindalco and Novelis, we were able to recycle 88% of the total waste generated.

Three of our sites in India operations – Hirakud FRP, Hirakud Power, Belur and two in Novelis - Ohle and Nachterstedt succeeded in achieving Zero-Waste-to-Landfill.

Non-Hazardous Waste

In FY 2022-23, Hindalco and Novelis generated 12.40 million MT of non-hazardous waste. At Hindalco, 11.20 million MT of non-hazardous waste was generated from the aluminium business whereas 0.88 million MT was from the copper business. At Novelis, 0.32 million MT of non-hazardous waste was generated of which 91% of the waste was recycled and reused.

Non-hazardous Waste Generated
12.40 Mn MT
(96% of the total waste generated)

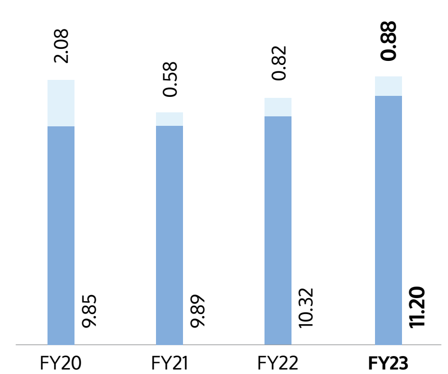
Waste Recycled
11.01 Mn MT
(89% of the waste)

Waste Incinerated
0.002 Mn MT

Waste to Landfill and Storage
2.20 Mn MT

A majority of the non-hazardous waste is made up of high-volume low-effect waste like bauxite residue and ash. In our bauxite mining process, we do not have a beneficiation plant, hence no tailings are generated. Due to this absence, we have not yet devised a tailing management plan. In our alumina refining process, bauxite residue is formed as a by-product.

Non-hazardous waste generation
(Million MT)



We achieved more than 100% fly ash utilisation in the reporting period.

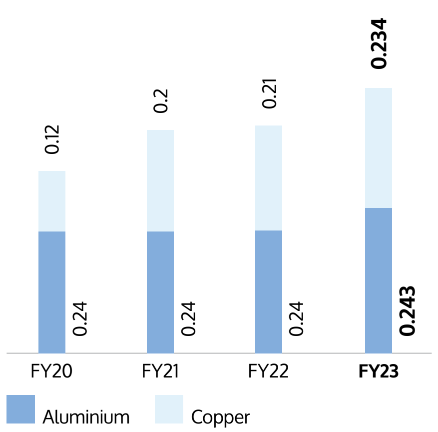
Non-hazardous waste diverted from disposal

Type of utilisation (Million MT)	Hindalco				Novelis		Total
	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2021-22	FY 2022-23	FY 2022-23
Recycled and reused	7.78	9.31	9.61	10.72	0.29	0.29	11.01
Landfill/TSFD	0.01	0.01	-	-	0.03	0.026	0.03
Stored in approved structures	4.28	2.14	2.31	2.20	-	-	2.20
Incineration	-	-	-	-	-	0.002	0.002
Total	**12.07**	**11.46**	**11.92**	**12.92**	**0.32**	**0.32**	**13.24**

Hazardous Waste

We have a robust strategy for managing hazardous waste due to its effects on the environment and human health. We have created SOPs for the collection, storage, and transportation of waste, and all our facilities and offices adhere to them.

Hazardous waste generation
(Million MT)



We have created SOPs for the collection, storage, and transportation of waste.

Regular inspections are carried out by the Waste Management Task Force (WaMTF) to ensure efficient waste management.

The Waste Management Performance Standards and Spill Avoidance Performance Standards serve as the foundation for Novelis' handling of hazardous waste.

The total amount of hazardous waste produced by Hindalco and Novelis in FY 2022-23 is 0.54 million MT, of which 0.48 million MT is by Hindalco and 0.06 million MT by Novelis. We are continuously taking initiatives to recycle and utilise the generated waste.

Hazardous Waste Generated
0.54 Million MT
(4% of the total waste generated)

Waste Recycled
0.41 Mn MT
(76% of the waste)

Waste Incinerated
0.003 Mn MT
(1% of the waste)

Waste to Landfill and Storage
0.12 Million MT

Hazardous waste diverted from disposal (Million MT)

	Hindalco				Novelis		Total
Type of utilisation	**FY 2019-20**	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2021-22**	**FY 2022-23**	**FY 2022-23**
Recycled and reused	0.24	0.28	0.37	0.36	0.05	0.05	0.41
Landfill/TSFD	0.09	0.08	0.10	0.12	0.007	0.006	0.12
Stored in approved structures	0.03	0.08	0.01	0	0	0	0
Incineration	0	0	0	0.002	0	0.002	0.003
Total	**0.36**	**0.44**	**0.48**	**0.48**	**0.06**	**0.06**	**0.54**

INSTALLATION OF SPENT POTLINE CRUSHER

The Mahan SPL Crusher Project is the first-of-its-kind in India meant to recycle hazardous Spent Pot Lining (SPL) in the smelter. SPL is generated during the de-lining process of electrolytic pots where alumina is converted to aluminium.

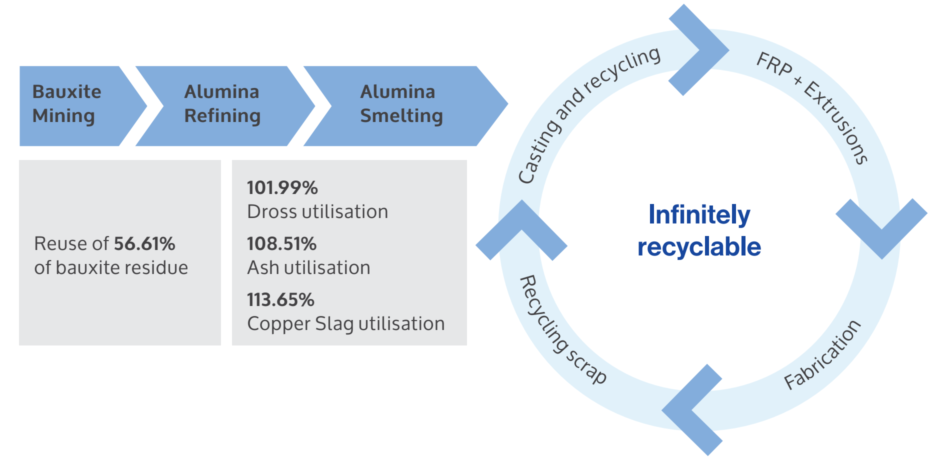
In the project, large chunks of SPL are crushed into smaller particles that can be used as an alternate fuel resource in cement industries. The carbon portion of SPL is used as an alternate fuel (replacement of fossil fuels) because of its high calorific value. The fluorides in SPL act as mineralisers which help in slowing the rate of hardening of cement. The sodium content acts as a fluxing agent lowering the temperature for clinker formation, saving fuel, and reducing greenhouse gas emissions.

The project has two phases. In the first phase, the refractory portion of SPL is sent to cement industries for co-processing. In the second phase, the carbon portion of SPL is planned to be sent to cement industries by the end of 2023.

The Mahan SPL Crusher Project is a valuable addition to Hindalco's assets and the cement industry. It will help to reduce environmental impact by recycling hazardous waste and enable the cement industry to reduce its reliance on fossil fuels.

Embedding Circularity

Aluminium is infinitely recyclable and ideally suited for circular manufacturing processes. We have embedded circularity into every aspect of our business, from mining to producing aluminium to recycling scrap.



To ensure responsible management of by-products, we have developed a utilisation strategy in line with Central Pollution Control Board (CPCB) guidelines. To create value from waste we have adopted in-house processes and also partnered with cement manufacturing companies to utilise bauxite residue, ash, spent pot lining and bulk waste from copper slag. We are also collaborating with research institutes to explore the effective utilisation of waste.

We have embedded circularity into every aspect of our business.

At Novelis, we have developed an innovative closed-loop production system with supply chain partners and customers. We are accelerating our efforts to lower the carbon footprint by creating and executing innovative circular business practices and increasing our capability to process more types of scrap and improve sortation and segregation technologies.

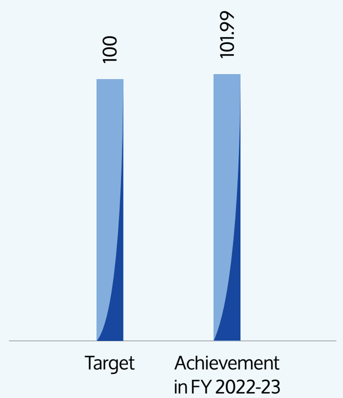
At our Pinda plant, we have installed separation and briquetting equipment to recover aluminium fines from the recycling process. Further, we have also identified suppliers to recycle our refractory waste, which was previously sent to the landfill.

Type of waste | **Utilisation %**

Dross
Utilised – 0.02 Million MT

Utilisation method

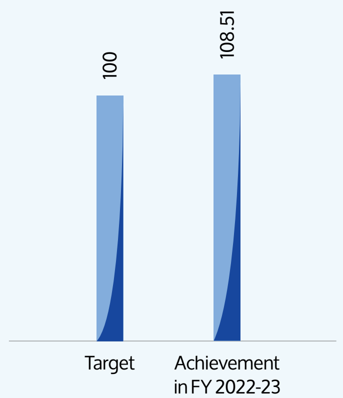
- In-house dross processing units
- Selling to authorised pre-processors



Ash
Utilised – 6.70 Million MT

Utilisation method

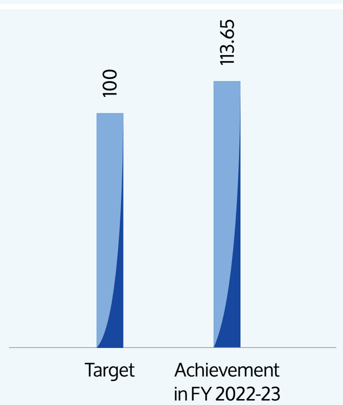
- Manufacturing of products such as bricks, ready-mix concrete
- Selling to cement manufacturers



Copper Slag
Utilised – 0.89 Million MT

Utilisation method

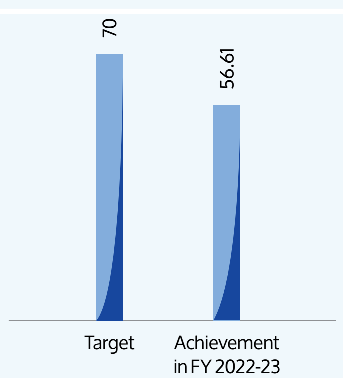
- Selling to cement manufacturers and road-construction companies

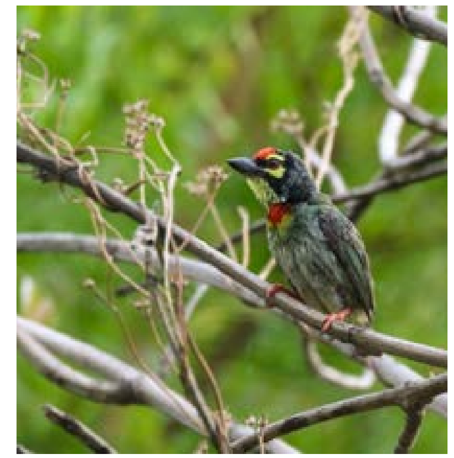


Bauxite Residue
Utilised – 2.87 Million MT

Utilisation method

- Selling to cement companies to manufacture bricks, paver blocks, and tiles
- Backfilling mines





From Extraction to Restoration: Sustainable Mining for a Greener Future

At Hindalco, we believe that growth and sustainability are intertwined. Through sustainable mining, we aim to transform mining into a force that adds value to businesses, the environment, and communities.

We are aware of the impacts of our operations on our surroundings and our constant focus is on minimising it. We have 21 operational mines covering 7,474.99 hectares across India. The mines are in different geographic locations and have diverse habitats. To reduce the impacts while operating, we have taken initiatives like restoring the void mines by backfilling them with bauxite residue.

Mining area details (hectares)

Parameter	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Total mining area leased (Operational)	9,278	9,133	8,569	7,474.99
Total area mined out	132	80	106	104.10
Total area reclaimed	112	86	92	117.87
Total area rehabilitated	**102**	**57**	**85**	**62.22**

SUSTAINABLE MINING CHARTER

Hindalco has implemented a comprehensive Sustainable Mining Charter to guide sustainable practices throughout the mining process, from mineral exploration and extraction to transportation and closure. Our sustainable mining framework is based on two fundamental pillars: environmental stewardship and social performance leadership. Environmental stewardship focuses on minimising, mitigating, and offsetting the environmental impacts associated with mining operations. Social performance leadership aims to enhance the resilience of the communities in which we operate. These pillars are supported by a robust governance mechanism that guides the designing, execution, and monitoring of sustainability initiatives at the mines.

In our charter, we have identified seven key thematic areas through which we capture the vital environmental and societal impacts of our operations. These areas include sustainable land use, water management, waste management, emissions reduction, biodiversity management, health and safety, and local economic development.

The Sustainable Mining Charter has enabled us to develop a mine-level sustainability roadmap, guiding our mining team to align their goals with our corporate sustainability objectives. We have developed a mine lifecycle approach from the pre-mining phase to the mining, and then to post-mine closure. For all the mines, we continuously engage and consult with all the stakeholders. We conduct capacity-building and economic diversification programmes for the local communities. We also have social closure plans and social closure impact assessment.

Pre-mining

- Developing socio-economic baseline studies
- Planning of mining activities
- Mine closure plan and activities

Mining

- Implementing progressive reclamation of land
- Monitoring stability and impact of operations
- Deploying mechanisms to ensure safety

Mine Closure

- Land enrichment goals and targets
- Environmental baseline with associated risks and mitigation plans
- Mine closure monitoring with regular reviews
- Handover

Conserving and Preserving Biodiversity

Recognising and integrating biodiversity concerns in business decisions is essential for minimising the impact and contributing to responsible development. We derive several benefits from biodiversity in the form of the ecosystem services that they provide. The most important service is climate change mitigation. By mainstreaming biodiversity in our operations, we have committed to achieve No Net Loss (NNL) by 2050. We are also committed to achieve No Net Deforestation by 2030. To further strengthen our commitment, we have adopted a Biodiversity Policy and have established technical standards at the Group level. We adhere to all the local laws and regulations while conducting operations.

At Hindalco, there is a three-pronged approach towards biodiversity management which starts with categorising sites as high, medium, and low priority.

After the prioritisation, we develop Biodiversity Management Plans (BMPs) if any threatened species, protected areas, or Key Biodiversity Areas (KBAs) are discovered within a 10 km radius of the site. We have prepared 10 BMPs for high and medium priority sites and 4 BMPs for low and medium priority sites.

Our Biodiversity Management Plans encompass a multiseason study conducted in partnership with the International Union for Conservation of Nature, among other agencies.

Our BMPs encompass a multi-season study which is conducted in partnership with the International Union for Conservation of Nature (IUCN) and other national and international agencies. We follow a location-specific approach to identify risks to biodiversity and associated ecosystem services from existing and planned activities using the Integrated Biodiversity Assessment Tool (IBAT). Considering our dependency on natural resources, we use both dependency and impact-related biodiversity risks and carry assessments for our operations and areas adjacent to the operations. Habitat loss is critical and we have taken steps to mitigate the risk.

Prioritise the sites

Develop BMPs

Implement BMPs

Priority sites with BMPs

Parameters	Number	Operational Area (hectares)
Total Sites	51	16,428.39
Sites where biodiversity impact assessments conducted	44	15,226.88
Sites in close proximity to critical biodiversity	34	9,581.20
Sites in the close proximity to critical biodiversity and for which biodiversity management plans are prepared	10	6,920.78
Other low priority sites for which biodiversity management plans are prepared	4	4,004.62

Following are the actions taken to curb the impacts of our operations.

Avoid
- Avoid operating in ecologically sensitive areas and in critical habitats
- These include World Heritage sites and IUCN Category I-IV protected areas

Minimise/Reduce
- Minimising the impact on biodiversity transplanting trees than cutting down

Regenerate
- Community biodiversity livelihood programmes - Organic farming and orchard development

Restore
- Restoration by developing green belts using native species
- Enhancing the quality of green belt and butterfly conservation
- Development of wetlands and riparian habitat

Offset
- Miyawaki plantations
- Identification of degraded land for plantation
- Partnerships with IUCN to prepare BMPs
- Collaboartion with industry experts impact on business operations on biodiversity.

Restoration is undertaken by developing green belts using native species.

The 417,873 trees planted during the reporting year have a survival rate of 76%.

A study was conducted for Comprehensive Biodiversity Assessments and Ecosystem Services Review using the Integrated Biodiversity Assessment Tool (IBAT) and a proximity study of 51 of our sites. Out of the locations evaluated, 24 sites had medium exposure and 10 sites had high exposure to key biodiversity.

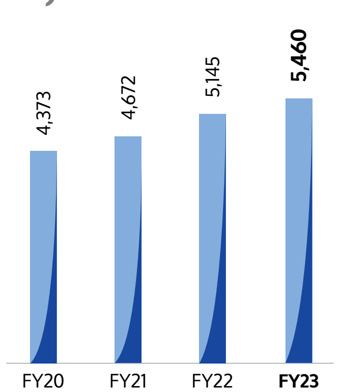
We have finished one-season BMP field studies and are currently working on BMPs for five sites and plan to implement the BMP for all active sites. To go beyond, we have collaborated with industry experts to assess the performance of business operations on biodiversity and ecosystem services and carbon sequestration using the IBBI (Indian Business & Biodiversity Initiative) Biodiversity Index for six of our sites. The assessment is based on 25 indicators of native biodiversity (flora & fauna), regulatory requirements, awareness level within employees, supply chain management and relation with critical stakeholders.

Further, we have developed green belt management plans for 12 non-BMP sites. Under these plans, we develop greenbelts which act like living walls and offset emissions. We consult the state forest departments to plant native species as per the local climate conditions. To monitor the survival rates and health of the trees we follow Company-wide Standard Operating Procedures and provide training sessions on monitoring processes.

We have a cumulative green cover of 5,460 acres. The 417,873 trees planted during the reporting year have a survival rate of 76%. At Aditya, we have planted 5,000 saplings of an endangered species, Indian rosewood (Dalbergia latifolia). This plantation technique will result in the development of a forest ecosystem and provide habitat and food for birds, insects, and small mammals. This will help in restoring the threatened native flora and fauna in the region.

Green Area Plantation
(acres)

5,460



TREE TRANSPLANTATION AT ADITYA AND TALOJA

To avoid the felling of fully grown trees while expanding our operations at Aditya and Taloja, we decided to relocate and transplant trees.

First, we carried out a survey to select which trees would be transplanted. After this, trees were sprayed with anti-termite, anti-bacterial, anti-fungal, and root hormones to help them survive the transplantation process. Finally, with the assistance of skilled arborists, the trees were replanted at new locations.

During the reporting year, we relocated 438 fully grown trees, contributing to Hindalco's goal of No Net Deforestation.

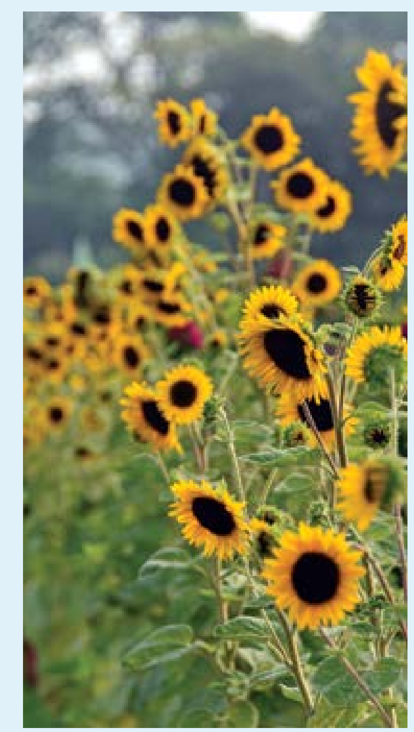
VALLEY OF FLOWERS

We have reclaimed a degraded mine site in Bagru by building a vibrant flower garden on it.

As part of the project, we planted 1,400 saplings of flowering species in an area of 0.75 hectares.

The plants were selected for their ability to thrive in the local conditions. Some of the species planted are Chinese Rose, First Love (Xanthostemon Chrysanthus), Gerbera, Peace Lilly, Begonia, Geranium, and Rongon (Flame of Jungle).

This initiative will benefit in improving air quality, reducing noise pollution, increasing aesthetic value, and enhancing biodiversity.



Social and Relationship Capital

Enriching Lives by Forging Lasting Relationships with Our Stakeholders

At Hindalco, we are committed to building endearing and enduring partnerships with multiple stakeholders. Our commitment to this is evident in our ESG-driven strategies and initiatives which aim to create long-term value while making a positive impact on society.

Strengthening our relationships with communities in proximity to our operations is an ongoing endeavour to enrich their quality of life, through value creation. Our activities are fully aligned with the United Nations Sustainable Development Goals (UN SDGs). By engaging with our value chain partners and customers besides building robust relationships and fostering an inclusive culture with a distinct focus on our stakeholders, we strive to enhance the trust and faith that they repose in us.

Focus Areas

Strengthening ties with communities	Fostering Customer Relationships	Responsible Supply Chain

Key Highlights

Community Expenditure#	Lives Touched
₹136 cr.	2 million+

Number of Suppliers*	Procurement Spend
11,120	₹172,661 cr.

#Excluding pre-spends | *The details provided are for India Operations

Contributions to SDGs

Interlinkages with material topics and other capitals

Material topics
- Community Relations
- Supply Chain Transformation
- Compliance Management
- Market Presence

Capitals connected
- Financial Capital
- Manufactured Capital
- Human Capital

Key Risks and Opportunities addressed

R2 Supply chain risks

Alignment with Strategic Priorities

SP-2 Value enhancing growth

SP-3 Strong ESG Commitment

Social and Relationship Capital

Investing in Our Communities

Our CSR Strategy

At Hindalco, our CSR initiatives are carried out under the aegis of 'The Aditya Birla Centre for Community Initiatives and Rural Development', and under Mrs. Rajashree Birla's auspices.

In alignment with the Group's Purpose to engage, uplift and empower the underprivileged, we have been working relentlessly to qualitatively impact the lives of the people in proximity to our plants.

From absolute poverty to meeting the basic necessities of life, from dependency to self-reliance, from societal backwardness to socio-economic progress, our efforts are aimed at bringing a humble sense of happiness.

The pursuit of UN SDGs ensures social equity and inclusivity. The principles of sustainable development are embedded into our policies, strategies, and practices.

This sets us on the path of economic prosperity, social well-being, and environmental resilience. Our CSR strategy is aligned with the UN SDGs and is geared to cater to the felt needs of the society. We work in the domain of healthcare, education, sustainable livelihood, infrastructure, and social reform, endeavouring to make a difference.

Our Vision

To actively contribute to the social and economic development of the underserved communities in which we operate, lifting the burden of poverty and helping bring in inclusive growth. In so doing, build a better, sustainable way of life for the weaker sections of society and raise the country's Human Development Index.

A social satisfaction survey is periodically carried out by an external agency to measure the impact of our CSR programs.

During the reporting year, Hindalco invested ₹67.89 Crore, while Novelis invested $8.5 million equivalent to ₹68.58 Crore on community development projects. Additionally, we have also made contributions to several Trusts and charitable institutions of around ₹54.26 lakh in the reporting year. These contributions are made in alignment with our Code 'Corporate Principle and Code of Conduct'.

Hindalco	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Community Expenditure (₹ Crore)	48.65	53.99	55.04	67.89

CSR Spends (₹ Crore) on Focus Areas (FY 2022-23)

Focus Area	₹ Crore
Education	29.73
Healthcare	17.25
Sustainable livelihood	9.21
Infrastructure	8.00
Social Causes	3.22
Overheads	0.48

We infused ₹48.37 Crore in 9 identified aspirational districts of Odisha, Madhya Pradesh, Uttar Pradesh, and Jharkhand. At Hindalco, all our CSR beneficiaries belong to vulnerable and marginalised groups, whereas at Novelis majority of our spending goes to the underserved.

State	Aspirational Districts	CSR Spend in FY 2022-23 (₹ Crore)
Odisha	Rayagada Kalahandi Koraput	21.67
Madhya Pradesh	Singrauli	1.71
Uttar Pradesh	Sonbhadra	17.28
Jharkhand	Ranchi Lohardaga Palamau Latehar	7.71

Hindalco is present in 10 aspirational districts. However, there was no CSR expenditure in Hazaribagh in FY 2022-23, due to closure of the mine.

Our unwavering commitment of doing larger good for the society is imbibed in our Company's spirit. Therefore, in the reporting year, 14.55 lakh beneficiaries were significantly impacted, whereas a total of 6.24 lakh lives were impacted at Novelis.

Social and Relationship Capital

Nature of CSR projects and supported beneficiaries

CSR Projects	Beneficiaries
Pre-school education	3,482
School education programme	29,308
Education support programmes	29,523
Vocational and technical education	184
School infrastructure	22,241
Preventive health care	279,480
Curative health care programme	134,372
Reproductive and child health	46,530
Quality/support programme	38,301
Health infrastructure	351,475
Agriculture and farm-based	41,712
Animal husbandry-based	22,609
Non-farm and skills-based income generation programme	22,236
Livelihood infrastructure	11,506
Natural resource conservation programmes and non-conventional energy	73,171
Rural infrastructure development	169,775
Institutional building and strengthening	3,749
Social security	1,715
Awareness programmes	46,183
Promotion of heritage/culture/sports	88,572
Support to development organisation	9,360
Social events	29,601
Disaster relief programmes	50

CSR Governance

We follow a bottom-up approach where communities identify the areas of social concern, and this guides our efforts. All our CSR projects adhere to the Board-approved CSR Policy, which serves as a guiding document for planning, identifying, implementing, and monitoring CSR initiatives.

We have a robust and transparent governance structure in place to oversee the implementation of the CSR Policy.

The Corporate Social Responsibility Committee provides oversight for our social interventions.

The CSR Head of each of our Group companies reports to the Group Executive President (CSR, Archives & Legacy Documentation). Each of the manufacturing units has a CSR Cell.

The Business Director takes on the role of the mentor, while the onus for the successful and time-bound implementation of projects rests on the Unit Presidents and CSR teams under the oversight of the Group CSR Head.

Engaging with Our Communities

The community is consulted before planning any of the CSR activities. The process involves interacting with them and learning about their challenges and concerns.

Community Engagement Process

Stakeholder Consultation → Need Assesment through Participatory Rural Appraisal → Resource Allocation and Detailed Planning → Project Monitoring and Impact Assessment → Stakeholder Engagement and Project Implementation

We conduct need assessment using Participatory Rural Appraisal. Based on this assessment, we formulate a detailed Annual Action Plan, which includes resource requirements and allocation across interventions and locations. It is then presented to the Board for approval.

We ensure the participation of local communities in the project implementation, with our CSR team regularly monitoring its progress.

Our regular engagement with communities helps us to understand their viewpoints on environmental and social impacts and mitigation measures.

A social satisfaction survey is periodically carried out by an external agency to measure the impact of the work done. Furthermore, the impact assessment study is also reviewed by the Board.

We operate from 73 production assets comprising 19 sites in India, 33 overseas locations and 21 mines. All our assets have undergone through a community consultation process before commissioning. As we are in the process of executing growth projects in our existing production assets, we engage with the community on a regular basis across all our production assets. Furthermore, there were no development projects in any new locations during the reporting year.

Our CSR Strategy for the New Plant at Silvassa

In 2021, we commissioned our new plant at Silvassa and started CSR interventions in nearby villages with a focus on Khanvel Gram Panchayat. A majority of the population here belongs to the tribal community.

Guided by our CSR policy, we adopted the following strategies to undertake projects near our plant location:

- Identifying the needs of the local community by undertaking a need assessment survey through an external agency, conducting field visits and consulting the key stakeholders.
- Engaging with Panchayati Raj Institution (PRI) members, government and non-government institutions, and relevant stakeholders and ensuring their participation in project implementation.
- Exploring the scope of collaboration with government, gram panchayat, other corporates, associations of industries, NGOs and academic institutions.
- Ensuring the consensus to work together through written communication and clarifying the roles and responsibilities of every agency or institution involved.

Community Grievance Mechanism

We regularly engage with our communities through meetings, surveys, trainings, workshops, need assessment and satisfaction surveys, CSR reports, newsletters, progress reports, social audit magazines, etc. to express their views on operational and project risks. In addition to this, our engagement helps in understanding their viewpoints on topics such as, preservation of cultural heritage and other environmental and social impacts and mitigation measures. Community consultations help us to shape our projects. We have developed a robust community grievance mechanism as part of our Standard Operating Procedures (SOPs). The document provides guidance to the units on resolving community grievances, if any, in a timely manner.

During the reporting year, 1,314 grievances were filed pertaining to community related concerns, wherein 54 were pending for resolution at the close of the year. In FY2021-22, 1,197 grievances were filed and 62 were pending for resolution at the close of the year. All the pending grievances received during FY 2021-22 were resolved during the reporting year.

All grievances from external stakeholders are attended by the CSR team. These are recorded in a grievance register. Wednesdays are earmarked for this activity. In the unlikely event of the grievance not being resolved, it is forwarded to the department or official concerned to be resolved at the earliest in any case not later than 48 hours.

Engagement helps in understanding viewpoints on topics such as, preservation of cultural heritage and other environmental and social impacts and mitigation measures.

We are committed to protect, uphold, and acknowledge the rights, culture, heritage, values and traditions of Indigenous People.

Rehabilitation, Resettlement and Protection of Indigenous People

We are committed to protecting, upholding, and acknowledging the rights, culture, heritage, values and traditions of Indigenous People. We channelise our efforts towards minimising the repercussions that our future operational expansion may cause to the life and livelihood of Indigenous People.

We have a Rehabilitation, Resettlement and Protection of Indigenous People Policy in place, which is developed based on the guidelines put forth by the National Rehabilitation and Resettlement Policy. We live by the obligations, whether statutory (as per the applicable laws) or voluntary (as elected by HIL), relating to Indigenous People.

Furthermore, we ensure that the resettlement is conducted in an effective, humane, collaborative, informed and transparent manner.

We also see to it that the physical and economic needs of the Indigenous People that arise because of the displacement are acknowledged, recognised and catered to. Hence, we ensure entitlements for the displaced as early as possible and their requirements are fulfilled in a fair manner.

We have a dedicated grievance mechanism for physical and economic displacement. Our resettlement action plans are periodically audited. Currently, no social impact assessment studies are conducted in compliance with Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 and there are no initiatives in place wherein Rehabilitation and Resettlement (R&R) is being undertaken.

CSR Focus Areas

Education

We believe in providing quality education for all, especially the underserved and vulnerable groups. We align our educational initiatives with ‘SDG 4: Providing inclusive and equitable quality education and promoting lifelong learning opportunities for all’ and developing a conducive learning environment for students.

Pre-school education, educational support programmes, vocational and technical education training, adult literacy programme and school infrastructure development are some of our key areas of focus.

During the reporting period, we supported over 84,738 students in rural areas through our educational programmes and initiatives.

Force for Good

- 40,000 student beneficiaries: infrastructure set up for the mid-day meal programme at Lohardaga
- 4,203 students supported in 92 Anganwadis and 27 Balwadis
- 9,752 rural students enrolled in 11 Aditya Birla Public Schools, 4 Aditya Birla Vidya Mandirs and 9 other supported schools
- 19,894 students from 116 schools received educational materials and uniforms
- 311 students received scholarships
- 295 malnourished children nurtured back to good health
- 183 ladies benefitted from 8 Adult Literacy Programmes

At Novelis, we focus on Science Technology Education and Management (STEM) education as a pillar of this initiative. Through this initiative, we have impacted 534,000 lives globally, in partnership with ‘For Inspiration and Recognition in Science and Technology’ (FIRST).

Healthcare

We provide quality healthcare services which help reduce healthcare disparities.

During the reporting period, we undertook several healthcare programmes and initiatives aimed at improving accessibility to better healthcare services for vulnerable sections of the society.

Our healthcare projects include immunisation programmes, preventive and curative health programmes, medical and eye camps and tuberculosis treatment, among others.

Beneficiaries/Support Services

Running 5 hospitals, 27 dispensaries/clinics, supporting 12 government PHCs

239,445 patients received treatment in hospitals, dispensaries and clinics

2,248 medical camps organised benefitting around 97,421 people

34,829 mothers and children availed facilities of 23 Family Welfare Centres

49,553 children immunised

11,051 mothers given Antenatal/Postnatal Care

2,272 girls registered at 44 Adolescence Health Care Camps

29 Eye Camps organised; 391 intraocular operations performed

869 TB cases registered under our Tuberculosis Eradication Programme

PROJECT AAROGYA: MOBILE HEALTH UNIT AND OTHER ALLIED HEALTH ACTIVITIES

To cater to the people of Hirakud in Sambalpur, we have set up a mobile health unit that provides primary healthcare services at the doorstep of the populace.

The mobile health van travels across 12 villages and dispenses basic medicines. It also offers a homoeopathic centre. The healthcare service is beneficial for rural communities, especially for women, children and elderly people who will not have to travel far for medical facilities. The local people can avail services in medicine, gynaecology, paediatrics, orthopaedics (including bone mineral density diagnosis), ENT, urology, dentistry, homoeopathy and physiotherapy in the special health camps conducted.

During the reporting year, health awareness sessions were organised for adolescent girls and specific health-related days were observed to educate people. Additionally, on the basis of disease pattern identification, mega specialist camps were organised quarterly across villages.

Outcomes of the initiative in FY 2022-23

- **11,188 patients** received primary health care services
- **835 patients:** homeopathic service
- **1,057 patients:** specialised OPD service at Community Health Centre
- **3,147 children** immunised
- **112 families** provided with family planning support

PROJECT NIRAMAYA: TOGETHER WE CAN BEAT THE ODDS

The need assessment survey in Khanvel Gram Panchayat and nearby villages revealed the pressing need to focus on improving the health of people affected by Sickle Cell Anaemia (SCA), an inherited disease marked by flawed haemoglobin.

We then conducted a desk review to understand more about SCA and its severity and interacted with sub-centres and sub-district hospitals to collate data. We also contacted district and state-level government officials to get information on interventions for screening, preventing and managing the disease in the area.

During the discussions, we also learnt the need for eliminating TB and leprosy from the district within a stipulated timeframe.

To help eradicate the disease, we designed the 'Niramaya' a thematic health project to work on TB, Leprosy and Sickle Cell Anaemia Management in PHC Rudana.

Geography*	TB Cases	Leprosy Cases	Sickle Cell Anaemia Cases
District Level	296	63	Trait: 17,236 Disease: 690
PHC Rudana	18	3	Trait: 2,011 Disease: 72

*Data as of November 2022; Source: Vinoba Bhave District Hospital, Silvassa, and Sub District Hospital, Khanvel.

In light of this initiative, Project Niramaya was launched. The team collaborated with the district health department, sub-district and PHC level officials, and engaged with the district panchayat president and local gram panchayat to ensure effective coordination. To raise awareness of sickle cell anaemia, we conducted community transect walks, understood cultural and religious beliefs, and myths related to the disease and designed street plays in the local language. In addition, we extended support to TB and Leprosy patients by providing them with nutrition kits. Since the inception of the project, 5 TB and 3 Leprosy patients have been recovered so far.

Social and Relationship Capital

Sustainable Livelihood

We believe that each individual should have the right to live a dignified life. We thus strive to empower individuals with a decent standard of living. Through our CSR interventions, we aim to provide income-generating opportunities and enable individuals and communities to lift themselves out of poverty.

During the reporting year, our key focus was on providing vocational and technical skill development training to people in rural areas, especially the youth, women and farmers.

Creating Value

1,533 people received vocational job-oriented skill training	2,042 people received technical skill training	8,241 farmers attended 188 farmers meetings
2,160 farmers provided with agriculture tools, seeds and fertilisers	21,793 women empowered through 1,660 Self-Help Groups	6,046 animals immunised in veterinary camps

In Brazil, Novelis has helped 1,900 cooperative members across 36 recycling cooperatives to provide sustainable livelihoods.

Water Positivity

Water conservation and optimum utilisation, within the fence and beyond, is one of the most important tasks before us.

Towards providing assured irrigation, we have conserved 1.24 akh m^3 of water by constructing 14 check dams, 5 ponds, 38 bundings, 3 watersheds, 27 rainwater harvesting structures and repaired 2 irrigation channels to irrigate 1,000 hectares of additional land of 1,597 farmers in coordination with the Government. Consequently, farmers moved to cultivate cash crops and reap a rich harvest.

Infrastructure Development

Our infrastructure projects: connectivity, road repairs, community halls and assets, rest places, installation of solar lights, construction of cement benches, water tanks and installation of piped water supply have bettered the lives of 182,000 people.

Novelis in partnership with Habitat for Humanity has launched an initiative to support and promote neighbourhood sustainability through increased recycling.

Social Reforms

For decades, we have been relentlessly raising awareness against social evils such as exploitation, inequality, and trafficking in the remote corners of India.

Our efforts are aimed at bringing about a change in the societal mindset. We advocate and support basic moral values, dowry-less marriage, widow remarriage, gender equality and organise awareness programmes on anti-social issues.

We also support financial literacy programmes across rural areas, by teaching women the fundamental concepts of financial literacy and income generation. Furthermore, we also aid people in disaster relief programmes.

All our efforts are aimed at bringing about a change in the societal mindset.

Support Services

13,791 people were provided with blankets	33 children saved from child trafficking	145 people supported through 4 orphanages
178 awareness camps organised on social issues	29 sports and 103 cultural events organised to promote rural sports and traditional culture	43 individuals benefitted through mass marriages

RESHAPING LIVES: THE POWER OF PAPER PLATE ENTREPRENEURSHIP

With an aim to empower women in rural areas, Aditya Aluminium in 2019, adopted a self-help group (SHG) named Maa Ram Chandi from Rengali block in Odisha's Sambalpur district.

The group was later brought under the umbrella of Project Saksham. This group with 12 members, started making paper bags, with raw material (newspaper) collected from the Aditya township.

However, the SHG's paper bag-making initiative received a major setback during the pandemic owing to the unavailability of newspapers. To tide over the crisis, the Group took a loan of ₹1.5 lakh to set up a switched to making paper plate-making unit.

In 2022, the ban on 'single-use plastic' stoked new opportunities for the SHG and it became a vendor for Aditya, supplying paper bags for sample collection.

SHG members displayed their wares in various government-sponsored fairs and earned good returns. They learnt to make paper plates and bowls and are supplying them to the local market and village social events.

This initiative has led to a 100% increase in seasonal income of up to ₹10,000 per month.

The SHG is now debt-free and is planning to scale up the business.

MUSHROOM CULTIVATION: THE GAME CHANGER

Mushroom cultivation started with one SHG member, as part of project Sakhsham, in FY 2019-20. Today, there are 95 SHG members cultivating mushrooms. The success of the pilot project with one woman led Aditya Aluminium CSR team to launch this experiment on a larger scale.

The CSR team adopted a woman SHG, and organised awareness and training sessions on the benefits of mushroom cultivation. This initiative was aimed at providing opportunities for SHG members to generate income with high returns on investment.

Over the past three years, over 100 women have earned more than ₹1.5 lakh through mushroom cultivation. They invested between ₹1,500 to ₹5,000 and earned between ₹5,000 to ₹25,000 per season. The success of these women has enhanced their social stature, earned them respect in the community and brought more harmony and happiness to their households.

These women have gained more confidence and are now investing their own money to scale up and install spawn units and cold storage.

Mrs. Jaimini Kisan and Mrs. Leena Luhar of Tiliemal and Bomoloi villages are some of the earliest women to start mushroom cultivation.

Today, they are seen as successful businesswomen employing three to four women as per requirement for mushroom bed-making and watering.

CODING HER FUTURE: BUILDING A GATEWAY FOR GIRLS IN TECH

Students living in rural or economically disadvantaged areas do not have access to computers and the Internet.

Those who are keen to learn the basic and advanced computer courses can neither afford the courses nor do they have access to good facilities and tutors.

To overcome this shortcoming, Mahan's CSR team launched a Computer Coaching Centre at Bareniya. The centre provided programming courses on CCOW, Tally, Diploma in Computer Applications (DCA), PG Diploma in Computer Applications (PGDCA) and basic computer skills. 24 girl students were selected and financially supported by Hindalco to boost their digital literacy skills. 50% of their course fee for PGDCA/DCA was waived off.

One of the major challenges in project implementation was convincing the local community to send their girl children to the computer coaching centre. Our continuous efforts to persuade parents were successful, and they allowed their girl children to enrol at the centre. Our team organised tie-ups with affiliated universities (partners) to provide certifications to the students, a space for the coaching centre, a trainer, computers and study materials.

Of the 186 boys and girls who opted for the PGDCA course at the centre, around 90% are employed in nearby offices. This initiative has helped students become digitally literate and has enhanced their standard of living. Their success has inspired youth, especially girls to opt for these courses. The initiative has enhanced the literacy rate to 61.05% in the adopted villages.

INVESTING IN WOMEN'S DREAMS

Pramila Naik, 27, from Mallijharan, Kodi Pari in Odisha, wanted to supplement her household income after marriage. So, she started her tailoring shop at home. However, she realised the need for more varieties of sewing machines to serve distinct customer needs and earn a decent income. She learnt about Project Udyamee from her friends and approached the team for help.

Our project team from Utkal Alumina counselled and enrolled her in Udyamee. Pramila sought financial aid to expand her small unit.

Thus, our team assisted her with seed funds to scale up her business. She utilised the seed fund to buy an interlock machine and quality sewing material. Pramila now earns ₹8,000 per month.

The success of her venture has encouraged Pramila to expand her business further, for which she is looking to avail government schemes with the help of Project Udyamee. Pramila is extremely happy and grateful to Utkal Alumina and Project Udyamee team for giving her an opportunity to become financially independent.

Social and Relationship Capital

Empowering Local Communities

At Hindalco, we add value to local mining practices to serve the community, while maintaining our business growth. In accordance with this, we have implemented our Sustainable Mining Charter to empower the communities around our operational locations. The charter we adhere to embodies our commitment to enriching lives by fostering an integrated, equitable and sustainable growth model. We strive to create synergistic and symbiotic socio-economic value for the community, ensuring that our operations contribute positively to their well-being. Additionally, support the local community by offering training for local unemployed people to upskill them for work at our operations.

Localisation is an integral part of our business and CSR strategy. We adhere to the laws and regulations pertaining to employment of local people, including Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959, and other prescribed local law, regulations or respective state governments. We have prioritised hiring of local people in our workforce at all levels. Currently, of the 31,411 locals employed at our operating sites, 53 hold senior management positions.

Localisation is an integral part of our business and CSR strategy.

Community Risk Management

At Hindalco, we are consistently working to minimise and mitigate the negative impacts of our operations on local communities.

All our operations are assessed for negative social and environmental impacts. Each manufacturing unit maintains a risk register that identifies potential risks to the community. We have a robust Enterprise Risk Management (ERM) process at all our manufacturing units.

The Corporate Risk Officer, Risk Coordinator and Risk Champions at each unit maintain the risk register and monitor mitigation plans. On its part, Novelis internally monitors the impacts on communities, especially from the environment, health, and safety perspective.

AROMA OF EMPOWERMENT

Ashish Singh Samant, 31, is a farmer from Podapadi village of Kashipur block in Odisha's Rayagada district. Owing to erratic rainfall in the region, Ashish was used to growing a single crop annually. The money from the sales was not enough to meet his family's needs. To supplement his income, Ashish would also operate a photo studio and, during wedding seasons, earn ₹10,000 per month.

Two years ago, he learnt about lemongrass cultivation from the CSR team of Utkal Alumina. Initially, he was hesitant to switch to any other crop, hence Utkal's CSR team connected him to other farmers who had benefitted from lemongrass cultivation. Ashish got convinced and changed his mind. In the first year, he grew lemongrass on seven acres and on five acres the following year.

As part of our CSR programme, Utkal Alumina helped Ashish and 246 other farmers to switch to lemongrass. Our CSR team supported them by providing quality saplings, paying for ploughing costs, manure, fertiliser and special pump sets for irrigation. In some instances, the Utkal team mobilised government funds to establish large river base lift irrigation facilities that brought enough water to the fields. A Farm Producers Group was formed, where farmers discussed ways to increase yield and improve the quality of produce.

Ashish is now earning ₹160,000 per annum by cultivating lemongrass four times a year, which has helped him double his income. He is today in a better position to save money for his future needs and secure his future. Ashish's success has encouraged other farmers in the locality to adopt lemongrass cultivation as a means of livelihood.

SUSTAINABLE FARMING: CULTIVATING OPPORTUNITIES FOR PROSPERITY

Ugri Majhi, 39, a farmer from Naktiguda in Odisha's Rayagada district was cultivating only upland low-duration paddy and ragi on his land. With no other source of income, traditional farming was the only medium to earn a living. However, the introduction of Wadi cultivation came as a boon for him.

Project WADI was undertaken to develop a climate-resilient agri-horti-silviculture system in clusters. It supported the plantation of cashew and mango trees on nearly uncultivable land or wasteland and provided a sustainable livelihood. It aimed to improve the quality of life of 500 tribal farmers (424 landholders with wadi orchards and 76 landless families with goat rearing) and increase their income within three to six years. This initiative was rolled out in 17 villages of Kashipur block in Rayagada.

Before the project began, an exposure visit was arranged for farmers to nearby areas to understand the work involved. Numerous awareness sessions were organised. Majhi and other farmers were taught methods to improve productivity and quality and replicate sustainable agriculture prototypes.

The success that farmers like Majhi achieved motivated other farmers to adopt intercropping and become more open to experimentation and innovation.

Today, Ugri Majhi now earns a minimum of ₹120,000 annually by growing cashews and mangoes. His efforts have earned him the appreciation of government officials and other farmers. Project Wadi has helped transform the lives of 76 landless families by equipping them to take up goat-rearing. Each of these families now earns an income of at least ₹30,000 per year.

Social and Relationship Capital

Customer Centricity

At Hindalco, our customer-centric approach is rooted in our commitment to enriching lives.

We actively seek to understand and meet customer expectations, aiming to not only achieve customer satisfaction but also create lasting positive impacts. With our global customer base spread across numerous countries, we place a strong emphasis on delivering products of exceptional quality and unparalleled experiences that enhance the lives of our customers.

We regularly engage with our customers to understand their needs, preferences, and concerns. Our structured approach to customer engagement involves communication through e-mails and regular meetings, customer satisfaction surveys, social media platforms and grievance mechanisms. We are dedicated to continually improving our products and processes and fostering a long-term relationship with them.

We actively seek to understand and meet customer expectations, aiming to not only achieve customer satisfaction but also create lasting positive impact.

Throughout the reporting year, we made several efforts to foster customer-centricity and customer satisfaction. This was done through:

Enhancing Customer Experience

We strived to enhance customer experience and maintain a strong Net Promoter Score (NPS).

Ensuring Reliable Supplies

We ensured an uninterrupted year-round supply for our customers, whether large or small. Furthermore, even during the pandemic, we were able to ensure a regular supply of products to our customers despite supply chain challenges and demand disruptions.

Work on Quality Complaints

Reduction and faster resolution of customer complaints was the top priority. We aimed to reduce the number of complaints by improving the quality of our products.

Timely Deliveries

Improvement in the delivery process and shortening the delivery duration continue to be the primary focus of our operations.

Going forward, our focus on enriching lives will be reflected in our commitment to improving our market share while delivering an enhanced customer experience.

We plan to leverage new product segments and explore the potential of exporting to a profitable rods market.

For our aluminium operations, we are focusing on downstream operations and transforming from a manufacturing company to a manufacturing solutions provider.

In our chemicals business, we have digitalised our order-taking systems using Ekaayan and Oracle platforms.

Moreover, we have realigned our sales team structure from a geography-based to a product application-based approach.

This has led to a substantial increase in technical support to customers through new product development and co-development of new grades. Herein, the terms are negotiated with respect to volume, technical specifications, input prices and product performance.

The details of our markets and customer base are provided in the table below. Moreover, the details of our products can be accessed through our website, www.hindalco.com/

Going forward, our focus on enriching lives will be reflected in our commitment to improving our market share while delivering an enhanced customer experience.

Markets Served (Aluminium and Copper)

Automotive and Transport	Building and Construction	Defence	Electrical and Electronics	Industrial Application
Consumer Durables	Railways	Alternate Energy	Pharmaceuticals, Beverage Cans and Packaging	

Markets Served (Chemicals)

Water Treatment Chemicals, Soaps, Fertilisers	Flame Retardants	Ceramics	Refractories	Abrasives

Enhancing Customer Experience

Geographies

North America
United States of America, and Canada

Europe
Italy, Spain, The Netherlands, Germany, United Kingdom, Portugal, Switzerland, Sweden, Norway, Belgium, Romania, Russian Federation, Netherlands, France, and Czech Republic.

Asia-Pacific
India, South Korea, Taiwan, Malaysia, China, Japan, Vietnam, Thailand, Bangladesh, Singapore, Nepal, Australia, Indonesia, Hongkong, New Zealand, South Korea, Hong Kong, Sri Lanka, etc.

Central and South America
Brazil, Mexico, Ecuador, Colombia, Peru, Argentina, Costa Rica, etc.

Middle East
Israel, United Arab Emirates, Qatar, Kuwait, Oman, Saudi Arabia, Turkey.

Aluminium Business – Key Customers

Offerings

At Hindalco, our diverse product range includes high-quality aluminium products for various industrial applications.

Primary Applications

- Ingots (used in the production of castings in auto and electrical applications)
- EC wire rods (used for the production of cables and ACSR and AAC conductors)
- Billets (used mainly to produce extrusions and forgings)

Flat-rolled Applications

- ACP stocks
- Circles (used in pressure cookers and non-stick cookware, milk cans, and medical cylinders)
- Closure stock
- Clad and finstock
- Foil stock
- Litho stock
- Hard alloys
- HR plates (used in electrical busbars and ducting, tanks, ships, boats, defence, aircraft etc.)
- Building sheets
- General engineering products

Foil Applications

- Flexible Packaging
- Pharmaceutical
- House foil/Semi Rigid containers

Extrusion Applications

- Automotive
- Industrial machinery
- Defence
- White goods
- Electronics
- Constructions

Transport Solutions

- Lightweighting applications and solutions in commercial and personal mobility segments

Precision Fabricated Applications

- Automotive application
- Building and construction

Markets Served

Automotive and Transport: Used in making automobile components such as brakes, transmission, suspension, noise vibration harness, steering knuckle, truck body fabrication, cooling and exhaust systems, automobile heat exchangers and registration plates, structural, and decorative beadings.

Building and Construction: Used in roofing, doors and windows, facades, formwork, structural applications, ceilings, grills, hardware, shutters, ladders, etc. It is also used in building and construction as it is resistant to corrosion.

Defence: Used for assault bridges, main battle tanks, missiles, weaponry systems, boats, etc.

Electricals and Electronics: Used in power generation and transmission, cables and conductors, lamp caps, cable wraps, marine applications, light reflectors, heat sinks, solar panels, insulation, etc.

Industrial Applications: Used in textile spindles, hydraulic pumps, actuators and cylinders to valves, industrial machinery components, printing, etc.

Pharmaceuticals and Packaging: Used in various packaging applications like can bodies, closure caps, kitchen foils, tagger foil, pharmaceuticals, etc.

Consumer Durables: Used in pressure cookers, cookware, air conditioners, fans, refrigerators, etc.

Alternate Energy: Used in solar and wind energy applications

Commercial Vehicle Offerings: Light weighting markers solutions in the form of aluminium alloys, CV bodies such as articulated semi-trailers, truck bulkers, last mile e-mobility cargo boxes and railway freight wagon superstructures.

Personal Mobility: Components like bus bars, handlebars, frames and battery boxes.

Copper Business – Key Customers

Offerings

Our diverse range of copper products includes the following:

Power Industry

- Conductors for transformer
- Generators and power equipment
- House wire cable and power cable

Automotive Industry

- Wiring Harness
- Casting Components
- Motors

Electronics

- Specialised wires
- Copper foil
- Circuit boards

Consumer Goods

- Winding Wires
- Cables or Home Appliances
- Pumps and Motors

Constructions

- Piping
- Earthing
- Plumbing
- Building wires

Markets Served

Automotive and Transport: High-purity copper wire harness systems are used to carry the current from the battery throughout the vehicle, which includes lights, central locking, onboard computers, satellite navigation systems, etc.

Electrical Equipment: Used in cables, transformers, motors, busbars, alternators, and generators, as well as in-home applications such as heat exchangers of air conditioners and refrigerators, etc.

Railways: Used in pantographs, switchgear, braking systems, motor windings, commutator bars, and large and small service stations. Copper is used extensively in signalling systems.

Wire and Cable: Used in building wires, communication cables, coax cables, power cables, specialised cables, and industrial cables. Copper is a perfect metal for the wire and cable sector due to its high electrical conductivity, ductility, and tensile strength.

Chemical Business – Key Customers

Offerings

At Hindalco, our alumina and chemicals business majorly serve as a feedstock for the manufacturing of other chemicals. Our offerings comprise manufacturing and distribution of specialty aluminium hydroxide and specialty alumina products.

Our upstream range of activities includes the procurement of material such as bauxite, natural gas, furnace oil, and lime.

Calcined Alumina

- Ceramics
- Refractories
- Polishing
- Flame retardants

Alumina hydrate

- Coarse alumina hydrate: Water treatment chemicals (aluminium sulphate (alum), PAC (Poly Aluminium Chloride), zeolite, aluminium fluoride, glass, etc.)
- Fine alumina hydrate: (fillers in paper and in sheet moulding compounds, dough moulding compound etc.), flame retardants and suppressants in cables and composites

We have developed a high-grade alumina SMA4 for US refractory customers. Based on the technical requirement provided such as specific surface area, particle size distribution, soda content, etc. the desired property was derived.

Novelis – Key Segments

Novelis operates integrated, technologically advanced rolling and recycling facilities in North America, South America, Europe, and Asia. The Company offers sustainable and innovative manufacturing solutions to various sectors mainly comprising manufacturing and construction, healthcare, consumer staples, real estate, materials, and utilities.

Offerings at Novelis

- Aluminium sheet and plate material for fuselage and wing structure components
- Automotive aluminium sheet
- Flexible tubes
- Heat exchangers
- Industrial goods
- Painted products
- Technical foil products
- Electric vehicle battery enclosure
- Aerospace
- Commercial plate
- Tipperlite
- Tooling and moulding
- Lightweight electric vehicle battery enclosure
- Producer of aluminium beverage can sheet
- Recycler of used beverage cans

Novelis Specialties aluminium applications in

- Architecture and Construction
- Food and Pharmaceutical
- Signage and Printing
- Transportation
- Commercial and Consumer

At Novelis customer solution centre, we are closely working with our customers to introduce a roll forming line for the development of high-strength aluminium auto components. Furthermore, our recently launched can customer solution centre will serve as an innovation hub for aluminium beverage packaging.

Markets Served

Aerospace: Aluminum's high strength-to-weight ratio, energy efficiency, and high resistance to extreme temperatures make it an ideal material to manufacture aircraft.

Automotive: Novelis' Advanz™ and Fusion™ product portfolio includes high-performing alloys ideal for inner applications such as decklid and door inners and other closure inner panels. Novelis is the leader in auto body sheets used for making BIW-light, durable vehicles.

Beverage packaging: Produce recyclable, lightweight aluminum sheet used to make aluminum beverage cans, bottles, and cups. Novelis is a leading buyer and recycler of used beverage cans (UBCs) globally.

Specialties: Novelis offers a wide range of products under specialties aluminium such as AL: sust™, G77Ac, SSL BF, etc.

Customer Satisfaction

To gain a comprehensive understanding of customer perceptions regarding our products and services, we follow a mix of bottom-up and top-down approach across our respective businesses.

We have conducted various studies and surveys to gauge customer satisfaction. Through the NPS survey, we conduct a detailed cross-functional analysis of customer feedback and try to assess customer perceptions in depth.

For aluminium and chemicals businesses, we conduct NPS surveys through a top-down approach. We engage a B2B specialist market research agency to carry out a double-blind Net Promoter Score survey.

For aluminium, the survey is generally conducted biennially for our Primary, FRP, Extrusion and Foil businesses. In the bottom-up approach, the NPS rating is received from customers through our dedicated call centre and is captured in a system-driven 'Mission Happiness' platform.

During the reporting period, we achieved a Net Promoter Score (NPS) of 80% for copper operations and 75% for chemicals business. For our aluminium business, details are as follows:

SBU	NPS Received in FY	Top-Down NPS Score	Next Survey Planned in FY
Primary Ingots	FY 2021-22	64%	FY 2023-24
Primary wire rods	FY 2021-22	75%	FY 2023-24
Flat Rolled Products	FY 2021-22	47%	FY 2023-24
Extrusion	FY 2022-23	65%	FY 2024-25
Foil	FY 2020-21	46%	FY 2023-24

During the reporting period, our Novelis operations received a customer satisfaction score of 90.20% as compared to 86% in FY 2021-22.

Furthermore, we are employing various techniques to nurture our relationships and focusing on business activities driven by customer input to consistently maintain high levels of NPS. We aim to enhance customer service by prioritising customer-centric initiatives and digitising various processes for improved efficiency.

Novelis operates integrated, technologically advanced rolling and recycling facilities in North America, South America, Europe, and Asia.

Customer Grievance Redressal

In the process of enhancing customer experience, we are migrating to a Digital Customer Service (DCS) platform from the existing customer relationship management (CRM) platform. The concerns and grievances of customers are logged in DCS. Each complaint has a Turn Around Time (TAT) and defined escalation matrix, which helps track and resolve the complaints in a timely manner. Each email contains brief details of the complaint, which enables proper root cause analysis, and corrective and preventive action, ultimately enabling more efficient resolution.

We received 38 complaints during the reporting year, whereas 44 complaints were received during FY2021-22 for our chemicals business. All the complaints received have been closed.

To improve customer experience, feedback received from the customers is analysed and inputs are incorporated into our processes. Data analytics and insights have played a key role in reducing the occurrence of repeated complaints. During the reporting year, we did not receive a single complaint on breach of customer privacy or loss of customer data. This applies to complaints received from outside parties and regulatory bodies and is substantiated by Hindalco.

Product Health and Safety

At Hindalco, we consider the manufacturing of safe and dependable products integral to our business. We ensure compliance with the quality requirements when using any chemicals in the manufacturing of our products. Furthermore, for our specialty alumina products we share Material Safety Data Sheet (MSDS) with our customers.

Our specialty Alumina products fall under the non-hazardous category. Furthermore, we also share MSDS with our customers and ensure the safe use and disposal of products.

We serve both Business to Business (B2B) and Business to Customer (B2C) segments and ensure adherence to the mandated standards. Henceforth, 100% of our products are assessed for health and safety impacts. During the year, there was no reported incident of non-compliance concerning product health and safety norms and standards.

Additionally, in the past two financial years, there were no incidents of non-compliance concerning advertising and marketing communications, information or labelling of products.

At Hindalco, we consider the manufacturing of safe and dependable products integral to our business.

Responsible Value Chain

Our suppliers form an integral part of our value chain, spanning across the globe. We encourage them to adhere to ethical and sustainable practices in line with our Supplier Code of Conduct. We strive to develop and maintain strong relationships with them, thereby contributing to our success and building a competitive edge in the market.

A substantial portion of our raw materials are procured from India. Moreover, our supplier network spreads across 44 countries, including China, US, Mexico, Netherlands, Finland, UK, France, Poland, Sweden, Spain, Germany, Italy, Singapore, Dubai, Armenia, Japan, Togo, Chile, Guinea, Peru, Brazil, Canada, Japan, Australia, Indonesia, and South Africa.

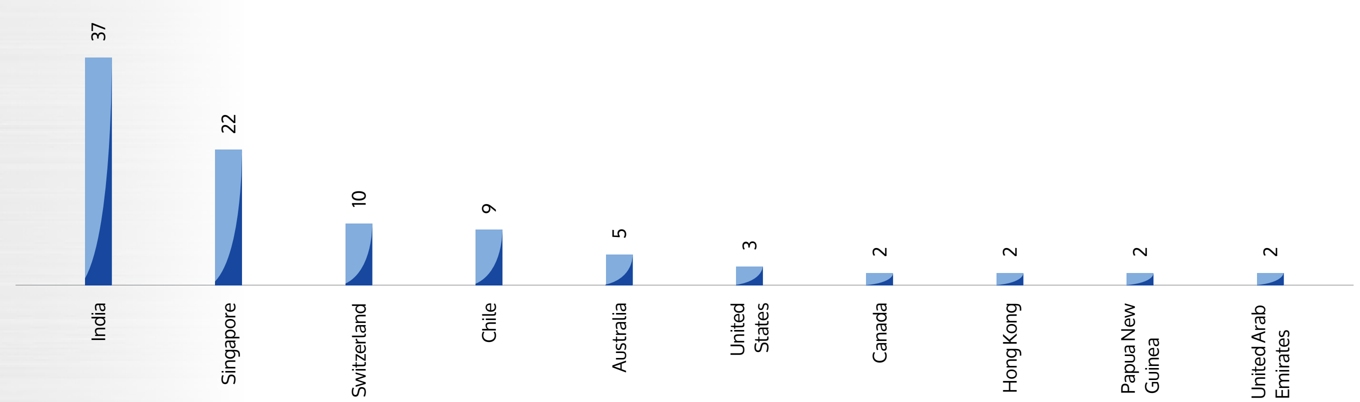
Procurement Spend

Our total procurement spend for Hindalco during the reporting period was ₹57,000 Crore. For Novelis, our total procurement spend was $14.4 billion which accounts for ₹115,660.80 Crore.

Responsible Sourcing

We are committed to a responsible supply chain and undertake initiatives to create awareness among our suppliers. We have procedures in place for sustainable sourcing. During the reporting period, 100% of our inputs were sourced sustainably. Around 2.5% of our input materials were sourced directly from MSMEs/small producers and 37% from within the district and neighbouring districts.

Hindalco's Procurement Spend (FY 2022-23) from Top 10 Countries (%)



Procurement Spend from Other Countries	
Japan	2%
Kuwait	1%
Cyprus	1%
Bahrain	0.47%
Saudi Arabia	0.34%
Germany	0.16%
China	0.12%
Netherlands	0.05%
Finland	0.05%
Thailand	0.05%

Procurement Spend from Other Countries	
United Kingdom	0.04%
Malaysia	0.03%
Republic of Korea	0.02%
France	0.02%
Malaysia	0.02%
Italy	0.01%
Mexico	0.01%
Lithuania	0.01%
Austria	0.01%
Poland	0.01%

	Procurement Spend (₹ Crore)	% of Spend
Indian Suppliers	21,213	37%
International Suppliers	35,787	63%

Supplier Code of Conduct

Our Supplier Code of Conduct (SCC) is developed based on global best practices encompassing safety, health, environment, human rights and labour, ethical and fair business practices.

The SCC is aimed at creating a positive impact on sustainable business practices across our value chain. We ensure that purchasing practices are continuously reviewed in alignment with several ESG practices.

Key focus areas from our Supplier Code of Conduct

- Compliance with all applicable laws and regulations
- Business Ethics
- Anti-corruption/ Bribery
- Labour and Human Rights
- Occupational Health and Safety
- Environment
- Development of High Quality and Safe Products
- Fair Treatment to Employees and Suppliers
- Sustainable Practices
- Verification of Supplier's Compliance

We also encourage our suppliers to develop their own sourcing policies and standards in line with international standards.

All our suppliers, vendors, contractors, consultants, agents, and other providers of goods and services are expected to adhere to the SCC.

Suppliers are expected to have necessary systems to minimise the impact of their operations and products on the environment and maintain compliance with government regulations. Furthermore, suppliers are asked to uphold fundamental human rights and comply with International Labour Organization (ILO) standards on human rights, as laid down in our SCC. They are further encouraged to provide a safe workplace, free from any form of discrimination and harassment.

We expect our suppliers to maintain safe working conditions at their operations by continuously identifying potential hazards, evaluating risks, and establishing control measures to reduce health and safety risks in compliance with our SCC.

We also encourage our suppliers to develop their own sourcing policies and standards in line with international standards. We prompt our suppliers to create awareness and provide training to their employees and contractors on risk precautions and emergency measures. In alignment with this, we are also planning to conduct trainings for company's buyers on their roles in supplier ESG programme in the coming years. This will also equip our team to conduct second party assessments. We conduct periodic assessments for our supply chain partners to check their conformity to the SCC.

Integrating ESG Into Our Supply Chain

Executive management oversees the implementation of supplier ESG programmes and ensures alignment of the Company's vision with ESG strategies. Of the total Tier-1 suppliers, we have identified 103 suppliers as 'significant'.

Our 'significant suppliers' are classified in terms of business relevance and ESG impacts to Hindalco.

We have a systematic supplier screening approach to identify significant suppliers.

Our suppliers undergo screening on environmental, social, governance, and business relevance aspects (such as price competitiveness, quality, and response time). Furthermore, in the screening process for significant suppliers, we take into account risks for negative environmental, social, and governance impacts related to a country's political, social, economic, environmental, or regulatory situation. Once, we have identified risks in the supply chain post-screening, the suppliers are rated and categorised into:

- **Identified Vendors:** Those willing to do business with our Company.
- **Empanelled Vendors:** Those eligible to undertake trial orders.
- **Approved Vendors**: Those who are finally selected and approved post-performance evaluation.

We have set minimum ESG requirements that suppliers must comply with to access tenders or be selected for contract awarding. In case of failure in achieving these requirements, the suppliers are excluded from contracting. Suppliers with better ESG performance are preferred for contract awarding by applying a minimum weight to ESG criteria. We lay special emphasis on adherence to human rights which also forms part of business agreements and contracts. Moreover, we continuously review the purchasing practices of suppliers to ensure their alignment with SCC and avoid any potential conflicts with ESG requirements. Suppliers who are not able to meet expectations within a set timeframe are excluded from the list of Potential Suppliers until they become eligible. On the contrary, suppliers with better ESG performance are preferred by including a specific weight to ESG criteria in supplier selection and contract awarding. At Novelis, we have created a structured team of our employees to formally address responsible sourcing.

During the reporting year, 467 suppliers, including all our new suppliers, were screened using environmental and social criteria.

Supplier Assessment Process

We assess our suppliers to obtain information on their practices in order to measure and monitor their performance. Supplier assessment helps in increased performance visibility and aligns customer and supplier business practices and risk mitigation. We conducted a supplier desk assessment, where a questionnaire was shared with suppliers for verification of evidence. They were requested to provide information and supporting evidence on their ESG policies, practices, performance, and public disclosures. This information was then reviewed, verified, and analysed through on-site supplier visits using industry-best standards and methodologies.

Vendor assessment and due diligence of high-spend suppliers are conducted via an independent third-party to ensure the effective implementation of Hindalco's supplier ESG programmes. These assessments also consider if statutory dues have been deducted and deposited by the value chain partners.

During the reporting year, 467 suppliers were assessed wherein 34 (7%) of them, were identified as having significant potential environmental impacts followed by the provision and support in corrective and preventive action plans. One supplier was identified as having significant actual and potential negative social impacts. After the assessment, the relationship with the supplier was terminated. These assessments also included our significant suppliers, wherein we assessed 64 (making up to 62%) of them against the target of 100%. These suppliers contribute to 56% of the total procurement spend. The assessment comprises ESG parameters such as sexual harassment, discrimination at the workplace, child labour, forced labour or involuntary labour, wages, health and safety, workplace conditions among others. There were no suppliers which were identified with substantial actual/ potential negative impacts. Furthermore, no suppliers were terminated who were identified with substantial actual/ potential negative impacts.

Supplier Network at Hindalco

Type of Supplier	Absolute Number of Suppliers	Amount Spend (₹ Crore)	Number of Suppliers Assessed	Share of Total Procurement Spend (%)
Total number of Tier-1 suppliers	11,120	57,000	467	100%
Total number of significant Tier-1 suppliers	103	51,319	64	90%

During the reporting year, the share of procurement spend on coal accounted to be 14%. Considering Hindalco India and Novelis operations, the total Tier-1 supplier base is 19,409 suppliers. Out of these, 717 suppliers are identified as significant Tier-1 suppliers. During the reporting period, we carried out business of ₹149,448 Crore with Tier-1 suppliers, of which 66% was with significant Tier-1 suppliers. In addition to this, we have also identified 217 significant non-Tier-1 suppliers for Novelis operations.

Supplier Evaluation and Risk Assessment

We perceive the risk assessment of suppliers as a crucial component of resilience in rapidly evolving market conditions. We have a supplier risk assessment process wherein suppliers are evaluated before onboarding and biennially post-selection. The assessment is based on parameters such as health and safety, environmental management, labour management, human rights, statutory compliance, financial attributes, and market dependency. We also conduct scenario analysis to identify potential risks along the entire supply chain, basis which the evaluation parameters are updated. ESG aspects are given around 25% weightage in the overall assessment of the suppliers.

The rating is further calculated for each supplier based on the score received in the vendor assessment process. Basis their rating, they are classified into high, medium, or low risk. The low rating of suppliers impacts their business opportunities/relationship with us.

Risk Rating

Risk Rating	Category
Less than 2.5**	High-risk supplier (Development needed)
2.5 to 3.24	Moderate-risk supplier (Acceptable action may still be required)
3.25 to 5.00	Low-risk supplier

** Suppliers categorised as high-risk stand to lose the opportunity to receive inquiries or business from Hindalco.

During the reporting period, 60 new suppliers were screened for ESG risks. 0.3% of total suppliers were classified to be at high-risk. We are committed to providing the required training and support to high-risk suppliers (with a score less than 2.5) and help them improve their risk rating.

For suppliers with a good score (over 4), we plan to conduct physical and virtual audits. During the reporting period, we conducted due diligence on 62% of our significant suppliers. By 2024, we further aim to conduct due diligence on 100% of our significant suppliers, with whom we have had business relationships for the past two years.

We maintain an enterprise risk register for the central procurement supply chain. We have identified key risks associated with supply chain disruption comprising social, economic, environmental geopolitical logistics, infrastructure, financial, strategic and operational risks.

We conduct a root cause analysis and identify the Company's objectives that the risk has a bearing on and assess the risk's likelihood and severity score. Based on the increasing order of scores, the risk is categorised as green, yellow, amber and red.

Post-risk categorisation, we establish a mitigation plan to reduce risk score. Execution of the mitigation plan is evaluated every month.

We interact with our suppliers and vendors on a regular basis through emails and meetings, vendor assessment and review, supplier audits, training workshops and seminars, and stakeholder engagement surveys. We have a grievance mechanism for suppliers to raise their concerns and issues proactively. We regularly track and monitor if there are any complaints or concerns from them and take necessary actions for the same. In the past two financial years, there have been no complaints filed from suppliers and our logistic partners.

During the reporting year, we conducted a vendor meet to apprise our business partners on Hindalco's policy, our commitment towards the integration of sustainability in the supply chain and our expectations to take up the collaborative approach towards achieving our sustainability commitments. Around 116 senior delegates from 85 businesses across the 11 countries, covering the most of our significant supplier base attended the meet.

We interact with our suppliers and vendors on a regular basis.

Logistics

Logistics in Hindalco encompasses every aspect of goods movement - from production to delivery to the final customer, including waste handling.

Given the geography of our facilities, the raw material sources and the markets that we serve, the logistics function deals with a formidable challenge with large volumes of commodities to be transported over long distances.

Our logistics verticals

- Road Logistics
- Railways
- Shipping
- Warehousing
- Digitalisation

Logistics is managed centrally by the corporate logistics function, which is categorised into five verticals viz. Road, Railways, Shipping, Warehousing and Digitalisation.

These verticals standardise and streamline logistics operations across all our plants, allowing them to gain a competitive edge through volume-based play and effective planning and coordination.

The logistics team connects multiple unit logistics, from mines to marketing, allowing us to broaden our presence across the country and strengthen our push for operational excellence and cost leadership.

At Novelis, the global logistics network includes Road, Rail, Ocean and Air transportation.

	Verticals	Number of Partners
Hindalco		
Road Logistics	Finished goods transportation	75
	Alumina and Fly ash	50
	Bauxite/coal (individual transporters under Association)	~650
Railways	Finished goods transportation	2
	Inward and Outward goods including wastes (alumina, bauxite, coal, CP Coke, Lime, FO, FG, caustics, bauxite residue fly ash)	1
Shipping	Shipping lines	15
	Custom Housing Agent (CHA)	6
	Freight Forwarder (F&F)	9
	Stevedores	4
	Inspection Agencies	5
Warehousing	Service Providers	11
Digitalisation	Partner Organisations	12
Novelis		
Number of partners		100+

Assessment of Logistics Partners

All logistics partners are onboarded through functional assessment of the capabilities and expertise of the vendors, followed by detailed techno-commercial evaluation. Contracts are then awarded to the best technical and commercial composite. Our screening criteria are based on various parameters such as relative expertise, experience and feedback from market and competition, past and ongoing performance, compliance to ethics and code of conduct, and accuracy of services provided, among others. These are further used for onboarding or renewal of contracts with logistics partners.

We also ensure that there is no child labour or forced or compulsory labour or other human rights-related indicators practiced across our value chain. Thus, these human rights requirements also form part of our business agreements and contracts.

During the reporting period, we terminated four transporters for their serious negligence of operational and ethical practices.

During the reporting year, all our logistic partners were assessed for environmental as well as social impacts comprising sexual harassment, discrimination at the workplace, child labour, forced labour or involuntary labour, wages, health and safety, and workplace conditions among others.

At Novelis, vendor performance is tracked through a balanced scorecard, measuring operational performance, safety, sustainability, and pricing competitiveness.

Moreover, several metrics and certifications such as EPA smart way, MPG benchmarking, average age of the fleet, empty mile reduction and payload optimisation are a part of the assessments.

All logistics partners are onboarded through functional assessment of the capabilities and expertise of the vendors.

Geopolitical Risks and Challenges

At Hindalco, we ensure that rising geopolitical uncertainty does not impact our operations. Hence, we onboard logistic partners based on fixed contract agreements to ascertain that our operations are not affected due to volatility in market demand and supplies.

However, during unforeseen situations, such as COVID-19, we ensured that the Bill of Lading (B/L) was released at discharge ports of other countries as India was under complete lockdown. As a result, we encouraged the shipping division to enhance our conventional process and set up a procedure to receive B/Ls through other countries.

Digitalisation at Logistics

Road

Finished goods dispatched from aluminium and copper units and warehouses are digitally tracked through Global Positioning System (GPS) devices in vehicles. This enables us to provide real-time visibility to customers as well as sales and marketing. The tracking portal is integrated with Enterprise Resource Planning (ERP) system to provide visibility at a micro level. The same data is archived and subjected to analytical tools and processes to develop interactive real-time dashboards. This helps monitor and intervene in logistics KPIs and the performance and efficiency of logistics partners.

Vehicles with minerals like bauxite and coal in certain sectors are also tracked through GPS to monitor driving efficiency, shortage and theft and other logistics parameters.

Rail

Hindalco-owned rakes like Bogie Tanker Alumina Powder (BTAP) are fitted with solar-powered GPS devices for tracking

and asset management. The data from CRIS (Centre for Railway Information System) is also ported to monitor and intervene in Rail KPIs such as TAT, demurrage, underloading, overloading, punitive charges, dead freight and utilisation of rakes.

Warehouse

Our 17 external warehouses are monitored in real-time to observe adherence to safety, turnaround time of vehicles, provision and utilisation of PPEs by workforce and tracking of external visitors if any. Furthermore, to increase productivity and accuracy of inventory and operation, we are in the process of implementing the Oracle Warehousing Management System to serve our end customer in a more better way.

Shipping

During the reporting year, we conducted a pilot test to track containers. We also performed a Proof of Concept (POC) test to generate electronic bills of lading and ensure touchless transactions.

FUELLING RESILIENCE IN THE FACE OF COAL CRISIS

One of the most critical raw materials used in our operation is coal. Due to recent disruptions in coal supply, the government prioritised coal supply to commercial power plants. Because of this, the quantity of auction D.O. was also reduced by 65% and rake allotment to the non-core segment was brought down by Indian Railways. As a result, trucks poured into every mine, driving up freight expenses.

In May 2022, coal stock at each unit in the Renukoot cluster was reduced to 5 to 6 days. Similarly, coal inventory in other units of Hindalco was hovering around the critical level, while at the Utkal unit, it bottomed down to 1-2 days. To lift the allotted 65% quantity on time, we increased the base freight price subject to the timely lifting of the (D.O) quantity. Additional incentives were provided to transporters for lifting the allocated quantity 7-10 days prior to D.O. dates.

Buoyed by the urge to obtain maximum incentives, transporters started to complete the lifting of coal 10 days prior to the due date.

Consequently, a large number of trucks started getting deployed to Hindalco as compared to other parties. As a result, collaboration at mines improved and the stock of coal at all plants reached a sustainable level.

We ensured that none of the D.O.s failed, and the sanctioned quantity was lifted 7-10 days prior to the expiry of D.O. dates for all units of the Renukoot cluster. Actual transportation costs ended up being higher than the P&B, but we ensured that none of our power plants were shut down due to the unavailability of coal.

Social and Relationship Capital

Policy Advocacy

At Hindalco, we follow a structured approach towards public policy advocacy across all our operating locations. All our initiatives focus on collaborating with our stakeholders with a common goal of maximising value for them. Our advocacy efforts take cognizance of concerns and challenges of our stakeholders and hence our goal is to work on practical and win-win solutions for them in the advocacy journey. As part of our policy advocacy efforts, we engage with multiple stakeholders such as industry associations cutting across various sectors, think tanks, governments and regulatory authorities etc. The purpose of such collaborations is to contribute towards innovation and R&D efforts, and knowledge sharing with respect to industry best practices.

All our advocacy initiatives are driven in a structured manner, with the Policy Advocacy Head overseeing all initiatives at the Head Office headquartered in Mumbai. In the case of function-specific efforts, respective heads of functions collaborate on various aspects such as the Chief Sustainability Officer on matters related to climate change and environment, the mining team on sustainable mining efforts and R&D teams on sustainable new product development and marketing teams on light-weighting solutions. Through this structured and collaborative approach, we ensure a better alignment of policy advocacy efforts with our strategic priorities. As an oversight on overall policy advocacy efforts, the Risk Management and ESG Committee takes a review on critical advocacy issues on a regular basis and these matters are communicated to the Board through this committee.

Through our associations, we advocate for the cause of environment restoration, sustainable mining, climate-action related activities and sustainability best practices.

To bring about a transformation across the ecosystem, we consistently engage with forums such as FICCI and CII to share and exchange ESG driven best practices. Presently, amongst others, we are working in collaboration with the Aluminium Association of India for backfilling of abandoned stone quarries and mines. In furtherance to that, we are also carrying out an eco-restoration activity in one of these mine allocations.

Our advocacy efforts are aligned with the Paris Agreement. In light of this, we work in collaboration with research institutions on matters such as utilisation of bauxite residue in road construction, or manufacturing of lightweight wagons, lightweighting solutions for commercial and personal mobility among others.

These initiatives not only aid us in reducing emissions but also contribute to our efforts of limiting the average global temperatures to well below 2 degree Celsius. Some of these ESG-driven efforts also help in nurturing our inter-industry partnerships and aid in improving our ESG performance.

There were no corrective actions taken or underway due to any anti-competitive conduct based on adverse orders from regulatory bodies. During the reporting year, there were no political contributions. Details related to charitable donations are covered under the CSR section of the report.

We contributed ₹1.08 Crore towards our affiliated trade associations which primarily consisted of annual subscription fees.

Our Key Associations

We have been associated with reputed trade associations and industrial bodies. Some of them are:

- **Aluminium Association of India**
- **Aluminum Association, USA**
- **Automotive Research Association of India**
- **Confederation of Indian Industry**
- **European Aluminium Association**
- **Federation of Indian Chambers of Commerce & Industry**
- **Federation of Indian Export Organisations**
- **Indian Primary Copper Producers Association**
- **Indian Electrical and Electronics Manufacturers' Association**
- **International Aluminium Institute**
- **International Copper Association**
- **Maharashtra Chamber of Commerce, Industry & Agriculture**
- **Primary Copper Producers Association**
- **Winding Wire Association**

Awards and Recognition

Hindalco is among the **top 40 of India's Best Workplaces in Health and Wellness 2022** by The Great Place to Work® Institute.

Hindalco is in the **top 1% S&P Global ESG score in the aluminium industry in 2022 (a score of 83/100).** Hindalco continues to be a part of S&P Global Sustainability Yearbook 2023 for the third consecutive year.

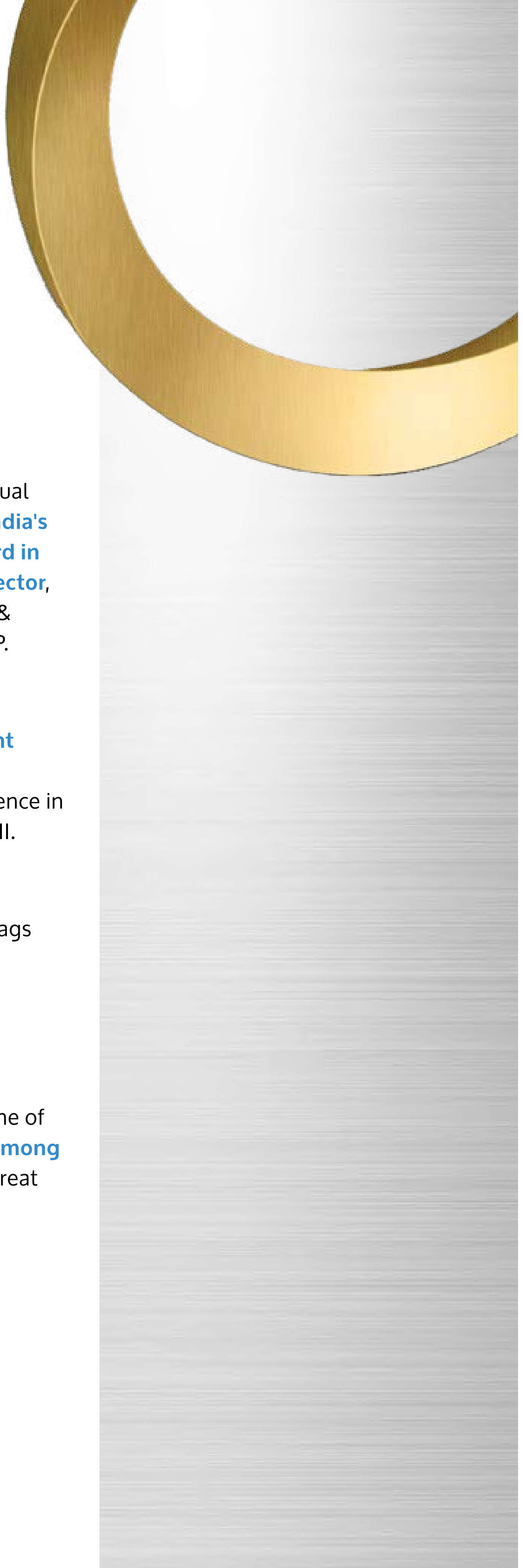
Hindalco wins the award for **Environmental and Social Initiatives** at KPMG ESG Conclave and Awards '23.

Hindalco's Integrated Annual Report FY 2021-22 wins **India's best Annual Report Award in the Mining and Metals Sector**, by The Free Press Journal & Grant Thornton Bharat LLP.

Mahan CPP wins **'Excellent Energy Efficient Unit'** in National Award for Excellence in Energy Management by CII.

Aditya and Mahan plant bags '**Gold** at the India **Green Manufacturing** Challenge Award'

Hindalco was named as one of **'India's Best Employers Among Nation Builders'** by The Great Place to Work® Institute.



GRI Content Index

Statement of use Hindalco Industries Limited has reported in accordance with the GRI Standards for the period 01 April 2022 to 31 March 2023.

GRI 1 used GRI 1: Foundation 2021

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S)/ OMITTED	REASON	EXPLANATION	
General disclosures						
GRI 2: General Disclosures 2021	2-1 Organizational details	16 (About Hindalco)	-	-	-	-
	2-2 Entities included in the organization's sustainability reporting	11 (About the Report)	-	-	-	-
	2-3 Reporting period, frequency and contact point	11 (About the Report)	-	-	-	-
	2-4 Restatements of information	134 (Emissions Management)	-	-	-	-
	2-5 External assurance	664 (Independent assurance statement)	-	-	-	-
	2-6 Activities, value chain and other business relationships	16 (About Hindalco)	-	-	-	-
	2-7 Employees	80 (Human Capital: Organisation Effectiveness)	-	-	-	-
	2-8 Workers who are not employees	80 (Human Capital: Organisation Effectiveness)	-	-	-	-
	2-9 Governance structure and composition	22 (Corporate Overview: Board of Directors and Leadership Team)	-	-	-	-
	2-10 Nomination and selection of the highest governance body	296 (Coprorate Governance Report)	-	-	-	-
	2-11 Chair of the highest governance body	296 (Coprorate Governance Report)	-	-	-	-
	2-12 Role of the highest governance body in overseeing the management of impacts	296 (Coprorate Governance Report)	-	-	-	-
	2-13 Delegation of responsibility for managing impacts	296 (Coprorate Governance Report)	-	-	-	-
	2-14 Role of the highest governance body in sustainability reporting	128 (Natural Capital: Environment Management)	-	-	-	-
	2-15 Conflicts of interest	296 (Coprorate Governance Report)	-	-	-	-
	2-16 Communication of critical concerns	296 (Coprorate Governance Report)	-	-	-	-
GRI 2: General Disclosures 2021	2-17 Collective knowledge of the highest governance body	296 (Coprorate Governance Report)	-	-	-	-
	2-18 Evaluation of the performance of the highest governance body	296 (Coprorate Governance Report)	-	-	-	-
	2-19 Remuneration policies	HIL remuneration Policy	-	-	-	-

GRI Content Index

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION: REQUIREMENT(S)/ OMITTED	OMISSION: REASON	OMISSION: EXPLANATION	GRI SECTOR STANDARD REF. NO.
GRI 2: General Disclosures 2021	2-20 Process to determine remuneration	HIL remuneration Policy	-	-	-	-
	2-21 Annual total compensation ratio	Details of remuneration (Annexure)	-	-	-	-
	2-22 Statement on sustainable development strategy	26 (Message from the Managing Director)	-	-	-	-
	2-23 Policy commitments	93 (Human Capital: Human Rights)	-	-	-	-
	2-24 Embedding policy commitments	93 (Human Capital: Human Rights)	-	-	-	-
	2-25 Processes to remediate negative impacts	296 (Coprorate Governance Report)	-	-	-	-
	2-26 Mechanisms for seeking advice and raising concerns	296 (Coprorate Governance Report)	-	-	-	-
	2-27 Compliance with laws and regulations	128 (Natural Capital: Environment Management)	-	-	-	-
	2-28 Membership associations	190 (Social and Relationship Capital: Our Key Associations)	-	-	-	-
	2-29 Approach to stakeholder engagement	45 (Stakeholder Engagement)	-	-	-	-
	2-30 Collective bargaining agreements	94 (Human Capital: Human Rights)	-	-	-	-
Material topics						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	45, 48 (Stakeholder Engagement, Materiality Assessment)	-	-	-	-
	3-2 List of material topics	48 (Materiality Assessment)	-	-	-	-
Energy and Emissions Management						
GRI 3: Material Topics 2021	3-3 Management of material topics	131 (Natural Capital: Energy Management)	-	-	-	-
GRI 302: Energy 2016	302-1 Energy consumption within the organization	131 (Natural Capital: Energy Management)	-	-	-	-
	302-2 Energy consumption outside of the organization	-	Omitted	Information unavailable/ incomplete	Monitoring mechanism is under process	
	302-3 Energy intensity	132 (Natural Capital: Energy Intensity)	-	-	-	-
	302-4 Reduction of energy consumption	139 (Natural Capital: Initiatives Taken to Reduce Energy Use and Emissions)	-	-	-	-
	302-5 Reductions in energy requirements of products and services	-	Omitted	Not applicable		
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	134 (Natural Capital: Emissions Management)	-	-	-	-
	305-2 Energy indirect (Scope 2) GHG emissions	134 (Natural Capital: Emissions Management)	-	-	-	-

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION: REQUIREMENT(S)/ OMITTED	OMISSION: REASON	OMISSION: EXPLANATION	GRI SECTOR STANDARD REF. NO.
GRI 305: Emissions 2016	305-3 Other indirect (Scope 3) GHG emissions	134 (Natural Capital: Emissions Management)	-	-	-	-
	305-4 GHG emissions intensity	136 (Natural Capital: Emissions Intensity)	-	-	-	-
	305-5 Reduction of GHG emissions	139 (Natural Capital: Initiatives Taken to Reduce Energy Use and Emissions)	-	-	-	-
	305-6 Emissions of ozone-depleting substances (ODS)	139 (Natural Capital: Ozone Depleting Substances)	-	-	-	-
Waste and Hazardous Materials Management						
GRI 3: Material Topics 2021	3-3 Management of material topics	149 (Natural Capital: Waste Management)	-	-	-	-
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	149 (Natural Capital: Waste Management)	-	-	-	-
	306-2 Management of significant waste-related impacts	149 (Natural Capital: Waste Management)	-	-	-	-
	306-3 Waste generated	150 (Natural Capital: Waste Management)	-	-	-	-
	306-4 Waste diverted from disposal	150 (Natural Capital: Waste Management)	-	-	-	-
	306-5 Waste directed to disposal	150 (Natural Capital: Waste Management)	-	-	-	-
Economic Performance						
GRI 3: Material Topics 2021	3-3 Management of material topics	57 (Financial Capital)	-	-	-	-
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	56 (Financial Capital:Economic Value Creation)	-	-	-	-
	201-2 Financial implications and other risks and opportunities due to climate change	36, 130 (Risk and Opportunities, Natural Capital: Decarbonisation strategy)	-	-	-	-
	201-3 Defined benefit plan obligations and other retirement plans	296 (Coprorate Governance Report)	-	-	-	-
	201-4 Financial assistance received from government	334 (Financial Statements (Consolidated Statement of Cash Flows))	-	-	-	-
Market Presence						
GRI 3: Material Topics 2021	3-3 Management of material topics	16, 54 (About Hindalco, Financial Capital)	-	-	-	-
Water Management						
GRI 3: Material Topics 2021	3-3 Management of material topics	141 (Natural Capital: Water Management)	-	-	-	-
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	141 (Natural Capital: Water Management)	-	-	-	-
	303-2 Management of water discharge-related impacts	141 (Natural Capital: Water Management)	-	-	-	-
	303-3 Water withdrawal	142 (Natural Capital: Water Withdrawal)	-	-	-	-

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GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S)/ OMITTED	REASON	EXPLANATION	
	303-4 Water discharge	147 (Natural Capital: Effluent Management)	-	-	-	-
	303-5 Water consumption	144 (Natural Capital: Water Consumption)	-	-	-	-
Compliance Management						
GRI 3: Material Topics 2021	3-3 Management of material topics	128 (Natural Capital: Environment Management)	-	-	-	-
Community Relations						
GRI 3: Material Topics 2021	3-3 Management of material topics	162 (Social and Relationship Capital: Investing in Our Communities)	-	-	-	-
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	162 (Social and Relationship Capital: Investing in Our Communities)	-	-	-	-
	413-2 Operations with significant actual and potential negative impacts on local communities	162 (Social and Relationship Capital: Investing in Our Communities)	-	-	-	-
Air Emissions						
GRI 3: Material Topics 2021	3-3 Management of material topics	137 (Natural Capital: Stack Emissions)	-	-	-	-
GRI 305: Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	137 (Natural Capital: Stack Emissions)	-	-	-	-
Occupational Health and Safety						
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	105 (Human Capital: Occupational Health and Safety)	-	-	-	-
	403-2 Hazard identification, risk assessment, and incident investigation	107 (Human Capital: Hazard Identification and Risk Assessment)	-	-	-	-
	403-3 Occupational health services	108 (Human Capital: Occupational Health Services)	-	-	-	-
	403-4 Worker participation, consultation, and communication on occupational health and safety	96 (Human Capital: Learning and Development)	-	-	-	-
	403-5 Worker training on occupational health and safety	106 (Human Capital: Safety Training and Awareness)	-	-	-	-
	403-6 Promotion of worker health	106 (Human Capital: Behaviour based Safety, Safety Training and Awareness)	-	-	-	-
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	108 (Human Capital: Occupational Health Services)	-	-	-	-

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S)/ OMITTED	REASON	EXPLANATION	
	403-8 Workers covered by an occupational health and safety management system	108, 106 (Human Capital: Occupational Health Services, Safety Training and Awareness)	-	-	-	-
	403-9 Work-related injuries	107 (Human Capital: Safety Performance)	-	-	-	-
	403-10 Work-related ill health	107 (Human Capital: Safety Performance)	-	-	-	-
Supply Chain Transformation						
GRI 3: Material Topics 2021	3-3 Management of material topics	182 (Social and Relationship Capital: Responsible Value Chain)	-	-	-	-
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	186 (Social and Relationship Capital: Supplier Evaluation and Risk Assessment)	-	-	-	-
	308-2 Negative environmental impacts in the supply chain and actions taken	186 (Social and Relationship Capital: Supplier Evaluation and Risk Assessment)	-	-	-	-
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	186 (Social and Relationship Capital: Supplier Evaluation and Risk Assessment)				
	414-2 Negative social impacts in the supply chain and actions taken	186 (Social and Relationship Capital: Supplier Evaluation and Risk Assessment)				
Biodiversity						
GRI 3: Material Topics 2021	3-3 Management of material topics	155, 156 (Natural Capital- From Extraction to Restoration: Sustainable Mining for a Greener Future, Conserving and Preserving Biodiversity)	-	-	-	-
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	155 (Natural Capital- From Extraction to Restoration: Sustainable Mining for a Greener Future)	-	-	-	-
	304-2 Significant impacts of activities, products and services on biodiversity	155, 156 (Natural Capital: From Extraction to Restoration: Sustainable Mining for a Greener Future, Conserving and Preserving Biodiversity)	-	-	-	-
	304-3 Habitats protected or restored	155, 156 (Natural Capital: From Extraction to Restoration: Sustainable Mining for a Greener Future, Conserving and Preserving Biodiversity)	-	-	-	-

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GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S)/ OMITTED	REASON	EXPLANATION	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	155, 156 (Natural Capital: From Extraction to Restoration: Sustainable Mining for a Greener Future, Conserving and Preserving Biodiversity)	-	-	-	-
Market Presence						
GRI 3: Material Topics 2021	3-3 Management of material topics	176 (Social and Relationship Capital: Customer Centricity)	-	-	-	-
Indirect Economic Impacts						
GRI 3: Material Topics 2021	3-3 Management of material topics	57 (Financial Capital)	-	-	-	-
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	59 (Financial Capital: Capacity Expansions)	-	-	-	-
	203-2 Significant indirect economic impacts	162 (Social and Relationship Capital: Investing in Our Communities)	-	-	-	-
Procurement Practices						
GRI 3: Material Topics 2021	3-3 Management of material topics	182 (Social and Relationship Capital: Responsible Value Chain)	-	-	-	-
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	183 (Social and Relationship Capital: Procurement Spend)	-	-	-	-
Anti-Corruption						
GRI 3: Material Topics 2021	3-3 Management of material topics	296 (Coprorate Governance Report)	-	-	-	-
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	296 (Coprorate Governance Report)	-	-	-	-
	205-2 Communication and training about anti-corruption policies and procedures	296 (Coprorate Governance Report)	-	-	-	-
	205-3 Confirmed incidents of corruption and actions taken	296 (Coprorate Governance Report)	-	-	-	-
Anti-competitive Behavior						
GRI 3: Material Topics 2021	3-3 Management of material topics	296 (Coprorate Governance Report)	-	-	-	-
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	296 (Coprorate Governance Report)	-	-	-	-
Tax						
GRI 3: Material Topics 2021	3-3 Management of material topics	208, 334 (Statutory Reports and Financial Statements)	-	-	-	-
GRI 207: Tax 2019	207-1 Approach to tax	208, 334 (Statutory Reports and Financial Statements)	-	-	-	-
	207-2 Tax governance, control, and risk management	208, 334 (Statutory Reports and Financial Statements)	-	-	-	-
	207-3 Stakeholder engagement and management of concerns related to tax	208, 334 (Statutory Reports and Financial Statements)	-	-	-	-
	207-4 Country-by-country reporting	208, 334 (Statutory Reports and Financial Statements)	-	-	-	-
Materials						
GRI 3: Material Topics 2021	3-3 Management of material topics	149 (Natural Capital: Raw Material Management)	-	-	-	-
GRI 301: Materials 2016	301-1 Materials used by weight or volume	149 (Natural Capital: Raw Material Management)	-	-	-	-
	301-2 Recycled input materials used	149 (Natural Capital: Raw Material Management)	-	-	-	-
	301-3 Reclaimed products and their packaging materials	149 (Natural Capital: Raw Material Management)	-	-	-	-
Employment						
GRI 3: Material Topics 2021	3-3 Management of material topics	80 (Human Capital: Organisation Effectiveness)	-	-	-	-
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	82 (Human Capital: Talent Management and Retention Strategy)	-	-	-	-
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	89, 93 (Human Capital: Employee Wellbeing, Human Rights)	-	-	-	-
	401-3 Parental leave	92 (Human Capital: Employee Wellbeing and Human Rights)	-	-	-	-
Labor/Management Relations						
GRI 3: Material Topics 2021	3-3 Management of material topics	89, 93 (Human Capital: Employee Wellbeing, Human Rights)	-	-	-	-
GRI 402: Labor/ Management Relations 2016	402-1 Minimum notice periods regarding operational changes	93 (Human Capital: Human Rights)	-	-	-	-
Training and Education						
GRI 3: Material Topics 2021	3-3 Management of material topics	96 (Human Capital: Learning and Development)	-	-	-	-
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	100 (Human Capital: Effectiveness of Training)	-	-	-	-
	404-2 Programs for upgrading employee skills and transition assistance programs	96 (Human Capital: Learning and Development)	-	-	-	-
	404-3 Percentage of employees receiving regular performance and career development reviews	88 (Human Capital: Performance Discussion and Potential Assessment)	-	-	-	-

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GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S)/ OMITTED	REASON	EXPLANATION	
Diversity and Equal Opportunity						
GRI 3: Material Topics 2021	3-3 Management of material topics	102 (Human Capital: Diversity, Equity and Inclusion)	-	-	-	-
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	102, 80 (Human Capital: Diversity, Equity and Inclusion, Organisation Effectiveness)	-	-	-	-
	405-2 Ratio of basic salary and remuneration of women to men	94 (Human Capital: Human Rights)	-	-	-	-
Non-Discrimination						
GRI 3: Material Topics 2021	3-3 Management of material topics	93 (Human Capital: Human Rights)	-	-	-	-
GRI 406: Non-Discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	93 (Human Capital: Human Rights)	-	-	-	-
Freedom of Association and Collective Bargaining						
GRI 3: Material Topics 2021	3-3 Management of material topics	94 (Human Capital: Human Rights)	-	-	-	-
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	94 (Human Capital: Human Rights)	-	-	-	-
Child Labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	184 (Social and Relationship Capital: Supplier Code of Conduct)	-	-	-	-
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	94,184, 171 (Human Capital: Human Rights, Social and Relationship Capital: Supplier Code of Conduct, Social Reforms)	-	-	-	-
Forced or Compulsory Labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	184 (Social and Relationship Capital: Supplier Code of Conduct)	-	-	-	-
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	94,184, 171 (Human Capital: Human Rights, Social and Relationship Capital: Supplier Code of Conduct, Social Reforms)	-	-	-	-
Security Practices						
GRI 3: Material Topics 2021	3-3 Management of material topics	93 (Human Capital: Human Rights)	-	-	-	-
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	93 (Human Capital: Human Rights)	-	-	-	-
Rights of Indigenous Peoples						
GRI 3: Material Topics 2021	3-3 Management of material topics	93 (Human Capital: Human Rights)	-	-	-	-
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	93 (Human Capital: Human Rights)	-	-	-	-
Public Policy						
GRI 3: Material Topics 2021	3-3 Management of material topics	296 (Coprorate Governance Report)	-	-	-	-
GRI 415: Public Policy 2016	415-1 Political contributions	296 (Coprorate Governance Report)	-	-	-	-
Customer Health and Safety						
GRI 3: Material Topics 2021	3-3 Management of material topics	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
Marketing and Labeling						
GRI 3: Material Topics 2021	3-3 Management of material topics	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
	417-2 Incidents of non-compliance concerning product and service information and labeling	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
	417-3 Incidents of non-compliance concerning marketing communications	182 (Social and Relationship Capital: Product Health and Safety)	-	-	-	-
Customer Privacy						
GRI 3: Material Topics 2021	3-3 Management of material topics	181 (Social and Relationship Capital: Customer Satisfaction)	-	-	-	-
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	181 (Social and Relationship Capital: Customer Satisfaction)	-	-	-	-

United Nations Global Compact (UNGC) Principles

UNGC Principles	Section in Report	Page No.
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.	Human Capital	93
Principle 2: Make sure that they are not complicit in human right abuses.	Human Capital	93
Principle 3: Business should uphold the freedom of association and the effective recognition of the right to collective bargaining	Human Capital	94
Principle 4: The elimination of all forms of forced and compulsory labour.	Human Capital	93
Principle 5: The effective abolition of child labour	Human Capital	93
Principle 6: The elimination of discrimination in respect of employment and occupation.	Human Capital	102
Principle 7: Business should support a precautionary approach to environmental challenges.	Natural Capital	127
Principle 8: Undertake initiatives to promote greater environmental responsibility.	Natural Capital	127
Principle 9: Encourage the development and diffusion of environmentally friendly technologies.	Natural Capital	127
Principle 10: Business should work against corruption in all its forms, including extortion and bribery.	Corporate Governance	296

United Nations Sustainable Development Goals (UN SDGs)

Sustainable Development Goal (SDG)	Section in the report	Page No.
SDG 1 No Poverty	Social and Relationship Capital	161
SDG 2 Zero Hunger	Social and Relationship Capital	161
SDG 3 Good health and wellbeing	Social and Relationship Capital	161
SDG 4 Quality Education	Social and Relationship Capital, Human Capital	161, 79
SDG 5 Gender equality	Social and Relationship Capital, Human Capital	161, 79
SDG 6 Clean Water and Sanitation	Social and Relationship Capital, Natural Capital	161, 127
SDG 7 Affordable and Clean Energy	Natural Capital, Social and Relationship Capital	127, 161
SDG 8 Decent work and Economic Growth	Social and Relationship Capital, Financial Capital, Manufactured Capital, Human Capital	161
SDG 9 Industry Innovation and Infrastructure	Intellectual capital, Manufactured Capital, Natural Capital, Social and Relationship Capital	111, 65, 127, 161
SDG 10 Reduced inequality	Human Capital, Social and Relationship Capital	79, 161
SDG 11 Sustainable Cities and Communities	Natural Capital, Social and Relationship Capital	127, 161
SDG 12 Responsible Consumption and Production	Natural Capital, Intellectual Capital, Manufactured Capital, Natural Capital	127, 111, 65, 127
SDG 13 Climate Action	Natural Capital	127
SDG 15 Life on Land	Social and Relationship Capital, Natural Capital	161, 127

Sustainability Accounting Standards Board (SASB)

Sustainability Disclosure Topics & Accounting Metrics

Topic	Accounting Metric	Code	Location
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	EM-MM-110a.1	134 (Emission Management)
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	EM-MM-110a.2	134 (Emission Management)
Air Quality	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	EM-MM-120a.1	137 (Stack Emissions)
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	EM-MM-130a.1	131 (Energy Management)
Water Management	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	EM-MM-140a.1	141 (Water Management)
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	EM-MM-140a.2	147 (Effluent Management)
Waste & Hazardous Materials Management	Total weight of non-mineral waste generated	EM-MM-150a.4	151 (Non Hazardous Waste)
	Total weight of tailings produced	EM-MM-150a.5	151 (Non-Hazardous Waste)
	Total weight of hazardous waste generated	EM-MM-150a.7	152 (Hazardous Waste)
	Total weight of hazardous waste recycled	EM-MM-150a.8	152 (Hazardous Waste)
	Number of significant incidents associated with hazardous materials and waste management	EM-MM-150a.9	152 (Hazardous Waste)
	Description of waste and hazardous materials management policies and procedures for active and inactive operations	EM-MM150a.10	152 (Hazardous Waste)
Biodiversity Impacts	Description of environmental management policies and practices for active sites	EM-MM-160a.1	156 (Conserving and Preserving Biodiversity)
	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	EM-MM-160a.3	156 (Conserving and Preserving Biodiversity)
Security, Human Rights & Rights of Indigenous Peoples	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	EM-MM-210a.1	93 (Human Rights)
	Percentage of (1) proved and (2) probable reserves in or near indigenous land	EM-MM-210a.2	94 (Human Rights)
	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	EM-MM-210a.3	93 (Human Rights)
Community Relations	Discussion of process to manage risks and opportunities associated with community rights and interests	EM-MM-210b.1	93 (Human Rights)
Labor Relations	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	EM-MM-310a.1	(Employee Well-Being and Human Rights)
Workforce Health & Safety	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	EM-MM-320a.1	107 (Occupational Health and Safety - Safety Performance)
Business Ethics & Transparency	Description of the management system for prevention of corruption and bribery throughout the value chain	EM-MM-510a.1	296 (Coprorate Governance Report)

Activity Metrics

Activity Metric	Code	Location
Production of (1) metal ores and (2) finished metal products	EM-MM-000.A	66 (Production Capacity)
Total number of employees, percentage contractors	EM-MM-000.B	80 (Organisation Effectiveness- Employee Strength)

World Economic Forum (WEF) - Core Metrics

Pillar	Theme	Disclosure Requirement	Section in the Report	Page No.
Principles of Governance	Governing purpose	Setting purpose	Leadership Messages (Message from the Chairman, Message from the Managing Director)	5-8, 26-29
	Quality of governing body	Governance body composition	Corporate Overview: Board of Directors and Leadership Team	22-25
	Stakeholder Engagement	Material issues impacting stakeholders	Stakeholder Engagement and Materiality Assessment	45-53
	Ethical behaviour	Anti Corruption	Coprorate Governance Report	296
		Protected ethics advice and reporting mechanisms	Coprorate Governance Report	296
	Risk and opportunity oversight	Integrating risk and opportunity into business process	Strategic Overview: Risk and Opportunities	37-43
Planet	Climate change	Greenhouse gas (GHG) emissions	Emissions Management	134
		TCFD implementation	Emissions Management	134
	Nature loss	Land use and ecological sensitivity	Conserving and Preserving Biodiversity	156
	Fresh water availability	Water consumption and withdrawal in water-stressed areas	Water Management	141
People	Dignity and equality	Diversity and inclusion	Diversity, Equity and Inclusion	102
		Pay equality	Human Capital: Human Rights	94
		Wage level (%)	Human Capital: Human Rights	94
		Risk of incidents of child, forced or compulsory labour	Human Capital: Human Rights Social and Relationship Capital: Supplier Code of Conduct Social and Relationship Capital: Social Reforms	93, 185, 171
	Health & wellbeing	Health and Safety (%)	Occupational Health and Safety: Safety Performance	107
	Skills for the future	Training provided	Human Capital: Human Capital Development (Effectiveness of Training)	100
Prosperity	Employment and wealth generation	Absolute number and rate of employment	Human Capital: Organisation Effectiveness (Talent Management and Retention Strategy)	81
		Economic contribution	Financial Capital: Economic Value Creation Financial Statements (Consolidated Statement of Cash Flows)	56
		Financial investment contribution disclosure	Statutory Reports and Financial Statements	208, 334
	Innovation of better products and services	Total R&D expenses	Intellectual Capital	112
	Community and social vitality	Community Investment	Financial Capital: Economic Value Creation	56
		Total tax paid	Statutory Reports and Financial Statements	208, 334

Glossary/Abbrevations

AA1000AS	AccountAbility's AA1000 Assurance Standard
ABG	Aditya Birla Group
AI/ML	Artificial Intelligence/Machine Learning
Al	Aluminium
AMTL	Add More to Life
APC	Auxiliary Power Consumption
APH	Air Pre-Heater
AQI	Air Quality Index
AR/VR	Augmented Reality/Virtual Reality
ASC	Apex Sustainability Committee
ASI	Aluminium Stewardship Initiative
AWOO	A World of Opportunities
B/L	Bill of Lading
B2B	Business-to-Business
B2C	Business-to-Consumer
BANI	Brittle, Anxious, Nonlinear, and Incompressible
BBS	Behaviour-Based Safety
BEE	Bureau of Energy Efficiency
BIS	Bureau of Indian Standards
BMPs	Biodiversity Management Plans
BPA	Bisphenol A
BQiP	Build Quality in Process
BRSR	Business Responsibility and Sustainability Report
BTAP	Bogie Tanker Alumina Powder
CAGR	Compound Annual Growth Rate
Capex	Capital Expenditure
CBAM	Carbon Border Adjustment Mechanism
CCAs	Culture Change Ambassadors
CCUS	Carbon Capture, Utilisation, and Storage
CHA	Custom Housing Agent
CI Project	Continous Improvement Projects
CIDO	Chief Digital Information Officer
CII	Confederation of Indian Industry
CISO	Chief Information Security Officer
CMMS	Computerised Maintenance Management System
CPCB	Central Pollution Control Board
CPP	Captive Power Plant
CRIS	Centre for Railway Information System
CRO	Chief Risk Officer
CSO	Chief Sustainability Officer
CSR	Corporate Social Responsibility
CTO	Chief Technology Officer
Cu	Copper
CuCB	Copper Insert Collector Bar
CVD	Cathode Voltage Drop
DAP	Di-Ammonium Phosphate
DEI	Diversity Equality and Inclusion
DISHA	Digital Shiksha
DJSI	Dow Jones Sustainability Indices
DSIR	Department of Scientific and Industrial Research

EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortisation
EHS	Environment, Health, and Safety
EIA	Environment Impact Assessment
EMAS	Eco-Management and Audit Scheme
EMS	Electro Magnetic Stirrer
ERAE	Energy Reduction and Sustainable Engineering
ERGs	Employee Resource Group
ERM	Enterprise Risk Management
ERP	Enterprise Resource Planning
ESG	Environment Social Governance
ETP	Effluent Treatment Plant
EV	Electric Vehicle
EVP	Employee Value Proposition
F&F	Freight Forwarder
FGD	Flue Gas Desulphurisation
FICCI	Federation of Indian Chambers of Commerce and Industry
FIRST	For Inspiration and Recognition in Science and Technology
FRP	Flat Rolled Products
FTE	Full Time Employee
FTP	Fluoride Treatment Plant
GHG	Green House Gases
GIDC	Gujarat Industrial Development Corporation
GJ	Giga Joules
GPS	Global Positioning System
GPTW	Great Place to Work
GRI	Global Reporting Initiative
HA	Hydratable Alumina
HAAL	Hindalco-Almex Aerospace Limited
HAZOP	Hazard and Operability
HIL	Hindalco Industries Limited
HIRA	Hazard Identification and Risk Assessment
HR	Human Rights
HTU	Hindalco Technical University
IAI	International Aluminium Institute
IASB	International Accounting Standards Board
IBAT	Integrated Biodiversity Assessment Tool
IBBI	Indian Business & Biodiversity Initiative
IFRS	The International Financial Reporting Standards
IHC	Integrated Health Committee
ILO	International Labour Organisation
IMS	Integrated Management System
IPCC	Intergovernmental Panel on Climate Change
IPR	Intellectual Property Rights
IR	Integrated Report
ISAE	International Standard on Assurance Statement
ISO	International Organization for Standardization
ISSB	International Sustainability Standards Board
IUCN	International Union for Conservation of Nature

IWT	India Water Tool
KBA	Key Biodiversity Areas
KPIs	Key Performance Indicators
KRA	Key Result Area
LCA	Life Cycle Assessment
LIT	Logistics Insight Tower
LME	London Metal Exchange
LTIFR	Lost Time Incident Frequency Rate
LTISR	Lost Time Injury Severity Rate
MDP	My Development Plan
MoC	Management of Change
MSDS	Material Safety Data Sheet
MSEF	Maintenance Strategy and Execution Framework
MT	Metric Tonnes
MW	MegaWatt
NABL	National Accreditation Board for Testing and Calibration Laboratories
NGO	Non-Governmental Organisation
NNL	No Net Loss
NOx	Nitrogen Oxides
NPS	Net Promoter Score
OCEMS	Online Continuous Emission Monitoring System
ODS	Ozone Depleting Substances
OE	Organisation Effectiveness
OEM	Original Equipment Manufacturer
OHC	Occupational Health Center
OHS	Occupational Health and Safety
OJT	On-Job Training
Opex	Operational Expenditure
PAT	Profit After Tax
PAT	Performance Achieve and Trade
PFAS	Poly-fluoroalkyl substances
PFCs	Perfluorocarbon emissions
PLI	Production Linked Incentive Scheme in India
PM	Particulate Matter
POC	Proof of Concept
POSH	Prevention of Sexual Harassment
PRI	Panchayati Raj Institution
QEA	Qualitative Exposure Assessment
QnEA	Quantative Exposure Assessment
R&D	Research and Development
R&R	Rehabilitation and Resettlement
RAAT	Resilience, Attention, Adaption, Transparency
RCP	Representation Concentration Pathways
ROHS	Restriction on Hazardous Substance
RTC	Round-The-Clock
SASB	Sustainability Accounting Standards Board
SCA	Sickle Cell Anaemia
SCC	Supplier Code of Conduct
SCR	Selective Catalytic Reduction
SEA Region	South-East Asian Regions

SEBI	Securities and Exchange Board of India
SHG	Self Help Groups
SIF	Serious Injuries Fatality
SKIP	Specialty Knowledge Integration Programme
SOC	Specific Oil Consumption
SOPs	Standard Operating Procedures
SOx	Sulphur Oxides
SPL	Spent Pot Lining
STEM	Science, Technology, Engineering and Mathematics
SUV	Sports Utility Vehicle
TAT	Turn Around Time
TCFD	Task Force on Climate-related Financial Disclosures
TCO	Total Cost of Ownership
TRIFR	Total Recordable Injury Frequency Rate
UNGC	United Nations Global Compact
UNSDGs	United Nations Sustainability Development Goals
WaMTF	Waste Management Task Force
WCM	World Class Manufacturing
WEF	World Economic Forum
WMTF	Water Management Task Force
XSEED	Excellence in Skill Enhancement and Employee Development
ZLD	Zero Liquid Discharge

Report of The Board of Directors

(Including Management Discussion and Analysis)

Dear Shareholders,

The Board of Directors of Hindalco Industries Limited ("Your Company" or "the Company") is pleased to present 64th (Sixty-Fourth) Annual Report and Fourth Integrated Annual Report of your Company along with Audited Financial Statements for the financial year ended March 31, 2023 ("year under review / FY 2022-23").

Management Discussion and Analysis

Overview

Hindalco Industries Limited, the metals flagship of the Aditya Birla Group, is the world's largest aluminium rolling and recycling company, a major copper player, and one of Asia's largest producers of primary aluminium. For the past three years, Hindalco has received the highest score for its ESG performance in the aluminium industry in the S&P Dow Jones Sustainability Indices (DJSI) Corporate Sustainability Assessment (CSA). Industry leaders are the top-performing companies in the Index.

In India, Hindalco's aluminium manufacturing units cover the complete value chain, from bauxite mining, alumina refining, coal mining, captive power generation and aluminium smelting, to downstream value-addition of aluminium rolling, extruding, and foil making. Hindalco's copper division in India comprises, among other facilities, a world-class custom copper smelter and captive jetty with capability to manufacture copper rods. Hindalco is one of the largest suppliers of copper to the Indian Railways and meets more than half of the country's copper requirements.

Guided by its Purpose of building a greener, stronger, smarter world, Hindalco provides innovative solutions that nurture a sustainable planet. Today, Hindalco's global footprint spans 52 manufacturing units across 10 countries. Its wholly owned subsidiary Novelis is the leading producer of flat-rolled aluminium products and is the world's largest recycler of aluminium. It delivers innovative solutions to customers in the beverage cans, automobile, aerospace, and high-end speciality markets, including foil packaging, certain transportation products, architectural, industrial, and consumer durables.

Novelis operates an integrated network of technically advanced rolling and recycling facilities across North America, South America, Europe, and Asia. Novelis, which has recycling operations in 15 operating facilities across the world, recycles over 82 billion used beverage cans a year, enough to circle the globe more than 160 times.

In FY2022-23, Hindalco delivered resilient financial and operational results backed by the exceptional performance of its Indian operations, and product mix.

This resilience, despite macro-economic headwinds, was driven by higher volumes, strategic product mix, stability in operations and outstanding performance of its copper business in India. On a consolidated basis, Hindalco continued to maintain its strong balance sheet in FY2022-23, resulting in a 1.39x Net Debt-to-EBITDA of at the end of the year against 1.36x in the previous year.

FY 2022-23: Key Highlights

Achieved

- Aluminium metal production at 1,322 Kt
- Aluminium metal sales at 1,350 Kt
- Alumina production at 3,525* Kt
- Aluminium Downstream production at 350 Kt and Sales at 354 Kt
- Record Copper Cathode Production at 407 Kt and Metal Sales at 439 Kt
- Record Copper Rods production at 347 Kt and Sales at 347 Kt
- Overall shipments in Novelis of 3,790 Kt
- Adjusted EBITDA at $1.8 billion in Novelis
- Yearly adjusted EBITDA/ton of $478 in Novelis
- Yearly Net Income from continuing operations of US$ 659 million in Novelis
- Consolidated Revenue of ₹2,23,202 Crore
- Consolidated EBITDA of ₹24,131 Crore
- Consolidated PAT of ₹10,097 Crore

*includes production of Utkal Alumina International Limited (Utkal Alumina) the wholly-owned subsidiary.

Key Initiatives during the Year

Through its cost-optimisation initiatives across the value chain, Hindalco India successfully enhanced its operational efficiencies and lowered the overall cost of production across all its facilities.

Factors such as Utkal Alumina's low-cost alumina, better coal mix and improved operational efficiencies contributed to Hindalco being able to reduce the overall cost of production across its Indian operations.

Hindalco's sustainable business model and its strong focus on expanding the portfolio of downstream products in India will enable it to nearly double its existing downstream capacity in the next five years. Hindalco's acquisition of Hydro's Kuppam Extrusions facility and the copper CCR facility of Polycab (Ryker Base) in India in the previous financial year has also delivered positive results in margin expansion in the value-added segment.

Utkal Alumina, with its current capacity of over 2.3 million tonnes, is on its way to improve debottlenecking by 350 Kt and expand its capacity to around 2.6 million tonnes by FY2023-24.

In line with its growth strategy of organic expansions, Hindalco is progressing well on its announced investments in downstream value-added products and capex, which will be spread out between FY23 and FY28 across the businesses of aluminium, copper, specialty alumina and resource securitisation through new commercial coal mines. These investments amount to about $ 1.13 billion. To reduce its dependency on external sources, and strengthen the supply chain and improve the quality of coal, the Company is acquiring captive coal mines in India. The Company's intent is to build a larger value-added product portfolio over the next few years and delink this business from the volatility of global aluminium prices.

Novelis launched a multi-year strategy to transform and improve the profitability of its business through significant investments in new capacity and capabilities across all operating regions. It remains committed to this strategy with $3.3 billion worth of organic growth expansion projects, expected to be completed in the next five years. These investments in new capacities and facilities shall be funded by its stable cash flow generation. Of the estimated range of total investments, ~$3.0 billion investments has been earmarked for the US region.

Hindalco's digital transformation initiative LEAD (Leverage, Efficient, Augment and Digital Savvy) has been designed to impart employees with the analytical skills and insights needed to take decisions with speed and confidence. LEAD will help the Company capture benefits across the entire manufacturing value chain, from increasing production capacity, reducing material losses, to improving customer service and delivery times and reducing environmental impact.

In addition to retaining its position as top ESG scorer in the aluminium industry in the 2022 S&P Dow Jones Sustainability Indices (DJSI) Corporate Sustainability Assessment (CSA), Hindalco was also recognised as a 'Sustainability Leader' S&P Global Gold Class category in the Dow Jones Sustainability Yearbook for 2022 and 2023.

Industry Analysis

i. Aluminium – Industry Review & Outlook

In Calendar Year ('CY') 2022, the Global GDP grew by 3.4%. In the same year, the global production of aluminium increased 2% yoy to ~69 million tonnes, while global consumption was flattish at 69 million tonnes due to inflation-led slowdown in demand. Hence, global markets were balanced in the year. In a region-wise split in CY2022, production in China grew 4% yoy to 40.2 million tonnes, led by increases in Yunnan, Gansu, and Inner Mongolia.

Aluminium consumption in China grew by 1% to 40.6 million tonnes led by the sharp increase in demand for EVs and solar power capacity installations. However, the demand was subdued in the sectors of building and construction, packaging, and consumer durables. With consumption of 40.6 million tonnes, and production of 40.3 million tonnes, China saw a deficit of 0.4 million tonnes.

In the rest of the world, production of aluminium was flattish yoy at ~28.9 million tonnes in CY2022. A major drop in production was seen in the European region but was offset by the increased production in the Middle East, Central & South America, and India. The global transport segment grew on account of pent-up demand in this sector. However, other sectors like consumer durables and construction saw some headwinds. Hence, overall consumption declined by 1% yoy to 28.6 million tonnes, with a marginal surplus of 0.3 million tonnes in CY2022. (See Figure 1 and 2)

Figure 1 : Primary Production
(in Million Tons)

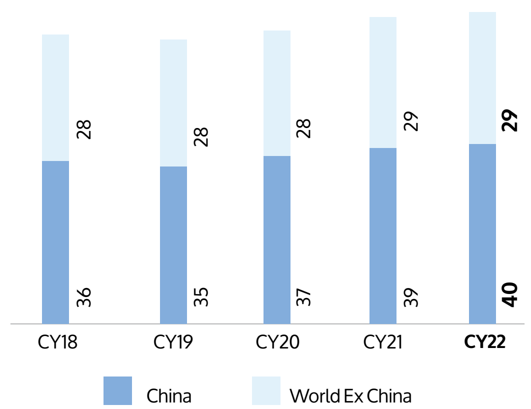
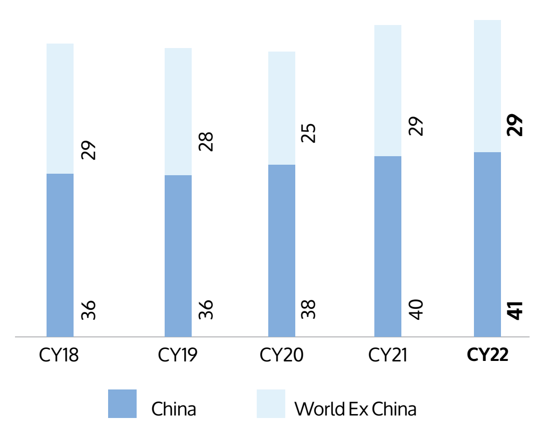


Figure 2 : Primary Consumption
(in Million Tons)



The global transport segment grew on account of pent-up demand in the aluminum sector.

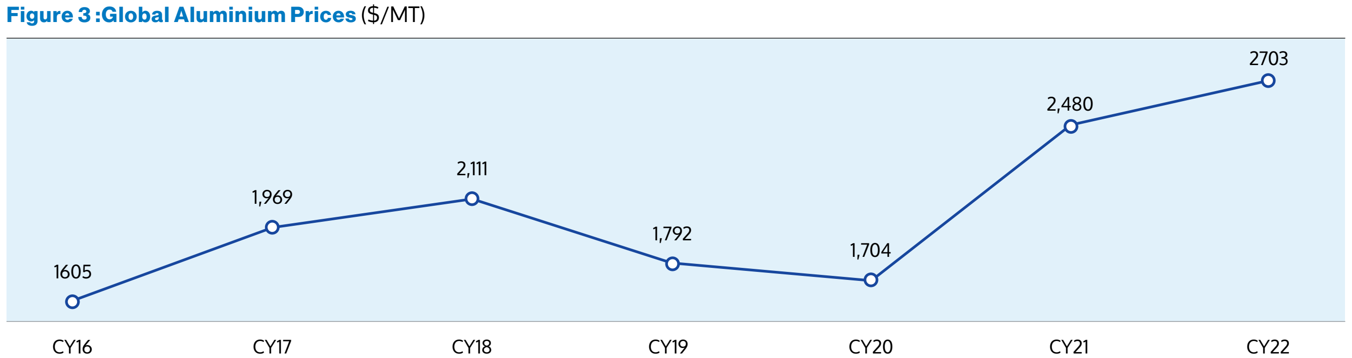
Table 1: Global Production and Consumption (in Million Tons)

Particulars	CY 2019	CY 2020	CY 2021	CY 2022
Production	63.3	64.7	67.4	69.1
Consumption	**64.6**	**62.9**	**69.0**	69.2
Metal Balance Surplus/(Deficit)	**(1.3)**	**1.8**	**(1.6)**	**(0.1)**

With the global markets being balanced, inventory levels were also stable at 9.3 million tonnes. In CY2022, the global prices of aluminium averaged at US$2,703/tonne as against US$2,480/tonne in CY2021. Global aluminium prices witnessed significant volatility all through CY2022. In Q1CY22, prices saw a spike due to the impact of the Russia-Ukraine war on the global economy.

In Q2CY22, the slowdown in the Chinese markets on account of China's Zero COVID policy led to the decline in global aluminium prices. In the second half of CY22, prices continued to slide as a result of tightening of monetary policy and global recessionary fears. The graph here shows the pricing trend over the past seven years:

Figure 3 :Global Aluminium Prices ($/MT)



The regional premiums also saw volatility during CY2022. The average spot Main Japanese Port (MJP), duty-paid European Rotterdam Ingot and US Midwest premium was $99/t, $462/t and $30 cents/lb respectively in CY2022, versus $156/t, $268/t and $27 cents/lb respectively in CY 2021.

Domestic Consumption

Indian Consumption: As economic activity resumed, domestic consumption saw significant improvement across all sectors. Domestic consumption is likely to grow by 15% yoy in FY2022-23. However, import of aluminium continues to be a concern for domestic players. Overall imports, including scrap, touched ~2.5 million tonnes in FY2022-23 from ~2.3 million tonnes in FY2021-22.

The Table (table 2) shows the sector-wise change in domestic consumption of aluminium in FY2022-23 vs previous year.

Table 2: Sector Wise Domestic Consumption for FY2022-23 vs FY2021-22

Sector	FY2021-22/ FY2022-23
Electrical	20-25%
Building and construction	10-20%
Auto	10-15%
Industrial and Defence	5-15%
Print	0-10%
Packaging	10-20%
Consumer Durables	0-5%
Others	0-5%
Overall India Consumption	**15%**

Source: Company Estimates

Outlook

In CY2023, global GDP growth rate is likely to be around 2.8%, as per the IMF projections. India and China, the two largest emerging market economies, are expected to contribute to around half of the global growth in CY2023, current outlook remains uncertain amid high inflation, tight monetary policy, the ongoing Russia-Ukraine conflict, and the lingering impact of three years of COVID-19. Overall, advanced economies are likely to grow by 1.3% impacted by inflation-led slowdown, while the emerging economies are likely to grow by 4%.

Overall, in CY2023, global primary aluminium demand is likely to experience a flattish growth to around 69.5 million tonnes. Global production is expected to grow by 2% to over 70 million. Hence, the market is likely to be in a surplus. Production in the world, excluding China, is expected to increase by ~1% to around 29 million tonnes. Primary aluminium supply in China is likely to grow by ~2% to around 41 million tonnes in CY2023. Consequently, inventories are likely to grow to 9.8 million tonnes by the end of CY2023.

World Excluding China Demand Drivers

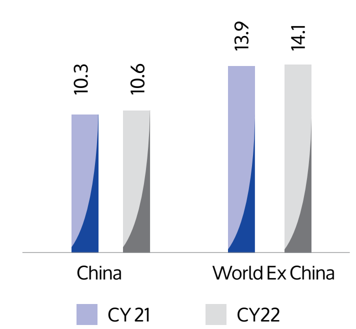
Sectors	Demand Drivers
Transport	Government provides purchase incentives to the buyers of EVs. Overall sales of cars and commercial vehicle likely to increase by 5% in CY2023 due to pent-up demand.
Construction	To face headwinds due to elevated interest rates
Consumer Durables	Slowdown in demand due concerns of recession
Packaging	Substitution against PET bottles in Europe and North America.

China Demand Drivers

Sectors	Demand Drivers
Transport	Significant aluminium demand due to rising EV sales both in domestic and exports.
Construction	Monetary stimulus to stabilise demand
Packaging	Stable demand from food and pharmaceutical sectors
Foil stock	
Electrical	Sharp growth in solar and wind installations. Current capacity of wind and solar is ~800 GW (~2/3rd of 2025 target of 1200 GW)
Consumer durables	Stable domestic demand.

The Indian market is likely to see a broad-base growth across all sectors. Imports of aluminium products, including scrap, continue to remain a major concern for domestic aluminium producers. Over the last few years, imports of flat rolled products (including foils) have seen a surge in imports at dumped prices from China and FTA countries.

Refined Copper Production
(in Million Tons)



The government has supported the aluminium industry by imposing Anti-Dumping Duty ('ADD') on imports of flat-rolled products from China.

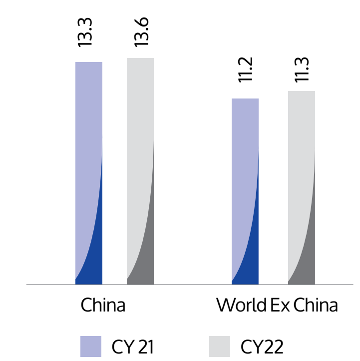
ii. Copper – Industry Review & Outlook

In CY2022, on a yearly basis, overall global production of refined copper grew by approximately 1.9% to 24.7 million tonnes. China's production increased by around 3% yoy, whereas in the rest of the world growth was up by 1.1% yoy.

In CY2022, on a yearly basis, global consumption of refined copper increased by around 2% to 24.9 million tonnes against 24.5 million tonnes in CY2021.

Copper consumption in China grew by ~2% yoy to 13.6 million tonnes, whereas in the world (excluding China) consumption grew by ~1% yoy at 11.3 million tonnes in CY2022. The global deficit was 0.2 million tonnes in CY22 versus 0.3 million tonnes on CY2021.

Refined Copper Consumption
(in Million Tons)



In CY2022, on a yearly basis, global consumption of refined copper increased by around 2% to 24.9 million tonnes against 24.5 million tonnes in CY2021. Copper consumption in China grew by ~2% yoy to 10.6 million tonnes, whereas in the world (excluding China) consumption grew by ~1% yoy at 14.1 million tonnes in CY2023. The global deficit was 0.2 million tonnes in CY22 versus 0.3 million tonnes on CY2021.

Table 3: Global Production and Consumption (in Million Tons)

Particulars	CY2021	CY2022
Production	24.2	24.7
Consumption	24.5	24.9
Metal Balance Surplus/ (Deficit)	**(0.3)**	**(0.2)**

On a yearly basis, domestic demand for refined copper increased by 22% to 746 KT in FY2022-23 from 612 KT in FY2021-22. Of this, the share of imports was 24% at 177 KT in FY2022-23 versus 26% at 158 KT in FY2021-22, reflecting a yoy decline of 11%.

The benchmark TC/RC for CY2023 was finalised at 88/8.8 (22.6 c/lb) between miners and smelters, which is ~35% higher than CY2022.

For CY2023, while fundamentally the market is expected to be in surplus of ~ 240 KT – which should support spot TC/RC during Q1CY2023 – multiple disruptions in some large mines in Panama, Indonesia, and Peru adversely affected the spot TC/RC resulting in it sliding lower than the annual benchmark TC/RC.

Outlook

Global demand for refined copper is expected to increase by ~2% in CY2023. China is expected to grow by ~1.8% and the rest of world is expected to grow by ~3.5%. Demand for refined copper in India is likely to improve and revert to pre-COVID levels of around 790 Kt in FY2023-24.

The world copper mine supply grew by 3.5% in CY2022 mainly on account of ramp up in output from new mines in Congo, Peru, etc. The ramp up of projects will continue to support concentrate supply in 2023, but high level of disruptions will restrict annual growth rate to 2.3%. While the copper market is likely to be balanced in CY2024, deficit is expected to emerge in CY2025. Recycling along with product substitutions shall be key in helping to mitigate some of this gap.

Global demand for refined copper is expected to increase by ~2% in CY2023.

iii. Novelis – Global Flat Rolled Products ('FRP') – Industry Review & Outlook

We believe that the global long-term demand for aluminium-rolled products will remain strong, on the back of anticipated economic growth, material substitution, and sustainability considerations including increased environmental awareness around polyethylene terephthalate plastics. Disruptions in demand for aluminium- rolled products caused by the pandemic and semiconductor shortages in the automotive industry have moderated.

However, we believe the challenging inflationary and geopolitical environment has increased economic uncertainty and is negatively impacting near-term demand in some end markets such as building and construction. In addition, we are seeing reduced can sheet demand in the near term, attributed to can-makers reducing their excess inventory as they adjust to a more moderated level of demand.

Despite the current market uncertainty, we believe that the long-term demand for aluminium-rolled products would remain intact. Increasing customer preference for sustainable packaging options and package mix shift towards infinitely recyclable aluminium are driving higher demand for aluminium beverage packaging worldwide.

We believe that the long-term demand for aluminium automotive sheet will continue to grow, primarily driven by the benefits of using lightweight aluminium in vehicle structures and components. Automakers have aligned themselves to the stricter government regulations regarding emissions and fuel economy, while prioritising improvement of vehicle safety and performance. This has led to an increase in the use of high-strength steel.

We are also seeing an increased demand for aluminium for EVs, as aluminium's lower weight can help with extended battery range.

We expect the long-term demand for building and construction and other specialty products to grow due to increased customer preference for lightweight, sustainable materials. The demand for aluminium plate in Asia is also expected to receive a boost driven by the development and expansion of industries serving aerospace, rail, and other technically demanding applications.

Shipments of aerospace aluminium plate and sheet have improved in FY2022-23, as demand for air travel has recovered to near pre-COVID levels. Looking ahead, we believe significant order backlogs for key OEMs including Airbus and Boeing will translate into growth in the future. Our multi-year supply agreements have positioned us to benefit from this future demand.

FY2022-23 was challenging, with added pressure from softer demand in some end markets and intensified cost inflation driven by macro-economic and geo-political uncertainty. However, the Company managed to mitigate some of these headwinds through a combination of hedging, passing costs to customers, favourable pricing environments, and increased benefits from recycling. While these headwinds will curb the Company's near-term margins, the fundamentals driving the long-term demand for aluminium products remain intact. Novelis continues to be disciplined in its approach to capital investment, prioritising growth investments to meet increasing customer demand and sustainability goals across the value chain.

For a region-wise detailed business overview, please refer to the 10K filed by Novelis Inc. dated May 10, 2023 for the year ended March 31, 2023.

Hindalco – SWOT Analysis

India Aluminium

Strengths	Weakness	Opportunities	Threats
• Fully Integrated business model • Dominant player in India across upstream and downstream • Utkal - among the world's most economical and efficient Alumina producers; with capacity of ~2.3 Mt in FY2022-23 and further de-bottlenecking project of 350Kt is under-way • Increased focus on value-added products (VAP) will enable the Company to be delinked from volatility in global prices of aluminium. • Market Leadership in Flat Rolled Products.	• Commodity product (upstream) • Smaller Market Share in Extrusion & Foils • Upstream business linked to global aluminium price volatility.	• Immense headroom for a growing market in India; per capita aluminium consumption in India at 1/4th of global average • Rising Aluminium Consumption in the end use segments like Building & Construction, Automotive, Packaging, and Consumer Durables • Substitution opportunity versus steel, uPVC, wood, among others • Light-weighting initiatives in commercial vehicles, personal mobility, etc. leading to a higher Aluminium adoption in the country. • PLI scheme for White Goods and proactive trade measures by the Government to help in import substitution.	• Global aluminium price volatility, Forex and raw material price volatility • Competition from China in the downstream • Rising imports of scrap • Increasing imports of VAP from the Free Trade Agreement ('FTA') countries. • Domestic availability/shortage of resources (mainly coal)

There will be a strong demand for copper, particularly in EV and electrical segments.

Novelis

Strengths	Weakness	Opportunities	Threats
• Diverse, high-value product portfolio with unmatched global presence and scale • World's largest recycler of aluminium • Strong customer base with long term contracts • Premium pricing enabled by innovative product offerings in tight-capacity, high-growth end markets • Market leader in a more recession resistant beverage packaging end-market	• Capacity is constrained until capacity expansion projects underway are completed • Long term contracts while providing volume stability, create time lag between inflation and ability to pass on higher costs to customers	• Strong long-term demand in Cans and Automotive with strong recycling and sustainability value proposition offered by aluminium. Demand for specialties moves with GDP growth rate and benefits from sustainability proposition. Aerospace sector is growing with aircraft build rates and growing presence in China • Build on existing sustainability leadership by expanding recycling capabilities • Digitalising the value chain, including implementing a 'Plant of the Future' operating model to drive efficiency gains and overall operational excellence	• Supply chain disruption and high-cost inflation • Geo-political instability, increasing tariffs, protectionist measures and cybersecurity risks • Increasing competition for scrap input materials

Copper

Strengths	Weakness	Opportunities	Threats
• A balanced portfolio of revenue streams to tide through volatile market • Secured concentrate supply via long-term contracts with miners • Focus on VAP like copper rods and Inner Grooved Tubes (IGT), first-of-its-kind special alloys, and copper and e-waste recycling	• Dependence on imported Copper concentrate	• Immense headroom for growth due to lower consumption vs global average • Strong demand for copper, particularly in EV and electrical segments	• Mine Disruptions • Duties & Free Trade Agreement and trade politics

a. Hindalco Aluminium

Operational Overview

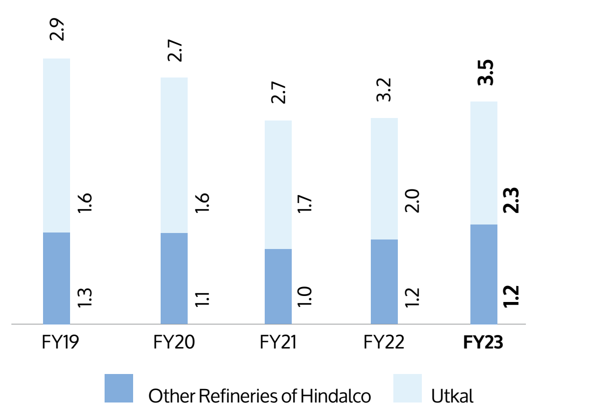
The Company delivered a resilient performance in its aluminium business in FY2022-23 supported by higher volumes and better operational efficiencies. The production of aluminium stood at 1.322 million tonnes in FY2022-23 versus 1.294 million tonnes in the previous year.

Overall alumina production stood at 3.525 million tonnes versus 3.235 million tonnes in FY2021-22. Utkal Alumina recorded production of 2.311 million tonnes in FY2022-23, and continues to be the most economical and efficient alumina producer globally, providing strong support to most of Hindalco's India smelting facilities, leading to better cost optimisation and quality input material (alumina).

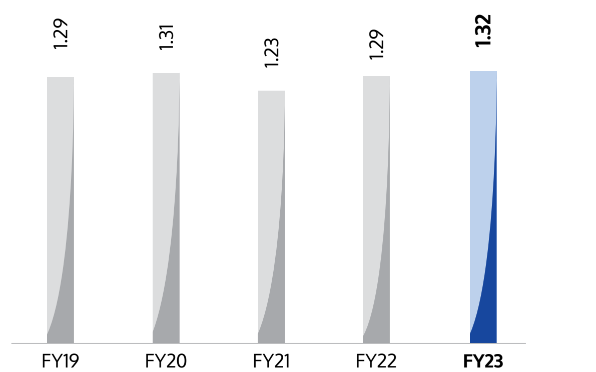
The overall third-party sales of metal in all forms was at 1.350 million tonnes in FY2022-23 against 1.302 million tonnes in FY2021-22, up 4% yoy on account of market recovery in FY2022-23. Production of aluminium VAP was flat yoy at 350 Kt in FY2022-23 vs 349 Kt in the previous year. Third-party sales of aluminium VAP was higher by 2% at 354Kt in FY2022-23 vs 348 Kt in FY2021-22.

The trends of total alumina production, and aluminium production and sales in the past five years has been as follows:

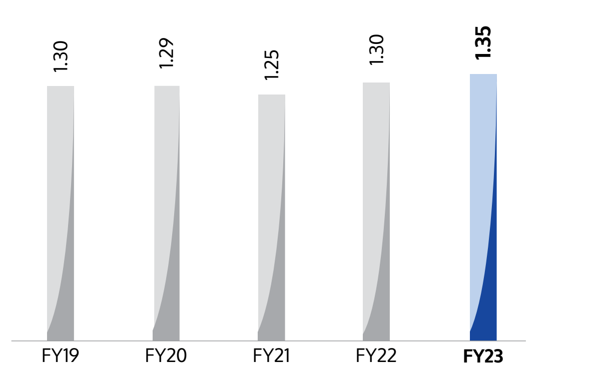
Total Alumina Production
(in Million Tons)



Metal Production
(in Million Tons)



Third Party Metal Sales
(in Million Tons)



Financial Overview

Aluminium Upstream

Revenue for Hindalco's aluminium upstream segment was up 7%, at ₹33,010* Crore in FY 2022-23 from ₹30,844* Crore in FY 2021-22 on account of higher volumes. EBITDA was down 33% at ₹8,402 Crore versus ₹12,496 Crore a year earlier impacted by inflationary pressures. The EBITDA margins were at 25.5% in FY2022-23, continues to be one of the best in the industry.

*The above numbers are without elimination of Inter-segment revenue.

(₹ Crore)

Description	FY2022-23	FY2021-22	Change
Revenue	33,010	30,844	7%
EBITDA	8,402	12,496	(33%)

Note: In the consolidated financial statements, within the aluminium segment, the significant entities are Hindalco and Utkal Alumina International Ltd. Utkal Alumina is a wholly owned subsidiary of Hindalco and supplies a substantial quantity of its production to Hindalco hence we have analyzed the combined performance of Hindalco's aluminium business along with Utkal Alumina.

Aluminium Downstream

Revenue for Hindalco's aluminium downstream segment was ₹11,009* Crore in FY 2022-23 in line with previous year. Record EBITDA at ₹627 Crore up 64% versus ₹382 Crore a year earlier as a result of better pricing and volumes.

*The above numbers are without elimination of Inter-segment revenue.

(₹ Crore)

Description	FY2022-23	FY2021-22	Change
Revenue	11,009	11,009	0%
EBITDA	627	382	64%

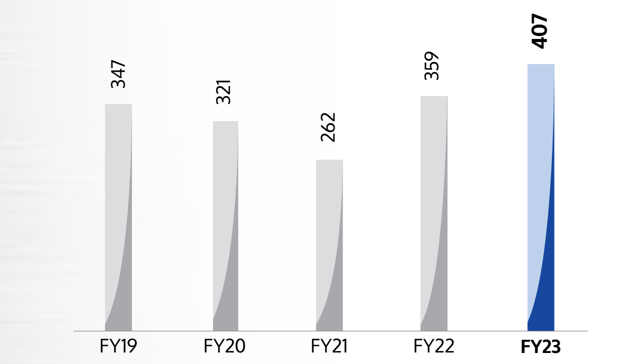
b. Copper

Operational Overview

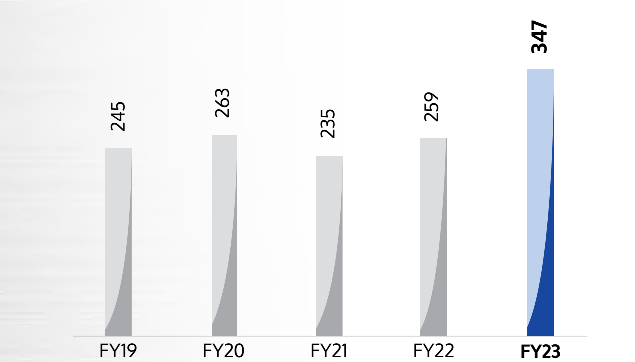
The copper business delivered its best-ever operational and financial performance during FY2022-23. Production of copper cathode was 407 Kt in FY2022-23, up 13% from the previous year. Production of continuous cast rods was at a record 347 Kt in FY2022-23 versus 259 Kt in FY2021-22.

Total Copper metal sales in all forms were at a record 439 Kt in FY2022-23 up by 9% compared to 405 Kt in the previous year which was in-line with its higher production and overall market demand. The sales of Copper VAP (Copper Rods) were at a record 347 Kt in FY2022-23 versus 262 Kt in the previous year up by 33% yoy. The share of VAP (Copper Cathode Rods) to total metal sales was 79% in FY 2022-23, from 65% in the previous year.

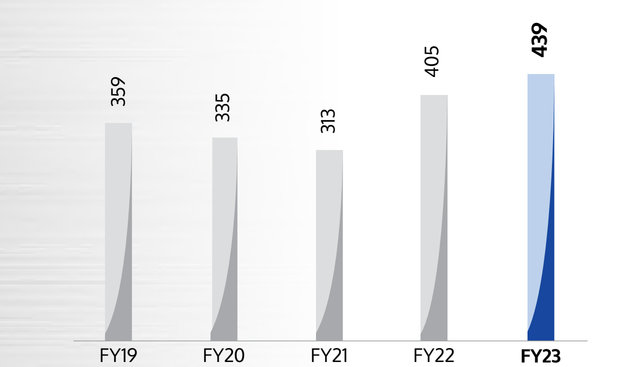
Cathode Production
(Kt)



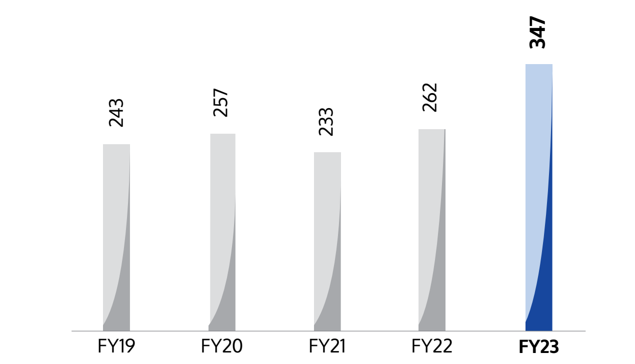
CC Rod Production
(Kt)



Copper Metal Sales in All Forms
(Kt)



Copper VAP - CC Rod Sales
(Kt)



Financial Overview

Copper segment revenue for FY 2022-23 was at ₹41,702* Crore (vs. ₹36,723* Crore in FY2021-22), up 14% on account of higher global prices of copper and higher volumes in FY2022-23. Copper business recorded an all-time high EBITDA of ₹2,253 Crore (vs. ₹1,390 Crore in FY 2021-22) up 62% yoy, on account of higher volumes of Copper Cathode Rods, better operational efficiency and Tc/Rc in FY2022-23.

*The above numbers are without elimination of Inter-segment revenue

(₹ Crore)

Description	FY2022-23	FY2021-22	Change
Revenue	41,702	36,723	14%
EBITDA	2,253	1,390	62%

c. Novelis

Operational Overview

Novelis Inc., is the global leader in flat-rolled aluminium products and the world's largest recycler of aluminium.

Driven by its purpose of shaping a sustainable world, Novelis works alongside its customers to provide innovative solutions to the beverage can, automotive, aerospace and speciality markets (which include foil packaging, certain transportation products, architectural, industrial, and consumer durables).

It operates an integrated network of technically advanced rolling and recycling facilities across North America, South America, Europe, and Asia, and leverages its global manufacturing and recycling footprint to consistently deliver high-quality products around the world.

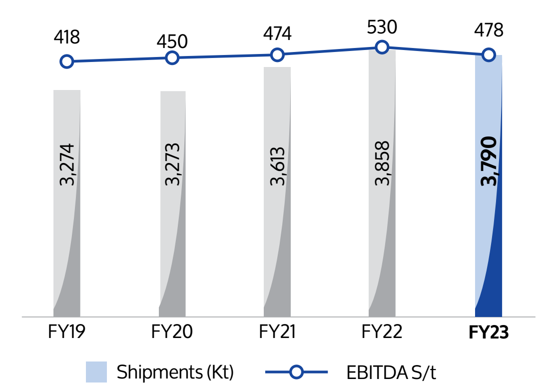
In FY2022-23, total shipments were down by 2% over the past year, at 3.790 million tonnes. This was a result of lower beverage can shipments on account of customer inventory reductions in the latter half of the fiscal year, as the broader beverage supply chain normalised post-pandemic, and also due to lower demand for specialty products in a less robust macro-economic climate.

In FY2022-23, total shipments were down by 2% over the past year, at 3.790 million tonnes. This was a result of lower beverage can shipments on account of customer inventory reductions in the latter half of the fiscal year, as the broader beverage supply chain normalised post-pandemic, and also due to lower demand for specialty products in a less robust macro-economic climate.

In FY2022-23, the share of beverage can sheet shipments were 58%, automotive body sheet shipments were at 19%, and specialities and aerospace shipments were at 20% and 3%, respectively. Novelis leveraged its extensive recycling footprint and favourable market conditions to utilise 61% recycled content in its shipments in the reporting period.

The company operates in four key geographies: North America, Europe, Asia, and South America. In North America in FY2022-23 total shipments were at 1,515 Kt up from 1,467 Kt in FY2021-22, on the back of recovery in the automotive end market that was previously impacted by semiconductor chip shortages. In Europe, the Company shipped 998 Kt in FY2022-23, a decline from 1,038 Kt in FY2021-22 due to weaker consumer demand in the beverage can, and specialties markets. In Asia, Novelis shipped 678 Kt of rolled products in FY2022-23 versus 737 Kt in the previous year predominantly due to destocking of beverage cans by customers in the Americas. In South America, Novelis shipped 599 Kt in FY2022-23 down from 616 Kt in the previous year due to the impact of customer destocking in this region. In FY2022-23, Novelis reported an overall EBITDA/tonne of US$478 versus US$530/tonne in the last year.

Shipments (Kt) and EBITDA
($/tonne)



Financial Overview

Novelis' net sales in FY2022-23 were at $18.5 billion, up 8%, higher average aluminium prices, higher product pricing and favorable product mix, partially offset by a 2% decrease in total flat rolled product shipments.

In FY2022-23, Novelis reported an Adjusted EBITDA of $1.811 billon vs $2.045 billon, a drop of 11% yoy, primarily due to lower shipments, inflationary environment, higher energy costs due to geopolitical instability, and less favorable metal benefits. These headwinds were partially offset by higher product pricing, including some cost passthroughs to customers, and favorable product mix.

Driven mainly by lower adjusted EBITDA, Net Income (without special items) from continuing operations is down 16% yoy at $781 million in FY 2022-23 against $934 million in FY 2021-22.

($ Million

Description	FY2022-23	FY2021-22	Change
Net Sales	18,486	17,149	8%
Adjusted EBITDA	1,811	2,045	(11)%
Net Income/ (loss) w/o Exceptional Item*	781	934	(16)%

*Tax-effected special items may include restructuring & impairment, metal price lag, gain/loss on assets held for sale, loss on extinguishment of debt, loss/gain on sale of business.

Financial Analysis and Outlook

The financial statements of Hindalco Industries Limited and its subsidiaries are prepared in accordance with the Indian Accounting Standards (referred to as 'Ind AS') prescribed under section 133 of the Companies Act, 2013, read with the Companies (Indian Accounting Standards) Rules, as amended from time to time. Significant accounting policies used in the preparation of the financial statements are disclosed in the notes to the consolidated financial statements which forms part of this Integrated Annual Report.

Statement of Profit & Loss

(₹ in Crore)

Description	Hindalco Standalone		Consolidated	
	FY2022-23	FY2021-22	FY2022-23	FY2021-22
Revenue from Operations	76,878	67,653	2,23,202	1,95,059
Earnings Before Interest, Tax and Depreciation (EBITDA)				
Novelis*			14,543	15,229
Aluminium Upstream			8,402	12,496
Aluminium Downstream			627	382
Copper			2,253	1,390
Inter-segment Profit/ (Loss) Elimination (Net)			414	(264)
Unallocable Income/ (Expense) - (Net) & GAAP Adjustments			(2,108)	823
Total EBITDA	**8,061**	**11,828**	**24,131**	**30,056**
Depreciation & Amortisation (including impairment)	1,927	1,847	7,294	6,884
Finance Cost	1,300	1,417	3,646	3,768
Earning before Exceptional Items, Tax & Share in Profit/(Loss) in Equity accounted Investments	**4,834**	**8,564**	**13,191**	**19,404**
Share in Profit/ (Loss) in Equity Accounted Investments (Net of Tax)		-	9	6
Earning before Exceptional Items and Tax	**4,834**	**8,564**	**13,200**	**19,410**
Exceptional Income/ (Expenses) (Net)	41	(107)	41	164#
Profit Before Tax (After Exceptional Items)	**4,875**	**8,457**	**13,241**	**19,574**
Tax Expense	1,549	2,950	3,144	5,373
Profit/ (Loss) from Continuing Operations	**3,326**	**5,507**	**10,097**	**14,201**
Profit/ (Loss) from Discontinued Operations	-	-	-	(471)
Profit/ (Loss) After Tax	**3,326**	**5,507**	**10,097**	**13,730**
Other Comprehensive Income / (Loss)	1,702	(397)	7,460	(1,148)
Total Comprehensive Income	5,028	5,110	17,557	12,582
Basic EPS - Continuing Operations (₹) in ₹	-	-	45.42	63.85
Basic EPS - Discontinued Operations (₹) in ₹	-	-	-	(2.12)
Basic EPS (₹) in ₹	14.96	24.76	45.42	61.73

* As per US GAAP

#Pertains to the Consolidated Exceptional Income / (Expenses) for the year ended March 31, 2022, ₹418 Crore, which represents the principal portion of (a) PIS/COFINS related tax credit income in Brazil of ₹358 Crore (net of litigation cost of ₹9 Crore) for FY22 and (b) tax rebates for sales to Manaus, Brazilian Free Trade Zone ₹60 Crore for FY22, as it is included in the results of Novelis segment.

Appropriations to Reserves

Appropriations	FY2022-23	FY2021-22
Opening Balance in Retained Earnings and Other Comprehensive Income	15,280	11026
Total Comprehensive Income for the Current Year	5,028	5,110
Dividends paid	(890)	(667)
Hedging (Gain)/ Loss and cost of hedging transferred to non-financial assets	-	(41)
Employee Share Based Transactions	(3)	2
Transferred to Debenture Redemption Fund	1500	(150)
Closing Balance in Retained Earnings and Other Comprehensive Income	20,915	15,280

Dividend

For the year ended March 31, 2023, the Board of Directors of your Company has recommended dividend of ₹3.00 per equity share of face value of ₹ 1/- each (Previous year ₹4.00) to equity shareholders.

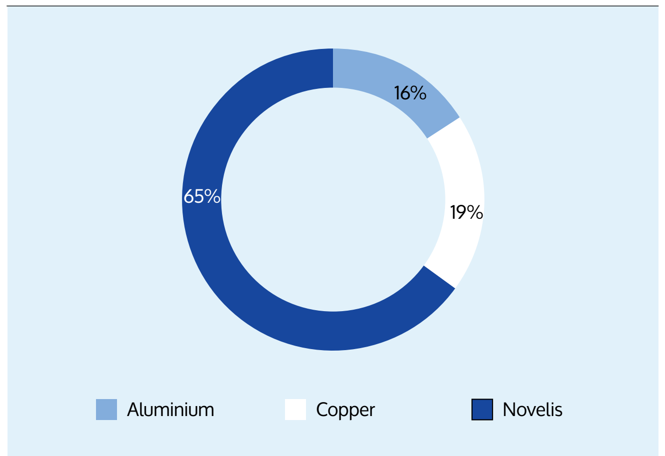
Consolidated Financial Statements

Revenue

Hindalco's consolidated revenue was up 14% at ₹2,23,202 Crore in FY2022-23 compared to ₹1,95,059 Crore in FY2021-22, largely influenced by higher global aluminium prices, and local market premiums.

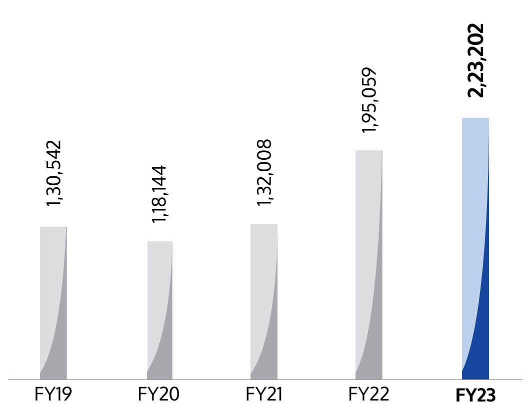
The graphs below show the split of Consolidated Revenues by businesses in FY2022-23 and the trend of revenues over the past five years.

Consolidated Revenue split by Business for FY 2022-23



Revenue

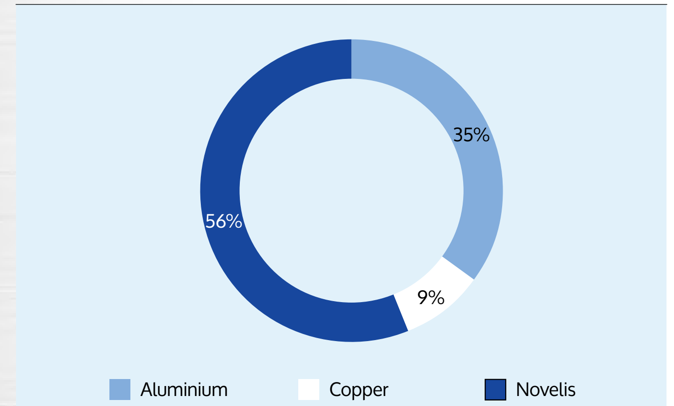
(₹ Crore)



EBITDA

Consolidated EBITDA for FY 2022-23 was lower by 20% to ₹24,131 Crore from ₹30,056 Crore in the previous year. This was due to lower EBITDA in the aluminium business in India and higher input costs. The EBITDA margin in FY 2022-23 was at 10.8% compared to 15.4% in FY 2021-22. The graphs below show the consolidated EBITDA split by businesses in FY 2022-23 and trends over the past five years.

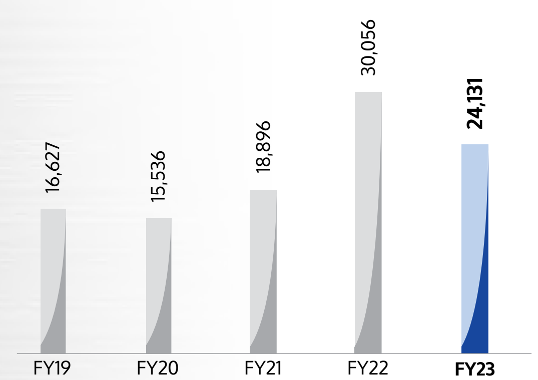
Consolidated EBITDA split by Business: FY 2022-23*



*Un-allocable income of ₹ (1,694) Crore is not included in above representation.

EBITDA

(₹ Crore)



Finance Cost

Finance Cost decreased 3% and was at ₹3,646 Crore in FY 2022-23 from ₹3,768 Crore in FY 2021-22. This was mainly on account of repayment of ₹6,000 Crore, Redeemable Non-Convertible Debentures (NCDs) and pre-payment of Utkal Alumina International Limited term loan of ₹ 2,574 Crore scheduled in September, 2030 and repayment of a term loan of ₹76 Crore in Hindalco in FY2022-23.

Depreciation and amortization

(including net impairment loss/ (reversal) of non-current assets)

Depreciation and amortisation (excluding net impairment loss/ (reversal) of non-current assets) increased to ₹7,086 Crore in FY2022-23 from ₹6,729 Crore in FY2021-22. This increase is due to reorganisation/amortisation activities on account closure of certain outdated processes at Novelis's Richmond plant in North America amounting to ₹139 Crore, and the suspension of certain plants and equipment amounting to ₹65 Crore in FY2022-23.

Exceptional Income/ (Expense)

In FY2022-23, total exceptional income was at ₹41 Crore compared to ₹164 Crore in FY2021-22. This decline in exceptional income can be attributed to the reversal of certain provisions made in FY2017-18 and FY2018-19 related to Cross Subsidy Surcharge (CSS) and Additional Surcharge (ASC).

This reversal was affected pursuant to the undertaking given by MSEDCL (Maharashtra State Electricity Distribution Co. Ltd.) to Maharashtra Electricity Regulatory Commission (MERC) on 29th July 2022 to refund CSS and commence the ASC refund.

Taxes

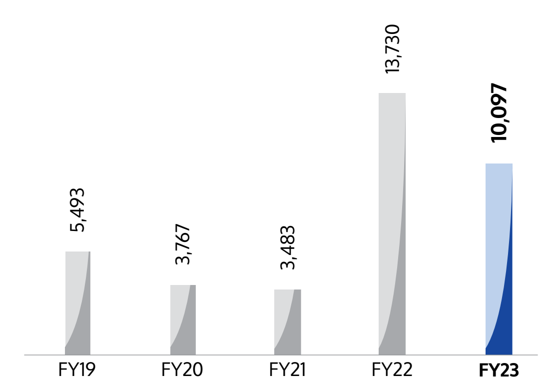
Provision for taxes was at ₹3,144 Crore in FY2022-23 against ₹5,373 Crore in FY2021-22. This decrease was due to lower profitability of the Company in FY2022-23, and the Group's decision to write back its net deferred tax liability amounting to ₹609 Crore, during the reporting period.

Profit/ (Loss) after tax

Profit After Tax (PAT) in FY2022-23 was at ₹10,097 Crore down 26% from ₹13,730 Crore a year ago. The net profit margin in FY2022-23 was at 4.52% versus 7.04% in FY2021-22. The PAT for continuing operations in the reporting period saw a decline of 29% at ₹10,097 Crore versus ₹14,201 in the previous year.

Profit after Tax

(₹ Crore)



Consolidated Net Debt to EBITDA

The consolidated balance sheet continued to remain strong with the Net Debt to EBITDA at 1.39 times at the end of March 2023 versus 1.36 times at the end of March 2022. (Net Debt to EBITDA = Consolidated Business EBITDA/Consolidated Net Debt)

Financing & Debt Redemption

a) Redemption of Secured Non-Convertible Debentures

Your Company has redeemed the following Secured, Listed and Non-Convertible Debentures on its maturity dates.

Date of Allotment	Coupon Rate	Amount (₹ in Crore)	Date of Maturity
April 25, 2012	9.55%	3000	April 25, 2022
June 27, 2012	9.55%	1500	June 27, 2022
August 02, 2012	9.60%	1500	August 02, 2022

b) Issue of Non-Convertible Debentures

During the year under review, your Company raised ₹700 Crore through issuance of Unsecured, Listed, Rated, Redeemable, Non-Convertible Debentures (NCDs) of face value of ₹1,00,000 each on private placement basis. Details pertaining to such issue is mentioned as below:

Coupon Rate	Date of Allotment	No. of NCDs	Total Amount (₹ in Crore)	Tenor	Maturity Date
7.60% Unsecured, Listed, Rated, Redeemable, Non-Convertible Debentures	January 18, 2023	70,000	700	14 months	March 18, 2024

The aforesaid debentures are listed on National Stock Exchange of India Limited.

Key Financial Ratios

i. Debtors Turnover (Days)

The Consolidated Debtors Turnover Days on 31st March 2023 was 30 days compared to 32 days on 31st March 2022. This displays the Company's consistency in managing its credit with customers and also reflects the Company's strong financial position with respect to its customers. The Debtor Turnover (Days) is calculated as Average Debtors/ Total Consolidated Sales * 365 days.

ii. Inventory Turnover (Days)

The Consolidated Inventory Turnover Days on 31st March 2023 was at 77 days versus 79 days at the end of 31 March 2022. This indicates the Company's effective management of its inventory levels throughout the year. Inventory (days) is calculated by dividing the Average Inventory by the Cost of Goods Sold (Cost of Sales + Depreciation) * 365 days.

iii. Interest Coverage Ratio

The Consolidated Net Interest Coverage Ratio on 31st March 2023 stands at 6.62 times compared to 7.87 times on 31st March 2022. This is lower from the previous year because of lower earnings (EBIT). This ratio reflects the Company's ability and strength to meet its interest obligations.

iv. Current Ratio

The Consolidated Current/Liquidity Ratio as on 31st March 2023 stands at 1.51 times versus 1.30 times at the end of 31 March 2022 and is reflective of the Company's strengthening of liquidity or solvency position compared to the previous year.

v. Debt to Equity Ratio

The Consolidated Debt-to-Equity Ratio as on 31st March 2023 is well below 1.0x, at 0.64x times compared to 0.82x times as on 31st March 2022. This is indicative of the Company' strong balance sheet and ability to meet its current short-term obligations.

vi. Return on Net Worth (RoNW)

The Consolidated Return on Net Worth as on 31st March 2023 is 11.67%, compared to 18.97% on 31st March 2022. This was lower from the previous year due to the lower profits in the reporting period. This is calculated as Profit After Tax/Average Net Worth

vi. Operating Margins

The Consolidated Operating Margins for FY2022-23 stands at 10.25% versus 14.61% in FY2021-22 indicating lower operating profit in the reporting period compared to the previous year. Operating Margin is calculated as Operating Profit/Net Sales.

vii. Net Profit Margins

The Consolidated Net Profit Margins as on 31st March 2023 stands at 4.52% compared to 7.04% as on 31st March 2022. The decline is on account of lower consolidated profits recorded during the reporting period. It is calculated as Net Profit/Net Sales.

Consolidated Cash flow

Cash generated from operations for Hindalco Consolidated stands at ₹19,208 Crore in FY 2022-23 versus ₹16,838 Crore in FY 2021-22. The table below shows the comparative movement of Cash flows:

(₹ Crore)

	Particulars	Year ended	
		31/03/2023	31/03/2022
A.	CASH FLOW FROM OPERATING ACTIVITIES		
	Operating Cashflow before working capital changes	22,445	29,726
	Changes in working capital	(457)	(9,132)
	Cash generated from operations before Tax	**21,988**	**20,594**
	(Payment)/Refund of Direct Taxes	**(2,733)**	**(3,773)**
	Net Cash generated/ (used) -Operating Activities - Continuing Operations	**19,255**	**16,821**
	Net Cash Generated/ (Used) - Operating Activities - Discontinued Operations	**(47)**	**17**
	Net Cash Generated/ (Used) - Operating Activities (a)	**19,208**	**16,838**
B.	CASH FLOW FROM INVESTMENT ACTIVITIES		
	Net Capital Expenditure	(9,742)	(5,355)
	Disposal of Investments in Subsidiaries (Net)/Business	24	66
	(Purchase) / Sale of treasury instrument (Net)	(214)	4,226
	Acquisition of business, net of cash acquired	-	(412)
	Investment in equity accounted investees	(17)	(1)
	Loans & Deposits (given) / received back (Net)	1,393	(6,209)
	Interest and dividends received	479	239
	Investment in Equity Shares at FVTOCI	(57)	363
	Others	13	9
	Net Cash Generated/ (Used) - Investing Activities - Continuing Operations	**(8,121)**	(7,074)
	Net Cash Generated/ (Used) - Investing Activities - Discontinued Operations	-	-
	Net Cash Generated/ (Used) - Investing Activities (b)	**(8,121)**	(7,074)
C.	CASH FLOW FROM FINANCING ACTIVITIES		
	Equity Raised / Debentures Redeemed	-	6
	Treasury shares acquired & Proceeds from Shares Issued by ESOP Trust	(125)	(79)
	Net Debt inflows/Outflows	(5,485)	(2,775)
	Interest & Finance Charges paid	(3,845)	(3,250)
	Dividend Paid (including Dividend Distribution Tax)	(890)	(667)
	Net Cash generated/ (Used) - Financing Activities - Continuing Operations	**(10,345)**	**(6,765)**
	Net Cash Generated/ (Used) - Financing Activities - Discontinued Operations	-	-
	Net Cash Generated/ (Used) - Financing Activities (c)	**(10,345)**	**(6,765)**
	Net Increase/(decrease) in Cash and Cash Equivalents (a) +(b) + (c)	**742**	**2,999**

Standalone Performance

On Standalone basis, your Company registered a revenue of ₹76,878 Crores for the fiscal year 2023 vs ₹67,653 Crores in the previous year up 14% on account of higher volumes and prices of copper in FY23. EBITDA (Earnings before Interest, Tax, Depreciation and Amortisation) stood at ₹8,061 Crores, down 32% compared to the last year, impacted by unsupportive macros and higher input costs. Depreciation(including net impairment loss/(reversal) of non-current assets) was up 4% at ₹1,927 Crore in FY23 versus ₹1,847 Crores in FY22. The Finance Cost was lower on Year by 8% at ₹1,300 Crores in FY23 versus ₹1,417Crores in FY22. This reduction in finance cost was mainly due to overall reduction in the average cost of long-term loans on account of repayment of high cost loans such as the NCDs worth ₹6.000 Crore during the year. The Profit before Tax (and Before Exceptional Items) stood at ₹4,834 Crore, down 44% compared to the previous year due to lower EBITDA. Net Profit for FY23 stood at ₹3,326 Crores as compared to ₹w5,507 Crore down 40% Year on Year compared to the previous year.

Business Outlook

Hindalco's relentless focus is on product innovation, better efficiencies, complete digitalisation, and organic expansions with a diversified product mix and cost competitiveness. The Company continues to focus on cash conservation while maintaining adequate liquidity and deliver sustained performance while catching up with market recovery. Its long-term strategic investments in Novelis and the India downstream expansion projects will enhance its capabilities across the FRP and the Extrusion segments in the country.

Demand for aluminium sheet across specialties markets, including electronics, electric vehicle battery enclosures, painted products, container foil, and building and construction markets also remains strong over the long-term, despite current economic headwinds impacting near-term demand for building and construction and some industrial products.

The automotive segment is poised to display strong near-and long-term demand and is expected to grow at a CAGR of 11% over the next five years. This expansion will be led by elevated levels of pent-up demand, supported by rising consumer demand for vehicles with a higher share of aluminium like EVs, and easing of supply chain challenges with the availability of semi-conductor chips and recovery in vehicle production levels.

The aerospace segment is also expected to remain strong with travel picking up after the removal of pandemic restrictions. Aircraft OEMs are forecasting a strong growth in aircraft build rates over the next decade.

In this sector, sustainability is also gaining importance leading to higher consumption of aluminium. However, inflationary cost pressures that began in FY 2021-22, resulting from global supply chain disruptions and geopolitical instability impacted the availability and prices of materials and services, including freight, energy, coatings, and alloys like magnesium. The disruptions intensified during the reporting period, and are expected to continue for the foreseeable future.

From Q4-FY22, Novelis has been impacted by the rise in energy prices globally, especially in Europe. The Russia-Ukraine conflict further exacerbated the situation, leading to reduced manufacturing and industrial demand. The Company expects this situation to continue until energy prices and economic conditions stabilise. Other costs, such as labour and borrowing costs, have been influenced by inflation and higher interest rates. To counter this, the Company has implemented cost-control measures across our global operations, with a focus on employment, professional services, and travel costs. However, there is no assurance that it will be able to mitigate these higher costs in the future.

In India, the acquisition of Hydro's Kuppam extrusions facility and Polycab's Ryker CCR helped bolster Hindalco's presence in the upper end of the value-added market and further strengthen its long-term sustainable business model.

Domestic copper demand is driven largely by rods, which is the downstream product for the copper business. Hindalco's strategy of enhancing copper VAP capacity through copper rods and copper inner grooved tubes will help it gain a larger market share and meet the growing demand for copper in the domestic market.

To boost the Company's position as a sustainability leader in the industry, Hindalco has established strategic priorities and allocated capital aimed at promoting organic growth in both India and Novelis. These priorities also focus on enhancing value through ESG-driven practices.

Research, Development & Technology

Company's Research, Development & Technology (RD & T) activities are focused on developing and commercializing premium differentiated products, improving our competitive cost position, product quality and environmental sustainability.

To support these goals, we are managing a pipeline of projects at four Hindalco Innovation centres in collaboration with corporate and external research institutes. The project portfolio addresses near and mid-term needs, as well as the exploration of future opportunities.

This year members of Hindalco Innovation Centre Team continued development in the area of making our processes greener & sustainable and value added products & applications.

These initiatives helped our plants to mitigate challenges of raw material quality, reducing specific energy consumption and carbon footprint, cost effective management of waste generated during processing, recovery of value from by-product as well as any waste products. Specific programs have also been initiated to adopt new digitalisation techniques such as soft sensors, digital twins, etc. The predictive and prescriptive models based on AI /ML data analytics coupled with physics based models are helping better process control & achieve desired process performance. These tools also help in understanding the requirement of existing and prospective customers, and provide a better service, in order to increase your company's market share in the chosen market space. Technical competencies developed by your company will go a long way in terms of quick absorption of technologies, challenging & pushing boundaries of our processes, so as to increase the economic performance and improve our new product/ new application pipeline to address the impending market opportunities.

Bauxite & Alumina RD&T: Hindalco Innovation Centre ('HIC') Alumina at Belagavi is focused on bauxite ore & alumina refining processes and specialty alumina, hydrate products & their applications in different market segments. The projects on improving productivity of Refineries & hydrate product quality were successfully implemented. This year key projects on development for Low Soda Hydrate, white hydrate. Hydratable alumina for castables, spherical alumina for advanced refractory & special hydrates for FRP composite applications were successfully developed and commercialised in collaboration with operations & marketing team. Team along with Aditya Birla Science & Technology Company Private Limited ('ABSTC'), an Aditya Birla Group Corporate R&D successfully demonstrated trials of novel process for production of 4N High Purity alumina (99.99%). The process knowhow is protected by filing 3 patents.

Primary Aluminium RD&T: In collaboration with ABSTC, we have developed expertise in advanced pot design and process control to reduce the specific energy consumption. The range of technology solutions are being implemented, which includes next generation Cu-insert collector bars, digital twin to predict current efficiency, advance process control logic, at smelters. In our journey of creep capacity increase, we have developed novel HiPot 400 KA cell design, the cell lining pilots are in progress at Mahan & Aditya smelter. Team has also developed advance process control for Hirakud smelter which is under implementation.

Aluminium downstream RD&T: HIC-Semifab team along with SMEs are continuing research on optimising the product quality and also developing new products and applications. Our technology team is also focusing on new coating for both extrusion & FRP products segment. Towards greening the planet, technology team has facilitated development of light weighting applications in transport segment and new products for battery technology & electrical vehicles.

Copper RD&T: HIC-Copper along with ABSTC is focusing on improving the smelter productivity and CCR product quality. Blend adviser, soft sensor for matter grade & temperature prediction, optimum operating region for production of high quality CCR were developed & implemented under digital initiatives this year. Team also participated in start-up and optimising the process conditions for new Cu-Mg wire rod at Bhiwadi.

Hindalco to deploy all the resources necessary to bring about a positive change in the spaces in which it operates.

Your company also has series of collaborative programs with IITs, CSIR labs and domestic & international start-ups which enables your company to develop & build competencies in select areas, to create long term value to business. We actively evaluate new transformational technologies including battery technology, decarbonisation, etc. These engagements along with in-house research has resulted in increased filing of patent applications and also publications in international journals & conferences. The RD&T activities thus span a wide range of present and future needs of Hindalco.

Sustainability

At Hindalco, sustainability is the foremost priority and the Company strives to create value from revenue streams that benefit both the planet and people. The Company's strong commitment to ESG is reflected in its remarkable performance in the DJSI CSA assessments, where it achieved the highest ESG score in the aluminium industry for the third year in a row. Through collaboration and by working closely with stakeholders across the value chain, Hindalco has demonstrated its commitment to addressing critical sustainability issues. This approach reflects its plan for mutual growth, thereby earning the trust of all partners in the process.

The Apex Sustainability Committee, chaired by the Managing Director, drives sustainability at the highest level ensuring the implementation and monitoring of sustainability initiatives across the organisation. Hindalco's task forces and ESG SPOCs from all functions work together to bring about positive change with task forces focusing on ground-level implementation of sustainability initiatives and ESG SPOCs taking up projects to further the cause of ESG implementation.

A roadmap to achieve net carbon neutrality by 2050 has been established, and the Company has already installed 100 MW of renewable energy capacity, with plans to scale it up to 300 MW by 2025. Through various energy-efficiency projects and pilot demonstrations of technologies in the pipeline, the Company has showcased its sustainability efforts.

The Company's goal is to achieve overall water positivity by 2050; with a sub-target of making its mining operations water positive by 2025. Towards this, it has ramped up its freshwater conservation efforts by using water from treated and rainwater sources. With an aim to achieve Zero Waste in Landfill by 2050, Hindalco extracts value from the waste generated and has amplified its material recycling. The Company is committed to protecting biodiversity and has developed BMPs for critical sites in collaboration with IUCN, aiming to achieve No Net Loss by 2050. The Sustainable Mining Charter and KPIs under seven thematic areas are the other crucial steps taken by Hindalco to make its mining vertical more sustainable.

Building safer workplaces and fostering a high-performance work culture for its employees, launching initiatives to increase their productivity and supporting their mental and physical health are some of the steps taken to ensure the well-being of the organisation's workforce. Hindalco engages with local communities to ensure mutual prosperity, and this is achieved through programmes in education, healthcare, livelihood, infrastructure, and social reforms. The Company strongly believes in inclusive growth. This motivates Hindalco to deploy all the resources necessary to bring about a positive change in the spaces in which it operates and in society at large. The initiatives and performance are detailed in the 'Our Capitals' section of this report.

Safety

As a responsible corporate citizen, Hindalco is fully dedicated to human health and safety. All the plants and mines follow occupational health and safety management standards that integrate occupational health, hygiene, and safety responsibilities into everyday business. A strong safety culture is required to prevent fatalities and achieve good safety performance. Supported by the efforts made to further strengthen its safety culture, Hindalco's safety performance this year has been the best in its history. In FY2022-23, we achieved an LTIFR of 0.25–a 24% reduction on a yoy basis—and TRIFR of 0.69–a 5% decline from last year.

While there were no fatalities among employees, the Company lost two contract workmen to work-related injuries. Hindalco regrets the loss of these valuable lives and will work to strengthen its safety culture to achieve a Zero Harm status.

Hindalco's entire operations are audited every year and all the businesses are set to meet the defined health and safety performance requirements and defined targets.

In FY2022-23, cross-entity safety audits were led by business heads/cluster heads. Audits conducted under the leadership of business heads is an industry-first move, and clearly shows the commitment of Hindalco's senior leaders towards safety and the goal of becoming a Zero-harm organisation.

During the reporting year, the focus on Contractor Management System (CSM) was intensified to establish a strong and continuous performance evaluation of contractors across Hindalco. This was done via Contractor Field Safety Audits. The Serious Injuries and Fatality (SIF) prevention programme, which was introduced in FY2021-22, has started delivering results. With these programmes, the Company currently has 10 technical safety standards, nine administrative safety standards, four occupational health standards and 10 guidance notes. These standards and procedures help the Company maintain a consistent approach in managing major hazards across its operations. To effectively implement the standards, 137 new Subject Matter Experts (SMEs) have been trained and developed. This is in addition to the 1,308 SMEs developed over the past few years.

The Behaviour-based Safety Programme established at Hindalco has set a milestone through the reinforcement of safe behaviours and reduction in unsafe behaviours.

Hindalco invested approximately 4.21 man-days towards classroom safety training per person (including direct employees and contract workmen) this year, against a set target of 3 man-days. The focus was more on on-the-job training, resulting in a 51% increase in man-hours dedicated to training compared to the previous year.

A good safety culture depends heavily on the participation of line function employees. Which is why the Company has set up safety task forces and six safety sub-committees at each unit, for employees to participate in safety programs.

Each member of each task force and sub-committee is deemed a Safety Officer and contributes to the safety of the units and mines at every level. Going further, the Company constituted the Safety 360 (off-the-job safety) task force, comprising members from factory, colonies, schools, contractors' family, school, and college students, SMEs, etc. This task force has the responsibility of driving various safety awareness campaigns and off the job safety enhancements for our internal as well as external stakeholders.

In FY2022-23, Hindalco completed Qualitative Exposure Assessment (QIEA) and Quantitative Exposure Assessment (QnEA) studies of all its manufacturing facilities and mining operations. By the end of FY2022-23, more than 98% of the recommendations to emerge from the studies were implemented, and progress has been positive across all recommendations.

In FY2022-23, the Company continued to offer psychological safety training sessions to its employees. Each unit also ran a comprehensive wellness programme recognising the value of good physical and mental health of employees, their families, and the community. Hindalco has an active Crisis Management Plan that ensures an appropriate response to all crisis, natural disasters, or other emergencies, at all units and mines.

Human Capital

Hindalco's workforce comprising 36,000+ employees worldwide has always been its biggest asset in driving cultural transformation in the Company and in aligning with its Purpose of building a Greener, Stronger and Smarter future.

The Great Place to Work Institute certified Hindalco as a **'Great Place to Work' in 2022** for the second consecutive time. In comparison to the last survey, there has been a remarkable jump of 12 points in Trust levels and a jump of 16 points in Fairness. Pride, as always, stands out as an area of strength while Credibility and Respect have shown steep growth.

This signifies that the efforts towards establishing Hindalco as a High Performing Contemporary Organisation is yielding results. Hindalco added one more feather to its cap with the **Great Place To Work** Institute certifying it as India's 40 Best Workplaces in Health & Wellness, based on the Company's psychologically and emotional healthy work culture that inspires high performance. A high Workplace Wellness Index© **is a testimony to Hindalco's focus on the well-being of employees.**

The sixth edition of Shillim, branded 'Shillim 365', is meant to ensure the practice of adopting the culture journey all through the year. The emphasis on creating a high-performance culture was the inspiration for taking Shillim 365 to the shop floor. With the active collaboration of over 2,800 employees across the organisation, 30 'Shillim 365' workouts have been conducted so far.

These sessions aim to foster dialogue with every member of the workforce to generate ideas from all levels, emphasise on continuous improvement, and implement valuable inputs across the Company. This bottom-up approach of including employees at each level with 'Apni Zimmedari' as the tagline for their contributions towards making Hindalco an HPCO. This approach also helps in creating more opportunities of involving employees in decisions affecting them directly and can strengthen uniform implementation of the ideas and Innovation practices across the organisation.

The amplified focus on building the leadership pipeline, investing in talent development is helping the Company take bold bets on people, resulting in their placement in leading positions in newer plants and upcoming projects. Hindalco's multi-pronged talent management strategy continues to focus on hiring young talent, creating structured training and development initiatives, promoting gender diversity, and building technical and specialist capability. This has also helped the Company venture into newer technical areas of capability building. The organisation's human rights policy safeguards its employees and contractual workmen against harassment and discrimination. Focused efforts have been made to enhance employee productivity through various tailored programs focusing on their well-being. **By investing in people and culture, Hindalco continues to inspire its workforce to go above and beyond and deliver consistent superior performance even in the most challenging times.**

Internal Controls & their Adequacy

The Company's internal control systems are commensurate with the nature of its business, the size and complexity of its operations and such internal financial controls with reference to the Financial Statements are adequate. A strong culture of internal controls is pervasive throughout the Group. Regular internal audits at all locations are undertaken to ensure that the highest standards of internal control are maintained. The effectiveness of a business' internal control environment is a component of senior management performance appraisals. The primary aim of the internal control system is to manage business risks with a view to enhance shareholder value and safeguard the Group's assets. It provides reasonable assurance on the internal control environment and against material misstatement or loss. The Company has in place a robust mechanism to deal with Internal audit that involves having a dedicated Assurance & Control function having personnel specialised in the field of the subject and having two internal auditors duly appointed by the Audit Committee and Board., viz. M/s. Ernst & Young for the Aluminium Business and M/s. Suresh Surana & Associates for the Copper business. The Audit Committee discusses audit plans, findings and observations made by the internal auditors at its meetings. The findings made by the internal auditors are reviewed and suggestions implemented.

DISCLOSURES IN TERMS OF THE PROVISIONS OF THE COMPANIES ACT, 2013 ('the Act') & SECURITIES AND EXCHANGE BOARD OF INDIA (LISTING OBLIGATIONS AND DISCLOSURE REQUIREMENTS) REGULATIONS, 2015 ('SEBI Listing Regulations')

A. Board of Directors ('Board')

(i) Number of Meetings

The Board met five times during the year, details of which are given in the Corporate Governance Report forming part of the Integrated Annual Report.

(ii) Appointments and Resignations

a) Appointments/Re-Appointments

i. Ms. Alka Bharucha (DIN: 00114067) completed her first term of five years as Independent Director of the Company on July 11, 2023. On recommendation of the Nomination & Remuneration Committee ('NRC') and the Board of Directors, the Shareholders of the Company approved the re-appointment of Ms. Bharucha as an Independent Director of the Company for a second term of five years commencing from July 11, 2023 upto July 10, 2028. The said approval was received on February 09, 2023 by way of a special resolution passed through Postal ballot.

ii. Mr. Praveen Kumar Maheshwari (DIN: 00174361) was re-appointed as the Whole-time Director of the Company for a period of one year effective May 28, 2022 upto May 27, 2023. Based on the recommendation of the NRC, the Board of Directors, at its meeting held on May 24, 2023, re-appointed Mr. Maheshwari as the Whole-time Director for a further period effective from May 28, 2023 to March 31, 2024, subject to approval of the shareholders at the ensuing Annual General Meeting.

b) Resignations/Retirements/Retirement by rotation

i. During the year under review, no director has resigned.

ii. Mrs. Rajashree Birla (DIN: 00022995) is due to retire by rotation at ensuing Annual General Meeting and being eligible, offers herself for reappointment. Mrs. Rajashree Birla has given required declaration under the Act.

Resolution seeking the re-appointment of Mr. Praveen Kumar Maheshwari & Mrs. Rajashree Birla along with the brief profiles, forms part of the Notice of the 64th Annual General Meeting.

(iii) DECLARATION OF INDEPENDENCE

[S. 149(6),150(1) & Schedule IV of the Act along with rules thereunder & R. 16(1)(b), 25(8)]

The Independent Directors have submitted declarations that each of them meets the criteria of independence. In the opinion of board there has been no change in the circumstances affecting their status as independent directors of the Company and the Board is satisfied of the integrity, expertise, and experience of all Independent Directors on the Board. Further based on declaration received from directors, the Board confirms, that the Independent Directors fulfil the conditions.

(iv) Board Evaluation

The Board evaluated the effectiveness of its functioning, the performance of its committees, the Chairman, Independent Directors, Non-Executive Directors, and Executive Directors.

The evaluation framework focused on various aspects of the Board and Committees such as review, timely information from management etc. Also, the performance of individual directors was divided into Executive, Non-Executive and Independent Directors and based on the parameters such as contribution, attendance, decision making, action oriented, external knowledge etc. Board members have evaluated Independent Directors, Non-executive Directors, Executive Directors, Committee and Chairman of the Board.

Outcome of the Evaluation

The results of Board evaluation was satisfactory. Board fully agreed and rated 100% on its functioning, skill sets and working atmosphere. Independent Directors scored well on expressing their views and in understanding the Company and its requirements. Non Executive Directors scored well in all aspects of evaluation. Executive Directors are action oriented and ensures timely implementation of the Board decisions. Board is completely satisfied with the functioning of various Committees. Board has full faith in the Chairman in leading the Board effectively and ensuring contribution from all its members.

The manner in which the evaluation has been carried out has been set out in the Corporate Governance Report, which forms part of this Integrated Annual Report.

B. Committees of The Board

The Board has constituted six committees, viz. Audit Committee, Corporate Social Responsibility Committee, Risk Management Environment Social and Governance (ESG) Committee, Nomination and Remuneration Committee, Stakeholders Relationship Committee, Finance Committee and is authorised to constitute other functional Committees, from time to time, depending on business needs.

During the year under review a Functional Committee named 'Capital Raising Committee' was constituted for deciding on various matters related to the issue of 7.60% Unsecured, Listed, Rated, Redeemable, Non-Convertible Debentures of ₹700 Crore.

Details with respect to the composition, terms of reference, number of meetings held, etc. of the above Committees are included in the Report on Corporate Governance, which forms part of this Integrated Annual Report.

C. Key Managerial Personnel (KMPs)

[S.203 of the Act]

During the period under review, the Key Managerial Personnel of your Company are:

1) Mr. Satish Pai, Managing Director;

2) Mr. Praveen Kumar Maheshwari, Chief Financial Officer & Whole Time Director;

3) Mr. Anil Malik, Company Secretary, until November 30, 2022; and

4) Ms. Geetika Anand, Company Secretary & Compliance Officer w.e.f. December 1, 2022

D. Remuneration of Directors and Employees

[. 136, S. 197(12) of the Act & Rule 5(2) and 5(3) of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014]

The names and other particulars of Top 10 employees ought to be set out in the Directors' Report, as an addendum thereto. However, the Report and Accounts are being sent to all Members of your Company excluding the aforesaid information about the employees. Any Member, who is interested in obtaining these particulars about employees, may write to the Company Secretary at the Registered Office of your Company.

Disclosures pertaining to remuneration and other details is attached as Annexure I to this Report.

E. Employee Stock Option Schemes and Share Based Employee Benefits

Employee stock options is a conditional share plan for rewarding performance on pre-determined performance criteria and continued employment with the Company.

In terms of the provisions of applicable laws and pursuant to the approval of the Board and the members of the Company, the NRC has duly implemented the following schemes:

(a) Employee Stock Option Scheme –2006 ("Scheme 2006")

(b) Hindalco Industries Limited Employee Stock Options Scheme–2013 ("Scheme 2013")

(c) Employee Stock Option Scheme 2018' ("Scheme 2018")

(d) 'Hindalco Industries Limited Employee Stock Option and Performance Stock Unit Scheme 2022' ("Scheme 2022")

The above Schemes are in line with the SEBI (Share Based Employee Benefits and Sweat Equity) Regulations, 2021 ("SBEB Regulations"). The details as required to be disclosed under the SBEB Regulations can be accessed at www.hindalco.com

A certificate from Secretarial Auditors, with respect to the implementation of the Company's ESOS schemes, would be placed before the shareholders at the ensuing Annual General Meeting. A copy of the same will also be available for inspection through electronic mode.

F. Related Party Transactions

[Section 134(3)(h) of the Act and Rule 8 of the Companies (Accounts) Rules, 2014 & R.23 of SEBI Listing Regulations]

During year under review, all the contract(s)/ arrangement(s)/transaction(s) entered into by the Company with its related parties were in compliance with the applicable provisions of the Act and the SEBI Listing Regulations.

Prior omnibus approval of the Audit Committee is obtained for such related party transactions, which are foreseen and of repetitive nature.

Pursuant to the said omnibus approval, details of transactions entered into are also reviewed by the Audit Committee on a periodic basis.

Further, all the related party transactions entered into during year under review were on an arm's length basis and in the ordinary course of business of the Company.

In terms of the revised materiality thresholds as per the amended Listing Regulations, 2015, approval of the Shareholders was obtained for certain material related Party transactions by way of a Postal Ballot. The said approval was received on February 09, 2023 by way of a special resolution passed through Postal ballot.

Since, there were no transactions requiring disclosure under provisions of the Act, Form AOC–2 does not form a part of this report.

Details of RPTs entered into by the Company, in terms of Ind AS-24 have been disclosed in the notes to the standalone/consolidated financial statements forming part of this Report.

In line with the requirements of the Act and the SEBI Listing Regulations, the Company has formulated a Policy on Related Party Transactions. The Policy can be accessed on the Company's website at www.hindalco.com

G. Dividend Distribution Policy

[R. 43A of SEBI Listing Regulations]

Your Company has formulated a Dividend Distribution Policy, with an objective to provide the dividend distribution framework to the Stakeholders of the Company. The policy sets out various factors, which shall be considered by the Board in determining the dividend pay-out. The policy is annexed as Annexure II to this Report and is also available on the website of the Company i.e. www.hindalco.com

H. Subsidiary, Associates & Joint Venture Companies

[R.129(3) of the Act read with Companies (Accounts) Rules, 2014]

A statement containing salient features of financial statements of your Company's subsidiaries, associates and joint venture companies are provided, in the prescribed Form AOC-1, as Annexure III to this Report.

The Company has adopted a policy on determination of material subsidiaries in line with the SEBI Listing Regulations. The policy aims to determine the Material Subsidiaries of the Company and to provide the governance framework for such subsidiaries.

Utkal Alumina International Limited & Novelis Inc. are the material unlisted subsidiaries of your Company. Your Company does not have any material listed subsidiary Company. The Audit Committee and the Board reviews the financial statements, significant transactions, investments, working of all subsidiary Companies, and the minutes of unlisted subsidiary Companies are placed before the Board.

The financial statements of your Company's subsidiaries and policy on determination of material subsidiaries may be accessed at www.hindalco.com

I. Corporate Social Responsibility

[S. 135 of the Act read with Companies (Corporate Social Responsibility Policy) Rules, 2014]

The Board of Directors of your Company has constituted a Corporate Social Responsibility ("CSR") Committee which is chaired by Mrs. Rajashree Birla. The other Members of the Committee for the financial year ending March 31, 2023 were Mr. Yazdi Dandiwala, Independent Director, Mr. Askaran Agarwala, Non-Executive Director and Mr. Satish Pai: Managing Director. Dr. Pragnya Ram, Group Executive President, Group Head - CSR, Legacy Documents & Archives & Corporate Communication is a permanent invitee to the Committee.

Your Company also has in place a CSR Policy and the same is available on Company's website viz. www.hindalco.com The Committee recommends to the Board what all activities are to be undertaken during the year.

Your Company is a caring corporate citizen and lays significant emphasis on development of the communities around which it operates.

Your Company has identified several projects relating to Social Empowerment & Welfare, Infrastructure Development, Sustainable Livelihood, Health Care and Education during the year and initiated various activities in neighbouring villages around plant locations. During the year, the Company has spent 36.04 Crores and has transferred 9.5 Crores to unspent CSR account relating to ongoing project.

The Annual Report on CSR activities is attached as Annexure IV to this Integrated Annual Report.

J. Conservation of Energy, Technology and Foreign Exchange Earnings & Outgo

[S. 134(3)(m) of the Act read with the Companies (Accounts) Rules, 2014]

The information on Conservation of Energy, Technology Absorption and Foreign Exchange Earnings and Outgo is given in Annexure V to this Report.

K. Risk Management

[R. 21 of SEBI Listing Regulations]

Pursuant to the requirement of Securities and Exchange Board of India (Listing and Disclosures Requirement) Regulations, 2015, the Company has constituted Risk Management Committee (RMC), which is mandated to review the risk management plan/process of your company. The Company has in place a Risk Management Policy which has been uploaded on the website of the Company at www.hindalco.com

Our risk management is guided by our Enterprise Risk Management Policy which is regularly reviewed by Risk Management and ESG Committee. The policy is applicable across all our operations. We follow both bottom-up and top-down approach to risk management. The Board-level Risk Management and ESG committee ('RM&ESG'), headed by one of the Board members, is the apex body that oversees risk management across the organisation. The committee meets every quarter and provides guidance and strategic directions to manage risks.

Hindalco ERM framework is developed in accordance with COSO and ISO 31000. The framework is fully integrated with our strategic priorities. During the reporting period, we bolstered the framework to adapt to the BANI world and embraced the RAAT (Resilience, Attention, Adaption, Transparency) approach.

The Chief Risk Officer (CRO) is responsible for the functioning of enterprise risk management and heads the central risk management team. The latter is the custodian

of the risk management process at all locations. To manage the risks at the grassroots we have an established team structure at cluster, site, and department levels. These teams are responsible for implementing risk mitigation plans and report to the Risk Management Head at regular intervals. Risk management and compliance with risk procedures are a part of the Key Result Areas (KRAs) of senior management and is linked to their variable incentives.

The company remained vigilant about rapid shifts in consumer preferences, dynamic geo-political environment, increasing impacts of climate change and a swiftly evolving regulatory landscape and therefore integrated approach of risk management with the decision-making helped managing risks proactively. Identification and monitoring of Key risk indicators and mitigation plans has enabled us to become resilient to uncertainties and deliver the performance.
The risk management framework is audited internally and externally during the Integrated Management System (IMS) audits. In addition, we regularly monitor and evaluate existing and emerging risks.

L. Vigil Mechanism

Your Company has in place a vigil mechanism for directors and employees to report concerns about unethical behaviour, actual or suspected fraud or violation of your Company's Code of Conduct. Adequate safeguards are provided against victimisation to those who avail of the mechanism and direct access to the Chairman of the Audit Committee in exceptional cases is provided to them.

The vigil mechanism is available on your Company's website viz. www.hindalco.com

M. Nomination Policy and Executive Remuneration Policy/Philosophy

The Company's remuneration policy is directed towards rewarding performance based on review of achievements. The remuneration policy is in consonance with existing industry practice. There has been no change in the policy during the year.

The Remuneration Policy of your Company, as formulated by the Nomination and Remuneration Committee of the Board of Directors, is given in Annexure VI to this Report and is also available on your Company's website at www.hindalco.com

N. Business Responsibility and Sustainability Report ('BRSR')

[R.34(2)(f) of SEBI Listing Regulations]

The Securities and Exchange Board of India ('SEBI'), in May, 2021, introduced new sustainability related reporting requirements to be reported in the specific format of Business Responsibility and Sustainability Report. A separate section on BRSR forms part of this Integrated Annual Report.

O. Directors' Responsibility Statement

[S. 134(3) (c) of the Act]

Your Directors state that:

a) in the preparation of the annual accounts, applicable accounting standards have been followed along with proper explanations relating to material departures if any;

b) accounting policies selected have been applied consistently and judgments and estimates have been made that are reasonable and prudent so as to give a true and fair view of the state of affairs of the company as at March 31, 2023 and of the profit of your company for that period;

c) proper and sufficient care has been taken for the maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of your company and for preventing and detecting fraud and other irregularities;

d) the annual accounts of your Company have been prepared on a 'going concern' basis;

e) Company had laid down internal financial controls and that such internal financial controls are adequate and were operating effectively;

f) Company has devised proper system to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

g) the Company has been in compliance with the applicable Secretarial Standards issued by the Institute of Company Secretaries of India

P. Auditors : FY23

Statutory Auditor	• M/s Price Waterhouse & Co. Chartered Accountants LLP (Firm Registration No. 304026E/E-300009) had been appointed as the Statutory Auditors of the Company in the 63rd Annual General Meeting to hold office for a period of five (5) years to the conclusion of 68th Annual General Meeting. • Statutory Auditor's Report do not contain any qualification, reservation, adverse remark or disclaimer and and therefore, do not call for any further comments under Section 134(3)(f) of the Act.
Secretarial Auditor	• M/s BNP & Associates, Practising Company Secretaries had been appointed by the Board to conduct the secretarial audit of the Company. • The Secretarial Audit Report for the financial year ended March 31, 2023 forms part of this report as Annexure VII and confirms that the Company has complied with the provisions of the Act, Rules, Regulations and Guidelines and that there were no deviations or non-compliances. • The Secretarial Audit Report of its unlisted material subsidiary i.e Utkal Alumina is annexed as Annexure VIIA to this report.
Cost Auditor	• M/s. Nanabhoy & Co., Cost Accountants were appointed as the Company's Cost Auditor. • The cost accounts and records of the Company are duly prepared and maintained by the Company as required under Section 148(1) of the Act pertaining to cost audit.
Internal Auditors	• M/s. Ernst & Young LLP were appointed as the Company's Internal Auditor of Aluminium Business. • M/s Suresh Surana & Associates LLP were appointed as the Company's Internal Auditor of Copper Business. • Internal Audit Reports are placed on half-yearly basis before the Audit Committee for their review.

Q. Corporate Governance

[Para C,E of Schedule V of SEBI Listing Regulations]

Your Company is committed to maintain the highest standards of Corporate Governance and adheres to the Corporate Governance requirements set out by the SEBI. The report on Corporate Governance as stipulated under the SEBI Listing Regulations forms part of this Annual Report.

Your Company has duly complied with the Corporate Governance requirements as set out under Chapter IV of the SEBI Listing Regulations and M/s. Dilip Bharadiya & Associates, Company Secretaries, vide their certificate, have confirmed that the Company is and has been compliant with the conditions stipulated in the Chapter IV of the SEBI Listing Regulations. The said certificate is annexed as Annexure VIII to this Report.

R. Particulars of Loans, Guarantees and Investments

[S.186 of the Act read with Companies (Meetings of Board and its Powers) Rules, 2014]

Details of Loans, Guarantee and Investments are given in the notes to Financial Statements of this Integrated Report.

S. Extract of Annual Return

[S.92(3) of the Act read with Companies (Management and Administration) Rules, 2014]

An extract of the Annual Return of your Company for the financial year ended March 31, 2023 is available at Company's website www.hindalco.com

T. Disclosures pursuant to the "Sexual Harassment of Women at the workplace (Prevention, Prohibition and Redressal) Act, 2013"

Your Company has in place a policy on Prevention of Sexual Harassment at Workplace, which is in line with requirements of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 ('POSH Act'). The objective of this policy is to provide an effective complaint redressal mechanism if there is an occurrence of sexual harassment. This policy is applicable to all employees, irrespective of their level.

Your Company has also set up an Internal Complaints (IC) Committee at all our locations which is duly constituted in compliance with the provisions of the POSH Act. Further, the Company also conducts interactive sessions for all the employees, to build awareness amongst employees about the policy and the provisions of the POSH Act.

During the year under review, the Committee has received 9 complaints, all of which were disposed of with appropriate action.

U. Awards & Recognitions

- In addition to the accolades/awards mentioned in the Social Report, we received the following Awards & Recognitions during the year.
- Hindalco recognised as 'India's Best Employers among Nation Builders' for the second consecutive year (2023) by Great Place to Work® Institute.
- Hindalco is among top 40 of India's best workplaces in Health and Wellness 2022 by The Great Place to Work® Institute.
- Hindalco is in the top 1% S&P Global ESG score in the aluminium industry in 2022 (a score of 83/100) Hindalco continues to be a part of S&P Global Sustainability Yearbook 2023 for the second consecutive year.
- Hindalco won award for Environmental and Social Initiatives at KPMG ESG Conclave and Awards '23.
- Hindalco's Integrated Annual Report FY 2021-22 won India's best Annual Report Award in the Mining and Metals Sector, by The Free Press Journal & Grant Thornton Bharat LLP.
- Hindalco emerges as one of the 'Top Leadership Factories of India' for creating leaders at scale by Great Manager Institute®.
- Aditya unit conferred Corporate Governance and Sustainability Vision Award 2023 in CSR category by Indian Chamber of Commerce.
- Mahan unit CPP wins 'Excellent Energy Efficient Unit' in National Award for Excellence in Energy Management by CII.
- Mahan unit gets first-runner up award for 'Indian Manufacturer of the Year' at the India Manufacturing Excellence Awards by Frost & Sullivan.
- Aditya Aluminium unit bags Golden Bird National Award (Platinum Category) for its Vision Centre project.
- Aditya and Mahan plants bag 'Gold at the India Green Manufacturing Challenge Award'
- Muri Alumina Refinery receives Gold Award at IRIM (International Research Institute for Manufacturing) Annual Awards 2023.
- Utkal plant won the IMC RBNQ Performance Excellence Award 2022 in manufacturing category.
- Utkal plant won 9th CSR Times Award 2022 during 9th CSR Summit in December 2022.
- Renukoot unit won 'Excellent Energy Efficient Unit' award from CII in September 2022

V. Other Disclosures

In terms of the applicable provisions of the Act and the SEBI Listing Regulations, your Company additionally discloses that, during the year under review:

- there was no change in the nature of business of your Company;
- it has not accepted any fixed deposits from the public falling under Section 73 of the Act read with the Companies (Acceptance of Deposits) Rules, 2014. Thus, as on March 31, 2023, there were no deposits which were unpaid or unclaimed and due for repayment, hence, there has been no default in repayment of deposits or payment of interest thereon;
- it has not issued any shares with differential voting rights;
- it has not issued any sweat equity shares;
- it has not made application or no proceeding is pending under the Insolvency and Bankruptcy Code, 2016 and
- it has not made any one-time settlement for the loans taken from the Banks or Financial Institutions.
- there were no material changes and commitments affected the financial position of your Company between end of financial year and the date of report;
- there was no revision in the financial statements;
- Mr. Satish Pai: Managing Director is a director on the Board of Novelis Inc, wholly owned subsidiary. He is in receipt of annual fee of US$ 1,50,000 in the calendar year 2023 from Novelis;
- Mr. Praveen Kumar Maheshwari: Whole Time Director and Chief Financial Officer has not received any commission/ Remuneration from your Company's subsidiaries;
- there are no significant and material orders passed by the regulators or courts or tribunals impacting the going concern status and company's operations in future
- there were no frauds reported by the Auditors u/s 143(12) of the Act.

Cautionary Statement

Statements in this "Management Discussion and Analysis" describing the Company's objectives, projections, estimates, expectations or predictions may be "forward looking statements" within the meaning of applicable securities laws and regulations.

Actual results could differ materially from those expressed or implied. Important factors that could make a difference to the Company's operations include global and Indian demand supply conditions, finished goods prices, feedstock availability and prices, cyclical demand and pricing in the Company's principal markets, changes in the government regulations, tax regimes, economic developments within India and the countries within which the Company conducts business and other factors such as litigation and labour negotiations.

The Company assumes no responsibility to publicly amend, modify or revise any forward looking statements, on the basis of any subsequent development, information events or otherwise.

Appreciation

We would like to record by gratitude and appreciation to all our stakeholders, including the Central and State Government Authorities, Stock Exchanges, Financial Institutions, Analysts, Advisors, Local Communities, Customers, Vendors, Business Partners, Shareholders, and Investors forming part of the Hindalco family for their continued support during the year. Your faith and vote of confidence hold in good stead, and motivate us in pursuing greater opportunities, responsible growth and enhanced delivery on our strategy. Let us also take this opportunity to thank our employees, whose enthusiasm, energy, and zeal, help us progress along our vision. The contribution our people make is the base on which we build further, and is integral to Hindalco's high performing culture.

For and on behalf of the Board

Satish Pai	**Kailash Nath Bhandari**
Managing Director	Independent Director
DIN: 06646758	DIN: 00026078

Place: Mumbai
Dated: July 12, 2023

Annexure I

Details pertaining to remuneration as required under Section 197(12) of the Act & Rule 5(1) of Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014

a) **Total number of permanent employees as on March 31, 2023:** 21,440

b) **Median remuneration of employees for FY 2022-23:** ₹ 7,33,979 (PY: ₹ 6,57,417)

c) **Percentage increase in the median remuneration of employees:** ~11.72%

d) **Average percentage increase in the salaries of employees other than the managerial personnel:** ~11.6%

e) **Average percentage increase in the managerial personnel:** ~45.08%

f) **Ratio of the remuneration of each director to the median remuneration of the employees; and percentage increase/ (decrease) in remuneration of each Director and Key Managerial Personnel (KMPs):**

Sr. No.	Name	Designation	Increase / (decrease)%	Ratio to median remuneration
Non- Executive Directors[1] (Including Independent)				
1	Mr. Kumar Mangalam Birla	Chairman & Non- Executive Director	(48.78)	0.29
2	Mrs. Rajashree Birla	Non- Executive Director	(17.08)	39.32
3	Mr. Askaran Agarwala	Non- Executive Director	(3.72)	5.13
4	Mr. Kailash Nath Bhandari	Independent Director	15.51	9.83
5	Ms. Alka Bharucha	Independent Director	(2.02)	5.01
6	Mr. Yazdi Dandiwala	Independent Director	2.35	8.18
7	Mr. Vikas Balia	Independent Director	(12.07)	6.54
8	Mr. Sudhir Mital	Independent Director	(24.84)	3.87
9	Mr. Anant Maheshwari	Independent Director	(11.99)	3.87
Key Managerial Personnel				
10.	Mr. Satish Pai[2]	Managing Director	51.30	505.86
11.	Mr. Praveen Kumar Maheshwari	Whole-time Director & Chief Financial Officer	21.24	105.64
12.	Mr. Anil Malik[3]	Company Secretary	N.A.	N.A.
13.	Ms. Geetika Anand[3]	Company Secretary	N.A.	N.A.

Notes:

(1) The Remuneration paid comprises of sitting fees paid for attending the meetings of the board and/or its committees.

(2) Remuneration excludes perquisites towards exercise of ESOPs during the year.

(3) Remuneration paid only for part of the financial year. Hence, percentage increase/decrease in remuneration & Ratio to median remuneration in the year under review is not applicable.

(4) Remuneration excludes amortization of fair value of employee share based payments under IND AS-102 and provision for gratuity and leave encashment recognized on the basis of actuarial valuation as separate figures are not available.

g) It is hereby affirmed that the remuneration paid to directors, KMPs and members of senior management is as per Executive Remuneration Philosophy / Policy of the Company.

Annexure II

Dividend Distribution Policy

1. Introduction

1.1. As per the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, as amended, the Company is required to formulate and disclose its Dividend Distribution Policy. Accordingly, the Board of Directors of the Company ('the Board') has approved this Dividend Distribution Policy for the Company at its meeting held on February 13, 2017 as amended on February 22, 2021.

1.2. The objective of this policy is to provide clarity to stakeholders on the dividend distribution framework to be adopted by the Company. The Board of Directors shall recommend dividend in compliance with this policy, the provisions of the Companies Act, 2013 and Rules made thereunder and other applicable legal provisions.

2. Target Dividend Payout

2.1. Dividend will be declared for any financial year out of the profits of the company for that year or out of the profits of the company for any previous financial year or years arrived at after providing for depreciation and remaining undistributed, or out of both;

2.2. The Board will endeavor to distribute a dividend in the range of 8 % to 10% of the Free Cash Flow at Hindalco Consolidated Level (defined as Cash Flow after meeting interest, tax, other statutory dues, maintenance capital expenditure and working capital requirements at Hindalco Consolidated Level but before considering strategic capital expenditure and debt repayments/pre-payments) of the relevant year subject to compliances of the Companies Act 2013 and all other applicable Regulations.

3. Factors to be considered for Dividend Payout

The Board will consider various internal and external factors, including but not limited to the following before making any recommendation for dividends:

- Free Cash Flow of the relevant year (as defined above)
- Stability of earnings
- Future capital expenditure, inorganic growth plans and reinvestment opportunities
- Industry outlook and stage of business cycle for underlying businesses
- Leverage profile and capital adequacy metrics
- Overall economic I regulatory environment
- Contingent liabilities
- Past dividend trends
- Buyback of shares or any such alternate profit distribution measure
- Any other contingency plans

4. Review

This policy would be subject to revision/amendment on a periodic basis as may be necessary.

5. Disclosure

This policy (as amended from time to time) will be available on the company's website and in the annual report.

Annexure III

"Form AOC-1"

Statement containing salient features of the financial statement of subsidiaries, associates and joint ventures

Part A : Subsidiaries

Figures Indian Rupee (INR) in Crore & Foreign Currency (FC) in Million

Name of the Subsidiary Company	Country	Reporting currency	Capital	Reserves	Total Assets	Total Liabilities	Investments Shares, Debenture, Bonds & Others	Turnover/ Revenues	Profit/ (Loss) before Tax	Provision for Tax	Gain/Loss from Discontinued Operations	Profit/ (Loss) after Tax	Proposed Dividend	% of Share Holding
Minerals and Minerals Limited	India	INR	0.05	19.40	38.85	19.40	-	56.83	7.35	1.55	-	5.79	-	100
Renuka Investment and Finance Limited	India	INR	34.25	205.44	244.36	4.67	239.36	1.62	1.32	0.30	-	1.03	-	100
Renukeshwar Investment and Finance Limited	India	INR	4.80	138.25	143.27	0.23	13.94	7.84	7.83	1.95	-	5.88	-	100
Suvas Holding Limited	India	INR	29.93	0.33	34.16	3.90	-	4.11	0.86	0.25	-	0.61	-	74
Utkal Alumina International Limited	India	INR	6,251.48	4,530.29	12,145.31	1,363.54	45.96	6,049.72	1,960.58	269.78	-	1,690.80	-	100
Hindalco-Almex Aerospace Limited	India	INR	88.56	18.50	114.95	7.89	28.15	114.49	1.19	0.29	-	0.29	-	97
Lucknow Finance Company Limited	India	INR	9.90	11.82	22.69	0.97	14.22	2.98	2.53	0.21	-	2.32	-	100
Dahej Harbour and Infrastructure Limited	India	INR	50.00	59.48	132.58	23.10	15.34	71.84	16.48	2.04	-	14.44	-	100
East Coast Bauxite Mining Co.Pvt.Ltd.	India	INR	0.01	(0.05)	0.01	0.05	-	-	(0.01)	-	-	(0.01)	-	74
Utkal Alumina Social Welfare Foundation	India	INR	0.10	0.30	0.55	0.15	-	-	0.29	-	-	0.29	-	100
Kosala Livelihood and Social Foundation	India	INR	4.00	(1.96)	2.23	0.20	-	0.28	(1.57)	-	-	(1.57)	-	100
Birla Copper Asoj Private Limited (Erstwhile Ryker Base Pvt Ltd)	India	INR	52.02	35.26	301.19	213.90	-	248.20	16.80	4.22	-	12.58	-	100
A.V. Minerals (Netherlands) N.V.	Netherlands	INR	12,570.12	(1,319.80)	11,252.95	2.63	11,235.38	-	226.93	-	-	226.93	-	100
		USD	1,529.96	(160.64)	1,369.64	0.32	1,367.50	-	28.26	-	-	28.26	-	-
Novelis Inc.	Canada	INR	11,370.94	3,434.29	24,385.09	9,579.86	-	5,770.46	2,162.56	95.36	(16.65)	2,050.55	-	100
		USD	1,384.00	418.00	2,968.00	1,166.00	-	718.47	269.26	11.87	(2.07)	255.31	-	-
4260848 Canada Inc.	Canada	INR	1,007.64	(682.37)	330.65	5.38	-	-	37.96	1.56	-	36.40	-	100
		USD	122.64	(83.05)	40.24	0.66	-	-	4.73	0.19	-	4.53	-	-
4260856 Canada Inc.	Canada	INR	1,511.50	(1,035.78)	483.75	8.03	-	-	56.63	2.33	-	54.30	-	100
		USD	183.97	(126.07)	58.88	0.98	-	-	7.05	0.29	-	6.76	-	-
Novelis South America Holdings LLC	USA	INR	0.01	(0.01)	-	-	-	-	-	-	-	-	-	100
		USD	0.00	(0.00)	-	-	-	-	-	-	-	-	-	-
Novelis Corporation	USA	INR	-	(4,058.70)	46,905.14	50,963.85	-	51,406.33	1,904.43	417.64	-	1,486.79	-	100
		USD	-	(494.00)	5,709.00	6,203.00	-	6,400.55	237.12	52.00	-	185.12	-	-
Novelis de Mexico SA de CV	Mexico	INR	0.05	(0.05)	-	-	-	-	-	-	-	-	-	100
		USD	0.01	(0.01)	-	-	-	-	-	-	-	-	-	-
Novelis do Brasil Ltda.	Brazil	INR	1,551.78	5,832.14	16,902.43	9,518.52	-	22,756.16	2,792.04	1,051.61	-	1,740.42	-	100
		BRL	958.53	3,602.50	10,440.59	5,879.56	-	14,589.03	1,789.98	674.19	-	1,115.79	-	-
Novelis Korea Limited	South Korea	INR	2,621.65	1,656.00	11,309.13	7,031.48	-	20,863.97	1,250.69	274.33	-	976.36	-	100
		KRW	416,777.00	263,262.00	1,797,868.00	1,117,829.00	-	3,316,848.00	198,828.00	43,612.00	-	155,216.00	-	-
Novelis UK Ltd	United Kingdom	INR	1,480.72	1,500.34	3,927.25	946.19	-	4,841.67	286.46	57.64	-	228.82	-	100
		GBP	146.10	148.03	387.48	93.36	-	500.30	29.60	5.96	-	23.64	-	-
Novelis Services Limited	United Kingdom	INR	1,651.50	3,422.30	5,080.04	6.24	-	355.75	410.91	46.77	-	364.14	-	100
		USD	201.01	416.54	618.31	0.76	-	44.29	51.16	5.82	-	45.34	-	-

Name of the Subsidiary Company	Country	Reporting currency	Capital	Reserves	Total Assets	Total Liabilities	Investments Shares, Debenture, Bonds & Others	Turnover/ Revenues	Profit/ (Loss) before Tax	Provision for Tax	Gain/Loss from Discontinued Operations	Profit/ (Loss) after Tax	Proposed Dividend	% of Share Holding
Novelis Deutschland GmbH	Germany	INR	3,037.98	39.86	12,166.76	9,088.92	-	32,001.79	1,087.78	0.03	-	1,087.75	-	100
		EUR	340.80	4.47	1,364.85	1,019.58	-	3,826.21	130.06	0.00	-	130.05	-	-
Novelis Aluminium Beteiligungs GmbH	Germany	INR	0.22	0.19	0.42	-	-	-	-	-	-	-	-	100
		EUR	0.03	0.02	0.05	-	-	-	-	-	-	-	-	-
Novelis Switzerland SA	Switzerland	INR	44.90	4,176.20	5,827.33	1,606.24	-	8,154.19	215.84	33.57	-	182.26	-	100
		CHF	5.00	465.07	648.94	178.87	-	968.87	25.65	3.99	-	21.66	-	-
Novelis Italia SPA	Italy	INR	480.09	129.96	1,394.40	784.34	-	2,630.08	(75.02)	2.67	-	(77.68)	-	100
		EUR	53.86	14.58	156.42	87.99	-	314.46	(8.97)	0.32	-	(9.29)	-	-
Novelis Aluminium Holding Unlimited Company	Ireland	INR	1,935.28	628.75	9,201.26	6,637.23	-	-	859.19	238.25	-	620.95	-	100
		EUR	217.10	70.53	1,032.18	744.56	-	-	102.73	28.49	-	74.24	-	-
Novelis PAE SAS	France	INR	36.01	165.80	518.49	316.68	-	115.63	5.26	0.54	-	4.71	-	100
		EUR	4.04	18.60	58.16	35.52	-	13.82	0.63	0.06	-	0.56	-	-
Novelis Europe Holdings Limited	United Kingdom	INR	403.38	1,559.05	6,184.26	4,221.82	-	-	(168.16)	-	-	(168.16)	-	100
		USD	49.10	189.76	752.71	513.85	-	-	(20.94)	-	-	(20.94)	-	-
Novelis AG	Switzerland	INR	8.98	2,180.24	11,100.17	8,910.94	-	10,582.66	286.49	29.64	-	256.86	-	100
		CHF	1.00	242.80	1,236.14	992.34	-	1,257.42	34.04	3.52	-	30.52	-	-
Novelis Holdings Inc.	USA	INR	0.00	483.90	12,767.59	12,283.69	-	-	(522.31)	(137.89)	-	(384.43)	-	100
		USD	0.00	58.90	1,553.99	1,495.09	-	-	(65.03)	(17.17)	-	(47.86)	-	-
8018227 Canada Inc.	Canada	INR	-	(729.92)	2,084.10	2,814.02	-	-	(38.84)	1.83	-	(40.67)	-	100
		USD	-	(88.84)	253.66	342.50	-	-	(4.84)	0.23	-	(5.06)	-	-
Novelis Sheet Ingot GmbH	Germany	INR	178.29	-	5,326.83	5,148.54	-	996.96	183.85	-	-	183.85	-	100
		EUR	20.00	-	597.56	577.56	-	119.20	21.98	-	-	21.98	-	-
Novelis MEA Ltd	UAE, Dubai	INR	7.50	387.69	2,109.51	1,714.33	-	6,662.59	333.17	-	-	333.17	-	100
		USD	0.91	47.19	256.76	208.66	-	829.55	41.48	-	-	41.48	-	-
Novelis (Shanghai) Aluminum Trading Company	China	INR	26.49	14.54	62.03	21.00	-	7.60	1.24	(0.05)	-	1.28	-	100
		CNY	22.14	12.16	51.86	17.56	-	6.48	1.05	(0.04)	-	1.09	-	-
Novelis (China) Aluminum Products Co., Ltd.	China	INR	1,013.46	1,386.21	5,283.15	2,883.47	-	4,349.09	310.71	78.44	-	232.27	-	100
		CNY	847.31	1,158.94	4,416.98	2,410.73	-	3,709.25	265.00	66.90	-	198.10	-	-
Novelis Vietnam Company Limited	Vietnam	INR	7.29	19.49	58.36	31.57	-	0.05	(1.07)	-	-	(1.07)	-	100
		VND	20,820.00	55,631.96	166,580.05	90,128.09	-	140.29	(3,057.00)	-	-	(3,057.00)	-	-
Novelis Services (North America) Inc.	USA	INR	-	-	0.10	0.10	-	-	-	-	-	-	-	100
		USD	-	-	0.01	0.01	-	-	-	-	-	-	-	-
Novelis Services (Europe) Inc.	USA	INR	-	-	-	-	-	-	-	-	-	-	-	100
		USD	-	-	-	-	-	-	-	-	-	-	-	-
Brecha Energetica Ltda	Brazil	INR	0.00	0.00	0.00	-	-	-	-	-	-	-	-	100
		BRL	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
Novelis Global Employment Organization, Inc.	USA	INR	49.90	(5.00)	63.26	18.36	-	-	(1.82)	(0.50)	-	(1.32)	-	100
		USD	6.07	(0.61)	7.70	2.23	-	-	(0.23)	(0.06)	-	(0.16)	-	-
Novelis (India) Infotech Ltd.	India	INR	-	-	-	-	-	-	-	-	-	-	-	-
		INR	-	-	-	-	-	-	-	-	-	-	-	-
Novelis Deutschland Holding GmbH	Germany	INR	5,076.42	(1,439.00)	3,901.61	264.20	-	0.54	668.52	(185.30)	-	853.82	-	100
		EUR	569.47	(161.43)	437.68	29.64	-	0.06	79.93	(22.15)	-	102.08	-	-

Annexure III

Name of the Subsidiary Company	Country	Reporting currency	Capital	Reserves	Total Assets	Total Liabilities	Investments: Shares, Debenture, Bonds & Others	Turnover/ Revenues	Profit/ (Loss) before Tax	Provision for Tax	Gain/Loss from Discontinued Operations	Profit/ (Loss) after Tax	Proposed Dividend	% of Share Holding
Novelis Koblenz GmbH	Germany	INR	869.57	390.20	4,620.72	3,360.95	-	7,023.86	671.22	19.27	-	651.95	-	100
		EUR	97.55	43.77	518.35	377.03	-	839.79	80.25	2.30	-	77.95	-	-
Novelis Casthouse Germany GmbH	Germany	INR	393.23	0.01	1,122.49	729.20	-	3,011.96	(25.15)	0.57	-	(25.72)	-	100
		EUR	44.11	0.00	125.92	81.80	-	360.12	(3.01)	0.07	-	(3.07)	-	-
Novelis ALR Aluminum Holdings Corporation	USA	INR	10,761.09	(181.74)	17,379.62	6,800.26	-	-	(319.19)	(84.08)	-	(235.11)	-	100
		USD	1,309.77	(22.12)	2,115.34	827.69	-	-	(39.74)	(10.47)	-	(29.27)	-	-
Novelis ALR International, Inc.	USA	INR	19,586.94	78.13	26,687.82	7,022.76	-	-	119.28	40.33	-	78.95	-	100
		USD	2,384.00	9.51	3,248.27	854.77	-	-	14.85	5.02	-	9.83	-	-
Novelis ALR Rolled Products, Inc.	USA	INR	13,093.08	(2,832.94)	14,433.07	4,172.94	-	5,372.24	(357.89)	365.21	(2.92)	(726.02)	-	100
		USD	1,593.61	(344.81)	1,756.70	507.90	-	668.89	(44.56)	45.47	(0.36)	(90.40)	-	-
Novelis ALR Asset Management Corporation	USA	INR	9.06	12.49	23.12	1.57	-	-	(1.04)	(0.71)	-	(0.32)	-	100
		USD	1.10	1.52	2.81	0.19	-	-	(0.13)	(0.09)	-	(0.04)	-	-
Novelis ALR Rolled Products, LLC	USA	INR	2,525.69	1,400.14	7,334.77	3,408.94	-	5,534.58	1,838.29	-	-	1,838.29	-	100
		USD	307.41	170.42	892.74	414.92	-	689.11	228.88	-	-	228.88	-	-
Novelis ALR Rolled Products Sales Corporation	USA	INR	0.02	(17.84)	118.40	136.21	-	-	(0.88)	(0.37)	-	(0.51)	-	100
		USD	0.00	(2.17)	14.41	16.58	-	-	(0.11)	(0.05)	-	(0.06)	-	-
Novelis ALR Recycling of Ohio, LLC	USA	INR	199.02	(10.40)	1,256.01	1,067.39	-	298.57	(20.50)	-	-	(20.50)	-	100
		USD	24.22	(1.27)	152.87	129.92	-	37.17	(2.55)	-	-	(2.55)	-	-
Novelis ALR Aluminum LLC	USA	INR	1,758.59	1,516.39	3,619.58	344.60	-	4,153.49	403.02	-	-	403.02	-	100
		USD	214.04	184.57	440.55	41.94	-	517.15	50.18	-	-	50.18	-	-
Novelis ALR Aluminum-Alabama LLC	USA	INR	2.64	(7.89)	42.01	47.26	-	-	(2.68)	-	-	(2.68)	-	100
		USD	0.32	(0.96)	5.11	5.75	-	-	(0.33)	-	-	(0.33)	-	-
Aleris Holding Canada ULC	Canada, Nova Scotia	INR	-	0.04	0.04	-	-	-	-	-	-	-	-	100
		USD	-	0.00	0.00	-	-	-	-	-	-	-	-	-
Novelis Netherlands B.V.	Netherlands	INR	6,826.77	(2,835.70)	4,002.15	11.09	-	-	45.55	11.53	-	34.02	-	100
		EUR	765.82	(318.11)	448.96	1.24	-	-	5.45	1.38	-	4.07	-	-
Aleris Switzerland GmbH	Switzerland	INR	0.18	99.91	120.84	20.75	-	-	63.60	-	-	63.60	-	100
		CHF	0.02	11.13	13.46	2.31	-	-	7.56	-	-	7.56	-	-
Aleris Aluminum UK Limited	United Kingdom	INR	-	-	-	-	-	-	-	-	-	-	-	-
		GBP	-	-	-	-	-	-	-	-	-	-	-	-
Aleris Aluminum Japan, Ltd.	Japan	INR	0.74	1.11	2.28	0.42	-	1.77	0.11	0.02	-	0.09	-	100
		JPY	12.00	17.96	36.80	6.85	-	29.83	1.88	0.33	-	1.55	-	-
Aleris Asia Pacific International (Barbados) Ltd.	Barbados	INR	44.84	(22.55)	23.04	0.75	-	-	(0.07)	-	-	(0.07)	-	100
		EUR	5.03	(2.53)	2.58	0.08	-	-	(0.01)	-	-	(0.01)	-	-
Aleris (Shanghai) Trading Co., Ltd.	China	INR	52.32	(12.93)	63.66	24.27	-	20.62	1.99	1.23	-	0.76	-	100
		CNY	43.74	(10.81)	53.22	20.29	-	17.59	1.70	1.05	-	0.65	-	-
Aleris Asia Pacific Limited	Hong Kong	INR	4,574.41	(1,977.52)	2,612.00	15.12	-	17.48	17.14	-	-	17.14	-	100
		USD	556.77	(240.69)	317.92	1.84	-	2.18	2.13	-	-	2.13	-	-
Novelis Aluminum (Zhenjiang) Co., Ltd.	China	INR	3,850.69	(1,690.52)	3,883.03	1,722.86	-	1,902.06	104.66	(100.42)	-	205.08	-	100
		CNY	3,219.38	(1,413.36)	3,246.42	1,440.40	-	1,622.22	89.26	(85.65)	-	174.91	-	-
Novelis Ventures LLC	USA	INR	-	-	25.47	25.47	-	-	-	-	-	-	-	100
		USD	-	-	3.10	3.10	-	-	-	-	-	-	-	-
Hindalco Kabushiki Kaisha	Japan	INR	1.86	(1.71)	0.33	0.18	-	-	(1.63)	0.01	-	(1.64)	-	100
		YEN	30.00	(27.55)	5.35	2.90	-	-	(27.39)	0.17	-	(27.55)	-	-

Notes

(a) AV Metals Inc., a wholly owned subsidiary was merged with Novelis Inc. w.e.f. September 01, 2022.

(b) Novelis Ventures LLC was formed on May 20, 2022

(c) Novelis (India) Infotech Ltd. was dissolved on September 23, 2022.

(d) Hindalco Kabushiki Kaisha, a wholly owned subsidiary was incorporated on April 08, 2022.

(e) Exchange Rates used:

From Currency	To Currency	Average Spot Rate for the year	Closing Rate for March 31, 2023
AUD	INR	54.962	54.908
BRL	INR	15.598	16.189
CAD	INR	60.722	60.724
CHF	INR	84.162	89.797
CNY	INR	11.725	11.961
EUR	INR	83.638	89.144
GBP	INR	96.776	101.353
JPY	INR	0.59417	0.619
NOK	INR	8.076	7.843
SEK	INR	7.737	7.921
SGD	INR	58.505	61.735
USD	INR	80.316	82.160
BRL	USD	0.194	0.197
CHF	USD	1.048	1.093
CNY	USD	0.146	0.146
EUR	USD	1.042	1.085
GBP	USD	1.206	1.234
JPY	USD	0.007	0.008
SEK	USD	0.096	0.096
SGD	USD	0.728	0.751

Annexure III

Part B : Associates and Joint Ventures

Sr. No.	Name of Associates / Joint Ventures	Shares of Associate/Joint Ventures held by the company on the year end				Networth to Shareholding as per latest audited balance sheet (Rs. in Crore)	Considered in consolidation (Rs. in Crore)	Not considered in consolidation	Description of how there is significant influence
		Latest Audited Balance Sheet Date	Number	Amount of investment (Carrying Value) in Associates / Joint Venture (Rs. in crore)	Extent of Holding % attributable				
Associates									
1	Aditya Birla Science and Technology Company Private Limited	31-Mar-23	9,800,000	9.80	49.00	72.76	35.65	-	**
2	Aditya Birla Renewable Subsidiary Limited (ABRSL)	31-Mar-23	6,895,200	6.90	26.00	29.26	7.61	-	**
3	Aditya Birla Renewable Utkal Limited (ABRUL)	31-Mar-23	1,274,000	1.27	26.00	5.33	1.39	-	**
4	Aditya Birla Renewable Solar Limited (ABRSolar)	31-Mar-23	24,084,014	24.08	26.00	103.78	26.98	-	**
5	Associates of Novelis Inc. @		3,001	0.40	-	0.06	0.01	-	
Joint Ventures									
1	Hydromine Global Minerals (GMBH) Limited	31-Mar-23	66,562	0.07	45.00	-	-	-	**
2	MNH Shakti Limited	31-Mar-23	5,265,000	5.27	15.00	41.73	6.26	-	**
Joint Operations									
1	Mahan Coal Limited	31-Mar-23	32,250,000	32.25	50.00	22.71	11.35	-	**
2	Tubed Coal Mines Limited	31-Mar-23	15,296,700	15.30	60.00	2.77	1.66	-	**
3	Joint operations of Novelis Inc. *		10,041	2,244.78		465.38	227.07	-	
@ - Associates of Novelis Inc.									
	France Aluminum Recyclage SA	31-Dec-21	3,000	0.40	20%	0.06	0.01	Equity	
	Deutsche Aluminium Verpackung Recycling GmbH	31-Dec-21	1	-	30%	-	-	Equity	
*** - Joint operations of Novelis Inc.**									
	Aluminium Norf GmbH	31-Dec-22	1	273.67	50%	245.19	122.60	Equity	
	Logan Aluminum Inc.	31-Mar-23	40	0.00	40%	56.24	22.49	Consolidated	
	AluInfra Services SA	31-Dec-21	5,000	26.27	50%	0.87	0.43	Equity	
	Ulsan Aluminum Ltd.	31-Mar-23	5,000	1,944.84	50%	163.08	81.54	Equity	

** There is significant influence due to percentage holding of share capital

Annexure IV

Annual Report on Corporate Social Responsibility Activities for the financial year 2022-23

1. **Brief Outline on CSR Policy of the Company:**

For every Company in the Aditya Birla Group, reaching out to underserved communities is a part of our DNA. We believe in the trusteeship concept. This entails transcending business interest and grappling with the "quality of life" challenges that underserved communities face and working towards making a meaningful differences to them.

Our vision is – "to actively contribute to the social and economic development of the underserved communities, lifting the burden of poverty and helping bring in inclusive growth, in sync with the UN Sustainable Development Goals. In so doing build a better, sustainable way of life for the weaker sections of society and raise the country's human development index", (Mrs. Rajashree Birla, Chairperson, Aditya Birla Centre for Community Initiatives and Rural development).

2. **Composition of CSR Committee:**

Sl. No.	Name of Director	Designation / Nature of Directorship	Number of meetings of CSR committee held during the year	Number of meetings of CSR Committee attended during the year
1	Mrs. Rajashree Birla	Chairperson/Non-Executive Director	1	1
2	Mr. Yazdi Dandiwala	Member/Independent Director	1	1
3	Mr. Satish Pai	Member/Managing Director	1	1
4	Mr. Askaran Agarwala	Member/Non-Executive Director	1	1

Permanent Invitee: Dr. (Mrs.) Pragnya Ram, Group Executive President, CSR, Legacy, Documentation & Archives

3.

Sl. No.	Particulars	Web-link(s)
1	Provide the web link where composition of CSR Committee, CSR policy and CSR projects approved by the Board are disclosed on the website of the Company	**CSR Committee** https://www.hindalco.com/sustainability/corporate-social-responsibility **CSR Policy** https://www.hindalco.com/upload/pdf/hindalco-csr-policy.pdf **CSR Project** https://www.hindalco.com/upload/pdf/csr-projects.pdf

4. Provide the details of Impact Assessment of CSR Projects carried out in pursuance of sub rule (3) of rule 8 of Companies (Corporate Social Responsibility Policy) Rules 2014 if applicable:

No Impact Study has been carried out in this financial year

5. (a) Average Net Profit of the Company as per Section 135(5): ₹ 3459.77 Crore

(b) Two percent of average net profit of the Company as per Section 135(5): ₹ 69.20 Crore

(c) Surplus arising out of the CSR Projects or programmes or activities of the previous financial years: Nil

(d) Amount required to be set-off for the financial year, if any: ₹ 24.06 Crore

(e) Total CSR obligation for the financial year [(b)+(c)-(d)]: ₹ 45.14 Crore

6. (a) Amount spent on CSR Projects (both Ongoing Project and other than Ongoing Project): ₹ 35.56 Crore

(b) Amount spent in Administrative Overheads: ₹ 0.48 Crore

(c) Amount spent on Impact Assessment, if applicable: Nil

(d) Total amount spent for the Financial Year [(a)+(b)+(c)]: ₹ 36.04 Crore

(e) CSR amount spent/unspent for the financial year:

Total Amount Spent for the Financial Year In ₹ in Crore	Amount Unspent				
	Total Amount transferred to Unspent CSR Account as per section 135(6).		Amount transferred to any fund specified under Schedule VII as per second proviso to section 135(5).		
	Amt (₹ in Crore)	Date of Transfer	Name of the Fund	Amount	Date of Transfer
36.04	9.5	April 28, 2023	-	-	-

(f) Excess amount for setoff if any: Nil

Sl. No.	Particular	Amount in Crores FY 23
(i)	Two percent of Average Net Profit of the Company as per Section 135(5)	-
(ii)	Total amount spent for Financial Year	-
(iii)	Excess Amount Spent for Financial Year [ii-i]	-
(iv)	Surplus arising out of the CSR Projects or programs or activities of the previous financial years, if any	-
(v)	Amount available for set-off in succeeding financial Year [iii-iv]	-

7. Details of Unspent CSR Amount for the preceding three Financial Years: Nil

Sl. No.	Preceding Financial Year	Amount Transferred to Unspent CSR Account under Section 135(6)	Amount spent in Reporting Financial Year (In ₹)	Amount Transferred to any fund specified in Schedule VII as per Section 135(6) if any			Amount remaining to be spent in succeeding financial years (In ₹)
				Name of the Fund	Amt in Rs	Date of Transfer	
			NIL				

8. Whether any capital assets have been created or acquired through Corporate Social Responsibility amount spent in the Financial Year: Nil

If Yes, enter the number of Capital assets created/ acquired:

Furnish the details relating to such asset(s) so created or acquired through Corporate Social Responsibility amount spent in the Financial Year

Date of creation or Acquisition of the capital asset (s)	Amount of CSR spent for creation or acquisition of capital assets (s) (₹)	Details of the entity or public authority or beneficiaries under whose name such capital asset is registered, their address etc.			Provide details of the capital asset (s) creayed or acqired (including complete address and location of the capital asset)
		Name (Place)	Address	Contact Number	
			NIL		

9. Specify the reason(s), if the company has failed to spend two per cent of the average net profit as per subsection (5) of section 135:

During the financial year 2022-23, the Company had spent ₹ 36.04 Crore on various CSR projects as per the annual CSR plan. The unspent CSR amount of ₹ 9.5 Crore is towards ongoing CSR projects which has been transferred to the unspent CSR account and shall be spent as per the annual CSR plan in accordance with the Companies Act, 2013 and Rules made thereunder.

Mr. Satish Pai
(Managing Director)
(DIN: 06646758)

Mrs. Rajashree Birla
(Chairman, CSR Committee)
(DIN: 00022995)

Place: Mumbai
Date: July 12, 2023

Annexure V

Disclosure of particulars with respect to Conservation of Energy, Technology Absorption and Foreign Exchange Earnings and Outgo as prescribed under Rule 8(3) of the Companies (Accounts) Rules, 2014

Part A- Conservation of Energy

i) The steps taken on conservation of energy.

a. Multiple training sessions were conducted on Energy Conservation and topics covering Decarbonisation which were attended by a large number of Hindalco employees.

b. Two conferences, one covering Aluminium Smelter & Power and another covering Alumina Refining were organized during the year. This included expert sessions on energy efficiency improvement & decarbonization and were attended by large number of both internal and external participants.

c. Reduction in Aluminium Smelter energy consumption through phased implementation of copper insert collector bar, Cast iron sealing, Step stub Anode, solid cathode ring and riser bar, graphitized pots, etc. During the year, total 71 pots were modified with copper insert collector bar at Aditya, Mahan & Hirakud Smelters, 169 pots were equipped with solid cathode ring & riser bar at Renukoot.

d. Power Plant efficiency improvement by TG revamping, Boiler overhauling, primary air circuit optimization etc.

e. Reduction in Power Plant auxiliary power consumption through various energy conservation initiatives like installing fan less cooling tower, modification in Boiler Feed Pump circuit, resizing of ACW pumps, Cooling Tower fan blade modification, de-staging of raw water pump & boiler feed pump, process optimisation etc.

f. Revamping and relining of annealing & preheater furnaces, replacement of insulated tube type recuperator with energy efficient naked tube recuperator, resizing of transformer at downstream plants.

g. Installation of automatic power factor controller, stepless dynamic power factor correction system for plant power distribution system and power factor optimization.

h. Reduction in Refinery energy consumption by improving steam economy & liquor productivity by process optimization, reducing power consumption by intelligence flow control implementation in compressed air system.

i. Rationalization of motor, pump & fan capacity and replacement of inefficient pumps & motors with high efficiency pumps & IE3 class motors. During the year, total 240 number of motors were replaced at Dahej and Renukoot.

j. Installation of VFD in variable load application.

k. Compressed Air system efficiency improvement through replacement of inefficient compressors, arresting leakages, process optimization etc.

ii) The steps taken by the company for utilizing alternate sources of energy.

a. In FY23, Biomass based boiler was installed at Belagavi to provide 4 MW power & 33 TPH process steam and 5 MW of wind power for Taloja has been completed, taking cumulative renewable installed capacity of Hindalco to 108 MW as on Mar'23.

b. Renewable hybrid (20 MW Solar + 21 MW Wind) project for Dahej is in its final stages of implementation, with a target commissioning of June '23.

c. Additional 41 MW of renewable project including 30 MW renewable hybrid for Belagavi, 9 MW Floating solar for Mahan & 2 MW ground mounted solar for Alupuram has been finalized and is under implementation.

d. During the year, we have co-fired 42,000 tons of Biomass along with coal across our Power Plants.

e. We have taken up Solar with battery storage project at two of our mines that would reduce dependency on Grid and DG set power.

f. The company is actively pursuing and in advanced stage of finalizing power supply from Renewable Hybrid with pumped hydro storage project for 100 – 300 MW of RTC power for Aditya unit. Upgradation of Grid connectivity from 220 KV to 400 KV is also in progress to improve reliability.

g. 15 Nos of Sun pipes installed for natural lighting at Mouda unit.

iii) The capital investment on energy conservation equipment

The Capital investment on Energy conservation equipment & projects for the year was INR 255 crores.

Part B- Technology Absorption

The following efforts made towards technology absorption at Mahan:

- ACOEM reliability solution incorporated into PTM's and WRM finishing mill motors for online Condition based monitoring.
- Stack Inspection Utilizing modern technology of Confined Space Drones.
- Installation and commissioning of smart breather in all 5 Nos. Regulating and 1 Nos Aux Transformer main tank at rectifier section.
- Wireless connectivity through WIFI has been established for three cranes in additional cast house to monitor the real-time data of the crane from the shift office itself to ensure real time predictive checks without any WAH hazard.
- Installation of signal light at B-89 and B-92 to indicate Bumper open close condition to crane operator.
- All UPS and battery Chargers interconnected in rectifier, cast house, carbon and Potline substations for improved reliability during maintenance and breakdown.
- Installation of Back view camera and side view camera in PTM-8 and its display inside cabin for operator to enhance operator alertness to prevent collision of cabin with DSL girder.
- Homo-furnace Panel view system (HMI) configured & successfully tested for Furnace operating station as well as UTS Operating station with switchover capability. It will reduce breakdown time of more than 24 hours in future as well as OEM dependency.
- Fire Detection & Protection system installed for all 5 Nos. ULCP panels in Rectifier Section.
- 3D scanning introduced for the first time in Mahan resulted into development of drawing through reverse engineering process and accordingly vendor development has been done for cost optimization.

Specific Areas in which R&D has been carried out at Belagavi HIC:

- Development of low soda hydrate through Bayer process route.
- Technology Development for White Hydrate through Bayer Process
- Development of hydratable Alumina equivalent no cement castable application.
- Development of spherical alumina for advanced refractory applications.
- Development of hydrate for electrical FRP composite application.

Annexure V

Efforts made towards technology absorption at Renukoot:

<u>Laboratory</u>

- LIMS (Laboratory Information Management System) integration in four labs under digitalization.
- New OES installation for metal testing.
- New XRF & XRD machine installation for bath and raw material analysis.
- New CNC Lathe machine installation for metal sample preparation.
- Scanning electron microscope to be installed at PT Lab in current month.
- Heat treatment vacuum furnace restarted after installation of cooling tower for Extrusion dies.
- Digital display of product test results at site of concern plant.

<u>Extrusion</u>

- Inspection by portable equipment for onsite hardness, dimensions checking, temperature surveys etc.
- PODFA system for inclusion measurement to meet requirements from Defense Products Specifications.
- Portable electrical conductivity testing machine.
- 3D coordinate measuring machine.
- SNAP gauges & Measuring Gauges for extrusion profiles.
- Portable Hardness Tester for Extrusion profiles & plates.

Efforts made towards technology absorption at Aditya Smelter:

- Successful insertion of 36 copper insert collector bar pots in potline in FY23. A total of 269 cumulative pots are now in operation.
- Brownfield installation of 2nd FTA crane in ABF-2 which caters baked anodes for Hirakud Smelter.
- Installation and commissioning of India's 1st semi dry FGD in Unit#6 of captive power plant. This will help in reducing Sox emissions from stack.

Efforts made towards Technological absorption in Hirakud:

- Low-energy copper insert collector bar technology pots were implemented at Hirakud in financial FY'17, which was done in collaboration with ABSTC. In FY22-23 a total of 114 pots were added in 85ka and 19 pots are added in 235ka potline thus making it a total 534 Pots with CuCB cumulative in the overall Potline to date.
- Replacement of ducts in the Fume treatment plant to improve the suction and fluorine enrichment in Alumina.
- Logic modification in firing control system of DC-4 furnace to improve combustion efficiency.

Technology Absorption efforts in Downstream plants:

- Developing new plant on the latest state of art Extrusion technologies for high end B & C sector application including anodizing and powder coating facilities.
- Technology Tie up with global die manufacturer M/s Phoenix, Italy for achieving better product quality, Die reliability and Surface finish.
- State of the Art 6-inch Press with all the latest technologies (Make- M/s SMS India) operationalized at Renukoot. This will serve the lighter profiles in the B & C market.
- Improvement and control in extrusion product quality through Inspection by portable equipment's for onsite hardness, dimensions checking, 3D coordinate measuring machine, SNAP gauges & Measuring Gauges for extrusion profiles.
- Better Casting Control through use of PODFA system for inclusion measurement to meet requirements from critical customers specifications.

The benefits derived like product improvement, cost reduction, product development or import substitution

Benefits derived as a result of technology absorption at Mahan:

- **New Product development**
  a) 10 Inch Billet Casting table for enhancement of product portfolio.
- **New process development**
  a) Successful Installation and Commissioning of Coil Unwinder.
  b) O2 Grid installation in APH.
  c) 400 mm slot height anode made in-house by cutting slot within plant itself.
  d) In heating ramp logic of pulsing of HFO is changed to 60:40 in 60 % time of heating cycle.
- **Productivity improvement**
  a) Volume maximization of high purity premium grade product: P0303 & P0404
  b) Introduction of mechanized ramming machine for relining of Induction furnace.
- **Import Substitution**
  a) Servo-make Hydraulic/Gear oil usage in place of imported oil.
  b) Indigenization of various critical spares of Wire rod mill like Casting mould, finishing mill stands, coiler etc.
  c) New IOCL make lubricant for coiler mandrel unit.
  d) Indigenous development of finishing mill stands emulsions seal.
  e) Import substitution of Anode cleaning Equipment - Shotblast Turbine spares.
  f) Vendor development of Secondary crusher bearing seals.
  g) Vendor development for P&F driven chain -500 meter.

Benefits realized as part of developmental work at Renukoot:

- Upgradation of lab infrastructure for better control of raw materials and process quality.
- Digital integration of lab results

Benefits realized due to the technology absorption at Aditya:

- Increase in current efficiency by approx. 1% and reduction in the Specific energy consumption by 270 Kwh/MT due to the copper insert collector bar pots.

Annexure V

- Higher Productivity of baked anode and subsequent increase in metal production at Hirakud Smelter plant.
- Better Baked anode quality and productivity by achieving 26.9 hours fire cycle (previous – 24 Hrs).
- Improvement in ABF-2 availability from 92 to 94%.
- Timely Replacement of the critical Flue wall without impacting Production. Total 22 Nos. of Outer Flue walls Replaced in ABF 2 smoothly.
- Semi dry FGD will help in reducing Sox emissions by 65-70%.

Benefits realized due to the technology absorption at Hirakud:

- Increase in Current efficiency and Specific energy by 1.6% and 114 Kwh/MT in 85 KA potline by use of Cu insert collector bar.
- Reduction in Specific Alf3 consumption by 1.5 Kg/MT. Better gas suction and reduction in fugitive emissions in potline.
- Reduce in furnace oil consumption of DC-4 by 15 Ltr/MT which is approx. 40 Lacs per annum.

Benefits realized due to technological Efforts at Belagavi:

- Improvement of plant process efficiency and consistency in the quality of Bayer hydrate.
- Increase in sales realization in the value-added products, leading to the improvement in business profitability.
- Enhancement of customer satisfaction
- Increase in market share in preferred applications and entering new market segments.
- Development of products as an equivalent to imported materials and increase in market share.

Benefits realized due to technological Efforts at Downstream:

- **New Product Development**
    - Development of Can Body Stock (CBS), qualification of product at multiple Can Manufacturing units and commercial production from HKD FRP.
    - 5083 H111, H321 (Special Temper) plates developed in house for Railway wagon, Bulker and Trailer and marine application by stabilizing low temperature Hot Rolling.
    - Development of Special AA6061 Rectangular Tubes for Mountain Foot Bridge
    - Development of AA6061 alloy profiles for railway wagon.
    - Development of AA6082 alloy profiles for marine applications for import substitution.
    - Development of AA6061 alloy section for Automotive Industry
    - New Capability development in AA7075 and AA2024 alloys at Alupuram extrusion plant for Aerospace sector for import substitution.

Import Substitution:

In case of imported technology (imported during the last three years reckoned from the beginning of the financial year)

Technology imported for	Year of import	Has technology been fully absorbed	If not fully absorbed areas where this has not taken place reason thereof and future plant of action
At Mahan - NOx - Fortum Finland	2021	Yes	
At Mahan - SPM Control Helios & Kraft Powercon	2022	Yes	
Mahan CPP - FGD (Semi Dry system) Foster Wheelers	2023	No	under commissioning

R&D expenses Incurred:

The Company has spent ₹ 33 Crore for Research & Development during the financial year 2022-23

Foreign Exchange Earnings & Out go:

a) **Activities related to exports:**

Exports [FOB] during the year were ₹ 17,319 Crore.

b) **Total Foreign Exchange Used and Earned:**

- Foreign Exchange used ₹ 37,993 Crore.
- Foreign Exchange Earned ₹ 17,319 Crore.

Annexure VI

Remuneration Policy

Hindalco Industries Limited ("the Company') an Aditya Birla Group Company adopts/shall adopt this Executive Remuneration Philosophy/Policy as applicable across Group Companies. This philosophy/ policy is detailed below.

Aditya Birla Group: Executive Remuneration Philosophy/Policy

At the Aditya Birla Group, we expect our executive team to foster a culture of growth and entrepreneurial risk-taking. Our Executive Remuneration Philosophy/Policy supports the design of programs that align executive rewards – including incentive programs, retirement benefit programs, promotion and advancement opportunities – with the long-term success of our stakeholders.

Our business and organizational model

Our Group is a conglomerate and organized in a manner such that there is sharing of resources and infrastructure. This results in uniformity of business processes and systems thereby promoting synergies and exemplary customer experiences.

I. *Objectives of the Executive Remuneration Program*

Our executive remuneration program is designed to attract, retain, and reward talented executives who will contribute to our long-term success and thereby build value for our shareholders.

Our executive remuneration program is intended to:

1. Provide for monetary and non-monetary remuneration elements to our executives on a holistic basis
2. Emphasize "Pay for Performance" by aligning incentives with business strategies to reward executives who achieve or exceed Group, business and individual goals.

II. *Covered Executives*

Our Executive Remuneration Philosophy/Policy applies to the following:

1. Directors of the Company
2. Key Managerial Personnel: Chief Executive Officer and equivalent (eg: Deputy Managing Director), Chief Financial Officer and Company Secretary.
3. Senior Management : As decided by the Board

III. *Business and Talent Competitors*

We benchmark our executive pay practices and levels against peer companies in similar industries, geographies and of similar size. In addition, we look at secondary reference (internal and external) benchmarks in order to ensure that pay policies and levels across the Group are broadly equitable and support the Group's global mobility objectives for executive talent. Secondary reference points bring to the table, the executive pay practices and pay levels in other markets and industries, to appreciate the differences in levels and medium of pay and build in as appropriate for decision making.

IV. *Executive Pay Positioning*

We aim to provide competitive remuneration opportunities to our executives by positioning target total remuneration (including perks and benefits, annual incentive pay-outs, long term incentive pay-outs at target performance) and target total cash compensation (including annual incentive pay-outs) at target performance directionally between median and top quartile of the primary talent market. We recognize the size and scope of the role and the market standing, skills and experience of incumbents while positioning our executives.

We use secondary market data only as a reference point for determining the types and amount of remuneration while principally believing that target total remuneration packages should reflect the typical cost of comparable executive talent available in the sector.

V. *Executive Pay-Mix*

Our executive pay-mix aims to strike the appropriate balance between key components: (i) Fixed Cash compensation (Basic Salary + Allowances) (ii) Annual Incentive Plan (iii) Long-Term Incentives (iv) Perks and Benefits

Annual Incentive Plan:

We tie annual incentive plan pay-outs of our executives to relevant financial and operational metrics achievement and their individual performance. We annually align the financial and operational metrics with priorities/ focus areas for the business.

Long-Term Incentive:

Our Long-term incentive plans incentivize stretch performance, link executive remuneration to sustained long term growth and act as a retention and reward tool.

We use stock options as the primary long-term incentive vehicles for our executives as we believe that they best align executive incentives with stockholder interests.

We grant restricted stock units as a secondary long term incentive vehicles, to motivate and retain our executives.

VI. *Performance Goal Setting*

We aim to ensure that for both annual incentive plans and long term incentive plans, the target performance goals shall be achievable and realistic.

Threshold performance (the point at which incentive plans are paid out at their minimum, but non-zero, level) shall reflect a base-line level of performance, reflecting an estimated 90% probability of achievement.

Target performance is the expected level of performance at the beginning of the performance cycle, taking into account all known relevant facts likely to impact measured performance.

Maximum performance (the point at which the maximum plan payout is made) shall be based on an exceptional level of achievement, reflecting no more than an estimated 10% probability of achievement.

VII. *Executive Benefits and Perquisites*

Our executives are eligible to participate in our broad-based retirement, health and welfare, and other employee benefit plans. In addition to these broad-based plans, they are eligible for perquisites and benefits plans commensurate with their roles. These benefits are designed to encourage long-term careers with the Group.

Other Remuneration Elements

Each of our executives is subject to an employment agreement. Each such agreement generally provides for a total remuneration package for our executives including continuity of service across the Group Companies.

We limit other remuneration elements, for e.g. Change in Control (CIC) agreements, severance agreements, to instances of compelling business need or competitive rationale and generally do not provide for any tax gross-ups for our executives.

Annexure VI

Risk and Compliance

We aim to ensure that the Group's remuneration programs do not encourage excessive risk taking. We review our remuneration programs for factors such as, remuneration mix overly weighted towards annual incentives, uncapped pay-outs, unreasonable goals or thresholds, steep pay-out cliffs at certain performance levels that may encourage short-term decisions to meet pay-out thresholds.

Claw back Clause:

In an incident of restatement of financial statements, due to fraud or non-compliance with any requirement of the Companies Act 2013 and the rules made thereafter, we shall recover from our executives, the remuneration received in excess, of what would be payable to him / her as per restatement of financial statements, pertaining to the relevant performance year.

Implementation

The Group and Business Centre of Expertise teams will assist the Nomination & Remuneration Committee in adopting, interpreting and implementing the Executive Remuneration Philosophy/Policy. These services will be established through "arm's length", agreements entered into as needs arise in the normal course of business.

Annexure VII

Secretarial Audit Report of the Company for the financial year ended March 31, 2023

[Pursuant to Section 204 (1) of the Companies Act, 2013 and Rule no. 9 of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014]

To
The Members
Hindalco Industries Limited
21st Floor, One International Centre, Tower 4,
Near Prabhadevi Railway Station,
Senapati Bapat Marg, Prabhadevi,
Mumbai – 400013

We have conducted the Secretarial Audit of the compliance of applicable statutory provisions and the adherence to good corporate practices by **HINDALCO INDUSTRIES LIMITED having CIN No. L27020MH1958PLC011238** (hereinafter called the 'Company') for the audit period covering the financial year ended on **31st March 2023** (the 'audit period'). Secretarial Audit was conducted in a manner that provided us a reasonable basis for evaluating the corporate conducts/statutory compliances and expressing our opinion thereon.

Based on our verification of the Company's books, papers, minute books, forms and returns filed, soft copy as provided by the company and other records maintained by the Company and also the information provided by the Company, its officers, agents and authorized representatives during the conduct of Secretarial Audit; We hereby report that in our opinion, the Company has, during the audit period complied with the statutory provisions listed hereunder and also that the Company has proper Board-processes and compliance-mechanism in place to the extent, in the manner and subject to the reporting made hereinafter.

We have examined the books, papers, minute books, forms and returns filed and other records maintained by the Company for the financial year ended on 31st March, 2023 according to the provisions of:

(i) The Companies Act, 2013 (the 'Act') and the Rules made thereunder;

(ii) The Securities Contracts (Regulation) Act, 1956 and the Rules made thereunder;

(iii) The Depositories Act, 1996 and the Regulations and Bye-laws framed thereunder;

(iv) Foreign Exchange Management Act, 1999 and the Rules and Regulations made thereunder to the extent of Overseas Direct Investment and External Commercial Borrowings.

(v) The following Regulations and Guidelines prescribed under the Securities and Exchange Board of India Act, 1992;

- (a) The Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011;
- (b) The Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015*;
- (c) The Securities and Exchange Board of India (Share Based Employee Benefits and Sweat Equity) Regulations, 2021)
- (d) The Securities and Exchange Board of India (Registrars to an Issue and Share Transfer Agents) Regulations, 1993; and
- (e) The Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015;
- (f) The Securities and Exchange Board of India (Issue and Listing of Non-Convertible Securities) Regulations, 2021.

* The Company has also maintained a Structured Digital Database ("SDD") pursuant to the requirements of regulation 3 (5) and 3 (6) of Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015.

(vi) Other laws specifically applicable to the Company are:

- (a) The Mines Act, 1952; and
- (b) The Mines and Minerals (Regulation and Development) Act, 1957.

Secretarial Standard namely, SS-1 and SS-2, respectively in relation to the meetings of the Board of Directors and General Meetings, issued by The Institute of Company Secretaries of India, and notified by Central Government under Section 118(10) of the Act and mandatorily applicable to the company

Annexure VII

During the audit period, the Company has complied with the provisions of the Acts, Rules, Regulations, Standards and Bye-laws mentioned above.

During the period under review, provisions of the following regulations were not applicable to the Company:

(i) The Securities and Exchange Board of India (Delisting of Equity Shares) Regulations, 2009;

(ii) The Securities and Exchange Board of India (Buyback of Securities) Regulations, 1998; and

(iii) The Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2009;

(iv) The Foreign Exchange Management Act, 1999 and the Rules and Regulations made thereunder to the extent of Foreign Direct Investment.

We further report that –

The Board of Directors of the Company is duly constituted with proper balance of Executive Directors, Non-Executive Directors and Independent Directors and KMPs as on 31st March 2023 as under:

I. Two Executive Directors i.e. Mr. Satish Pai and Mr. Praveen Kumar Maheshwari;

II. Three Non- Executive Non- Independent Directors i.e. Mr. Kumar Mangalam Birla Chairperson, Mrs. Rajashree Birla and Mr. A K Agarwala, ; and

III. Six Non- Executive Independent Directors, including one woman director i.e. Mrs. Alka Bharucha, Mr. K.N. Bhandari, Mr. Y.P. Dandiwala, Mr. Vikas Balia, Mr. Sudhir Mital and Mr. Anant Maheshwari.

During the year the following changes in the composition of the Board of Directors were carried out in compliance with the provisions of the Act, Rules made thereunder and SEBI (LODR) Regulations:

I. Re- appointment Ms. Alka Bharucha (DIN: 00114067), as an Independent Director, for a second Term of 05 (Five) Years [i.e. From July 11, 2023 through July 10, 2028] through postal ballot dated 9th February, 2023.

II. Re-appointment of Mr. Kumar Mangalam Birla (DIN: 00012813), as Non – Executive Director, who retires by rotation at the Annual General Meeting dated 23rd August 2022.

III. Reappointment of Mr. Praveen Kumar Maheshwari (DIN: 00174361) as Whole-time Director w.e.f. 28th May, 2022, at the Annual General Meeting dated 23rd August 2022.

IV. The Board of the Directors in its Meeting dated 10th August, 2022 has accorded its approval for appointment and remuneration of Ms. Geetika Anand as Company Secretary & Compliance Officer of the Company effective from 01st December, 2022.and relinquishment of office by Mr. Anil Malik as the Company Secretary and Compliance Officer w.e.f 30th November from the close of business hours.

Adequate notice is given to all directors to schedule the Board Meetings, agenda and detailed notes on agenda were sent at least 7 (seven) days in advance except for two Meetings of the Board where consent for shorter notice was obtained from majority of the directors.

A system exists for directors to seek and obtain further information and clarifications on the agenda items before the meetings and for their meaningful participation at the meetings.

Decisions at the meetings of the Board of Directors of the Company were carried through on the basis of majority. There were no dissenting views by any member of the Board of Directors during the audit period.

We further report that there are adequate systems and processes in the Company commensurate with the size and operations of the Company to monitor and ensure compliance with applicable laws, rules, regulations and guidelines.

We further report that during the audit period, following specific event / action has occurred during the year:

1. During the audit period, the Company has allotted 43,722 equity shares under Employee Stock Option Schemes.

2. The Company has entered into various material transactions and same was approved by members via postal ballot (conducted during the year and approved by the shareholders , w.e.f...) as follows :

   a) Material Related Party Transactions with Grasim Industries Limited,

   b) Material Related Party Transactions between Novelis Corporation and Logan Aluminum Inc.,

   c) Material Related Party Transactions between Novelis Korea Limited and Ulsan Aluminum Limited,

   d) Material Related Party Transactions between Novelis Deutschland GmbH and Aluminium Norf GmbH,

3. The Board of the Directors in its Board Meeting dated 11th November 2022, accorded its approval to borrow up to ₹ 1,000 crore from Debt / bond market to meet regulatory requirements - to borrow from the Financial Institutions, Banks, Debt / bond market and other Lenders by way of Loans, Issue of Secured/ Unsecured Redeemable Non-Convertible Debentures, in one or more tranches, not exceeding in the aggregate a sum of ₹ 1,000 Crores (Rupees One Thousand Crores only) on such terms and conditions as may be agreed and at such rate of interest as may be negotiated and stipulated.

4. The Capital Raising Committee of the Board of Directors of the Company has approved allotment of 70,000 – 7.60% p.a., Rated, Listed, Unsecured, Redeemable, Non-Convertible Debentures of ₹ 1,00,000 each aggregating to ₹ 700 Crores, on Private Placement Basis ["NCDs"].

Venkataraman K
Associate Partner
ACS: 8897/ COP: 12459
For BNP & Associates
Company Secretaries
[Firm Regn. No. P2014MH037400]
(PR No:- 637/2019)
UDIN: A008897E000587631

Date: July 12, 2023
Place: Mumbai

Note: This report is to be read with our letter of even date which is annexed as Annexure A and forms an integral part of this report.

Annexure VII

Annexure A to the Secretarial Audit Report of the Company

To,
The Members,
Hindalco Industries Limited

Secretarial Audit Report of even date is to be read along with this letter.

1. The compliance of provisions of all laws, rules, regulations, standards applicable to Hindalco Industries Limited (the 'Company') is the responsibility of the management of the Company. Our examination was limited to the verification of records and procedures on test check basis for the purpose of issue of the Secretarial Audit Report.
2. Maintenance of secretarial and other records of applicable laws is the responsibility of the management of the Company. Our responsibility is to issue Secretarial Audit Report, based on the audit of the relevant records maintained and furnished to us by the Company, along with explanations where so required.
3. We have followed the audit practices and processes as were appropriate to obtain reasonable assurance about the correctness of the contents of the secretarial and other legal records, legal compliance mechanism and corporate conduct. The verification was done on test check basis to ensure that correct facts as reflected in secretarial and other records produced to us. We believe that the processes and practices we followed, provides a reasonable basis for our opinion for the purpose of issue of the Secretarial Audit Report.
4. We have not verified the correctness and appropriateness of financial records and Books of Accounts of the Company.
5. Wherever required, we have obtained the management representation about the compliance of laws, rules and regulations and major events during the audit period.
6. The Secretarial Audit Report is neither an assurance as to the future viability of the Company nor of the efficacy or effectiveness with which the management has conducted the affairs of the Company.

Venkataraman K
Associate Partner
ACS: 8897/ COP: 12459
For BNP & Associates
Company Secretaries
[Firm Regn. No. P2014MH037400]
(PR No:- 637/2019)
UDIN: A008897E000587631

Date: July 12, 2023
Place: Mumbai

Annexure VII A

Secretarial Audit Report of the Material Unlisted Subsidiary of the Company for the financial year ended March 31, 2023

[Pursuant to section 204(1) of the Companies Act, 2013 and Rule No.9 of the Companies (Appointment and Remuneration of Managerial Personnel) Rules, 2014]

To,
The Members of,
Utkal Alumina International Limited
J 6 Jayadev Vihar Bhubaneswar 751013

We have conducted the Secretarial Audit of the compliance of applicable statutory provisions and the adherence to good corporate practices by **Utkal Alumina International Limited**

CIN No. U13203OR1993PLC003416 (hereinafter called "the Company") for the financial year ended on 31st March, 2023 (the "Audit Period").

We have conducted the Secretarial Audit in a manner that provided us with a reasonable basis for evaluating the Company's corporate conducts / statutory compliances and for expressing our opinion thereon.

We are issuing this report based on:

(i) Our verification of the Company's books, papers, minutes books, soft copies of various records, scanned copies of minutes of meetings of the Board, its committees, forms and returns filed and other records maintained by the Company, provided to us through electronic mode;

(ii) Compliance certificates confirming compliance with Corporate laws applicable to the Company given by the Key Managerial Personnel / Senior Managerial Personnel of the Company and taken on record by the Company's Audit Committee / Board of Directors; and

(iii) Representations made, documents produced and information provided by the Company, its officers, agents and authorized representatives during our conduct of Secretarial Audit

We hereby report that, in our opinion, during the Audit Period covering the financial year ended on 31st March, 2023, the Company has: -

(i) Complied with the statutory provisions listed hereunder; and

(ii) Board processes and compliance mechanism are in place to the extent, in the manner and subject to the reporting made hereinafter.

1. Compliance with specific statutory provisions

We further report that:

1.1 We have examined the books, papers, minutes books, forms and returns filed and other records maintained by the Company during the audit period in terms of the applicable provisions / clauses of:

(i) The Companies Act, 2013 ("the Act") and the Rules made thereunder;

(ii) The Depositories Act, 1996 and the Regulations and Bye-laws framed thereunder;

(iii) The Securities Contracts (Regulation) Act, 1956 ("SCRA") and the Rules made thereunder; and

(iv) Secretarial Standards ("SS-1 and SS-2") respectively relating to meetings of the Board and its Committees and general meetings of the Company issued by the Institute of Company Secretaries of India and notified by the Central Government under Section 118 (10) of the Act which have mandatory application.

1.2 During the audit period, the Company has:

(i) Complied with all the applicable provisions of all the aforesaid Acts, Rules, Regulations, Guidelines and Secretarial Standards as mentioned above.

(ii) Generally complied with the applicable provisions / clauses of:

(a) The Secretarial Standard on meetings of the Board of Directors ("SS-1") and on General Meetings ("SS-2") mentioned under paragraph 1.1 (v) above, which are applicable to meetings of Board of Directors ("Board"), Committees constituted by the Board held during the audit period, the 29th Annual General Meeting held on 30th September, 2022 held during the audit period. The compliance of the provisions of the Rules made under the Act with regard to participation of Directors through video conference for the Board/Committee meeting(s) held during the audit period, were verified based on the minutes of the meetings provided by the Company.

1.3 During the audit period, provisions of the following Acts /Regulations were not applicable to the Company: -

i. The Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011,

ii. The Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2018,

iii. The Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015,

iv. The Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015*****,

v. The Securities and Exchange Board of India (Share Based Employee Benefits and Sweat Equity) Regulations, 2021,

vi. The Securities and Exchange Board of India (Issue and Listing of Non-Convertible Securities) Regulations, 2021,

vii. The Securities and Exchange Board of India (Registrar to an Issue and Share Transfer Agents) Regulations, 1993,

viii. The Securities and Exchange Board of India (Delisting of Equity Shares) Regulations, 2021,

ix. The Securities and Exchange Board of India (Buy-back of Securities) Regulations, 2018, and

x. FEMA, 1999 and the rules and regulations made thereunder to the extent of Foreign Direct Investments ("FDIs"), Overseas Direct Investments ("ODIs") and External Commercial Borrowings ("ECBs").

***** The Company being the wholly owned subsidiary of Hindalco Industries Limited, a listed entity, the Code of Conduct under the Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015 applicable for Hindalco Industries Limited will also be applicable to the designated employees of the Company as "connected persons".

2. Board Process of the Company: -

We further report that -

2.1 The Board of Directors of the Company as on 31st March, 2023, comprised of:

(i) Six Non-Executive Non-Independent Directors: -

- Mr Anil Vasant Arya (DIN: 03310125)
- Mr. Indrajit Pathak (DIN: 00194571)
- Ms. Pragnya Ram (DIN: 00832233)
- Mr. Praveen Kumar Maheshwari (DIN: 00174361)
- Mr. Rajesh Kumar Gupta (DIN: 08567889)
- Mr. Surya Kanta Mishra (DIN: 02544268)

2.2 The processes relating to the following changes in the composition of the Board of Directors and Key Managerial Personnel during the audit period were carried out in compliance with the provisions of the Act:

(i) Re-appointment of Mr. Surya Kanta Mishra (DIN: 02544268) as a Director of the Company, on retirement by rotation at the 29th Annual General Meeting of the Company, held on 30th September, 2022.

(ii) Resignation of Mr. Sudhakar Biswal, Chief Financial Officer ("CFO") of the Company w.e.f. 17th October, 2022.

(iii) Appointment of Mr. Bhaskar Banerjee as the CFO of the Company w.e.f. 17th October, 2022, at the meeting of the Board of Directors of the Company held on 17th October, 2022.

2.3 Adequate notice(s) with Agenda and the detailed notes to Agenda of at least seven days was given to all the directors to enable them to plan their schedule for the meetings of the Board and the Committees constituted by the Board, and where the meetings were held at shorter notice, due compliance was ensured, as required under the Act and the Secretarial Standard on meetings of the Board of Directors.

2.4 A system exists for directors to seek and obtain further information and clarifications on the agenda items before the meetings and to ensure their meaningful participation at the meetings.

2.5 We note from the minutes examined during the course of audit that, at the Board meetings held during the audit period:

(i) Decisions were taken through the majority of the Board; and

(ii) No dissenting views were expressed by any Board member on any of the subject matters discussed, which were required to be recorded as part of the minutes.

3. Compliance Mechanism

We further report that, there are reasonably adequate systems and processes prevalent in the Company, which are commensurate with its size and operations, to monitor and ensure compliance with applicable laws, rules, regulations and guidelines.

4. Specific events / actions

During the audit period under review, as explained and represented by the management, there were no specific events/ actions in pursuance of the above referred laws, rules, regulations, guidelines, standards etc., which have a major bearing on the Company's affairs except for the following:

- Board of Directors at its meeting held on 03rd August, 2022, issued and allotted one (01) Zero Coupon Unsecured Redeemable Non-Convertible Debentures ("NCDs") of the face value of ₹ 3 Crore each (Rupees Three Crore Only) aggregating to NCDs of ₹ 3 Crore to Orissa Mining Corporation Limited for consideration other than cash on a Private Placement Basis.
- Board of Directors at its meeting held on 17th October, 2022, authorised to contribute an amount of ₹ 35,00,00,000/- (Rupees Thirty-Five Crore Only) to AB General Electoral Trust in one or multiple tranches and/or purchase the Electoral Bonds in accordance with the Electoral Trust Scheme, 2018.

Date: May 23, 2023
Place: Mumbai

CS Kavita Shah
Associate Partner
ACS 50804/COP No. 20796
UDIN: A050804E000359486
For BNP & Associates
Company Secretaries
[Firm Regn. No.:- P2014MH037400]
PR. No. 637/2019

** The members are requested to read this report along with our letter of even date annexed to this report as Annexure-A.*

Annexure VII A

Annexure A to the Secretarial Audit Report of the Material Unlisted Subsidiary of the Company

To,
The Members of,
Utkal Alumina International Limited
J 6 Jayadev Vihar Bhubaneswar 751013

Our Secretarial Audit Report of even date is to be read along with this letter.

1. The Company's management is responsible for maintenance of secretarial records and compliance with the provisions of corporate and other applicable laws, rules, regulations and standards. Our responsibility is to express an opinion on the secretarial records produced for our audit.
2. We have followed such audit practices and processes as we considered appropriate to obtain reasonable assurance about the correctness of the contents of the secretarial records.
3. We have considered compliance related actions taken by the company based on independent legal /professional opinion obtained as being in compliance with law.
4. We have verified the secretarial records furnished to us on a test basis to see whether the correct facts are reflected therein. We have also examined the compliance procedures followed by the Company. We believe that the processes and practices we followed, provide a reasonable basis for our opinion.
5. We have not verified the correctness and appropriateness of financial records and Books of Accounts of the Company.
6. We have obtained the management's representation about the compliance of laws, rules and regulations and happening of events, wherever required.
7. Our Secretarial Audit Report is neither an assurance as to the future viability of the Company nor of the efficacy or effectiveness with which the management has conducted the affairs of the Company.

CS Kavita Shah
Associate Partner
ACS 50804/COP No. 20796
UDIN: A050804E000359486
For BNP & Associates
Company Secretaries
[Firm Regn. No.:- P2014MH037400]
PR. No. 637/2019

Date: May 23, 2023
Place: Mumbai

Annexure VIII

Certificate from Practicing Company Secretary on Corporate Governance

To,
The Members of
Hindalco Industries Limited
Mumbai

We have examined the compliance of the conditions of Corporate Governanceprocedures implementedby HINDALCO INDUSTRIES LIMITED ("the Company") having CIN: L27020MH1958PLC011238for the year ended on March 31, 2023, as stipulated in under SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (the "Listing Regulations").

The compliance of conditions of Corporate Governance is the responsibility of the management. Our examination was limited to procedures and implementation thereof, adopted by the Company for ensuring the compliance of the conditions of the Corporate Governance. It is neither an audit nor an expression of opinion on the financial statements of the Company.

In our opinion and to the best of our information and according to the explanations given to us, and representations made by the management,we certify that to the extent applicable the Company has complied with the conditions of Corporate Governance as stipulated in the Listing Regulations.

We further state that such compliance is neither an assurance as to the future viability of the Company nor of the efficiency or effectiveness with which the management has conducted the affairs of the Company.

For **DILIP BHARADIYA & ASSOCIATES**
DILIP BHARADIYA
Partner
FCS No. 7956, CP No. 6740
UDIN: F007956E000589691

Place: Mumbai
Date: July 12, 2023

Social Report

Towards Inclusive Growth: CSR Report 2022-23

"Global development is not possible without women's participation", a profound statement made by our Honorable Prime Minister, Shri Narendra Modiji, at the G20 Summit in Bali, clearly signals the fact that women are indeed at the core of India's G20 agenda. The Government of India is soon to hold the G20 Ministerial Conference on Women Empowerment. In this context, EMPOWER is the G20 alliance fixated on empowerment and progression of women's economic representation. A McKinsey report mentions that India can line its GDP up to 18 percent if it can work out ways to bridge the gender equity gap. This is the outcome of envisioning the positive power of women, if their creative potential was tapped to the maximum. Our government is a signatory to the UNSDG Goals, among which SDG-5 is a commitment to gender equality. Phenomenal steps have been taken to rise up to this goal and assiduously pursue the upliftment of women every which way.

As you may be aware, G20 Presidency of India is ongoing. Within its frame EMPOWER is championing women led development pivoted on women entrepreneurship, leadership inclusive at all levels, grassroots and above as well as education. FICCI has been named the official G20 EMPOWER Secretariat. One is privileged to serve on this team and even more heartened to see that all of its objectives are already embedded in our Aditya Birla Group companies, and we are totally in sync with its focus, both at the corporate level and in the interiors.

At the corporate level, over 7,500 women are in the management cadre of which 10 percent are in leadership roles. Our constant endeavor is to go on fostering the enabling ecosystem and the inclusive culture that ABGites experience and take pride.

We are engaged in enriching lives in 9,000 villages pan India, through our multiple CSR initiatives. A call-out of our selective women centered projects:

- More than 20,280 women were served through livelihood programmes enabled by the Nudge Foundation's Asha Kiran project with our support.
- Over 14,000 women are employed in our fashion business. These are unlettered and come from villages.
- Honing skills and training vulnerable communities in different vocations
- Strengthening the women farmer community, endeavoring to close the marketing loop and forming women led Farmer Producer Organizations (FPO) on high value agriculture.
- Setting up watershed management and water harvesting processes towards sustainable livelihood.
- We have trained 50,000 women in different skills set.
- We have empowered 45,000 women through the creation of 5,000 SHGs. They are engaged in income generation activities such as tailoring (our uniforms at the manufacturing plants are tailored by the SHG women), also running salons, making masalas, papads and other kitchen condiments, which again are looped back to us besides the local market. Livestock rearing, horticulture and vegetable cultivation, besides toy making are some of the areas, these SHGs specialize in with our handholding on the financial side, helping them access loans.
- In the domain of education, we reach out to well over 100,000 students through our network of formal (52 schools) and non-formal educational institutes. Of these, girls constitute 50%. Furthermore, we foster the cause of the girl child through 52 Kasturba Gandhi Balika Vidyalayas.

In our journey up until now, in different phases, we have seen women evolve and develop grit and substance, reflecting the triumph of the human spirit.

Your Company is equally committed to unlock the creative potential of women to the optimal, with a clear linkage to the SDG Goals. Read on".

Rajashree Birla

Chairperson,

Aditya Birla Centre for Community Initiatives and Rural Development

Chairperson, Hindalco Industries CSR Board.

A summary of our work:

SDG-1: To rid poverty across all nations by 2030

In the 10 States and in Silvasa (Union Territory), spanning 616 villages and reaching out to 10 lakh people, over decades, we have been unrelentingly battling with poverty, in multiple ways to decelerate the percentage of BPL families.

SDG-2: To end all forms of hunger and malnutrition by 2030

Through sustainable agriculture, we endeavor to increase productivity, sustainable use of natural resources through technology upgradation, promotion of irrigation, water harvesting and closing the marketing loop. We partner under various Government Schemes and with support from the District Authorities, Agriculture Universities and Krishi Vigyan Kendras, we are aiming to significantly lowering the current rate of malnutrition to 5% from 19 % in the foreseeable future.

Through 173 farmer meetings, Kisan Melas, training programmes coupled with knowledge sharing on farm related activities, boosting agriculture and horticulture that profess the best-in-class agricultural practices and mechanisms, we have touched the lives of over 7,890 farmers including 2,230 women farmers.

Small farmers are helped through exposure to demonstration plots in waste lands where the farming inputs are minimal. More than 1,441 farmers were provided with agricultural tools, seeds, fertilizers and other crop protection agents, of which women constitute 30 percent.

We have also promoted 68 farmers clubs at Renukoot (60) and Renusagar (8) benefitting 1,462 farmers. Nine farmers were taken for exposure visits from Lohardaga and Renusagar.

More than 102 farmers, inclusive of 23 female farmers are engaged in organic farming with our support. We developed 33 vermin compost tanks at Renukoot and Lohardaga to encourage farmers to adopt organic farming methods.

Water Positivity

Water conservation and optimum utilization, within the fence and beyond, is one of the most important tasks before us. Towards providing assured irrigation we have conserved 1.24 lacs cubic meter of water by constructing 14 check dams, 5 ponds, 38 bundings, 3 water sheds, 27 rain water harvesting structures and repaired 2 irrigation channels to irrigate 1,000 hectares of additional land of 1,597 farmers in coordination with the Government. Consequently, farmers moved to cultivate cash crop and reap a rich harvest. Through our agro based livelihood and watershed management projects, we touched the lives of over 67,814 women.

This year 26,896 animals of 6,528 cattle owners, were immunized at veterinary camps and a large number were artificially inseminated for better breed. This has raised the milk output and consequently there has been a surge in the income of the farmers.

Aditya Birla Technology Park is successfully implementing the cattle breeding project (Godhan) at Muirpur, Uttar Pradesh. Over 160 cattle went through artificial insemination, benefitting 112 farm families whereas 2,782 cattle were treated for different diseases. In most of the farm families, women are encouraged to participate as well.

SDG-3: Ensuring, healthy lives and promoting well-being for all, in all age groups

Over 7 lakh people recourse to healthcare initiatives. Through 960 rural medical, 210 health awareness and 11 specialty camps, we have reached out to 1,07,887 patients out of which around 60% are women.

Splendid patient care is accorded at our Company's 2 hospitals, 20 dispensaries/ clinics located at Renukoot and Renusagar (Uttar Pradesh), Belagavi (Karnataka), Muri and Lohardaga (Jharkhand), Garepalma and Samri (Chhattisgarh), Dahej (Gujarat). 56,149 patients were treated out of which around fifty percent are women. Our units at Renukoot, Garepalma, Maliparbat, Taloja, Chakla and Silvassa have extended support to 12 Government/ Charity run primary health centers, where 60,410 patients availed these facilities.

At eye camps, we treated 2,135 people, performed 376 intraocular operations and distributed 30 spectacles. At 34 dental check camps at Singrauli, Renukoot, Renusagar and Belagavi, 1,334 persons, including more than 600 women, were treated. In our Surgical Camps 12 patients underwent surgeries at Renukoot.

In collaboration with the Government, 204 females out of 635 patients were diagnosed with Tuberculosis and registered under the directly observed treatment (DOT) programme at Lohardaga, Singrauli, Silvassa, Renukoot, Renusagar and Lapanga.

At 2 camps organised at Renukoot and Singrauli for the differently abled, 94 persons attended, and 39 persons have received calipers.

At the 87 camps in Singrauli, Taloja, Belagavi, Lohardaga, Kathautia, Renusagar and Renukoot on STD/RTI and AIDS awareness, 4,627 persons underwent tests including around 2000 women.

In association with the Government, we have conducted 50 street plays for creating awareness on diseases such as TB and sickle cell anemia among more than 7,500 people in 7 villages in Silvassa.

We organised 77 seasonal disease camps for prevention of Malaria and Diarrhoea at Renukoot, Renusagar, Singrauli, Lohardaga and Samri Mines. At these camps, of the 7,244 people who attended, the women numbers were in excess of 4000. Furthermore, we distributed mosquito nets to 4,500 people at Renukoot and Singrauli.

Health check- up camps were carried out in 34 schools at Lohardaga (Jharkhand), Renukoot (Uttar Pradesh), Taloja (Maharashtra), Samri (Chhatisgarh) and Belagavi (Karnataka). Our medical teams examined 2,453 students, including more than 1000 girls, on their general health, dental hygiene and eye care and conducted blood-group tests.

In 10 blood donation camps, 375 units of blood were donated by the volunteers at Renukoot, Belagavi, Taloja, Chakla and Silvassa.

In collaboration with the District Health Department, our 23 Family Welfare Centers served 34,829 patients out of which around 40 percent were women. Over 47,856 children were immunized against Polio, BCG, DPT and Hepatitis-B across the Company's Units.

More than 10,189 women have availed antenatal, postnatal care, immunisation, nutrition and escort services for institutional delivery at Renukoot, Singrauli, Samri, Kathautia and Taloja. Over 1,122 mothers opted for institutional delivery.

Our focused programme on School adolescent health care covered, 1,623 girls in 29 camps at the Government's Girls High Schools and Kasturba Gandhi Balika Vidyalayas.

During this period, 4852 patients were provided with ambulance support in Muri, Renukoot, Lohardaga, Mahan and Kathautia.

SDG-4: Education

Our proactive initiatives to foster education in the villages have yielded encouraging results.

Our 10 Aditya Birla Public Schools (Renukoot, Renusagar, Dahej and Muri), have enrolled 4632 rural students. Additionally, 918 students have been enlisted in our 4 Aditya Birla Vidya Mandirs at Renukoot, Kathautia and Samri.

At our 27 Balwadis, 763 pre-schoolers including 358 girls have taken their first steps towards informal learning processes at Renukoot, Lohardaga, Samri, Belagavi and Singrauli.

Over, 3,440 children including 1,548 girls have been enrolled at 92 Anganwadis that we support at Renukoot, Singrauli, Samri, Lohardaga, Renusagar, Taloja, Chakla, and Belagavi.

We aligned very well with 6 Kasturba Gandhi Balika Vidyalayas at Renukoot, Muri, Lohardaga and Samri motivating 881 girls to pursue education.

We also distributed education material including notebooks, school bags and uniforms to over 4,690 children of 24 Schools out of which 1551 are girl students.

Through the talent search programmes, we recognized 228 bright students including girls, giving them scholarships.

Over 556 students, including 256 girl students from the hinterland attended the 6-month computer literacy programmes conducted at Renusagar, Singrauli and Chakla.

School transport services were availed of by 920 students. Among them, there were 478 girl students.

In the 4 coaching classes run by us, 365 students including 200 girls opted to join. Similarly our career guidance classes were attended by 60 students including 50 girls.

More than 2,530 students including 1,218 girls participated at various school level competitions / programs that were conducted.

In our 8 female adult literacy programmes 183 participants enrolled. In addition, we also run 9 Non-Formal Schools at Lohardaga and Samri with 390 students including 198 girls.

Digitization "Smart Classes" at Singrauli and Taloja Schools in tandem with the Government, benefitted 2,025 children.

To enhance the learning outcome of students, we have set up 2 science laboratories at Garepalma and Mahan Government high schools.

We have supported the "Mo School" initiative of Government in 123 high schools of Sambalpur, Rayagada, Kalahandi and Koraput districts of Odisha. We were tasked with providing quality infrastructure for all high school students. So far, we have contributed Rs. 9.70 crores towards the project with a matching grant in 2:1 being supplemented by the government.

We constructed 5 additional class rooms at Renukoot and Taloja and repaired 10 school buildings at Singrauli, Renukoot, Lohardaga, Samri, Belagavi and Taloja. We built 6 new school toilets at Lohardaga, Singrauli, Renukoot and Samri. We have also provided furniture to 4 schools at Alupuram and Taloja.

All in all, we have accorded education facilities to 34,012 girls.

SDG-5: Women empowerment and gender equality

We are working with 1,624 self-help groups totaling 21,358 women, each one of them has been on a transformative journey.

At Renukoot, Renusagar, Dahej and Lohardaga, these women stitch our uniforms.

We touched the lives of 92,000 women.

The sixth, seventh and eighth SDGs, center on water and sanitation, reliable, sustainable, modern energy, decent work, and economic growth

Our 9 Reverse Osmosis (RO) plants, 54 hand pumps, repaired 240 hand pumps and dug wells provide safe drinking water. Pipelines, water tanks, doorstep water facilities benefit more than 89,380 villagers.

Additionally, 33 individual toilets and sanitation facilities were set up at various locations. We are pleased to report that 93% of the villages where we operate have been declared ODF.

We have installed 226 Solar street lights at Silvassa, Lohardaga and Renusagar under the Kiran Jyoti Project. At Lohardaga we have distributed 74 units of Solar home light system.

We have developed nurseries at Renukoot, Lohardaga and Samri to ensure distribution of 97,158 saplings to farmers. In addition, we have distributed 44,858 plants to the farmers including 23,646 fruit bearing tree saplings.

"At the Aditya Birla Rural Technology Park, 14 training batches were organised for Vocational Training. The thrust areas are on computer literacy, repair of electric and electronic goods, handicrafts, beautician, tailoring and knitting. This year 337 aspirants were trained in these trades, 269 of them are women. On capacity building 29 additional training programmes were held for 665 participants which included 299 women.

SDG-9: Build resilient infrastructure

Our infrastructure projects: connectivity, road repairs, community halls and assets, rest places, installation of solar lights, Cement benches, construction of water tanks and installation of piped water supply, have bettered the lives of 1,50,000 people. Of which 79,500 constitute the women populace.

Of the 616 villages we operate in, 48 villages have been slated to become model villages. Up until now, 114 villages have made the cut to be rated as model villages. Impact assessment studies by external agencies have certified/commended the transformation of these villages.

Accolades/Awards received:

We received Aditya Birla Group Planet CSR Award for our project on water conservation. In addition Hindalco and its Subsidiaries have received accolades at the national level. A list:

- FICCI CSR Award for Food Security and Agriculture for Project Sugandha – Utkal
- FICCI CSR Awards for skill development and Livelihood – Mahan
- Golden Bird National Award- Platinum Category for Health Care – Aditya
- Indian Chamber of Commerce – 5th Social Impact award 2023 to Renukoot for Water Conservation.
- Indian Chamber of Commerce – 5th Social impact Award 2023 to Utkal Alumina for Sustainable Livelihood Generation in Large Enterprise Category
- Amity CSR Award on Women Empowerment for project Saksham-Aditya
- Indian Chamber of Commerce awarded Corporate Governance and Sustainability Vision Award 2023 for Community Development - Aditya
- Golden Bird National Award Diamond Category for Best Practices-Lohardaga
- SKOCH award in the silver category for Briquette plant - Lohardaga
- IWEC Social leadership award by ICC and Odisha Corporation Foundation- Utkal
- Times Ascent & World Federation of marketing professionals- Eastern India Leadership Award for Best Practices (CSR) - Utkal
- 6th CSR Health impact award-Rural Health Initiatives-IHW Council -Utkal
- 9th CSR Times Award for Project Unnat - Utkal
- 6th Edition Corporate Social responsibility Summit and Award 2022 by UBS forums Pvt Limited - Utkal
- Odisha CSR Forum Award for Livelihood Project Sugandha - Utkal.

Our CSR spends

This year we invested ₹ 36.04 crores for other than ongoing projects, committed ₹ 9.5 crores towards ongoing project and raised ₹ 79.97 crores leveraging the Government's development programmes. In addition, our subsidiaries together have spent ₹ 22.34 crores. We had a flow over of ₹ 24.06 crores from the preceding years, this has also been added.

For having come this far, we deeply acknowledge the unflinching support of our Chairman and Chairperson, and their commitment to the larger good of society. We thank the Board of Directors, our Management, leadership teams, our CSR people and each and every colleague from Hindalco Industries Limited for being CSR champions. We take great pride that Hindalco like all of our companies in the Aditya Birla Group companies is looked upon as a force for good among the communities where we operate.

Business Responsibility & Sustainability Reporting

SECTION A: GENERAL DISCLOSURES

I. Details of the listed entity

1. Corporate Identity Number (CIN) of the Listed Entity: L27020MH1958PLC011238
2. Name of the Listed Entity: HINDALCO INDUSTRIES LIMITED
3. Year of incorporation: 15-12-1958
4. Registered office address: Ahura Centre B Wing 1st Floor Mahakali Caves Road Mumbai 400093 changed to 21st Floor, One International Center, Tower 4, Near Prabhadevi Railway Station, Senapati Bapat Marg, Prabhadevi, Mumbai Maharashtra- 400013 w.e.f. June 1, 2023
5. Corporate address: 6th & 7th Floor, Birla Centurion, Pandurang Budhkar Marg, Worli, Mumbai - 400030.
6. E-mail: geetika.anand@adityabirla.com
7. Telephone: +91 022 6947 7000/6947 7150
8. Website: www.hindalco.com
9. Financial year for which reporting is being done: 01-04-2022 to 31-03-2023
10. Name of the Stock Exchange(s) where shares are listed: BSE Limited, National Stock Exchange of India Ltd. (NSE India), Luxembourg Stock Exchange (LuxSE) [Global Depository Receipts listing]
11. Paid-up Capital: As on March 31, 2023 : INR 2,247,194,585
12. Name and contact details (telephone, email address) of the person who may be contacted in case of any queries on the BRSR report: Geetika Anand (022 6947 7000/6947 7150, geetika.anand@adityabirla.com)
13. Reporting boundary - Are the disclosures under this report made on a standalone basis (i.e. only for the entity) or on a consolidated basis (i.e. for the entity and all the entities which form a part of its consolidated financial statements, taken together).: **Standalone**

II. Products/services

14. Details of business activities (accounting for 90% of the turnover):

S. No.	Description of Main Activity	Description of Business Activity	% of Turnover of the entity
1	Aluminium	Our Indian aluminium operations are integrated and consist of bauxite mining, alumina refining, smelting and converting primary metal into value-added products. We have dedicated sources for critical raw materials such as bauxite, power and coal. Our finished products include alumina, primary aluminium in the form of ingots, billets and wire rods, and, value-added products such as rolled products, extrusions and foils. Metallurgical alumina is used for our own captive needs. Chemical alumina and hydrates are used in range of industries including water treatment, fillers in cables and plastics, refractories and ceramics, and glass among others.	46%
2	Copper	Hindalco produces LME grade copper cathodes, continuous cast copper rods in various sizes, and precious metals like gold and silver. Hindalco is one of the major manufacturers of 19.6mm diameter copper rods, which is used for railway electrification. The co-product, sulphuric acid, is partly utilised to produce phosphoric acid and fertilisers like di-ammonium phosphate (DAP).	54%

15. Products/Services sold by the entity (accounting for 90% of the entity's Turnover):

S. No.	Product/Service	NIC Code	% of total Turnover contributed
1	Aluminium	24202	46.00%
2	Copper	24201	54.00%

III. Operations

16 Operations

Number of locations where plants and/or operations/offices of the entity are situated:

Location	Number of plants	Number of offices	Total
National	21	-	21
International	0	-	-

17. Markets served by the entity:

a. Number of locations

Locations	Number
National (No. of States)	11
International (No. of Countries)	-

b. What is the contribution of exports as a percentage of the total turnover of the entity?

- 51%

c. A brief on types of customers

- The response to this question is provided in the Customer sub-section in the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23

IV. Employees

18. Details as at the end of Financial Year:

a. Employees and workers (including differently abled):

S. No.	Particulars	Total(A)	Male		Female	
			No. (B)	% (B / A)	No. (C)	% (C / A)
		EMPLOYEES				
1.	Permanent (D)	9,192	8,423	91.63%	769	8.37%
2.	Other than Permanent (E)	0	0	0.00%	0	0.00%
3.	**Total employees (D + E)**	9,192	8,423	91.63%	769	8.37%
		WORKERS				
4.	Permanent (F)	13,474	13,395	99.41%	79	0.59%
5.	Other than Permanent (G)	40,592	38,792	95.57%	1,800	4.43%
6.	**Total workers(F + G)**	54,066	52,187	96.52%	1,879	3.48%

b. Differently abled Employees and workers:

S. No	Particulars	Total (A)	Male		Female	
			No. (B)	% (B / A)	No. (C)	% (C / A)
	DIFFERENTLY ABLED EMPLOYEES					
1.	Permanent (D)	10	10	100.00%	-	0.00%
2.	Other than Permanent (E)	-	-	-		
3.	**Total differently abled employees (D + E)**	10	10	100.00%	-	0.00%
	DIFFERENTLY ABLED WORKERS					
4.	Permanent (F)	20	17	85.00%	3	15.00%
5.	Other than permanent (G)	14	11	78.57%	3	21.43%
6.	**Total differently abled workers (F + G)**	34	28	82.35%	6	17.65%

19. Participation/Inclusion/Representation of women

	Total (A)	No. and percentage of Females	
		No. (B)	% (B / A)
Board of Directors	11	2	18.18%
Key Management Personnel	3	1	33.33%

20. Turnover rate for permanent employees

(Disclose trends for the past 3 years)

	FY 2022-23 (Turnover rate in current FY)			FY 2021-22 (Turnover rate in previous FY)			FY 2020-21 (Turnover rate in the year prior to the previous FY)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Permanent Employees	6.80%	11.70%	7.21%	4.78%	7.89%	5.02%	4.80%	6.30%	4.90%
Permanent Workers	5.15%	72.15%	5.55%	4.54%	19.15%	4.63%	0.10%	7.20%	0.20%

V. **Holding, Subsidiary and Associate Companies (including joint ventures)**

21. (a) Names of holding / subsidiary / associate companies / joint ventures

Sr. No.	Name of the holding/ subsidiary/ associate companies/ joint ventures (A)	Indicated whether holding/Subsidiary/ Associate/Joint Venture	% shares held by listed entity	Does the entity indicated at column A, participate in the Business Responsibility Initiatives of the listed entity? (Yes/No)
1	Utkal Alumina International Limited	Subsidiary	100.00%	Yes*
2	Minerals & Minerals Limited	Subsidiary	100.00%	No
3	AV Minerals (Netherlands) N.V.	Subsidiary	100.00%	No
4	Dahej Harbour & Infrastructure Limited	Subsidiary	100.00%	No
5	Hindalco Almex Aerospace Limited	Subsidiary	97.18%	No
6	East Coast Bauxite Mining Company	Subsidiary	74.00%	No
7	Renuka Investments & Finance Limited	Subsidiary	100.00%	No
8	Renukeshwar Investments & Finance Limited	Subsidiary	100.00%	No
9	Lucknow Finance Company Limited	Subsidiary	100.00%	No
10	Suvas Holdings Limited	Subsidiary	74.00%	No
11	Hindalco Jan Seva Trust	Subsidiary	100.00%	No
12	Copper Jan Seva Trust	Subsidiary	100.00%	No
13	Utkal Alumina Jan Seva Trust	Subsidiary	100.00%	No
14	Utkal Alumina Social Welfare Foundation	Subsidiary	100.00%	No
15	Kosala Livelihood and Social Foundation	Subsidiary	100.00%	No
16	A V Metal Inc.	Subsidiary	100.00%	No
17	Birla Copper Asoj Private Limited	Subsidiary	100.00%	Yes*
18	Novelis Inc.	Subsidiary	100.00%	No
19	Novelis do Brasil Ltda	Subsidiary	100.00%	No
20	Brecha Energetica Ltda	Subsidiary	99.99%	No
21	4260848 Canada Inc.	Subsidiary	100.00%	No
22	4260856 Canada Inc.	Subsidiary	100.00%	No
23	8018227 Canada Inc.	Subsidiary	100.00%	No
24	Novelis (China) Aluminum Products Co. Ltd.	Subsidiary	100.00%	No
25	Novelis (Shanghai) Aluminum Trading Company	Subsidiary	100.00%	No
26	Novelis PAE S.A.S.	Subsidiary	100.00%	No
27	Novelis Aluminum Beteiligungs GmbH	Subsidiary	100.00%	No
28	Novelis Deutschland GmbH	Subsidiary	100.00%	No
29	Novelis Sheet Ingot GmbH	Subsidiary	100.00%	No
30	Novelis (India) Infotech Ltd.	Subsidiary	100.00%	No
31	Novelis Aluminum Holding Unlimited Company	Subsidiary	100.00%	No
32	Novelis Italia SpA	Subsidiary	100.00%	No
33	Novelis de Mexico S.A. de C.V.	Subsidiary	100.00%	No

Sr. No.	Name of the holding/ subsidiary/ associate companies/ joint ventures (A)	Indicated whether holding/Subsidiary/ Associate/Joint Venture	% shares held by listed entity	Does the entity indicated at column A, participate in the Business Responsibility Initiatives of the listed entity? (Yes/No)
34	Novelis Korea Limited	Subsidiary	100.00%	No
35	Novelis AG	Subsidiary	100.00%	No
36	Novelis Switzerland S.A.	Subsidiary	100.00%	No
37	Novelis MEA Ltd.	Subsidiary	100.00%	No
38	Novelis Europe Holdings Limited	Subsidiary	100.00%	No
39	Novelis UK Ltd.	Subsidiary	100.00%	No
40	Novelis Services Limited	Subsidiary	100.00%	No
41	Novelis Corporation	Subsidiary	100.00%	No
42	Novelis South America Holdings LLC	Subsidiary	100.00%	No
43	Novelis Holdings Inc.	Subsidiary	100.00%	No
44	Novelis Services (North America) Inc.	Subsidiary	100.00%	No
45	Novelis Global Employment Organization, Inc	Subsidiary	100.00%	No
46	Novelis Services (Europe) Inc.	Subsidiary	100.00%	No
47	Novelis Vietnam Company	Subsidiary	100.00%	No
48	Aleris Asia Pacific International (Barbados) Ltd.	Subsidiary	100.00%	No
49	Novelis Aluminum (Zhenjiang) Co., Ltd	Subsidiary	100.00%	No
50	Aleris (Shanghai) Trading Co., Ltd.	Subsidiary	100.00%	No
51	Aleris Asia Pacific Limited	Subsidiary	100.00%	No
52	Aleris Aluminum Japan, Ltd.	Subsidiary	100.00%	No
53	Novelis Casthouse Germany GmbH	Subsidiary	100.00%	No
54	Novelis Deutschland Holding GmbH	Subsidiary	100.00%	No
55	Novelis Koblenz GmbH	Subsidiary	100.00%	No
56	Novelis Netherlands B.V.	Subsidiary	100.00%	No
57	Aleris Switzerland GmbH	Subsidiary	100.00%	No
58	Aleris Aluminum UK Limited	Subsidiary	100.00%	No
59	Aleris Holding Canada ULC	Subsidiary	100.00%	No
60	Novelis ALR Aluminium Holdings Corporation	Subsidiary	100.00%	No
61	Novelis ALR International Inc.	Subsidiary	100.00%	No
62	Novelis ALR Rolled Products, LLC	Subsidiary	100.00%	No

Sr. No.	Name of the holding/ subsidiary/ associate companies/ joint ventures (A)	Indicated whether holding/Subsidiary/ Associate/Joint Venture	% shares held by listed entity	Does the entity indicated at column A, participate in the Business Responsibility Initiatives of the listed entity? (Yes/No)
63	Novelis ALR Rolled Products, Inc.	Subsidiary	100.00%	No
64	Novelis ALR Aluminium LLC	Subsidiary	100.00%	No
65	Novelis ALR Rolled Products Sales Corporation	Subsidiary	100.00%	No
66	Novelis ALR Recycling of Ohio	Subsidiary	100.00%	No
67	Novelis ALR Aluminum-Alabama LLC	Subsidiary	100.00%	No
68	Novelis ALR Asset Management Corporation	Subsidiary	100.00%	No
69	MNH Shakti Limited	Joint Venture	15.00%	No
70	Hydromine Global Minerals (GMBH) Limited	Joint Venture	45.00%	No
71	Aditya Birla Science & Technology Company Private Limited	Associate	49.00%	No
72	Aditya Birla Renewables Subsidiary Limited	Associate	26.00%	No
73	Aditya Birla Renewables Utkal Limited	Associate	26.00%	No
74	Aditya Birla Renewables Solar Limited	Associate	26.00%	No
75	Deutsche Aluminum Verpachung Recycling GMBH	Associate	30.00%	No
76	France Aluminum Recyclage SPA	Associate	20.00%	No
77	Novelis ventures LLC	Subsidiary	100.00%	No
78	Hindalco Kaubushiki Kaisha	Subsidiary	100.00%	No
79	White Rock USA protect Sell	Subsidiary	100.00%	No

*The environmental and social parameters reported include Utkal Alumina International Ltd. and Birla Copper Asoj Private Limited

VI. CSR Details

22. (i) Whether CSR is applicable as per section 135 of Companies Act, 2013: **(Yes/No): Yes**

(ii) Turnover (in Rs.): 76,878 Cr.

(iii) Net worth (in Rs.): 58,489 Cr.

VII. Transparency and Disclosures Compliances

23. Complaints/Grievances on any of the principles (Principles 1 to 9) under the National Guidelines on Responsible Business Conduct:

Stakeholder group from whom complaint is received	Grievance Redressal Mechanism in Place (Yes/No) (If Yes, then provide web-link for grievance redress policy)	FY 2022-23 Current Financial Year			FY 2021-22 Previous Financial Year		
		Number of complaints filed during the year	Number of complaints pending resolution at close of the year	Remarks	Number of complaints filed during the year	Number of complaints pending resolution at close of the year	Remarks
Communities	The details of the Grievance Redressal Mechanism is given Community Grievance Section in the Hindalco Integrated Annual Report FY 2022-23.	1,314	54	All complaints are addressed through our Grievance Redressal Mechanism	1,197	62	All complaints are addressed through our Grievance Redressal Mechanism
Investors (other than shareholders)	The details of the Grievance Redressal Mechanism is given Corporate Governance section in the Hindalco Integrated Annual Report FY 2022-23.	7	7	Complaints relating to Transfers, Transmissions Dividend, Interest, Redemption, Demat – Remat, Rights Issue and Change of Address etc.	9	9	Complaints relating to Transfers, Transmissions Dividend, Interest, Redemption, Demat – Remat, Rights Issue and Change of Address etc.
Shareholders	The details of the Grievance Redressal Mechanism is given Corporate Governance Section in the Hindalco Integrated Annual Report FY 2022-23.	0	0	Nil	0	0	NIL
Employees and workers	The details of the Grievance Redressal Mechanism is given Human Rights Section in the Hindalco Integrated Annual Report FY 2022-23.	10	0	Hindalco has zero tolerance for sexual harassment at workplace and has adopted a Policy on prevention, prohibition and redressal of sexual harassment at workplace in line with the provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and the Rules thereunder for prevention and redressal of complaints of sexual harassment at workplace.	6	8	Hindalco has zero tolerance for sexual harassment at workplace and has adopted a Policy on prevention, prohibition and redressal of sexual harassment at workplace in line with the provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and the Rules thereunder for prevention and redressal of complaints of sexual harassment at workplace.
Customers	The details of the Grievance Redressal Mechanism is given Customer Grievance Section in the Hindalco Integrated Annual Report FY 2022-23.	38	38	All complaints closed	44	44	All complaints closed
Value Chain Partners	The details of the Grievance Redressal Mechanism is given Responsible Value Chain Section in the Hindalco Integrated Annual Report FY 2022-23.	0	NIL	NIL	0	0	NIL
Other (please specify)	NIL	NIL	NIL	NIL	NIL	NIL	

24. Overview of the entity's material responsible business conduct issues

Please indicate material responsible business conduct and sustainability issues pertaining to environmental and social matters that present a risk or an opportunity to your business, rationale for identifying the same, approach to adapt or mitigate the risk along-with its financial implications, as per the following format

S. No.	Material issue identified	Indicate whether risk or opportunity (R/O)	Rationale for identifying the risk / opportunity	In case of risk, approach to adapt or mitigate	Financial implications of the risk or opportunity (Indicate positive or negativeimplications)
1	Energy and GHG Emissions Management	R	Coal is one of the primary sources of energy for the Indian operations. Being a continuous process industry, with process dependence on coal, it is difficult to replace coal with any alternate material in the near term.	We have been investing in renewable energy projects to run other operations such as townships. We are also evaluating the feasibility of other energy sources including increasing the use of biomass in power plants. We have also been working on carbon capture as well as energy storage.	Negative Implications
2	Waste and Hazardous Waste Management	R	Proper disposal of waste from operations is essential for protecting the environment, and safety. Some of the waste is stored in a secured area for which substantial land is required. Land availability is becoming difficult and storage of waste in ponds has its own risks as well. Need to adhere to evolving regulatory requirements within specified time frames	We have set up a year-on-year target of 5% for recycling and reusing generated waste, with the aim to achieve zero waste to landfill by 2050. Several initiatives are in the pipeline - such as utilising bauxite residue for backfilling and road building, and establishing long-term contracts with cement/road developers. These initiatives are being monitored on a regular basis.	Negative Implications
3	Water Management	R	Natural resource depletion is a risk all over the world. This can eventually impact our immediate environment and operations. Our business depends on coal supply, bauxite, copper concentrate, water etc. Four of our plants are in water-stress areas	We have planned several initiatives for water recycling and rainwater harvesting at various plants. Our aim is to achieve zero liquid discharge and water positivity across mining and downstream verticals by 2025	Negative Implications
4	Air Emissions	R	Our non-GHG air emissions result from both fuel combustion and production processes. Our aluminium smelting process contributes to fluoride emissions while the burning of fossil fuels contributes to Oxides of Sulphur (SOx), Oxides of Nitrogen (NOx) and Particulate Matter (PM).	We are taking up several projects to minimise emissions from our operations. We are installing pilot Flue Gas Desulphurisation (FGD) units at Mahan, Aditya, and Renusagar.	Negative Implications
5	Biodiversity	R	Our operations depend on coal and bauxite mines. Further, many of our locations are situated near areas of high biodiversity. Proper management of biodiversity around our operations is critical for continued operations at our locations	We are taking up several initiatives towards conservation of biodiversity, including development of biodiversity management plans.	Negative Implications
6	Occupational Health and Safety	R	Health and safety is of utmost importance. However, we face injuries due to safety related risks in our manufacturing processes.	We have implemented 'Serious Injuries and Fatality (SIF) prevention programme', a unique initiative in Indian manufacturing which standardises contractor safety management processes across Hindalco. Additionally, we are incorporating digitalisation to reduce human intervention.	Negative Implications
7	Community Relations	O	To actively contribute to the social and economic development of underserved communities, lifting the burden of poverty, and helping bring in inclusive growth in sync with the UN Sustainable Development Goals. In doing so, we are building a better, sustainable way of life for the weaker sections of society and raising the country's Human Development Index. In line with our Group's CSR vision, Hindalco has adopted socially responsible practices where these SDGs are enumerated through the five focus areas of education, health care, sustainable livelihood, social empowerment, and infrastructure development. We were able to positively impact 2 million+ lives through our community development programme.	NA	Positive Implications

S. No.	Material issue identified	Indicate whether risk or opportunity (R/O)	Rationale for identifying the risk / opportunity	In case of risk, approach to adapt or mitigate	Financial implications of the risk or opportunity (Indicate positive or negativeimplications)
8	Economic Performance	O	We have been able to achieve our deleveraging target well ahead of time leading to a strong balance sheet. This has resulted in increased trust between the shareholders and lenders. We have a robust approach to the capital allocation framework. Further, our focus has been on maximising shareholder return by directing our growth capex towards value-added downstream expansion projects.	NA	Positive Implications
9	Compliance Management	R	In the metals and mining industry, regulations play an important role in shaping the business. Frequent regulatory changes give rise to uncertainty in the surrounding environment. Our value chain is highly dependent on the resources available with the government	We continuously engage with Government agencies and work on policy advocacy at various levels. We also actively participate in industry associations activities. This helps us in proactively engaging with the government and prepare us for any regulatory changes.	Negative Implications
10	Market Presence	O	Increased demand for aluminium in various sectors gives Hindalco an opportunity to expand its market presence.	NA	Positive Implications
11	Supply Chain Transformation	O	Sustainable supply chain initiatives, effective use of natural resources, decarbonisation, ethical sourcing, and fair trade will enable risk reduction, increased innovation, and even stronger returns on investment.	NA	Positive Implications

SECTION B: MANAGEMENT AND PROCESS DISCLOSURES

This section is aimed at helping businesses demonstrate the structures, policies and processes put in place towards adopting the NGRBC Principles and Core Elements.

Disclosure Questions	P1	P2	P3	P4	P5	P6	P7	P8	P9
Policy and management processes									
1. a. Whether your entity's policy/policies cover each principle and its core elements of the NGRBCs. (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b. Has the policy been approved by the Board? (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c. Web Link of the Policies, if available	Code of Conduct for BODs & SMP, Hindalco Corporate Principles & Code of Conduct and Hindalco Supplier Code of Conduct. The web link to the policies is given here https://www.hindalco.com/Investor-centre/Policies	Sustainability policy and Environmnetal Policy. The web link to the policies is given here https://www.hindalco.com/Investor-centre/Policies	Safety and Occupational Health Policy. The web link to the policies is given here https://www.hindalco.com/investorcentre/policies	Corporate Social Responsibility Policy. The web link to the policies is given https://www.hindalco.com/Investor-centre/Policies	Human Rights Policy. The web link to the policies is given https://www.hindalco.com/Investor-centre/Policies	Environment Policy. The web link to the policies is given https://www.hindalco.com/Investor-centre/Policies	Code of Conduct for BODs & SMP, Hindalco Corporate Principles & Code of Conduct and Hindalco Supplier Code of Conduct. The web link to the policies is given here https://www.hindalco.com/Investor-centre/Policies	Corporate Social Responsibility Policy and Rehabilitation, Resettlement and Protection of Indigenious People Policy. The web link to the policies is given here https://www.hindalco.com/Investor-centre/Policies	Code of Conduct for BODs & SMP, Hindalco Corporate Principles & Code of Conduct and Hindalco Supplier Code of Conduct. The web link to the policies is given here https://www.hindalco.com/Investor-centre/Policies
2. Whether the entity has translated the policy into procedures. (Yes / No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Do the enlisted policies extend to your value chain partners? (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Name of the national and international codes/ certifications/ labels/ standards (e.g. Forest Stewardship Council, Fairtrade, Rainforest Alliance, Trustea) standards (e.g. SA 8000, OHSAS, ISO, BIS) adopted by yourentity and mapped to each principle.	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23	Details in the Driving Operational Excellence section of the Integrated Annual Report FY 2022-23

Disclosure Questions	P1	P2	P3	P4	P5	P6	P7	P8	P9
5. Specific commitments, goals and targetsset by the entity with defined timelines, if any.	NA	NA	The targets against the principle are provided in the Occupation Health & Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23	NA	The targets against the principle are provided in the Human Capital section of the Integrated Annual Report FY 2022-23.	The targets against the principle are provided in the Natural Capital section of the Integrated Annual Report FY 2022-23.	NA	NA	NA
6. Performance of the entity against the specific commitments, goals and targets along-with reasons in case the same arenot met.	NA	NA	The performance against the targets is given in the Human Capital section of Hindalco Integrated Annual Report FY 2022-23.	NA	The performance against the targets is given in the Human Capital section of Hindalco Integrated Annual Report FY 2022-23.	The performance against the targets is given in the Natural Capital section of Hindalco Integrated Annual Report FY 2022-23.	NA	NA	NA

Governance, leadership and oversight

7. Statement by director responsible for the business responsibility report, highlighting ESG related challenges, targets and achievements (listed entity has flexibility regarding the placement of this disclosure):

   The statement by the director responsible for business responsibility report is given in Message from the Managing Director in Hindalco Integrated Annual Report FY 2022-23

8. Details of the highest authority responsible for implementation and oversight of the Business Responsibility policy (ies).	The Risk Management & Environment Social and Governance (ESG) Committee of the Board is responsible for the implementation and oversight of the Business Responsibility policies.
9. Does the entity have a specified Committee of the Board/ Director responsible for decision making onsustainability related issues? (Yes / No). If yes, provide details.	The Risk Management & Environment Social and Governance (ESG) Committee is responsible for decision making on sustainability related issues. The details of the same are given in Environment Management sub-section of the Natural Capital section of the Hindalco Integrated Annual Report FY 2022-23.

10. Details of Review of NGRBCs by the Company:

Subject for Review	Indicate whether review was undertaken by Director / Committee of the Board/Any other Committee									Frequency (Annually/ Half yearly/ Quarterly/ Any other – please specify)								
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P1	P2	P3	P4	P5	P6	P7	P8	P9
Performance against above policies and follow up action	Committee of the Board				Any other Committee	Committee of the Board				Quarterly								
Compliance with statutory requirement of relevance to the principles, and, rectification of anynon-compliances	Director			Committee of the Board	Director	Committee of the Board		Director		Quarterly								

11.		P1	P2	P3	P4	P5	P6	P7	P8	P9
	Has the entity carried out independent assessment/ evaluation of the working of its policies by an external agency? (Yes/No). If yes, provide name of the agency.	Yes, Secretarial auditor	Yes BSI	Yes BSI	Yes, Secretarial Auditor	Yes Factory Inspector	Yes BSI	Yes Secretarial Auditor	Yes Secretarial auditor	Yes BSI

12. If answer to question (1) above is "No" i.e. not all Principles are covered by a policy, reasons to be stated: Not applicable

Questions	P1	P2	P3	P4	P5	P6	P7	P8	P9
The entity does not consider the Principles material to its business (Yes/No)	Not applicable								
The entity is not at a stage where it is in a position to formulate and implement the policies on specified principles (Yes/No)									
The entity does not have the financial or/human and technical resources available for the task (Yes/No)									
It is planned to be done in the next financial year (Yes/No)									
Any other reason (please specify)									

SECTION C: PRINCIPLE WISE PERFORMANCE

PRINCIPLE 1: Businesses should conduct and govern themselves with integrity, and in a manner that is Ethical, Transparent and Accountable.

Essential Indicators

1. **Percentage coverage by training and awareness programmes on any of the principles during the financial year:**

   The response to this question is provided in the Human Capital Development sub-section of the Human Capital section of the Integrated Report FY 2022-23

P1: Businesses should conduct and govern themselves with integrity, and in a manner that is Ethical, Transparent and Accountable.
P2: Businesses should provide goods and services in a manner that is sustainable and safe
P3: Businesses should respect and promote the well-being of all employees, including those in their value chains
P4: Businesses should respect the interests of and be responsive to all its stakeholders
P5: Businesses should respect and promote human rights
P6: Businesses should respect and make efforts to protect and restore the environment
P7: Businesses, when engaging in influencing public and regulatory policy, should do so in a manner that is responsible and transparent
P8: Businesses should promote inclusive growth and equitable development
P9: Businesses should engage with and provide value to their consumers in a responsible manner

2. **Details of fines / penalties /punishment/ award/ compounding fees/ settlement amount paid in proceedings (by the entity or by directors / KMPs) with regulators/ law enforcement agencies/ judicial institutions, in the financial year, in the following format (Note: the entity shall make disclosures on the basis of materiality as specified in Regulation 30 of SEBI (Listing Obligations and Disclosure Obligations) Regulations, 2015 and as disclosed on the entity's website):**

Monetary					
	NGRBC Principle	Name of regulatory/ enforcement agencies/ judicial institutions	Amount (In ₹)	Brief of the Case	Has an appeal been preferred? (Yes/No)
Penalty/Fine	0	NIL	0	NIL	NIL
Settlement	0	NIL	0	NIL	NIL
Compounding Fee	0	NIL	0	NIL	NIL

Non-Monetary					
	NGRBC Principle	Name of regulatory/ enforcement agencies/ judicial institutions	Brief of the case	Has an Appeal been preferred (Yes/No)	
Imprisonment	0	0	0	0	0
Punishment	0	0	0	0	0

3. **Of the instances disclosed in Question 2 above, details of the Appeal/ Revision preferred in cases where monetary or non-monetary action has been appealed.**

Case Details	Name of the regulatory/enforcement agencies/Judicial institutions
NIL	NIL

4. **Does the entity have an anti-corruption or anti-bribery policy? If yes, provide details in brief and if available, provide a web-link to the policy.**

   Our Code of Conduct provides guidelines towards anti-corruption and anti-bribery practices. The code of conduct is available at:

   https://www.hindalco.com/upload/pdf/hindalco-code-conduct.pdf

5. **Number of Directors/KMPs/employees/workers against whom disciplinary action was taken by any law enforcement agency for the charges of bribery/ corruption:**

   Nil

6. **Details of complaints with regard to conflict of interest:**

   Nil

7. **Provide details of any corrective action taken or underway on issues related to fines / penalties / action taken by regulators/ law enforcement agencies/ judicial institutions, on cases of corruption and conflicts of interest.**

   None

Leadership Indicators

1. **Awareness programmes conducted for value chain partners on any of the Principles during the financial year:**

Total number of awareness programmes held	Topics / principles covered under the training	%age of value chain partners covered (by value of business done with such partners) under the awareness programmes
The response to this question has been covered in the Supplier Evaluation and Risk Assessment- Social and Relationship Capital Section of the Integrated Annual Report FY 2022-23		

2. **Does the entity have processes in place to avoid/ manage conflict of interests involving members of the Board? (Yes/No) If Yes, provide details of the same.**

   The response to this question has been covered in the Code of conduct of the Board of Directors section of the Integrated Annual Report FY 2022-23.

PRINCIPLE 2: Businesses should provide goods and services in a manner that is sustainable and safe

Essential Indicators

1. **Percentage of R&D and capital expenditure (capex) investments in specific technologies to improve the environmental and social impacts of product and processes to total R&D and capex investments made by the entity, respectively.**

   The response to this question has been covered in the Intellectual Capital section and the Environment Management sub-section of the Natural Capital section of the Integrated Annual Report FY 2022-23.

2. a. **Does the entity have procedures in place for sustainable sourcing? (Yes/No)**

   Yes

   The response to this question has been covered in the Responsible Sourcing sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

   b. **If yes, what percentage of inputs were sourced sustainably?** 100%

3. **Describe the processes in place to safely reclaim your products for reusing, recycling and disposing at the end of life, for (a) Plastics (including packaging) (b) E-waste (c) Hazardous waste and (d) other waste.**

   The response to this question has been covered in the Embedding Circularity and Waste Management sub-section of the Natural Capital section of the Integrated Annual Report FY 2022-23.

4. **Whether Extended Producer Responsibility (EPR) is applicable to the entity's activities (Yes / No). If yes, whether the waste collection plan is in line with the Extended Producer Responsibility (EPR) plan submitted to Pollution Control Boards? If not, provide steps taken to address the same.**

   The response to this question has been covered in the Non-Hazardous Waste in Waste Management sub-section of the Natural Capital section of the Integrated Annual Report FY 2022-23.

Leadership Indicators

1. **Has the entity conducted Life Cycle Perspective / Assessments (LCA) for any of its products (for manufacturing industry) or for its services (for service industry)? If yes, provide details in the following format?**

   The details of our approach towards LCA is reported in the Innovate to improve: Optimising our Processes sub-section of the Intellectual Capital section of the Integrated Annual Report FY 2022-23.

2. **If there are any significant social or environmental concerns and/or risks arising from production or disposal of your products / services, as identified in the Life Cycle Perspective / Assessments (LCA) or through any other means, briefly describe the same along-with action taken to mitigate the same.**

   The details of our approach towards LCA is reported in the Innovate to improve: Optimising our Processes sub-section of the Intellectual Capital section of the Integrated Annual Report FY 2022-23.

3. **Percentage of recycled or reused input material to total material (by value) used in production (for manufacturing industry) or providing services (for service industry).**

   The response to this question has been covered in the Waste Management sub-section of the - Natural Capital section of the Integrated Annual Report FY 2022-23.

4. **Of the products and packaging reclaimed at end of life of products, amount (in metric tonnes) reused, recycled, and safely disposed, as per the following format:**

   The response to this question has been covered in the Waste Management sub-section of Natural Capital section in the Integrated Annual Report FY 2022-23.

5. **Reclaimed products and their packaging materials (as percentage of products sold) for each product category**

   The response to this question has been covered in the Waste Management sub-section of Natural Capital section in the Integrated Annual Report FY 2022-23

PRINCIPLE 3: Businesses should respect and promote the well-being of all employees, including those in their value chain

1. a. **Details of measures for the well-being of employees:**

   The response to this question has been covered in the Employee Wellbeing and Human Rights sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

   b. **Details of measures for the well-being of workers:**

   The response to this question has been covered in the Employee Wellbeing and Human Rights sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

2. **Details of retirement benefits, for Current FY and Previous Financial Year.**

   The response to this question has been covered in the Employee Wellbeing and Human Rights sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

3. **Accessibility of workplaces**

   Are the premises / offices of the entity accessible to differently abled employees and workers, as per the requirements of the Rights of Persons with Disabilities Act, 2016? If not, whether any steps are being taken by the entity in this regard.

   The response to this question has been covered in the Diversity, Equity and Inclusion sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

4. **Does the entity have an equal opportunity policy as per the Rights of Persons with Disabilities Act, 2016? If so, provide a web-link to the policy.**

   The response to this question has been covered in the Human Rights Policy- Code of conduct sub-section of Human Capital section of the Integrated Annual Report FY 2022-23.

5. **Return to work and Retention rates of permanent employees and workers that took parental leave.**

   The response to this question has been covered in the Employee well-being and Human Rights sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

6. **Is there a mechanism available to receive and redress grievances for the following categories of employees and worker? If yes, give details of the mechanism in brief.**

   The response to this question has been covered in the of the Human Rights sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

7. **Membership of employees and worker in association(s) or Unions recognized by the listed entity:**

   The response to this question has been covered in the Human rights sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

8. **Details of training given to employees and workers:**

   The response to this question has been covered in the Human capital development, Safety and Training sub-sections of the Human Capital section of the Integrated Annual Report FY 2022-23.

9. **Details of performance and career development reviews of employees and worker**:

   The response to this question has been covered in the Performance evaluation sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

10. **Health and safety management system:**

    a. **Whether an occupational health and safety management system has been implemented by the entity? (Yes/ No). If yes, the coverage such system.**

    The response to this question has been covered in the Occupational Health and Safety sub-section of Human Capital section of the Integrated Annual Report FY 2022-23.

    b. **What are the processes used to identify work-related hazards and assess risks on a routine and non-routine basis by the entity?**

    The response to this question has been covered in the Hazard Identification and Risk Assessment and Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

    c. **Whether you have processes for workers to report the work-related hazards and to remove themselves from such risks. (Y/N)**

    Yes

    The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

    d. **Do the employees/ worker of the entity have access to non-occupational medical and healthcare services? (Yes/ No)**

    Yes

    The response to this question has been covered in the Occupational Health Services sub-section of the Human Capital Section of the Integrated Annual Report FY 2022-23.

11. Details of safety related incidents, in the following format:

The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

12. Describe the measures taken by the entity to ensure a safe and healthy work place.

The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

13. Number of Complaints on the following made by employees and workers:

The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

14. Assessments for the year:

The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

15. Provide details of any corrective action taken or underway to address safety-related incidents (if any) and on significant risks / concerns arising from assessments of health & safety practices and working conditions.

The response to this question has been covered in the Occupational Health and Safety sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

Leadership Indicators

1. Does the entity extend any life insurance or any compensatory package in the event of death of

(A) Employees: **Yes**

(B) Workers: **Yes**

Life insurance coverage provided. Benefits on case-to-case basis and as per applicable local law

2. Provide the measures undertaken by the entity to ensure that statutory dues have been deducted and deposited by the value chain partners.

The response to this question has been covered in Supplier Assessment Process sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

3. Provide the number of employees / workers having suffered high consequence work-related injury / ill-health / fatalities (as reported in Q11 of Essential Indicators above), who have been rehabilitated and placed in suitable employment or whose family members have been placed in suitable employment:

We provide livelihood assistance on case-to-case basis.

4. Does the entity provide transition assistance programs to facilitate continued employability and the management of career endings resulting from retirement or termination of employment? (~~Yes~~/ No)

Yes.

The response to this question has been covered in the Employee wellbeing sub-section of the Human Capital section of the Integrated Annual Report FY 2022-23.

5. Details on assessment of value chain partners:

The response to this question has been covered in the Supplier Evaluation and Risk Assessment sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

6. Provide details of any corrective actions taken or underway to address significant risks / concerns arising from assessments of health and safety practices and working conditions of value chain partners.

The response to this question has been covered in the Supplier Evaluation and Risk Assessment sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

PRINCIPLE 4: Businesses should respect the interests of and be responsive to all its stakeholders

1. Describe the processes for identifying key stakeholder groups of the entity.

The response to this question has been covered in the Stakeholder Engagement and Materiality Assessment section of the Integrated Annual Report FY 2022-23.

2. List stakeholder groups identified as key for your entity and the frequency of engagement with each stakeholder group

The response to this question has been covered in the Stakeholder Engagement and Materiality Assessment section of the Integrated Annual Report FY 2022-23.

Leadership Indicators

1. Provide the processes for consultation between stakeholders and the Board on economic, environmental, and social topics or if consultation is delegated, how is feedback from such consultations provided to the Board.

The response to this question has been covered in the Stakeholder Engagement and Materiality Assessment section of the Integrated Annual Report FY 2022-23.

2. Whether stakeholder consultation is used to support the identification and management of environmental, and social topics (Yes / No). If so, provide details of instances as to how the inputs received from stakeholders on these topics were incorporated into policies and activities of the entity.

The response to this question has been covered in the Stakeholder Engagement and Materiality Assessment section of the Integrated Annual Report FY 2022-23.

3. Provide details of instances of engagement with, and actions taken to, address the concerns of vulnerable/ marginalized stakeholder groups.

The response to this question has been covered in our CSR Strategy sub-section of the Social and Relationship Capital Section of the Integrated Annual Report FY 2022-23.

PRINCIPLE 5: Businesses should respect and promote human rights

1. **Employees and workers who have been provided training on human rights issues and policy(ies) of the entity, in the following format:**

   The response to this question has been covered in the Learning and Development sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23.

2. **Details of minimum wages paid to employees and workers, in the following format:**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

3. **Details of remuneration/salary/wages, in the following format:**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

4. **Do you have a focal point (Individual/ Committee) responsible for addressing human rights impacts or issues caused or contributed to by the business?**

   Yes, the response to this question has been covered in the Occupational Health and Safety sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

5. **Describe the internal mechanisms in place to redress grievances related to human rights issues.**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

6. **Number of Complaints on the following made by employees and workers:**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

7. **Mechanisms to prevent adverse consequences to the complainant in discrimination and harassment cases**.

   The response to this question is covered under our Prevention of Sexual Harassment at Workplace policy. The link to the policy is attached herewith https://www.hindalco.com/upload/pdf/hindalco-posh-policy.pdf

8. **Do human rights requirements form part of your business agreements and contracts?**

   Yes, The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

9. **Assessments for the year:**

   100%, The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

10. **Provide details of any corrective actions taken or underway to address significant risks / concerns arising from the assessments at Question 9 above**.

    The response to this question has been covered in the Human Rights sub-section of Human Capital section of the Integrated Annual Report FY 2022-23

Leadership Indicators

1. **Details of a business process being modified / introduced as a result of addressing human rights grievances/complaints.**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

2. **Details of the scope and coverage of any Human rights due-diligence conducted.**

   The response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

3. **Is the premise/office of the entity accessible to differently abled visitors, as per the requirements of the Rights of Persons with Disabilities Act, 2016?**

   Yes, the response to this question has been covered in the Human Rights sub-section of Human Capital Section of the Integrated Annual Report FY 2022-23

4. **Details on assessment of value chain partners:**

   The response to this question has been covered in the Supplier Assessment Process and Supplier Evaluation and Risk Assessment sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23

5. **Provide details of any corrective actions taken or underway to address significant risks / concerns arising from the assessments at Question 4 above.**

   The response to this question has been covered in the Supplier Assessment Process and Supplier Evaluation and Risk Assessment sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23

PRINCIPLE 6: Businesses should respect and make efforts to protect and restore the environment

Essential Indicators

1. **Details of total energy consumption (in Joules or multiples) and energy intensity, in the following format:**

   The response to this question has been covered in the Energy Management sub-section of Natural Capital Section of the Integrated Annual Report FY 2022-23.

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23

2. **Does the entity have any sites / facilities identified as designated consumers (DCs) under the Performance, Achieve and Trade (PAT) Scheme of the Government of India? (Y/N) If yes, disclose whether targets set under the PAT scheme have been achieved. In case targets have not been achieved, provide the remedial action taken, if any.**

   The response to this question has been covered in the Energy Management sub-section of Natural Capital Section of the Integrated Annual Report FY 2022-23.

3. **Provide details of the following disclosures related to water, in the following format:**

   The response to this question has been covered in the Water Management sub-section of Natural Capital Section of the Integrated Annual Report FY 2022-23.

Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23.

4. **Has the entity implemented a mechanism for Zero Liquid Discharge? If yes, provide details of its coverage and implementation.**

   The response to this question has been covered in the Water Management sub-section of Natural Capital Section of the Integrated Annual Report FY 2022-23.

5. **Please provide details of air emissions (other than GHG emissions) by the entity, in the following format:**

   The response to this question has been covered in the Emissions Management sub-section of Natural Capital Section of the Integrated Annual Report FY 2022-23.

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23.

6. **Provide details of greenhouse gas emissions (Scope 1 and Scope 2 emissions) & its intensity, in the following format:**

   The response to this question has been covered in the Emissions Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23.

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23

7. **Does the entity have any project related to reducing Green House Gas emission? If Yes, then provide details.**

   The response to this question has been covered in the Emissions Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23.

8. **Provide details related to waste management by the entity, in the following format:**

   The response to this question has been covered in the Natural Capital section of the Integrated Annual Report FY 2022-23.

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23

9. **Briefly describe the waste management practices adopted in your establishments. Describe the strategy adopted by your company to reduce usage of hazardous and toxic chemicals in your products and processes and the practices adopted to manage such wastes.**

   The response to this question has been covered in the Waste Management sub-section of the Natural Capital section of the Integrated Annual Report FY 2022-23.

10. **If the entity has operations/offices in/around ecologically sensitive areas (such as national parks, wildlife sanctuaries, biosphere reserves, wetlands, biodiversity hotspots, forests, coastal regulation zones etc.) where environmental approvals / clearances are required, please specify details in the following format:**

    The response to this question has been covered in the Environmental Management sub-section of the Natural Capital section of the Integrated Annual Report FY 2022-23.

11. **Details of environmental impact assessments of projects undertaken by the entity based on applicable laws, in the current financial year:**

Name and brief details of project	EIA Notification No.	Date	Whether conducted by independent external agency (Yes / No)	Results communicated in public domain (Yes / No)	Relevant Web link
NIL	NIL	NIL	NIL	NIL	NIL

12. **Is the entity compliant with the applicable environmental law/ regulations/ guidelines in India; such as the Water (Prevention and Control of Pollution) Act, Air (Prevention and Control of Pollution) Act, Environment protection act and rules thereunder (Y/N). If not, provide details of all such non-compliances, in the following format:**

    The response to this question has been covered in our Environment Management sub-section of the Natural Capital section in the Integrated Report. The link for the policy is attached herewith https://www.hindalco.com/upload/pdf/hindalco-environment-policy.pdf

Leadership Indicators

1. **Provide break-up of the total energy consumed (in Joules or multiples) from renewable and non-renewable sources, in the following format:**

   The response to this question has been covered in the Energy Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23.

2. **Provide the following details related to water discharged.**

   The response to this question has been covered in the Water Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23

   Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

   Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23.

3. **Water withdrawal, consumption and discharge in areas of water stress (in kilolitres):**

   The response to this question has been covered in the Water Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23

Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23

4. **Please provide details of total Scope 3 emissions & its intensity, in the following format**:

The response to this question has been covered in the Emissions Management sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23

Note: Indicate if any independent assessment/ evaluation/assurance has been carried out by an external agency? (Y/N) If yes, name of the external agency.

Yes, Ernst and Young Associates LLP was engaged by the Company to provide an independent assurance for FY 2022-23.

5. **With respect to the ecologically sensitive areas reported at Question 10 of Essential Indicators above, provide details of significant direct & indirect impact of the entity on biodiversity in such areas along-with prevention and remediation activities.**

The response to this question has been covered in the Sustainable Mining & Conserving and Preserving Biodiversity sub-section of Natural Capital section of the Integrated Annual Report FY 2022-23

6. **If the entity has undertaken any specific initiatives or used innovative technology or solutions to improve resource efficiency, or reduce impact due to emissions / effluent discharge / waste generated, please provide details of the same as well as outcome of such initiatives, as per the following format:**

The response to this question has been covered in the Natural Capital section of the Integrated Annual Report FY 2022-23.

7. **Does the entity have a business continuity and disaster management plan? Give details in 100 words/ web link.**

The response to this question has been covered in the Risks and Opportunities section of the Integrated Annual Report FY 2022-23.

8. **Disclose any significant adverse impact to the environment, arising from the value chain of the entity. What mitigation or adaptation measures have been taken by the entity in this regard.**

The response to this question has been covered in the Supplier Assessment Process sub-section of Social and Relationship Capital Section of the Integrated Annual Report FY 2022-23.

9. **Percentage of value chain partners (by value of business done with such partners) that were assessed for environmental impacts.**

The response to this question has been covered in the Supplier Assessment Process sub-section of Social and Relationship Capital Section of the Integrated Annual Report FY 2022-23.

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PRINCIPLE 7: Businesses, when engaging in influencing public and regulatory policy, should do so in a manner that is responsible and transparent

1. a. **Number of affiliations with trade and industry chambers/ associations.**

   b. **List the top 10 trade and industry chambers/ associations (determined based on the total members of such body) the entity is a member of/ affiliated to.**

   The response to this question has been covered in the Our key associations sub-section in the Social & Relationship Capital section of the Integrated Annual Report FY 2022-23.

2. **Provide details of corrective action taken or underway on any issues related to anti-competitive conduct by the entity, based on adverse orders from regulatory authorities**

None. The response to this question has been covered in the Policy Advocacy sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

Leadership Indicators

1. **Details of public policy positions advocated by the entity:**

The response to this question has been covered in the Policy Advocacy sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

PRINCIPLE 8: Businesses should promote inclusive growth and equitable development

Essential Indicators

1. **Details of Social Impact Assessments (SIA) of projects undertaken by the entity based on applicable laws, in the current financial year.**

The response to this question has been covered in the Investing in our Communities sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

2. **Provide information on project(s) for which ongoing Rehabilitation and Resettlement (R&R) is being undertaken by your entity, in the following format:**

Name of project for which R&R in ongoing	State	District	No. of Project Affected Families (PAF)	% of PAFs covered by R&R	Amounts No. paid to PAFs in the FY (in ₹)
The response to this question has been covered in the Investing in our Communities sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.					

3. **Describe the mechanisms to receive and redress grievances of the community.**

The response to this question has been covered in the Community Grievance Mechanism sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

4. **Percentage of input material (inputs to total inputs by value) sourced from suppliers:**

The response to this question has been covered in the Responsible Sourcing sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

Leadership Indicators

1. **Provide details of actions taken to mitigate any negative social impacts identified in the Social Impact Assessments (Reference: Question 1 of Essential Indicators above)**:

NIL

2. **Provide the following information on CSR projects undertaken by your entity in designated aspirational districts as identified by government bodies:**

The response to this question has been covered in the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

3. (a) **Do you have a preferential procurement policy where you give preference to purchase from suppliers comprising marginalized /vulnerable groups? (Yes/No)**

   No

   (b) **From which marginalized /vulnerable groups do you procure?**

   NA

   (c) **What percentage of total procurement (by value) does it constitute?**

   NA

4. **Details of the benefits derived and shared from the intellectual properties owned or acquired by your entity (in the current financial year), based on traditional knowledge:**

S. No.	Intellectual Property based on traditional knowledge	Owned/Acquired (Yes/No)	Benefit shared (Yes / No)	Basis of calculating benefit share
NA				

5. **Details of corrective actions taken or underway, based on any adverse order in intellectual property related disputes wherein usage of traditional knowledge is involved.**

Name of authority	Brief of the Case	Corrective action taken
NA		

6. **Details of beneficiaries of CSR Projects**
   The response to this question has been covered in the Investing in the Communities sub-section of the Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

PRINCIPLE 9: Businesses should engage with and provide value to their consumers in a responsible manner

Essential Indicators

1. **Describe the mechanisms in place to receive and respond to consumer complaints and feedback**

   The response to this question has been covered in the Customer Satisfaction sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

2. **Turnover of products and/ services as a percentage of turnover from all products/service that carry information about**

	As a percentage to total turnover
Environmental and social parameters relevant to the product	NA
Safe and responsible usage	Recycling and/or safe disposal

3. **Number of consumer complaints in respect of the following:**

   NA

4. **Details of instances of product recalls on account of safety issues:**

	Number	Reasons for recall
Voluntary recalls	NA	NA
Forced recalls	NA	NA

5. **Does the entity have a framework/ policy on cyber security and risks related to data privacy? (Yes/No) If available, provide a web-link of the policy**

   We have an Information Security Policy

   Weblink: hindalco.com/upload/pdf/information-security-policy.pdf

6. **Provide details of any corrective actions taken or underway on issues relating to advertising, and delivery of essential services; cyber security and data privacy of customers; re-occurrence of instances of product recalls; penalty / action taken by regulatory authorities on safety of products / services.**

   NIL

Leadership Indicators

1. **Channels / platforms where information on products and services of the entity can be accessed (provide web link, if available).**

   https://www.hindalco.com/

2. **Steps taken to inform and educate consumers about safe and responsible usage of products and/or services.**

   NA

3. **Mechanisms in place to inform consumers of any risk of disruption/discontinuation of essential services.**

   NA

4. **Does the entity display product information on the product over and above what is mandated as per local laws? (Yes/No/ Not Applicable) If yes, provide details in brief.**

   The response to this question has been covered in the Customer Satisfaction sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

   Did your entity carry out any survey with regard to consumer satisfaction relating to the major products / services of the entity, significant locations of operation of the entity or the entity as a whole? (Yes/No)

   The response to this question has been covered in the Customer Satisfaction sub-section of Social and Relationship Capital section of the Integrated Annual Report FY 2022-23.

5. **Provide the following information relating to data breaches:**

   a. **Number of instances of data breaches along-with impact**

      The response to this question has been covered in the Innovate to Excel sub-section of Intellectual Capital section of the Integrated Annual Report FY 2022-23.

   b. **Percentage of data breaches involving personally identifiable information of customers**

      NIL.

Corporate Governance Report

Governance philosophy

Governance philosophy

Aditya Birla Group ("Group") is committed towards the adoption of the best Corporate Governance practices and its adherence in true spirit, at all times.

As a part of the Group, at Hindalco Industries Limited ("Your Company/Hindalco") we feel proud to belong to a Group whose visionary founders laid the foundation stone for good governance and sustainable businesses long back and made it an integral principle of the business.

Board statement

By the Board of Directors ("Board")

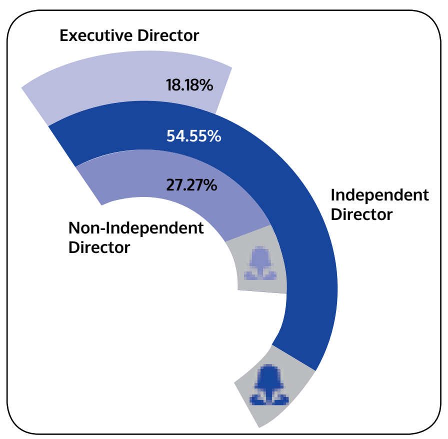
Hindalco has delivered resilient financial and operational consolidated performance in FY 2022-23, in a challenging business environment. Our strong leadership position across key businesses has come on the back of bold but calibrated long-term bets. Given the inherent strengths of your Company, we are on a path to advance from manufacturing company to a manufacturing solutions provider by moving further down the value chain.

Focus of the Board

Priorities and delivery of the Board

The focus of the Board in FY 2022-23 has been to drive the Company's vision for *Sustainability-* with strong commitment towards achieving carbon neutrality, water positivity, no net loss on biodiversity and zero waste to landfill by 2050 and *Safety-* to ensure a completely safe environment for our employees and workers. The Board has been highly engaged in supporting the Leadership Team and wider management in these objective. In the meetings, the Board reviewed and discussed the direction and strategies for organic expansions downstream investments and overall strategies in respect of financial plan, research and development, and sustainability. In addition, the Board was also pleased to be able to go digital for its meetings in line with the Sustainability vision.

The purpose of this Report is to update you on developments within Hindalco's corporate governance in the last year. We explain how we, have taken decisions, underlined by high corporate governance standards.



Board composition:

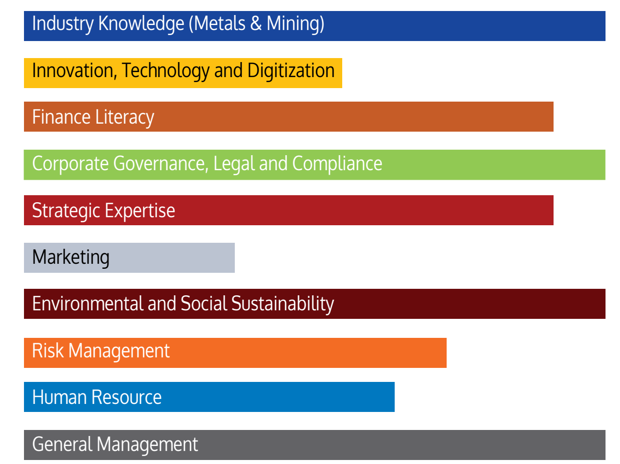
The Board is at the core of the corporate governance system of the Company. The Board is committed towards compliance of sound principles of corporate governance and plays a crucial role in overseeing how the management serves the short and long-term interests of the members and other stakeholders. The Board worked collaboratively, provided support and guidance and constructively challenged the management when necessary.

Your Company's Board comprises of 11 Directors as on March 31, 2023, with considerable experience in their respective fields. Of these, 6 Directors are Independent (includes 1 woman director), 3 Directors are Non-Executive and 2 Directors are Executive Directors.

None of the Directors on the Board is a Member of more than 10 Committees or a Chairman of more than 5 Committees (as specified in Regulation 26 of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 "Listing Regulations" across all the Companies in which they hold Directorships. Further, none of the Non-Executive Directors serve as Independent Directors in more than 7 listed companies and none of the Executive or Whole-time Directors serve as Independent Directors on any listed Company. The same is within permissible limits as provided by the Companies Act, 2013 and Listing Regulations. Brief profile of the Board of Directors of the Company is provided separately in the 'Corporate Overview' Section of this Integrated Annual Report.

Diversity, Skills and Experience:

The current Board have Directors with diverse range of skills, experience and attributes. Your Company recognises the benefit of having a diverse board. An extract of the skills matrix showing the selection of current skills and experience of Directors is shown below:



Detailed profile of Directors along with skills/expertise / competencies as required under Schedule V of Listing Regulations is provided separately in Corporate Overview Section of Annual Report.

Board induction, training and Familiarisation:

In terms of the provisions of Regulation 25 of the Listing Regulations, your Company has framed a Familiarisation Programme for Independent Directors of the Company, structured into two parts i.e. 'Induction' and 'Ongoing interaction'. This Programme aims to provide insights into the business of the Company, to enable the Independent Directors to understand their roles, rights, responsibilities in the Company, nature of the industry in which the Company operates, its business in depth and contribute significantly to the Company.

By way of an introduction/ induction to the Company, presentations are also made to the newly appointed Independent Director (including Non-Executive Directors) on relevant information such as overview of the Company's business, offerings, market and business environment, growth and performance, organisational set up of the Company, governance and internal control processes.

Further, on an ongoing basis as a part of the agenda of meetings of the Board/ Committee(s), presentations are regularly made to the Independent Directors on various matters inter alia covering the Company's businesses and operations, strategy, risk management framework, industry and regulatory updates and other relevant matters. These presentations enable one-on-one interaction between the Independent Directors and the senior management of the Company/ statutory auditor/ internal auditor of the Company. The details of the 'Familiarisation Programmes for Independent Directors' are also available on www.hindalco.com

Board Evaluation:

The Board carries out annual performance evaluation of its own performance, the Directors individually, as well as the evaluation of the working of its Committees as mandated under the Act and the Listing Regulations. The performance evaluation of Non-Independent Directors and the Board as a whole is carried out by the Independent Directors. The performance of the Chairman of the Board is also reviewed, taking into account the views of the Executive, Non-Executive and Independent Directors. The evaluation is based on criteria which includes, among others, attendance and preparedness for the meetings, participation in deliberations, understanding your Company's business and that of the industry and guiding your Company in decisions affecting the business and additionally based on the roles and responsibilities as specified in Schedule IV of the Act.

Structured questionnaires are circulated to the Directors for providing feedback on functioning of the Board, Committees and the Chairman of the Board. Based on the inputs received, action plans are drawn up in consultation with the Directors to encourage greater participation and deliberations at the meetings and bringing to the table their experience and guidance in further improving the performance of your Company.

A brief summary of the evaluation exercise:

The Board as a whole functions cohesively. The Committees function well in their respective areas, and the recommendations of the Committees are considered and have been accepted by the Board. The Directors bring to the table their knowledge and experience. Independent Directors are rated high in understanding your Company's business and expressing their views freely during deliberations. The Non-Executive Directors score well in all aspects. Executive Directors are action-oriented and good in implementing Board decisions. The Chairman leads the Board effectively and encourages active participation and contribution from all the Board members.

Meetings: Board & Shareholders

Director	AGM on Aug 23, 2022	Board Attendance[1] – No. of Board Meetings: 1 May 26, 2022	2 Jul 22, 2022	3 Aug 10, 2022	4 Nov 11, 2022	5 Feb 9, 2023	Held during the tenure	Attended	%
Mr. Kumar Mangalam Birla	👤	*	*	👤	👤	👤	5	3	60
Mrs. Rajashree Birla	👤	👤	👤	👤	*	👤	5	4	80
Ms. Alka Bharucha	👤	👤	👤	*	👤	👤	5	4	80
Mr. Anant Maheshwari	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Askaran Agarwala	👤	👤	👤	👤	👤	*	5	4	80
Mr. Kailash Nath Bhandari	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Praveen Kumar Maheshwari	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Satish Pai	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Sudhir Mital	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Vikas Balia	👤	👤	👤	👤	👤	👤	5	5	100
Mr. Yazdi Dandiwala	👤	👤	👤	👤	👤	👤	5	5	100
% of attendance	100	91	91	91	91	91			

* Leave of absence

[1] Attendance of the Board is in Compliance with the requirements of the Companies Act, 2013.

Information provided to the Board/Committees:

Following information is provided to the Board (including Committees thereof), adequately in advance, of its Meetings/ consideration (in case of Circular Resolutions), as per regulatory timelines, to enable them to take well informed decisions:

a) The notice and detailed agenda along with relevant explanatory notes;

b) Material information, to the extent applicable and relevant, as prescribed under:

- The Companies Act, 2013;
- Secretarial Standard - 1 on Meetings of the Board of Directors ("SS-1");
- Securities and Exchange Board of India ("SEBI") Laws, more particularly, the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015 ('Listing Regulations'), Issue of Capital and Disclosure Requirements, Prohibition of Insider Trading Regulations and SEBI Circulars issued, from time to time and
- Other applicable laws.

c) Presentations on various functional and operational areas of the Company and other business development activities as well as on major projects, financial highlights, etc.

Any information which involves unpublished price sensitive information and in exceptional cases, certain additional matters are tabled at the meeting with the approval of the Chairman and the Board, more particularly the Independent Directors. An approval from the Board for circulating such information at a shorter notice is obtained every year, in terms of SS-1.

Mode:

The Board meets at regular intervals as per the pre-scheduled Calendar to discuss and decide on strategies, policies and reviews the financial performance of the Company, in person or through the Video-conferencing facility (to enable the directors travelling abroad or present at other locations to be able participate in the meetings). Such meetings, if conducted physically, are convened generally at the Registered Office/ Corporate office of the Company / Group.

Key Decisions of the Board in FY 23:

(i) Strategy and Business plan:

In line with the growth strategy of organic expansions, the Board focused on the review of investments in downstream value-added products and capex which is to be spread over next five years in the businesses of Aluminium, Copper, Specialty Alumina and Resource Securitisation through new commercial coal mines between FY23 and FY28.

(ii) Sustainability:

As per Hindalco's roadmap to achieve net carbon neutrality by 2050, the Company has already installed 100 MW of renewable energy capacity, with plans to scale it up to 300 MW by 2025.

(iii) Financial Decisions:

The Board reviewed the Capital allocation policy, wherein till FY 2021-22, the capital allocation policy framework stated that 75% of operating cash flow be spent for capex; around 15% be reserved for debt reduction. The balance was to be distributed to the shareholders. The Board noted that given the comfortable debt position, internal accruals would be deployed towards the next phase of organic growth. As a result, our capital allocation would be majorly used for growth capex and dividend distribution to shareholders.

In line with the same, in FY 2022-23, the board has recommended a healthy dividend of ₹ 3 per equity share (i.e. 300% of the face value of ₹ 1 each) subject to the approval of shareholders of the Company.

Directorship and Shareholding of Directors as on March 31, 2023

Category	Name of the Director	At Hindalco: Tenure (in ~ yrs)	At Hindalco: Shareholding	In other companies: Directorships Total[1]	Directorships in listed entities	Committees[2]
Non-Independent Non-Executive Promoter	Mr. Kumar Mangalam Birla [4]	30.4	9,01,635	7	As NED [3] 1. Aditya Birla Capital Limited 2. Century Textiles and Industries Limited 3. Grasim Industries Limited 4. UltraTech Cement Limited 5. Aditya Birla Fashion & Retail Limited 6. Aditya Birla Sun LifeAMC Limited	-
Non-Independent Non-Executive	Mrs. Rajashree Birla [4]	27	6,12,470	5	As NED [3] 1. Grasim Industries Limited 2. UltraTech Cement Limited 3. Pilani Investment and Industries Corporation Limited 4. Century Textiles and Industries Limited 5. Century Enka Limited	-
	Mr. Askaran Agarwala	24.6	97,648	2	-	-

Category	Name of the Director	At Hindalco		In other companies		
		Tenure (in ~ yrs)	Shareholding	Total[1]	Directorships In listed entities	Committees[2]
Independent Non-Executive	Mr. Kailash Nath Bhandari	8.7	5,071	7	As ID [3]	6M (Including 1C)
					1. Saurashtra Cement Limited	
					2. Shrishti Infrastructure Development Corporation Limited	
					3. Venus Pipes & Tubes Limited	
	Mr. Yazdi Dandiwala	7.7	267	5	As ID [3]	5M (Including 1C)
					1. Century Textiles and Industries Limited;	
					2. Grasim Industries Limited;	
					3. Pilani Investment and Industries Corporation Limited	
	Ms. Alka Bharucha	4.8	-	8	As ID [3]	10M (Including 4C)
					1. UltraTech Cement Limited	
					2. Orient Electric Limited	
					3. Honda India Power Products Limited	
					4. Birlasoft Limited	
					5. Aditya Birla Sun Life AMC Limited	
	Dr. Vikas Balia	3.8	325	2	-	3 M (Including 2C)
	Mr. Sudhir Mital	3.4	-	2	As ID [3]	-
					1. Jaiprakash Power Ventures Limited	
					2. Welspun Enterprises Limited	
	Mr. Anant Maheshwari	2.7	-	-	-	-
Executive	Mr. Satish Pai	9.7	10,33,767	-	-	-
	Mr. Praveen Kumar Maheshwari	6.10	-	1	-	-

(1) *Computed basis directorships in all public limited companies (including deemed public company), whether listed or not; and excludes this Company, foreign companies, private limited companies and Section 8 companies.*

(2) *in Audit Committee & Stakeholders Relationship Committee of other public limited companies (including deemed public).*

(3) *NED: Non-Executive Director; ID: Independent Director; M: Member; C: Chairperson*

(4) *No Director is related to any other Director on the Board, except Mr. Kumar Mangalam Birla and Mrs. Rajashree Birla, who are son and mother respectively and are part of promoter and promoter group.*

(5) *The average tenure of the Board is 11.70 years.*

Basis the disclosures received from the Directors as on March 31, 2023, it is confirmed that none of the directors:

(a) is on the Board of more than:

i. 20 (twenty) companies;

ii. 10 (ten) public limited companies;

iii. 7 (seven) listed entities;

(b) is a member in more than 10 (ten) Audit and/or Stakeholders Relationship Committees, across all public limited companies (including deemed public);

(c) is a Chairperson of more than 5 (five) Audit and/or Stakeholders Relationship Committees across all public limited companies (including deemed public) and have any inter-se relationship with the Board members.

Appointment, Tenure and Remuneration

All the Directors of the Company are appointed/re-appointed by the Shareholders on the basis of recommendations of the Nomination and Remuneration Committee and Board. The Director/(s) are appointed individually. Details of Directors seeking re-appointment at the ensuing Annual General Meeting "AGM" is provided in the Notice of AGM.

Executive Directors:

The Executive Directors on the Board have been appointed as per the provisions of the Act and serve in accordance with the terms of their contract of service with the Company. Either party may terminate their employment by giving three months' notice.

Non-Executive Directors (other than Independent Directors):

As per the Articles of Association of the Company, at least two-third of the Board members shall be retiring Directors, excluding Independent Directors. One-third of such Directors are required to retire every year and if eligible, the retiring Directors qualify for re-appointment.

Independent Directors:

As trustees of shareholders, Independent Directors play a pivotal role in upholding corporate governance norms and ensuring fairness in decision-making. Being experts in various fields, they also bring independent judgement on matters of strategy, risk management, controls and business performance.

All Independent Directors on the Board are Non-Executive Directors as defined under Regulation 16 of the Listing Regulations. Independent Directors hold office for upto two terms of five years each. As regards the appointment and tenure of the Independent Directors, the Company has complied with the provisions of the Act and the Listing Regulations. All the Independent Directors have confirmed that they meet the criteria of independence as mentioned under Section 149(6) of the Act and Regulation 16 of the Listing Regulations.

Further, in opinion of the Board, the Independent Directors fulfil the conditions specified in Regulation 16 and 25 of the SEBI Listing Regulations and are independent of the management.

The Independent Directors on the Board of your Company are experienced, competent and highly respected individuals in their respective fields, which brings an ideal mixture of expertise, professionalism, knowledge and experience to the table.

- Databank Registration:

  Further, pursuant to a notification dated October 22, 2019 issued by the Ministry of Corporate Affairs, all Independent Directors have completed the registration with the Independent Directors Databank. Requisite disclosures have been received from the Independent Directors in this regard.

- Separate Meeting of Independent Directors:

  Pursuant to Schedule IV of the Act and Regulation 25 of the SEBI Listing Regulations, the Independent Directors met once during the year i.e. on May 13, 2022, without the presence of Non-Independent Directors, Executive Directors or management representatives. The Independent Directors inter alia discussed the performance of the Board, Non-Independent Directors and the management of the Company and assessed the quality, quantity and timeliness of flow of necessary information between the management and the Board, required for the Board to effectively and reasonably perform its duties.

- Evaluation criteria for Independent Directors

  The performance of the Independent Directors of the Company is evaluated on the criteria more particularly as to how an Independent Director:

  i. invests time in understanding the Company and its unique requirements;

  ii. brings in external knowledge and perspective to the table for discussions at the meetings;

  iii. expresses his/her views on the issues discussed at the Board and

  iv. keeps himself/herself current on areas and issues that are likely to be discussed at the Board level.

Pursuant to the amendment in the SEBI Listing Regulations, in addition to the above criteria the evaluation criteria for Independent Directors also include fulfilment of the independence criteria as specified in Section 149(6) of the Act and Regulation 16(1)(b) of the SEBI Listing Regulations and their independence from the management.

Remuneration philosophy:

Your Company's executive remuneration philosophy supports the design of programs that align executive rewards – including incentive programs, retirement benefit programs, promotion and advancement opportunities, with the long-term success of your Company's stakeholders.

The executive remuneration policy is designed to attract, retain, and reward talented executives who contribute to your Company's long-term success and thereby build value for stakeholders. It is intended to provide for monetary and non-monetary remuneration elements on a holistic basis;

emphasise “pay for performance” by aligning incentives with business strategies to reward executives who achieve or exceed business and individual goals. Your Company does not pay any severance pay to its directors.

Executive pay practices and levels are dynamically tracked and aligned with peer companies in similar industries, geographies, size and function. Your Company aims to provide competitive remuneration opportunities to its executives by positioning target total remuneration (including perks and benefits, annual incentive pay-outs, long term incentive payouts at target performance) and target total cash compensation (including annual incentive pay-outs) at target performance directionally between median and top quartile of the primary talent market. It recognises the size and scope of the role and the market standing, skills and experience of incumbents while positioning its executives. Your Company uses secondary market data only as a reference point for determining the types and amount of remuneration while principally believing that target total remuneration packages should reflect the typical cost of comparable executive talent available in the sector.

Components of Remuneration:

The remuneration involves a balance between fixed and incentive pay, reflecting short and long-term performance objectives appropriate to the working of your Company and its goals. A material proportion of compensation for senior management is performance based - 25% to 40% of compensation. It increases as the employee grows in the organisation and takes up roles of higher responsibility. The more senior the role, the weightage of business performance on the variable pay also increases in comparison to unit performance and individual performance. This ensures a competitive pay-mix which aims to strike the appropriate balance between key components: (i) Fixed Cash compensation (Basic Salary + Allowances) (ii) Annual Incentive Plan (iii) Long-Term Incentives (iv) Perks and Benefits.

Annual incentive plan pay-outs of executives is linked to relevant financial and operational metrics achievement and their individual performance. Financial and operational metrics are annually aligned with priorities / focus areas for the business. Long-term incentive plans incentivise stretch performance, link executive remuneration to sustained long term growth and act as a retention and reward tool. Stock options are used as the primary long-term incentive vehicles as your Company believes that they best align executive incentives with stakeholder interests. Your Company also grants restricted stock units as a secondary long term incentive vehicle, to motivate and retain its executives. The ratio of stock options and restricted stock units is generally 75:25.

Your Company has integrated climate change and sustainability targets in the key responsibility areas (“KRAs”) of the managing director and senior management. Thus, emission reduction targets and other improvement targets related to climate change are also linked with the incentives provided.

a. Executive Directors:

The Nomination & Remuneration Committee (“NRC”) while recommending to the Board the remuneration of Executive Directors, considers the performance of the business, individual performance, practices followed in other similar sized companies, among others, while also ensuring that the remuneration is in compliance with the terms and conditions of appointment as approved by the Members. All decisions relating to the remuneration of Executive Directors is taken by the Board based on the remuneration policy and in terms of the resolution passed by the Members of your Company.

b. Non-Executive Directors

Based on the recommendation of the NRC, all decisions relating to remuneration of Directors are taken by your Company’s Board in accordance with the shareholder’s approval, wherever necessary.

Sitting fees are paid as under:

- Board: ₹ 50,000 per meeting.
- Audit Committee: ₹ 25,000 per meeting.
- Other Committees: ₹ 20,000 per meeting.

There were no pecuniary relationships or transactions between your company and non-executive directors during the year.

In addition to the sitting fees, your Company also pays commission to the Non-Executive Independent Directors of an amount not exceeding 1% per annum of the net profit of your Company. The amount of commission payable is determined after assigning weightage to various factors, which, inter alia, include providing strategic perspective, Chairmanship and contributions made by the Directors, type of meeting and responsibilities under various statutes, performance evaluation, etc. Based on the performance evaluation of each Director and the remuneration policy, the Board has recommended an amount of ₹ 6 crore as commission to be paid to the Non-Executive Directors for the financial year 2022-23.

- **Remuneration of Non-Executive & Executive Directors for the Financial Year 2022-23**

(₹ in lakhs)

	Designation(1)	Salary/ Remuneration	Commission	Sitting fees
Mr. Anant Maheshwari	ID	-	28.40	2.50
Ms. Alka Bharucha	ID	-	36.80	2.50
Mr. Askaran Agarwala	NED	-	37.63	4.80
Mr. Kumar Mangalam Birla(3)	Chairman and NED	-	Nil	2.10
Mr. Kailash Nath Bhandari	ID	-	72.18	6.85
Mrs. Rajashree Birla	NED	-	288.60	2.20
Mr. Sudhir Mital	ID	-	28.40	2.50
Dr. Vikas Balia	ID	-	47.98	4.25
Mr. Yazdi Dandiwala	ID	-	60.01	5.85
Mr. Satish Pai	Managing Director	3713.03(2)	-	-
Mr. Praveen Kumar Maheshwari	Whole-Time Director & Chief Financial Officer	775.53	-	-

1. NED: Non-Executive Director; ID – Independent Director
2. Excludes perquisites towards exercise of ESOPs during the year.
3. Mr. Kumar Mangalam Birla assumed the role of Executive Chairman of Aditya Birla Management Corporation Private Limited, with effect from January 01, 2019 accordingly he would not like to receive any commission from the Company

ESOP/RSU to the Directors:

Director	2022-2023				2021-2022			
	Stock Option		RSU		Stock Option		RSU	
	Granted	Exercised	Granted	Exercised	Granted	Exercised	Granted	Exercised
Mr. Satish Pai	11,71,875	-	166,063	3,11,203	9,86,841	7,22,186	1,37,969	Nil
							1,65,562	Nil
Mr. Praveen Kumar Maheshwari	70,755		10,000		40,323	Nil	5,655	Nil
							11,312	Nil

Further, requisite disclosure with respect to the details of fixed component and performance linked incentive, in terms of the Listing Regulations and Schedule V of the Act, have been made in the Annual return in Form no. MGT- 7 disclosed on www.hindalco.com.

D&O Insurance for Directors:

In line with the requirements of Regulation 24(10) of the Listing Regulations, your Company has a Directors and Officers Insurance policy (“D&O”) for all its Directors and members of the senior management for such quantum and for such risks as determined by the Board.

Succession Planning:

Your Company has an effective mechanism for succession planning which focuses on orderly succession of Board and senior management team. The NRC Committee implements this mechanism in concurrence with the Board. In addition, promoting senior management within the organisation fuels the ambitions of the talent force to earn future leadership roles

Subsidiary governance:

Hindalco governance philosophy extends across the subsidiaries of the Company. All subsidiary boards and their respective businesses have in place effective governance arrangements with regard to the businesses’ nature, size, locations and the sectors in which they operate. The Audit Committee and Board of Directors reviews the financial statement and investments made, if any, on and also the annual financial statements of subsidiaries and associate which are duly consolidated with annual financial statements of the Company. The Board of Directors of the Company also reviews minutes of the Board Meetings of all subsidiaries. Details of the Subsidiaries and Associate Companies forms part of the Directors Report.

The Board Committees

Audit Committee:

Composition of the Committee:

The Audit Committee Comprises of three Independent Directors: -

Mr. Kailash Nath Bhandari	Chairman
Mr. Yazdi Dandiwala	Member
Dr. Vikas Balia	Member

Role of the Committee:

The Committee is governed by a Charter, which is in line with Section 177 of the Act and Regulation 18 read with Part C of Schedule II of the SEBI Listing Regulations. The scope, functions and overall responsibility of the Audit Committee is to supervise the Company's internal controls and financial reporting process. The brief description of the terms of reference is available on the website of the Company i.e. www.hindalco.com.

Composition & Attendance

100%Independence	3 Members	7 Meetings	100% Attendance

Members	Meeting details							%
	1	2	3	4	5	6	7	
	Apr 8, 2022	May 26, 2022	Jul 22, 2022	Aug 10, 2022	Oct 10, 2022	Nov 11, 2022	Feb 9, 2023	
Mr. Kailash Nath Bhandari	👤	👤	👤	👤	👤	👤	👤	100
Mr. Yazdi Dandiwala	👤	👤	👤	👤	👤	👤	👤	100
Dr. Vikas Balia	👤	👤	👤	👤	👤	👤	👤	100
% attendance	100	100	100	100	100	100	100	
Permanent Invitee:-								
Mr. Satish Pai	Managing Director							
Mr. Praveen Kumar Maheshwari	Whole-Time Director & Chief Financial Officer							
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee							
Ms. Geetika Anand[2]								

* Leave of absence
1. Until November 30, 2022;
2. w.e.f. December 01, 2022;
3. Representatives of the Statutory Auditors and Internal Auditors are also invited to the Committee meetings for providing such information as may be necessary;
4. Company has provided an avenue to the Statutory Auditors to have a separate discussion with the Chairperson and members of the Audit Committee without the presence of executives, prior to declaration of the financial results, whenever requested.

Committee Governance:

The Committee keeps the Board informed and advises on matters concerning the financial reporting requirements to ensure that the Board has exercised oversight of the work carried out by management, Internal Auditor and the external auditor. Committee meetings for Internal Audit usually take place a couple of days before Board meetings to allow the Committee to report its findings and recommendations in a timely and orderly manner.

The Board also receives copies of the Committee minutes. The Managing Director, Chief Financial Officer, Financial Controller, Head of Internal Audit and other members of senior management routinely attend meetings of the Audit Committee. The Company Secretary met with the Chair to ensure the Committee fulfilled its governance responsibilities, and to consider input for finalising meeting agendas, tracking progress on actions and Committee priorities.

Nomination & Remuneration Committee:

Composition of the Committee:

The Nomination and Remuneration Committee"NRC" comprises of the following members: -

Mr. Kailash Nath Bhandari	Chairman
Mr. Kumar Mangalam Birla	Member
Mr. Yazdi Dandiwala	Member

Role of the Committee:

The composition, quorum, powers, role and scope of the NRC are in accordance with Section 178 of the Act and Regulation 19 of the SEBI Listing Regulations. The Committee is governed by a Charter which is also in line with the Section 178 of the Act.

The overall responsibility of the NRC is to approve and recommend to the Board matters relating to the appointment and remuneration of the Company's Executive Directors, KMP and senior management, in line with the Executive Remuneration philosophy of the Company.

The broad terms of reference of the NRC, in terms of the Section 178 of the Act and Regulation 19 of the SEBI Listing Regulations is available on the website of the Company i.e. www.hindalco.com.

Composition & Attendance

100%Non-Executive Directors	3 Members	5 Meetings	86% Attendance

Members	Meeting details					%
	1	2	3	4	5	
	May 26, 2022	Jul 22, 2022	Aug 10, 2022	Nov 11, 2022	Feb 9, 2023	
Mr. Kailash Nath Bhandari	👤	👤	👤	👤	👤	100
Mr. Kumar Mangalam Birla	*	*	👤	👤	👤	60
Mr. Yazdi Dandiwala	👤	👤	👤	👤	👤	100
% attendance	67	67	100	100	100	
Permanent Invitee:-						
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee					
Ms. Geetika Anand[2]						

* Leave of absence
1. Until November 30, 2022;
2. w.e.f. December 01, 2022;

Committee Governance:

The Committee provides advice to the Board on the Appointment of Directors and Senior Management of the Company. It also annually reviews the remuneration and performance of the Director and Senior Management of the Company. The Committee also evaluates the Performance criteria for Independent Directors. The Committee works with the Board to determine the appropriate characteristics, skills and experience for the Board as a whole and its individual members with the objective of having a Board with diverse backgrounds and experience in business, government, education and public service.

Stakeholders Relationship Committee:

Composition of the Committee:

The Stakeholders Relationship Committee "SRC" comprises of following members as on March 31, 2023

Mr. Kailash Nath Bhandari	Chairman
Mr. Satish Pai	Member
Mr. Askaran Agarwala	Member

Role of the Committee:

In terms of the applicable provisions of the Act and Regulation 20 read with Part D of Schedule II of the SEBI Listing Regulations, the scope, functions and overall responsibility of the SRC is to oversee various aspects of interests of stakeholders of the Company. The term 'stakeholder' includes shareholders, debenture holders and other security holders. The brief description of the terms of reference is available on the website of the Company i.e. www.hindalco.com.

Composition & Attendance

66%Non-Executive	3 Members	4 Meetings	100% Attendance

Member	Meeting details				
	1	2	3	4	%
	May 24, 2022	Aug 4, 2022	Nov 3, 2022	Feb 8, 2023	
Mr. Kailash Nath Bhandari					100
Mr. Satish Pai					100
Mr. Askaran Agarwala					100
% of attendance	100	100	100	100	
Permanent Invitee					
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee and Compliance Officer				
Ms. Geetika Anand[2]					

1. Until November 30, 2022;
2. w.e.f. December 01, 2022;

Committee Governance:

The committee monitors and reviews the investor service standards of the Company. The Committee meets on a quarterly basis and include the items/matters prescribed under applicable laws or prescribed by Board in Compliance with applicable law. The objective is to consider and resolve the security holders concern or complaints. The details of the shareholders complaints are provided in the Shareholders Information section of this report. The Committee endeavours to develop an understanding of the views of stakeholders about the Company.

Corporate Social Responsibility Committee:

Composition of the Committee:

The Corporate Social Responsibility "CSR" Committee Comprises of the following members: -

Mrs. Rajashree Birla	Chairperson
Mr. Yazdi Dandiwala	Member
Mr. Askaran Agarwala	Member
Mr. Satish Pai	Member

Role of the Committee:

The composition, quorum, powers, role and scope of the CSR Committee are in accordance with Section 135 of the Act. The Company has in place Corporate Social Responsibility Policy. The brief description of the terms of reference and the policy are available on the website of the Company i.e. www.hindalco.com.

Composition & Attendance

75% Non-Executive	4 Members	1 Meeting	100% Attendance

Member	Meeting details	
	1	%
	May 6, 2022	
Mrs. Rajashree Birla		100
Mr. Yazdi Dandiwala		100
Mr. Askaran Agarwala		100
Mr. Satish Pai		100
% of attendance		100
Permanent Invitee:		
Dr. Mrs. Pragnya Ram	Group Executive President – CSR, Legacy Documentation & Archives	
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee	
Ms. Geetika Anand[2]		

1. Until November 30, 2022;
2. w.e.f. December 01, 2022

Committee Governance:

The Committee provides oversight and guidance on CSR performance and monitor the compliance with the CSR policy, the commitments and the applicable CSR provisions. The Committee formulates and recommends the Board an Annual action plan which includes the modalities of utilisation of the CSR funds and implementation schedules for the projects or programmes undertaken by the Company. The Committee determines the overall scope of, provide input on and recommend adoption of CSR Report to the Board of Directors of the Company and reviews the effectiveness of the CSR Policy and activities included in the policy. The CSR Report for FY 2022-23 forms part of the Directors' Report.

Risk Management & ESG Committee:

Composition of the Committee:

The Risk Management & ESG Committee "RM & ESG" comprises the of following members: -

Mr. Askaran Agarwala	Chairman
Mr. Satish Pai	Member
Mr. Kailash Nath Bhandari	Member
Mr. Praveen Kumar Maheshwari	Member
Mr. Anil Arya	Member
Mr. Anil Mathew	Member
Mr. Unnikrishnan P.	Member

Role of the Committee:

Since the Company is in the manufacturing industry, it is prone to inherent business risks. Your Company has in place a Risk Management Policy that covers the inherent business risks and appropriate measures to be taken, to manage uncertainty, changes in the internal and external environment to limit negative impacts and capitalise on opportunities along with minimisation of identifiable risks by the Company. The composition, quorum, powers, role and scope of the RM & ESG are in accordance with the applicable provisions of the Act and Regulation 21 of the SEBI Listing Regulations. The brief description of the terms of reference is available at www.hindalco.com.

Composition & Attendance

57% Board Member	7 Members	4 Meetings		93% Attendance	
Members	Meeting details				%
	1	2	3	4	
	Apr 8, 2022	Jul 8, 2022	Oct 10, 2022	Jan 9, 2023	
Mr. Kailash Nath Bhandari					100
Mr. Satish Pai					100
Mr. Askaran Agarwala	*				75
Mr. Praveen Kumar Maheshwari					100
Mr. Anil Mathew[1]					100
Mr. Anil Arya[1]	*				75
Mr. Unnikrishnan P[1]					100
% of attendance	71	100	100	100	
Permanent Invitee: -					
Mr. Anil Malik[2]	Company Secretary acts as a Secretary to the Committee				
Ms. Geetika Anand[3]					

* Leave of absence
1. Part of senior management of the Company;
2. Until November 30, 2022;
3. w.e.f December 01, 2022

Committee Governance:

The Committee comprises of Senior Management who reaffirms the ownership and accountability of risks in the first line of defence. Business risk evaluation and its management is an on-going process within the Company. The RMC is inter alia entrusted with the responsibility of monitoring and reviewing the risk management plan, sustainability and the cyber security of the Company and such other functions as may be delegated by the Board from time to time. Details of commodity price risks and commodity hedging activies is provided in shareholder information section of this report. The Chair meets regularly with the Company Secretary to ensure the Committee addresses its governance responsibilities.

Prevention of Insider Trading Regulations Committee:

Composition of the Committee:

The Prevention of Insider Trading Regulation Committee comprises of the following members: -

Mr. Yazdi Dandiwala	Member
Mr. Satish Pai	Member

Role of the Committee:

In terms of the provisions of the Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015, as amended, the Company has adopted a 'Code of Conduct to regulate, monitor and report trading by designated persons in listed or proposed to be listed securities' of your Company ("the Code"). The Code aims at preserving and preventing misuse of unpublished price sensitive information.

All the senior employees of the Company have been covered as a Designated Person under the Company Code and are monitored regularly by the Committee and the Designated Persons are required to provide periodical disclosures and obtain the pre-clearance for trading in securities of your Company.

Composition & Attendance:

50% Independence	2 Members	2 Meetings	100% Attendance
Member	Meeting details		%
	1	2	
	Jun 17, 2022	Sep 14, 2022	
Mr. Yazdi Dandiwala			100
Mr. Satish Pai			100
% of attendance	100	100	
Permanent Invitee			
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee		
Ms. Geetika Anand[2]			

1. Until November 30, 2022;
2. w.e.f. December 01, 2022

Committee Governance:

The Committee meets on need basis to consider, review and enforce actions for non-compliance of Code of Conduct. They also monitor and review mechanism to track the compliances under Insider Trading Regulations.

Finance Committee:

Composition of the Committee:

The Finance Committee comprises of the following members as on March 31, 2023

Mr. Askaran Agarwala	Chairman
Mr. Satish Pai	Member

Role of the Committee:

The Board has delegated certain powers to Finance Committee to deal with routine business matters including opening of Bank accounts, issuing power of attorneys for seamless functioning by the executives.

Attendance details:

50% Non-Executive Directors	2 Members	4 Meetings		100% Attendance	
Member	Meeting details				
	1	2	3	4	%
	May 24, 2022	Aug 4, 2022	Nov 3, 2022	Feb 8, 2023	
Satish Pai					100
Askaran Agarwala					100
% of attendance	100	100	100	100	
Permanent Invitee: -					
Mr. Anil Malik[1]	Company Secretary acts as a Secretary to the Committee				
Ms. Geetika Anand[2]					

1. Until November 30, 2022;
2. w.e.f. December 01, 2022

Committee Governance:

The Committee meets on quarterly basis to oversee various aspect relating to authorizations and authorising officer/(s) to deal in administrative matter/s relating to any Regulatory/Statutory Bodies/Banking for smooth operations to/ to facilitate smooth operations of the Company.

Disclosures:

1. General Shareholder Information:

Your Company has provided the details required under this as a separate section on 'Shareholders' Information', which forms a part of this Annual Report.

2. Management Discussion & Analysis Report (MD&A):

The MD&A forms part of the Director's Report and is in accordance with the requirements of the Listing Regulations.

3. General Body Meeting/Postal Ballot:

The 63rd AGM of the Company was held on August 23, 2022 via Video-conferencing, in terms of General Circular issued by the Ministry of Corporate Affairs.

The Chairperson of the Committees of the Board i.e. Audit, NRC and SRC was present at the AGM, to answer the queries of the members of the Company. Details of attendance of Directors at the AGM forms part of this report.

For matters which are urgent and require shareholders' approval in the period between the AGMs, the Company seeks the approval of shareholders through postal ballot. In compliance with Sections 108 and 110 and other applicable provisions of the Act, read with the related Rules, the Company also provides electronic voting (e-voting) facility to all its members. During the year under review, resolutions were passed through postal ballot, details of which are provided hereunder and as on the date of this report no special resolution is proposed to be conducted through postal ballot.

Details of Special resolutions (passed in previous three annual general meetings and through postal ballot)

Year	Mode	Venue	Date & Time	Particulars of Special Resolution
2020	**Annual General Meeting**	Video Conferencing/ Other Audio- Visual Means	September 10, 2020 at 03:00 PM	i. Continuation of directorship of Mrs. Rajashree Birla (DIN:00022995) ii. Re-appointment of Mr. Yazdi Dandiwala (DIN: 01055000) as an Independent Director for second term of five consecutive years.
2021	**Annual General Meeting**	Video Conferencing/ Other Audio- Visual Means	August 23, 2021 at 03:00 PM	i. Re-appointment of Mr. Askaran Agarwala (DIN:00023684), who retired by rotation and was eligible, offered himself for reappointment as a non-executive director;
2022	**Annual General Meeting**	Video Conferencing/ Other Audio- Visual Means	August 23, 2022 at 03.00 PM	i. Adoption of the Hindalco Industries Limited Employee Stock Option and Performance Stock Unit Scheme; ii. To approve extending benefits of the Hindalco Industries Limited Employee Stock Option and Performance Stock Unit Scheme 2022 to the employees of the group companies including holding, Subsidiary and associate Companies of Company iii. To approve (a) the use of the trust route for the implementation of the Hindalco Industries Limited Employee Stock Option and Performance Stock Unit Scheme 2022 ("Scheme 2022"); (b) secondary acquisition of the equity shares of the Company by the trust; and (c) grant of financial assistance / provision of money by the Company to the trust to fund the acquisition of its equity shares, in terms of the Scheme 2022
	Postal Ballot	-	February 9, 2023	i. Re-appointment of Ms. Alka Bharucha as an Independent Director of the Company for Second term of Five consecutive years.

Postal Ballot

i. Detail of voting pattern of the special resolution

Mode of Voting	Total Shares	No of Votes Polled	In favour		Against	
			No of Votes	% of Votes	No of Votes	% of Votes
E-voting	2,24,71,94,585	1,95,02,85,144	1,79,49,69,392	92.04	15,53,15,752	7.96

ii. Person who conducted the aforesaid postal ballot exercise:

Mr. Dilip Bharadiya, Practicing Company Secretary (FCS 7956 & C.P. No. 6740) conducted the aforesaid postal ballot exercise in a fair and transparent manner.

iii. Whether any special resolution is proposed to be conducted through postal ballot: No Special Resolution is currently proposed to be conducted through postal ballot.

iv. Procedure followed for Postal Ballot: Pursuant to and in compliance with the provisions of Sections 108, 110 and other applicable provisions, if any, of the Act and the rules made thereunder and Regulation 44 of the listing regulations Secretarial Standard-2 on General Meetings ('SS-2'), read with the guidelines prescribed by the Ministry of Corporate Affairs ('MCA') for holding general meetings / conducting postal ballot process through e-voting vide General Circulars No. 14/2020 dated 8th April 2020, No. 17/2020 dated 13th April 2020, No. 22/2020 dated 15th June 2020, 33/2020 dated 28th September 2020, No. 39/2020 dated 31st December 2020, No. 10/2021 dated 23rd June 2021, No. 20/2021 dated 8th December 2021, No. 3/2022 dated 5th May 2022 and No. 11/2022 dated 28th December 2022 issued by MCA and other applicable laws and regulations, as amended from time to time, the notice was sent to the Members of the Company to transact the special business as set out in the postal ballot notice for passing Ordinary / Special Resolution, as applicable, by remote e-voting process ('remote e-voting') only. The Company had provided facility to the Members to exercise voting through electronic voting system ('remote e-voting') on the e-voting platform provided by National Securities Depository Limited "NSDL".

Members whose names appears in the Register of Members / List of Beneficial Owners as on the cut-off date i.e., Friday, February 10, 2023 were eligible to cast their votes on the resolutions set out in the Notice. A person who was not a Member as on the cut-off date treated the Notice for information purpose only. The Scrutiniser, after the completion of scrutiny, submitted his report in accordance with the provisions of the Act, the Rules framed thereunder and the SS-2. The consolidated results of the voting by postal ballot and e-Voting were then announced on March 21, 2023 and are also available on the Company's website at www.hindalco.com besides being communicated to BSE Limited ('BSE'), National Stock Exchange of India Limited ('NSE').

Means of Communication

www.hindalco.com	A separate dedicated section 'Investors' is maintained on the website of the Company for ease of the shareholders. The information required to be disseminated by the Company in terms of Regulation 46 and 30 of the SEBI Listing Regulations are uploaded on the website of the Company. These include, more particularly, the following: i. Quarterly financial results and annual financial statements, ii. Investor presentations, press releases, earnings call transcripts, iii. Details of corporate governance policies, Board committee charters, iv. Other quarterly filings and Stock Exchange disclosures
'The Business Standard' and 'Navshakti'	The quarterly financial results of the Company are published within the stipulated timeline, in 1 (one) English language national daily newspaper and regional language daily newspapers.
hilinvestors@adityabirla.com	The Company has designated e-mail ids for investor relations and shareholder's assistance.
NEAPS (NSE Electronic Application Processing System) & NSE Digital Portal, BSE Corporate Compliance & the Listing Centre	NEAPS & NSE Digital Portal and BSE Listing are web-based application designed by NSE and BSE, respectively, for corporates to make submissions. All periodical compliance filings, inter alia, shareholding pattern, corporate governance report, corporate announcements, amongst others, are filed electronically in accordance with the SEBI Listing Regulations. All the disclosures made to the stock exchanges are in a format that allows users to find relevant information easily through a searching tool.
SEBI Complaints Redress System (SCORES)	The Company makes use of this system which is a centralised database of all complaints and enables on-line upload of Action Taken Reports by the Company on complaints received, on-line viewing by investors of actions taken on the complaints and their current status.

4. Policy for prevention of Sexual Harassment at Workplace:

The Company has adopted 'Policy for Prevention of Sexual Harassment at Workplace.' The said policy is also available at www.hindalco.com.

This ensures a work environment that is professional and mature, free from animosity and one that reinforces Hindalco's value of integrity, which includes respect for the individual.

The details of the cases is provided in the Directors Report.

5. Code of Conduct:

The Code of Conduct as adopted by the Board is applicable to Directors and Senior Management of the Company the Code is available at www.hindalco.com. The declaration from the Managing Director is annexed as **Annexure A**.

6. CEO/ CFO Certification

As required under the provisions of Regulation 33 of the SEBI Listing Regulations, Mr. Satish Pai, Managing Director and Mr. Praveen Kumar Maheshwari, Chief Financial Officer have reviewed the audited financial statements and cash flow statement for the financial year ended March 31, 2023 and accordingly have provided a certificate, which is enclosed separately at the end of this Report as **Annexure B**.

7. Vigil Mechanism and Whistle Blower Policy:

The Company has in place a Vigil Mechanism / Whistle Blower Policy which facilitates the stakeholders to have direct access to the management and the Audit Committee, to report concerns about any unethical behaviour, grievance, actual or suspected fraud or violation of the Company's code of conduct or ethics policy. It is hereby affirmed that no employee has been denied access to the Audit Committee. The said policies are also available at www.hindalco.com.

8. Code of Conduct for Prevention of Insider Trading:

Your Company also has a 'Code of Conduct to regulate, monitor and report trading by Designated Persons in listed or proposed to be listed Securities of Hindalco Industries Limited' which is followed by designated persons for dealing in securities of the Company.

There were no cases of corruption or bribery reported during the reporting period.

PAN based online tracking mechanism for monitoring of the trade in your Company's securities by the designated persons and their immediate relatives is in place to ensure real time detection and taking appropriate action, in case of any violation / non compliance of your Company's Code.

9. Policy for determining material subsidiary:

The Company has adopted a policy for determining material subsidiaries and is available at www.hindalco.com.

10. Related Party Transaction:

The Company has adopted policy on related party transaction. Details of the policy are available on at www.hindalco.com. Disclosures related to the Related Party Transactions are provided in Directors Report.

11. Details of Compliance with Mandatory requirements and adoption of non-mandatory requirements:

The Company has complied with all the mandatory requirements of the SEBI Listing Regulations relating to corporate governance.

The status of compliance with discretionary recommendations of Regulation 27 of Listing Regulations are provided below:

Non-Executive Chairman's Office:

The position of the Chairman and the Managing Director are separate. Your Company maintains a separate office for its Chairman. All necessary infrastructure and assistance is made available to enable him to discharge his responsibilities effectively.

Shareholders' Rights:

Since the quarterly and half yearly financial performance along with significant events are published in the newspapers and are also posted on your Company's website, the same are not being sent to the shareholders.

Modified Opinion in Auditors' Report:

Your Company's financial statements for the FY 2022-23 do not contain any modified audit opinion.

Reporting of Internal Auditor:

The report of the Internal Auditors are reviewed by the Audit Committee.

12. Risk Management:

    Risk Management and Evaluation is an ongoing process within the organisation. Your company has a comprehensive Risk management policy.

13. Certificate from Practicing Company Secretary regarding Non-Debarment and Non-Disqualification of Directors:

    A certificate from M/s. Dilip Bharadiya & Associates, Company Secretaries, (CP No: 6740) has been obtained, certifying that none of the Directors on the Board of the Company have been debarred or disqualified from being appointed or continuing as Director of a Company by SEBI and Ministry of Corporate Affairs or any other statutory authority and accordingly the same forms part of this report as **Annexure C**.

14. Details of recommendation of any Committee of the Board not accepted by the Board and reasons thereof:

    During the year under review, the Board of your Company has accepted all the recommendations made by its Committee(s).

15. Disclosure of accounting standards

    The Company has followed all applicable accounting standards while preparing the financial statements.

16. Total fees paid, on a consolidated basis, to the statutory auditor and all entities in the network firm/network entity of which the statutory auditor is a part

    M/s. Price Waterhouse & Co, Chartered Accountants LLP, are the statutory auditors of the Company for the Financial Year. The details of the fees paid to the Statutory Auditors is disclosed in note no. 41(a) of the Standalone financial statements forming part of this Annual Report. Further, the fees are paid by subsidiaries, the segregation of which is mentioned below:

(₹ in Crore)

Sr. no.	Particulars	By Company	By Subsidiaries	Total
1	Audit & Other services	5	69	74

17. Employee Stock Option Scheme:

    Your Company's Board has nominated the NRC Committee for the administration and superintendence of employee stock option schemes. Approval of shareholders is sought for grant of employee stock options ("Options") and / or restricted / performance stock units ("RSUs / PSUs") (collectively "Stock Options") to eligible employees as may be determined by the NRC Committee. Presently, stock option schemes are implemented through a trust, wherein the Trust acquires equity shares of your Company through secondary acquisition. Such acquisition in a financial year cannot exceed 2% of the paid-up equity share capital of your Company as at the end of the previous financial year. Further, in terms of the applicable Regulations, the Trust cannot hold more than 5% of the paid-up equity share capital as at the end of the financial year immediately prior to the year in which the shareholder approval is obtained. Your Company provides financial assistance to the Trust for the secondary acquisition, in one or more tranches. As and when the employees exercise the stock options, the Trust repays the money to your Company.

Other Affirmations:

a. The Company is in Compliance with the corporate governance requirements specified in Regulations 17 to 27 and Regulation 46(2) (b-i) of the SEBI Listing Regulations

b. There were no material significant Related Party Transaction ("RPTs") that had/ may have potential conflict with the interests of the Company at large.

c. The Company has complied with all applicable provisions of the Listing Regulations and all other applicable regulations and guidelines issued by SEBI and stock exchanges. No penalties or strictures are imposed on your Company by SEBI or the stock exchanges or any statutory authority on any matter related to the capital markets during the last 3 years.

d. During the year, the Company has not raised any proceeds from public issues, right issues, preferential issues, qualified institutional placement.

e. No loans and advances were given to firms/company in which directors are interested.

Weblinks for the policies/reports referred to:

Your Company has various policies and codes, duly adopted pursuant to the approval of the Board and the same are periodically reviewed by the Board, to incorporate any changes required either in terms of the business of the Company or pursuant to the amendment in the applicable Acts and Regulations including but not limited to the Act and the SEBI Listing Regulations. Click to view details of the policies and codes adopted by the Company:

No.	Particulars	Website link
1	Policy on Board Diversity	https://www.hindalco.com/upload/pdf/hindalco-policy-on-board-diversity.pdf
2	Terms and Conditions of Appointment of Independent Director	https://www.hindalco.com/upload/pdf/terms-and-conditions-independent-directors.pdf
3	Familiarisation Programme for Independent Directors	https://www.hindalco.com/investor-centre
4	Code of Conduct for Board and Senior Management	https://www.hindalco.com/upload/pdf/hindalco-code-of-conduct-BODs-SMP.pdf
5	Code of practices and procedures for fair disclosure of Unpublished Price Sensitive Information	https://www.hindalco.com/upload/pdf/hindalco-code-of-fair-disclosure.pdf
6	Policy on Related Party Transactions	https://www.hindalco.com/upload/pdf/policy-related-party-transactions.pdf
7	Vigil Mechanism and Whistle- Blower Policy	https://www.hindalco.com/upload/pdf/hindalco-whistle-blower-policy-19.pdf
8	Policy for determining Material Subsidiaries	https://www.hindalco.com/upload/pdf/hil-policy-on-material-subsidiary.pdf
9	Archival Policy	https://www.hindalco.com/upload/pdf/HIL-archival-policy-2015.pdf
10	Prevention of Sexual Harrassment (POSH) Policy	https://www.hindalco.com/upload/pdf/hindalco-posh-policy.pdf
11	Corporate Social Responsibility Policy	https://www.hindalco.com/upload/pdf/hindalco-csr-policy.pdf
12	Presentation to institutional investors and analysts	https://www.hindalco.com/investor-centre/reports-and-presentations
13	Quarterly, Half-yearly, Annual Financial Results and Annual Report	https://www.hindalco.com/investor-centre/reports-and-presentations
14	Financials of subsidiaries	https://www.hindalco.com/investor-centre/reports-and-presentations

Report on Corporate Governance

As required under Regulation 27 of the SEBI Listing Regulations, your Company has been duly submitting the quarterly compliance report in the prescribed format and within the required timelines to the stock exchanges and the same are available on their websites. The said reports are also available at www.hindalco.com.

The compliance certificate received from M/s. Dilip Bharadiya & Associates (CP No: 6740), Company Secretaries regarding compliance of corporate governance requirements is annexed as Annexure VIII to the Report of the Board of Directors.

Annexure A

DECLARATION

As provided under the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, the Board of Directors and the Senior Management Personnel have affirmed compliance with the Code of Conduct for the year ended March 31, 2023.

Place: Mumbai
Date: May 24, 2023

Satish Pai
Managing Director

Annexure B

CEO - CFO CERTIFICATION

To the Board of Directors
Hindalco Industries Limited

1. We have reviewed the Audited Financial Statements and the cash flow statement of Hindalco Industries Limited ("Company") for the financial year ended on March 31, 2023 and to the best of our knowledge and belief:
    I. These statements do not contain any materially untrue statement or omit any material fact or contain statement that might be misleading;
    II. These statements together present a true and fair view of the Company's affairs and are in compliance with the existing accounting standards, applicable laws and regulations.
2. There are, to the best of our knowledge and belief, no transactions entered into by the Company during the financial year ended on March 31, 2023 which are fraudulent, illegal or violative of the Code of Conduct of the Company.
3. We accept responsibility for establishing and maintaining internal controls for financial reporting and we have evaluated the effectiveness of internal control systems of the Company pertaining to financial reporting. We have disclosed to the Auditors and the Audit Committee, deficiencies in the design or operation of internal controls, if any, of which we are aware and the steps we have taken or proposed to be taken to rectify the deficiencies.
4. We have indicated to the Auditors and the Audit Committee:
    I. Significant changes in the Company's internal control over financial reporting, if any, during the financial year ended on March 31, 2023;
    II. Significant changes in accounting policies, if any, during the financial year ended on March 31, 2023 have been disclosed in the notes to the Financial Statements; and
    III. Significant fraud of which we have become aware and involvement therein, if any, of the management or other employees having a significant role in the Company's internal control system over financial reporting.

Mumbai
May 24, 2023

Satish Pai
Managing Director

Praveen Kumar Maheshwari
Chief Financial Officer

Annexure C

CERTIFICATE FROM PRACTICING COMPANY SECRETARY W.R.T. CONFIRMATION OF DIRECTOR'S NON-DISQUALIFICATION

To,
The Members,
HINDALCO INDUSTRIES LIMITED
Plot-612/613, Tower 4
One International Centre,
Senapati Bapat Marg,
Mumbai 400013

This Certificate is being issued to the Members of Hindalco Industries Limited, bearing Corporate Identity Number (CIN) - L27020MH1958PLC011238, having its registered office address at Plot 612/613, Tower 4, One International Centre, Senapati Bapat Marg, Mumbai 400013 ("the Company") in terms of Regulation 34(3) read with Schedule V Para C Clause 10(i) of the Securities Exchange Board of India (Listing Obligation and Disclosure Requirements) Regulations, 2015 ("Listing Regulations").

We believe it is the responsibility of the Directors to submit relevant documents with complete and accurate information in accordance with the provisions of the Companies Act, 2013 ("Act") and Listing Regulations.

We have examined the documents and disclosures provided by the following Directors (as on March 31, 2023) in electronic mode, for the purpose of issuing this Certificate, in accordance with the requirements under the Act and the Listing Regulations:

Sr. No.	Name of the Director (In alphabetical order)	DIN	Date of appointment (dd-mm-yyyy)
1.	Ms. Alka Bharucha	00114067	11-07-2018
2.	Mr. Anant Maheshwari	02963839	14-08-2020
3.	Mr. Askaran Agarwala	00023684	11-09-1998
4.	Mr. Kailash Nath Bhandari	00026078	30-01-2006*
5.	Mr. Kumar Mangalam Birla	00012813	16-11-1992
6.	Mr. Praveen Kumar Maheshwari	00174361	28-05-2016
7.	Mrs. Rajashree Birla	00022995	15-03-1996
8.	Mr. Satish Pai	06646758	13-08-2013
9.	Mr. Sudhir Mital	08314675	11-11-2019
10.	Dr. Vikas Balia	00424524	19-07-2019
11.	Mr. Yazdi Dandiwala	01055000	14-08-2015

*Mr. Kailash Nath Bhandari was appointed w.e.f. 30-1-2006. In line with the FAQs issued by Stock Exchanges dated 10th April 2023, the date of appointment for Mr. Bhandari was mentioned as 14-08-2014 under filings for Regulation 27(2) of the Listing Regulations.

Based on our examination of relevant documents made available to us by the Company and such other verifications [including Directors Identification Number (DIN) status at the portal www.mca.gov.in] carried out by us as deemed necessary and adequate, in our opinion and to the best of our information and knowledge and according to the explanations provided by the Company, its officers and authorized representatives, we certify that as on date of this certificate, none of the directors on the Board of the Company, as listed hereinabove, have been debarred or disqualified from being appointed or continuing as Directors of the Company by Securities and Exchange Board of India/ Ministry of Corporate Affairs or any such statutory authority.

Ensuring the eligibility for the appointment/continuity of every Director on the Board is the responsibility of the management of the Company. Our responsibility is to express an opinion on these based on our verification. This certificate is neither an assurance as to the future viability of the Company nor of the efficiency or effectiveness with which the management has conducted the affairs of the Company.

For **DILIP BHARADIYA & ASSOCIATES**
DILIP BHARADIYA
Partner
FCS No. 7956 CP No. 6740
UDIN: F007956E000589671

Place: Mumbai
Date: July 12, 2023

Shareholders Information

[In terms of Part C, Schedule V of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015] [hereinafter referred as "SEBI Regulations"].

i. Annual General Meeting ["AGM"] (64th):

Day and date	:	Tuesday, August 22, 2023
Time	:	3.00 p.m. (IST)
Venue / Mode	:	Through Video Conferencing (VC) or Other Audio-Visual Means (OAVM) [pursuant to applicable MCA General Circulars] For details, please refer to the Notice of this AGM.

ii. Financial Calendar for FY24:

Financial year	:	April 1, 2023 to March 31, 2024

Board Meetings for considering Results for:

First quarter end	:	On or before August 14, 2023
Second quarter and half year end	:	On or before November 14, 2023
Third quarter end	:	On or before February 14, 2024
Fourth quarter and year end	:	On or before May 30, 2024
Annual General Meeting	:	On or before August 31, 2024

iii. Dividend Payment

for the Financial Year ended March 31, 2023	:	The Board has recommended Dividend of ₹ 3/- per equity share of face value of ₹ 1/- each, subject to approval of the shareholders. The same shall be paid/credited on or before August 27, 2023.

iv. Date of Book Closure/Record Date : August 16, 2023, to August 22, 2023 (inclusive of both days)

v. Listing Details:

(a) Equity Shares and Global Depository Receipts:

Equity Shares	Global Depository Receipts ["GDRs"]	Non-Convertible Debentures ["NCDs"]
BSE Limited ["BSE"] Phiroze Jeejeebhoy Towers, Dalal Street, Fort, Mumbai - 400 001.	**Luxembourg Stock Exchange ["LSE"]** 35 A, Boulevard, Joseph II, L-1840 Luxembourg.	**National Stock Exchange of India Limited ["NSE"]** Exchange Plaza, 5th Floor, Plot No. C/1, G Block, Bandra-Kurla Complex, Bandra (East), Mumbai – 400 051.
NSE Exchange Plaza, 5th Floor, Plot No. C/1, G Block, Bandra-Kurla Complex, Bandra (East), Mumbai – 400 051.		

Annual Listing Fee for the year has been paid to all Stock Exchanges and no amount is outstanding.

(b) NCDs:

The Company has issued unsecured redeemable NCDs listed on NSE as per the following details:

Series	Year of Issue	ISIN	Principal Amount [INR Crore]	Maturity Date
7.60% Unsecured Redeemable NCDs	2023	INE038A08124	700	March 18, 2024

Debenture Trustee:	**Axis Trustee Services Limited** 2nd Floor 'E', Axis House, Bombay Dyeing Mills Compound, Pandurang Budhkar Marg, Worli, Mumbai - 400 025. Phone: +91 22 2425 5215/5216 Fax: +91 22 2425 4200 E-mail: debenturetrustee@axistrustee.in, Website: www.axistrustee.com
(c) Overseas Depository for GDRs:	**J.P. Morgan Chase Bank N.A** P.O. Box 64504, St. Paul, MN 55164-0504. E-mail: jpmorgan.adr@eq-us.com
(d) Domestic Custodian of GDRs:	**Citibank N.A** Custodial Services FIFC, 11th Floor, C 54 & 55, G Block, Bandra- Kurla Complex, Bandra [East], Mumbai – 400 098. Tel.: 91-22-61757110 Fax: 91-22-26532205

vi. Stock Codes and ISIN:

Stock Code Equity Shares	Scrip Code	Reuters	Bloomberg
BSE	500440	HALC.BO	HNDL IN
NSE	HINDALCO	HALC.NS	NHNDL IN
LSE	US4330641022	HALCg.LU	HDCD LI
ISIN of Equity Shares	INE038A01020		
ISIN of GDRs	US4330641022		
	CUSIP No. 433064300		
ISIN of NCDs	INE038A08124		

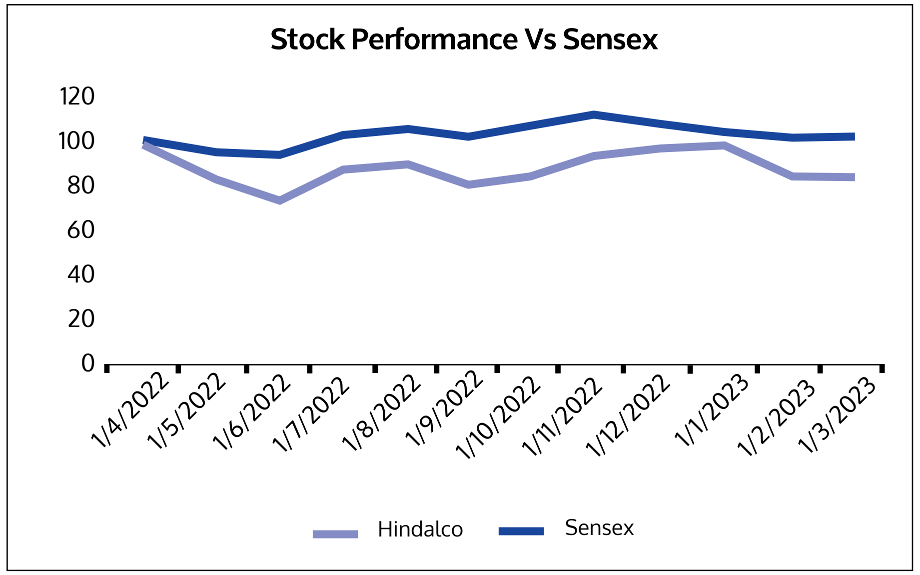
vii. Corporate Identity Number ["CIN"] of the Company: L27020MH1958PLC011238

viii. Market Price Data

High, Low (based on daily closing prices) and number of equity shares traded during each month in FY23 on NSE, BSE and LSE:

FY23	BSE				NSE				LSE		
	High	Low (In ₹)	Close	Volume (Nos.)	High	Low (In ₹)	Close	Volume (Nos.)	High	Low (In $)	Close
Mar-23	422	381	405	49,90,897	422	381	405	15,23,94,055	5.10	4.62	4.94
Feb-23	481	398	399	29,80,209	481	398	399	13,18,17,339	5.70	4.82	4.84
Jan-23	504	459	469	52,58,312	504	459	468	14,84,40,047	6.20	5.55	5.75
Dec-22	484	428	473	65,70,369	484	428	473	15,47,85,067	5.90	5.20	5.70
Nov-22	460	405	451	83,33,803	461	406	451	19,89,57,444	5.65	4.94	5.55
Oct-22	417	379	406	86,50,102	417	366	406	14,33,60,319	5.05	4.66	4.90
Sep-22	448	359	391	1,20,52,140	448	359	391	23,57,52,985	5.55	4.40	4.80
Aug-22	448	359	439	1,20,52,140	447	408	439	22,18,32,595	5.55	5.05	5.40
Jul-22	418	327	415	1,32,28,112	417	327	415	27,15,51,737	5.20	4.20	5.20
Jun-22	422	309	339	1,02,58,356	422	309	339	29,58,88,739	5.25	3.94	4.24
May-22	486	385	423	1,23,50,366	486	385	423	32,49,29,215	6.29	4.93	5.40
Apr-22	595	477	484	85,62,195	591	476	483	22,71,38,262	7.73	6.19	6.24

ix. Performance of the share price of the Company in comparison to the BSE Sensex



x. Stock Performance and Returns:

	Absolute Returns (in %)				Annualized Returns (in %)		
	1YR	3YR	5YR		1YR	3YR	5YR
Hindalco	(28.85)	323.46	88.88	Hindalco	(28.85)	61.78	13.56
SENSEX	0.72	100.19	78.93	SENSEX	0.72	26.03	12.34
NIFTY	(0.60)	101.91	71.65	NIFTY	(0.60)	26.39	11.41

xi. Registrar and Transfer Agents ["RTA"]:

During the year under review your Company operated an in-house Investors Service Department [Share Transfer Agent] at the registered office of the Company and has maintained the register of members thereat.

Changes in the RTA and place of maintenance of Register of Members has been provided below:

Duration	RTA	Address of RTA and place of maintenance of Register of Members
Up to May 31, 2023	**In house RTA:** Investors Service Department SEBI Category II Share Transfer Agent Registration No. INR000003910In	1st Floor, Ahura Centre, B - Wing, Mahakali Caves Road, Andheri (East), Mumbai 400093.
W.e.f. June 1, 2023		21st Floor, One International Center, Tower 4, Near Prabhadevi Station, Senapati Bapat Marg, Prabhadevi Mumbai – 400013.
W.e.f. July 7,2023	**Link Intime India Private Limited** ["Link Intime"] SEBI Category II Share Transfer Agent Registration No. INR000004058	1st Floor, C-101, 247 Park, L.B.S. Marg, Vikhroli (West), Mumbai - 400083. Phone: +91 22 49186000 Fax: +91 22 49186060 E-mail: rnt.helpdesk@linkintime.co.in Website: https//www.linkintime.co.in

xii. Share Transfer System *[Regulation 40 (1) of SEBI Regulations, SEBI Circulars dated January 25, 2022]:*

Pursuant to the above stated legal requirement, the transfer, transmission and transposition of securities is effected only in dematerialized form. Further the securities are issued in dematerialized form only. For processing any service requests from shareholders viz., issue of duplicate share certificates, endorsement, transmission, transposition, etc. after processing the service request, a letter of confirmation is issued to the shareholders and is valid for a period of 120 days, within which the shareholder is required to make a request to the Depository Participant for dematerializing those shares. If the shareholders fail to submit the dematerialization request within 120 days, then RTA credits those shares in the Suspense Escrow Demat account held by the Company.

Shareholders can claim these shares transferred to Suspense Escrow Demat account on submission of necessary documentation.

The Directors and Company Secretary are severally authorized by the Board to approve transfers, which are noted at the subsequent Board Meetings.

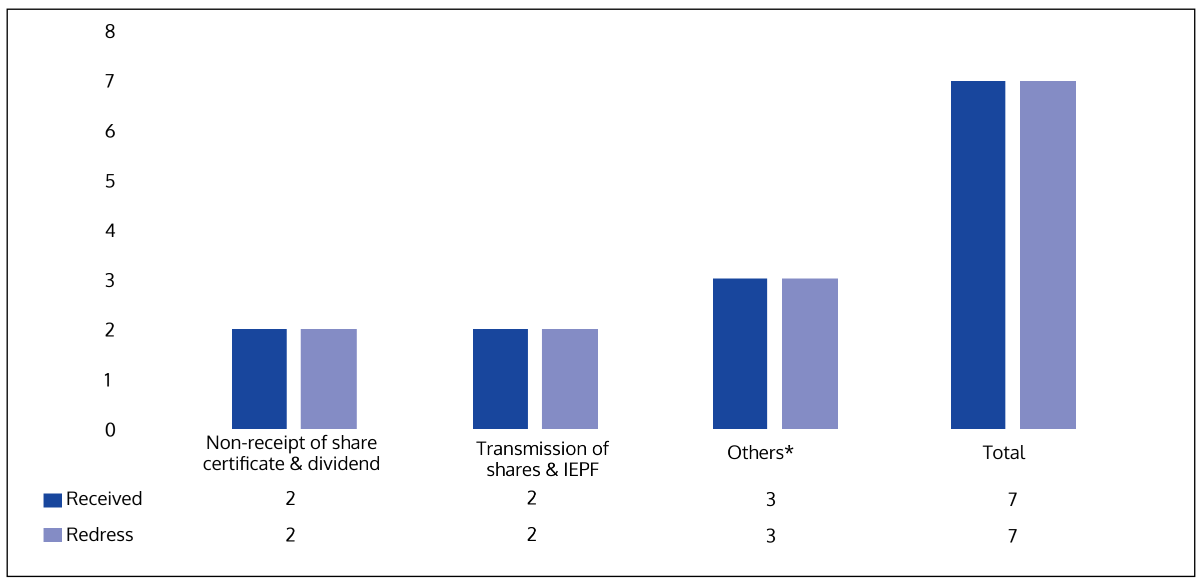
xiii. Investor Grievance Redressal:

The Compliance Officer and the Investors Service Department of your Company ensure pro-active handling of investor correspondences and redressal of grievances in an expeditious manner.

Upon receipt of all requisite documents, the request of the shareholder is processed within statutory timelines.

Thereafter, any reminder from the shareholder beyond such prescribed timeline is treated as a complaint and is reported to the Stock Exchanges, Stakeholders Relationship Committee and the Board.

During the year under review, your Company received and redressed **7** complaints, details of the same are mentioned hereunder:



**Includes Non-Receipt of Annual Report, Dividend Advice, etc.*

There were no pending complaints as on March 31, 2023.

xiv. Shareholding as on March 31, 2023:

a) Distribution of equity shareholding:

Shares From	Shares To	Shareholders (Nos.)	Holders (%)	Shares Held (Nos.)	Holding (%)
0	1,000	6,54,391	96.79	5,78,48,951	2.57
1,001	2,000	10,105	1.49	1,46,44,325	0.65
2,001	5,000	6,572	0.97	2,07,02,737	0.92
5,001	10,000	2,292	0.34	1,63,28,072	0.73
10,001	50,000	1,739	0.26	3,54,03,830	1.58
50,001	1,00,000	237	0.04	1,66,46,725	0.74
1,00,001 & above		774	0.11	2,08,56,19,945	92.81
Total		**6,76,110**	**100.00**	**2,24,71,94,585**	**100.00**

b) Categories of equity shareholding:

Category	Shareholders (Nos.)	Shareholders (%)	Shares held (Nos.)	Shareholding (%)
Promoter and Promoter Group*	**17**	**-**	**77,84,64,497**	**34.64**
Public	**6,76,092**	**100**	**1,45,95,11,021**	**64.95**
Institutions	1,447	0.21	1,17,56,25,693	52.32
Mutual Funds	321	0.05	27,10,28,205	12.06
Foreign Portfolio Investors	874	0.13	58,61,42,803	26.08
Insurance Companies	136	0.02	30,50,61,076	13.58
Alternate Investment Funds	33	0.00	53,11,973	0.24
Financial Institutions / Banks	30	0.00	44,06,411	0.20
Others	53	0.01	36,75,225	0.16
Central / State Government(s)	7	0.00	51,29,673	0.23
Non-Institutions	6,74,638	99.78	27,87,55,655.00	12.40
Individuals	5,02,841	74.37	11,59,22,599	5.16
Body Corporates	2,741	0.41	87,40,004	0.39
GDRs	2	0.00	8,47,90,344	3.77
Others	1,69,054	25.00	6,93,02,708	3.08
Non Promoter - Non Public	**1**	**0.00**	**92,19,067**	**0.41**
Total	**6,76,110**	**100.00**	**2,24,71,94,585**	**100.00**

**Includes 1,45,42,309 GDRs, held by Promoter Group Companies.*

c) **Top ten equity shareholders:**

Sr. No.	Name of the shareholders*	Equity shares held (Nos.)	Holding (%)
1	IGH Holdings Private Limited	35,00,88,487	15.58
2	Birla Group Holdings Private Limited	22,82,92,308	10.16
3	Life Insurance Corporation of India & its Associate Funds	21,68,23,769	9.65
4	Grasim Industries Limited	8,80,48,812	3.92
5	Morgan Guaranty Trust Company of New York	8,47,90,344	3.77
6	SBI Arbitrage Opportunities Fund	8,63,24,708	3.84
7	Government of Singapore	7,43,70,183	3.31
8	ICICI Prudential Balanced Advantage Fund	5,17,34,795	2.30
9	Pilani Investment Industries Corporation Limited	2,98,57,969	1.33
10	Umang Commercial Company Private Limited	2,73,30,360	1.22

**Shareholding is consolidated based on Permanent Account Number (PAN) of the shareholder.*

xv. **Dematerialization of shares and liquidity:**

As on March 31, 2023, 98.28% equity shares of the Company are held in dematerialised form.

The break-up of equity shares held in dematerialised and physical form are as under:

Particulars	Shareholders		Shares	
	Number	%	Number	paid-up capital (%)
NSDL	2,54,817	37.69	2,02,24,73,554	90.00
CDSL	4,10,613	60.73	18,59,81,433	8.28
Physical	10,680	1.58	3,87,39,598	1.72
Total	**6,76,110**	**100.00**	**2,24,71,94,585**	**100.00**

xvi. **Unclaimed shares** *[Regulation 39(4) of SEBI Regulations]*:

There were no Equity Shares lying in the Unclaimed Suspense Account at the beginning, during and end of the year.

xvii. **Outstanding GDRs / Warrants and Convertible Bonds**:

9,93,32,653 GDRs were outstanding as on March 31, 2023. Each GDR represents one underlying equity share. There were no warrants / convertible bonds outstanding as on March 31, 2023.

xviii. **Commodity price risk or foreign exchange risk and hedging activities:**

Your Company hedges its foreign currency exposure in respect of its imports and exports as per its policies. Your Company has constituted a Risk Management Committee by the name & style of "Risk Management & ESG Committee" consisting of Directors / Executives of your Company. Your Company has commodity / foreign exchange hedging from time to time considering various factors as per the policy of the Company.

The details as required under SEBI Regulations is as below:

1. Risk management policy of the listed entity with respect to commodities including through hedging.

The Company has a Risk Management Policy for managing its commodity price risk. The policy captures the objectives of commodity risk management and the treatment of different types of exposures. The policy lists down the hedging instruments that can be used, the hedge coverage ratios for different tenors and mentions the risk management structure at the Company.

2. Exposure of the listed entity to commodity and commodity risks faced by the entity throughout the year:

a. Total Exposure of the listed entity to commodities in Millions: ₹ **10,74,387.**

b. Exposure of the entity to various commodities is as below:

Commodity Name	Nature of Risk (Physical)	Unit of Measurement	Exposure in INR towards the commodity (₹ in Million)	Exposure in Quantity terms towards the commodity	% of such exposure hedged through commodity derivatives				Total
					Domestic Market		International Market		
					OTC(i)	Exchange	OTC(i)	Exchange	
Aluminium	Sell	MT	3,21,099	13,50,639	-	-	31	-	31
Furnace Oil/ LSHS/LDO	Buy	MT	10,193	1,81,064	-	-	-	-	-
Imported Coal	Buy	MT	7,537	4,57,276	-	-	-	-	-
Copper	Buy	MT	2,79,858	4,25,920	-	-	11	12	23
Copper	Sell	MT	3,17,464	4,40,214	-	-	9	21	30
Silver (Oz)	Buy	T/Oz	4,957	26,55,103	-	-	100	-	100
Silver (Oz)	Sell	T/Oz	6,474	35,39,831	-	-	100	-	100
Gold (KG)	Buy	KG	61,509	10,507	-	100	-	-	100
Gold (KG)	Sell	KG	65,297	12,371	-	100	-	-	100

i. Over the Counter.

ii. Table above includes Exposure and % Hedges for FY 23 only. Details of hedges done for future years has not been captured here.

iii. The table above includes commodities where a liquid derivative market exists.

iv. The Company has price risk on commodities where an active derivative market does not exist, like - Caustic Soda, Aluminum Fluoride, CP Coke, Alumina, Bauxite etc. These Commodities are not included in the table above.

v. The Company maintains offset hedge book to eliminate the "pricing" timing mismatch for buy and sell position of Copper, Silver and Gold. Accordingly, exposure of copper, buy position and sell position naturally hedged is 57% and 68%, respectively. In case of Copper buy exposure, 20% is not hedged represents unpriced transactions as March 31, 2023, as the same will be hedged as and when they are priced, as per Company's policy. In case of copper Sell exposure, 3% is unpriced transactions as at March 31, 2023, as the same will be hedged as and when they are priced, as per Company's policy. The Company has strategic view-based exposure for Copper, Gold, and Silver. However, the same is not included above as it is a small portion of the overall Copper, Gold & Silver volumes.

vi. The Company has strategic view-based exposure for Copper, Gold, and Silver. However, the same is not included above as it is a small portion of the overall Copper, Gold & Silver volumes.

vii. The Company procures part of its Alumina requirement from its wholly owned subsidiary, Utkal Alumina International Limited and the same is not included.

The Company faces commodity price risk on purchase of its raw material as well as on sales of its products. The Company categorizes its price risk in broadly 2 categories - Offset Hedge Exposure and Strategic View Based Exposure. Under the Offset Hedge Program, the Company uses derivative products to eliminate the price risk arising due to timing mismatch whereas for Strategic View Based exposure, derivative instruments are used to manage the price risk for future tenor. Hedging is done for commodities where an active derivative market exists.

xix. **Credit Ratings:**

There was no change in the credit ratings of your Company during the Financial Year.

As on March 31, 2023, the Company had the following credit ratings:

Instrument	Rating	Rating Action
Long Term Bank Facilities: (Term Loan and Fund based)	AA+ Stable	Reaffirmed
Long Term / Short term Bank facilities: (Non-Fund based)		
NCDs		
Commercial Paper		

xx. **Details of Unclaimed Dividend:**

The details of outstanding unclaimed dividend and corresponding due dates for transfer to IEPF as on March 31, 2023, is as under:

Date of Declaration of Dividend	Financial year	Due date of transfer to IEPF	Amount in ₹ *
September 14, 2016	2015-2016	October 21, 2023	73,35,061
September 13, 2017	2016-2017	October 20, 2024	81,34,409
September 21, 2018	2017-2018	October 27, 2025	69,06,648
August 30, 2019	2018-2019	October 7, 2026	62,64,037
September 10, 2020	2019-2020	October 21, 2027	48,88,676
August 23, 2021	2020-2021	October 1, 2028	1,19,20,013
August 23, 2022	2021-2022	September 30, 2029	1,52,82,372

** Excludes ₹ 8.52 Lakhs which is held in abeyance due to legal cases pending.*

Shareholders who have not yet encashed their dividend warrants for the years 2015-2016 to 2021-2022 may approach Link Intime with a request letter quoting their Ledger Folio numbers / DP & Client ID along with dividend warrant(s) (if any) and a cancelled cheque leaf for revalidation / claim.

xxi. **Transfer of unclaimed/unpaid amounts to the Investor Education and Protection Fund** *[Sections 124 and 125 of the Act read with the IEPF (Accounting, Audit, Transfer and Refund) Rules, 2016 ("IEPF Rules")]:*

Pursuant to the above requirements the Company transfers to the IEPF Authority, established by the Central Government the dividend amounts, application money, principal amounts of debentures and deposits as well as the interest accruing thereon, sale proceeds of fractional shares, redemption amount of preference shares, etc. remaining unpaid or unclaimed for a period of 7 years from the date they became due for payment from time to time.

Furthermore, the IEPF Rules mandate companies to transfer shares of shareholders whose dividend amounts remain unpaid / unclaimed for a period of 7 consecutive years to the demat account of the IEPF Authority. The said requirement does not apply to shares in respect of which there is a specific order of the Court, Tribunal or Statutory Authority, restraining any transfer of shares.

The details of the unclaimed equity shares transferred to IEPF during FY23 are as follows:

	Total number of shares	Total nominal amount in ₹
Shares Transferred to IEPF during the year	2,73,504	2,73,504

Unpaid and unclaimed dividends / shares up to the financial year 2014-15 have already been transferred to the said Fund. Details of unpaid/unclaimed dividend and equity shares for the financial year 2014-15 are uploaded on the website of the Company as well as that of the MCA. No claim lies against the Company in respect of the unclaimed dividend amount and equity shares transferred to the IEPF, pursuant to the IEPF Rules.

Shareholders can claim both the unclaimed dividend amount and the equity shares from the IEPF Authority by making an application in the manner provided in the IEPF Rules.

The Members who have a claim on above dividends and/or shares are requested to follow the below process:

1. Submit self-attested copies of documents provided in the IEPF-5 help kit, which is available on IEPF website (www.iepf.gov.in) to the Company.
2. After verification of the aforesaid documents submitted, Company will issue an entitlement letter.
3. File Form IEPF-5 on IEPF website and send self-attested copies of IEPF-5 form along with the acknowledgement (SRN), Indemnity bond and entitlement letter to the Company.
4. On receipt of the physical documents mentioned above, Company will submit e-Verification report, for further processing by the IEPF Authority.

Members are requested to note that no claims shall lie against the Company in respect of the dividend/shares transferred to IEPF.

xxii. **Details of Nodal and Deputy Nodal Officer:**

Sr. No.	Name	Title	Email	Contact
1	Ms. Geetika Anand	Nodal Officer	hilinvestors@adityabirla.com	+91 22 6662 6666 / 6947 7000
2	Mr. Mahesh Bhomia	Deputy Nodal Officer		

xxii. **Common and simplified norms for investor service-Updating of PAN, KYC, and Nomination details:**

(SEBI Circular No. SEBI/HO/MIRSD/MIRSD_ RTAMB/P/CIR/2021/655 dated November 03, 2021, SEBI/HO/MIRSD/MIRSD_RTAMB/P/CIR/2021/687 dated December 14, 2021, and SEBI/HO/MIRSD/MIRSD-PoD-1/P/CIR/2023/37 dated March 16, 2023) ["said Circular"]

SEBI has provided common and simplified norms for processing investor's service request by RTAs and norms for furnishing PAN, KYC and Nomination details.

It is mandatory for the shareholders holding securities in physical form to *inter alia* furnish PAN, KYC (Bank details/Contact details i.e., contact number and Email-ID) and Nomination details in Form ISR-1, Form No. SH-13/ISR-3, Form No.SH-14 Physical folios wherein the PAN, KYC and Nomination details are not available on or after October 1, 2023 shall be frozen by the Company and such folios/shareholders will be eligible for lodging any service request or receiving payment including dividend only after registering the required details. The said physical folios shall be referred by the Company under the Prohibition of Benami Property Transactions Act, 1988 and/or Prevention of Money Laundering Act, 2002, if they continue to remain frozen as on December 31, 2025.

Shareholders may note that payment of dividend in respect of frozen folio, shall be paid only through electronic mode with effect from April 1, 2024, subject to furnishing of KYC details and Nominations.

The Company has sent individual letters along with related forms to all the members holding shares of the Company in physical form for furnishing their PAN, KYC, and Nomination details. The relevant Circular(s) and necessary forms in this regard have also been made available on the website of the Company at https://www.hindalco.com/investor-centre.

Members are advised to register their details with the Company, in compliance with the said circular for smooth processing of their service requests.

xxiii. **Serving of documents through electronic means** *[Section 101 and 136 of the Companies Act, 2013]:*

Considering the nuances with regard to Sustainability and your Company's continuous endeavor, the Annual Reports and other communications are being served through electronic mode to those shareholders who have registered their e-mail addresses either with the Company or with the depository participant.

Accordingly, shareholders who have not registered their e-mail addresses so far, are requested to register the same, by downloading the Form No. ISR-1, available on the Company's website i.e., https://www.hindalco.com/upload/pdf/form-no-isr-1.pdf and submitting the same to the Registered Office of the Company.

Shareholders Information

xxiv. Location of Plant and Mines

Aluminium Facilities		
Renukoot P.O. Renukoot -231217 Dist Sonebhadra, Uttar Pradesh. Tel : (05446) 252077/79 Fax: (05446) 252107/426	**Renusagar** P. O. Renusagar- 231218 Dist. Sonebhadra, Uttar Pradesh. Tel:(05446)277161-3/ 278592-5 Fax: (05446) 277164/	**Alupuram Extrusions** Alupuram, P.B. No.30 Kalamassery - 683 104 Dist: Ernakulam, Kerala. Tel:(0484)2532441-48 Fax: (0484) 2532468
Hirakud Smelter Power Post Box No. 12 Hirakud 768 016, Dist: Sambalpur, Orissa. Tel: (0663) 2481307 Fax: (0663) 2481342/365 Fax: (0663) 2541642	**Mahan** Hindalco Industries Limited NH-75 E, Singrauli, Sidhi Rd, P.O Bargawan, Pin:486886. Dist : Singrauli MP Tel : 0780-5281014	**Aditya Aluminium** Hindalco Industries Limited Lapanga, Dist: Sambalpur-768212. Odisha. Tel: 0663-2114424 Fax: 0663-2590434
Taloja Plot 2, MIDC Industrial Area Taloja A.V., Dist : Raigad Navi Mumbai - 410 208, Maharashtra. Tel: (022) 2741 2261, 66292929 Fax: (022) 2741 2430/31	**Belur** 39, Grand Trunk Road Belurmath 711 202, Dist: Howrah West Bengal. Tel: (033) 2654 7210/12 Fax: (033) 2654 9982/5740	**Hirakud FRP** Hindalco Industries Limited Hirakud-768016, Dist: Sambhalpur, Odisha. Tel: (0663) 6625000 Fax No(0663) 2481344
Mouda Village Dahali Ramtek Road, Mouda, Nagpur – 441 1104. Tel: (07115) 660777/786	**Kuppam** 255, 257, 279, Industrial Park, Kuppam, Chitoor, Andhra Pradesh - 517425.	
Copper	**Chemicals**	
Birla Copper Division P.O. Dahej, Lakhigam Dist. Bharuch – 392 130, Gujarat. Tel: (02641) 256004/06,251009 Fax: (02641) 251002	**Muri Alumina** Post Chotamuri-835 101 Dist: Ranchi, Jharkhand. Tel: (06522) 244253/334 Fax: (06522) 244342	**Belagavi** Village Yamanapur Belgaum 590 010, Karnataka. Tel: (0831) 2472716 Fax: (0831) 2472728
Extrusion		
Silvassa Extrusion Survey No. 111/1 Village Khutli, Khanvel, Silvassa-396230 U.T. of Dadra & Nagar Haveli. Tel: (0260) 6618100 Fax: (0260) 2677025		
Mines		
Chakla Coal Mines Plot 894, Kanchan NagariPO + PS - Chandwa, Dist: Latehar, Jharkhand - 829203. Tel: 0651 2247901	**Lohardaga Mines** Mines DivisionCourt Road, Dist: Lohardaga 835 302, Jharkhand Tel: (06526) 224112/224015	**Samri Mines** Hindalco Colony, Baba Chowk Jashpur Mode, P.O: Kusumi 497222, Dist: Balrampur-Ramanujganj. Tel:(07778) 274325
Gare Palma Mines (IV/4 & V/5) Underground Coal Mines Plot 894, Kanchan NagariVillage & Post Milupura, Tehsil Tamnar Dist: Raigarh, Chhattisgarh - 496107. Tel: +91 776 2228212	**Kathautia Coal Mine** Kathautia Open Cast Coal Mine (Koccm), Village Kathautia P.O Naudiha, PS Pandwa, Dist: Palamau, Jharkhand:822123. Tel: (0651) 2247900	**Maliparbat Bauxite Mines** 42/1041, Satya Nagar, College Road, Semiliguda, Dist : Koraput, Odisha - 764036. Tel: 07077293606

xxv. Address for correspondence:

A. Registered Office

Before June 1, 2023	June 1, 2023, onwards*
Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai – 400 093. Tel: (91-22) 66917000 Fax: (91-22) 66917001 E-Mail: hilinvestors@adityabirla.com Website: www.hindalco.com	21st Floor, One International Center, Tower 4, Near Prabhadevi Railway Station, Senapati Bapat Marg, Prabhadevi, Mumbai Maharashtra - 400013. Tel: +91 022 6947 7000/6947 7150 Fax: +91 22 6947 7001 / 6947 7090 E-Mail: hilinvestors@adityabirla.com Website: www.hindalco.com

** The Board at its meeting held on May 24, 2023, approved change in the registered office of the Company*

B. Link Intime India Private Limited

Details provided in Section 'xi. Registrar and Transfer Agents' of this Report.

Financial Highlights - Consolidated

(₹ Crore)

	2022-23 @ US$ in Mn *	2022-23 @	2021-22 @	2020-21 @	2019-20 @	2018-19 @	2017-18 @	2016-17 @	2015-16 @	2014-15	2013-14
Profitability											
Sales and Operating Revenues	27,791	223,202	195,059	131,985	118,144	130,542	115,820	102,631	101,202	106,696	90,007
Less: Cost of Sales	24,943	200,328	166,557	114,311	103,794	115,042	101,899	90,183	92,387	97,751	81,721
Operating Profit	2,848	22,874	28,502	17,674	14,350	15,500	13,921	12,448	8,815	8,944	8,286
Other Income	157	1,257	1,136	1,222	1,186	1,127	1,105	1,111	1,189	1,105	1,017
Less: Depreciation, Amortization and Impairment	908	7,294	6,884	6,766	5,135	4,766	4,607	4,469	4,507	3,591	3,553
Less: Interest and Finance Charges	454	3,646	3,768	3,738	4,197	3,778	3,911	5,742	5,134	4,178	2,702
Profit before Share in Equity Accounted Investments, Exceptional Items and Tax	1,643	13,191	18,986	8,392	6,204	8,083	6,508	3,348	362	2,280	3,049
Share in Profit/ (Loss) in Equity Accounted Investments (Net of Tax)	1	9	6	5	4	-	(125)	(25)	172	175	67
Profit before Tax and Exceptional Items	1,644	13,200	18,992	8,397	6,208	8,083	6,383	3,323	534	2,455	3,116
Exceptional Income/(Expenses) (Net)	5	41	582	(492)	(284)	-	1,774	(8)	(577)	(1,940)	(396)
Profit/ (Loss) before Tax from Continuing Operations	1,649	13,241	19,574	7,905	5,924	8,083	8,157	3,315	(43)	515	2,720
Less: Tax Expenses	391	3,144	5,373	2,723	2,157	2,588	2,074	1,433	498	256	525
Profit/ (Loss) from Continuing Operations	1,258	10,097	14,201	5,182	3,767	5,495	6,083	1,882	(541)	258	2,195
Profit/ (Loss) from Discontinued Operations (Net of Tax)	-	-	(471)	(1,699)	-	-	-	-	(161)	-	-
Profit/ (Loss) before Non-Controlling Interest	1,258	10,097	13,730	3,483	3,767	5,495	6,083	1,882	(702)	258	2,195
Less: Non-Controlling Interest in Profit/ (Loss)	-	-	-	-	-	(1)	-	(18)	(451)	(596)	20
Net Profit/ (Loss) for the Period	1,258	10,097	13,730	3,483	3,767	5,496	6,083	1,900	(251)	854	2,175
Business Reconstruction Reserve (BRR) #											
Expenses adjusted against BRR (Net of Tax)	-	-	-	-	-	-	-	-	682	97	86
Profit/ (Loss) for the Period had the expenses not adjusted against BRR	1,258	10,097	13,730	3,483	3,767	5,496	6,083	1,900	(933)	757	2,089
Financial Position											
Gross Fixed Assets (excluding CWIP)	22,207	182,450	169,911	157,052	140,334	130,142	125,094	121,186	123,522	101,940	87,914
Capital Work-in-Progress (CWIP) **	937	7,700	4,945	10,202	7,721	4,098	2,063	1,814	4,214	14,111	23,059
Less: Accumulated Depreciation, Amortization and Impairment	8,742	71,824	63,037	56,783	51,139	44,283	40,006	36,499	37,849	29,981	26,750
Net Fixed Assets	14,402	118,326	111,819	110,471	96,916	89,957	87,151	86,501	89,887	86,070	84,223
Investments	1,718	14,116	14,119	17,133	9,411	9,012	10,781	15,157	12,438	12,346	12,961
Other Non-Current Assets /(Liabilities) (Net)	(1,118)	(9,188)	(11,856)	(11,794)	(12,407)	(9,581)	(8,497)	(6,737)	(8,859)	(7,235)	(6,924)
Net Current Assets	3,639	29,898	27,354	16,711	31,664	20,538	17,499	14,961	15,074	16,571	18,289
Capital Employed	18,641	153,152	141,436	132,521	125,584	109,926	106,934	109,882	108,540	107,752	108,549
Less: Loan Funds	7,100	58,335	63,234	65,978	67,257	52,416	52,074	63,817	67,552	68,467	66,163
Less: Non-Controlling Interest	1	11	11	10	10	9	9	6	381	956	1,781
Net Worth	11,540	94,806	78,191	66,533	58,317	57,501	54,851	46,059	40,607	38,329	40,605

(₹ Crore)

	2022-23 @	2022-23 @	2021-22 @	2020-21 @	2019-20 @	2018-19 @	2017-18 @	2016-17 @	2015-16 @	2014-15	2013-14
Net Worth represented by :											
Equity Share Capital	27	222	222	222	222	222	223	223	205	207	206
Other Equity:											
Share Warrants	-	-	-	-	-	-	-	-	-	-	6
Equity Component of Compound Financial Instruments	-	4	4	4	4	4	4	4	3	-	-
Reserves and Surplus	10,186	83,692	73,860	59,717	55,577	52,599	47,644	41,770	36,443	38,122	40,393
Other Comprehensive Income	1,325	10,888	4,105	6,590	2,514	4,676	6,980	4,062	3,956	-	-
	11,538	94,806	78,191	66,533	58,317	57,501	54,851	46,059	40,607	38,329	40,605

Ratios and Statistics

	Unit	2022-23 @	2021-22 @	2020-21 @	2019-20 @	2018-19 @	2017-18 @	2016-17 @	2015-16 @	2014-15	2013-14
Operating Margin	%	10.25	14.61	13.39	12.15	11.87	12.02	12.13	8.71	8.38	9.21
Net Margin	%	4.52	7.04	2.64	3.19	4.21	5.25	1.85	(0.25)	0.80	2.42
Gross Interest Cover ^	Times	6.43	7.49	4.73	3.57	4.37	3.86	2.36	1.91	1.95	1.85
Net Interest Cover^^	Times	6.62	7.87	5.06	3.70	4.40	3.84	2.36	1.95	2.41	3.44
ROCE^^^	%	11.43	16.61	9.40	8.83	10.94	9.61	8.32	5.08	5.97	5.66
ROE	%	11.67	18.97	5.58	6.51	9.78	12.06	4.39	(0.64)	2.16	5.73
Basic EPS	₹	45.42	61.73	15.66	16.94	24.67	27.30	9.22	(4.55)	4.14	10.91
Diluted EPS	₹	45.36	61.65	15.65	16.93	24.66	27.29	9.22	(4.55)	4.13	10.91
Cash EPS ^^^^	₹	78.24	92.69	46.07	40.03	46.07	47.98	30.91	20.78	21.53	28.73
Capital Expenditure (Cash outflow)	₹ Crore	9,842	5,426	5,565	6,791	6,005	3,001	2,938	4,245	5,978	9,424
Debt Equity Ratio	Times	0.64	0.82	0.99	1.15	0.91	0.95	1.39	1.66	1.79	1.63
Book value per Share	₹	421.79	347.87	296.07	259.56	256.07	244.33	205.32	196.64	185.61	196.67

* Balance Sheet items are translated at closing exchange rate and Profit and Loss items are translated at average exchange rate.

** Including Intangible assets under development

Financial restructuring scheme formulated by the Company under the provisions of the Companies Act, approved by the Bombay High Court, to deal with various costs associated with its organic and inorganic growth plan.

@ Figures for FY 2022-23, FY 2021-22, FY 2020-21, FY 2019-20, FY 2018-19, FY 2017-18, FY 2016-17 and FY 2015-16 are as per Ind AS compliant financial statements. Previous periods figures are as per Previous GAAP financial statements.

^ Gross interest coverage ratio is calculated as Operating Profit plus Other Income divided by Interest and Finance Charges plus Finance costs transferred to Capital Work-in-Progress/ Intangible Assets under development

^^ Net interest coverage ratio is calculated as Operating Profit plus Other Income divided by Interest and Finance Charges.

^^^ Earnings before Interest and Taxes/ Average Capital Employed

^^^^ Cash EPS is calculated as Profit/ (Loss) for the year plus Depreciation, Amortization and Impairment divided by Weighted average numbers of equity shares

Financial Highlights - Standalone

(₹ Crore)

	2022-23	2022-23@	2021-22@	2020-21@	2019-20@	2018-19@	2017-18@	2016-17 @	2015-16 @	2014-15	2013-14	2012-13
Profitability	US$ in Mn *											
Sales and Operating Revenues	9,572	76,878	67,653	42,701	40,242	45,749	43,446	39,383	36,713	36,869	30,101	28,070
Less: Cost of Sales	8,641	69,403	56,360	38,467	36,578	41,503	38,322	34,569	33,367	33,453	27,609	25,866
Operating Profit	931	7,475	11,293	4,234	3,664	4,246	5,124	4,814	3,346	3,417	2,492	2,204
Other Income	73	586	535	650	739	940	948	1,005	979	882	1,124	983
Less: Depreciation, Amortization and Impairment	240	1,927	1,847	1,848	1,708	1,693	1,617	1,428	1,282	837	823	704
Less: Interest and Finance Charges	162	1,300	1,417	1,469	1,679	1,683	1,901	2,323	2,390	1,637	712	436
Profit before Exceptional Items and Tax	602	4,834	8,564	1,567	1,016	1,810	2,554	2,068	653	1,825	2,081	2,047
Exceptional Income/ (Expenses) (Net)	5	41	(107)	7	(64)	-	(325)	85	-	(578)	(396)	-
Profit/ (Loss) before Tax from Continuing Operations	607	4,875	8,457	1,574	952	1,810	2,229	2,153	653	1,247	1,685	2,047
Less: Tax Expenses	193	1,549	2,950	581	332	605	793	596	99	322	272	347
Profit/ (Loss) from Continuing Operations	414	3,326	5,507	993	620	1,205	1,436	1,557	554	925	1,413	1,699
Profit/ (Loss) from Discontinued Operations (Net of Tax)	-	-	-	-	-	-	-	-	(2)	-	-	-
Profit/ (Loss) for the Period	414	3,326	5,507	993	620	1,205	1,436	1,557	552	925	1,413	1,699
Business Reconstruction Reserve (BRR) #												
Expenses adjusted against BRR (Net of Tax)	-	-	-	-	-	-	-	-	682	97	86	-
Profit/ (Loss) for the Period had the expenses not adjusted against BRR	414	3,326	5,507	993	620	1,205	1,436	1,557	(130)	828	1,327	1,699

Financial Position

	2022-23	2022-23@	2021-22@	2020-21@	2019-20@	2018-19@	2017-18@	2016-17 @	2015-16 @	2014-15	2013-14	2012-13
Gross Fixed Assets (excluding CWIP)	6,536	53,703	52,507	51,080	50,296	48,898	48,264	46,742	43,316	35,434	26,804	15,073
Capital Work-in-Progress (CWIP) **	364	2,987	1,581	1,709	1,282	982	737	712	3,079	10,744	17,277	23,605
Less: Accumulated Depreciation, Amortization and Impairment	2,629	21,600	20,207	18,690	16,928	15,376	13,900	12,358	11,063	9,374	8,749	7,975
Net Fixed Assets	4,271	35,090	33,881	34,099	34,650	34,504	35,101	35,096	35,332	36,804	35,332	30,703
Investments	3,623	29,766	29,655	31,731	24,639	25,495	27,025	29,332	27,311	21,251	21,907	20,482
Other Non-Current Assets /(Liabilities) (Net)	(453)	(3,725)	(3,473)	(2,365)	(2,223)	(1,565)	(708)	516	(1,038)	(1,193)	(1,174)	(751)
Net Current Assets	1,176	9,666	13,444	6,528	11,478	9,658	8,330	9,539	9,230	9,400	8,339	8,409
Capital Employed	8,617	70,797	73,507	69,993	68,544	68,092	69,748	74,483	70,835	66,262	64,404	58,843
Less: Loan Funds	1,498	12,308	19,079	19,929	23,050	19,534	20,297	27,150	28,676	29,007	27,672	24,871
Net Worth	7,119	58,489	54,428	50,064	45,494	48,558	49,451	47,333	42,159	37,255	36,732	33,972

(₹ Crore)

	2022-23	2022-23@	2021-22@	2020-21@	2019-20@	2018-19@	2017-18@	2016-17 @	2015-16 @	2014-15	2013-14	2012-13
Net Worth represented by :												
Equity Share Capital	27	222	222	222	222	222	223	223	205	207	206	191
Other Equity:												
Share Warrants	-	-	-	-	-	-	-	-	-	-	-	541
Reserves and Surplus	6,272	51,531	49,178	44,310	43,482	43,285	42,497	41,235	36,568	37,049	36,526	33,240
Other Comprehensive Income	820	6,736	5,028	5,532	1,790	5,051	6,731	5,875	5,386	-	-	-
	7,119	58,489	54,428	50,064	45,494	48,558	49,451	47,333	42,159	37,255	36,732	33,972

Ratios and Statistics

	Unit	2022-23@	2021-22@	2020-21@	2019-20@	2018-19@	2017-18	2016-17 @	2015-16 @	2014-15	2013-14	2012-13
Operating Margin	%	9.72	16.69	9.92	9.11	9.28	11.79	12.22	9.11	9.27	8.28	7.85
Net Margin	%	4.33	8.14	2.33	1.54	2.63	3.31	3.95	1.50	2.51	4.70	6.05
Gross Interest Cover ^	Times	5.98	8.20	3.29	2.62	3.08	3.18	1.73	1.81	1.75	1.50	1.61
Net Interest Cover	Times	6.20	8.35	3.32	2.62	3.08	3.19	2.51	1.81	2.63	5.08	7.31
ROCE	%	8.50	13.91	4.38	3.94	5.07	6.18	6.04	4.44	5.30	4.53	4.71
ROE	%	5.89	10.54	2.08	1.32	2.46	2.97	3.48	1.39	2.50	4.00	5.15
Basic EPS	₹	14.96	24.76	4.46	2.79	5.41	6.45	7.56	(0.64)	4.48	7.09	8.88
Diluted EPS	₹	14.94	24.73	4.46	2.79	5.41	6.45	7.55	(0.64)	4.48	7.09	8.87
Cash EPS ^^	₹	23.66	33.07	12.77	10.47	13.01	13.70	14.49	8.95	8.53	11.22	12.55
Dividend per Share ##	₹	3.00	4.00	3.00	1.00	1.20	1.20	1.10	1.00	1.00	1.00	1.40
Capital Expenditure (Cash outflow)	₹ Crore	2,726	1,506	1,137	1,395	1,263	1,178	1,041	1,399	2,073	3,458	5,531
Debt Equity Ratio	Times	0.22	0.36	0.40	0.51	0.40	0.41	0.57	0.68	0.78	0.75	0.73
Book value per Share	₹	260.23	242.16	222.84	202.49	216.25	220.28	211.00	204.16	180.41	177.92	177.44
Market Capitalisation $	₹ Crore	91,196	127,976	73,433	21,502	46,145	48,166	43,756	18,162	26,638	29,266	17,538
Number of Equity Shareholders	Nos.	676,110	503,729	348,471	332,014	304,345	299,521	319,783	392,888	338,655	361,686	441,166
Number of Employees	Nos.	21,440	21,151	20,971	22,477	22,865	23,555	23,679	24,118	21,976	20,902	20,238
Average Cash LME (Aluminium)	US$	2,490	2,769	1,802	1,749	2,035	2,046	1,688	1,592	1,888	1,773	1,976
Average Cash LME (Copper)	US$	8,551	9,691	6,879	5,855	6,337	6,451	5,152	4,852	6,556	7,103	7,855

* Balance Sheet items are translated at closing exchange rate and Profit and Loss items are translated at average exchange rate.

** Including Intangible assets under development

\# Financial restructuring scheme formulated by the Company under the provisions of the Companies Act, approved by the Bombay High Court, to deal with various costs associated with its organic and inorganic growth plan.

\## Proposed/Interim Dividend for the Period

@ Figures for FY 2022-23, FY 2021 -22, FY 2020-21, FY 2019-20, FY 2018-19, FY 2017-18, FY 2016-17 and FY 2015-16 are as per Ind AS compliant financial statements. Previous periods figures are as per Previous GAAP financial statements.

$ including Treasury shares held by the Company

^ Gross interest coverage ratio is calculated as Operating Profi t plus Other Income ivided by Interest and Finance Charges plus Finance costs transferred to Capital Work-in-Progress/ Intangible Assets under development.

^^ Cash EPS is calculated as Profi t/ (Loss) for the year plus Depreciation, Amortization and Impairment divided by Weighted average numbers of equity shares.

Independent Auditor's Report

on the Consolidated Financial Statements

To the Members of Hindalco Industries Limited

Report on the Audit of the Consolidated Financial Statements

Opinion

1. We have audited the accompanying consolidated financial statements of Hindalco Industries Limited (hereinafter referred to as the "Holding Company") which includes the financial statements/financial information in respect of joint operations consolidated on a proportionate basis, trusts and subsidiaries (Holding Company, joint operations, trusts and subsidiaries together referred to as "the Group"), its joint ventures and associate companies (refer Note 51 to the accompanying consolidated financial statements), which comprise the consolidated Balance Sheet as at March 31, 2023, and the consolidated Statement of Profit and Loss (including Other Comprehensive Income), the consolidated Statement of Changes in Equity and the consolidated Statement of Cash Flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies and other explanatory information (hereinafter referred to as "the consolidated financial statements").

2. In our opinion and to the best of our information and according to the explanations given to us and based on the consideration of reports of other auditors on the audited financial statements /consolidated audited financial information of the joint operations, trusts, subsidiaries, joint venture and associate companies and based on the consideration of the unaudited financial information of the subsidiaries and joint venture, the aforesaid consolidated financial statements give the information required by the Companies Act, 2013 ("the Act") in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the consolidated state of affairs of the Group, its joint ventures and associate companies as at March 31, 2023, of the consolidated total comprehensive income (comprising of profit and other comprehensive income), consolidated changes in equity and its consolidated cash flows for the year then ended.

Basis for Opinion

3. We conducted our audit in accordance with the Standards on Auditing (SAs) specified under Section 143(10) of the Act. Our responsibilities under those Standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements" section of our report. We are independent of the Group, its joint ventures and associate companies in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in India in terms of the Code of Ethics issued by the Institute of Chartered Accountants of India and the relevant provisions of the Act, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained and the audit evidence obtained by the other auditors in terms of their reports referred to in sub-paragraph 16 of the Other Matters section below, other than the unaudited financial statements/ financial information as certified by the management and referred to in sub-paragraph 17 of the Other Matters section below, is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

4. Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key Audit Matter	How our audit addressed the Key Audit Matter
1. Measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress consisting of precious metals	
Refer Notes 1C(c) and 13(d) to the consolidated financial statements. Of the Holding Company's ₹ 20,186 crores of inventory as at March 31, 2023, ₹ 4,232 crores of inventory comprised of coal, bauxite, copper concentrate and work in progress consisting of precious metals. This was determined a key audit matter, as the measurement of these inventory quantities lying at the Holding Company's yards, smelters and refineries is complex and involves significant judgements and estimates resulting from measuring the surface area, dip measurement of material in tanks/silos and such other parameters. The Holding Company uses internal and external experts, as applicable, to perform volumetric surveys and assessments basis which the quantities of these inventories are estimated.	Our audit procedures relating to the measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress of precious metals included the following: • Understanding and evaluating the design and testing the operating effectiveness of controls over the physical count process and measurement of such inventory; • Evaluation of the independence, competency and capabilities of the management's experts; • Physically observing inventory measurement and count procedures carried out by management using experts to assess its appropriateness and completeness and performing roll forward procedures; and • Obtaining and inspecting inventory measurement and physical count results for such inventories, including assessing and evaluating the results of analysis performed and adjustments made by Holding Company's management in respect of differences between book and physical quantities. Based on the above procedures performed, we did not identify any material exceptions in the measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress inventories consisting of precious metals.
2. Migration to a new ERP system	
The Holding Company's financial reporting process significantly relies on the design and operating effectiveness of its IT systems. The Holding Company is migrating to a centralised enterprise- wide resource planning ('ERP') system in a phased manner across its plants and offices. The changes in the ERP system represent a financial reporting risk as controls and processes that have been established and embedded over a number of years are likely to be revisited. Due to changes in the ERP system, there is a risk of breakdown in internal financial controls and a risk of inaccurate or incomplete processing of the financial data. Further, the migration involved significant program and configuration changes. Accordingly, it is considered as a key audit matter.	We performed the following procedures with respect to transition to the new ERP system: • Obtained an understanding of the changes in the IT environment, IT infrastructure and the ERP system by involving technology specialists; • Obtained understanding and tested the controls over data migration including proper authorisation, completeness and accuracy; • Tested a sample of the migrated balances of general ledgers, sub-ledgers and open items for completeness and accuracy as of the date of migration at the respective plants/offices of the Holding Company; • Evaluated and tested relevant IT general controls over the ERP system and IT dependencies identified as relevant for our audit of the consolidated financial statements; and • Communicated with those charged with governance and Holding Company's management and tested a combination of compensating controls or remediated controls and/or performed alternative audit procedures, wherever necessary. Based on the above no significant exceptions were noted

Key Audit Matter	How our audit addressed the Key Audit Matter
3. Provisions recognised and contingencies disclosed with regards to certain legal and tax matters including uncertain tax positions Refer Notes 1C (e) and (f), 11, 12, 24 and 46A to the consolidated financial statements. The Holding Company operates in a complex tax jurisdiction with certain tax exemption/ deduction that may be subject to challenge and audit by the tax authorities. Further, there are open tax matters under litigation with the tax authorities. As at March 31, 2023, the Holding Company has, recognised provisions and disclosed contingent liabilities towards various legal and tax matters, including environmental, mining, local and state levies, income tax holidays, availing of input tax credits and such other matters. This is a key audit matter, as evaluation of these matters requires management judgement and estimation, related legal advice including those leading to interpretation of laws and regulations and application of relevant judicial precedents to determine the probability of the outflow of economic resources for recognising provisions, disclosing contingent liabilities and making related disclosures in the consolidated financial statements.	Our audit procedures relating to provisions recognised and contingencies disclosed with regard to certain legal and tax matters included the following: • Understanding and evaluating the design and testing the operating effectiveness of controls over the recognition, measurement, presentation and disclosures made in the consolidated financial statements in respect of these matters; • Obtaining details of legal and tax matters, inspecting the supporting documents to evaluate management's assessment of probability of outcome and the magnitude of potential loss as well as testing related to provisions and disclosures in the consolidated financial statements through inquiries with the management and legal counsel; • Assessing on test basis on the underlying calculation supporting the contingent liabilities and other litigation disclosures in the consolidated financial statements; • Reviewing orders and other communication from tax and regulatory authorities and management responses thereto; • Assessing the management expert's legal advice and opinion, as applicable, obtained by the Holding Company's management to corroborate management assessment and evaluating competence and capabilities of the experts; and • Using auditor's specialist for technical assistance in evaluating certain significant and judgemental complex direct and indirect tax litigation and positions in tax returns and their possible outcome. Based on the above procedures performed, we did not identify any material exceptions in the provisions recognised and contingent liabilities disclosed in the consolidated financial statements with regard to such legal and tax matters.

5. The following Key Audit Matter was included in the Memorandum of Work Performed issued by other auditor whose audit report dated May 23, 2023, contained an unmodified audit opinion on the consolidated financial information of Novelis Inc. ("Novelis"), a subsidiary of the Holding Company which is reproduced by us as under:

Key Audit Matter	How the other auditor addressed the Key Audit Matter
Goodwill impairment assessment	
The Company's consolidated goodwill balance was ₹ 25,704 crores as of March 31, 2023. Management conducts an impairment test as of the last day of March of each year, or more frequently if events or circumstances indicate that the carrying value of goodwill may be impaired. As disclosed by management, potential impairment is identified by comparing the recoverable value of each cash generating unit to its carrying value. The Company estimates the recoverable value based on fair value less costs to sell approach. If the carrying value exceeds the recoverable value, management records an impairment charge in an amount equal to that excess. The determination of recoverable value using the market and income approaches requires the use of management's significant assumptions related to selection of market multiples and control premium for the market approach and sales volumes, conversion premium, capital spending, working capital changes and the discount rate for the income approach. The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment is a Key Audit Matter are (i) the significant judgment by management when developing the fair value measurement of the cash generating units; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to market multiples and control premium for the market approach and sales volumes, conversion premium, capital spending and the discount rate for the income approach; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge. Refer to Notes 14 and 42 in the consolidated financial information of Novelis.*	Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the FFC consolidated financial statements. Our procedures included, among others: (i) understanding and evaluating the design and testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the Company's cash generating units; (ii) testing management's process for developing the fair value estimate of the cash generating units; (iii) evaluating the appropriateness of the income and market approaches and the weighting of the approaches; (iv) testing the completeness and accuracy of underlying data used in the approaches; and (iv) evaluating the reasonableness of the significant assumptions used by management in the income and market approaches. (v) Evaluating management's assumptions related to sales volumes and prices, costs to produce, and capital spending involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the cash generating units; (ii) the consistency with external market and industry data; and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. (vi) Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of the income and market approaches, the weighting of the approaches, and evaluating the reasonableness of the discount rate, control premium and market multiples assumptions. As a result of our procedures performed, no misstatements were noted.

* These notes are included in Note 1C(a) and 5 of the consolidated financial statements

6. The following Key Audit Matter was included in the Memorandum of Work Performed dated April 29, 2023, issued by an independent firm of Chartered Accountants along with their audit report dated April 24, 2023, which contained an unmodified audit opinion on the financial statements of Utkal Alumina International Limited ("Utkal"), a subsidiary of the Holding Company which is reproduced by us as under:

Key Audit Matter	How the other auditor addressed the Key Audit Matter
Valuation of deferred tax assets including recognized Minimum Alternate Tax (MAT) credit	
The Company has a significant amount of deferred tax assets, mainly resulting from MAT credit as per Income Tax Act. The valuation of deferred tax assets including MAT is significant to our audit because the risk exists that future taxable profits will not be sufficient to fully recover the deferred tax assets including MAT credit. Management supports the recoverability of the deferred tax assets mainly with income projections which contain estimates of and tax strategies for future taxable income. Refer Notes 9 and 35 of Utkal's financial statements.*	Our audit procedures included: • Evaluating the Management's determination of the estimated manner in which the deferred tax asset would be utilised by comparing the Management's assessment to business plans and long-term profit forecasts and the key assumptions used in the projections based on our knowledge of the business and the industry in which company operates; • Critically assessing whether profit forecasts are reasonable in relation to historical trends, current year performance and future plans;

- We also reperformed the calculation of deferred taxes, checking that the tax rate applied is proper;
- We compared the tax plans with the Company's budget on a sample basis in terms of the recoverability of deferred tax assets from temporary differences and from MAT credit;
- Using our own tax team to assist us in assessing the appropriateness of the level of deferred taxes recognised in the balance sheet;
- Recalculating the defer tax which will be reversed the post adoption of new tax regime and ensure that the calculation is proper;
- We assessed the adequacy of the income tax disclosures to the financial statements, setting out the basis of the deferred tax balance and the level of estimation involved; and

Our audit procedures performed did not lead to any reservations regarding the recognition, measurement and disclosure of deferred taxes.

* These notes are included in Note 11A and 11B of the consolidated financial statements.

Other Information

7. The Holding Company's Board of Directors is responsible for the other information. The other information comprises the information included in the integrated annual report but does not include the financial statements and our and other auditor's report thereon. The integrated annual report is expected to be made available to us after the date of this auditor's report.

   Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

   In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

   When we read the integrated annual report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance and take appropriate action as applicable under the relevant laws and regulations.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

8. The Holding Company's Board of Directors is responsible for the preparation and presentation of these consolidated financial statements in terms of the requirements of the Act that give a true and fair view of the consolidated financial position, consolidated financial performance and consolidated cash flows, and changes in equity of the Group including its joint ventures and associate companies in accordance with the accounting principles generally accepted in India, including the Accounting Standards specified under Section 133 of the Act. The respective Board of Directors of the companies included in the Group and of its joint ventures and associate companies are responsible for maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the Group and of its joint ventures and associate companies and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and the design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring accuracy and completeness of the accounting records, relevant to the preparation and presentation of the consolidated financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error, which have been used for the purpose of preparation of the consolidated financial statements by the Directors of the Holding Company, as aforesaid.

9. In preparing the consolidated financial statements, the respective Board of Directors of the companies included in the Group and of its joint ventures and associate companies are responsible for assessing the ability of the Group and of its joint ventures and associate companies to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the respective Management either intends to liquidate the Group, its joint ventures and associate companies or to cease operations, or has no realistic alternative but to do so.

10. The respective Board of Directors of the companies included in the Group and of its joint ventures and associate companies are responsible for overseeing the financial reporting process of the respective companies included in the Group and of its joint ventures and associate companies.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

11. Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

12. As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

    - Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

    - Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances. Under Section 143(3)(i) of the Act, we are also responsible for expressing our opinion on whether the Holding Company has adequate internal financial controls with reference to consolidated financial statements in place and the operating effectiveness of such controls. (Refer paragraph 19(f) below)

    - Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.

    - Conclude on the appropriateness of the Board of Directors use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability of the Group and its joint ventures and associate companies to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group and its joint venture and associate companies to cease to continue as a going concern.

    - Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

    - Obtain sufficient appropriate audit evidence regarding the financial statements / information of the entities or business activities within the Group and its joint ventures and associate companies to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the audit of the financial statements of such entities included in the consolidated financial statements of which we are the independent auditors. For the other entities included in the consolidated financial statements, which have been audited by other auditors, such other auditors remain responsible for the direction, supervision and performance of the audits carried out by them. We remain solely responsible for our audit opinion.

13. We communicate with those charged with governance of the Holding Company and such other entities included in the consolidated financial statements of which we are the

independent auditors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

14. We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

15. From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Matters

16. We did not audit the financial statements of eleven subsidiaries, consolidated financial information of one subsidiary, financial statements of two joint operations and two trusts included in the consolidated financial statements of the Holding Company, which constitute total assets of ₹ 144,867 crores and net assets of ₹ 52,383 crores as at March 31, 2023, total revenue of ₹150,952 crores, total comprehensive income (comprising of profit and other comprehensive income) of ₹ 12,642 crores and net cash inflows amounting to ₹ 3,667 crores for the year ended on that date, as considered in the consolidated financial statements. The consolidated financial statements also include the Group's share of total comprehensive income (comprising of profit and other comprehensive income) of ₹ 10 crores and ₹ * crore for the year ended March 31, 2023 as considered in the consolidated financial statements, in respect of four associate companies and one joint venture respectively, whose financial statements have not been audited by us. These financial statements/ consolidated financial information have been audited by other auditors whose reports have been furnished to us by the Management / other auditors, and our opinion on the consolidated financial statements insofar as it relates to the amounts and disclosures included in respect of these subsidiaries, joint operations, trusts, joint venture and associate companies and our report in terms of sub-section (3) of Section 143 of the Act including report on Other Information insofar as it relates to the subsidiary companies which are incorporated in India, joint operations, trusts, joint venture and associate companies, is based solely on the reports of the other auditors. In respect of one joint operation an emphasis of matter paragraph with regard to going concern and in respect of one joint operation and one subsidiary, a material uncertainty related to going concern has been reported by the auditors of the respective entities vide their audit report, however, the same is not considered to be material to the consolidated financial statements of the Group.

* Represent figures below the rounding off convention used in the Consolidated Financial Statements.

17. We did not audit the financial information of four subsidiaries included in the consolidated financial statements of the Holding Company, which constitute total assets of ₹ 7 crores and net liabilities of ₹ 6 crores as at March 31, 2023, total revenue of ₹ 16 crores, total comprehensive loss (comprising of loss and other comprehensive income) of ₹ 6 crores and net cash inflows amounting to ₹ 1 crore for the year ended on that date. The consolidated financial statements also include the Group's share of total comprehensive loss (comprising of loss and other comprehensive loss) of ₹ * crore for the year ended March 31, 2023 as considered in the consolidated financial statements, in respect of one joint venture whose financial information has not been audited by us. These financial information are unaudited and have been furnished to us by the Management, and our opinion on the consolidated financial statements insofar as it relates to the amounts and disclosures included in respect of these subsidiaries and joint venture and our report in terms of sub-section (3) of Section 143 of the Act including report on Other Information insofar as it relates to the aforesaid subsidiaries and joint venture, is based solely on such unaudited financial information. In our opinion and according to the information and explanations given to us by the Management, the financial information of the above subsidiaries and joint venture are not material to the consolidated financial statements.

* Represent figures below the rounding off convention used in the Consolidated Financial Statements.

Our opinion on the consolidated financial statements, and our report on Other Legal and Regulatory Requirements below, is not modified in respect of the matters reported in paragraphs 16 and 17 above with respect to our reliance on the work done and the reports of the other auditors and the financial statements/ financial information certified by the Management.

Report on Other Legal and Regulatory Requirements

18. As required by the Companies (Auditor's Report) Order, 2020 ("CARO 2020"), issued by the Central Government of India in terms of sub-section (11) of Section 143 of the Act, we give in the **"Annexure B"**, a statement on the matter specified in paragraph 3(xxi) of CARO 2020.

19. As required by Section 143(3) of the Act, we report, to the extent applicable, that:

(a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit of the aforesaid consolidated financial statements.

(b) In our opinion, proper books of account as required by law relating to preparation of the aforesaid consolidated financial statements have been kept so far as it appears from our examination of those books and the reports of the other auditors.

(c) The Consolidated Balance Sheet, the Consolidated Statement of Profit and Loss (including other comprehensive income), the Consolidated Statement of Changes in Equity and the Consolidated Statement of Cash Flows dealt with by this Report are in agreement with the relevant books of account and records maintained for the purpose of preparation of the consolidated financial statements.

(d) In our opinion, the aforesaid consolidated financial statements comply with the Accounting Standards specified under Section 133 of the Act.

(e) On the basis of the written representations received from the directors of the Holding Company as on March 31, 2023 taken on record by the Board of Directors of the Holding Company and the reports of the statutory auditors of its joint operations, its subsidiary companies, joint venture and associate companies incorporated in India, none of the directors of the Holding Company, its joint operations, its subsidiary companies, joint venture and associate companies incorporated in India is disqualified as on March 31, 2023 from being appointed as a director in terms of Section 164(2) of the Act.

(f) With respect to the adequacy of internal financial controls with reference to consolidated financial statements of the Holding Company, its joint operations, its subsidiary companies, joint venture and associate companies incorporated in India and the operating effectiveness of such controls, refer to our separate report in "**Annexure A**".

(g) With respect to the other matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditor's) Rules, 2014, in our opinion and to the best of our information and according to the explanations given to us:

i. The consolidated financial statements disclose the impact of pending litigations on the consolidated financial position of the Group, its joint ventures and associate companies – Refer Note 11C, 24 and 46A to the consolidated financial statements.

ii. Provision has been made in the consolidated financial statements, as required under the applicable law or accounting standards, for material foreseeable losses, if any, on long-term contracts including derivative contracts as at March 31, 2023 – Refer Note 9 and 24 to the consolidated financial statements in respect of such items as it relates to the Group, its joint ventures and associate companies.

iii. Except as stated in Note 23(a) to the consolidated financial statements, there has been no delay during the year in transferring amounts required to be transferred to the Investor Education and Protection Fund by the Holding Company and its joint operations, subsidiary companies, joint ventures and associate companies incorporated in India.

iv. (a) The respective Managements of the Holding Company, joint operations, subsidiaries, joint venture and associate companies, which are companies incorporated in India whose financial statements have been audited under the Act have represented to us and the other auditors of such joint operations, subsidiaries, joint venture and associate companies respectively that, to the best of their knowledge and belief, no funds (which are material either individually or in the aggregate) have been advanced or loaned or invested (either from borrowed funds or share premium or any other sources or kind of funds) by the Holding Company or any of such joint operations, subsidiaries, joint venture and associate companies to or in any other persons or entities, including foreign entities ("Intermediaries"), with the understanding, whether recorded in writing or otherwise, that the Intermediary shall, directly or indirectly, lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Holding Company or any of such joint operations, subsidiaries, joint venture and associate companies ("Ultimate Beneficiaries") or provide any guarantee, security or the like on behalf of the Ultimate Beneficiaries (Refer Note 56(b) to the consolidated financial statements).

(b) The respective Managements of the Holding Company and its joint operations, subsidiaries, joint venture and associate companies which are companies incorporated in India whose financial statements have been audited under the Act have represented to us and the other auditors of such joint operations, subsidiaries, joint venture and associate companies respectively that, to the best of their knowledge and belief, no funds (which are material either individually or in the aggregate) have been received by the Holding Company or any of such joint operations, subsidiaries, joint venture and associate companies from any persons or entities, including foreign entities ("Funding Parties"), with the understanding, whether recorded in writing or otherwise, that the Holding Company or any of such joint operations, subsidiaries, joint venture and associate companies shall, directly or indirectly, lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Funding Party ("Ultimate Beneficiaries") or provide any guarantee, security or the like on behalf of the Ultimate Beneficiaries (Refer Note 56(b) to the consolidated financial statements).

(c) Based on the audit procedures, that has been considered reasonable and appropriate in the circumstances, performed by us and those performed by the auditors of the joint operations, subsidiaries, joint ventures and associate companies, which are companies incorporated in India whose financial statements have been audited under the Act, nothing has come to our or other auditor's notice that has caused us or the other auditors to believe that the representations under sub-clause (i) and (ii) of Rule 11(e) of the Companies (Audit and Auditors) Rules, 2014 contain any material misstatement.

v. The dividend declared and paid during the year by the Holding Company is in compliance with Section 123 of the Act. The joint operations, subsidiary companies, associate companies and joint venture, incorporated in India has not declared / or paid any dividend during the year.

vi. As proviso to Rule 3(1) of the Companies (Accounts) Rules, 2014 (as amended), which provides for books of account to have the feature of audit trail, edit log and related matters in the accounting software used by the Group, its joint ventures and associate companies, incorporated in India is applicable to the Group, its joint ventures and associate companies incorporated in India only with effect from financial year beginning April 1, 2023, the reporting under clause (g) of Rule 11 of the Companies (Audit and Auditors) Rules, 2014 (as amended), is currently not applicable.

20. The Holding Company, its joint operations, subsidiary companies, joint ventures and associate companies incorporated as public companies in India have paid/ provided for managerial remuneration in accordance with the requisite approvals mandated by the provisions of Section 197 read with Schedule V to the Act.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVR9215

Mumbai
May 24, 2023

Annexure A to Independent Auditor's Report

Referred to in paragraph 19(f) of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the Consolidated Financial Statements as of and for the year ended March 31, 2023.

Report on the Internal Financial Controls with reference to the Consolidated Financial Statements under clause (i) of sub-section 3 of Section 143 of the Act

1. In conjunction with our audit of the consolidated financial statements of the Holding Company as of and for the year ended March 31, 2023, we have audited the internal financial controls with reference to consolidated financial statements of Hindalco Industries Limited (hereinafter referred to as "the Holding Company"), its joint operations, its subsidiary companies, its joint venture and its associate companies, which are companies incorporated in India, as of that date.

Management's Responsibility for Internal Financial Controls

2. The respective Board of Directors of the Holding Company, its joint operations, its subsidiary companies, its joint venture and associate companies, to whom reporting under clause (i) of sub section 3 of Section 143 of the Act in respect of the adequacy of the internal financial controls with reference to financial statements is applicable, are responsible for establishing and maintaining internal financial controls based on internal control over financial reporting criteria established by the respective companies considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting ("the Guidance Note") issued by the Institute of Chartered Accountants of India ("ICAI"). These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to the respective company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information, as required under the Act.

Auditor's Responsibility

3. Our responsibility is to express an opinion on the Holding Company's internal financial controls with reference to consolidated financial statements based on our audit. We conducted our audit in accordance with the Guidance Note issued by the ICAI and the Standards on Auditing deemed to be prescribed under Section 143(10) of the Companies Act, 2013, to the extent applicable to an audit of internal financial controls, both applicable to an audit of internal financial controls and both issued by the ICAI. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate internal financial controls with reference to financial statements was established and maintained and if such controls operated effectively in all material respects.

4. Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system with reference to consolidated financial statements and their operating effectiveness. Our audit of internal financial controls with reference to consolidated financial statements included obtaining an understanding of internal financial controls with reference to consolidated financial statements, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error.

5. We believe that the audit evidence we have obtained and the audit evidence obtained by the other auditors in terms of their reports referred to in the Other Matters paragraph below is sufficient and appropriate to provide a basis for our audit opinion on the Holding Company's internal financial controls system with reference to consolidated financial statements.

Meaning of Internal Financial Controls with reference to financial statements

6. A company's internal financial control with reference to financial statements is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal financial control with reference to financial statements includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (3) provide reasonable

Annexure A to Independent Auditor's Report

Referred to in paragraph 19(f) of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the Consolidated Financial Statements as of and for the year ended March 31, 2023.

assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls with reference to financial statements

7. Because of the inherent limitations of internal financial controls with reference to financial statements, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls with reference to financial statements to future periods are subject to the risk that the internal financial control with reference to financial statements may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

8. In our opinion, the Holding Company, its joint operations, its subsidiary companies, its joint venture and associate companies, have, in all material respects, an adequate internal financial controls system with reference to financial statements and such internal financial controls with reference to financial statements were operating effectively as at March 31, 2023, based on the internal control over financial reporting criteria established by the respective companies considering the essential components of internal control stated in the Guidance Note issued by the ICAI.

Other Matters

9. Our aforesaid reports under Section 143(3)(i) of the Act on the adequacy and operating effectiveness of the internal financial controls with reference to financial statements insofar as it relates to eleven subsidiary companies, two joint operations, one joint venture and four associate companies, which are companies incorporated in India, is based on the corresponding reports of the auditors of such companies incorporated in India. Our opinion is not modified in respect of this matter.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVR9215

Mumbai
May 24, 2023

Annexure B to Independent Auditor's Report

Referred to in paragraph 18 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the Consolidated Financial Statements as of and for the year ended March 31, 2023.

As required by paragraph 3(xxi) of the CARO 2020, we report that the auditors of the following companies have given qualification or adverse remarks in their CARO report on the standalone financial statements of the respective companies included in the Consolidated Financial Statements of the Holding Company:

S. No.	Name of the Company	CIN	Relationship with the Holding Company	Date of the respective auditors' report	Paragraph number and comment in the respective CARO report reproduced below
1	Renukeshwar Investments & Finance Limited	U65910UP1994PLC017080	Subsidiary	April 19, 2023	xvi. (a) In our opinion and according to the information and explanations given to us, the Company is required to be Registered with the Reserve Bank of India (RBI) as a Non-Banking Finance Company under section 45-IA of the Reserve Bank of India Act, 1934 to carry on the business of a Non-Banking Financial Company (NBFC) and accordingly the Company has applied for registration under section 45-IA of the Reserve Bank of India Act, 1934 (2 of 1934) to carry on the business of a NBFC, in the office of RBI, Kanpur which was initially rejected on 29th April 2000 as the Company had failed to inform the Reserve Bank of India on the criteria of Net Owned Funds, the Company had filed fresh application to General Manager / Dy General Manager, Department of Supervision (Financial Company Wing) Reserve Bank of India for registration under section 45-IA of the Reserve Bank of India Act, 1934 (2 of 1934) on 13th August 2002 but the registration number is still awaited. xvi. (b) According to the information and explanations given to us, the Company has applied for registration under section 45-IA of the Reserve Bank of India Act, 1934 (2 of 1934) to carry on the business of a NBFC, in the office of RBI, Kanpur which was initially rejected on 29th April 2000 as the Company had failed to inform the Reserve Bank of India on the criteria of Net Owned Funds , the Company had filed fresh application to General Manager / Dy General Manager, Department of Supervision (Financial Company Wing) Reserve Bank of India for registration under section 45-IA of the Reserve Bank of India Act, 1934 (2 of 1934) on 13th August 2002 but the registration number is still awaited.

Annexure B to Independent Auditor's Report

Referred to in paragraph 18 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the Consolidated Financial Statements as of and for the year ended March 31, 2023.

S. No.	Name of the Company	CIN	Relationship with the Holding Company	Date of the respective auditors' report	Paragraph number and comment in the respective CARO report reproduced below
2	MNH Shakti Limited	U10100OR2008GOI010171	Joint Venture	April 25, 2023	(xvii) The company has not commenced any business/service during the year. It has incurred cash loss during the financial year covered by our audit and also in the immediately preceding financial year on account of preoperative expenses incurred by the company.
3.	East Coast Bauxite Mining Company Private Ltd	U13203OR2007PTC009597	Subsidiary	April 26, 2023	xvii) Cash Losses - In our opinion and on the basis of available Financial Statements subjected to audit, the company has incurred cash losses in the current Financial Year and in the immediately preceding Financial Year. The figures of Current financial Year and the previous Financial Year are ₹ 76,759/- & ₹ 47,305/- respectively. xix) Material uncertainty - As per the information and explanations obtained and on the basis of reasonable scrutiny of books of account and available records, we are of the opinion that there exists material uncertainty on the date of the audit report that the company is not capable of meeting its liabilities existing at the date of Balance Sheet as and when they fall within a period of one year from the balance sheet date. In our opinion there is no possibility that the Company would ever be able to pursue its object in future also because of prevailing material uncertainty with respect to operations. The Net worth of the Company has also been eroded fully and the Company is only thriving on the funds of the holding company for its expenses.
4.	Mahan Coal Limited	U01010MP2006PLC018586	Joint Operation	May 17, 2023	xiv. The Company did not have an internal audit system for the year under Audit. xvii. The Company has incurred cash losses during the current financial year as well as in the immediately preceding financial year. The amount of cash loss during the current year is ₹ 2,065.01 and Rs. 3,361.71 (₹ In hundreds) in the immediately preceding financial year.
5.	Tubed Coal Mines Limited	U10100MH2007PLC174466	Joint Operation	May 17, 2023	vii. (b) According to the information and explanations provided by management and the records examined by us, the Company is yet to pay Professional Tax of ₹ 4,600 for FY 18-19, ₹ 4,600/- for FY 19-20, ₹ 4,600/- for FY 20-21, ₹ 3,700/- for FY 21-22 and ₹ 2,500/- for FY 22-23. xvii. The Company has not incurred cash losses during the financial year, however the Company had incurred cashloss in the immediately preceding financial year.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVR9215

Mumbai
May 24, 2023

Consolidated Balance Sheet

as at March 31, 2023

(₹ in Crore)

	Page No.	Note	As at 31/03/2023	As at 31/03/2022
ASSETS				
Non-Current Assets				
Property, Plant and Equipment	384	2A	75,849	74,547
Capital Work-in-Progress	386	2B	7,340	4,727
Right of Use Assets	387	3A	2,681	1,923
Investment Properties	389	4	20	21
Goodwill	390	5	25,745	23,965
Other Intangible Assets	393	6A	6,331	6,418
Intangible Assets under Development	394	6B	360	218
Equity Accounted Investments	490	51D	79	51
Financial Assets				
Investments	395	7A	8,180	8,616
Loans	397	8	47	50
Derivatives	398	9	181	305
Other Financial Assets	407	10	3,069	786
Non-Current Tax Assets (Net)	414	11C	8	8
Deferred Tax Assets (Net)	409	11B	1,328	1,207
Other Non-Current Assets	414	12	4,288	1,677
Total Non-Current Assets			**135,506**	**124,519**
Current Assets				
Inventories	415	13	42,958	44,483
Financial Assets				
Investments	397	7B	5,857	5,452
Trade Receivables	415	14	16,214	21,076
Cash and Cash Equivalents	417	15	12,840	11,639
Bank Balances other than Cash and Cash Equivalents	417	16	2,528	5,753
Loans	397	8	8	7
Derivatives	398	9	1,710	3,366
Other Financial Assets	407	10	1,397	2,193
Current Tax Assets (Net)	414	11C	109	186
Other Current Assets	414	12	5,639	4,300
			89,260	**98,455**
Non-Current Assets or Disposal Group Classified as Held for Sale	417	17A	51	88
Total Current Assets			**89,311**	**98,543**
Total Assets			**224,817**	**223,062**
EQUITY AND LIABILITIES				
Equity				
Equity Share Capital	418	18	222	222
Other Equity	420	19	94,584	77,969
Equity attributable to Owners of the Company			**94,806**	**78,191**
Non-Controlling Interest			11	11
Total Equity			**94,817**	**78,202**

(₹ in Crore)

	Page No.	Note	As at 31/03/2023	As at 31/03/2022
Liabilities				
Non-Current Liabilities				
Financial Liabilities				
Borrowings	423	20A	51,434	51,635
Lease Liabilities	389	3B	1,491	972
Derivatives	398	9	56	464
Other Financial Liabilities	431	23	207	139
Provisions	431	24	586	661
Employee Benefit Obligations	434	25	5,305	6,124
Contract Liabilities	453	26	-	10
Deferred Tax Liabilities (Net)	409	11B	8,650	5,631
Other Non-Current Liabilities	454	27	1,814	1,888
Total Non-Current Liabilities			**69,543**	**67,524**
Current Liabilities				
Financial Liabilities				
Borrowings	428	20B	6,901	11,600
Lease Liabilities	389	3B	465	279
Supplier's Credit	429	21	5,635	2,456
Trade Payables	430	22		
(I) Outstanding dues of Micro and Small Enterprises			192	105
(II) Outstanding dues other than Micro and Small Enterprises			35,668	41,277
Derivatives	398	9	1,257	10,657
Other Financial Liabilities	431	23	2,913	3,607
Provisions	431	24	2,077	1,726
Employee Benefit Obligations	434	25	1,129	1,178
Contract Liabilities	453	26	340	365
Current Tax Liabilities (Net)	414	11C	2,187	2,120
Other Current Liabilities	454	27	1,693	1,873
			60,457	**77,243**
Liability Associated with Disposal Group Classified as Held for Sale	418	17B	-	93
Total Current Liabilities			**60,457**	**77,336**
Total Liabilities			**130,000**	**144,860**
Total Equity and Liabilities			**224,817**	**223,062**
Basis of Preparation and Significant Accounting Policies	356	1		

The accompanying Notes are an integral part of the Consolidated Financial Statements

This is the Consolidated Balance Sheet referred in our report of even date

For and on behalf of the Board of **Hindalco Industries Limited**

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration No. 304026E/E-300009

Praveen Kumar Maheshwari
Whole-time Director and
Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Sarah George
Partner
Membership No. 045255

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN-00026078

Place: Mumbai
Date: May 24, 2023

Consolidated Statement of Profit and Loss

for the year ended March 31, 2023

(₹ in Crore)

	Page No.	Note	Year ended 31/03/2023	Year ended 31/03/2022
CONTINUING OPERATIONS:				
INCOME				
Revenue from Operations	454	28	223,202	195,059
Other Income	456	29	1,257	1,136
Total Income			**224,459**	**196,195**
EXPENSES				
Cost of Materials Consumed	456	30	135,976	125,335
Trade Purchases	457	31	1,553	1,958
Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade	457	32	3,241	(9,753)
Employee Benefits Expense	458	33	13,063	12,023
Power and Fuel	458	34	17,346	11,146
Finance Cost	459	35	3,646	3,768
Depreciation and Amortization Expense	459	36	7,086	6,729
Impairment Loss/ (Reversal) on Non-Current Assets (Net)	460	37	208	155
Impairment Loss/ (Reversal) on Financial Assets (Net)	460	38	11	155
Other Expenses	461	39	29,138	25,693
Total Expenses			**211,268**	**177,209**
Profit/ (Loss) before Share in Profit/ (Loss) in Equity Accounted Investments, Exceptional Items and Tax			13,191	18,986
Share in Profit/ (Loss) in Equity Accounted Investments (Net of Tax)	490	51D	9	6
Profit/ (Loss) before Exceptional Items and Tax			13,200	18,992
Exceptional Income/ (Expenses) (Net)	461	40	41	582
Profit/ (Loss) before Tax			**13,241**	**19,574**
Tax Expense	408	11A		
Current Tax Expense			2,856	3,801
Deferred Tax Expense			288	1,572
Profit/ (Loss) for the year from Continuing Operations			**10,097**	**14,201**
DISCONTINUED OPERATIONS:	492	53		
Profit/ (Loss) for the year from Discontinued Operations			-	(464)
Tax Expense/ (Benefit) of Discontinued Operations			-	7
Profit/ (Loss) for the year from Discontinued Operations			**-**	**(471)**
Profit/ (Loss) for the year			**10,097**	**13,730**
Other Comprehensive Income/ (Loss)	462	41		
Items that will not be reclassified to Statement of Profit and Loss				
Remeasurement of Defined Benefit Obligation			969	1,172
Change in Fair Value of Equity Instruments Designated as FVTOCI			(494)	1,211
Income Tax effect			(199)	(537)
Items that will be reclassified to Statement of Profit and Loss				
Change in Fair Value of Debt Instruments Designated as FVTOCI			(13)	(9)
Effective Portion of Cash Flow Hedges			7,773	(4,867)
Cost of Hedging Reserve			64	(75)
Foreign Currency Translation Reserve			1,704	525
Income Tax effect			(2,344)	1,432
Other Comprehensive Income/ (Loss) for the year			**7,460**	**(1,148)**
Total Comprehensive Income/ (Loss) for the year			**17,557**	**12,582**
Profit/ (Loss) attributable to:				
Owners of the Company			10,097	13,730
Non-Controlling Interests			-	-
Other Comprehensive Income/ (Loss) attributable to:				
Owners of the Company			7,460	(1,148)
Non-Controlling Interests			-	-
Total Comprehensive Income/ (Loss) attributable to:				
Owners of the Company			17,557	12,582
Non-Controlling Interests			-	-
Total Comprehensive Income/ (Loss) attributable to Owners of the Company from:				
Continuing Operations			17,557	13,053
Discontinued Operations			-	(471)
Earnings Per Share:	463	42		
Basic - Continuing Operations (₹)			45.42	63.85
Diluted - Continuing Operations (₹)			45.36	63.77
Basic - Discontinued Operations (₹)			-	(2.12)
Diluted - Discontinued Operations (₹)			-	(2.12)
Basic - Continuing and Discontinued Operations (₹)			45.42	61.73
Diluted - Continuing and Discontinued Operations (₹)			45.36	61.65
Basis of Preparation and Significant Accounting Policies	356	1		

The accompanying Notes are an integral part of the Consolidated Financial Statements

This is the Consolidated Statement of Profit and Loss referred in our report of even date

For and on behalf of the Board of **Hindalco Industries Limited**

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration No. 304026E/E-300009

Praveen Kumar Maheshwari
Whole-time Director and
Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Sarah George
Partner
Membership No. 045255

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN-00026078

Place: Mumbai
Date: May 24, 2023

Consolidated Statement of Changes in Equity

for the Year ended March 31, 2023

A. Equity Share Capital **(₹ in Crore)**

Particulars	Note	Amount
Balance as at April 01, 2021	18	222
Changes in Equity Share Capital	-	-
Balance as at March 31, 2022	18	222
Changes in Equity Share Capital	-	-
Balance as at March 31, 2023	18	222

B. Other Equity **(₹ in Crore)**

Particulars	Note	Equity Component of Other Financial Instruments	Reserves and Surplus										Other Reserves					Attributable to Owners of the Company	Attributable to Non Controlling Interests	Total Other Equity
			Capital Reserve	Capital Redem-ption Reserve	Business Recons-truction Reserve	Securities Premium	Debenture Redemption Reserve	Employee Stock Options	Treasury Shares held by ESOP Trust	Special Reserve	General Reserve	Retained Earnings	Gain/ (Loss) on Equity Instruments FVTOCI	Gain/ (Loss) on Debt Instruments FVTOCI	Effective portion of Cash Flow Hedge	Cost of Hedging Reserve	Foreign Currency Translation Reserve			
Balance as at April 01, 2021		**4**	**147**	**104**	**5,799**	**8,225**	**1,350**	**54**	**(129)**	**20**	**21,370**	**22,777**	**4,673**	**1**	**(1,246)**	**10**	**3,152**	**66,311**	**10**	**66,321**
Profit/ (Loss) for the year		-	-	-	-	-	-	-	-	-	-	13,730	-	-	-	-	-	13,730	-	13,730
Other Comprehensive Income/(Loss) for the year		-	-	-	-	-	-	-	-	-	-	883	963	(6)	(3,464)	(49)	525	(1,148)	-	(1,148)
Total Comprehensive Income/(Loss) for the year		-	-	-	-	-	-	-	-	-	-	14,613	963	(6)	(3,464)	(49)	525	12,582	-	12,582
Hedging (Gain)/ Loss and cost of hedging transferred to non-financial assets		-	-	-	-	-	-	-	-	-	-	-	-	-	(151)	-	-	(151)	-	(151)
Realised Gain/(Loss) on Equity FVTOCI transferred to Retained Earnings		-	-	-	-	-	-	-	-	-	-	302	(302)	-	-	-	-	-	-	-
Transfer to Debenture Redemption Reserve		-	-	-	-	-	150	-	-	-	-	(150)	-	-	-	-	-	-	-	-
Transfer to Special Reserve		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Changes		-	-	-	-	-	-	-	-	-	-	(67)	-	-	(33)	-	32	(68)	1	(67)
Transactions with owners in their capacity as owners																				
Shares Acquired by the Trust		-	-	-	-	-	-	-	(94)	-	-	-	-	-	-	-	-	(94)	-	(94)
Shares Issued by the Trust		-	-	-	-	-	-	(11)	24	-	-	2	-	-	-	-	-	15	-	15
Employee Share Based Transactions		-	-	-	-	9	-	(3)	-	-	-	-	-	-	-	-	-	6	-	6
Employee Share Options Expenses		-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	-	35	-	35
Dividend Paid		-	-	-	-	-	-	-	-	-	-	(667)	-	-	-	-	-	(667)	-	(667)
Balance as at March 31, 2022	**19**	**4**	**147**	**104**	**5,799**	**8,234**	**1,500**	**75**	**(199)**	**20**	**21,370**	**36,810**	**5,334**	**(5)**	**(4,894)**	**(39)**	**3,709**	**77,969**	**11**	**77,980**

Particulars	Note	Equity Component of Other Financial Instruments	Reserves and Surplus										Other Reserves					Attributable to Owners of the Company	Attributable to Non Controlling Interests	Total Other Equity
			Capital Reserve	Capital Redem-ption Reserve	Business Recons-truction Reserve	Securities Premium	Debenture Redemption Reserve	Employee Stock Options	Treasury Shares held by ESOP Trust	Special Reserve	General Reserve	Retained Earnings	Gain/ (Loss) on Equity Instruments FVTOCI	Gain/ (Loss) on Debt Instruments FVTOCI	Effective portion of Cash Flow Hedge	Cost of Hedging Reserve	Foreign Currency Translation Reserve			
Profit/ (Loss) for the year		-	-	-	-	-	-	-	-	-	-	10,097	-	-	-	-	-	10,097	-	10,097
Other Comprehensive Income/(Loss) for the year		-	-	-	-	-	-	-	-	-	-	700	(424)	(9)	5,447	42	1,704	7,460	-	7,460
Total Comprehensive Income/(Loss) for the year		-	-	-	-	-	-	-	-	-	-	10,797	(424)	(9)	5,447	42	1,704	17,557	-	17,557
Hedging (Gain)/ Loss and cost of hedging transferred to non-financial assets		-	-	-	-	-	-	-	-	-	-	-	-	-	23	-	-	23	-	23
Realised Gain/(Loss) on Equity FVTOCI transferred to Retained Earnings		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Debenture Redemption Reserve		-	-	-	-	-	(1,500)	-	-	-	-	1,500	-	-	-	-	-	-	-	-
Transfer to Special Reserve		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Changes		-	-	-	-	-	-	-	-	-	-	2	-	-	(120)	-	120	2	-	2
Transactions with owners in their capacity as owners																				
Shares Acquired by the Trust		-	-	-	-	-	-	-	(131)	-	-	-	-	-	-	-	-	(131)	-	(131)
Shares Issued by the Trust		-	-	-	-	-	-	(15)	24	-	-	(3)	-	-	-	-	-	6	-	6
Employee Share Based Transactions		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee Share Options Expenses		-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	48	-	48
Dividend Paid		-	-	-	-	-	-	-	-	-	-	(890)	-	-	-	-	-	(890)	-	(890)
Balance as at March 31, 2023	**19**	**4**	**147**	**104**	**5,799**	**8,234**	**-**	**108**	**(306)**	**20**	**21,370**	**48,216**	**4,910**	**(14)**	**456**	**3**	**5,533**	**94,584**	**11**	**94,595**
Basis of Preparation and Significant Accounting Policies	1																			

The accompanying Notes are an integral part of the Consolidated Financial Statements

This is the Consolidated Statement of Changes in Equity referred in our report of even date

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership No. 045255

Place : Mumbai
Dated : May 24, 2023

For and on behalf of the Board of Directors of Hindalco Industries Limited

Praveen Kumar Maheshwari
Whole-time Director & Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN No.: 00026078

Consolidated Statement of Cash Flows

for the Year ended March 31, 2023

(₹ in Crore)

	Note	Year ended 31/03/2023	Year ended 31/03/2022
A. CASH FLOW FROM OPERATING ACTIVITIES			
Profit/ (Loss) before Tax from Continuing Operations		13,241	19,574
Adjustment for :			
Finance Cost	35	3,646	3,768
Depreciation and Amortization Expense	36	7,086	6,729
Impairment Loss/ (Reversal) of Non-Current Assets (Net)	37	208	155
Impairment Loss/ (Reversal) on Financial Assets (Net)	38	11	155
Equity Settled Share-Based Payment	33	48	35
Share in (Profit)/ Loss in Equity Accounted Investments (Net of Tax)	51D	(9)	(6)
Unrealised Foreign Exchange (Gain)/ Loss (Net)		(92)	(113)
Unrealised (Gain)/ Loss on Derivative Transactions (Net)		(631)	353
Fair Value (Gain)/ Loss on Modification of Borrowings (Net)		(48)	(183)
(Gain)/ Loss on Assets Held for Sale (Net)		5	-
(Gain)/ Loss on Property, Plant and Equipment and Intangible Assets Sold/ Discarded (Net)	29	41	100
Interest Income	29	(559)	(225)
Dividend Income	29	(34)	(32)
Gains/(Loss) on Investments Measured at FVTPL (Net)	29	(202)	(359)
Exceptional (Income)/ Expenses (Net)		(41)	(5)
Changes in Cash Flow Hedges net of reclassification from OCI		1	(34)
Amortisation of government grants		(230)	(255)
Other Non-Operating (Income)/ Expenses (Net)		4	69
Operating Profit before Working Capital Changes		22,445	29,726
Changes in Working Capital:			
(Increase)/ Decrease in Inventories		2,839	(13,690)
(Increase)/ Decrease in Trade Receivables		5,751	(7,886)
(Increase)/ Decrease in Other Financial Assets		198	(285)
(Increase)/ Decrease in Non-Financial Assets		(1,372)	(1,434)
Increase/ (Decrease) in Trade Payables		(6,409)	12,683
Increase/ (Decrease) in Other Financial Liabilities		(1,280)	983
Increase/ (Decrease) in Non-Financial Liabilities (including contract liabilities)		(184)	497
Cash Generated from Operation before Tax		21,988	20,594
Refund/ (Payment) of Income Tax (Net)		(2,733)	(3,773)
Net Cash Generated/ (Used) - Operating Activities - Continuing Operations		**19,255**	**16,821**
Net Cash Generated/ (Used) - Operating Activities - Discontinued Operations		**(47)**	**17**
Net Cash Generated/ (Used) - Operating Activities		**19,208**	**16,838**
B. CASH FLOW FROM INVESTMENT ACTIVITIES			
Payments to acquire Property, Plant and Equipment, Intangible Assets and Investment Property		(9,842)	(5,426)
Proceeds from disposal of Property, Plant and Equipment, Intangible Assets and Investment Property		100	71
Net cash inflow on disposal of Subsidiaries/ Business		24	66
Acquisition of business, net of cash acquired		-	(412)
Investment in equity accounted investees		(17)	(1)
Return of Capital from Subsidiary		-	-
Investment in Equity Shares at FVTOCI		(57)	363
(Purchase)/ Sale of Other Investments (Net)		(214)	4,226
Loans and Deposits given		(3,222)	(6,214)
Receipt of Loans and Deposits given		4,615	5
Interest Received		445	207
Dividend Received		34	32
Lease payments received from finance lease		13	9
Net Cash Generated/ (Used) - Investing Activities - Continuing Operations		**(8,121)**	**(7,074)**
Net Cash Generated/ (Used) - Investing Activities - Discontinued Operations		**-**	**-**
Net Cash Generated/ (Used) - Investing Activities		**(8,121)**	**(7,074)**

(₹ in Crore)

	Note	Year ended 31/03/2023	Year ended 31/03/2022
C. CASH FLOW FROM FINANCING ACTIVITIES			
Proceeds from issue of Equity Shares (Including Share Application Money)		-	6
Treasury Shares acquired by ESOP Trust		(131)	(94)
Proceeds from shares issued by ESOP Trust		6	15
Proceeds from Non-Current Borrowings		701	14,197
Pre-payment of Non-Current Borrowings		(3,451)	(17,321)
Repayment of Non-Current Borrowings		(6,174)	(623)
Increase/ (Decrease) in Supplier's Credit (Net)		3,214	2,161
Principal Payments of Lease Liabilities		(512)	(337)
Proceeds from/ (Repayment) of Current Borrowings (Net)		737	(852)
Finance Cost Paid		(3,845)	(3,250)
Dividend Paid		(890)	(667)
Net Cash Generated/ (Used) - Financing Activities - Continuing Operations		**(10,345)**	**(6,765)**
Net Cash Generated/ (Used) - Financing Activities - Discontinued Operations		**-**	**-**
Net Cash Generated/ (Used) - Financing Activities		**(10,345)**	**(6,765)**
Net Increase/ (Decrease) in Cash and Cash Equivalents		**742**	**2,999**
Add : Opening Cash and Cash Equivalents		11,639	8,339
Add : Effect of exchange variation on Cash and Cash Equivalents		457	301
Closing Cash and Cash Equivalents		**12,838**	**11,639**
Reconciliation of Closing Cash and Cash Equivalents with Balance Sheet:			
Cash and Cash Equivalents as per Balance Sheet	15	12,840	11,639
Less: Temporary Overdraft Balance in Current Accounts		(2)	-
Cash and Cash Equivalents as per Statement of Cash Flows		**12,838**	**11,639**
Supplemental Information			
(i) Non Cash Transaction from Investing and Financing Activities:			
Acquisition of Right of Use Assets		1,148	412
Basis of Preparation and Significant Accounting Policies	1		

The accompanying Notes are an integral part of the Consolidated Financial Statements

This is the Consolidated Statement of Cash Flows referred in our report of even date

For and on behalf of the Board of **Hindalco Industries Limited**

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration No. 304026E/E-300009

Praveen Kumar Maheshwari
Whole-time Director and
Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Sarah George
Partner
Membership No. 045255

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN-00026078

Place: Mumbai
Date: May 24, 2023

Company Information:

Hindalco Industries Limited ("the Company/ Parent"), bearing Corporate Identity Number (CIN) L27020MH1958PLC011238, is a public limited company incorporated in India in the year 1958. The company is domiciled in India and its registered office is at Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai - 400093. The equity shares of the Company are listed on National Stock Exchange of India Limited (NSE) and BSE Limited (BSE) and its Global Depositary Receipts (GDR) are listed on the Luxembourg Stock Exchange.

The Company along with it's two Joint Operations, two Trusts and its Subsidiaries (collectively referred to as"the Group") and its interest in Associates and Joint Ventures has manufacturing operations in ten countries including India spread over four continents viz. North America, South America, Asia and Europe. The Group is primarily engaged in two streams of business namely Aluminium and Copper. In Aluminium business, the Group has presence across the entire value chain starting from mining of bauxite and coal through production of primary aluminium and value added products like flat rolled product, extrusion and light gauge products for use in various applications like packaging, can, foil, food and beverage as well as products for use in aerospace, automotive, electronic, transportation, building and construction and other industrial segments.

In Copper business, the Group has one of the largest single location Copper smelting facility in India. The Group produces copper cathode, copper rods and precious metals.

The consolidated financial statements ("the financial statements") presents the financial position of the Group as well as its interest in associate companies and joint arrangements. The list of entities incorporated in the consolidated financial statements are provided in Note 51.

The consolidated financial statements for the year ended March 31, 2023 have been approved for issue by the Board of Directors of the Company in their meeting held on May 24, 2023.

1. Basis of Preparation and Significant Accounting Policies

The basis of preparation and the accounting policies have been applied consistently to all the periods presented in the consolidated financial statements, unless otherwise stated. The accounting policies adopted are the same as those which were applied for the previous financial year.

Statement of Compliance

The consolidated financial statements comply in all material aspects with the Indian Accounting Standards ("Ind-AS") as prescribed under section 133 of the Companies Act 2013 ("the Act"), other relevant provisions of the Act as notified under the Companies (Indian Accounting Standards) Rules, 2015, (including subsequent amendments) and other accounting principles generally accepted in India.

1A. Basis of Preparation

The consolidated financial statements have been prepared and presented on the going concern basis using accrual basis of accounting and under the historical cost convention except for following assets and liabilities:

- Derivative Financial Instruments; see Note 1B(Q) for accounting policy
- Certain financial assets and liabilities; see Note 1B(P) for accounting policy
- Assets held for sale; see Note 1B(H) for accounting policy
- Employee's defined benefit plan assets; see Note 1B(U) for accounting policy
- Liability for cash based share-based payments; see Note 1B(V) for accounting policy
- Assets and liabilities acquired under business combination; see Note 1B(B) for accounting policy
- Inventories those are designated in a fair value hedge relationship; see Note 1B (M), (Q) for accounting policy
- Assets and liabilities designated as hedged items in fair value hedges that would otherwise be carried at cost; see Note 1B (Q) for accounting policy

Historical cost is generally based on the fair value of the consideration in exchange for goods and services.

The Group has determined current and non-current classification of its assets and liabilities in the financial statements as per the Group's normal operating cycle, and other criteria set out in Schedule III of the Companies Act, 2013. Based on the nature of products and the time lag between the acquisition of assets for processing and their realisation in cash and cash equivalents, the Group has ascertained its normal operating cycle as 12 months for the purpose of current and non-current classification of its assets and liabilities.

The consolidated financial statements are presented in Indian Rupees ("₹") which is the functional currency of the Company and the currency of the primary economic environment in which the Company operates. All values presented in Indian Rupees has been rounded off to nearest Crore (₹ 1 Crore = ₹ 10,000,000) without any decimal, unless otherwise stated. Amounts below rounding off convention are considered as Nil in the consolidated financial statements.

1B. Significant Accounting Policies

(A) Principles of Consolidation

The consolidated financial statement incorporate the financial statements of the parent and entities controlled by the parent i.e. subsidiaries and unstructured entities. It also includes the Group's share of profits, net assets and retained post acquisition reserves of joint arrangements and associates that are consolidated using the equity or proportionate method of consolidation, as applicable.

Subsidiaries

Subsidiaries are the entities (including structured and unstructured entities) over which the Group has control. The Group controls an entity when the group is exposed to or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the relevant activities of the entity. Consolidation of subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated financial statements from the date the Group gains the control until the date the Group ceases to control the subsidiary.

The Group combines the financial statements of the parent and its subsidiaries line by line adding together like items of assets, liabilities, equity, income and expenses. Intra-group transactions, balances and unrealised profits on transactions between group companies are eliminated in full. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the transferred assets. Appropriate adjustments for deferred taxes are made for temporary differences that arise from the elimination of unrealised profits and losses from intra-group transactions or undistributed earnings of Group's entity included in consolidated statement of profit and loss, if any.

The consolidated financial statements are prepared using uniform accounting policies for like transactions and other events in similar circumstances. If any entity within the Group uses accounting policies other than those adopted in the consolidated financial statements for like transactions and events in similar circumstances, appropriate adjustments are made to that group entity's financial statements to ensure conformity with the Group's accounting policies. The financial statements of all entities used for the purpose of consolidation are drawn up to the same reporting date as that of the parent company. When the end of the reporting period of the parent is different from that of a subsidiary, the subsidiary prepares additional financial information as of the same date as the financial statements of the parent to enable the parent to consolidate the financial information of the subsidiary, unless it is impractical to do so.

Non-controlling interest in the profit / loss and equity of the subsidiaries are shown separately in the consolidated statement of profit and loss and the consolidated balance sheet, respectively.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction. This results in an adjustment between the carrying amounts of the controlling and non-controlling interests to reflect their relative interests in the subsidiary. Any difference between the amount of the adjustment to non-controlling interests and any consideration paid or received is recognised within equity attributable to owners of the parent.

In case the Group ceases to consolidate a subsidiary because of a loss of control, any retained interest in the entity is re-measured to its fair value. This fair value becomes the initial carrying amount for the purpose of subsequently accounting for the retained interest as an associate, joint venture or financial assets. When the Group loses control over a subsidiary, it derecognises the assets, including goodwill, and liabilities of the subsidiary, carrying amount of any non-controlling interests, cumulative translation differences recorded in equity and recognise resulting difference between the fair value of the investment retained and the consideration received and total of amount derecognised as gain or loss attributable to the Parent.

In addition, amounts, if any, previously recognised in other comprehensive income in relation to that entity are reclassified to profit or loss as would be required if the parent had directly disposed of the related assets or liabilities.

Interest in Associates and Joint Ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies, generally accompanying a shareholding between 20% and 50% of the voting rights.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The Group's interest in its associates or joint ventures are accounted for using the equity method from the date on which the investee becomes an associate or a joint venture. Under equity method, the investment in an associate or a joint venture is initially recognised at cost and adjusted thereafter to recognise the changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Dividends received or receivable from associates and joint ventures are recognised as a reduction in the carrying amount of the investment. On acquisition of the investment in an associate or a joint venture, any excess of the cost of the investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognised as Goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of the investment is recognised in equity as Capital Reserve in the period in which the investment is acquired.

The consolidated statement of profit and loss reflects the Group's share of the results of operations of the associate or joint venture. Any change in other comprehensive income (OCI) is presented as part of the Group's OCI. In addition, when there has been a change recognised directly in the equity of the associate or joint venture, the Group recognises its share of that changes, when applicable, in the consolidated statement of changes in equity. Unrealised gains or losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture.

When the Group's share of losses of an associate or a joint venture equals or exceeds its interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), the Group discontinues recognising its share of further losses. Additional losses are recognised only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture. If the associate or joint venture subsequently reports profits, the group resumes recognising its share of those profits only after its share of the profit equals the share of losses not recognised.

At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, and then recognises the impairment loss in the consolidated statement of profit and loss. Any reversal of that impairment loss is recognised to the extent that the recoverable amount of the investment subsequently increases. Goodwill relating to associate or joint venture is included in the carrying amount of the investment and is not separately tested for impairment.

The Group continues to use the equity method when an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate.

If ownership interest in an associate or a joint venture is reduced but significant influence or joint control is retained, the Group continues to use the equity method, and only proportionate share of the amount previously recognised in other comprehensive income are reclassified to consolidated statement of profit and loss where appropriate.

When the Group classified its investments, or a portion thereof, in associate or joint venture as held for sale, it discontinues the use of the equity method in relation to the portion that is classified as held for sale. Any retained portion of an investment in an associate or a joint venture that has not been classified as held for sale continues to be accounted for using the equity method. The Group discontinues the use of the equity method at the time of disposal when the disposal results in the Group losing significant influence over the associate or joint venture.

Upon loss of significant influence over the associate or joint venture, the group measures and recognises any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture and the fair value of retained investment and proceeds from disposal is recognised in the consolidated statement of profit and loss.

Interest in Joint Operations

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

When a Group entity undertakes its activities under joint operations, the Group as a joint operator recognises in relation to its interest in a joint operation:

- its assets, including its share of any assets held jointly;
- its liabilities, including its share of any liabilities incurred jointly;
- its revenue from the sale of its share of the output arising from the joint operation;
- its share of the revenue from the sale of the output by the joint operation; and
- its expenses, including its share of any expenses incurred jointly.

The Group accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the standard applicable to the particular assets, liabilities, revenues and expenses.

When a Group entity transacts with a joint operation in which a group entity is a joint operator (such as a sale or contribution of assets), the Group is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognised in the financial statements only to the extent of other parties' interests in the joint operation.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a purchase of assets), the Group does not recognise its share of the gains and losses until it resells those assets to a third party.

See Note 51 - Interest in Other Entities for further details.

See Note 54 - Disposal of Subsidiaries for further details.

(B) Business Combination

Business combinations are accounted for using the acquisition method. The consideration transferred in a business combination comprises the fair values of the assets transferred, liabilities incurred to the former owners of the acquired business, equity interests issued by the Group and fair value of any assets or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred.

At the acquisition date, the identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured at their acquisition date fair values. However, certain assets and liabilities i.e. deferred tax assets or liabilities, assets or liabilities related to employee benefit arrangements, liabilities or equity instruments related to share-based payment arrangements, lease liabilities under Ind AS 116 and assets or disposal groups that are classified as held for sale, acquired or assumed in a business combination are measured as per the applicable Ind-AS.

The Group recognises any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets.

The excess of the sum of the consideration transferred; the amount of any non-controlling interests in the acquired entity; and the acquisition-date fair value of any previous equity interest in the acquired entity, over the acquisition-date fair value of the net identifiable assets acquired is recognised as goodwill. Any gain on a bargain purchase is recognised is in other comprehensive income and accumulated in equity as Capital Reserve if there exists clear evidence of the underlying reasons for classifying the business combination as resulting in a bargain purchase, otherwise the gain is recognised directly in equity as Capital Reserve.

Where settlement of any part of cash consideration is deferred, the amounts payable in future are discounted to their present value as at the date of exchange. The discount rate used is entity's incremental borrowing rate, being the rate at which similar borrowing could be obtained from an independent financier under comparable terms and conditions.

Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not re-measured subsequently and settlement is accounted for within equity. Other contingent consideration is re-measured at fair value at each reporting date and changes in the fair value of contingent consideration are recognised in profit or loss.

When a business combination is achieved in stages, any previously held equity interest in the acquiree is re-measured at its acquisition-date fair value and the resulting gain or loss, if any, is recognised in the consolidated statement of profit and loss or other comprehensive income, as appropriate.

Where it is not possible to complete the determination of fair values by the end of the reporting period in which the combination occurs, a provisional assessment of fair values is made and any adjustments required to those provisional values, and the corresponding adjustments to goodwill, are finalised within 12 months of the acquisition date.

See Note 52 - Business Combination for further details.

(C) Property, Plant and Equipment

Property, plant and equipment held for use in the production or/and supply of goods or services, or for administrative purposes, are stated in the consolidated balance sheet at cost, less any subsequent accumulated depreciation and subsequent accumulated impairment losses except for freehold land which is carried at historical cost.

The initial cost at cash price equivalent of property, plant and equipment acquired comprises its purchase price, including import duties and non-refundable purchase taxes, any directly attributable costs of bringing the assets to its working condition and location and present value of any obligatory decommissioning costs for its intended use. Cost may also include effective portion on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment transferred from hedge reserve as basis adjustment.

In case of self-constructed assets, cost includes the costs of all materials used in construction, direct labour, allocation of overheads, directly attributable borrowing costs and effective portion of cash flow hedges of foreign currency transferred from the hedge reserve as basis adjustment.

Subsequent expenditure on major maintenance or repairs includes the cost of the replacement of parts of assets and overhaul costs. Where an asset or part of an asset is replaced and it is probable that future economic benefits associated with the item will be available to the Group, the expenditure is capitalised and the carrying amount of the item replaced is derecognised. Similarly, overhaul costs associated with major maintenance which can be measured reliably are capitalised and depreciated over their useful lives where it is probable that future economic benefits will be available and any remaining carrying amounts of the cost of previous overhauls are derecognised. All other costs are charged to consolidated statement of profit and loss during the reporting period in which they are incurred.

Capital work-in-progress

Capital work-in-progress comprises of tangible items in the course of construction for production or/and supply of goods or services or administrative purposes are carried at cost, less any accumulated impairment loss. At the point when an asset is capable of operating at management's intended use, the cost of construction is transferred to the appropriate category of property, plant and equipment. Costs associated with the commissioning of an asset are capitalised.

Depreciation

Depreciation is charged so as to write off the cost or value of assets, net off their residual values, over their estimated useful lives. Depreciation is recorded using the straight line basis. The estimated useful lives and residual values are reviewed at each year end, with the effect of any changes in estimate accounted for on a prospective basis. Each component of an item of property, plant and equipment with a cost that is significant in relation to the total cost of that item is depreciated separately if its useful life differs from the others components of the asset.

Depreciation commences when the assets are ready for their intended use. Depreciated assets and accumulated depreciation accounts are retained fully until they are removed/retired from active use.

Leasehold improvements are depreciated over the shorter of their useful life or the lease term, unless the entity expects to use the assets beyond the lease term.

The useful life of the items of Property, Plant and Equipment estimated by the management for the current and comparative period are in line with the useful life as per Schedule II of the Companies Act, 2013, other than those of foreign subsidiaries. (refer Note 2).

Disposal of assets

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between net disposal proceeds and the carrying amount of the asset and is recognised in the consolidated statement of profit and loss.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 36 - Depreciation and Amortization Expense for further details.

(D) Investment Properties

Investment properties held to earn rentals or for capital appreciation or both are stated in the consolidated balance sheet at cost, less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Subsequent expenditure on major maintenance or repairs includes the cost of the replacement of parts of assets. Where an asset or part of an asset is replaced and it is probable that future economic benefits associated with the item will be available to the Company, the expenditure is capitalised and the carrying amount of the item replaced is derecognised. All other repairs and maintenance costs are recognised in the statement of profit and loss. Depreciation is charged on a straight line basis over their estimated useful lives. Any gain or loss on disposal of investment property is determined as the difference between net disposal proceeds and the carrying amount of the property and is recognised in the consolidated statement of profit and loss. Transfer to, or from, investment property is at the carrying amount of the property.

See Note 4 - Investment Properties for further details.

See Note 36 - Depreciation and Amortization Expense for further details.

(E) Intangible Assets (Other than Goodwill)

Intangible assets acquired separately

Intangible assets acquired are reported at cost less accumulated amortization and accumulated impairment losses. Amortization is charged on a straight line basis over their estimated useful lives other than 'Mining Rights' and 'Carbon Emission Rights'. The estimated useful life and amortization method are reviewed at the end of each annual reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Internally-generated intangible assets

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if all of the following have been demonstrated:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- management's intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;
- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognized for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset is recognised.

Where no internally-generated intangible asset can be recognized, development expenditure is charged to the consolidated statement of profit and loss in the period in which it is incurred.

Subsequent to initial recognition, internally-generated intangible assets are reported at cost less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets acquired separately.

Intangible assets acquired in a business combination

Identified intangible assets acquired in a business combination and recognised separately from goodwill are initially recognised at their fair values at the acquisition date.

Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets acquired separately.

Mining Reserves, Resources and Rights (Mining Rights)

Mineral reserves, resources and rights (together referred to as 'mining rights') which can be reasonably valued, are recognised in the assessment of fair values on acquisition. Exploitable mineral rights are amortised using the unit of production basis over the commercially recoverable reserves. Mineral resources are included in amortisation calculations where there is a high degree of confidence that they will be extracted in an economic manner. Commercially recoverable reserves are proved and probable reserves. Changes in the commercial recoverable reserves affecting unit of production calculations are dealt with prospectively over the revised remaining reserves.

Exploration for and evaluation of mineral resources

Expenditures associated with exploration for and evaluation of mineral resources after obtaining of legal rights to explore a specific area but before technical feasibility and commercial viability of extracting mineral resources are demonstrable are recognized as Exploration and Evaluation assets.

If a project does not prove viable, all irrecoverable exploration and evaluation expenditure associated with the project net of any related impairment allowances is written off to the consolidated statement of profit and loss.

The Group measure its Exploration and Evaluation assets at cost and classifies it as Property, Plant and Equipment or Intangible Assets according to the nature of assets acquired and applies the classification consistently.

As the assets are not available for use, it is not depreciated but are monitored for indication of impairment. An exploration and evaluation asset is no longer classified as such when the technical feasibility and commercial viability of extracting minerals resources are demonstrable and the development of the deposit is intended by the management. The carrying value of such exploration and evaluation asset is reclassified as Mining Rights.

Derecognition of intangible assets

An intangible asset is derecognised on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset are recognised in the consolidated statement of profit and loss when the asset is derecognised.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment annually, and whenever there is an indication that the asset may be impaired.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 36 - Depreciation and Amortization Expense for further details.

(F) Goodwill

Goodwill arising on acquisition is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units expected to benefit from the synergies of the combination.

Cash-generating units to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro-rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognised for goodwill is not reversed in a subsequent period.

On disposal of a subsidiary the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

The Group's policy for goodwill arising on the acquisition of an associate is detailed in Note 1B(A).

See Note 5 - Goodwill for further details.

(G) Stripping Cost

Stripping costs incurred during the mining production phase are allocated between cost of inventory produced and the existing mine asset. The stripping ratio, as approved by the regulatory authority, for the life of the mine is obtained by dividing the estimated quantity of overburden by the estimated quantity of mineable coal / bauxite reserve to be extracted over the life of the mine. This ratio is periodically reviewed and changes, if any, are accounted for prospectively.

Stripping costs are allocated and included as a component of the mine asset when they represent significantly improved access to ore, provided all the following conditions are met:

- it is probable that the future economic benefit associated with the stripping activity will be realised;
- the component of the ore body for which access has been improved can be identified; and
- the costs relating to the stripping activity associated with the improved access can be reliably measured.

The overburden removal costs are included in Mining Rights under Intangible assets and amortised based on stripping ratio on the quantity of coal / bauxite excavated.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 36 - Depreciation and Amortization Expense for further details.

(H) Non-Current Assets or Disposal Groups Held for Sale and Discontinued Operations

Non-Current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the asset (or disposal group) is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such asset (or disposal group) and its sale is highly probable. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-Current assets and disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell except for those assets that are specifically exempt under relevant Ind AS. Once the assets are classified as "Held for sale", those are not subjected to depreciation till disposal.

An impairment loss is recognised for any initial or subsequent write-down of the asset (or disposal group) to fair value less costs to sell. A gain is recognised for any subsequent increases in fair value less costs to sell of an asset (or disposal group), but not in excess of any cumulative impairment loss previously recognised.

A gain or loss not previously recognised by the date of the sale of the non-current asset (or disposal group) is recognised at the date of derecognition.

Non-current assets classified as held for sale and the assets of a disposal group classified as held for sale are presented separately from the other assets in the consolidated balance sheet.

Discontinued Operations

A discontinued operation is a component of an entity that either has been disposed off, or is classified as held for sale and that represents a separate line of business or geographical area of operations, is part of a single coordinated plan to dispose of such a line of business or area of operations, or is a subsidiary acquired exclusively with a view to resale. The results of discontinued operations are presented separately in the consolidated statement of profit and loss.

See Note 17 - Non-Current Assets or Disposal Group Classified as Held For Sale for further details.

See Note 53 - Discontinued Operations for further details.

(I) Impairment of Non-Current Assets (excluding Goodwill)

At the end of each reporting period, the Group reviews the carrying amounts of its tangible, intangible and other non-current assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset/ cash-generating unit is estimated in order to determine the extent of the impairment loss (if any). Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Recoverable amount is the higher of fair value less cost to sell and Value in use. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised immediately in the consolidated statement of profit and loss.

Non-current assets (other than Goodwill) that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period. Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised immediately in the consolidated statement of profit and loss.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 3A - Right of Use Assets for further details.

See Note 4 - Investment Properties for further details.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 37 - Impairment Loss/ (Reversal) of Non-Current Assets (Net) for further details.

(J) Foreign Currency Transactions and Translation

Transactions in foreign currencies are recorded by the Group entities at their respective functional currency at the exchange rates prevailing at the date of the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currency are translated to the functional currency at the exchange rates prevailing at the reporting date.

Exchange differences arising on settlement or translation of monetary items are recognised in the consolidated statement of profit and loss with the exception of the following:

- eligible exchange differences on foreign currency borrowings relating to qualifying assets under construction are included in the cost of those assets when they are regarded as an adjustment to interest costs;
- exchange differences on transactions entered into in order to hedge certain foreign currency risks (see below for hedge accounting policies); and
- exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognised initially in other comprehensive income and reclassified from equity to the consolidated statement of profit and loss on repayment of the monetary items.

Non-monetary items that are measured at historical cost in a foreign currency are translated using the exchange rates at the date of initial transactions. Non-monetary items measures at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. The gain or loss arising on translation of non-monetary items measured at fair value is treated in line with the recognition of gain or loss on change in fair value of the item (i.e. translation differences on items whose fair value gain or loss is recognised in OCI or profit or loss are also recognised in OCI or profit or loss, respectively).

For the purposes of presenting consolidated financial statements, the assets, liabilities and equity (except retained earnings) of foreign operations are translated into Indian Rupees at the rate of exchange prevailing at the reporting date and their income and expenses are translated at the exchange rates prevailing at the date of transactions. For practical reason, the Group uses an average rate to translate income and expense items, if the average rate approximates the exchange rates at the dates of the transactions. The exchange differences arising on translation for consolidation are recognised in other comprehensive income and accumulated in equity. Accumulated exchange differences arising from translation and attributable to non-controlling interests are allocated to, and recognised as part of, non-controlling interests in the consolidated balance sheet.

On the disposal of a foreign operation all of the exchange differences accumulated in OCI relating to that particular foreign operation attributable to the owners of the Group is reclassified in the consolidated statement of profit and loss.

In addition, in relation to a partial disposal of a subsidiary that includes a foreign operation that does not result in the Group losing control over the subsidiary, the proportionate share of accumulated exchange differences are re-attributed to non-controlling interests and are not recognised in the consolidated statement of profit and loss. For partial disposals of investment in associates or joint arrangements that do not result in the Group losing significant influence or joint control, the proportionate share of the accumulated exchange differences is reclassified in the consolidated statement of profit and loss.

Any goodwill and fair value adjustments arising in business combinations or acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the exchange rates prevailing at the reporting date and resulting exchange differences are recognised in other comprehensive income.

See Note 39 - Other Expenses for further details.

See Note 41 - Other Comprehensive Income/ (Loss) for further details.

(K) Provisions and Contingencies

Provisions are recognized when there is a present obligation (legal or constructive) as a result of a past event and it is probable ("more likely than not") that it is required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the balance sheet date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the estimated cash flows to settle the present obligation, its carrying amount is the present value of those cash flows. The discount rate used is a pre-tax rate that reflects current market assessments of the time value of money in that jurisdiction and the risks specific to the liability.

Onerous contracts

An onerous contract is considered to exist when a contract under which the unavoidable costs of meeting the obligations exceed the economic benefits expected to be received from it.

A provision for onerous contracts is recognised when the expected benefits to be derived by the Group from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract.

Restructurings

A restructuring provision is recognised when there is a detailed formal plan for the restructuring which has raised a valid expectation in those affected that the Group will carry out the restructuring by stating to implement the plan or announcing its main feature to those affected by it. The measurement of a restructuring provision includes only the direct expenditures arising from the restructuring which are both necessarily entailed by the restructuring and not associated with the ongoing activities of the Group.

Contingent liabilities acquired in a business combination

Contingent liabilities acquired in a business combination are initially measured at fair value at the acquisition date. At the end of subsequent reporting periods, such contingent liabilities are measured at the higher of the amount that would be recognised in accordance with Ind-AS 37 and the amount initially recognised less cumulative amortisation recognised in accordance with Ind AS 115 - Revenue from contracts with customers. This does not apply to financial guarantee contracts or otherwise to those contracts that are within the scope of Ind AS 109.

Restoration (including Mine closure), rehabilitation and decommissioning

Close-down and restoration costs are provided for in the accounting period when the obligation arising from the related disturbance occurs, based on the net present value of the estimated future costs of restoration to be incurred during the life of the mining operation and post closure. Provisions for close-down and restoration costs do not include any additional obligations which are expected to arise from future disturbance.

The initial close-down and restoration provision is capitalised. Subsequent movements in the close-down and restoration provisions for ongoing operations, including those resulting from new disturbance related to expansions or other activities qualifying for capitalisation, updated cost estimates, changes to the estimated lives of operations, changes to the timing of closure activities and revisions to discount rates are also capitalised within "Property, plant and equipment". The effect of time value of money on the restoration, rehabilitation and decommissioning liabilities is recognised in the statement of profit and loss as interest expense.

Environmental liabilities

Environment liabilities are recognised when the group becomes obliged, legally or constructively to rectify environmental damage or perform remediation work. The effect of time value of money on the environmental liabilities is recognised in the statement of profit and loss as interest expense.

Litigation

Provision relating to legal, tax and other matters is recognised once it has been established that the group has a present obligation based on consideration of the information which becomes available up to the date on which the consolidated financial statements of the Group are approved and may in some cases entail seeking expert advice in making the determination on whether there is a present obligation.

Contingent Liabilities and Assets

A contingent liability is a possible obligation that arises from a past event, with the resolution of the contingency dependent on uncertain future events, or a present obligation where no outflow is probable. Material contingent liabilities are disclosed in the consolidated financial statements unless the possibility of an outflow of economic resources is remote. Contingent assets are not recognized in the consolidated financial statements unless it is virtually certain that the future event will confirm the asset's existence and the asset will be realised.

Enterprise Social Commitment

Enterprise Social Commitment is the amount to be spent on social and economic development of the surrounding area over a period of time where any new project is set up. Such obligation arises out of conditions mentioned in the Environment Clearance Certificate given by the Government for new projects and are generally defined as a percentage of total project cost. Present value of such future cash flows discounted at appropriate and applicable discount rates are capitalised against the obligation created. Actual cash flows that happen over the period are adjusted against the obligation. The effect of time value of money on the environmental liabilities is recognised in the statement of profit and loss as interest expense.

Renewable Power Obligation

Provision towards Renewable Power obligation is created to the extent any obligated unit is unable to source renewable energy as a replacement to carbon energy as per requirement of the applicable regulation during the reporting period and is carried in books till the obligation is discharged by purchasing Renewable Energy Certificate from any of the authorised exchanges.

See Note 24 - Provisions for further details.

See Note 46 - Contingent Liabilities and Commitments for further details.

(L) Leases

The Group as lessee

The Group assesses whether a contract is or contains a lease, at inception of the contract. The Group recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low value assets. For these leases, the Group recognises the lease payments as an operating expense on a straight-line basis over the lease term, unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed. Contingent and variable rentals are recognized as expense in the periods in which they are incurred.

Lease Liability

The lease payments that are not paid at the commencement date are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Group, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

To determine the incremental borrowing rate, the Group uses a build-up approach that starts with a risk-free interest rate adjusted for credit risk and makes adjustments specific to the lease, e.g. term, security etc.

Lease payments included in the measurement of the lease liability comprise:

- Fixed lease payments (including in-substance fixed payments) payable during the lease term and under reasonably certain extension options, less any lease incentives;
- Variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- The amount expected to be payable by the lessee under residual value guarantees;
- The exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- Payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is presented as a separate line in the consolidated Balance Sheet. Lease payments are allocated between principal and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) to reflect any reassessment, lease modification or revised in-substance fixed lease payments.

Right of Use (ROU) Assets

The ROU assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses.

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under Ind AS 37- Provisions, Contingent Liabilities and Contingent Assets. The costs are included in the related right-of-use asset.

For the certain class of assets, the Group allocates lease or non-lease components on the basis of their relative stand-alone prices while assessing a contract at its inception or on reassessment.

The Group applies Ind AS 36 - Impairment of Assets to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as per its accounting policy on 'Property, Plant and Equipment'.

Extension and termination options are included in many of the leases. In determining the lease term the management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option.

ROU assets are depreciated over the shorter period of the lease term and useful life of the underlying asset. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. The depreciation starts at the commencement date of the lease.

Deferred tax on the deductible temporary difference and taxable temporary differences in respect of carrying value of right of use assets and lease liability and their respective tax bases are recognised separately.

Sale and Leaseback

When Group (seller-lessee) sells an asset to another entity (the buyer-lessor) and leases it back from the buyer lessor, the Group determines if the transaction qualifies as a sale under Ind AS 115 or whether the transaction is a collateralised borrowing.

A sale and leaseback qualifies as a sale if the buyer-lessor obtains control of the underlying asset. The Group measures a right-of-use asset arising from the leaseback as the proportion of the previous carrying amount of the asset that relates to the right-of-use retained. The gain/ (loss) that the Group recognises is limited to the proportion of the total gain/ (loss) that relates to the rights transferred to the buyer-lessor.

Any difference between the sale consideration and the fair value of the asset is either a prepayment of lease payments (if the purchase price is below market terms) or an additional financing (if the purchase price is above market terms), and this is applied if the lease payments are not at market rates.

If the transfer does not qualify as a sale under Ind AS 115, the Group does not derecognise the transferred asset, and it accounts for the cash received as a financial liability.

The Group as lessor

The Group enters into lease arrangements as a lessor with respect to some of its investment properties and buildings.

Leases for which the Group is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as finance lease. All other leases are classified as operating leases.

When the Group is an intermediate lessor, it accounts for the head lease and sublease as two separate contracts. The sublease is classified as finance or operating lease by reference to the right-of-use asset arising from the head lease.

Rental income from operating leases is recognised on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised on a straight-line basis over the lease term.

Amounts due from lessees under finance leases are recognised as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

When a contract includes lease and non-lease components, the Group applies Ind AS 115, Revenue from Contracts with Customers to allocate the consideration under the contract to each component.

See Note 3 - Right of Use Assets and Lease Liabilities recognised against Right of Use assets for further details.

See Note 35 - Finance Cost for further details.

See Note 39 - Other Expenses for further details.

(M) Inventories

Inventories are stated at the lower of cost and net realizable value. The cost of finished goods and work in progress includes raw materials, direct labour, other direct costs and related production overheads. Costs of inventories include the transfer from equity any gains/ losses on qualifying cash flow hedges for purchases of raw materials.

Cost of raw material and traded goods comprises of Cost of purchases and also include all other costs incurred in bringing the inventories to their present location and condition and are net of rebates and discounts.

The Inventories are measured at Fair Value only in those cases where the Inventories are designated into a fair value hedge relationship.

Cost is determined using the weighted average cost basis. However, the same cost basis is applied to all inventories of a particular class. Inventories of stores and spare parts are valued at weighted average cost basis after providing for cost of obsolescence and other anticipated losses, wherever considered necessary.

Net realizable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale.

Materials and other supplies held for use in the production of inventories (finished goods, work-in-progress) are not written down below the cost if the finished products in which they will be used are expected to sell at or above cost.

See Note 13 - Inventories for further details.

(N) Trade Receivable

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. If receivable is expected to be collected within a period of 12 months or less from the reporting date (or in the normal operating cycle of the business if longer), they are classified as Current Assets otherwise as Non-Current Assets.

Trade receivables are measured at their transaction price on initial recognition, unless it contains a significant financing component or pricing adjustments embedded in the contract in which cases it is recognised at fair value. Trade receivables, which are not subject to factoring arrangements are held with the objective of collecting the contractual cash flows and therefore are subsequently measured at amortised cost less loss allowance.

Trade receivables which are subject to a factoring arrangement without recourse are de-recognized from the consolidated balance sheet. Under this arrangement, the Group transfers relevant receivables to the factor in exchange for cash and does not retain late payment and credit risk. The Group considers the held to collect and sell business model to remain appropriate for such trade receivables and hence measures such trade receivables at fair value through other comprehensive income.

Trade receivables which arise from contracts where the sale price is provisional and revenue model have the character of a commodity derivative are measured at fair value. The fair value is measured at forward rate and subsequent changes are recognised as Other Operating Revenue.

See Note 14 - Trade Receivables for further details.

(O) Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group and are unpaid at the end of the financial year. The amounts are unsecured and usually paid within time limits as contracted. Trade and other payables are presented as current liabilities unless the payment is not due within 12 months after the reporting period.

They are recognised initially at their transactional value which represents the fair value and subsequently measured at amortised cost using the effective interest method wherever applicable.

See Note 22 - Trade Payables for further details.

(P) Financial Instruments

All financial assets are recognised on trade date when the purchase of a financial asset is under a contract whose term requires delivery of the financial asset within the timeframe established by the market concerned. Financial assets are initially measured at fair value, plus transaction costs, except for those financial assets which are classified as at fair value through profit or loss (FVTPL) at inception. All recognised financial assets are subsequently measured in their entirety at either amortised cost or fair value.

Classification of financial assets

Financial assets are classified as 'equity instrument' if it is a non-derivative and meets the definition of 'equity' for the issuer. All other non-derivative financial assets are 'debt instruments'.

Financial assets at amortised cost and the effective interest method

Debt instruments are measured at amortised cost if both of the following conditions are met:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows; and
- the contractual terms of the instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments meeting these criteria are subsequently measured at amortised cost using the effective interest method less any impairment, with interest recognised on an effective yield basis in other income.

The effective interest method is a method of calculating the amortised cost of a debt instrument and of allocating interest over the relevant period. The effective interest rate is the rate that exactly discounts the estimated future cash receipts (including all fees or points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the debt instrument, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

The Group may irrevocably elect at initial recognition to classify a debt instrument (on an instrument-by-instrument basis) that meets the amortised cost criteria above as at FVTPL if that designation eliminates or significantly reduces an accounting mismatch had the financial asset been measured at amortised cost.

Financial assets at fair value through other comprehensive income (FVTOCI)

Debt instruments are measured at FVTOCI if both of the following conditions are met:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows and selling assets; and
- the contractual terms of the instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Debt instruments meeting these criteria are subsequently measured at fair value with any gains or losses arising on re-measurement recognised in other comprehensive income, except for impairment gains or losses, interest income and foreign exchange gains or losses which are recognised in the consolidated statement of profit and loss. Interest calculated using the effective interest method is recognised in the Consolidated statement of profit and loss as Other income. When the debt instrument is derecognised the cumulative gain or loss previously recognised in other comprehensive income is reclassified to the consolidated statement of profit and loss as a reclassification adjustment.

At initial recognition, an irrevocable election is made (on an instrument-by-instrument basis) to designate investments in equity instruments (other than held for trading purpose) at FVTOCI.

A financial asset is held for trading if:

- it has been acquired principally for the purpose of selling it in the near term; or
- on initial recognition it is part of a portfolio of identified financial instruments that the Group manages together and has evidence of a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated in an effective hedge relationship as a hedging instrument or a financial guarantee.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognised in other comprehensive income and accumulated in the 'Gain/ (Loss) on Equity Instruments FVTOCI'. Where the asset is disposed of, the cumulative gain or loss previously accumulated in the 'Gain/ (Loss) on Equity Instruments FVTOCI' is directly reclassified to retained earnings.

For equity instruments measured at fair value through other comprehensive income no impairments are recognised in the consolidated statement of profit and loss.

Financial assets at fair value through profit and loss (FVTPL)

Financial assets that do not meet the criteria of classifying as amortised cost or fair value through other comprehensive income described above, or that meet the criteria but the entity has chosen to designate as at FVTPL at initial recognition, are measured at FVTPL.

Investments in equity instruments are classified as at FVTPL, unless the Group designates an investment that is not held for trading at FVTOCI at initial recognition.

Financial assets at FVTPL are subsequently measured at fair value, with any gains or losses arising on re-measurement recognised in the consolidated statement of profit and loss. Interest income from these financial assets is included in other income.

Impairment of financial assets

On initial recognition of the financial assets, a loss allowance for expected credit loss is recognised for debt instruments carried at amortised cost and FVTOCI. For debt instruments that are measured at FVTOCI, the loss allowance is recognised in the consolidated statement of profit and loss.

Expected credit losses of a financial instrument is measured in a way that reflects:

- an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
- the time value of money; and
- reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

At each reporting date, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition.

When making the assessment, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and consider reasonable and supportable information, that is available without undue cost or effort, that is indicative of significant increases in credit risk since initial recognition.

If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses. If, the credit risk on that financial instrument has increased significantly since initial recognition, the Group measures the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses.

For Trade Receivables and Contract Assets, the Group applies the simplified approach required by Ind AS 109, which requires expected life time losses to be recognized from initial recognition of the receivables.

The amount of expected credit losses (or reversal) that is required to adjust the loss allowance at the reporting date is recognised as an impairment gain or loss in the consolidated statement of profit and loss.

De-recognition of financial assets

The Group derecognises a financial asset on trade date only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity or when it retains contractual rights to retain contractual cash flows from financial assets, but assumes a contractual obligation to pay the cash flows to one or more recipient. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On de-recognition of a financial asset other than in its entirety (e.g. when the Group retains an option to repurchase part of a transferred asset), the Group allocates the previous carrying amount of the financial asset between the part it continues to recognise under continuing involvement, and the part it no longer recognises on the basis of the relative fair values of those parts on the date of the transfer. The difference between the carrying amount allocated to the part that is no longer recognised and the sum of the consideration received for the part no longer recognised and any cumulative gain or loss allocated to it that had been recognised in other comprehensive income is recognised in the consolidated statement of profit and loss. A cumulative gain or loss that had been recognised in other comprehensive income is allocated between the part that continues to be recognised and the part that is no longer recognised on the basis of the relative fair values of those parts.

Financial liabilities and equity instruments issued by the Group

Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognised at the proceeds received, net of direct issue costs.

Compound instruments

The component parts of compound instruments (convertible instruments) issued by the Group are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangement. At the date of issue, the fair value of the liability component is estimated using the prevailing market interest rate for a similar non-convertible instrument. This amount is recorded as a liability on an amortised cost basis using the effective interest method until extinguished upon conversion or at the instrument's maturity date. The equity component is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognised and included in equity, net of income tax effects, and is not subsequently re-measured.

Financial guarantee contract liabilities

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of loss allowance is determined by using expected credit loss model ; and
- the amount initially recognised less, where appropriate, cumulative amount of income recognised in accordance with the revenue recognition policies.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at FVTPL' or 'other financial liabilities'.

Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when the financial liability is either held for trading or it is designated as at FVTPL.

A financial liability is classified as held for trading if:

- it has been acquired or incurred principally for the purpose of repurchasing it in the near term; or
- on initial recognition it is part of a portfolio of identified financial instruments that the Group manages together and for which there is evidence of a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading may also be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise; or
- the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the Group is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and Ind-AS 109 Financial Instruments permits the entire combined contract to be designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on re-measurement recognised in the consolidated statement of profit and loss, except for the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability which is recognised in other comprehensive income.

The net gain or loss recognised in the consolidated statement of profit and loss incorporates any interest paid on the financial liability.

Other financial liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs.

Other financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

De-recognition of financial liabilities

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the statement of profit or loss.

Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

See Note 7 - Investments for further details.

See Note 8 - Loans for further details.

See Note 10 - Other Financial Assets for further details.

See Note 16 - Bank Balances other than Cash and Cash Equivalents for further details.

See Note 20 - Borrowings for further details.

See Note 23 - Other Financial Liabilities for further details.

See Note 29 - Other Income for further details.

See Note 38 - Impairment Loss/ (Reversal) on Financial Assets (Net) for further details.

See Note 48 - Financial Instruments for further details.

See Note 49 - Financial Risk Management for further details.

See Note 50 - Offsetting Financial Liabilities and Financial Assets for further details.

(Q) Derivatives and Hedge Accounting

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value at the end of each reporting date. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The Group designates certain derivatives as either:

- hedges of the fair value of recognised assets or liabilities or a firm commitment (fair value hedge); or
- hedges of a particular risk associated with the cash flow of recognised assets or liabilities or a highly probable forecast transaction (cash flow hedge).

The Group documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Group also documents the nature of the risk being hedged and how the Group will assess whether the hedging relationship meets the hedge effectiveness requirements (including its analysis of the sources of hedge ineffectiveness and how it determines the hedge ratio).

Change in Fair value of derivatives that are not designated in any hedge relationship as mentioned above are accounted through the consolidated statement of profit and loss at each reporting date.

The Group also identifies embedded derivatives in certain transactions. Embedded derivatives closely related to the host contracts are not separated. Derivatives embedded in a host contract that is an asset within the scope of Ind AS 109 are not separated. Derivatives embedded in all other host contract are separated only if the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host and are measured at fair value through profit or loss. Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest. These derivatives are designated into a hedge relationship if they meet hedge accounting criteria. Change in fair value of such embedded derivatives are accounted in Other Comprehensive Income if they are designated in a cash flow hedge relationship. Fair Value change of all other embedded derivatives including those that are not designated in any hedge relationship are accounted through the consolidated statement of profit and loss.

The full fair value of a hedging derivative is classified as a Non-Current asset or liability when the residual maturity of the derivative is more than 12 months and as a current asset or liability when the residual maturity of the derivative is less than 12 months.

Fair value hedge

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the consolidated statement of profit and loss, together with any changes in the fair value of the hedged item that are attributable to the hedged risk.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortised to the consolidated statement of profit and loss from that date except for inventory that is charged to the consolidated statement of profit and loss on sale of goods.

Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income and accumulated under the heading cash flow hedging reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in the consolidated statement of profit and loss, and is included in the '(Gain) / Loss in Fair Value of Derivatives' line item.

Amounts previously recognised in other comprehensive income and accumulated in equity are reclassified to the Consolidated statement of profit and loss in the periods when the hedged item affects the consolidated statement of profit and loss, in the same line as the recognised hedged item. However, when the hedged forecast transaction results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously recognised in other comprehensive income and accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability as a basis adjustment.

If the hedge ratio for risk management purposes in no longer optimal but the risk management objective remains unchanged and the hedge continues to qualify for hedge accounting, the hedge relationship will be rebalanced by adjusting either the volume of the hedging instrument or the volume of the hedged item so that the hedge ratio aligns with the ratio used for risk management purposes. Any hedge ineffectiveness is calculated and accounted for in the consolidated statement of profit and loss at the time of the hedge relationship rebalancing.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. Any gain or loss recognised in other comprehensive income and accumulated in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the consolidated statement of profit and loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognised immediately in the Consolidated statement of profit and loss.

See Note 9 - Derivative Financial Instruments for further details.

See Note 49 - Financial Risk Management for further details.

(R) Cash and Cash Equivalents

Cash and cash equivalents comprise of cash at bank and in hand, short-term deposits and short term highly liquid investments with an original maturity of three months or less that are readily convertible to known amounts of cash and are subject to insignificant risk of changes in value.

See Note 15 - Cash and Cash Equivalents for further details.

(S) Borrowing Cost

General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. The Group considers a period of twelve months or more as a substantial period of time. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale.

Transaction cost in respect of long-term borrowings are amortised over the tenure of respective loans using effective interest method. All other borrowing costs are expensed in the period in which they are incurred.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 35 - Finance Cost for further details.

(T) Government Grants

Government grants are recognized at fair value when there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants are recognised in the consolidated statement of profit and loss on a systematic basis over the periods in which the Group recognises as expenses the related costs for which the grants are intended to compensate. Government grants whose primary condition is that the Group should purchase, construct or otherwise acquire Non-Current assets are recognized in the consolidated balance sheet by setting up the grant as deferred income and its amortization is recognised in 'Other Income' on straight line basis over expected useful lives of related assets.

Other government grants (grants related to income) are recognized as income over the periods necessary to match them with the costs for which they are intended to compensate, on a systematic basis. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of providing immediate financial support with no future related costs are recognized in the consolidated statement of profit and loss in the period in which they become receivable.

Grants related to income are presented under Other Income or Other Operating Revenue in the consolidated statement of profit and loss depending upon the nature of the underlying grant, except for grants received in the form of rebate or exemptions related to expenditures, which are deducted in reporting the related expense.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

Emission allowances are initially recognised as an intangible asset measured at fair value when the Group is granted the allowances and able to exercise control with a corresponding recognition of a grant at the same amount under deferred income. As carbon dioxide is emitted, the corresponding tons of emission allowances initially recognised under deferred income is reclassified and recognized in the consolidated statement of profit and loss on a systematic basis.

Emission allowances are not amortised as their carrying value equals their residual value and therefore the depreciable basis zero, as their value is constant until delivery to the authorities. Emission allowances are subject to impairment test.

The provision for the liability to deliver allowances is recognised based on actual emission. The provision is measured at the carrying amount of allowances to the extent that the provision will be settled using allowances on hand with any excess emission being measured at the market value of the allowances at the period end. The group records the expense in the consolidated statement of profit and loss under other expenses.

When the emission allowances for the carbon dioxide emitted are delivered to the authorities, the intangible asset as well as the corresponding provision are de-recognized from the consolidated balance sheet without any effect on the consolidated statement of profit and loss.

See Note 28 - Revenue from Operations for further details.

See Note 29 - Other Income for further details.

(U) Employee Benefits

Retirement benefit, medical costs and termination benefits

A defined contribution plan is a pension plan under which the group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Payments to defined contribution retirement benefit plans are recognised as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement and medical plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each annual reporting period. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yields of government bonds having terms approximating to the terms of related obligation. In countries where there is a deep market in high-quality corporate bonds, the market rate on those bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension obligation are used.

Re-measurement, comprising of actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected in the consolidated balance sheet with a charge or credit recognised in other comprehensive income in the period in which they occur. Re-measurement recognised in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to the Consolidated statement of profit and loss. Past service cost is recognised in the consolidated statement of profit and loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are categorised as follows:

- service cost (including current service cost, past service cost, as well as gains and losses on curtailments and settlements);
- net interest expense or income; and
- re-measurement.

The Group presents the first two components of defined benefit costs in the consolidated statement of profit and loss in the line item employee benefits expense. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognised in the consolidated balance sheet represents the actual deficit or surplus in the Group's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

A liability for a termination benefit is recognised at the earlier of when the Group can no longer withdraw the offer of the termination benefit or when the entity recognises any related restructuring costs which involves the payment of terminations benefits.

In the case of an offer made to encourage voluntary redundancy, the termination benefits are measured based on the number of employees expected to accept the offer. Benefits falling due more than 12 months after the end of the reporting period are discounted to their present value.

Short-term and other long-term employee benefits

A liability is recognised for benefits accruing to employees in respect of wages and salaries in the period the related service is rendered at the undiscounted amount of the benefits expected to be paid in exchange for that service.

Liabilities recognised in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related service.

Liabilities recognised in respect of other long-term employee benefits such as annual leave and sick leave are measured at the present value of the estimated future cash outflows expected to be made by the Group in respect of services provided by employees up to the reporting date. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit retirement plans. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to the consolidated statement of profit and loss in the period in which they arise. These obligations are valued annually by independent qualified actuaries.

The obligations are presented as current liabilities in the balance sheet if the entity does not have an unconditional right to defer settlement for at least twelve months after the reporting period, regardless of when the actual settlement is expected to occur.

See Note 25 - Employee Benefit Obligations for further details.

See Note 33 - Employee Benefits Expense for further details.

(V) Employee Share-based Payments

Equity settled share-based payments to employees are measured at the fair value of options at the grant date.

The fair value of options at the grant is expensed over the respective vesting period in which all of the specified vesting conditions are to be satisfied with a corresponding increase in equity as "Employee Stock Options Account". In case of forfeiture of unvested option, portion of amount already expensed is reversed. In a situation where the vested options are forfeited or expires unexercised, the related balance standing to the credit of the "Employee Stock Options Account" are transferred to the "Retained Earnings".

When the options are exercised, the Company issues new equity shares of the Company of ₹ 1/- each fully paid-up. The proceeds received and the related balance standing to credit of the Employee Stock Options Account are credited to share capital (nominal value) and Securities Premium Account.

Share appreciation rights which are cash settled, are recognised as employee benefit expense over the relevant service period. The liability is fair valued at each reporting date and are presented as employee benefit obligations in the consolidated balance sheet.

Employee Stock Option Scheme administered by any independent trust is deemed as extended arm of the Company and is consolidated in the standalone financial statements. When the options are exercised, the trust transfers the appropriate number of shares to the employee. The proceeds received, net of any directly attributable transaction costs, are credited directly to equity.

See Note 25 - Employee Benefit Obligations for further details.

See Note 33 - Employee Benefits Expense for further details.

(W) Income Taxes

Income tax expense represents the sum of the tax currently payable and deferred tax.

Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from 'profit before tax' as reported in the consolidated statement of profit and loss because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the Group's entities operate and generate taxable income using tax rates that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax

Deferred tax is recognised on differences between the carrying amounts of assets and liabilities in the consolidated balance sheet and the corresponding tax bases used in the computation of taxable profit. Where the local currency is not the functional currency, deferred tax is recognised on temporary difference arising from exchange rate changes between the closing rate and the historical purchase price of non-monetary assets translated at the exchange rate at the date of purchase if those non-monetary assets have tax consequences.

Deferred tax liabilities are generally recognised for all taxable temporary differences.

Deferred tax assets are generally recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from initial recognition of goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognised for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint arrangements, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognised to the extent that it is probable that there will be sufficient taxable profits against which to utilise the benefits of the temporary differences and they are expected to reverse in the foreseeable future. Generally, the group is unable to control the reversal of the temporary difference for associates.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realised, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off when they relate to income taxes levied by the same taxation authority. Current tax assets and current tax liabilities are offset where the Group has legally enforceable right and intends to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Minimum Alternative Tax (MAT) is recognized as an asset only when and to the extent there is convincing evidence that the Group will pay normal income tax during the specified period. In the year in which the MAT credit becomes eligible to be recognized as an asset, the said asset is created by way of credit to the consolidated statement of profit and loss and included in deferred tax assets. The Group reviews the same at each balance sheet date and writes down the carrying amount of MAT entitlement to the extent there is no longer convincing evidence to the effect that Group will pay normal income tax during the specified period.

Current and deferred tax for the period

Current and deferred tax are recognised in the consolidated statement of profit and loss, except when they relate to items that are recognised in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognised in other comprehensive income or directly in equity, respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

The Group applies significant judgement in identifying uncertainties over income tax treatments. Uncertain tax positions are reflected in the overall measurement of tax expense of respective group entities and are based on the most likely amount or the expected value arrived at by the Group companies which provides better prediction of the resolution of uncertainty. Uncertain tax positions are monitored and updated as and when new information becomes available, typically upon examination or action by the taxing authorities or through statute expiration and judicial president.

The Group considers when a particular amount payable for interest and penalties on income taxes is determined to be within the scope of Ind AS 37, it is presented as part of financing cost or other expenses, respectively unless when there is an overall settlement with tax authority and the interest and penalties cannot be identified separately in which case it is determined to be part of income taxes and accounted under Ind AS 12 Income Taxes.

See Note 11 - Income Taxes for further details.

(X) Revenue Recognition

The Group derives revenue principally from sale of hydrate, speciality alumina, aluminium and aluminium value added products, di-ammonium phosphate, copper, precious metals (gold and silver) and other materials.

The Group recognizes revenue when it satisfies a performance obligation in accordance with the contract with the customer. This is achieved when control of the product has been transferred to the customer, which is generally determined when legal title, physical possession, risk of obsolescence, loss and rewards of ownership pass to the customer and the Group has the present right to payment, all of which occurs at a point in time upon shipment or delivery of the product. The Group considers shipping and handling activities as costs to fulfil the promise to transfer the related products and the customer payments for shipping and handling costs are recorded as a component of revenue.

In situations where revenue is recognized on shipment of goods, shipping and handling services are treated as a distinct separate performance obligation and the Group recognises revenue for such services when the performance obligation is completed.

The Group considers the terms of the contract in determining the transaction price. The transaction price is based upon the amount the Group expects to be entitled to in exchange for transferring of promised goods and services to the customer after deducting incentive programs, including but not limited to discounts, volume rebates etc. Transaction price excludes taxes and duties collected on behalf of the government.

For incentives offered to customers, the Group makes estimates related to customer performance and sales volume to determine the total amounts earned and to be recorded as deductions from "Revenue from contracts with customers". In making these estimates, the Group considers historical results that have a predictive value of the amount that the Group expects to be entitled to for the transferred goods and services. If historical results have limited predictive value or the Group has limited experience with similar types of incentives, the estimate is made in such a manner, which ensures that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. The actual amounts may differ from these estimates and are accounted for prospectively. No element of significant financing is deemed present as the sales are made with a credit term, which is consistent with market practice. The Group's obligation to repair or replace faulty products under the standard warranty terms is recognised as a cost with a corresponding provision.

For certain customer contracts, final prices are determined based on the underlying market index of commodity prices at a future date, for example prices on the London Metal Exchange Limited (LME) or London Bullion Markets Association (LBMA). In such contracts, the Group records revenue on a provisional basis considering current market price when control is transferred to the customer. At the end of each period, prior to final settlement date, adjustments are made to the provisional sale price based on movements in the underlying market index of commodity prices up to the date of final price determination. Such variable price movement is accounted as other operating revenue.

Revenue from irrevocable bill and hold/ holding certificate contracts is recognised when it is probable that delivery will be made, goods have been identified and kept separately, are ready for delivery in the present condition and the Company does not have the ability to use the product or to direct it to another customer. Under these arrangements, revenue is recognised once legal title has passed and control of the asset sold is transferred to the customer.

Export incentives and subsidies are recognized when there is reasonable assurance that the Group will comply with the conditions and the incentive will be received.

Claim on insurance companies, railway authorities and others are accounted for on acceptance basis.

Revenue excludes any taxes and duties collected on behalf of the government.

See Note 28 - Revenue from Operations for further details.

(Y) Contract Liability

Contract liability is recognised when a payment is received from the customer before the Company transfers goods or services to the customer.

As these are contracts that the Group expects, and has the ability, to fulfil through delivery of a non-financial item, these are presented as advance from customers and are recognised as revenue as and when control of respective commodities is transferred or service is provided to the customers under the agreements. The portion of the advance where either the Group does not have a unilateral right to defer settlement beyond twelve months or expects settlement within twelve months from the balance sheet date is classified as a current liability.

See Note 26 - Contract Liabilities for further details.

(Z) Dividend and Interest Income

Dividend Income

Dividend income on investments are recognised in the consolidated statement of profit and loss when the Group's right to receive payment is established, it is probable that the economic benefits associated with the dividend will flow to the entity; and the amount of the dividend can be measured reliably.

Interest Income

Interest income from a financial asset is recognised when it is probable that the economic benefits will flow to the Group and the amount of income can be measured reliably. Interest income is accrued on a time proportion basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

See Note 29 - Other Income for further details.

(AA) Segment Reporting

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, whose operating results are regularly reviewed by the Group's Chief Operating Decision Maker ("CODM") to make decisions for which discrete financial information is available. The Group prepares its segment information in conformity with the accounting policies adopted for preparing and presenting the financial statements of the Group as a whole. The CODM assesses the financial performance and position of the Group and makes strategic decisions. Operating segments are reported in a manner consistent with the internal reporting provided to the CODM.

Allocation of Common Costs

Common allocable costs are allocated to each segment according to the relative contribution of each segment to the total common costs.

Inter-segment Transfers

Inter-segment revenue has been accounted for based on the transaction price agreed to between segments which is based on current market prices.

Unallocated Items

Item of income, expenses, assets and liabilities which are part of more than one operating segments are not allocated to individual segment as they does not attributable to any specific segment. Such items are presented as separate line item or clubbed under 'Corporate/ Unallocated Income and Expenses/ Assets / Liabilities' as part of reconciliation.

See Note 44 - Segment Information for further details.

(AB) Exceptional Items

Exceptional items include income or expense that are considered to be part of ordinary activities, however are of such significance and nature that separate disclosure enables the user of the financial statements to understand the impact in a more meaningful manner. Exceptional items are identified by virtue of their size, nature and incidence so as to facilitate comparison with prior periods and to assess underlying trends in the financial performance of the Group.

See Note 40 - Exceptional Income/ (Expenses) (Net) for further details.

(AC) Earnings Per Share

Basic earnings per share is computed by dividing the net profit for the period attributable to the equity shareholders of the Company by the weighted average number of equity shares outstanding during the period. The weighted average number of equity shares outstanding during the period and for all periods presented is adjusted for events, such as bonus shares, other than the conversion of potential equity shares that have changed the number of equity shares outstanding, without a corresponding change in resources. Partly paid-up shares are included as fully paid equivalents according to the fraction paid-up.

Diluted earnings per share adjusts the figures used in the determination of basic earnings per share to take into account the after income tax effect of interest and other financing costs associated with dilutive potential equity shares and the weighted average number of additional equity shares that would have been outstanding assuming the conversion of all dilutive potential equity shares.

Treasury shares are excluded from weighted average numbers of equity shares used as a denominator in the calculation of basic as well as diluted earnings per share.

See Note 42 - Earnings Per Share for further details.

(AD) Statement of Cash Flows

Cash flows are reported using the indirect method, whereby the profit before tax is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments and item of income or expenses associated with investing or financing cash flows. The cash flows from operating, investing and financing activities of the Group are segregated.

For the purposes of the statement of cash flow, cash and cash equivalents is net of outstanding bank overdrafts which are integral part of cash management activities. In the consolidated balance sheet, bank overdrafts are shown within borrowings in current liabilities.

(AE) Treasury Shares

Treasury shares are the own equity instruments of the Company that are re-acquired by the Company. Treasury shares are recognised at cost and the par value of treasury shares is reduced from equity share capital whereas the difference between cost and par value is deducted from other equity. No gain or loss is recognised in the statement of profit or loss on the purchase, sale, issue, or cancellation of a Company's own equity instruments. Consideration received on issue or sale is recognised directly in equity.

(AF) Fair Value Measurement of Financial Instruments

The estimated fair value of the financial instruments is based on market prices and valuation techniques. Valuations are made with the objective to include relevant factors that market participants would consider in setting a price, and to apply accepted economic and financial methodologies for the pricing of financial instruments. References for less active markets are carefully reviewed to establish relevant and comparable data.

Marketable and non-marketable Equity Securities

Fair value for listed shares is based on quoted market prices as of the reporting date. Fair value for unlisted shares is calculated based on commonly accepted valuation techniques utilizing significant unobservable data, primarily cash flow based models.

Derivatives

Fair value of financial derivatives is estimated as the present value of future cash flows, calculated by reference to quoted price curves and exchange rates as of the balance sheet date. Options are valued using appropriate option pricing models and credit spreads are applied where deemed to be significant.

Embedded Derivatives

Embedded derivatives that are separated from the host contract are valued by comparing the forward curve at contract inception to the forward curve as of the balance sheet date. Changes in the present value of the cash flows related to the embedded derivative are recognized in the consolidated balance sheet and in the consolidated statement of profit and loss.

1C. Critical Accounting Judgments and Key Sources of Estimation Uncertainty

The preparation of consolidated financial statements requires judgements, estimates and assumptions to be made, that affect reported amounts of assets and liabilities and the disclosure of contingent liabilities as at the date of the financial statements and the amounts of revenue and expenses during the reported period. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates. Any revision to such estimates is recognised in the period in which the same is determined. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and future periods affected.

Key source of estimation of uncertainty at the date of financial statements, that have significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next financial year, are given below:

(a) Impairment of Goodwill

Goodwill represents the excess of the purchase price over the fair value of the identifiable net assets of acquired companies. Goodwill is not amortized; instead, it is tested for impairment at least annually. The recoverable amount is determined based on value in use or fair value less cost to sell calculations which require the use of assumptions as directly observable market prices are generally not exist for the Group's assets. However, fair value may be estimated based on recent transactions on comparable assets, internal models used by the Group for transactions involving the same type of assets or other relevant information. Calculation of value in use is a discounted cash flow calculation based on continued use of the assets in its present condition, excluding potential exploitation of improvement or expansion potential. (The policy has been detailed in Note 1B (F) and further information are set out in Note 5).

(b) Impairment Loss/ (Reversal) of Non-Current Assets (excluding Goodwill)

Ind AS 36 requires that the Group assesses conditions that could cause an asset or a Cash Generating Unit (CGU) to become impaired and to test recoverability of potentially impaired assets. These conditions include changes resulting from market and economic environment, including internal and external factors such as the Group's market capitalization, significant changes in the Group's planned use of the assets or a significant adverse change in the expected prices, sales volumes or raw material cost. The identification of CGUs involves judgment, including assessment of where active markets exist, and the level of interdependency of cash inflows. CGU is usually the individual plant, unless the asset or asset group is an integral part of a value chain where no independent prices for the intermediate products exist, a group of plants is combined and managed to serve a common market, or where circumstances otherwise indicate significant interdependencies.

Determination of the recoverable amount involves management estimates on highly uncertain matters, such as commodity prices and their impact on markets and prices for upgraded products, development in demand, inflation, operating expenses and tax and legal environment. The Group uses internal business plans, quoted market prices and the Group's best estimate of commodity prices, currency rates, discount rates and other relevant information. A detailed forecast is developed for a period of three to five years with projections thereafter. (The policy has been detailed in Note 1B (I) and further information are set out in Note 37).

(c) Inventory Measurement

Measurement of bulk inventory quantities (such as coal, bauxite, copper concentrates, etc.) lying at yards and work in progress of precious metals at smelter and refinery is material, complex and involves significant judgement and estimate resulting from measuring the surface area, dip measurement of materials in tanks/silos, etc.

The Group performs physical counts of above inventory on a periodic basis using internal/external experts to perform volumetric surveys and assessments, basis which the estimate of quantity for these inventories is determined. The variations noted between book records and physical quantities of above inventories are evaluated and appropriately accounted in the books of accounts. (The policy has been detailed in Note 1B (M) and further information are set out in Note 13)

(d) Employee's Retirement Benefit Obligations

The Group provides both defined benefit employee retirement plans and defined contribution plans. Measurement of pension and other superannuation costs and obligations under such plans require numerous assumptions and estimates that can have a significant impact on the recognized costs and obligation, such as future salary level, discount rate, attrition rate and mortality.

The Group provides defined benefit plans to its employees. The discount rate is based on Government bond yield. Assumptions for salary increase in the remaining service period for active plan participants are based on expected salary increase in India. Changes in these assumptions can influence the net asset or liability for the plan as well as the pension cost. (The policy has been detailed in Note 1 B(U) and further information are set out in Note 25)

(e) Tax Uncertainties and Valuation Allowances

The Group calculates income tax expense based on reported income. Deferred income tax expense is calculated based on the differences between the carrying value of assets and liabilities for financial reporting purposes and their respective tax basis that are considered temporary in nature. Valuation of deferred tax assets is dependent on management's assessment of future recoverability of the deferred tax benefit. Expected recoverability may result from expected taxable income in the future, planned transactions or planned tax optimizing measures. Economic conditions may change and lead to a different conclusion regarding recoverability. (The policy has been detailed in Note 1B (W) and further information are set out in Note 11)

(f) Contingent Liabilities and Provisions

There are various legal, direct and indirect tax matters and other obligations including environmental, mining, local and state levies, income tax holiday, availing input tax credits etc., which may impact the Group. Evaluation of uncertain liabilities and contingent liabilities and assets arising out of above matters require management judgment and assumptions, regarding the probability of outflow or realization of economic resources and the timing and amount, or range of amounts, that may ultimately be determined. Such estimates may vary from the ultimate outcome as a result of differing interpretations of laws and facts, or application of relevant judicial precedents. (The policy has been detailed in Note 1B(K) and further information are set out in Note 46)

(g) Fair Value Measurement of Financial Instruments

The Group applies valuation techniques to determine the fair value of financial instruments (where active market quotes are not available) and non-financial assets. This involves developing estimates and assumptions consistent with the market participants to price the instrument. The Group's assumptions are based on observable data as far as possible, otherwise on the best information available. Estimated fair values may vary from the actual prices that would be achieved in an arm's length transaction at the reporting date. (The policy has been detailed in Note 1B (AF) and further information are set out in Note 48)

(h) Supplier Financing Arrangements

Group participate in various supply chain finance programs under which participating suppliers may voluntarily elect to sell some or all of their Group receivables to third-party financial institutions. Supplier participation in the programs is solely up to the supplier, and participating suppliers enter their arrangements directly with the financial institutions. The Group derecognise financial liability when the obligation under the liability is discharged or canceled or expires. A significant amount of management judgment is involved in such arrangements to determine when an existing financial liability is replaced by another on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. (Further information are set out in Note 22)

1D. Recent Accounting Pronouncements

(A) New and amended standards adopted by the Group

The Ministry of Corporate Affairs had vide notification dated March 23, 2022 notified Companies (Indian Accounting Standards) Amendment Rules, 2022 which amended certain accounting standards, and are effective April 1, 2022. These amendments did not have any impact on the amounts recognised in prior periods and are not expected to significantly affect the current or future periods.

(B) New and amended standards issued but not effective

The Ministry of Corporate Affairs has vide notification dated March 31, 2023 notified Companies (Indian Accounting Standards) Amendment Rules, 2023 (the 'Rules') which amends certain accounting standards, and are effective April 1, 2023.

The Rules predominantly amend Ind AS 12, Income taxes, and Ind AS 1, Presentation of financial statements. The other amendments to Ind AS notified by these rules are primarily in the nature of clarifications.

These amendments are either not applicable to the Group or not expected to have a material impact on the Group in the current or future reporting periods and on foreseeable future transactions.

2. Property, Plant and Equipment and Capital Work-in-Progress

Refer Note 1B(C) for accounting policy on Property, Plant and Equipment
Refer Note 1B(I) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)
Refer Note 1B(S) for accounting policy on Borrowing Cost

A. Property, Plant and Equipment

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Property, Plant and Equipment - Cost	137,209	128,752
Less: Accumulated Depreciation and Impairment	(61,360)	(54,205)
Net Carrying amount	**75,849**	**74,547**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED DEPRECIATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2022	Additions	Addition due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 01/04/2022	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Freehold Land	3,253	113	-	(94)	133	3,405	177	4	-	-	13	194	3,211	3,076
Leasehold Improvements	481	153	-	(38)	32	628	240	21	-	(3)	19	277	351	241
Buildings	25,081	1,072	-	(133)	985	27,005	8,746	953	4	(128)	394	9,969	17,036	16,335
Plant and Machinery	95,508	3,709	-	(986)	3,067	101,298	42,347	4,554	135	(892)	1,776	47,920	53,378	53,161
Vehicles and Aircraft	762	84	-	(35)	22	833	465	65	-	(28)	15	517	316	297
Railway Wagons	356	51	-	-	-	407	179	22	-	-	-	201	206	177
Railway Sidings	773	2	-	-	-	775	365	43	-	-	-	408	367	408
Furniture and Fixtures	1,389	171	-	(33)	63	1,590	932	104	-	(30)	41	1,047	543	457
Office Equipment	1,149	126	-	(66)	59	1,268	754	87	-	(55)	41	827	441	395
Total	**128,752**	**5,481**	**-**	**(1,385)**	**4,361**	**137,209**	**54,205**	**5,853**	**139**	**(1,136)**	**2,299**	**61,360**	**75,849**	**74,547**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED DEPRECIATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2021	Additions	Addition due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 01/04/2021	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Freehold Land	3,138	132	42	(64)	5	3,253	167	4	-	-	6	177	3,076	2,971
Leasehold Improvements	432	37	-	-	12	481	200	33	-	-	7	240	241	232
Buildings	22,419	2,401	116	(226)	371	25,081	7,929	875	14	(172)	100	8,746	16,335	14,490
Plant and Machinery	88,002	7,318	252	(953)	889	95,508	38,428	4,290	63	(802)	368	42,347	53,161	49,574
Vehicles and Aircraft	724	93	1	(64)	8	762	445	57	-	(42)	5	465	297	279
Railway Wagons	336	20	-	-	-	356	159	20	-	-	-	179	177	177
Railway Sidings	752	21	-	-	-	773	322	43	-	-	-	365	408	430
Furniture and Fixtures	1,345	128	2	(81)	(5)	1,389	927	89	-	(75)	(9)	932	457	418
Office Equipment	1,021	134	3	(22)	13	1,149	658	104	-	(20)	12	754	395	363
Total	**118,169**	**10,284**	**416**	**(1,410)**	**1,293**	**128,752**	**49,235**	**5,515**	**77**	**(1,111)**	**489**	**54,205**	**74,547**	**68,934**

(a) The Group's share in jointly owned assets has been grouped together with the relevant class of property, plant and equipment. The cost and net carrying amounts included in relevant class of assets are given below:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Original Cost	Net Carrying Amount	Original Cost	Net Carrying Amount
Freehold Land	52	52	52	52
Buildings	54	40	54	40
Plant and Machinery	6	1	6	1
Furniture & Fixtures	29	19	27	22
Office Equipment	8	1	9	2

(b) Refer Note 20A(a), (b) for details of Property, Plant and Equipments (except Jointly owned assets) pledged and hypothecated against borrowings.

(c) Useful life of items of Property, Plant and Equipment is given below:

Items of Property, Plant and Equipment	Useful Life*
Freehold Land	Infinite $
Leasehold Improvements	7 - 90 Years
Buildings	3 - 60 Years
Plant and Machinery	2 - 40 Years
Vehicles and Aircraft	2 - 25 Years
Railway Wagons	15 Years
Railway Sidings	15 Years
Furniture and Fixtures	3 - 10 Years
Office Equipment	2 - 25 Years

$ Freehold land used for mining is depreciated over 8 - 30 years.

* Cost incurred subsequent to capitalisation, accounted as a separate component, is depreciated over the remaining useful life of the underlying asset.

(d) The Property, Plant and Equipment residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period. The Group has not revalued its Property, Plant and Equipment during the current or previous year.

(e) Refer Note 37 for details of impairment charge/(reversal).

B. Capital Work-in-Progress

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Capital Work-in-Progress (CWIP)	7,340	4,727
	7,340	**4,727**

(a) The Group's share in Capital Work-in-Progress of jointly owned assets has been included in Capital Work-in-Progress which is given below:

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Jointly Owned Assets	135	101

(b) CWIP comprise of various routine, non-routine and expansion projects spread over across the Group which relates to following segments:

(₹ in Crore)

Segment	As at 31/03/2023	As at 31/03/2022
Novelis	4,202	3,087
Aluminium Upstream	1,608	918
Aluminium Downstream	1,155	500
Copper	228	119
Others - Not Allocable to segment	147	103
Total	**7,340**	**4,727**

(c) **CWIP ageing schedule as at 31/03/2023:**

(₹ in Crore)

Particulars	Amount in CWIP for a period of: Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
Projects in progress	3,935	2,171	497	499	7,102
Projects temporarily suspended	104	1	-	133	238
Total	**4,039**	**2,172**	**497**	**632**	**7,340**

CWIP ageing schedule as at 31/03/2022:

(₹ in Crore)

Particulars	Amount in CWIP for a period of: Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
Projects in progress	2,133	1,845	430	118	4,526
Projects temporarily suspended	1	2	21	177	201
Total	**2,134**	**1,847**	**451**	**295**	**4,727**

(d) **CWIP completion schedule for projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2023 are given below:**

(₹ in Crore)

Projects	To be completed in: Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i) Project in Progress					
Strategic Projects	226	5	-	-	231
Environmental and Occupational Health and Safety Projects	211	-	-	-	211
(ii) Project temporarily suspended					
Strategic Projects	-	-	4	73	77
Environmental and Occupational Health and Safety Projects	-	-	-	-	-
Total	**437**	**5**	**4**	**73**	**519**

CWIP completion schedule for projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2022 are given below:

(₹ in Crore)

Projects	To be completed in: Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i) Project in Progress					
Strategic Projects	1,245	-	163	-	1,408
Environmental and Occupational Health and Safety Projects	79	-	-	-	79
(ii) Project temporarily suspended					
Strategic Projects	-	69	-	73	142
Environmental and Occupational Health and Safety Projects	-	-	-	-	-
Total	**1,324**	**69**	**163**	**73**	**1,629**

(e) Refer Note 46(B)(a) for capital expenditures contracted but not incurred.

(f) During the year, interest capitalised on qualifying assets is ₹ 105 Crore (31/03/2022: ₹ 179 Crore), Refer Note 35(e) for further details.

(g) The Group has tested the carrying value of CWIP for impairment as at reporting date and recorded impairment of ₹ 65 Crore (31/03/2022: ₹ 19 Crore), Refer Note 37 for for further details.

3. Right of Use Assets and Lease Liabilities

Refer Note 1B (M) for accounting policy on Leases

Refer Note 1B(I) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)

A. Right of Use Assets

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Cost	3,733	2,767
Less: Accumulated Depreciation and Impairment	(1,052)	(844)
Net carrying amount	**2,681**	**1,923**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED DEPRECIATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2022	Additions	Additions due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 01/04/2022	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Leasehold Land	1,181	195	-	(3)	11	1,384	100	45	-	(3)	-	142	1,242	1,081
Buildings	642	350	-	(86)	42	948	262	121	16	(69)	16	346	602	380
Stadium Suite	43	-	-	-	4	47	12	3	-	-	4	19	28	31
Plant and Machinery	204	384	-	(86)	5	507	114	52	-	(84)	(2)	80	427	90
Vehicles and Aircraft	421	210	-	(62)	22	591	191	107	-	(14)	12	296	295	230
Boats	59	-	-	-	-	59	34	12	-	-	-	46	13	25
Railway Wagons	135	3	-	-	3	141	73	6	-	-	2	81	60	62
Railway Sidings	2	-	-	-	-	2	-	-	-	-	-	-	2	2
Waterfront	1	-	-	-	-	1	-	-	-	-	-	-	1	1
Furniture and Fixtures	33	-	-	(15)	2	20	26	1	-	(14)	1	14	6	7
Office Equipment	46	6	-	(22)	3	33	32	12	-	(17)	1	28	5	14
Total	**2,767**	**1,148**	**-**	**(274)**	**92**	**3,733**	**844**	**359**	**16**	**(201)**	**34**	**1,052**	**2,681**	**1,923**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED DEPRECIATION						NET CARRYING AMOUNT	
	As at 01/04/2021	Additions	Additions due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 01/04/2021	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Leasehold Land	1,146	57	-	(40)	18	1,181	74	46	-	(22)	2	100	1,081	1,072
Buildings	535	112	-	(22)	17	642	165	109	-	(20)	8	262	380	370
Stadium Suite	41	-	-	-	2	43	9	4	-	-	(1)	12	31	32
Plant and Machinery	208	63	-	(69)	2	204	115	37	-	(45)	7	114	90	93
Vehicles and Aircraft	279	174	-	(30)	(2)	421	107	95	-	(9)	(2)	191	230	172
Boats	59	-	-	-	-	59	22	12	-	-	-	34	25	37
Railway Wagons	176	1	-	(39)	(3)	135	74	24	-	(25)	-	73	62	102
Railway Sidings	2	-	-	-	-	2	-	-	-	-	-	-	2	2
Waterfront	1	-	-	-	-	1	-	-	-	-	-	-	1	1
Furniture and Fixtures	36	-	-	(3)	-	33	22	7	-	(3)	-	26	7	14
Office Equipment	41	5	-	(2)	2	46	21	11	-	(1)	1	32	14	20
Total	**2,524**	**412**	**-**	**(205)**	**36**	**2,767**	**609**	**345**	**-**	**(125)**	**15**	**844**	**1,923**	**1,915**

(a) Refer Note 37 for impairment charge/(reversal).

B. Lease Liabilities

(a) Lease Liabilities recognised against Right of Use Assets are as follows:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Lease Liabilities against Right of Use Assets	1,491	465	972	279
	1,491	**465**	**972**	**279**

4. Investment Properties

Refer Note 1B(D) for accounting policy on Investment Properties

Refer Note 1B(I) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Cost	35	35
Less: Accumulated Depreciation and Impairment	(15)	(14)
Net Carrying amount	**20**	**21**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED DEPRECIATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2022	Addition	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 01/04/2022	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Freehold Land	1	-	-	-	1	-	-	-	-	-	-	1	1
Buildings	34	-	-	-	34	14	1	-	-	-	15	19	20
Total	**35**	**-**	**-**	**-**	**35**	**14**	**1**	**-**	**-**	**-**	**15**	**20**	**21**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2021	Addition	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 01/04/2021	Depreciation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Freehold Land	1	-	-	-	1	-	-	-	-	-	-	1	1
Buildings	33	-	1	-	34	13	1	-	-	-	14	20	20
Total	**34**	**-**	**1**	**-**	**35**	**13**	**1**	**-**	**-**	**-**	**14**	**21**	**21**

(₹ in Crore)

	Year ended	
(a) Amount recognised in Statement of Consolidated Profit and Loss for Investment Properties are as under:	31/03/2023	31/03/2022
Rental income	6	6
Less: Direct operating expenses (including repair and maintenance) on properties generating rental income	(1)	-
Profit/ (Loss) from Investment Properties before Depreciation	5	6

(b) The Group has no contractual obligations to purchase, construct or develop investment properties or for repairs, maintenance and enhancements. There are no restrictions on the realisability of investment properties or the remittance of income and proceeds of disposal on the Group.

(c) **Fair value of Investment properties:**

The fair value of the Group's investment properties as at March 31, 2023 and March 31, 2022 have been arrived on the basis of valuation carried out by an external independent valuer who is registered under Rule 2 of the Companies (Registered Valuers and Valuation) Rules, 2017.

The fair value measurement for all the investments properties has been categorised as Level 2 fair value based on the inputs to the valuation technique used. Considering the type of the assets, market approach (sales comparable method is adopted) to estimate the fair value of the subject properties. Fair value of investment properties is given below:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Freehold Land	4	4
Buildings	103	100

(d) Useful life of items of Investment Properties are given below:

	Useful Life
Freehold Land	Infinite
Buildings	60 Years

5. Goodwill

Refer Note 1B(F) for accounting policy on Goodwill

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Cost	25,745	23,965
Less: Accumulated Impairment	-	-
Net Carrying amount	**25,745**	**23,965**

(₹ in Crore)

	Year ended	
Cost	31/03/2023	31/03/2022
Balance at the beginning of the year	23,965	23,317
Addition through business combination, Refer Note 52	-	67
Exchange differences	1,780	581
Balance at the end of the year	25,745	23,965
Accumulated Impairment	-	-
Balance at the beginning of the year	-	-
Impairment loss for the period	-	-
Exchange differences	-	-
Balance at the end of the year	-	-
Net Carrying amount	25,745	23,965

(a) **Impairment testing of Goodwill**

For the purpose of impairment testing, the Group allocated goodwill to cash-generating units (CGU) that are expected to benefit from the synergies of the acquisition. The carrying value of goodwill for each of CGU and associated operating segments are given below:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Novelis segment		
Novelis - North America	11,852	10,949
Novelis - Europe	8,847	8,281
Novelis - South America	3,006	2,778
Novelis - Asia	1,863	1,780
Aluminium Upstream segment		
Utkal Alumina International Limited (Utkal)	110	110
Minerals and Minerals Limited (M&M)	*	*
Aluminium Downstream segment		
Kuppam, Refer Note 52(B)	4	4
Copper segment		
Birla Copper Asoj Private Limited - Refer Note 52(A)	63	63
	25,745	**23,965**

* it represents Goodwill on acquisition of M&M ₹ 0.12 Crore.

Goodwill is not amortized, instead, it is tested for impairment annually or more frequently if indicators of impairment exist. Impairment is identified by comparing the recoverable amount of each CGU to it carrying amount. If the carrying value exceeds the recoverable amount, management records an impairment charge in an amount equal to that excess. The recoverable amount of a CGU for the years ended 31/03/2023 and 31/03/2022 is determined based on fair value (Level 3) less cost to sell calculations, which require the use of assumptions.

The estimate of fair value less cost to sell for each CGU is based on weighted average of discounted cash flows (the income approach) and guideline public company method which considers enterprise Value ("EV")/EBITDA multiples of comparable companies adjusted with control premium (the market approach)

Under the income approach, the fair value of each CGU is based on the present value of estimated future cash flows. The income approach is dependent on a number of significant management assumptions including markets and market share, sales volumes and prices, costs to produce, capital spending, working capital changes and the discount rate. The Group estimate future cash flows for each of the CGU based on their respective projections. These projected cash flows are discounted to the present value using a weighted average cost of capital (discount rate) The projections are based on both past performance and the expectations of future performance and assumptions used in current operating plan.

Under the market approach, fair value is calculated based on guideline public company model. Under this model, the fair value of each CGU is determined based upon comparisons to public companies engaged in similar businesses. The Group uses the trailing and forward EV/EBITDA multiples. EV is defined as the total of equity capital plus debt capital. The trailing multiples have been based on the EBITDA of the trailing twelve months preceding the valuation date and the forward multiples have been based on the one-year and two-year forward consensus analyst EBITDA estimates as on the valuation date and has been adjusted for control premium.

The calculations use cash flow projections based on financial budgets approved by management covering three to five-year period depending upon CGU's/ segment financial budgeting process. Cash flows beyond the five-year period are extrapolated using the estimated growth rates stated below.

The key assumptions used in the estimation of the recoverable amount of CGU's/ segment set out below. The values assigned to the key assumptions represent management's assessment of future trends in the relevant industries and economic environment and have been based on historical data from both external and internal sources.

	Novelis		Aluminium Upstream		Aluminium Downstream		Copper	
	31/03/2023	31/03/2022	31/03/2023	31/03/2022	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Discount rate (i)	9.57%	8.93%	10.90%	13.20%	10.90%	13.20%	10.90%	12.00%
Terminal growth rate (ii)	2.25%	2.25%	4.50%	4.50%	4.50%	4.50%	2.00%	2.00%
EV/EBITDA multiple in times	6 to 9	5.5 to 10.5	NA	NA	NA	NA	NA	NA

(i) The projected cash flows are discounted to the present value using a post-tax weighted average cost of capital (discount rate) The discount rate is commensurate with the risk inherent in the projected cash flows and reflects the rate of return required by an investor in the current economic conditions.

(ii) The group uses specific growth assumptions for each reporting unit based on history and economic conditions.

(iii) Cost of disposal is assumed to be 4% (previous year 4%) of the fair value.

As a result of the Management annual goodwill impairment test for the year ended 31/03/2023 and 31/03/2022, no goodwill impairment was identified as the recoverable value of the CGUs to whom goodwill was allocated exceeded their respective carrying amounts as of 31/03/2023 and 31/03/2022.

(b) **Impact of possible changes in key assumptions**

The carrying value of goodwill predominantly (approximately 99% of the total goodwill) relates to the goodwill that arose on the acquisition of Novelis Inc. wherein goodwill has been allocated in four CGUs. The recoverable amount of each of these four CGUs would not fall below the the carrying value if the key assumptions were to change as follow:

	As at 31/03/2023		As at 31/03/2022	
	From	To	From	To
Long-term growth rate (%)				
Novelis - North America	2.25%	**	2.25%	**
Novelis - Europe	2.25%	2.02%	2.25%	**
Novelis - South America	2.25%	**	2.25%	**
Novelis - Asia	2.25%	**	2.25%	**
Post-tax discount rate (%)				
Novelis - North America	9.57%	**	8.93%	**
Novelis - Europe	9.57%	9.73%	8.93%	**
Novelis - South America	9.57%	**	8.93%	**
Novelis - Asia	9.57%	**	8.93%	**
EV/EBITDA multiple (in times)				
Novelis - North America	6 - 9	**	5.5 - 7.5	**
Novelis - Europe	6 - 9	6 - 8.50	7.5 - 10.5	**
Novelis - South America	6 - 9	**	7.5 - 10.5	**
Novelis - Asia	6 - 9	**	5.5 - 7.5	**

** Management believes that there is no reasonably possible change in any of the above key assumptions that would cause the recoverable amount to fall below the carrying value of any of the CGU having allocated goodwill.

6. Other Intangible Assets and Intangible Assets under Development

Refer Note 1B(E) for accounting policy on Intangible Assets (Other than Goodwill)
Refer Note 1B(G) for accounting policy on Stripping Cost
Refer Note 1B(I) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)
Refer Note 1B(S) for accounting policy on Borrowing Cost

A. Other Intangible Assets

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Cost	15,728	14,392
Less: Accumulated Amortisation and Impairment	(9,397)	(7,974)
Net Carrying amount	**6,331**	**6,418**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED AMORTISATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2022	Additions	Additions due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 01/04/2022	Amortisation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Mining Rights	864	130	-	-	-	994	459	85	-	-	-	544	450	405
Trade Name	1,180	-	-	-	96	1,276	889	73	-	-	74	1,036	240	291
Technology and Software	4,703	437	-	(83)	327	5,384	3,844	413	-	(77)	313	4,493	891	859
Customer related Intangible Assets	6,499	-	-	-	512	7,011	2,782	301	-	1	239	3,323	3,688	3,717
Favourable Contracts	6	-	-	-	-	6	-	1	-	-	-	1	5	6
Carbon Emission Rights	1,140	1	-	(174)	90	1,057	-	-	-	-	-	-	1,057	1,140
Total	**14,392**	**568**	**-**	**(257)**	**1,025**	**15,728**	**7,974**	**873**	**-**	**(76)**	**626**	**9,397**	**6,331**	**6,418**

(₹ in Crore)

Particulars	ORIGINAL COST						ACCUMULATED AMORTISATION AND IMPAIRMENT						NET CARRYING AMOUNT	
	As at 01/04/2021	Additions	Additions due to acquisition	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 01/04/2021	Amortisation	Impairment/ (Reversal)	Disposal/ Adjustments	Exchange differences	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Mining Rights	803	87	-	(27)	1	864	406	89	-	(37)	1	459	405	397
Trade Name	1,138	-	-	-	42	1,180	777	82	-	-	30	889	291	361
Technology and Software	4,295	300	9	(4)	103	4,703	3,332	406	-	(4)	110	3,844	859	963
Customer related Intangible Assets	6,275	4	15	-	205	6,499	2,411	295	-	-	76	2,782	3,717	3,864
Favourable Contracts	-	-	6	-	-	6	-	-	-	-	-	-	6	-
Carbon Emission Rights	497	833	-	(220)	30	1,140	-	-	-	-	-	-	1,140	497
Total	**13,008**	**1,224**	**30**	**(251)**	**381**	**14,392**	**6,926**	**872**	**-**	**(41)**	**217**	**7,974**	**6,418**	**6,082**

(a) Addition in Mining Rights includes ₹ 86 Crore (31/03/2022: ₹ 57 Crore) and amortization expense includes ₹ 67 Crore (31/03/2022: ₹ 76 Crore) towards stripping activity assets.

(b) Carbon emission credits are recognised at fair value upon receipt of government grants for operations in Europe and Asia, which becomes their cost basis. These credits are utlised on a systematic basis over the applicable grant life (Annual basis for Asia and over the seven year period for Europe).

(c) Useful life of items of Intangible Assets and their remaining useful lives are given below:

Items of Other Intangible Assets	Useful Life (Years)	Remaining useful life (Years)
Mining Rights	8 - 41	3 - 33
Trade Name	3 - 20	0 - 17
Technology and Software	3 - 10	0 - 8
Customer related Intangible Assets	20 - 22	4 - 19
Favourable Contracts	3	3

(d) The residual value and useful life of intangible assets are reviewed, and adjusted if appropriate, at the end of each reporting period.

B. Intangible Assets under Development

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Intangible Assets under Development (IAUD)	360	218
	360	**218**

(a) Intangible asset under development ageing schedule as at 31/03/2023:

(₹ in Crore)

Particulars	Amount in IAUD for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	208	129	21	2	360
Projects temporarily suspended	-	-	-	-	-
Total	**208**	**129**	**21**	**2**	**360**

Intangible asset under development ageing schedule as at 31/03/2022:

(₹ in Crore)

Particulars	Amount in IAUD for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	191	25	2	-	218
Projects temporarily suspended	-	-	-	-	-
Total	**191**	**25**	**2**	**-**	**218**

(b) The projects whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2023 are as folows:

(₹ in Crore)

Particulars	To be completed in				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
(i) Project in Progress					
Strategic Projects	3	-	-	-	3
Environmental and Occupational Health and Safety Projects	-	-	-	-	-
(ii) Project temporarily suspended					
Strategic Projects	-	-	-	-	-
Environmental and Occupational Health and Safety Projects	-	-	-	-	-
Total	**3**	**-**	**-**	**-**	**3**

Further, there are no projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2022.

(c) The Group has tested the carrying value of IAUD for impairment as at reporting date and has not identified any impairment.

(d) During the year, interest capitalised on qualifying assets is ₹ Nil (31/03/2022: ₹ 8 Crore), Refer Note 35(e) for further details.

7. Investments

Refer Note 1B(P) for accounting policy on Financial Instruments

A. Investments, Non-Current

(Fully paid-up unless otherwise stated)

(₹ in Crore)

Equity Instruments at FVTOCI	Face Value	Numbers as at		Value as at	
Quoted	**Per Unit**	**31/03/2023**	**31/03/2022**	**31/03/2023**	**31/03/2022**
Grasim Industries Limited	₹ 2	28,464,653	28,464,653	4,646	4,736
Ultra Tech Cement Limited	₹ 10	1,258,515	1,258,515	959	831
Vodafone Idea Limited	₹ 10	751,119,164	751,119,164	436	725
Aditya Birla Fashion and Retail Limited	₹ 10	50,239,794	50,239,794	1,077	1,518
Gujarat Narmada Valley Fertilizers & Chemicals Limited	₹ 10	-	100	-	-
Gujarat State Fertilizers & Chemicals Limited	₹ 2	-	500	-	-
Southern Petrochemical Industries Limited	₹ 10	-	100	-	-
Madras Fertilizer Limited	₹ 10	-	100	-	-
Rashtriya Chemicals and Fertilizers Limited	₹ 10	-	100	-	-
Aditya Birla Capital Limited	₹ 10	39,850,514	39,850,514	611	429
				7,729	**8,239**

(₹ in Crore)

Equity Instruments at FVTOCI	Face Value	Numbers as at		Value as at	
Unquoted	**Per Unit**	**31/03/2023**	**31/03/2022**	**31/03/2023**	**31/03/2022**
Sai Wardha Power Generation Limited	₹ 10	2,830,352	2,830,352	-	-
Birla International Limited	CHF 100	2,500	2,500	6	5
Bharuch-Dahej Railway Company Limited	₹ 10	13,530,000	13,530,000	19	10
Birla Management Centre Services Limited	₹ 10	9,500	9,500	15	11
Saras Micro Devices Inc, Refer Note 54(B)	USD 13.33	100,000	100,000	11	10
Addionics Limited	USD 9.25	162,246	162,246	13	12
Sortera Alloys, Inc.	USD 11.31	397,709	-	37	-
Multiscale Technologies, Inc.	USD 2.67	540,275	-	12	-
DTE ehf.	USD 14.11	141,665	-	16	-
Woodlands Multi Speciality Hospital Limited	₹ 10	7,200	-	-	-
				129	**48**
Debt Instruments at FVTOCI					
Quoted					
Government Securities - (b)					
6.83% Government of India Bond, 2039		2,000,000	2,000,000	19	20
6.57% Government of India Bond, 2033		5,000,000	5,000,000	47	48
6.45% Government of India Bond, 2029		5,000,000	5,000,000	48	49
5.79% Government of India Bond, 2030		10,000,000	10,000,000	93	94
6.19% Government of India Bond, 2034		10,000,000	10,000,000	91	92
				298	**303**
Debt Instruments at FVTPL					
Unquoted					
Preference Shares					
Aditya Birla Health Services Limited - 7% Redeemable, Non Cumulative	₹100	2,500,000	2,500,000	24	24
				24	**24**
Unquoted					
Mutual Funds					
Investments in Debt Schemes of Mutual Funds				-	2
				-	**2**
				8,180	**8,616**

(a) Aggregate amount of Quoted and Unquoted Investments, Market value of Quoted Investments are given below:

(₹ in Crore)

Debit Instruments at FVTPL	Value as at	
	31/03/2023	**31/03/2022**
Aggregate Cost of Quoted Investments	2,990	2,990
Aggregate Market value of Quoted Investments	8,027	8,542
Aggregate Cost of Unquoted Investments	134	75
Aggregate amount of impairment in value of investments	3	3
Aggregate Carrying value of Quoted and Unquoted Investments	8,180	8,616

(b) Investment in Government Securities includes ₹ 24 Crore (31/03/2022: ₹ 25 Crore) being placed as margin money with counter parties for derivative transactions.

B Investments, Current

(₹ in Crore)

	Value as at	
	31/03/2023	**31/03/2022**
Quoted		
Investment in Government Securities at FVTOCI	5	72
Investment in Debentures and Bonds at FVTPL	130	152
Investment in Debt Schemes of Mutual Funds at FVTPL - (b)	5,625	5,228
Investment in Commercial Papers at FVTPL	97	-
	5,857	5,452

(a) Aggregate amount of Quoted and Unquoted Investments, Market value of Quoted investments are given below:

Aggregate cost of Quoted Investments	5,732	5,302
Aggregate Market value of Quoted Investments	5,857	5,452
Aggregate Cost of Unquoted Investments	-	-
Aggregate Carrying value of Quoted and Unquoted Investments	5,857	5,452

(b) Investment in Debt Schemes of Mutual Funds includes ₹ 338 Crore (31/03/2022: ₹ 320 Crore) being placed as margin money with counter parties for derivative transactions.

8. Loans

(Unsecured, Considered Good unless otherwise stated)

Refer Note 1B(P) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	**Current**	**Non-Current**	**Current**
Loan to Related Parties - (a), (b), (c)	29	-	36	-
Loan to Employees	16	8	13	7
Loan to Others	2	-	1	-
	47	**8**	**50**	**7**

(a) There are no Loans or Advances in the nature of loans granted to promoters, directors, Key Managerial Personnel (KMPs) and the related parties, that are repayable on demand as on 31/03/2023 and 31/03/2022.

(b) Refer Note 45 for details of balances with related parties.

(c) Refer Note 56(a)(i) and (ii) for disclosure as per section 186(4)of the Companies Act 2013 and SEBI (LODR) 2015.

9. Derivatives

Refer Note 1B(Q) for accounting policy on Derivatives and Hedge Accounting

The Group uses derivative financial instruments such as forwards, futures, swaps, options etc. to hedge its risks associated with foreign exchange fluctuation and price risk movement. Risks associated with fluctuation in the price of the products (copper, aluminium, coal, furnace oil, natural gas, electricity, diesel and precious metals) are minimized by undertaking appropriate derivative instruments. Derivatives embedded in other contracts are treated as separate derivatives when their risks and characteristics are not closely related to their host contracts. In some cases, the embedded derivatives may be designated in a hedge relationship. The fair values of all such derivative financial instruments are recognized as assets or liabilities at the balance sheet date.

The Group also applies hedge accounting using certain foreign currency non-derivative monetary items which are used as hedging instruments for hedging foreign exchange risk.

(a) The Asset and Liability position of various outstanding derivative financial instruments is given below:

(₹ in Crore)

Particulars	Nature of Risk being Hedged	As at 31/03/2023			As at 31/03/2022		
		Liability	Asset	Net Fair Value	Liability	Asset	Net Fair Value
Current							
Cash flow hedges							
Commodity contracts	Price Risk Component	(288)	634	346	(6,832)	260	(6,572)
Foreign currency contracts	Exchange rate movement risk	(190)	274	84	(220)	442	222
Fair Value Hedge							
Commodity contracts	Price Risk Component	(197)	-	(197)	(183)	67	(116)
Foreign currency contracts	Exchange rate movement risk	(5)	1	(4)	(12)	1	(11)
Non-designated hedges							
Commodity contracts	Price Risk Component	(511)	796	285	(3,239)	2,448	(791)
Foreign currency contracts	Exchange rate movement risk	(181)	120	(61)	(195)	172	(23)
		(1,372)	**1,825**	**453**	**(10,681)**	**3,390**	**(7,291)**
Offsetting		115	(115)	-	24	(24)	-
Total (A)		**(1,257)**	**1,710**	**453**	**(10,657)**	**3,366**	**(7,291)**

(₹ in Crore)

Particulars	Nature of Risk being Hedged	As at 31/03/2023			As at 31/03/2022		
		Liability	Asset	Net Fair Value	Liability	Asset	Net Fair Value
Non - current							
Cash flow hedges							
Commodity contracts	Price Risk Component	(4)	22	18	(442)	51	(391)
Foreign currency contracts	Exchange rate movement risk	(11)	134	123	(5)	235	230
Non-designated hedges							
Commodity contracts	Price Risk Component	(20)	4	(16)	(16)	18	2
Foreign currency contracts	Exchange rate movement risk	(24)	24	-	(1)	1	-
		(59)	**184**	**125**	**(464)**	**305**	**(159)**
Offsetting		**3**	**(3)**	**-**	**-**	**-**	**-**
Total (B)		**(56)**	**181**	**125**	**(464)**	**305**	**(159)**
Current							
Fair Value Hedge							
Embedded Derivatives (i)	Risk of change in Fair Value of unpriced inventory	(428)	23	(405)	(489)	5	(484)
Total (C)		**(428)**	**23**	**(405)**	**(489)**	**5**	**(484)**
Grand Total (A+B+C)		**(1,741)**	**1,914**	**173**	**(11,610)**	**3,676**	**(7,934)**

(i) Fair Value net Loss of Embedded Derivatives of ₹ 405 Crore (31/03/2022: net Loss ₹ 484 Crore) is accounted for as part of Trade Payables.

(b) Outstanding position and fair value of various foreign exchange derivative financial instruments:

Particulars	Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)	Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Foreign currency options							
Cash flow hedges							
Sell	USD_INR	84.00	204	7	-	-	-
Total				7			-
Foreign currency forwards							
Cash flow hedges							
Buy	CHF_EUR	0.98	101	(4)	0.94	93	30
Buy	USD_CHF	0.93	17	4	0.91	27	-
Buy	BRL_USD	0.17	226	143	0.17	275	245
Buy	EUR_USD	1.09	375	22	1.18	219	(72)

Particulars	Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)	Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Buy	USD_CAD	1.32	24	(5)	1.25	24	-
Buy	USD_KRW	1,260.13	455	(76)	1,176.23	657	(131)
Buy	EUR_KRW	-	1	-	-	1	-
Buy	JPY_USD	135.80	7	4	-	-	-
Sell	USD_INR	86.87	1,066	112	81.22	1,196	380
Total				**200**			**452**
Fair Value hedges							
Buy	USD_INR	82.64	135	(4)	76.85	189	(11)
Total				**(4)**			**(11)**
Non-Designated hedges							
Buy	EUR_INR	-	-	-	98.96	-	-
Buy	USD_INR	82.43	77	-	77.04	-	-
Buy	GBP_EUR	1.14	308	(2)	1.19	269	(12)
Buy	USD_KRW	1,251.10	267	(45)	1,198.22	282	(21)
Buy	EUR_USD	0.79	305	(25)	1.19	290	(65)
Buy	GBP_USD	1.20	21	(5)	1.35	33	6
Buy	USD_CHF	0.91	23	3	0.92	9	-
Buy	CAD_USD	0.77	18	(6)	0.80	16	1
Buy	USD_BRL	4.87	126	20	4.89	187	27
Buy	EUR_KRW	-	6	2	-	2	-
Buy	CHF_GBP	0.88	9	-	0.82	9	(1)
Buy	CHF_EUR	0.99	552	(12)	0.98	503	32
Buy	USD_CNY	6.99	59	2	6.32	77	3
Buy	EUR_CNY	7.45	11	-	7.33	2	-
Buy	JPY_USD	130.27	1	1	-	-	-
Sell	USD_INR	82.63	261	6	76.35	182	7
Total				**(61)**			**(23)**
Grand Total				**142**			**418**

(c) Outstanding position and fair value of various foreign exchange non-derivative financial instruments used as hedging instruments:

(₹ in Crore)

Particulars	Note No	Currency Pair	As at 31/03/2023			As at 31/03/2022		
			Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)	Weighted Strike exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Foreign currency monetary items								
Cash flow hedges								
Debt	20B	USD_INR	82.00	-	-	74.55	185	(25)
Liability for Copper Concentrate								
Host Liability		USD_INR	82.39	519	12	75.51	695	(19)
Supplier's credit	21	USD_INR	81.10	560	(20)	74.77	324	(39)
Total					**(8)**			**(83)**

(d) Outstanding position and fair value of various commodity derivative financial instruments

Outstanding position and fair value of various commodity derivative financial instruments as at March 31, 2023:

(₹ in Crore)

Particulars		Currency	Average Price/ Unit	Quantity	Unit	Notional value USD (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Commodity Futures/Forwards/Swaps							
Cash Flow Hedge							
Aluminium	Sell	USD	2,457	612,295	MT	1,505	249
Aluminium	Buy	USD	2,377	187,920	MT	447	121
Furnace Oil	Buy	USD	-	52,000	MT	19	4
Diesel Fuel	Buy	USD	4	996,000	Gallons	4	(4)
Natural gas	Buy	USD	2	6,875,000	MMBtu	15	(6)
Total							**364**
Fair Value Hedge							
Gold	Sell	INR	5,630,292	4,425	KGS	24,914	(140)
Silver	Sell	USD	-	-	TOZ	-	-
Copper	Sell	USD	8,334	10,700	MT	89	(57)
Total							**(197)**
Non Designated hedges							
Aluminium	Buy	USD	2,364	281,427	MT	665	164
Aluminium	Sell	USD	2,421	133,330	MT	323	4
Copper	Buy	USD	8,644	14,000	MT	121	47
Copper	Sell	USD	8,854	14,275	MT	126	(16)
Gold	Buy	INR	5,693,633	3,028	KGS	17,240	75
Silver	Buy	USD	22	909,754	TOZ	20	13
Silver	Sell	USD	24	514,516	TOZ	12	(2)
Zinc	Buy	USD	2,907	2,100	MT	6	(2)
Diesel Fuel	Buy	USD	766	9,600	MT	7	(8)
Natural Gas	Buy	USD	2	625,000	MMBtu	1	(6)
Total							**269**

(₹ in Crore)

Particulars		Currency	Average Price/ Unit	Quantity	Unit	Notional value USD (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Embedded derivatives							
Fair Value Hedge							
Copper	Sell	USD	8,705	130,979	MT	1,140	(300)
Gold	Sell	USD	1,857	98,953	TOZ	184	(98)
Silver	Sell	USD	22	399,859	TOZ	9	(6)
Total							**(405)**
Grand Total							**(32)**

Outstanding position and fair value of various commodity derivative financial instruments as at March 31, 2022:

(₹ in Crore)

Particulars		Currency	Average Price/ Unit	Quantity	Unit	Notional value USD (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Commodity Futures/Forwards/Swaps							
Cash Flow Hedge							
Aluminium	Sell	USD	3,165	1,366,316	MT	4,234	(7,199)
Aluminium	Buy	USD	3,481	6,074	MT	21	20
Diesel Fuel	Buy	USD	5	4,014,924	Gallons	21	26
Natural gas	Buy	USD	6	10,596,346	MMBtu	59	190
Total							**(6,963)**
Fair Value Hedge							
Gold	Sell	INR	4,972,320	7,543	KGS	37,506	(159)
Silver	Sell	USD	23	485,904	TOZ	11	(7)
Copper	Sell	USD	10,552	37,600	MT	397	50
Total							**(116)**
Non Designated							
Aluminium	Buy	USD	3,502	98,034	MT	343	186
Aluminium	Sell	USD	3,041	115,141	MT	350	(1,235)
Copper	Buy	USD	10,160	27,875	MT	283	62
Copper	Sell	USD	10,763	35,500	MT	382	105
Gold	Buy	INR	5,041,209	4,352	KGS	21,939	51
Silver	Buy	USD	25	244,244	TOZ	6	-
Silver	Sell	USD	24	244,244	TOZ	6	(1)
Furnace Oil	Buy	USD	240	3,335	MT	1	10
Furnace Oil	Sell	USD	636	3,335	MT	2	-
Zinc	Buy	USD	4,135	950	MT	4	13
Diesel Fuel	Buy	USD	5	3,600	MT	0	9
Natural Gas	Buy	USD	6	581,486	MMBtu	3	11
Total							**(789)**

(₹ in Crore)

Particulars		Currency	Average Price/ Unit	Quantity	Unit	Notional value USD (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Embedded derivatives							
Fair Value Hedge							
Copper	Sell	USD	9,838	120,552	MT	1,186	(487)
Gold	Sell	USD	1,949	29,697	TOZ	58	3
Silver	Sell	USD	25	371,143	TOZ	9	-
Total							**(484)**
Grand Total							**(8,352)**

(e) The following table presents details of amount held in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and the period during which these are going to be released and affecting Statement of Profit and Loss.

(₹ in Crore)

Effective portion of cash flow hedges	Products/ Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Closing Value Cash Flow Hedges	Release		Closing Value Cash Flow Hedges	Release	
			Within 12 Months	After 12 Months		Within 12 Months	After 12 Months
		Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)
Cash Flow Hedge							
Hedge Instrument Type							
Commodity Forwards/Future/ Swaps	Aluminium	527	524	3	(7,500)	(7,315)	(185)
	Furnace Oil	5	5	-	-	-	-
	Diesel Fuel	(6)	(3)	(3)	23	23	-
	Electricity	-	-	-	(1)	(1)	-
	Natural Gas	(12)	(14)	2	199	140	59
Total (A)		**514**	**512**	**2**	**(7,279)**	**(7,153)**	**(126)**
Hedge Instrument Type							
Currency Forwards	USD_INR	112	20	92	379	207	172
	EUR_INR	-	-	-	-	-	-
	USD_EUR	45	(3)	48	(74)	(74)	-
	USD_BRL	110	106	4	242	169	73
	USD_CAD	(5)	(5)	-	-	-	-
	USD_KRW	(72)	(72)	-	(132)	(133)	1
	USD_CHF	5	5	-	(1)	(1)	-
	EUR_CHF	(6)	(6)	-	33	31	2
	USD_CNY	6	-	6	-	-	-
Currency Options	USD_INR	(1)	(1)	-	-	-	-
Total (B)		**194**	**44**	**150**	**447**	**199**	**248**

Effective portion of cash flow hedges	Products/ Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Closing Value Cash Flow Hedges	Release		Closing Value Cash Flow Hedges	Release	
			Within 12 Months	After 12 Months		Within 12 Months	After 12 Months
		Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)
Non derivative financial instruments							
Debt	USD_INR	-	-	-	(25)	(25)	-
Liability for Copper							
Host Liability	USD_INR	(5)	(5)	-	(29)	(29)	-
Supplier's credit	USD_INR	(3)	(3)	-	(39)	(39)	-
Total (C)		**(8)**	**(8)**	**-**	**(93)**	**(93)**	**-**
Total (A+B+C)		**700**	**548**	**152**	**(6,925)**	**(7,047)**	**122**
Deferred Tax on above		(244)	(196)	(47)	2,031	2,070	(39)
Total		**456**	**352**	**105**	**(4,894)**	**(4,977)**	**83**

(₹ in Crore)

Cost of Hedging Reserve	Products/ Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Closing Value Cost of Hedge Reserve	Release		Closing Value Cost of Hedge Reserve	Release	
			Within 12 Months	After 12 Months		Within 12 Months	After 12 Months
		Gain/(Loss)	Gain/ (Loss)	Gain/ (Loss)	Gain/(Loss)	Gain/ (Loss)	Gain/ (Loss)
Hedge Instrument Type							
Commodity Forwards/Swaps	Silver	-	-	-	-	-	-
	Copper	(4)	(4)	-	(60)	(60)	-
Commodity Options	Aluminium	-	-	-	-	-	-
Currency Swaps	USD_INR	-	-	-	-	-	-
Currency Options	USD_INR	8	8	-	-	-	-
Total		**4**	**4**	**-**	**(60)**	**(60)**	**-**
Deferred Tax on above		(1)	(1)	-	21	21	-
		3	**3**	**-**	**(39)**	**(39)**	**-**

(f) Gain/(Loss) recognized in OCI, recycled and closing position:

The following tables presents the amount of gain/(loss) recognized in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and recycled during the financial year 2022-23:

(₹ in Crore)

	Opening Balance	Net Amount recognised	Recycled			CTA	Closing Balance
			Net Amount to P&L	Amount added to Non-Financial Assets	Total Amount recycled		
Cash Flow Hedges							
Commodity	(7,279)	10,641	2,698	(18)	2,680	(168)	514
Forex	355	(1,293)	(1,123)	(12)	(1,135)	(11)	186
Total	**(6,924)**	**9,348**	**1,575**	**(30)**	**1,545**	**(179)**	**700**
Deferred Tax on above	2,030	(2,713)	(387)	7	(380)	59	(244)
Total	**(4,894)**	**6,635**	**1,188**	**(23)**	**1,165**	**(120)**	**456**
Cost of Hedging Reserve							
Commodity	(60)	(71)	(127)	-	(127)	-	(4)
Forex	-	8	-	-	-	-	8
Total	**(60)**	**(63)**	**(127)**	**-**	**(127)**	**-**	**4**
Deferred Tax on above	21	22	44	-	44	-	(1)
Total	**(39)**	**(41)**	**(83)**	**-**	**(83)**	**-**	**3**

The following tables presents the amount of gain/(loss) recognized in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and recycled during the financial year 2021-22:

(₹ in Crore)

	Opening Balance	Net Amount recognised	Recycled			CTA	Closing Balance
			Net Amount to P&L	Amount added to Non-Financial Assets	Total Amount recycled		
Cash Flow Hedges							
Commodity	(2,168)	(11,726)	(6,742)	80	(6,662)	(47)	(7,279)
Forex	234	(23)	(141)	(1)	(142)	2	355
Total	**(1,934)**	**(11,749)**	**(6,883)**	**79**	**(6,804)**	**(45)**	**(6,924)**
Deferred Tax on above	688	3,397	1,995	72	2,067	12	2,030
Total	**(1,246)**	**(8,352)**	**(4,888)**	**151**	**(4,737)**	**(33)**	**(4,894)**
Cost of Hedging Reserve							
Commodity	15	(360)	(285)	-	(285)	-	(60)
Forex	-	-	-	-	-	-	-
Total	**15**	**(360)**	**(285)**	**-**	**(285)**	**-**	**(60)**
Deferred Tax on above	(5)	124	98	-	98	-	21
Total	**10**	**(236)**	**(187)**	**-**	**(187)**	**-**	**(39)**

(g) The following table presents the amount of gain/ (loss) recycled from Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and reference of the line item in the Statement of Profit and Loss where those amounts are included:

(₹ in Crore)

	Year Ended	
Note Description	31/03/2023	31/03/2022
Revenue from Operations	1,159	(7,219)
Cost of Materials Consumed	405	206
Other Expenses	(116)	(155)
	1,448	(7,168)

(h) The adjustment as part of the carrying value of inventories arising on account of fair value hedges is as follows:

(₹ in Crore)

Increase/ (Decrease) in Inventory Value	As at 31/03/2023			As at 31/03/2022		
Inventory Type	Raw Material	WIP and Finished Goods	Total	Raw Material	WIP and Finished Goods	Total
Copper	300	3	303	486	(48)	438
Gold	98	29	127	(2)	69	67
Silver	7	(0)	7	-	6	6
Total	**405**	**32**	**437**	**484**	**27**	**511**

(i) The Group's hedging policy only allows for effective hedge relationships to be established. The effective portion of hedge is recognised in OCI, while ineffective portion of hedge is recognised immediately in the Statement of Profit and Loss. For Cash flow hedges, the Group uses hypothetical derivative method to assess effectiveness based on "lower off" assessment.

Sources of Hedge ineffectiveness summarised by risk category are as follows :

Risk Category	Sources of Hedge Ineffectiveness	Type of Hedge
Price Risk	Critical terms Mismatch	Cash Flow and Fair Value Hedge
	Basis Risk	Fair Value Hedge
	Credit Risk Adjustment	Cash Flow and Fair Value Hedge
Exchange Risk	Credit Risk Adjustment	Cash Flow Hedge

The amount of gain/ (loss) recognised in the Statement of Profit and Loss on account of hedge ineffectiveness is as follows:

(₹ in Crore)

				Year Ended	
Note No.	Note Description	Particulars	Type of Hedge	31/03/2023	31/03/2022
39	Other Expenses	Gain/(Loss) on Derivatives	Cash Flow Hedges	590	(1,001)
39	Other Expenses	Gain/(Loss) on Derivatives	Fair Value Hedges	(261)	(130)
				329	(1,131)

(j) Certain hedges of forecast sale transaction for hedging currency risk were discontinued during the year since the hedged forecast transaction was not expected to occur.

10. Other Financial Assets

(Unsecured, Considered Good unless otherwise stated)

Refer Note 1B(P) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Contingent Consideration (measured at fair value through profit and loss), Refer Note 53	-	-	381	-
Derivative matured pending realisation	-	447	-	622
Security Deposits - (a)	147	65	132	53
Deposit with Non-Banking Financial Companies	650	460	60	915
Deposit with Banks - (b)	1,904	-	168	-
Deposit with Others	8	-	7	-
Accrued Interest	-	175	-	57
Other Receivables - (c), (d)				
Unsecured, Considered Good	360	250	38	546
Unsecured, Considered Doubtful	-	2	-	2
Less : Loss Allowances	-	(2)	-	(2)
	3,069	1,397	786	2,193

(a) Includes Security Deposit (Non-current) pledged of ₹ 4 Crore (31/03/2022: ₹ 4 Crore).

(b) Deposit with Banks (Non-current) includes ₹ 154 Crore (31/03/2022: ₹ 148 Crore) towards earmarked balances balance in escrow accounts/ under lien with various authorities for employee benefits related to Novelis.

(c) Other receivables (Current) include ₹ 24 Crore (USD 3 million) (31/03/2022: Current ₹ 24 Crore (USD 3 million); Non-Current ₹ 24 Crore (USD 3 million) of note receivable on sale of Saras. Refer Note 54(B) for further details.

(d) Other receivables (Non-current) includes notes receivable amounting to ₹ 353 Crore ($ 41 million) originated as part of the settlement of Duffel contingent consideration outstanding as at 31/03/2023, Refer Note 53 for further details.

(e) Refer Note 45(e)(ii) for details of balances with related parties.

11. Income Taxes

Refer Note 1B(W) for accounting policy on Income Taxes

A. Tax Expense

The Group's income tax expenses and effective tax rate reconciliation is given below:

(₹ in Crore)

		Year ended	
		31/03/2023	31/03/2022
(a)	**Amount recognised in Statement of Profit and Loss**		
	Current Tax Expenses for the year		
	Current Tax Expenses for the year	2,804	3,802
	Adjustments for current tax of prior periods (Net)	52	(1)
		2,856	**3,801**
	Deferred Tax Expense		
	Deferred Income Tax (benefits)/expenses for the year	256	1,456
	MAT Credit Entitlement (Net)	684	99
	Tax Adjustment for earlier years - (i)	(652)	17
		288	**1,572**
	Income Tax Expenses related to Continuing Operations	**3,144**	**5,373**
	Income Tax Expenses related to Discontinued Operations	**-**	**7**
	Total Income Tax Expenses	**3,144**	**5,380**

(i) During the year ended March 31, 2023, the Group have made an assessment of the impact of the Taxation law (Amendment) Ordinance, 2019 and decided to continue with the existing tax structure until utilization of accumulated Minimum Alternate Tax (MAT) Credit and deduction available under section 80IA of the Income Tax Act 1961. However, in accordance with the accounting standards, the Group has remeasured the deferred tax liability that is expected to reverse in future when the Company and it's subsidiary would migrate to the new tax regime. Accordingly, the Group has written back its net deferred tax liability to the extent of ₹ 609 Crore.

(b) Reconciliation of Effective Tax Rate

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Profit/ (Loss) before Tax from Continuing and Discontinued Operation	13,241	19,110
Indian Statutory Income Tax Rate (%) *	34.944%	34.944%
Tax expenses using the Company's domestic tax rate	4,627	6,678
Tax effect of adjustments to reconcile reported income tax expense:		
Tax credits and other concessions	(289)	(341)
Income exempt from tax and deduction	(256)	(152)
Expenses not deductible in determining taxable profit	229	290
Tax on income (domestic and foreign) at rates different from statutory income tax rate	(457)	(404)
Adjustments pertaining to prior years	(72)	(43)
Previously unrecognised tax loss, tax credit or temporary difference of a prior period	(313)	(403)
Uncertain tax positions	23	49
Tax on Undistributed Earnings	(18)	(5)
Tax adjustment for earlier years - Deferred Tax Reversal (refer foot note a (i) above)	(609)	-
Tax adjustment for earlier years - Deferred Tax - Others	(43)	17
Tax adjustment for earlier years - Current tax	52	(1)
Deferred tax not recognised on carry forward losses and benefits	20	(90)
Foreign exchange translation & remeasurement	90	(264)
Others	160	49
Total Tax expenses recognised in the Consolidated Statement of Profit and Loss	**3,144**	**5,380**

*Applicable Indian Statutory Income Tax rate for the year ended March 31, 2023 and March 31, 2022 is 34.944% and 34.944%, respectively.

		31/03/2023	31/03/2022
(c)	**Tax (Expense)/ Income Recognised in OCI, Refer Note 41 for further details.**	**(2,543)**	**895**
(d)	**Tax (Expense)/ Income Directly Recognised in Equity -** Basis adjustment on Cash flow hedges	**(7)**	**(73)**

B. Deferred Tax Assets and Liabilities

(a) Deferred Tax Assets (Net)

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Deferred Tax Assets	1,732	1,729
Deferred Tax Liabilities	(404)	(522)
	1,328	**1,207**

Major components of Deferred Tax Assets (Net) arising on account of temporary timing differences and movement thereof are given below:

(₹ in Crore)

	As at 01/04/2022	Recognised in Statement of Profit and Loss	Recognised in OCI	Recognised directly in Equity	Exchange Differences	Reclass (DTL/DTA)	As at 31/03/2023
Deferred Tax Assets							
Provisions deductible for tax purposes in future period	730	(238)	(12)	-	**62**	-	542
PPE Depreciation and Intangible Amortisation	70	62	-	-	5	-	137
Tax (losses)/benefits carry forwards, net #	715	29	-	-	**55**	-	799
Inventory valuation reserves	65	3	27	-	-	-	95
Fair value measurements of financial instruments	-	-	-	-	-	-	-
Trade name	149	(4)	-	-	**12**	-	157
Others	-	1	-	-	**1**	-	2
	1,729	**(147)**	**15**	**-**	**135**	**-**	**1,732**

	As at 01/04/2022	Recognised in Statement of Profit and Loss	Recognised in OCI	Recognised directly in Equity	Exchange Differences	Reclass (DTL/DTA)	As at 31/03/2023
Deferred Tax Liabilities							
PPE Depreciation and Intangible Amortisation	354	(164)	-	-	24	-	214
Inventory valuation reserves	22	(20)	-	-	1	-	3
Cash Flow Hedges	11	-	(11)	-	-	-	-
Others	135	35	17	-	-	-	187
	522	**(149)**	**6**	**-**	**25**	**-**	**404**
Net Deferred Tax Assets	**1,207**	**2**	**9**	-	**110**	**-**	**1,328**

(₹ in Crore)

Particulars	As at 01/04/2021	Recognised in Statement of Profit and Loss	Recognised in OCI	Recognised directly in Equity	Exchange Differences	Reclass (DTL/DTA)	As at 31/03/2022
Deferred Tax Assets							
Provisions deductible for tax purposes in future period	722	9	(131)	-	51	79	730
PPE Depreciation and Intangible Amortisation	80	(23)	-	-	13	-	70
Tax (losses)/benefits carry forwards, net #	311	365	-	-	39	-	715
Inventory valuation reserves	52	57	-	-	-	(44)	65
Cash Flow Hedges	-	-	-	-	-	-	-
Fair value measurements of financial instruments	6	-	-	-	(6)	-	-
Trade name	114	30	-	-	5	-	149
Others	-	-	-	-	-	-	-
	1,285	**438**	**(131)**	**-**	**102**	**35**	**1,729**
Deferred Tax Liabilities							
PPE Depreciation and Intangible Amortisation	308	100	-	-	12	(66)	354
Inventory valuation reserves	-	-	-	-	-	22	22
Cash Flow Hedges	4	-	7	-	-	-	11
Others	49	(4)	-	-	11	79	135
	361	**96**	**7**	**-**	**23**	**35**	**522**
Net Deferred Tax Assets	**924**	**342**	**(138)**	**-**	**79**	**-**	**1,207**

Tax Losses/Benefits carry forwards includes deferred income tax asset on unabsorbed depreciation carried forward under tax laws for which there is no expiry period.

(b) Deferred Tax Liabilities (Net)

(₹ in Crore)

	Year ended	
	31/03/2023	**31/03/2022**
Deferred Tax Liabilities	15,709	15,616
Deferred Tax Assets	(7,059)	(9,985)
	8,650	**5,631**

Major components of Deferred Tax Liabilities (Net) arising on account of temporary timing differences and movement therein are given below:

(₹ in Crore)

	As at 01/04/2022	Additions due to Acquisition	Recognised in Statement of Profit and Loss	Recognised in OCI	Recognised directly in Equity	Exchange Differences	Reclass (DTL/ DTA)	As at 31/03/2023
Deferred Tax Liabilities								
PPE Depreciation and Intangible Amortisation	12,321	1	169	-	-	290	-	12,781
Inventory Valuation Reserves	1,544	-	(394)	-	-	106	-	1,256
Exchange Differences on Foreign Operations	947	-	2	-	-	78	-	1,027
Fair value measurements of financial instruments	283	-	(5)	(66)	-	-	-	212
Deferred tax on Undistributed earnings	18	-	(18)	-	-	-	-	-
Cash Flow Hedges	1	-	-	156	7	2	-	166
Others	502	-	(1)	145	-	46	-	692
Deferred tax reversal	-	-	(425)	-	-	-	-	(425)
	15,616	**1**	**(672)**	**235**	**7**	**522**	**-**	**15,709**
Deferred Tax Assets								
Tax (losses)/benefits carry forwards, net #	1,828	-	(296)	-	-	126	-	1,658
Retirement Benefits and Compensated Absences	63	1	(48)	3	-	-	-	19
Cash Flow Hedges	2,065	-	-	(2,203)	-	61	-	(77)
Provisions deductible for tax purposes in future period	2,732	-	489	(124)	-	160	-	3,257
MAT Credit entitlement $	2,994	-	(982)	-	-	-	-	2,012
PP&E Depreciation and Intangible Amortisation	2	-	27	-	-	1	-	30
Others	301	-	(152)	7	-	4	-	160
	9,985	**1**	**(962)**	**(2,317)**	**-**	**352**	**-**	**7,059**
Net Deferred Tax Liabilities	**5,631**	**-**	**290**	**2,552**	**7**	**170**	**-**	**8,650**

(₹ in Crore)

	As at 01/04/2021	Additions due to Acquisition	Recognised in Statement of Profit and Loss	Recognised in OCI	Recognised directly in Equity	Exchange Differences	Reclass (DTL/ DTA)	As at 31/03/2022
Deferred Tax Liabilities								
PPE Depreciation and Intangible Amortisation	11,860	23	220	-	-	218	-	12,321
Inventory Valuation Reserves	443	-	1,066	-	-	35	-	1,544
Exchange Differences on Foreign Operations	1,259	-	(354)	-	-	42	-	947
Fair value measurements of financial instruments	45	-	3	240	-	-	(5)	283
Deferred tax on Undistributed earnings	23	-	(5)	-	-	-	-	18
Cash Flow Hedges	3	-	-	-	-	(2)	-	1
Others	406	(3)	46	-	-	27	26	502
	14,039	**20**	**976**	**240**	**-**	**320**	**21**	**15,616**
Deferred Tax Assets								
Tax (losses)/benefits carry forwards, net #	2,707	-	(943)	-	-	63	1	1,828
Retirement Benefits and Compensated Absences	74	-	(13)	3	-	-	(1)	63
Cash Flow Hedges	691	-	-	1,436	(73)	11	-	2,065
Provisions deductible for tax purposes in future period	2,653	-	94	(161)	-	120	26	2,732
MAT Credit entitlement $	3,093	-	(99)	-	-	-	-	2,994
PPE Depreciation and Intangible Amortisation	-	-	2	-	-	-	-	2
Others	291	-	14	(5)	-	1	-	301
	9,509	**-**	**(945)**	**1,273**	**(73)**	**195**	**26**	**9,985**
Net Deferred Tax Liabilities	**4,530**	**20**	**1,921**	**(1,033)**	**73**	**125**	**(5)**	**5,631**

Tax Losses/Benefits carry forwards includes deferred income tax asset on unabsorbed depreciation carried forward under tax laws for which there is no expiry period.

$ MAT credit indudes ₹ 655 Crore (31/03/2022: ₹ 954 Crore) pertaining to Utkal Alumina International Limited. The same has been recognised considering reasonable centainty, supported by convincing evidence, that sufficient profit will be available in future against which the MAT credit will be recovered.

(c) Deferred tax assets and deferred tax liabilities have been offset wherever the Group has a legally enforceable right to set-off current tax assets against current tax liabilities and where the deferred tax assets and deferred tax liabilities relate to income tax levied by the same taxation authority.

(d) The Group has not recognised deferred tax on temporary differences relating to depreciation which originate and reverse during the tax holiday period.

(e) Unrecognised Deferred Taxes

The items on which the Group has not recognised Deferred Tax Assets at the reporting date as it is not probable of recovery are given below:

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
(i) **Un-expiring**		
i. Unabsorbed Depreciation and other expenses not deductible for tax	719	780
ii. Tax losses carry forwards	127	181
iii. Unused tax credits	649	582
(ii) **Expiring**		
i. Tax losses carry forwards	4,068	3,975
Period of expiry	FY 2024-42	FY 2023-43
ii. Unused tax credits	278	355
Period of expiry	FY 2024-33	FY 2023-33
iii. Long term capital loss carry forward	218	225
Period of expiry	FY 2024-25	FY 2023-25
(iii) Cumulative undistributed earnings in respect of certain Group entities for which the Group has not provided deferred tax liability. The Group believe that the reversal of such temporary difference is not probable in the foreseeable future.	37,328	34,352

(f) Tax Uncertainties:

As of March 31, 2023 and March 31, 2022 the total amount of unrecognized benefits in that, Novelis Inc., if recognized, would affect the effective income tax rate in future periods based on anticipated settlement dates is ₹ 603 Crore ($ 73 million) and ₹ 541 Crore ($ 71 million), respectively.

Tax authorities continue to examine certain other tax filings of Novelis Inc. for financial years 2005 through 2019. As a result of further settlement of audits, judicial decisions, filing of amended tax returns or the expiration of statutes of limitations, Novelis Inc. reserves for unrecognized tax benefits, as well as its reserves for interest and penalties, are not expected to decrease in the next 12 months. With few exceptions, tax returns for all jurisdictions for all tax years before 2005 are no longer subject to examination by taxing authorities.

As of March 31, 2023 and March 31, 2022, Novelis Inc. had ₹ 77 Crore (USD 9 million) and ₹ 73 Crore (USD 10 million) accrued, respectively, for interest and penalties. For the years ended March 31, 2023 and 2022 Novelis Inc. recognized interest and penalties expense(benefit) of ₹ 2 Crore (USD 0 million) and interest and penalties expense of ₹ (12) Crore (USD (2) million) respectively.

C. Income Tax Assets and Liabilities with Tax Authorities

(₹ in Crore)

		As at	
		31/03/2023	31/03/2022
(a)	**Income Tax Assets (Net)**		
	Non-Current Tax Assets (Net)	8	8
	Current Tax Assets (Net)	109	186
		117	**194**
(b)	**Income Tax Liabilities (Net)**		
	Current Tax Liabilities	2,187	2,120
		2,187	**2,120**

The Group is subject to tax assessments and ongoing proceedings, which are pending before various Tax Authorities od respective countries. Management periodically evaluates the positions taken in tax returns with respect to above matters, including unresolved tax disputes, which involves interpretation of applicable tax regulations and judicial precedents. Current tax liability and tax asset balances are presented, after recognising as appropriate, provision for taxes payable and contingencies basis Management's assessment of outcome of such ongoing proceedings and amounts that may become payable to the tax authorities. Considering the nature of such estimates and uncertainties involved, the amount of such provisions may change upon final resolution of the matters with tax authorities, Refer Note 1C(e).

12. Other Non-Current and Current Assets

(Unsecured, Considered Good unless otherwise stated)

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Capital Advance - (a)	3,037	-	547	-
Deposits with Government and Other Authorities	17	35	17	30
Advance to Supplier for Goods and Services	2	1,841	10	1,256
Prepaid Expenses - (d)	320	1,089	103	922
Others - (b), (c)	912	2,674	1,000	2,092
Unsecured, Considered Doubtful				
Advance to Supplier for Goods and Services	12	110	22	108
Others	-	40	-	11
Less : Loss Allowances	(12)	(150)	(22)	(119)
	4,288	**5,639**	**1,677**	**4,300**

(a) Gujarat Industrial Development Corporation ('GIDC') is constructing a common desalination plant (the 'Plant') at Dahej Industrial Area in Gujarat through a SPV, having total estimated cost of ₹ 1,140 crore. The Group participation is 10% of total MLD. The Group has paid an advance of ₹ 91 crore to GIDC (representing 80% of our share out of total planned cost). Pending finalisation of the structure of the SPV, this amount has been recorded under Capital Advance.

(b) Mainly includes unutilised tax credits and claims receivable from Indirect Tax Authorities.

(c) Includes ₹ 192 Crore (Garepalma mines in Chattisgarh ₹ 74 Crore and Kathautia mines in Jharkhand ₹ 118 Crore) (31/03/2022: ₹ 192 Crore (Garepalma ₹ 74 Crore and Kathautia ₹ 118 Crore)) towards appropriation of Performance Bank Guarantee by Nominated Authority, Refer Note 43 for further details.

(d) Prepaid Expenses includes ₹ 220 Crore (31/03/2022: ₹ 208 Crore) towards surplus Plan Assets of Defined Benefit Plans recognised, Refer Note 25A(I)(a)(iii) and 25B(A)(I)(f)(iii) for further details.

13. Inventories

Refer Note 1B(M) for accounting policy on Inventories

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	In Hand	In Transit	Total	In Hand	In Transit	Total
Raw Materials	7,899	5,036	12,935	7,293	5,852	13,145
Work-in-Progress	18,589	246	18,835	20,185	249	20,434
Finished Goods	7,447	294	7,741	6,900	280	7,180
Stock-in-Trade	20	-	20	884	-	884
Stores and Spares	2,884	82	2,966	2,329	18	2,347
Coal and Fuel	265	196	461	474	19	493
	37,104	**5,854**	**42,958**	**38,065**	**6,418**	**44,483**

(a) The Group has applied fair value hedge accounting on certain inventory which forms part of Work-in-Progress and Finished Goods. Fair value hedges are mainly used to hedge the exposure to change in fair value of commodity price risks. The fair value adjustment remains part of the carrying value of inventory and is taken to the Statement of Consolidated Profit and Loss when the inventory is either sold or consumed, Refer Note 9(h) for further details.

(b) For Inventories hypothecated against secured short-term borrowings, Refer Note 20B.

(c) Write down of inventories (net of reversal) to net realizable value related to raw materials, work-in-progress and finished goods amounted to ₹ 588 Crore (31/03/2022: ₹ 560 Crore) These were recognized as expense and included in 'Cost of Material Consumed' and 'Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade' in the Consolidated Statement of Profit and Loss.

(d) Inventories in hand include bulk material of coal, bauxite and copper concentrate lying at yards, mines, plants, precious metals of gold and silver lying at smelter and refinery aggregating to ₹ 4,232 Crore (31/03/2022: ₹ 4,302 Crore).

14. Trade Receivables

Refer Note 1B(N) for accounting policy on Trade Receivable

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Trade Receivables:		
Secured, Considered Good	1,829	2,083
Secured, Credit Impaired	8	6
Unsecured, Considered Good	14,410	19,011
Unsecured, Credit Impaired	60	60
	16,307	**21,160**
Less: Loss Allowances - (d)	(93)	(84)
	16,214	**21,076**

(a) Trade Receivables ageing schedule and expected credit loss rate as at 31/03/2023:

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of receipt					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 yrs.	More than 3 yrs.	
(i) Undisputed - Considered good	3	15,818	73	179	75	1	9	**16,158**
(ii) Undisputed - Significant increase in credit risk	-	-	3	1	-	-	-	**4**
(iii) Undisputed - Credit impaired	-	-	-	4	7	4	16	**31**
(iv) Disputed - Considered good	-	-	13	26	-	38	-	**77**
(v) Disputed - Significant increase in credit risk	-	-	-	-	-	-	-	**-**
(vi) Disputed - Credit impaired	-	-	-	-	-	-	37	**37**
Total	**3**	**15,818**	**89**	**210**	**82**	**43**	**62**	**16,307**
Less: Loss Allowances								(93)
Net Trade Receivables								**16,214**
Expected credit loss provision	-	1	5	3	16	-	-	**25**
Exepected loss rate	0.00%	0.01%	5.81%	1.46%	21.33%	0.00%	0.00%	**0.15%**

Trade Receivables ageing schedule and expected credit loss rate as at 31/03/2022:

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of receipt					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 yrs.	More than 3 yrs.	
(i) Undisputed - Considered good	35	20,708	223	31	24	2	6	**21,029**
(ii) Undisputed - Significant increase in credit risk	-	-	-	-	-	-	-	**-**
(iii) Undisputed - Credit impaired	-	-	-	5	6	3	13	**27**
(iv) Disputed - Considered good	5	-	31	-	29	-	-	**65**
(v) Disputed - Significant increase in credit risk	-	-	-	-	-	-	-	**-**
(vi) Disputed - Credit impaired	-	-	-	-	-	3	36	**39**
Total	**40**	**20,708**	**254**	**36**	**59**	**8**	**55**	**21,160**
Less: Loss Allowances								(84)
Net Trade Receivables								**21,076**
Expected credit loss provision	-	-	11	2	16	-	-	**18**
Exepected loss rate	0.00%	0.00%	4.33%	6.45%	21.33%	0.00%	0.00%	**0.09%**

(b) For trade receivables hypothecated against borrowings, Refer Note 20B.

(c) No trade or other receivable are due from directors or other officers of the Group either severally or jointly with any other person. Further, no trade or other receivable are due from firms or private companies respectively in which any director is a partner, or director or member.

(d) Loss allowances includes provision of ₹ 25 Crore (31/03/2022: ₹ 18 Crore) made on account of expected credit loss on Trade Receivables.

(e) Refer Note 45 for details of balances with related parties.

15. Cash and Cash Equivalents

Refer Note 1B(R) for accounting policy on Cash and Cash Equivalents

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Cash on Hand	-	-
Cheques and Drafts on Hand including remittance in transit- (a)	39	14
Balances with Banks		
Current Accounts	9,231	6,630
Deposit with Initial maturity of less than three months	3,570	4,333
Short term liquid Investments in Mutual Funds	-	662
	12,840	**11,639**

(a) Includes ₹ 38 Crore (31/03/2022: ₹ Nil Crore) remittance in transit.

(b) There is no restriction with regard to cash and cash equivalents as the end of reporting year and previous year.

16. Bank Balances other than Cash and Cash Equivalents

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Balances with Banks		
Earmarked Balances - (a)	15	16
Deposits with Initial Maturity more than three months	2,513	5,737
	2,528	**5,753**

(a) Includes unclaimed dividend of ₹ 6 Crore (31/03/2022: ₹ 5 Crore)

17. Non-Current Assets or Disposal Group Classified as Held for Sale

Refer Note 1B(H) for accounting policy on Non-Current Assets or Disposal Groups Held for Sale and Discontinued Operations

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
A. Assets or Disposal Group Classified as Held for Sale		
Non-Current Assets classified as held for sale - (a)	51	42
Assets of Disposal Group classified as held for sale, Refer Note 53(b)	-	46
	51	**88**
(a) Details of Assets classified as held for sale - (i), (ii), (iii)		
Land and Building	-	1
Plant and Equipment	51	41
	51	**42**

(i) During the previous year ended 31/03/2022, the Group evaluated operational performance along with present environmental norms of its Di Ammonium Phosphate (DAP) Plant and decided to decommission the same. Accordingly it recognised impairment loss amounting to ₹ 76 Crore. During the year ended 31/03/2023, the Group has classified these assets having carrying amount of ₹ 14 Crore as held for sale.

(ii) In earlier years, the Group had impaired certain equipment and accessories classified as held for sale resulting carrying amount ₹ 2 Crore as at 31/03/2022. During the year ended 31/03/2023, the Group has written back impairment loss on determination of its realizable value (Net of cost to sales) amounting to ₹ 12 Crore. Portion of such equipments are disposed during the year and rest with carrying amount ₹ 7 crore lying as at 31/03/2023.

(iii) Include ₹ 30 Crore (31/03/2022: ₹ 40 Crore) relating to one of the hydroelectric power generation facilities in South America, Brecha and land and building of Binh Duong plant in Vietnam.

(b) The fair value of the assets held for sale approximates the carrying value.

(c) The Company is in the process of disposing the above assets.

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
B. Liability Associated with Disposal Group Classified as Held for Sale		
Liabilities associated with Disposal Group classified as held for Sale, Refer Note 53(b)	-	93
	-	**93**

18. Equity Share Capital

(₹ in Crore)

	Numbers as at		As at	
	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Authorised				
Equity Shares of ₹ 1/- each	2,500,000,000	2,500,000,000	250	250
Redeemable Cumulative Preference Shares of ₹ 2/- each	25,000,000	25,000,000	5	5
			255	255
Issued				
Equity Shares of ₹ 1/- each - (a)	2,247,748,231	2,247,726,370	225	225
			225	225
Subscribed and Paid-up				
Equity Shares of ₹ 1/- each fully paid-up	2,247,740,834	2,247,718,973	225	225
Less: Face Value of Equity Shares forfeited	(546,249)	(546,249)	-	-
Add: Forfeited Shares (Amount originally Paid up)	-	-	-	-
	2,247,194,585	2,247,172,724	225	225
Less: Treasury Shares				
Equity Shares - (b)(i)	(16,316,130)	(16,316,130)	(2)	(2)
Equity Shares - (b)(ii)	(9,219,067)	(7,064,997)	(1)	(1)
	2,221,659,388	**2,223,791,597**	**222**	**222**

(a) Issued Equity Share Capital as at 31/03/2023 includes 7,397 Equity Shares (31/03/2022: 7,397) of ₹ 1/- each issued on Rights basis kept in abeyance due to legal case pending.

(b) Treasury shares include :

(i) Shares held by Trident Trust which represents equity shares of ₹ 1/- each fully paid-up of the Company issued, pursuant to a Scheme of Arrangements approved by the Hon'ble High Courts of Mumbai and of Allahabad, vide their Orders dated October 31, 2002, and 18th November, 2002, respectively, to the Trident Trust, created wholly for the benefit of the Company and is being managed by trustees appointed by it. The tenure of the Trust is up to January 23, 2024.

(ii) Shares held by Hindalco Employee Welfare Trust (ESOP Trust) which represents equity shares of ₹ 1/- each fully paid-up of the Company. The Trust buys shares of the Company from the market, for giving shares to employees pursuant to the Employees Stock Option Scheme (ESOS), 2018. Refer note 19 (a) (ix) for further details.

(c) Reconciliation of shares outstanding at the beginning and at the end of the reporting period:

	As at 31/03/2023		As at 31/03/2022	
	Numbers	₹ in Crore	Numbers	₹ in Crore
Equity Shares outstanding at the beginning of the year	2,223,791,597	222	2,224,543,152	222
Equity shares allotted pursuant to exercise of ESOS 2006 & 2013	21,861	-	488,477	-
Equity shares purchased by Hindalco Employee Welfare Trust from market pursuant to ESOS 2018	(2,956,000)	-	(2,119,000)	-
Equity shares allotted pursuant to exercise of ESOS 2018 through Hindalco Employee Welfare Trust	801,930	-	878,968	-
Equity Shares outstanding at the end of the year	2,221,659,388	222	2,223,791,597	222

(d) The Company has one class of equity shares having a par value of ₹ 1/- per share. Each shareholder is eligible for one vote per share held. The dividend proposed by the Board of Directors is subject to the approval of the shareholders in the ensuing Annual General Meeting, except in case of interim dividend. In the event of liquidation, the equity shareholders are eligible to receive the remaining assets of the Company after distribution of all preferential amounts, in proportion to their shareholding.

(e) Details of shareholders holding more than 5% Equity Shares in the Company on reporting date:

	As at 31/03/2023		As at 31/03/2022	
	Number of Shares Held	Percentage of Holding *	Number of Shares Held	Percentage of Holding *
IGH Holdings Private Limited	350,088,487	15.58%	350,088,487	15.58%
Birla Group Holdings Private Limited	228,292,308	10.16%	228,292,308	10.16%
Life Insurance Corporation of India and its Associates	216,823,769	9.65%	189,588,459	8.44%

* Percentage have been calculated on the basis of total number of shares outstanding (before adjusting Treasury shares referred in footnote (b) above)

(f) Shares held by promoters at the end of the year and Movement:

Promoter's Name $	No. of Shares as at 31/03/2023	Percentage of total shares *	No. of Shares as at 31/03/2022	Percentage of total shares *	% Change during the Year
Kumar Mangalam Birla	901,635	0.04%	901,635	0.04%	-
Birla Group Holdings Private Limited	228,292,308	10.16%	228,292,308	10.16%	-
Total	**229,193,943**		**229,193,943**		

$ Promoter here means promoter as defined in Section 2(69) of the Companies Act, 2013.

* Percentage have been calculated on the basis of total number of shares outstanding (before adjusting Treasury shares referred in footnote (b) above)

(g) The Company has reserved equity shares for issue under the Employee Stock Option Schemes. (Refer Note 25(B) for details of Employee Stock Option Scheme)

(h) The Company during the preceding 5 years:

(i) Has not allotted shares pursuant to contracts without payment received in cash.

(ii) Has not issued shares by way of bonus shares.

(iii) Has not bought back any shares.

19. Other Equity

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Equity Component of Other Financial Instruments	**4**	**4**
Reserves and Surplus		
Capital Reserve	147	147
Capital Redemption Reserve	104	104
Business Reconstruction Reserve	5,799	5,799
Securities Premium	8,234	8,234
Debenture Redemption Reserve	-	1,500
Employees Stock Options	108	75
Treasury Shares held by ESOP Trust	(306)	(199)
Special Reserve	20	20
General Reserve	21,370	21,370
Retained Earnings	48,216	36,810
	83,692	**73,860**
Other Reserves		
Gain/ (Loss) on Equity Instruments FVTOCI	4,910	5,334
Gain/ (Loss) on Debt Instruments FVTOCI	(14)	(5)
Effective portion of Cash Flow Hedge	456	(4,894)
Cost of Hedging Reserve	3	(39)
Foreign Currency Translation Reserve	5,533	3,709
	10,888	**4,105**
	94,584	**77,969**

(a) Brief description of items of Other Equity are given below:

(i) **Share Application Money Pending Allotment:**

Share application money pending allotment represents amount received from employees who have exercised Employee Stock Option Scheme (ESOS) for which shares are pending allotment as on balance sheet date.

(ii) **Equity Component of Other Financial Instruments:**

It represents fair valuation gain of inter-corporate deposits taken in earlier years by Associate entities on transition to Ind AS.

(iii) **Capital Reserve:**

The Group has created capital reserve pursuant to past mergers and acquisitions.

(iv) **Capital Redemption Reserve:**

The Group has created capital redemption reserve as per the requirement of the Companies Act.

(v) **Business Reconstruction Reserve**

The Company had formulated a scheme of financial restructuring under sections 391 to 394 of the Companies Act 1956 ("the Scheme") between the Company and its equity shareholders approved by the High Court of judicature of Bombay to deal with various costs associated with its organic and inorganic growth plan. Pursuant to this, a separate reserve account titled as Business Reconstruction Reserve ("BRR") was created during the year 2008-09 by transferring balance standing to the credit of Securities Premium Account of the Company for adjustment of certain expenses as prescribed in the Scheme.

(vi) **Securities Premium:**

Securities premium reserve is used to record the premium on issue of shares. The reserve is utilized in accordance with the provision of the Act.

(vii) **Debenture Redemption Reserve:**

The Group is required to create a debenture redemption reserve out of the profits which is available for payment of dividend, for the purpose of redemption of debentures.

(viii) **Employees Stock Options:**

The employee stock option account is used to recognize the grant date fair value of options issued to employees under stock option schemes.

(ix) **Treasury Shares held by ESOP Trust**

The Company has created a trust, namely "Hindalco Employee Welfare Trust"(ESOP Trust) for providing share-based payments to its employees (including its Subsidiaries' employees) The Company uses this Trust as a vehicle for distributing shares to employees covered under Scheme. The Trust buys shares of the Company from the market, for giving shares to employees under the Employees Stock Option Scheme, 2018.

Shares held by the Trust are treated as Treasury shares. Equity instruments that are reacquired (treasury shares) are recognised at cost and deducted from equity. No gain or loss is recognised in the Consolidated Statement of Profit and Loss on purchase, sale, issue or cancellation of Equity instruments. Share options whenever exercised, would be utilised from these treasury shares. Refer Note 25(C)

(x) **Special Reserve**

Certain subsidiaries of the Group are registered as non-banking financial company and as per requirement of Section 45-IC of the Reserve Bank of India Act, 1934 every non-banking financial company shall create a reserve fund and transfer therein a sum not less than twenty per cent of its net profit every year as disclosed in the profit and loss account and before any dividend is declared.

(xi) **General Reserve**

The Group has created this reserve by transferring certain amount out of the profit at the time of distribution of dividend in the past.

(xii) **Retained Earnings**

Amount of retained earnings represents accumulated profit and losses of the Group as on reporting date. Such profits and losses are after adjustment of payment of dividend, transfer to any reserves as statutorily required and adjustment for realised gain/loss on derecognition of equity instruments measured at FVTOCI. Actuarial Gain/ Loss arising out of Actuarial valuation is immediately transferred to Retained Earnings.

(xiii) **Gain/(Loss) on Equity and Debt Instruments FVTOCI**

The Group has elected to recognize changes in the fair value of certain investments in other comprehensive income. These changes are accumulated within the FVTOCI equity investments reserve and FVTOCI debt investment reserve within equity.

(xiv) **Effective portion of Cash Flow Hedge**

The Group uses hedging instruments as part of its risk management policy for commodity and foreign currency risk as described in Note 49. The Cash Flow hedging reserve is used to recognise the effective portion of gain or loss on designated hedging relationship, Refer Note 9 (e) and 9 (f).

(xv) **Cost of Hedging Reserve**

The Group designates the spot component of cross currency interest rate swap as hedging instruments in fair value hedge relationship and cash flow hedge relationship. The Group defers changes in the forward element of cross currency interest rate swap in the cost of hedging reserve. For fair value hedge forward points at inception is amortized on a straight line basis from OCI based on the remaining life of trade. For cash flow hedge the deferred cost of hedging are included in the initial cost of the related hedged items when it is recognized or reclassified to the Consolidated Statement of Profit and Loss when the hedged item effects the Consolidated Statement of Profit and Loss. The Group also designates the intrinsic value of the option contracts whereas the time value of option contracts is included in the cost of hedging reserve, Refer Note 9 (e) and 9 (f).

(xvi) **Foreign Currency Translation Reserve**

Foreign Currency Translation reserve includes all resulting exchange differences arising from (a) translating the assets and liabilities of the Group's foreign operations into Indian Rupees using exchange rates prevailing at the end of each reporting period and (b) translating income and expense items of the foreign operations at the average exchange rates for the period.

(b) Movement of each item of other equity is presented in Consolidated Statement of Changes in Equity (SOCE)

(c) Shareholders of the Company approved final dividend of ₹ 4 per fully paid-up equity share aggregating to ₹ 890 Crore (net of dividend on treasury shares) for the year ended 31/03/2022 which was paid during this financial year.

(d) The Board of Directors of the Company has recommended dividend of ₹ 3 per fully paid-up equity share aggregating to ₹ 667 Crore (net of dividend on treasuary shares) for the year ended 31/03/2023 which has not been recognised in the consolidated financial statements, and is subject to the approval of shareholders in Annual General Meeting (AGM).

20. Borrowings

Refer Note 1B(P) for accounting policy on Financial Instruments

A. Borrowings, Non-Current

(₹ in Crore)

Particulars	As at 31/03/2023			As at 31/03/2022		
	Non-Current Portion	Current Maturities	Total	Non-Current Portion	Current Maturities	Total
Secured						
Non Convertible Debentures - (a)	-	-	-	-	5,999	5,999
Term Loans:						
From Banks						
Rupee Term Loans - (b)	11,559	50	11,609	14,227	14	14,241
Foreign Currency Term Loans - (c)	9,978	106	10,084	9,274	98	9,372
	21,537	156	21,693	23,501	6,111	29,612
Unsecured						
Non Convertible Debentures - (a)	-	699	699	-	-	-
Senior Notes - (d)	29,445	-	29,445	27,222	-	27,222
Term Loans:						
From Banks						
Foreign Currency Term Loans - (e)	452	482	934	905	48	953
Deferred Payment Liabilities - (f)	-	10	10	7	18	25
	29,897	1,191	31,088	28,134	66	28,200
	51,434	**1,347**	**52,781**	**51,635**	**6,177**	**57,812**

(a) Non Convertible Debentures comprise of following:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022		Redemption Date
	Gross Amount	Carrying Value	Gross Amount	Carrying Value	
Secured - (i)					
30,000 9.55% Redeemable Non Convertible Debentures of ₹ 10 lakhs each	-	-	3,000	3,000	25/04/2022
15,000 9.55% Redeemable Non Convertible Debentures of ₹ 10 lakhs each	-	-	1,500	1,500	27/06/2022
15,000 9.60% Redeemable Non Convertible Debentures of ₹ 10 lakhs each	-	-	1,500	1,499	02/08/2022
	-	**-**	**6,000**	**5,999**	
Unsecured - (ii)					
70,000 7.60% Redeemable Non-Convertible Debentures of ₹ 1 lakhs each	700	699	-	-	18/03/2024
	700	**699**	**-**	**-**	

(i) Secured Debentures were secured by all the movable items of Property, Plant and Equipment, both present and future (except movable assets of Mahan Aluminium plant, Aditya Aluminium plant, Kalwa plant and Current Assets) and certain immovable properties of the Parent. These debentures were redeemend during the year on their due dates.

(ii) During the year ended March 31, 2023, the Group has issued 70,000 7.60% Redeemable Non-Convertible Debentures amounting to ₹ 700 Crore maturing on March 18, 2024 for working capital requirement. These Non-Convertible debt securities has been issued to comply with provisions of SEBI Circular No. SEBI/HO/DDHS/CIR/P/2018/144 dated November 26, 2018 related to listed large corporate. As of March 31, 2023, the entire proceeds from issue of non-convertible debentures have been utilized for the purpose mentioned in the Debenture Trust Deed.

(b) Secured Rupee Term Loans from Banks comprise of following:

(₹ in Crore)

	Note	Rate of Interest (applicable as on 31/03/2023)	As at 31/03/2023		As at 31/03/2022		Redemption Date
			Gross Amount	Carrying Value	Gross Amount	Carrying Value	
Axis Bank	(i)	Repo Rate + 160 bps	619	603	619	602	31/03/2030
State Bank of India	(i)	MCLR 3 Month + 10 bps	2,239	2,228	2,239	2,216	31/03/2030
ICICI Bank	(i)		-	-	76	75	31/03/2030
Rupee Term Loans : (A)			**2,858**	**2,831**	**2,934**	**2,893**	
State Bank of India	(ii)	MCLR 3 Month + 10 bps	4,672	4,665	4,672	4,665	01/09/2030
PNB Bank	(ii)	Repo Rate + 160 bps*	256	258	256	255	01/09/2030
Axis Bank	(ii)	Repo Rate + 160 bps	1,371	1,355	1,371	1,363	01/09/2030
Rupee Term Loans : (B)			**6,299**	**6,278**	**6,299**	**6,283**	
Axis Bank	(iii)		-	-	635	631	30/09/2030
State Bank of India	(iii)		-	-	1,789	1,784	30/09/2030
State Bank of India	(iii)		-	-	150	150	30/09/2030
Rupee Term Loans : (C)			**-**	**-**	**2,574**	**2,565**	
State Bank of India	(iv)	MCLR 3 Month + 15 bps	2,500	2,500	2,500	2,500	31-12-2031
Rupee Term Loans : (D)			**2,500**	**2,500**	**2,500**	**2,500**	
Total Rupee Term Loans - (A+B+C+D)			**11,657**	**11,609**	**14,307**	**14,241**	

* Benchmark changed, benchmark as at 31/03/2022 was MCLR 1 month.

The Borrowings are subsequently measured at amortised cost and interest accrued thereon is included in Note 23 - Other Financial Liability.

Definition of abbreviation used

100 basis points (bps) is equal to 1%

Repo rate is the rate at which RBI lends funds to commercial banks

Marginal Cost of funds based Lending Rate (MCLR) is a tenor-linked internal benchmark rate of respective bank

(i) The term loans from banks of ₹ 2,858 Crore (gross) (31/03/2022: ₹ 2,934 Crore) are secured by a first ranking charge/ mortgage/ security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Mahan Aluminium plant, both present and future, carrying value ₹ 10,861 Crore (as at 31/03/2022 ₹ 11,238 Crore), Refer Note 2A. Term loan amounting to ₹ 2,858 Crore (gross) (31/03/2022: ₹ 2,934 Crore) is to be repaid in 17 quarterly instalments commencing from June 2026. ICICI Bank loan of ₹ 76 Crore has been prepaid in FY 2023.

(ii) The term loan of ₹ 6,299 Crore (gross) (31/03/2022: ₹ 6,299 Crore) is secured by a first ranking charge/ mortgage/security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Aditya Aluminium plant both present and future, carrying value of ₹ 11,320 Crore (as at 31/03/2022 ₹ 11,693 Crore), Refer Note 2A. Term loan amounting to ₹ 6,299 Crore (gross) (31/03/2022: ₹ 6,299 Crore) is to be repaid in 26 quarterly instalments commencing from 01/06/2024.

(iii) During the year ended March 31, 2023, Utkal Alumina International Limited (Utkal), wholly owned subsidiary of the Group, has prepaid its term loan from banks of ₹ 2574 Crore which were scheduled to repay in September, 2030.

(iv) The term loan of ₹ 2,500 Crore (gross) (31/03/2022: ₹ 2,500 Crore) is secured by a first ranking charge/ mortgage/security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Mahan Aluminium plant both present and future, carrying value ₹ 10,861 Crore (as at 31/03/2022 ₹ 11,238 Crore), Refer Note 2A.Term loan amounting to ₹ 2,500 Crore (gross) (31/03/2022: ₹ 2,500 Crore) is to be repaid in 34 quarterly instalments commencing from October 2023.

(c) **Secured Foreign Currency Term Loans from Banks comprise of following:**

(i) **Floating rate Term Loan facility**

2020 Term Loans:

In April 2020, Novelis Acquisitions LLC borrowed USD 775 million under the Novelis' existing secured term loan credit agreement ("Term Loan Facility") prior to its merger into Aleris Corporation. The proceeds of the incremental term loans were used to pay a portion of the consideration payable in the acquisition of Aleris (including the repayment of Aleris' outstanding indebtedness) as well as fees and expenses related to the acquisition, and the incremental term loans. The incremental term loans will mature on January 21, 2025, subject to 0.25% quarterly amortization payments. The incremental term loans accrue interest at LIBOR (as defined in the Term Loan Facility) plus 1.75%.

As of March 31, 2023 the outstanding amount on 2020 Term loan facility is ₹ 6,111 Crore (USD 745 million) (31/03/2022: ₹ 5,673 Crore, USD 748 million) net of debt issuance cost of ₹ 59 Crore (USD 7 million) (31/03/2022: ₹ 82 Crore, USD 12 million)

2021 Term Loans:

In March 2021, Novelis borrowed USD 480 million of term loans (the "2021 Term Loans") under its Term Loan Facility with an additional USD 20 million being borrowed under the 2021 Term Loans in April 2021. The 2021 Term Loans mature on March 31, 2028 and are subject to 0.25% quarterly amortization payments. The existing loans under the Term Loan Facility accrue interest at LIBOR plus 2%. The proceeds of the 2021 Term Loans were applied to refinance a portion of the 2017 Term Loans.

As of March 31, 2023 the outstanding amount on 2020 Term loan facility is ₹ 3,973 Crore (USD 484 million) (31/03/2022: ₹ 3,699 Crore, USD 487 million) net of debt issuance cost of ₹ 53 Crore (USD 6 million) (31/03/2022: ₹ 58 Crore, USD 8 million)

All the above term loans of Novelis are part of its senior secured credit facilities, which are guaranteed by its direct parent, AV Minerals, and its certain direct and indirect subsidiaries and are secured by a pledge of substantially all of the assets, including Intangible Assets but excluding Right-of-Use Assets, of the Novelis and the guarantor.

(d) **Unsecured Senior Notes comprise of following:**

2026 Senior Notes & 2031 Senior Notes

In August 2021, Novelis Corporation, an indirect wholly owned subsidiary of Novelis Inc., issued USD 750 million in aggregate principal amount of 3.250% Senior Notes due November 2026 (the "2026 Senior Notes") The 2026 Senior Notes mature on November 15, 2026 and are subject to semi-annual interest payments that will accrue at a rate of 3.250% per year. The net proceeds of the offering, together with cash on hand, were used to (i) fund the redemption of a portion of the 5.875% Senior Notes due September 2026, plus the redemption premium and accrued and unpaid interest thereon and (ii) pay certain fees and expenses in connection with the foregoing and the offering of the notes.

In August 2021, Novelis Corporation, a wholly owned subsidiary of Novelis Inc., issued USD 750 million in aggregate principal amount of 3.875% Senior Notes due August 2031 (the "2031 Senior Notes") The 2031 Senior Notes mature on August 15, 2031 and are subject to semi-annual interest payments that will accrue at a rate of 3.875% per year. The net proceeds of the offering, together with cash on hand, were used to (i) fund the redemption a portion of the 5.875% Senior Notes due September 2026, plus the redemption premium and accrued and unpaid interest thereon and (ii) pay certain fees and expenses in connection with the foregoing and the offering of the notes.

The Group had incurred debt issuance costs of ₹ 81 Crore (USD 11 million) for the 2026 Senior Notes and 2031 Senior notes, which is to be amortized as an increase to interest expense and amortization of debt issuance costs over the term of the note. As a result of this transaction, the Group has recorded a loss on extinguishment of debt of ₹ 453 Crore (USD 60.9 million) and gain on modification of ₹ 103 Crore (USD 13.9 million) in the FY 2022, out of which ₹ 378 Crore (USD 51 million) related to redemption premium and was paid with cash on hand.

As of March 31, 2023 outstanding amount on 2026 Senior Notes and 2031 Senior Notes is ₹ 6,042 Crore each (USD 735 million) (31/03/2022: ₹ 5,561 Crore, USD 732 million) respectively.

2029 Senior Notes

In March 2021, Novelis Sheet Ingot GmbH, an indirect wholly owned subsidiary of Novelis Inc., organized under the laws of Ireland, issued € 500 million in aggregate principal amount 3.375% Senior Notes due 2029 (the "2029 Senior Notes" and together with the 2026 Senior Notes and the 2030 Senior Notes, the "Senior Notes") The 2029 Senior Notes are subject to semi-annual interest payments and mature on April 15, 2029. The proceeds were used to pay down a portion of the 2017 Term Loans, plus accrued and unpaid interest. In addition, Novelis intend to allocate an amount equal to the net proceeds received from this issuance to finance and/or refinance new and/or existing eligible green projects, which are currently contemplated to consist of renewable energy or pollution prevention and control type projects.

As of March 31, 2023 outstanding amount on 2029 Senior Notes is ₹ 4,393 Crore (USD 535 million) (31/03/2022: ₹ 4,143 Crore, USD 546 million) net of debt issuance cost of ₹ 71 Crore (USD 13 million) (31/03/2022: ₹ 78 Crore, USD 10 million)

2030 Senior Notes

In January 2020, Novelis Corporation, an indirect wholly owned subsidiary of Novelis Inc., issued USD 1.6 billion in aggregate principal amount of 4.750% Senior Notes due January 2030 (the "2030 Senior Notes") The 2030 Senior Notes are subject to semi-annual interest payments and mature on January 30, 2030.

As of March 31, 2023 outstanding amount on 2030 Senior Notes is ₹ 12,968 Crore (USD 1.58 billion)(31/03/2022: ₹ 11,957 Crore, USD 1.6 billion) net of debt issuance cost of ₹ 177 Crore (USD 22 million) (31/03/2022: ₹ 188 Crore, USD 25 million)

(e) **Unsecured Foreign Currency Term Loan from Banks comprise of following:**

Bank of China Term Loan

In September 2019, the Novelis Inc. entered into a credit agreement with the Bank of China to provide up to CNY 500 million in unsecured loans to support previously announced capital expansion projects in China. As of March 31, 2023, outstanding amount of China bank loans is ₹ 524 Crore (USD 64 million) (31/03/2022: ₹ 573 Crore, USD 76 million).

Brazil Loans

In the third quarter of fiscal 2022, the Novelis Inc. borrowed USD 30 million of bank loans. These bank loans are due June 16, 2023 and are subject to 1.8% interest due in full at the maturity date. The amount outstanding as at March 31, 2023 is ₹ 246 Crore (USD 30 million)(31/03/2022: ₹ 228 Crore, USD 30 million).

In the third quarter of fiscal 2022, the Novelis Inc. also borrowed USD 20 million of bank loans due December 15, 2023. These bank loans are subject to 1.8% interest due in full at the maturity date. The amount outstanding as at March 31, 2023 is ₹ 164 Crore (USD 20 million) (31/03/2022: ₹ 152 Crore, USD 20 million)

(f) **Deferred Payment Liabilities**

On July 23, 2018, Novelis Switzerland, an indirectly wholly owned subsidiary of Novelis Inc acquired real and personal property from Constellium Valais SA for USD 249 million. As of March 31, 2023 out of total purchase price, ₹ 10 Crore (USD 1.3 million) (31/03/2022: ₹ 25 Crore, USD 3.9 million) is to be paid through July 2023.

(g) **Changes in Liabilities arising from Financing Activities as at 31/03/2023:**

(₹ in Crore)

Particulars	Other Assets Cash and Cash Equivalents@	Liabilities from Financing Activities				Net
		Non-Current Borrowings	Current Borrowings	Lease Obligations	Supplier's Credit	
Balance as at April 01, 2022 #	**11,639**	**58,532**	**5,581**	**1,251**	**2,456**	**56,181**
Cash Flows (Net)@	744	(8,120)	(74)	(512)	3,214	(6,236)
Additions	-	-	-	1,148	-	1,148
Foreign Exchange Adjustments	457	2,968	235	149	(32)	2,863
Fair Value Changes - (Refer Note 29 (c))	-	(48)	(25)	-	-	(73)
Debt Issuance Costs and Amortisation (Net)	-	68	-	-	-	68
Interest Expense **	-	2,900	410	88	140	3,538
Interest Paid **	-	(3,301)	(395)	(66)	(74)	(3,836)
Disposal/Modification/Reassessment	-	-	-	(94)	-	(94)
Other Changes	-	5	-	(8)	-	(3)
Balance as at March 31, 2023#	**1,2840**	**53,004**	**5,732**	**1,956**	**5,704**	**53,556**
Less: Accrued interest as at 31/03/2023	-	(223)	(178)	-	(69)	(470)
Balance as at March 31, 2023 as per Balance Sheet	**12,840**	**52,781**	**5,554**	**1,956**	**5,635**	**53,086**

Changes in liabilities arising from financing activities as at 31/03/2022 :

(₹ in Crore)

Particulars	Other Assets -Cash and Cash Equivalents@	Liabilities from Financing Activities				Net
		Non-Current Borrowings	Current Borrowings	Lease Liabilities	Supplier's Credit	
Balance as at April 01, 2021 #	**8,339**	**60,824**	**6,048**	**1,228**	**225**	60,016
Cash Flows (Net)@	2,999	(3,747)	(849)	(337)	2,161	(5,771)
Additions	-	-	-	412	-	412
Foreign Exchange Adjustments	301	1,198	135	14	40	1,086
Fair Value Changes, Refer Note 29 (c)	-	(64)	-	-	-	(64)
Debt Issuance Costs and Amortisation (Net)	-	79	-	-	-	79
Interest Expense **	-	3,381	202	56	8	3,647
Interest Paid **	-	(3,127)	(75)	(50)	(8)	(3,260)
Disposal/Modification/Reassessment	-	-	(4)	(72)	-	(76)
Changes in Liabilities Assumed on Acquisition	-	-	139	-	-	139
Liabilities on Disposal of a Subsidiary	-	(6)	(21)	-	-	(27)
Other Changes/Reclassification	-	(6)	6	-	-	-
Balance as at March 31, 2022 #	**11,639**	**58,532**	**5,581**	**1,251**	**2,456**	**56,181**
Less: Accrued interest as at 31/03/2022	-	(720)	(158)	-	-	(878)
Balance as at March 31, 2022 as per Balance Sheet	**11639**	**57,812**	**5,423**	**1,251**	**2,456**	**55,303**

@ Include temporary overdraft balances in current accounts

Borrowing include Interest accrued on borrowings and current maturities of related borrowings.

** Interest expenses and interest paid relates to borrowings and lease liabilities before interest capitalisation.

B. Borrowings, Current

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Secured		
Loans from Banks		
Rupee Loans - (a), (b), (d)	6	5
Foreign Currency Loans - (f)	3,804	114
Loans from Others		
Foreign Currency Loans - (c)	4	4
	3,814	123
Unsecured		
Loans from Banks		
Rupee Loans	-	-
Foreign Currency Loans - (d), (e), (g), (h)	1,740	5,300
	1,740	5,300
Current Maturities of Long-term Borrowings, Refer Note 20 (A)	1,347	6,177
	6,901	11,600

(a) Working Capital loan for Aluminium business, granted under the Consortium Lending Arrangement, are secured by a first pari-passu charge on entire stocks of raw materials, work-in-process, finished goods, consumable stores and spares and also book debts pertaining to the Company's Aluminium business, both present and future. Working Capital loan for the Copper business is secured by a first pari passu charge on stocks of raw materials, work-in-process, finished goods and consumable stores and spares and also book debts and other movable assets of Copper business, both present and future. (Refer Note 13(b))

(b) Cash Credit facilities for Utkal Alumina International Limited (Utkal) with banks are availed under the consortium lending arrangement and are secured by (a) first pari-passu charge by hypothecation of investments classified as "held for trading", entire stocks of raw materials, semi-finished and finished goods, consumable stores and spares, investments classified as "available for sale", stock-in trade and book debts pertaining to Utkal's business, both present and future and (b) second charge on Utkal's fixed assets. The borrowings carry floating interest rate at MCLR (ranging from 3 months to one year) + Spread (ranging from 25 bps to 55 bps)

(c) Payable under trade financing arrangements in Novelis Inc.

(d) Includes ₹ Nil Crore (31/03/2022: ₹† 1,401 Crore) unsecured Foreign currency loans from Indian Banks and Foreign banks, mainly in nature of Buyers credit which has been availed for Copper business to meet its working capital requirement, mostly to settle the import payments of copper concentrate and certain other raw materials. The loan carry interest rate of 6M SOFR. - Refer Note 9(c) on non-derivative financial instruments used as hedging instruments.

(e) In January 2022, the Group entered into a ₹ 2,390 Crore ($315 million) short-term loan with Axis Bank Limited, IFSC Banking Unit, Gift City, as administrative agent and lender. The proceeds of the short-term loan were applied to voluntarily prepay the 2017 Term Loans. The short-term loan matures on 30/11/2022, is subject to 0.25% quarterly amortization payments, and accrues interest at Secured Overnight Financing Rate (SOFR) plus 0.90%. The short-term loan is unsecured and guaranteed by the Group's certain direct and indirect U.S. and Canadian subsidiaries, and the agreement contains voluntary prepayment provisions, affirmative and negative covenants, and events of default substantially similar to those under our Term Loan Facility, other than changes to reflect the unsecured nature of the short-term loan. During the year ended 31/03/2023, ₹ 797 Crore ($ 100 million) has been paid beyond scheduled quarterly amortization payments on short-term loan due November 2022 and the remaining principal balance of this loan has also been paid in full at the maturity date.

(f) Foreign Currency Loans represents amount of ABL Revolver credit facility in Novelis. The loan carry interest rate LIBOR plus spread of 1.25% to 1.75 %.

As of 31/03/2023, the revolver had a ₹ 3,804 Crore ($463 million) balance; and ₹ 332 Crore ($40 million) was utilized for letters of credit. There was ₹ 7,973 Crore ($970 million) in remaining availability, including ₹ 1,928 Crore ($235 million) of remaining availability that can be utilized for letters of credit, and the Group is in compliance with the covenants of our ABL Revolver facility.

Above credit facility in Novelis is part of its senior secured credit facilities, which are guaranteed by its direct parent, AV Minerals, and its certain direct and indirect subsidiaries and are secured by a pledge of substantially all of the assets, including Intangible Assets but excluding Right-of-Use Assets, of the Novelis and the guarantor.

(g) As of 31/12/2021, the Group added a loan from Citi bank amounting to $50 million due in December 2023 with a rate of 6.2%. As of 31/03/2023, the Group further added a loan from Citi bank amounting to ₹ 411 Crore ($ 50 million) due in March 2024. The outstanding balance as at 31/03/2023 on loan from Citi bank is ₹ 822 Crore ($100 million).

(h) The Group has outstanding balance as at March 31, 2023 from China loans amounted to ₹ 884 Crore ($ 107 million).

21. Supplier's Credit

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Supplier's Credit, Current	5,635	2,456
	5,635	2,456

(a) Supplier's Credit represents the extended interest bearing credit offered by the supplier which is secured against Usance Letter of Credit (LC) Under this arrangement, the supplier is eligible to receive payment from negotiating bank prior to the expiry of the extended credit period. The interest for the extended credit period payable to the bank on maturity of the LC has been presented under Finance Cost.

(b) Supplier's credit also includes amounts payable towards Accounts Receivable Purchase Scheme ("ARPS") entered into with the suppliers. Under this arrangement, the supplier is eligible to receive payment prior to the expiry of extended credit period by assigning such invoices to a third-party purchaser bank based on security in the form of an undertaking issued by the Group to the bank. Further, the supplier charges interest to the Group for the extended credit period which has been presented under Finance Cost.

22. Trade Payables

Refer Note 1B(O) for accounting policy on Trade and Other Payables

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Micro and Small Enterprises	192	105
Other than Micro and Small Enterprises - (b), (c)	35,668	41,277
	35,860	**41,382**

(a) Trade Payables ageing schedule as at 31/03/2023:

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of payment				Total
			Less than 1 year	1-2 years	2-3 years	More than 3 years	
(i) MSME	12	108	61	7	2	2	192
(ii) Others	5,075	26,493	3,944	86	17	53	35,668
(iii) Disputed - MSME	-	-	-	-	-	-	-
(iv) Disputed - Others	-	-	-	-	-	-	-
Total	**5,087**	**26,601**	**4,005**	**93**	**19**	**55**	**35,860**

Trade Payables ageing schedule as at 31/03/2022 :

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of payment				Total
			Less than 1 year	1-2 years	2-3 years	More than 3 years	
(i) MSME	14	33	44	10	3	1	105
(ii) Others	4,074	29,622	7,261	157	22	54	41,190
(iii) Disputed - MSME	-	-	-	-	-	-	-
(iv) Disputed - Others	-	-	21	22	44	-	87
Total	**4,088**	**29,655**	**7,326**	**189**	**69**	**55**	**41,382**

(b) Refer Note 9(a)(i) on non-derivative financial instruments used as hedging instruments.

(c) Refer Note 45 (e)(i) for details of balances with related parties.

(d) The Group participates in various supply chain finance programs under which participating suppliers may voluntarily elect to sell some or all of their Group receivables to third-party financial institutions. Supplier participation in the programs is solely up to the supplier, and participating suppliers enter their arrangements directly with the financial institutions. The Group and its suppliers agree on the contractual terms for the goods and services it procure, including prices, quantities and payment terms, regardless of whether the supplier elects to participate in these programs. The Group suppliers' voluntary inclusion of invoices in these programs has no bearing on our payment terms. Further, the Group has no economic interest in a supplier's decision to participate in these programs. The payment terms that the Group has with its suppliers range up to 180 days and are considered commercially reasonable. At March 31, 2023 and 2022, confirmed supplier invoices that are outstanding and subject to the third-party programs included in accounts payable on the consolidated balance sheets were ₹ 6,581 Crores and ₹ 6,984 Crores, respectively. The Group do not be-lieve that future changes in the availability of supply chain financing will have a significant impact on the Group's liquidity.

23. Other Financial Liabilities

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Derivative Matured, pending settlement	-	283	-	1,444
Interest Accrued but not due	-	470	-	878
Liability for Capital Expenditure	53	1,963	8	1,057
Security and other Deposits	2	40	2	42
Investor Education and Protection Fund				
Unclaimed Dividends - (a)	-	6	-	5
Debentures - (b)	-	3	-	3
Temporary Overdraft Balance in Current Accounts	-	2	-	-
Others	152	146	129	178
	207	**2,913**	**139**	**3,607**

(a) These amounts do not include any amount, due and outstanding, to be credited to 'Investor Education and Protection Fund' except ₹ 0.09 Crore (31/03/2022: ₹ 0.09 Crore) which is held in abeyance due to legal cases pending.

(b) In terms of Debenture Subscription Agreement between Utkal Alumina International Limited ('UAIL'), a wholly owned subsidiary of the Group, and Orissa Mining Corporation Limited ('OMCL'), during the previous year UAIL issued a Zero Coupon Unsecured Redeemable Non-Convertible Debentures of ₹ 3 Crore to OMCL towards its obligation to pay OMCL an amount equivalent to 15% per annum on ₹ 20 Crore as return up to 31/03/2023, which is due for redemption at par on 30/09/2023.

24. Provisions

Refer Note 1B (L) for accounting policy on Provisions and contingencies

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Non-Current	Current	Total	Non-Current	Current	Total
Assets Retirement Obligations	299	8	307	288	5	293
Environmental Liability - (c)	17	586	603	89	410	499
Enterprise Social Commitment	148	102	250	139	100	239
Renewable Power Obligation - (d)	-	283	283	-	148	148
Legal Cases	-	712	712	-	744	744
Miscellaneous Provisions	122	386	508	145	319	464
	586	**2,077**	**2,663**	**661**	**1,726**	**2,387**

(a) Movements in each class of provisions are set out below:

(₹ in Crore)

Particulars	Assets Retirement Obligations	Environ-mental Liability	Enterprise Social Commitment	Renewable Power Obligation	Legal Cases	Miscellaneous Provisions	Total
Balance as at April 01, 2021	**380**	**205**	**248**	**172**	**525**	**616**	**2,146**
Provision made during the year - (c)	7	317	-	112	200	372	1,008
Reclassified	16	-	-	-	-	(16)	-
Provision utilised during the year	(40)	(4)	(23)	(107)	(10)	(493)	(677)
Provision reversed during the year	-	(26)	-	(29)	(23)	(49)	(127)
Unwinding of discounts	16	1	14	-	-	-	31
Exchange adjustment	9	7	-	-	52	34	102
Reversed on disposal of a subsidiary	(95)	(1)	-	-	-	-	(96)
Balance as at March 31, 2022	**293**	**499**	**239**	**148**	**744**	**464**	**2,387**
Provision made during the year	-	138	25	73	129	322	687
Reclassified	-	-	-	-	7	-	7
Provision utilised during the year	(9)	(37)	(10)	94	(163)	(258)	(383)
Provision reversed during the year - (d)	-	(19)	(15)	(32)	(35)	(72)	(173)
Unwinding of discounts	10	2	11	-	-	-	23
Exchange adjustment	13	20	-	-	30	52	115
Balance as at March 31, 2023	**307**	**603**	**250**	**283**	**712**	**508**	**2,663**

(b) Brief Description of Provisions:

(i) **Assets Retirement Obligations:**

Asset Retirement Obligation (ARO) is a legal or constructive obligation associated with the ash ponds, red mud ponds, ash pipeline and coal transportation system in refineries and mining land where the land needs to be restored back to a usable condition after closing of activities. This is a statutory requirement in which the timing or method of settlement may be conditional on one or multiple future events, the occurrence of which may not be within the control of the entity. The outflow of economic resources is expected over a period until FY 47. The same has been appropriately discounted.

(ii) **Environmental Liability:**

Environmental Liability is associated with Wild Life Conservation Plan (WLCP) and disposal of hazardous material generated during the course of manufacturing or mining operation e.g. disposal of spent pot lining, Gypsum, Slag etc. This disposal generally takes place as per the guidelines set by various regulatory authorities of States and Central Government. The outflow of economic resources is generally expected in following financial year over a period until FY 31.

(iii) **Enterprise Social Commitment:**

Enterprise Social Commitment is the amount to be spent on social and economic development of the surrounding area where new project is being setup. This is generally defined as a certain percentage of the total cost of the project. The outflow of economic resources is expected over a period until FY 56. This has been appropriately discounted wherever necessary.

(iv) **Renewable Power Obligation (RPO):**

Some of the Group's units situated in various states like Odisha, Madhya Pradesh , Maharashtra ,Gujarat, Jharkhand etc. who gets power from Captive power plants or procure power from open source, are obligated to purchase certain portion of their power consumption from Renewable Energy sources, both solar and non-solar. This gives rise to Renewable Power Obligation (RPO) In case the obligated units fail to procure power from such renewable sources, they may satisfy the obligation by purchasing Renewable Energy Certificates from authorised exchanges as an alternative.

(v) **Legal Cases:**

There are certain legal cases (including revenue matters) against which provision has been made since these events are probable to happen i.e. more likely than not but timing of occurrence of such events is uncertain as it depends on when the matter will be settled at the highest Court of law.

(vi) **Miscellaneous Provisions:**

Restructuring charges include employee severance and benefit costs and other costs associated with exit activities. Severance costs are recognized when management with the proper level of authority has committed to a restructuring plan and communicated those actions to employees. Other exit costs include environmental remediation costs and contract termination costs, primarily related to equipment and facility lease obligations. At each reporting date, the Group evaluates the provisions for restructuring costs to ensure the provisions are still appropriate.

Carbon emission represents estimated liabilities towards emissions for operations in Europe and Asia. The provision is measured at the carrying amount of allowances to the extent that the provision will be settled using allowances on hand, with any excess emission being measured at the market value of the allowances at the period end.

Also, includes statutory provisions related to indirect taxes, coal cess etc.

(c) Pursuant to the notification dated December 31, 2021 issued by Ministry of Environment, Forest and Climate Change (MoEFCC), the Company recognised provision of Rs. 107 Crore for expected cost of disposal/stabilisation of legacy ash lying in ash dykes/ponds as at March 31, 2022. The estimate was based on the plan for disposal and/ or stabilisation of ash dykes/ponds considering feasibility of extraction of ash from ash dykes/ponds. Subsequently, the MoEFCC, vide notification dated December 30, 2022 amended the said notification whereby, any new or operational thermal power plant may be permitted to designate its ash dykes/ponds as operational ash dyke/pond. The Central Pollution Control Board (CPCB) in consultation with the Central Electricity Authority (CEA) was directed to issue guidelines, on or before March 31, 2023, relating to technical specifications of operational as well as stabilised and reclaimed ash dykes/ ponds, procedure for annual certification of such ash dykes/ponds or on various aspects like safety, mode of disposal etc. Considering that such guidelines are yet to be notified, the Company continues to recognise the balance provision amounting to ₹ 91 Crore as at March 31, 2023 towards expected cost of disposal/stabilisation.

(d) During FY 2017-18, while purchasing Non-Solar Renewable Energy Certificates (REC) to meet the Group's obligation, the Group had to pay ₹ 500 per REC aggregating to ₹ 134 Crore as deposit to the REC Exchange in an Escrow account pursuant the directives from the Supreme Court of India. Provision for RPO as at March 31, 2022 was net of these REC deposits under escrow amount. During the current year, the REC Exchange has returned this amount against the bank guarantee provided by the Group. Accordingly, the provision has been adjusted for the same.

25. Employee Benefits Obligation

Refer Note 1B(U) for accounting policy on Employee Benefits

Refer Note 1B(V) for accounting policy on Employee Share-based Payments

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Non-Current	Current	Total	Non-Current	Current	Total
Defined Benefit Plans						
Gratuity	108	5	113	101	5	106
Pension	4,223	200	4,423	5,170	177	5,347
Post-Retiral Medical Benefit	647	90	737	431	87	518
Other Employee Benefit Plans						
Compensated Absence	-	555	555	-	532	532
Stock Appreciation Rights	69	161	230	84	210	294
Others Benefits	258	118	376	338	167	505
	5,305	**1,129**	**6,434**	**6,124**	**1,178**	**7,302**

(A) Post-Employment Benefits

The Group provides various benefit plan to its employees. Some of them are defined benefit in nature while some are contributory.

(I) Defined Benefit Plans

Major post retiral defined benefit plans of the Group include Gratuity, Pension, Post retirement medical benefit and Provident Fund (to the extent of the Group's obligation to fund any shortfall on the yield of the trust's investments over the administered interest rates on an annual basis by Central Provident Fund Organisation of Government of India) The Group does Actuarial valuation for its identified defined benefit plans.

Methodology for actuarial valuation of Defined Benefit Obligations:

The Projected Unit Credit (PUC) actuarial method has been used to assess the plan's liabilities, including those related to death-in-service and incapacity benefits.

Under PUC method, a projected accrued benefit is calculated at the beginning of the year and again at the end of the year, for each benefit that will accrue for all active members of the plan. The projected accrued benefit is based on the plan's accrual formula and upon service as of the beginning or end of the year, but using a member's final compensation, projected to the age at which the employee is assumed to leave active service. The plan liability is the actuarial present value of the projected accrued benefits for active members.

Defined benefit plans expose the Group to actuarial risks such as Interest Rate Risk, Salary Risk and Demographic Risk.

(i) Interest Rate Risk: While calculating the defined benefit obligation a discount rate based on government bonds yields of matching tenure is used to arrive at the present value of future obligations. If the bond yield falls, the defined benefit obligation will tend to increase and plan assets will decrease.

(ii) Salary Risk: Higher than expected increases in salary will increase the defined benefit obligation.

(iii) Demographic Risk: This is the risk of variability of results due to unsystematic nature of decrements that include mortality, withdrawal, disability and retirement. The effect of these decrements on the defined benefit obligations is not straight forward and depends on the combination of salary increase, discount rate and vesting criteria. It is important not to overstate withdrawals because in the financial analysis the retirement benefit of a short career employee typically costs less per year as compared to a long service employee.

(a) Gratuity Plans

The Group has various schemes (funded/unfunded) for payment of gratuity to all eligible employees calculated at specified number of days (ranging from 15 days to 1 month) of last drawn salary depending upon the tenure of service for each year of completed service subject to minimum service of five years payable at the time of separation upon superannuation or on exit otherwise. These defined benefit gratuity plans are governed by the Payment of Gratuity Act, 1972.

(i) Change in Defined Benefit Obligation (DBO) (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Defined Benefit Obligation at beginning of the year	1,027	103	1,130	1,035	96	1,131
Current Service cost	40	7	47	41	7	48
Interest Cost on the DBO	69	8	77	62	6	68
Acquisitions (credit)/ cost - (Refer Note 52)	-	-	-	-	2	2
Actuarial (gain)/ loss - experience	32	2	34	20	4	24
Actuarial (gain)/ loss- financial assumption	(40)	(5)	(45)	(62)	(7)	(69)
Benefits paid directly by the Group	(47)	(5)	(52)	(42)	(5)	(47)
Benefits paid from plan assets	(24)	-	(24)	(27)	-	(27)
Defined Benefit Obligation at the end of the year	**1,057**	**110**	**1,167**	**1,027**	**103**	**1,130**

(ii) Change in Fair Value of Plan Assets (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Fair value of assets at the beginning of the year	1,132	-	1,132	998	-	998
Interest Income on plan assets	80	-	80	63	-	63
Employer's contributions	49	-	49	56	-	56
Return on plan assets greater/(lesser) than discount rate	(34)	-	(34)	42	-	42
Benefits Paid	(23)	-	(23)	(27)	-	(27)
Fair value of assets at the end of the year	**1,204**	**-**	**1,204**	**1,132**	**-**	**1,132**

(iii) Development of Net Balance Sheet Position (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Defined Benefit Obligation	(1,057)	(110)	(1,167)	(1,027)	(103)	(1,130)
Fair Value of Plan Assets	1,204	-	1,204	1,132	-	1,132
Funded Status (surplus/(deficit))	147	(110)	37	105	(103)	2
Funded surplus not recognised - (Refer Note -xiv)	(97)	-	(97)	(105)	-	(105)
Net defined benefit asset/(liability) recognised in Balance sheet	**50**	**(110)**	**(60)**	**-**	**(103)**	**(103)**

(iv) Reconciliation of Net Balance Sheet Position (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Net Defined benefit asset/ (Liability) at beginning of the year	-	(103)	(103)	(37)	(96)	(133)
Service cost	(40)	(7)	(47)	(41)	(7)	(48)
Net Interest on net defined benefit liability/(asset)	11	(8)	3	1	(6)	(5)
Actuarial gain/loss and return on plan assets recognised in OCI	(25)	3	(22)	84	3	87
Funded surplus not recognised - (Refer Note - xiv)	8	-	8	(105)	-	(105)
Employer's contributions	49	-	49	56	-	56
Benefit paid directly by the Group	47	5	52	42	5	47
Acquisitions (credit)/ cost	-	-	-	-	(2)	(2)
Net Defined benefit asset/(Liability) at the end of the year	**50**	**(110)**	**(60)**	**-**	**(103)**	**(103)**

(v) Expense recognised during the year (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Current Service cost	40	7	47	41	7	48
Net Interest on net defined benefit liability/(asset)	(11)	8	(3)	(1)	6	5
Net Gratuity Cost	**29**	**15**	**44**	**40**	**13**	**53**

(vi) Other Comprehensive Income (OCI) (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Actuarial (gain)/loss due to DBO experience	32	2	34	20	4	24
Actuarial (gain)/loss due to DBO assumption changes	(40)	(5)	(45)	(62)	(7)	(69)
Actuarial (gain)/loss arising during the year	**(8)**	**(3)**	**(11)**	**(42)**	**(3)**	**(45)**
Return on Plan Assets(greater)/less than discount rate	34	-	34	(42)	-	(42)
Funded surplus (recognised)/ not recognised in OCI - (Refer Note - xiv)	(8)	-	(8)	105	-	105
Actuarial (gain)/loss recognised in OCI	**18**	**(3)**	**15**	**21**	**(3)**	**18**

(vii) Defined Benefit Cost (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Service Cost	40	7	47	41	7	48
Net Interest on net defined benefit liability/(asset)	(11)	8	(3)	(1)	6	5
Actuarial (gain)/ loss recognised in OCI	25	(3)	22	(84)	(3)	(87)
Funded surplus (recognised)/ not recognised in OCI - (Refer Note - xiv)	(8)	-	(8)	-	-	-
Defined Benefit Cost	**46**	**12**	**58**	**(44)**	**10**	**(34)**

(viii) Principal Actuarial Assumptions

	Year ended	
	31/03/2023	31/03/2022
Discount rate (based on the market yields available on Government bonds at the accounting date with a term that matches that of the liabilities)	**7.50%**	**7.00%**
Salary escalation rate	**7.50%**	**7.50%**
Weighted average duration of the defined benefit obligation	**8 years**	**8 years**
Mortality Rate	**Indian Assured Lives Mortality 2006-08**	

(ix) Non-Current and Current portion of Employee Benefit Obligation and Fair Value of Plan Assets, Refer Note 12(d) for further details.

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Current portion	50	(5)	45	-	(5)	(5)
Non-Current portion	-	(105)	(105)	-	(98)	(98)
Assets/ (Liabilities)	**50**	**(110)**	**(60)**	**-**	**(103)**	**(103)**

(x) Sensitivity Analysis

Sensitivity analysis are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the defined benefit liability recognised in the balance sheet.

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Discount Rate						
Discount Rate as at end of the year	7.50%	7.50%	7.50%	7.00%	7.00%	7.00%
Effect on Defined Benefit Obligation due to 1% Increase in Discount Rate	(73)	(9)	(82)	(73)	(9)	(82)
Effect on Defined Benefit Obligation due to 1% Decrease in Discount Rate	83	10	93	84	10	94
Salary Escalation Rate						
Salary Escalation Rate as at end of the year	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Effect on Defined Benefit Obligation due to 1% Increase in Salary Escalation Rate	82	10	92	82	10	92
Effect on Defined Benefit Obligation due to 1% Decrease in Salary Escalation Rate	(73)	(9)	(82)	(73)	(9)	(82)

(xi) The Expected Maturity Analysis of Undiscounted Gratuity is as follows: (₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Within 1 year	68	4	72	62	5	67
From 1 year to 2 Year	103	7	110	95	6	101
From 2 year to 3 Year	106	8	114	98	6	104
From 3 year to 4 Year	109	9	118	100	8	108
From 4 year to 5 Year	109	11	120	104	9	113
From 5 year to 10 Year	603	76	679	561	67	628

(xii) Composition of Plan Assets

Major categories of Plan Assets are as under: * (₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Cash and Bank Balances	1.29%	NA	1.29%	8.96%	NA	8.96%
Scheme of insurance - conventional product	0.19%	NA	0.19%	1.19%	NA	1.19%
Scheme of insurance - ULIP Product	98.52%	NA	98.52%	89.85%	NA	89.85%
	100.00%		**100.00%**	**100.00%**		**100.00%**

* Investment in Plan assets are unquoted.

(xiii) Expected Contributions to post employment benefit plan of Gratuity for the year ended March 31, 2024: ₹ 70 Crore.

(xiv) The Group has not recognised the surplus in its plan assets of gratuity fund since no future economic benefits are expected in the form of reduction in future contributions to the gratuity plan or refund from the gratuity plan.

(xv) Gratuity provision amounting to ₹ 3 Crore (31/03/2022: ₹ 3 Crore) is not part of above Actuarial valuaiton. It pertains to one of trust controlled by the Group and the amount is based on management estimate.

(b) Post Retirement Medical Benefit

The Group provides post retirement medical benefit to its certain retired employees in India. The scheme involves reimbursement of expenses towards medical treatment of self and dependents. The amount charged to the Consolidated Statement of Profit and Loss during the year is ₹ 0.33 Crore (31/03/2022: ₹ 0.32 Crore) and amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (2) Crore (31/03/2022: ₹ (4) Crore) The obligation with respect to said scheme is ₹ 4 Crore (31/03/2022: ₹ 5 Crore)

(c) Junior and Senior Pension Plan

Junior and Senior Pension Plan provided to certain employees is in the nature of defined benefit plan which provides an annuity in the form of pension amount at retirement.

(d) Other Pension Plan

It is a pension benefit provided to erstwhile Managing Director and certain employees of a subsidiary of the Group. The amount charged to statement of Profit and Loss during the year is ₹ 3 Crore (31/03/2022: ₹ 3 Crore) Amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (2) Crore (31/03/2022: ₹ Nil)

The obligation with respect to these schemes as at As at 31/03/2023: ₹ 48 Crore (31/03/2022: ₹ 47 Crore)

(e) Provident Fund (Managed by Trust)

The Group's contribution towards Provident Fund managed by approved trusts, which are substantially defined benefit plan is debited to the Statement of Profit and Loss. The Company has an obligation to fund any shortfall on the yield of the trust's investments over the administered interest rates on an annual basis by Central Provident Fund Organisation of Government of India. The amount debited to Statement of Profit and Loss during the year was ₹ 75 Crore (31/03/2022: ₹ 68 Crore).

Based on actuarial valuation, the Company has recognised obligation of ₹ 0 Crore as at 31/03/2023 (31/03/2022: ₹ 0 Crore) towards shortfall on the yield of the trust's investments over the administered interest rates. Amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (0) Crore (31/03/2022: ₹ (5) Crore).

Sensitivity Analysis: (₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Provident Fund		
Discount rate		
Effect on DBO due to 1% increase in discount rate	(6)	(3)
Effect on DBO due to 1% decrease in discount rate	7	4
Pension		
Discount rate		
Effect on DBO due to 1% increase in discount rate	(0)	(0)
Effect on DBO due to 1% decrease in discount rate	0	0
Post Retirement Medical		
Discount rate		
Effect on DBO due to 1% increase in discount rate	(0)	(0)
Effect on DBO due to 1% decrease in discount rate	0	0

Assumption use in determining the present value obligation of the interest rate guarantee under the Deterministic Approach:

	As at	
	31/03/2023	31/03/2022
Discount rate	7.50%	7.00%
Expected EPFO (Employees' Provident Fund Organisation) Return	8.15%	8.10%

(f) Pension and Post Employment Medical Benefits of Novelis Inc, the Group's overseas subsidiary

Obligations related to the Group's overseas operations, relate to: (1) funded defined benefit pension plans in the U.S., Canada, Switzerland, and the U.K.; (2) unfunded defined benefit pension plans in Germany; (3) unfunded lump sum indemnities payable upon retirement to employees in France, Malaysia and Italy; and (4) partially funded lump sum indemnities in South Korea. These defined benefit plans provide a benefit to eligible employees based on plan provisions, including but not limited to, years of service, compensation, or other vesting criteria. Each of the funded pension plans is governed by an Investment Fiduciary. Other post retirement obligations include unfunded health care and life insurance benefits provided to eligible retired employees in the U.S., Canada, and Brazil. In addition, it provide post employment benefits, including disability, early retirement and continuation of benefits (medical, dental, and life insurance) to eligible former employees.

In connection with the acquisition of Aleris Corporation, the Group acquired postretirement benefit plans covering certain employees in Europe and the United States. Upon acquisition, the Group recognized the funded status of the defined benefit plans as an asset or a liability within other non-current assets or other non-current liabilities in the consolidated balance sheet. The plan assets are recognized at fair value. The group uses various assumptions when computing amounts relating to its defined benefit pension plan obligations and their associated expenses (including the discount rate and the expected rate of return on plan assets)

(i) Change in obligation over the year (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Present Value of defined benefit obligations at the beginning of the year	11,227	5,060	16,287	12,074	5,696	17,770
Exchange (gain)/loss on translation	724	243	967	315	(36)	279
Current Service Cost	146	151	297	158	180	338
Interest Cost	378	112	490	316	90	406
Curtailment cost/ (credit)	-	-	-	(53)	22	(31)
Plan Settlements	-	-	-	(354)	-	(354)
Plan Participants Contribution	42	-	42	38	-	38
Plan Amendments	-	-	-	(27)	(49)	(76)
Net actuarial (gain)/ loss	(1,708)	(874)	(2,582)	(765)	(563)	(1,328)
Remeasurement changes in Asset ceiling	(8)	-	(8)	28	-	28
Benefits Paid	(578)	(291)	(869)	(503)	(280)	(783)
Present Value of defined obligations at the end of the year	**10,223**	**4,401**	**14,624**	**11,227**	**5,060**	**16,287**

(ii) Change in plan Assets (Reconciliation of opening and closing balances) (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Fair Value of plan assets at the beginning of the year	10,685	-	10,685	10,802	-	10,802
Exchange gain/ (loss) on translation	688	-	688	279	-	279
Plan Settlements	-	-	-	(354)	-	(354)
Remeasurement - return on plan assets excluding amount included in interest income	(1,659)	-	(1,659)	(217)	-	(217)
Interest Income	358	-	358	286	-	286
Plan participants contribution	42	-	42	38	-	38
Plan Participants Contribution	42	-	42	38	-	38
Benefits Paid	(869)	-	(869)	(783)	-	(783)
Fair value of assets at the end of the year	**9,686**	**-**	**9,686**	**10,685**	**-**	**10,685**

(iii) Reconciliation of fair value of assets & obligations (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Present value of defined benefit obligations at the end of the year	10,223	4,401	14,624	11,227	5,060	16,287
Fair Value of Plan assets at the end of the year	9,686	-	9,686	10,682	-	10,682
Amount recognized in the consolidated balance sheet	537	4,401	4,938	545	5,060	5,605
Recognized prepaid pension	170	-	170	208	-	208
Recognized pension liability	**707**	**4,401**	**5,108**	**753**	**5,060**	**5,813**

(iv) Expenses recognized during the year (₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Current service cost	146	151	297	157	181	338
Past service cost/ Curtailment (credit)/ Settlement (gain)	-	-	-	(80)	(27)	(107)
Interest cost (net)	20	112	132	29	90	119
	166	**263**	**429**	**106**	**244**	**350**

Details of special events during the previous year:

Pension Plan Freeze:

During the previous year, Novelis announced the freeze of future benefit accruals under the Canada Pension Plan, effective for union participants as of December 31, 2021 and non-union participants as of December 31, 2023. The Group remeasured the plan's assets and obligations as of April 30, 2021, which was the nearest calendar month-end to the announcement of this freeze. A curtailment gain of ₹ 24 Crore (USD 3 million) was recorded in the statement of profit and loss for the year ended March 31, 2022.

Others:

During the previous year, Novelis entered into an agreement to transfer the liabilities associated with a portion of the retirees and beneficiaries of the Canada Novelis Pension Plan to an insurer through a purchase of buy-out annuities. The premium payment was made to the insurer on August 10, 2021. The Group remeasured the plan's assets and obligations as of July 31, 2021, which was the nearest calendar month-end to the premium payment for this settlement. As a result of this transaction, a settlement gain of ₹ 7 Crore (USD 1 million) was recorded for the year ended March 31, 2022.

The Group recognised past service credit comprising plan amendment mentioned in the table above amounting to ₹ 49 Crore (USD 7 million) with respect to plans in North America and ₹ 27 Crore (USD 4 million) with respect to plans in Europe during the year ended March 31, 2022 within Employee benefits expense in the profit and loss statement.

(v) Remeasurement of net defined benefit liability/(asset) (OCI)

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Actuarial (gains)/ losses arising from changes in demographic assumptions	-	4	4	(8)	-	(8)
Actuarial (gains)/ losses arising from changes in financial assumptions	(1,781)	(1,163)	(2,944)	(867)	(582)	(1,449)
Actuarial (gains)/ losses arising from changes in experience adjustments	72	286	358	110	19	129
Remeasurement of net defined benefit liability	(1,709)	(873)	(2,582)	(765)	(563)	(1,328)
Remeasurement return on plan assets excluding amount included in interest income	1,659	-	1,659	217	-	217
Impact of asset ceiling	(8)	-	(8)	28	-	28
Exchange Gain/ (Loss)	(19)	(29)	(48)	(8)	(86)	(94)
	(77)	**(902)**	**(979)**	**(528)**	**(649)**	**(1,177)**

(vi) Composition of Plan Assets*

	As at	
	31/03/2023	31/03/2022
Equity	2,888	2,803
Fixed Income	5,620	6,365
Real Estate	470	382
Cash and cash equivalent	512	930
Other	196	205
	9,686	10,685

* Investment in Plan assets are unquoted.

(vii) Sensitivity analysis for each significant actuarial assumption

(₹ in Crore)

	As at 31/03/2023				As at 31/03/2022			
	Approximate (increase)/ decrease				Approximate (increase)/ decrease			
	Defined Benefits obligation		Post Employment Medical Benefits		Defined Benefits obligation		Post Employment Medical Benefits	
	Funded	Unfunded	Funded	Unfunded	Funded	Unfunded	Funded	Unfunded
Discount Rate								
Increase of 1 percentage	1,036	479	-	66	1,329	668	-	71
Decrease of 1 percentage	(1,216)	(559)	-	(77)	(1,592)	(805)	-	(84)
Salary Growth Rate								
Increase of 1 percentage	(160)	(44)	-	-	(184)	(95)	-	-
Decrease of 1 percentage	144	40	-	-	166	88	-	-

	As at 31/03/2023				As at 31/03/2022			
	Approximate (increase)/ decrease				Approximate (increase)/ decrease			
	Defined Benefits obligation		Post Employment Medical Benefits		Defined Benefits obligation		Post Employment Medical Benefits	
	Funded	Unfunded	Funded	Unfunded	Funded	Unfunded	Funded	Unfunded
Pension Growth Rate								
Increase of 1 percentage	(106)	(370)	-	-	(178)	(501)	-	-
Decrease of 1 percentage	99	323	-	-	183	421	-	-
Expected future lifetimes(in years) for employees								
Participants assumed to have the mortality rates of individuals who are one year older	(222)	(128)	-	(9)	(220)	(105)	-	(8)
Participants assumed to have the mortality rates of individuals who are one year younger	217	132	-	9	217	114	-	8
Medical cost trend rates								
Increase of 1 percentage	-	-	-	(127)	-	-	-	(105)
Decrease of 1 percentage	-	-	-	63	-	-	-	82

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the defined benefit liability recognised in the balance sheet.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the prior year.

(viii) The principal actuarial assumptions at the reporting dates(expressed as weighted averages) for defined benefit plans

	As at 31/03/2023		As at 31/03/2022	
	Funded	Unfunded	Funded	Unfunded
Discount Rate	4.13%	3.50%	2.52%	1.91%
Salary growth Rate	2.92%	2.41%	2.80%	2.72%
Expected future lifetimes (in years) for employees				
Pensioners	19	20	20	15
Current employees	9	9	11	9

(ix) The principal actuarial assumptions at the reporting dates(expressed as weighted averages) for post employment medical benefits

	As at 31/03/2023		As at 31/03/2022	
	Funded	Unfunded	Funded	Unfunded
Long term increase in healthcare costs	-%	4.71%	-%	4.92%
Discount rate	-%	5.19%	-%	4.22%

(x) Weighted average duration of the defined benefit obligation in years

	As at 31/03/2023		As at 31/03/2022	
	Funded	Unfunded	Funded	Unfunded
Weighted average duration of the defined benefit obligation in years	11.03	10.60	15.46	12.94

(xi) Expected maturity analysis of undiscounted defined befit plan and post-employment medical benefit plans

(₹ in Crore)

	As at 31/03/2023				As at 31/03/2022			
	Within 1 year	Between 1-2 years	Between 2-5 years	5 to 10 years	Within 1 year	Between 1-2 years	Between 2-5 years	5 to 10 years
Defined benefit plan	812	1,750	2,643	4,667	743	1,642	2,485	4,532
Funded	600	1,331	2,074	3,706	522	1,246	1,936	3,556
Unfunded	212	419	569	961	221	396	549	976
Post employment medical benefit plant	35	95	159	326	33	83	141	277
Funded	-	-	-	-	-	-	-	-
Unfunded	35	95	159	326	33	83	141	277

(xii) Expected contributions to the defined benefit plans for the year ended March 31, 2024: ₹ 151 Crore.

(II) Defined Contribution Plans

The Group has certain defined contribution plans such as provident funds (not managed by Trust), superannuation fund and family pension fund for the benefit of the employees. The Contributions are made to registered funds/ organisation administered by the government. The obligation of the Group is limited to the amount contributed and it has no further contractual nor any constructive obligation.

(a) Pension

The Group contributes a certain percentage of salary for all eligible employees in India in the managerial cadre towards Superannuation Funds with option to put certain portion in National Pension Scheme (NPS) and/or in funds managed by Birla Sunlife Insurance Company to be converted to annuity of Life Insurance Corporation of India. Junior Pension Plan provided to certain employees is in the nature of defined benefit plan which provides an annuity in the form of pension amount at retirement. The amount charged to the Consolidated Statement of Profit and Loss during the year is ₹ 19 Crore (31/03/2022: ₹ 18 Crore) and amount of actuarial gain/ (loss) recognised in Other Comprehensive Income during the year is ₹ Nil (31/03/2022: ₹ Nil Crore)

(b) Provident Fund (Other than Trust)

In respect of certain employees, the Company's contribution towards Provident Fund as specified under the law is paid to the Regional Provident Fund Commissioner and is debited to the Statement of Profit and Loss. The Company also contributes to Coal Mines Provident Fund (CMPF) in respect of employees working in coal mines.

The amount debited to the Consolidated Statement of Profit and Loss during the year was ₹ 34 Crore (31/03/2022: ₹ 36 Crore)

(c) Multiemployer Plan

Certain union employees of Novelis Inc. in the United States are covered by a multi-employer plan based on obligations arising from collective bargaining agreements. This plan provides retirement and other benefits to participants generally based on their service to contributing employers. The benefits are paid from assets held in trust for that purpose. Trustees are appointed in equal number by employers and unions and they are typically responsible for oversight of the investment of the assets and administration of the plan.

Contribution rates and, in some instances, benefit levels are generally determined through the collective bargaining process between the participating employers and unions. None of the Company's collective bargaining agreements require an increase in the Company's total pension contributions to meet minimum funding requirements. All plans that are defined benefit plans, on the basis of the terms of the benefits provided, are accounted for as defined contribution plans because, among other things, there is insufficient information available to account for these plans as defined benefit plans.

(B) Other Employee Benefit Plans

(I) Compensated Absences

The Compensated absences cover the Group's liability for earned leave and sick leave. The entire amount of the provision of ₹ 555 Crore (31/03/2022: ₹ 532 Crore) is presented as current, since the Group does not have an unconditional right to defer settlement for these obligations. Expected amount towards settlement of Leave for the next 12 months are ₹ 45 Crore (31/03/2022: ₹ 41 Crore)

(C) Employee Share-based Payments

The Group has formulated employee share-based payment schemes with objective to attract and retain talent and align the interest of employees with the Group as well as to motivate them to contribute to its growth and profitability. The Group views employee stock options as instruments that would enable the employees to share the value they create for the Group in the years to come. At present four employee share-based payment schemes are in operation at Hindalco Industries Limited, the Parent, whereas three employee share-based payment schemes are in operation at Novelis Inc., a subsidiary of the Company. Details of these employee share-based schemes are given below:

(a) Employee share-based payments at Parent

(i) **Employee Stock Option Scheme 2006 ("ESOS 2006"):**

The shareholders of the Company has approved on 23/01/2007 an Employee Stock Option Scheme 2006 ("ESOS 2006"), under which the Company may grant up to 3,475,000 stock options to its permanent employees in the management cadre, whether working in India or out of India, including Managing and the Whole Time Directors of the Company, in one or more tranches. The ESOS 2006 is administrated by the Nomination and Remuneration Committee of the

Board of Directors of the Company ("the Committee") Each stock option, when exercised, would be converted into one fully paid-up equity share of ₹ 1/- each of the Company. The stock options will vest in 4 equal annual instalments after completion of one year of service from the date of grant. The exercise price shall be average price of the equity shares of the Company in the immediate preceding seven day period on the date prior to the date on which the ESOS compensation committee finalises the specific numbers of Options to be granted to the employees discounted by such percentage not exceeding 30 % (thirty percent) to be determined by ESOS Compensation Committee in the best interest of the various stake holders in the prevailing market conditions. The maximum period of exercise is 5 years from the date of vesting and these stock options do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/ expired stock options are also available for grant. Further, on 23/09/2011 the ESOS 2006 has been partially modified and by which the Company may grant 6,475,000 stock options to its eligible employees.

Under the ESOS 2006, till Year ended 31/03/2023 the Committee has granted 4,328,159 stock options (Year ended 31/03/2022: 4,328,159 stock options) to its eligible employees out of which 1,819,941 stock options (Year ended 31/03/2022: 1,819,941 stock options) has been forfeited/ expired and are available for grant as per term of the Scheme. A summary of movement of the stock options and weighted average exercise price (WAEP) is given below:

	Year ended 31/03/2023		Year ended 31/03/2022	
	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	-	-	391,304	118.73
Granted during the year	-	-	-	-
Forfeited during the year	-	-	-	-
Exercised during the year	-	-	(391,304)	118.73
Expired during the year	-	-	-	-
Outstanding at year end	-	-	-	-
Vested and Exercisable at year end	-	-	-	-

Under ESOS 2006, as at Year ended 31/03/2023 the range of exercise prices for stock options outstanding was ₹ Nil (Year ended 31/03/2022: ₹ Nil) whereas the weighted average remaining contractual life for the stock options outstanding was Nil (Year ended 31/03/2022: Nil)

The weighted average share price at the date of exercise of ESOS 2006 was ₹ Nil per share (Year ended 31/03/2022: ₹ 428.07 per share).

(ii) **Employee Stock Option Scheme 2013 ("ESOS 2013"):**

The shareholders of the Company has approved on 10/09/2013 an Employee Stock Option Scheme 2013 ("ESOS 2013"), under which the Company may grant up to 5,462,000 Options (comprising of Stock Options and/ or Restricted Stock Units (RSU)) to the permanent employees in the management cadre and Managing and Whole time Directors of the Company and its subsidiary companies in India and abroad, in one or more tranches. The ESOS 2013 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee") The stock options exercise price would be determined by the Committee, whereas the RSUs exercise price shall be the face value of the equity shares of the Company as at the date of grant of RSUs. Each stock option and each RSU entitles the holders to apply for and be allotted one fully paid-up equity share of ₹ 1/- each of the Company upon payment of exercise price during exercise period. The stock options will vest in 4 equal annual instalments after completion of one year of the services from the date of grant, whereas RSU will vest upon completion of three years of services from the date of grant. The maximum period of exercise is 5 years from the date of vesting and these stock option/ RSU do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/ expired stock options and RSUs are also available for grant.

In terms of ESOS 2013, till Year ended 31/03/2023 the Committee has granted 2,250,754 stock options and 2,252,254 RSUs (Year ended 31/03/2022: 2,250,754 stock options and 2,252,254 RSUs) to the eligible employees of the Company and some of its subsidiary companies. Further, 301,381 stock options and 213,095 RSUs (Year ended 31/03/2022: 301,381 stock options and 213,095 RSUs) have been forfeited/ expired and are available for grant as per term of the Scheme.

A summary of movement of stock options and RSUs and weighted average exercise price (WAEP) is given below:

	Year ended 31/03/2023				Year ended 31/03/2022			
	Stock Options		RSUs		Stock Options		RSUs	
	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	26,248	135.39	27,553	1.00	110,700	132.68	55,691	1.00
Granted during the year	-	-	-	-	-	-	-	-
Forfeited during the year	-	-	-	-	-	-	-	-
Re-instated during the year	-	-	-	-	-	-	-	-
Exercised during the year	(21,861)	129.02	-	-	(80,067)	132.52	(17,106)	1.00
Expired during the year	(2)	119.45	-	-	(4,385)	119.45	(11,032)	1.00
Outstanding at year end	4,385	167.15	27,553	1.00	26,248	135.39	27,553	1.00
Vested and Exercisable at year end	4,385	167.15	27,553	1.00	26,248	135.39	27,553	1.00

Under ESOS 2013, the range of exercise prices for stock options outstanding as at Year ended 31/03/2023 was ₹ 119.45 to ₹ 167.15 (Year ended 31/03/2022: ₹ 119.45 to ₹ 167.15) whereas exercise price in case of RSUs was ₹ 1 (Year ended 31/03/2022: ₹ 1) The weighted average remaining contractual life for the stock options and RSUs outstanding as at Year ended 31/03/2023 was 1.72 years and 1.72 years, respectively (Year ended 31/03/2022: 1.09 years and 2.73 years, respectively)

The weighted average share price at the date of exercise of ESOS 2013 was ₹ 392.76 per share (31/03/2022: ₹ 460.52 per share)

(iii) **Employee Stock Option Scheme 2018 ("ESOS 2018"):**

The shareholders of the Company has approved on 21/09/2018 an Employee Stock Option Scheme 2018 ("ESOS 2018"), formulated by the Company, under which the Company may grant not more than 13,957,302 [Stock Options and Restricted Stock Units('RSU')] to the permanent employees of the Company in management cadre including Managing and the Wholetime Director of the Company and its subsidiary companies in India and abroad, in one or more tranches. The ESOS 2018 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee") and the Hindalco Employees Welfare Trust ("Trust") The Stock options exercise price would be determined by the Committee whereas the RSU exercise price shall be the face value of the equity shares of the Company as at the date of grant of RSUs. Each stock option and each RSU entitles the holders to apply for and be allotted one fully paid-up equity share of Re. 1/- each of the Company upon payment of exercise price during the exercise period. The Options and RSUs Granted under the Scheme 2018 shall vest, subject to compliance with the minimum vesting period of one year, within a period of four years for Options and of three years for RSUs from the Grant Date, in the manner set out in the respective vesting letters to be issued by the Company to the Grantees from time to time. The maximum period of exercise is 5 years from the date of vesting and these stock options/RSUs do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/expired stock options and RSUs are also available for grant. The options shall lapse in case of performance linked vesting conditions are not met.

In terms of ESOS 2018, till 31/03/2023 the Committee has granted 9,465,173 stock options and 2,766,817 RSUs (31/03/2022: 7,062,503 stock options and 1,981,539 RSUs) to the eligible employees of the Company and some of its subsidiary companies. Further, 1,143,828 stock options and RSUs 203,461 (31/03/2022: 1,006,926 stock options and 149,597 RSUs) has been forfeited/ expired and are available for grant as per term of the Scheme. A summary of movement of stock options and RSUs and weighted average exercise price (WAEP) is given below:

	Year ended 31/03/2023				Year ended 31/03/2022			
	Stock Options		RSUs		Stock Options		RSUs	
	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	5,324,888	302.51	1,640,675	1.00	4,277,702	226.06	1,279,318	1.00
Granted during the year	2,402,670	395.45	785,278	1.00	1,872,984	448.89	612,560	1.00
Forfeited during the year	-	-	-	-	17,719	278.05	-	-
Re-instated during the year	(136,902)	384.73	(53,864)	1.00	(155,816)	306.39	(59,936)	1.00
Exercised during the year	(251,593)	232.43	(550,337)	1.00	(687,701)	224.10	(191,267)	1.00
Expired during the year	-	-	-	-	-	-	-	-
Outstanding at year end	7,339,063	333.81	1,821,752	1.00	5,324,888	302.51	1,640,675	1.00
Vested and Exercisable at year end	3,720,192	261.63	640,908	1.00	2,370,953	228.84	966,695	1.00

Under ESOS 2018, the range of exercise prices for stock options outstanding as at 31/03/2023 was ₹ 159.30 to ₹ 453.95 (31/03/2022 was ₹ 159.30 to ₹ 453.95) whereas exercise price in case of RSUs was ₹ 1.00 (31/03/2022: ₹ 1.00) The weighted average remaining contractual life for the stock options and RSUs outstanding as at 31/03/2023 was 5.02 years and 5.90 years, respectively (31/03/2022 was 5.29 years and 5.50 years respectively)

The weighted average share price at the date of exercise of ESOS 2018 was ₹ 416.04 per share (31/03/2022 was ₹ 509.37 per share)

The fair values at grant date of stock options granted during the year ended 31/03/2023 was ₹ 159.32 to ₹ 215.70 (31/03/2022 was ₹ 176.04 to ₹ 220.36) and fair values in case of RSUs was ₹ 350.00 to ₹ 413.12 (31/03/2022 was ₹ 419.15 to ₹ 435.62), respectively. The fair valuation has been carried out by an independent valuer by applying Black and Scholes Model. The inputs to the model include the exercise price, the term of option, the share price at grant date and the expected volatility, expected dividends and the risk free rate of interest for terms of options.

The details of options granted, the key assumptions for Fair Value on the date of grant are as under:

	Year ended 31/03/2023					
	Tranche IX		Tranche X		Tranche XI	
	Stock Option	RSU	Stock Option	RSU	Stock Option	RSU
Grant date	22/07/2022	22/07/2022	11/11/2022	11/11/2022	09/02/2023	09/02/2023
Exercise price (₹)	375.95	1.00	415.10	1.00	436.50	1.00
Expected terms of options granted (years)	4.43 to 6.43 years	8 years	4.43 to 6.43 years	8 years	4.43 to 6.43 years	8 years
Share price on grant date (₹)	381.25	381.25	429.85	429.85	444.55	444.55
Expected volatility (%)	42.23%	42.23%	41.51%	41.51%	38.93%	38.93%
Expected dividend (%)	1.05%	1.05%	0.93%	0.93%	0.90%	0.90%
Risk free interest rate (%)	7.09% - 7.26%	7.23%	7.10% - 7.20%	7.23%	7.21% - 7.28%	7.29%

	Year ended 31/03/2022			
	Tranche VII		Tranche VIII	
	Stock Option	RSU	Stock Option	RSU
Grant date	06/08/2021	06/08/2021	12/11/2021	12/11/2021
Exercise price (₹)	443.25	1.00	453.95	1.00
Expected terms of options granted (years)	4.43-6.43 yrs	6-8 years	4.43-6.43 yrs	6-8 years
Share price on grant date (₹)	443.10	443.10	453.95	453.95
Expected volatility (%)	41.10%	41.10%	41.45%	41.45%
Expected dividend (%)	0.68%	0.68%	0.66%	0.66%
Risk free interest rate (%)	5.64% - 6.22%	6.12% - 6.54%	5.54% - 6.12%	6.01% - 6.44%

The expected volatility was determined based on the historical share price volatility over the past period depending on life of the options granted which is indicative of future periods and which may not necessarily be the actual outcome.

(iv) **Stock Appreciation Rights 2018 ('SAR 2018'):**

The Company till 31/03/2023, has granted 196,064 Option SAR and 57,150 RSU SAR (31/03/2022: 156,694 Option SAR and 50,665 RSU SAR) under the Share Appreciation Rights Scheme 2018 ("SAR 2018") to its eligible employees. Option SAR to be vested in 4 equal annual instalments after completion of one year of the service from the date of grant and RSU SAR will vest upon completion of three years of services from the date of grant. The SAR 2018 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee") The SAR 2018 have performance linked vesting conditions which are decided by the committee and are cash settled. The options shall lapse in case of performance linked vesting conditions are not met.

A Summary of movement of SAR 2018 and weighted average exercise price (WAEP) is given below:

	Year ended 31/03/2023				Year ended 31/03/2022			
	Option SAR		RSU SAR		Option SAR		RSU SAR	
	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	97,927	236.82	29,996	1.00	76,652	215.00	20,514	1.00
Granted during the year	39,370	351.58	6,485	-	60,879	255.50	30,151	1.00
Forfeited during the year	-	-	-	-	-	-	-	-
Exercised during the year	(16,853)	262.78	(5,745)	1.00	(39,604)	223.29	(20,669)	1.00
Expired during the year	-	-	-	-	-	-	-	-
Outstanding at year end	120,444	270.70	30,736	1.00	97,927	236.82	29,996	1.00
Vested and Exercisable at year end	80,141	228.09	22,836	-	47,115	218.80	13,565	-

The range of exercise price of the Option SAR is ₹ 159.30 to ₹ 443.25 and RSU SAR is ₹ 1 (31/03/2022 : Option SAR is ₹ 159.30 to ₹ 443.25 and RSU SAR is ₹ 1) The fair values per Option SAR as at 31/03/2023 was ₹ 102.54 to ₹ 274.24 (31/03/2022 ₹ 248.38 to ₹ 440.84) and for RSU SAR as at 31/03/2023 was ₹ 384.00 to ₹ 397.73 (31/03/2022 ₹ 552.96 to ₹ 560.60) The fair value has been carried out by an independent valuer by applying Black and Scholes Model. The inputs to the model include the exercise price, the term of option, the share price at grant date and the expected volatility, expected dividends and the risk free rate of interest. The assumptions used for fair valuation for Option SAR and RSU SAR are given below:

	Year ended 31/03/2023		Year ended 31/03/2022	
	Option SARs	RSU SARs	Option SARs	RSU SARs
Valuation Date	31/03/2023	31/03/2023	31/03/2022	31/03/2022
Exercise price (₹)	159.30 - 443.25	1.00	159.30 - 443.25	1.00
Expected volatility (%)	39.50%	39.50%	40.05%	40.05%
Expected dividend (%)	0.99%	0.99%	0.53%	0.53%
Risk Free interest rate (%)	7.04% - 7.14%	7.04% - 7.14%	5.26% - 6.30%	5.26% - 6.30%

The weighted average remaining contractual life for the Option SAR as at 31/03/2023 is 1.70 to 5.31 years (31/03/2022: 2.70 to 5.35 years) and RSU SAR as at 31/03/2023 is 1.70 to 5.31 years (31/03/2022: 2.70 to 5.35 years)

The total intrinsic value at the end of the year of the vested Option SAR and RSU SAR is ₹ 2.86 Crore (31/03/2022 ₹ 2.42 Crore).The liability for outstanding option of such Option SAR and RSU SAR is of ₹ 3 Crore (31/03/2022: ₹ 4 Crore).

(b) Employee share-based payments schemes at Novelis Inc ("Novelis"), a subsidiary of the Group:

The Novelis' Board of Directors has authorized long term incentive plans (LTIPs), under which Hindalco stock appreciation rights (Hindalco SARs), Novelis stock appreciation rights (Novelis SARs), phantom restricted stock units (Phantom RSUs), and Novelis Performance Units (Novelis PUs) are granted to certain executive officers and key employees.

The Hindalco and Novelis SARs vest at the rate of 33% per year, subject to the achievement of an annual performance target, and expire seven years from their original grant date. The performance criterion for vesting of the Hindalco and Novelis SARs is based on the actual overall Novelis operating EBITDA compared to the target established and approved each fiscal year. The minimum threshold for vesting each year is 75% of each annual target operating EBITDA. Each Hindalco SAR is to be settled in cash based on the difference between the market value of one Hindalco share on the date of grant and the market value on the date of exercise. Each Novelis SAR is to be settled in cash based on the difference between the fair value of one Novelis phantom share on the original date of grant and the fair value of a phantom share on the date of exercise. The amount of cash paid to settle Hindalco and Novelis SARs are limited to three times the target pay out, depending on the plan year. The Hindalco and Novelis SARs do not transfer any shareholder rights of Hindalco or Novelis to a participant. The Hindalco and Novelis SARs are classified as liability awards and are re-measured at each reporting period until the SARs are settled or cancelled. Novelis expenses each fiscal year's SAR tranche(s) over the employee requisite service period, which results in the expense being recorded on an accelerated basis.

The Phantom RSUs are based on Hindalco's stock price. The Phantom RSUs vest either in full three years from the grant date or 33% per year over three years, subject to continued employment with Novelis, but are not subject to performance criteria. Each Phantom RSU is to be settled in cash equal to the market value of one Hindalco share. The pay out on the Phantom RSUs is limited to three times the market value of one Hindalco share measured on the original date of grant. The Phantom RSUs are classified as liability awards and expensed over the employee requisite service period (three years) based on the Hindalco stock price as of each balance sheet date.

In May 2016, the Novelis's board of directors approved the issuance of Novelis PUs which have a fixed USD 100 value per unit and will vest in full three years from the grant date, subject to specific performance criteria compared to the established target. The Novelis PUs awards are not based on the Hindalco or Novelis stock prices and therefore are accounted for in accordance with Ind AS 19 - Employee Benefits.

(i) Hindalco Stock Appreciation Rights (Hindalco SARs)

	Year ended 31/03/2023		Year ended 31/03/2022	
	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	8,285,624	208	13,038,526	158
Granted during the year	2,393,378	411	2,411,503	388
Forfeited during the year	(94,196)	332	(187,780)	177
Exercised during the year	(3,581,435)	155	(6,976,625)	177
Expired during the year	-	-	-	-
Outstanding at year end	7,003,371	303	8,285,624	208
Vested and Exercisable at year end	994,206	316	393,803	164

(ii) Novelis Stock Appreciation Rights (Novelis SARs)

	Year ended 31/03/2023		Year ended 31/03/2022	
	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	3,572	4,868	10,165	6,025
Granted during the year	-	-	-	-
Forfeited during the year	(1,275)	-	(4,933)	7,032
Exercised during the year	(2,297)	-	(1,660)	6,200
Expired during the year	-	-	-	-
Outstanding at year end	-	-	3,572	4,868
Vested and Exercisable at year end	-	-	3,572	4,868

(iii) Phantom Restricted Stock Units (Phantom RSUs)

	Year ended 31/03/2023		Year ended 31/03/2022	
	Number	WAEP (₹)	Number	WAEP (₹)
Outstanding at beginning of the year	5,413,720	-	7,236,419	-
Granted during the year	4,426,815	-	1,787,910	-
Forfeited during the year	(156,546)	-	(266,713)	-
Exercised during the year	(2,802,837)	-	(3,343,896)	-
Expired during the year	-	-	-	-
Outstanding at year end	6,881,152	-	5,413,720	-

(iv) Particulars of share based payment

(a) Carrying amount and intrinsic value of liabilities given below: **(₹ in Crore)**

	Year ended 31/03/2023		Year ended 31/03/2022	
	Total carrying amount at the end of the year for liabilities	Total intrinsic value at the end of the year of liabilities (vested portion)	Total carrying amount at the end of the year for liabilities	Total intrinsic value at the end of the year of liabilities (vested portion)
Hindalco SAR	75	9	113	18
Novelis SAR	-	-	1	1
Phantom RSU	152	-	176	-
	227	9	290	19

(b) Number of options exercised and the weighted average exercise price given below: **(₹ in Crore)**

	Year ended 31/03/2023		Year ended 31/03/2022	
	Number of options exercised	Weighted average exercise price	Number of options exercised	Weighted average exercise price
Hindalco SAR (price in ₹)	3,581,435	155	6,976,625	177
Novelis SAR (price in ₹)	2,297	-	1,660	6,200
Phantom RSU (price in ₹)	2,802,837	-	3,343,896	-

(c) Unrecognised compensation expense **(₹ in Crore)**

	Year ended 31/03/2023		Year ended 31/03/2022	
	(₹ in Crore)	Period over which expense will be recognised (in years)	(₹ in Crore)	Period over which expense will be recognised (in years)
Hindalco SAR	21	2	41	2
Novelis SAR	-	-	-	-
Phantom RSU	126	2	73	2

(d) Inputs to the model used to determine fair value are as under: **(₹ in Crore)**

	Year ended 31/03/2023		Year ended 31/03/2022	
	Hindalco SAR	Novelis SAR	Hindalco SAR	Novelis SAR
Risk free interest rate (%)	3.11% - 7.24%	0.00%	3.59% - 6.58%	0.23% -0.23%
Dividend yield (%)	1.03%	0.00%	0.48%	0.00%
Volatility (%)	31.94% - 46.82%	0.00%	39.49% - 49.69%	28.96% - 28.96%
Source of historical volatility	Hindalco historical volatility	Comparable companies	Hindalco historical volatility	Comparable companies
Model used	Monte Carlo Simulation Model	Monte Carlo Simulation Model	Monte Carlo Simulation Model	Monte Carlo Simulation Model

The weighted average remaining contractual life as at Year ended 31/03/2023 for the Hindalco SAR is 5 years (31/03/2022: 5 years) and Novelis SAR is less than one year (31/03/2022: less than one year)

(c) Effect of employee share-based payment transactions on profit or loss for the year and on financial position:

For the year ended Year ended 31/03/2023, the Group recognised expenses of ₹ 48 Crore (31/03/2022: expenses of ₹ 35 Crore) related to equity-settled share based transactions, whereas ₹ 101 Crore as expenses (31/03/2022: expenses ₹ 307 Crore) towards cash-settled share based transactions accounted for as part of Employee Benefits Expenses, Refer Note 33.

During the year ended Year ended 31/03/2023, the Group has allotted 21861 fully paid-up equity share of ₹ 1/- each of the Company (31/03/2022: 488477) on exercise of equity settled options for which the Group has realised ₹ Nil (31/03/2022: ₹ 6 Crore) as exercise prices.

The Group has also allotted 801,930 (31/03/2022: 878,968) fully paid-up equity share of ₹ 1/- each of the Company through its ESOP trust on exercise of equity settled options for which the Group has realised ₹ 6 Crore (31/03/2022: ₹ 15 Crore) as exercise prices.

26. Contract Liabilities

Refer Note 1B(Y) for accounting policy on Contract Liability

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Non-Current	Current	Total	Non-Current	Current	Total
Advance from Customers	-	340	340	10	365	375
	-	**340**	**340**	**10**	**365**	**375**

(a) Reconciliation of contract liabilities for the periods presented:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Balance at beginning of the year	**375**	**359**
Amount received during the year against which revenue has not been recognized	239	193
Revenue recognized during the year		
Contract liabilities at the beginning of the year	(286)	(182)
Foreign exchange gains and losses	12	5
Balance at end of the year	**340**	**375**

27. Other Non-Current and Current Liabilities

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Customer Refund Liability - (a)	-	280	-	205
Statutory Dues Payables	64	1,076	88	1,381
Deferred Income - (b)	1,718	250	1,769	229
Other Payables	32	87	31	58
	1,814	1,693	1,888	1,873

(a) Customer refund liability are recognised mainly for discount payable to customers.

(b) Deferred income mainly consist of:

(i) Grant related to Export Promotion Capital Goods (EPCG) of ₹ 574 Crore (31/03/2022: ₹ 600 Crore) in non- current portion and ₹ 26 Crore (31/03/2022: ₹ 20 Crore) in current portion.

(ii) Government grant of ₹ 1050 Crore (31/03/2022: ₹ 1,169 Crore) in non-current portion and ₹ 224 Crore (31/03/2022: ₹ 209 Crore) in current portion.

(iii) Grant related to Manufacture and Other Operations in Warehouse Regulations (MOOWR) of ₹ 80 Crore (31/03/2022: ₹ Nil Crore) in non-current portion.

28. Revenue from Operations

Refer Note 1B(T) for accounting policy on Government Grants
Refer Note 1B(X) for accounting policy on Revenue Recognition

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Revenue from Contract with Customers		
Sale of Products - (b)	217,760	191,446
Trade Sales - (c)	2,300	1,177
Sale of Services - (d)	1,877	1,265
Total revenue from contract with customers	**221,937**	**193,888**
Other Operating Revenues - (b), (e)	1,265	1,171
Total revenue from operations	**223,202**	**195,059**

(a) Reconciliation of revenue recognised with contract price:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Contract Price	**221,485**	**202,754**
Adjustments for:	239	193
Refund Liabilities and Discounts	**(808)**	**(1,527)**
Hedging Gain/ (Loss)	1,157	(7,219)
Others - Provisionally priced contracts	103	(120)
Revenue from Contracts with Customers	**221,937**	**193,888**

(b) Sales of Copper products and precious metals are accounted for provisionally, pending finalization of price and quantity. Variations are accounted for in the period of settlement. Final price receivable on sale of above products for which provisional price was not finalized are realigned at year end forward LME/LMBA rate and is being presented as part of other operating revenue. Revenue from subsequent variation in price movement is gain of ₹ 12 Crore (31/03/2022: loss of ₹ 24 Crore)

(c) Includes nutrient based subsidy of Phosphorus (P) & Potassium (K) arising from sale of Di ammonium phosphate (DAP) ₹ 1292 Crore (31/03/2022: ₹ 441 Crore)

(d) Sale of Services predominantly includes freight and insurance on certain export contracts, which are identified as separate performance obligation under Ind AS 115.

(e) Includes Government grant in the nature of sales related export incentives and other benefits of ₹ 423 Crore (31/03/2022: ₹ 414 Crore)

(f) Group's revenue from external customers as analysed by the country, in which customers are located is given below:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
India	**59,190**	**46,139**
Outside India		
United States	56,946	46,623
Brazil	20,081	18,347
Korea	10,908	12,418
United Kingdom	5,720	7,305
Germany	10,275	6,060
China	5,713	10,631
Others	53,946	47,122
Total Revenue from Customers	**222,779**	**194,645**
Add: Export Incentive and other benefits	423	414
Total Revenue from Operations	**223,202**	**195,059**

(g) Applying the practical expedient as given in Ind AS 115, the Group has not disclosed the remaining performance obligations related disclosures for contracts where revenue recognized corresponds directly with value to the customer of the Group's performance completed to date.

(h) Refer Note 45 for details of balances with related parties.

29. Other Income

Refer Note 1B(P) for accounting policy on Financial Instruments
Refer Note 1B(T) for accounting policy on Government Grants
Refer Note 1B(Z) for accounting policy on Dividend and Interest Income

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Interest Income		
On Non-Current Investments	20	20
On Current Investments	14	16
On Others	525	189
Dividend Income		
On Non-Current Investments - (a)	34	32
Rent Income	9	9
Income from Government Grants - (b)	251	275
Gains/ (Loss) on Property, Plant and Equipment and Intangibles Assets sold/ discarded (Net)	(41)	(100)
Gains/(Loss) on Investments Measured at FVTPL (Net)		
On sale of Financial Assets	205	349
On change of Fair Value of Financial Assets	(3)	10
Other Non-Operating Income (Net) - (c), (d)	243	336
	1,257	**1,136**

(a) Dividends from equity investments designated at FVTOCI relate to investments held at the end of the reporting period. Dividend income of ₹ Nil (31/03/2022: ₹ 1 Crore) relating to investment de-recognised during the reporting period.

(b) Grant income includes carbon emission credit allotments of ₹ 230 Crore (31/03/2022: ₹ 255 Crore) for certain operations in Europe, UK and Asia, and income associated with fixed assets investments in North America, South America, Europe and Asia of Group's subsidiary, Novelis Inc. There are no unfulfilled conditions or other contingencies attached to these grants.

(c) Includes gain on repayment and modification of borrowings ₹ 48 Crore (31/03/2022: ₹ 183 Crore) resulting from change in rate and timing of expected cash flows payments on term loans.

(d) Includes royalty income of ₹ Nil Crore (31/03/2022: ₹ 7 Crore)

(e) Refer Note 45 for details of balances with related parties.

30. Cost of Materials Consumed

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Copper Concentrate - (a)	30,062	26,677
Aluminium	93,756	86,363
Bauxite	739	668
Caustic Soda	1,356	791
Calcined Petroleum Coke	3,624	2,081
Copper Anode	1,302	2,741
Copper Cathodes	1,672	3,941
Pitch	1,060	703
Others	2,405	1,370
	135,976	**125,335**

(a) Purchase of copper concentrate is accounted for provisionally pending finalization of contents in the concentrate and price. Variations are accounted for in the period of settlement. Final price payable on purchase of copper concentrate for which provisional price and quantity were not finalized during the year are realigned based on forward LME and LBMA rate. Impact on cost from subsequent variation in price movement was loss of ₹ 405 Crore (31/03/2022: loss of ₹ 484 Crore), Refer Note 9(g).

31. Trade Purchases

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Aluminum Rolled Product	474	256
Fertilizer	1,073	1,530
Others	6	172
	1,553	**1,958**

32. Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade

(₹ in Crore)

	Opening Inventories		Closing Inventories		Net Change	
	As at		As at		Year ended	
	01/04/2022	01/04/2021	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Work-in-Progress	20,434	13,439	18,835	20,434	1,599	(6,995)
Finished Goods	7,180	4,869	7,741	7,180	(561)	(2,311)
Stock-in-Trade	884	4	20	884	864	(880)
	28,498	**18,312**	**26,596**	**28,498**	**1,902**	**(10,186)**
Inventories acquired in business combination	-	-	-	-	-	9
Inventories on disposal of a subsidiary	-	-	-	-	-	(77)
Currency Translation Adjustment (Net)	-	-	-	-	1,339	501
	28,498	**18,312**	**26,596**	**28,498**	**3,241**	**(9,753)**

33. Employee Benefits Expense

Refer Note 1B(U) for accounting policy on Employee Benefits
Refer Note 1B(V) for accounting policy on Employee Share-based Payments

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Salaries and Wages	9,845	9,073
Post Employment Benefits, Refer Note 25(A)		
Defined Benefit Plans	552	478
Defined Contribution Plans	434	349
Employee Share-Based Payment, Refer Note 25(B)		
Equity Settled Share-Based Payment	48	35
Cash Settled Share-Based Payment	101	307
Employee Welfare Expenses	2,207	1,841
	13,187	12,083
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	(124)	(60)
	13,063	**12,023**

(a) The Code on Social Security, 2020 ('Code') relating to employee benefits during employment and post employment benefits received Presidential assent in September 2020. The Code has been published in the Gazette of India. However, the date on which the Code will come into effect has not been notified. The Group will assess the impact of the Code when it comes into effect and will record any related impact in the period the Code becomes effective.

(b) The Hon'ble Supreme Court of India by their order dated February 28, 2019, in the case of Surya Roshani Limited v/s EPFO, set out the principles based on which allowances paid to the employees should be identified for inclusion in basic wages for the purposes of computation of Provident Fund contribution. The Group has given effect of the above judgement effective March 1, 2019. This does not have any material impact on the Consolidated Financial Statements.

34. Power and Fuel

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Power and Fuel Expenses	17,351	11,148
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	(5)	(2)
	17,346	**11,146**

35. Finance Cost

Refer Note 1B(L) for accounting policy on Leases
Refer Note 1B(S) for accounting policy on Borrowing Cost

(₹ in Crore)

	Year ended	
	Year ended	31/03/2022
Interest Expenses on Financial Liabilities not at FVTPL - (a), (b)	3,618	3,352
Interest Expense for Lease Arrangements	89	56
(Gain)/ Loss on Foreign Currency Borrowings (Net)	-	5
Loss on Modification and Extinguishment of Debt - (c)	-	477
Other Borrowing Costs - (d)	44	65
	3,751	3,955
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development - (e)	(105)	(187)
	3,646	**3,768**

(a) Includes ₹ 3 Crore (31/03/2022: ₹ 11 Crore) paid to Income Tax Department.

(b) Includes difference between effective interest rate and contracted interest rate of ₹ 59 Crore (31/03/2022: ₹ 76 Crore) mainly from amortisation of debt issuance cost.

(c) Loss on modification and extinguishment of debt for the year ended 31/03/2022 is primarily related to refinancing of Senior notes 2026 in August 2021 and prepayment of 2017 Term loan, Refer Note 20A for further details.

(d) Mainly includes unwinding of discount on Enterprise Social Commitment and Asset Retirement Obligations, Refer Note 24 for further details.

(e) The capitalisation rate used to determine the amount of borrowing costs capitalised across the Group ranges between 4.46% to 6.61% (31/03/2022: 2.77% to 6.32%). During the year ended Mar 31, 2023 ₹ 105 Crore and ₹ Nil (31/03/2022: ₹ 179 Crore and ₹ 8 Crore) were transferred to Capital Work-in-Progress and Intangible Assets under development respectively.

36. Depreciation and Amortisation Expense

Refer Note 1B(C) for accounting policy on Property, Plant and Equipment
Refer Note 1B(D) for accounting policy on Investment Properties
Refer Note 1B(E) for accounting policy on Intangible Assets (Other than Goodwill)
Refer Note 1B(G) for accounting policy on Stripping Cost
Refer Note 1B(L) for accounting policy on Leases

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Depreciation on Property, Plant and Equipment, Refer Note 2A	5,853	5,515
Depreciation on Right of Use Assets, Refer Note 3A	359	345
Depreciation on Investment Properties, Refer Note 4	1	1
Amortisation on Intangible Assets, Refer Note 6A	873	872
	7,086	**6,733**
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	-	(4)
	7,086	**6,729**

37. Impairment Loss/ (Reversal) of Non-Current Assets (Net)

Refer Note 1B(I) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Impairment Loss/ (Reversal) on Property, Plant and Equipment - (a), (f)	139	77
Impairment Loss/ (Reversal) on Capital Work-in-Progress (CWIP) - (b), (d)	65	19
Impairment Loss/ (Reversal) on Right of Use assets - (g)	16	-
Impairment Loss/ (Reversal) on Assets/ Disposal Group Held for Sale - (c), (e)	(12)	59
	208	155

(a) During year ended 31/03/2022, the Group evaluated operational performance along with current environmental norms of its Di Ammonium Phosphate (DAP) Plant and decided to decommission the same. As a result, the Group recognized impairment in respect of existing DAP plant amounting to ₹ 77 Crore.

(b) During year ended 31/03/2022, the Group impaired certain mining assets of ₹ 19 Crore which was underutilized due to various reasons such as environmental clearances etc.

(c) In December 2021, the Group decided to sell its entire equity interest in its wholly owned Brazilian subsidiary, Hindalco Do Brasil Industria e Comercio de Alumina Ltda ('Hindalco Do Brazil') and assets and liabilities of the same were classified as 'Disposal Group Held for Sale'. Accordingly the Group recognized an impairment loss of ₹ 59 Crore ($8 million) on the net assets of Hindalco Do Brazil, Refer Note 54(A)

(d) During year ended 31/03/2023, the Group has impaired certain Plant and Equipments construction of which was suspended due to various environment and safety reasons amounting to ₹ 65 Crore.

(e) During year ened 31/03/2023, the Group has reversed the impairment loss on certain equipments and accessories classified as asset held for sale that were impaired earlier on determination of its realizable value (Net of cost to sales) amounting to ₹ 12 Crore, Refer Note 17A.

(f) During year ened 31/03/2023, the Group has partially closed Richmond plant due to it's operational issues. Due to significant reductions in demand driven by looming recession and other macro reasons, the Group has impaired it's Property, Plant and Equipment amounting to ₹ 139 Crore ($17.3 million), Refer Note 2A.

(g) During year ened 31/03/2023, the Group has partially subleased one of it's Corporate office and assessed for impairment with reliable estimates of sublease cash flows. Impairment was accounted due to this sublease transaction amounting to ₹ 16 Crore, Refer Note 3A.

38. Impairment Loss/ (Reversal) on Financial Assets (Net)

Refer Note 1B(P) for accounting policy on Financial Instruments

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Provision for Doubtful Debts, Loans and Other Financial Assets / (written back) (Net)	11	10
Bad Debts Loans and Other Financial Assets/ (written back) (Net)	-	145
	11	155

39. Other Expenses

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Consumption of Stores and Spares	5,091	4,467
Repairs to Buildings	391	352
Repairs to Machinery	3,371	2,884
Rates and Taxes	241	228
Leases Expenses - (a)	461	307
Insurance Charges	425	392
Payments to Auditors	80	68
Research and Development	796	716
Freight and Forwarding Expenses (Net) - (b)	7,915	6,636
Donation - (c)	36	15
Non Executive Directors' Fees and Commission	14	17
(Gain)/ Loss on Assets held for Sale	5	-
(Gain)/ Loss on Change in Fair Value of Derivatives (Net)	508	1,796
(Gain) /Loss on Foreign Currency Transactions and Translation (Net)	219	21
Miscellaneous Expenses - (d)	9,616	7,825
	29,169	25,724
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	(31)	(31)
	29,138	25,693

(a) Details of lease expenses not included in the measurement of lease liabilities:

Short Term Leases	277	161
Variable Lease Payments	167	129
Leases of Low Value Assets	17	17
	461	307

(b) Freight and forwarding expenses are net of freight subsidy of ₹ 29 Crore (31/03/2022: ₹ 10 Crore) received on sale of DAP.

(c) Donation includes ₹ Nil Crore (31/03/2022: ₹ 10 Crore) paid to AB General Electoral Trust towards political donation.

(d) Miscellaneous expenses include ₹ Nil Crore (31/03/2022: ₹ 0.10 Crore) paid to a firm of solicitors in which one of the Director of the Company is a partner.

40. Exceptional Income/ (Expenses) (Net)

Refer Note 1B(AB) for accounting policy on Exceptional Items

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Exceptional Income - (a)	41	841
Exceptional Expenses - (b)	-	(259)
	41	582

Details of Exceptional Income/ (Expenses) are given below:

(₹ in Crore)

		Year ended 31/03/2023	Year ended 31/03/2022
(a)	**Exceptional Income:**		
(i)	Reversal of provision made during the previous year towards Cross Subsidy Surcharge (CSS) and Additional Surcharge (ASC) related to FY 2017-18 and FY 2018-19. This reversal was affected pursuant to the undertaking given by MSEDCL (Maharashtra State Electricity Distribution Co. Ltd.) to Maharashtra Electricity Regulatory Commission (MERC) on July 29, 2022, to refund CSS and commencement of ASC refund.	41	-
(ii)	Recognition of benefit received as a result of multiple favourable rulings from the Brazilian Supreme Court that recognized the right to exclude certain taxes related to Program for Social Integration (PIS) And Contribution for the Financing of Social Security (COFINS) on gross methodology for the years 2009 to 2017, net of litigation cost. (Principal ₹ 367 Crore ($ 50 million); Interest ₹ 241 Crore ($ 33 million); Litigation cost ₹ (9) Crore ($ 1 million))	-	599
(iii)	Gain of sale of controlling interest (90% equity ownership) in Saras Micro Devices, Inc. by the Group, Refer Note 54(B)	-	112
(iv)	Recognition of benefit received as a result of favourable rulings regarding tax rebates for sales to Manaus, Brazilian Free Trade Zone (Reintegra) (Principal ₹ 60 Crore ($ 8 million); Interest ₹ 25 Crore ($ 4 million))	-	85
(v)	Reversal of Employee severance cost pursuant to restructuring program in a manufacturing unit in Novelis, Germany.	-	45
		41	**841**
(b)	**Exceptional Expenses:**		
(i)	Loss on sale of a wholly owned subsidiary, 'Hindalco do Brasil', Refer Note 54(A)	-	(152)
(ii)	Pursuant to the notification by Ministry of Environment, Forest and Climate Change (MoEFCC), the Group has recognised a provision for expected cost of disposal of legacy ash lying in ash dykes/ponds as at December 31, 2021. The above provision is estimated based on the plan for disposal of ash and stabilisation of ash dykes/ponds (subject to approval of Pollution Control Board) considering feasibility of extraction of ash from ash dykes/ponds.	-	(107)
		-	**(259)**

41. Other Comprehensive Income/ (Loss)

The disaggregation of changes to other comprehensive income (OCI) by each class is given below:

(₹ in Crore)

		Year ended 31/03/2023			Year ended 31/03/2022		
		Gross	Tax	Net	Gross	Tax	Net
(i)	**Items that will not be reclassified to Statement of Profit and Loss**						
	Remeasurement of Defined Benefit Obligation, Refer Note 25A	969	(269)	700	1,172	(289)	883
	Change in Fair Value of Equity Instruments Designated as FVTOCI	(494)	70	(424)	1,211	(248)	963
		475	**(199)**	**276**	**2,383**	**(537)**	**1,846**
(ii)	**Items that will be reclassified to Statement of Profit and Loss**						
	Change in Fair Value of Debt Instruments Designated as FVTOCI	(13)	4	(9)	(9)	3	(6)
	Effective Portion of Cash Flow Hedges	7,773	(2,326)	5,447	(4,867)	1,403	(3,464)
	Cost of Hedging Reserve	64	(22)	42	(75)	26	(49)
	Foreign Currency Translation Reserve	1,704	-	1,704	525	-	525
		9,528	**(2,344)**	**7,184**	**(4,426)**	**1,432**	**(2,994)**
	Other Comprehensive Income/ (Loss) for the year	**10,003**	**(2,543)**	**7,460**	**(2,043)**	**895**	**(1,148)**

42. Earnings Per Share (EPS)

Refer Note 1B(AC) for accounting policy on Earnings Per Share

(₹ in Crore)

	Year ended 31/03/2023	Year ended 31/03/2022
Profit/ (Loss) for the year from Continuing Operations		
As per Consolidated Statement of Profit and Loss	10,097	14,201
Less: Non-Controlling Interests in Profit/ (Loss)	-	-
Profit/ (Loss) from Continuing Operations attributable to Owners of the Company	10,097	14,201
Profit/ (Loss) for the year from Discontinued Operations		
As per Consolidated Statement of Profit and Loss	-	(471)
Less: Non-Controlling Interests in Profit/ (Loss)	-	-
Profit/ (Loss) from Discontinued Operations attributable to Owners of the Company	-	(471)
Profit/ (Loss) attributable to Owners of the Company from Continuing and Discontinued Operations	**10,097**	**13,730**
Weighted average numbers of equity shares for calculation of EPS:		
Weighted average numbers of equity shares for Basic EPS	2,222,884,407	2,224,071,351
Dilutive impact of Employee Stock Options Scheme	2,922,977	2,968,669
Weighted average numbers of equity shares for Diluted EPS	2,225,807,384	2,227,040,020
Face value per Equity Share (₹)	1.00	1.00
Earnings Per Share		
Basic - Continuing Operations (₹)	45.42	63.85
Diluted - Continuing Operations (₹)	45.36	63.77
Basic - Discontinued Operations (₹)	-	(2.12)
Diluted - Discontinued Operations (₹)	-	(2.12)
Basic - Continuing and Discontinued Operations (₹)	45.42	61.73
Diluted - Continuing and Discontinued Operations (₹)	45.36	61.65

Stock options granted to the employees under various ESOP schemes are considered to be potential equity shares. They have been included in the determination of diluted earnings per share to the extent to which they are dilutive. 833,136 shares (31/03/2022: 538,978 shares) options granted under Employee Stock option scheme but were not included in the calculation of diluted earnings per share because they are antidilutive for the period. Options can potentially dilute basic earnings per share in the future depending on future share price of the Company. The stock options have not been included in the determination of basic earnings per share. The details relating to stock options are under Note 25B.

43. Gare Palma IV/4 (GP-4), Gare Palma IV/5 (GP-5) and Kathautia coal mines were acquired by the Company through auction conducted by the Nominated Authority (NA) constituted under the Ministry of Coal, Government of India. The Company was required to achieve certain efficiency parameters and reach their Peak Rated Capacity (PRC) during FY 2015-16. Performance security in the form of Performance Bank Guarantees (PBG) of ₹ 318 crore (for GP-4), ₹ 369 crore (for GP-5) and ₹ 267 crore (for Kathautia) were provided by the Company to NA in this regard.

Due to the various delays on the part of Government Authorities, PRC was achieved by the Company for GP-4 and GP-5 during FY 2016-17 and for Kathautia during FY 2017-18. Having satisfied itself about achievement of efficiency parameters/

PRC, NA returned the PBG in respect of GP-4 on June 19, 2017. However, in a volte face action, vide a letter dated 25th April, 2018, NA imposed a penalty equal to 20% of PBG amounting to ₹ 64 crore for GP-4, ₹ 74 crore for GP-5 and ₹ 118 crore for Kathautia (Refer note - 12(c)). As the PBG for GP-5 is still with NA, it also appropriated an amount equal to the penalty from the PBG of the GP-5 mines. For Kathautia Coal Mine only appropriated amount of ₹ 118 crore is with NA. In terms of agreement, we have not renewed the PBG for remaining amount.

The above actions were contested by the Company. The Hon'ble Chhattisgarh High Court at Bilaspur has already given its judgment in favour of the Company in the matter related to GP-5. As per the judgment, Hon'ble High Court has asked NA to refund the amount appropriated by them and return the PBG to the Company. The NA has filed an appeal before the Hon'ble Supreme Court. The Company's appeal to quash the demand raised by NA in case of GP-4 and Kathautia is yet to be decided and is pending before the Mines Tribunal at Bilaspur and Ranchi respectively.

44. Segment Information:

Refer Note 1B(AA) for accounting policy on Segment Reporting

The Group is primarily engaged in the business of manufacture and distribution of aulminium, copper and its products across the globe. Based on the information reviewed by the Group's Chief Operating Decision Maker ("CODM"), the Group has determined four reporting segments, namely (1) Novelis; (2) Aluminium Upstream; (3) Aluminium Upstream; and (4) Copper. The CODM, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the Company's Board of Directors.

(1) **Novelis Segment**: This segment represents Novelis Inc, a wholly owned foreign subsidiary of the Company and it's step down subsidiaries engaged in producing and selling aluminium sheet and light gauge products and operating in four continents viz. North America, South America, Europe, and Asia. This is identified as a separate segment based on its geographical area and regulatory environment.

(2) **Aluminium Upstream Segment**: This segment represents Aluminium Upstream business namely Bauxite & Coal Mining, Alumina Specials, Refineries, Metal and Power. This is identified as separate segment based on its nature of products and different risks and returns.

(3) **Aluminium Downstream Segment**: This segment represents aluminium downstream business of the Group which include Aluminium value-added products e.g., Flat Rolled Products, Extrusion, Foils. This is identified as separate segment based on its nature of products and different risks and returns.

(4) **Copper Segment:** This segment represents copper business of the Group e.g. Copper Cathode, Copper Rods, Precious metals and Di-ammonium phosphate (DAP) This is identified as separate segment based on its nature of products and different risks and returns.

Last year, there were four reporting segments, namely (1) Novelis; (2) Aluminium; (3) Copper; and (4) All Other Segments, reported by the Group. During the year, in line with the changes in the internal structure for reporting financial information to the entity's CODM, the Aluminium segment has been segregated into "Aluminium Upstream" and "Aluminium Downstream". Further, from this year the Group has also discontinued "All Other segment" since a subsidiary which was primarily used to represent this segment was disposed of by the Group in March 2022. The corresponding segment information of previous year has been restated accordingly.

The CODM primarily uses a measure of adjusted earnings from continuing operations before interest, tax and depreciation and amortization excluding certain items of income amd expenses (Adjusted EBITDA) The CODM also receives information about the segment's revenue, assets and liabilities on a regular basis. The information of Group's reportable segments is given below:

(A) Adjusted EBITDA:

For Aluminium Upstream, Aluminium Downstream and Copper segment, Adjusted EBITDA is the earnings from Continuing Operations before (a) finance cost, (b) tax, (c) depreciation and amortization, (d) impairment of non-current assets, (e) exceptional items, (f) investment income, (g) fair value gains/ (losses) on financial assets, (h) share in profit/ (loss) in equity accounted investments, (i) metal price lag (the base metal price movement between the procurement at transfer price from the Aluminium Upstream segment and sale price of the Aluminium Downstream segment), (j) corporate income/ expenses, and (k) certain unallocable income/ expenses) which are not related to the performance of the segment.

For Novelis segment, Adjusted EBITDA is the earnings from Continuing Operations before (a) depreciation and amortization; (b) finance cost - net; (c) interest income; (d) unrealized gains or losses on change in fair value of derivative instruments, net, except for foreign currency remeasurement hedging activities, which are included in Adjusted EBITDA; (e) impairment loss or reversal on non financial assets, net; (f) gain or loss on extinguishment of debt; (g) restructuring costs; (h) profit or loss on plant property and equipment and intangibles sold or discarded, net; (i) other costs/income, net; (j) litigation settlement, net of insurance recoveries; (k) sale transaction fees; (l) cumulative effect of accounting change, net of tax; (m) metal price lag; (n) exceptional income or cost; (o) business acquisition and other integration related costs; (p) purchase price accounting adjustments; and (q) gains or losses from discontinued operations, net of tax; (r) tax expenses/ (benefits), which is in line with the segment information for Novelis that has been reported in accordance with its US GAAP financial information filed with the Securities Exchange Commission of the United States of America. Recognition and measurement differences between US GAAP and Ind AS accounting policies have been separately presented as part of reconciliation in the segment information. Gains and losses on metal derivative contracts are not recognized in "Adjusted EBITDA" until realized.

(a) Adjusted EBITDA are as follows:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Novelis	14,543	15,229
Aluminium Upstream	8,402	12,496
Aluminium Downstream	627	382
Copper	2,253	1,390
Total Adjusted EBIDTA	**25,825**	**29,497**

(b) Reconciliation of Adjusted EBITDA to Profit/ (Loss) before Tax from Continuing and Discontinued Operations are as follows:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Total Adjusted EBIDTA	25,825	29,497
Finance Cost	(3,646)	(3,768)
Depreciation and Amortization Expense	(7,086)	(6,729)
Impairment (Loss)/ Reversal of Non-current Assets (Net)	(208)	(155)
Share in Profit/ (Loss) in Equity Accounted Investments (Net of Tax)	9	6
Exceptional Income / (Expenses) (Net) *	41	164
Interest Income	460	146
Dividend Income	34	32

(₹ in Crore)

	Year ended 31/03/2023	31/03/2022
Gains/ (losses) on Financial Investments Measured at FVTPL (Net)	202	359
Adjustment on account of different accounting policies for Novelis Segment	103	323
Inter-segment Profit/ (Loss) Elimination (Net)	414	(264)
Other Unallocated Income/ (Expenses) (Net)	(2,907)	(37)
Profit/ (Loss) before Tax from Continuing Operations	13,241	19,574
Profit/ (Loss) before Tax from Discontinued Operations	-	(464)
Profit/ (Loss) before Tax from Continuing and Discontinued Operations	13,241	19,110

* Exceptional Income / (Expenses) for the year ended 31/03/2022, exclude ₹ 418 Crore which represents the principal portion of (a) PIS/ COFINS related tax credit income in Brazil ₹ 358 Crore (net of litigation cost of ₹ 9 Crore) and (b) tax rebates for sales to Manaus, Brazilian Free Trade Zone ₹ 60 Crore, as it is included in the results of Novelis segment.

(c) Following amount are either included in the measure of segment's Adjusted EBITDA reviewed by the CODM or are regularly provided to the CODM:

(₹ in Crore)

	Year ended 31/03/2023					Year ended 31/03/2022				
	Novelis	Aluminium Upstream	Aluminium Downstream	Copper	Total	Novelis	Aluminium Upstream	Aluminium Downstream	Copper	Total
Interest Income - (i)	-	27	2	70	99	-	22	2	55	79
Depreciation and Amortization Expense - (ii)	4,787	1,833	218	179	7,017	4,581	1,727	188	178	6,674
Impairment Loss/ (Reversal) of Non-Current Assets (Net)-(ii)	155	-	(12)	65	208	-	78	-	77	155

(i) Represents interest income from customers/ security deposits etc. which are included in the measure of segment Adjusted EBITDA.

(ii) Not included in the measure of segment Adjusted EBITDA but provided to the CODM.

(B) Segment Revenue:

For Aluminium Upstream, Aluminium Downstream and Copper segment, the segment revenue is measured in the same way as measured in the Statement of Profit and Loss.

In case of Novelis segment, CODM reviews its financial performance as those are reported under US GAAP, accordingly Novelis segment revenue is measured as the revenue reported under US GAAP financial reporting. The difference between 'Segment Revenue' reported under USGAAP and 'Revenue' reported under Ind AS together with any adjustment item identified between US GAAP and Ind AS is shown as "'Different accounting policies adjustment".

(a) Sales between operating segments are eliminated on consolidation. Segment Revenue and reconciliation of the same with total revenue as follows:

(₹ in Crore)

	Year ended 31/03/2023				Year ended 31/03/2022			
	Segment Revenue	Inter-segment Revenue	Different accounting policies adjustment	Revenue from external customers	Segment Revenue	Inter-segment Revenue	Different accounting policies adjustment	Revenue from external customers
Novelis	148,471	-	(3,839)	144,632	127,747	-	(1,804)	125,943
Aluminium Upstream	33,010	(7,038)	-	25,972	30,844	(8,352)	-	22,492
Aluminium Downstream	11,009	(93)	-	10,916	11,009	(1,083)	-	9,926
Copper	41,702	(20)	-	41,682	36,723	(25)	-	36,698
Total	234,192	(7,151)	(3,839)	223,202	206,323	(9,460)	(1,804)	195,059

(b) Revenue of ₹ 23,632 Crore (31/03/2022: ₹ 22,037 Crore), which is more than 10% of Group's total "Revenue from Operations" are derived from a single external customer. This revenue is attributed to Novelis segment.

(c) The Group is primarily engaged in the Aluminium and the Copper Business. The Group's revenue from operations by nature of business are given below:

(₹ in Crore)

	Year ended 31/03/2023	31/03/2022
Aluminium Business	181,520	158,361
Copper Business	41,682	36,698
	223,202	195,059

(d) The Group's operations are located in India and outside India. The amount of its revenue from external customers analysed by the country in which customers are located irrespective of origin of the goods or services are given below:

(₹ in Crore)

	Year ended 31/03/2023	31/03/2022
India *	59,613	46,553
Outside India	163,589	148,506
	223,202	195,059

* Includes Export Incentive and other benefits, Refer Note 28(f).

(C) Segment Assets:

For Aluminium Upstream, Aluminium Downstream and Copper segment, assets are allocated based on the operations of the segment and the physical location of the asset. However, certain assets like investments, equity accounted investments, loans, assets classified as held for sale, current and deferred tax assets are not considered to be segment assets. Further, corporate administrative assets of an entity having operation which are part of more than one reporting segments are not allocated to individual segments as they are generally managed at corporate levels and are not linked to any specific segment.

For Novelis segment, segment assets of are measured at the amount of total assets of Novelis Inc. as reported under US GAAP financial reporting. The difference between 'Segment Assets' reported under USGAAP and 'Total Assets' reported under Ind AS together with any adjustment items identified between US GAAP and Ind AS is presented as "Adjustment on account of different accounting policies for Novelis Segment" as part of reconciliation.

(a) Segment assets and reconciliation of the same with total assets are as follows:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Novelis	118,015	114,539
Aluminium Upstream	48,277	46,203
Aluminium Downstream	6,405	5,096
Copper	17,892	19,407
Total Segment Assets	**190,589**	**185,245**
Investment Properties	20	21
Investments (Non-Current and Current)	13,948	14,046
Equity Accounted Entities	79	51
Adjustment on account of different accounting policies for Novelis Segment	13,448	12,743
Assets of Discontinued Operations	-	46
Other Corporate Assets	6,733	10,910
Total Assets	224,817	223,062

b) During the year ended March 31, 2023, capital expenditure relating to Novelis, Aluminium Upstream, Aluminium Downstream and Copper segments are ₹ 6313 Crore, ₹ 1746 Crore, ₹ 876 Crore and ₹ 319 Crore, respectively (31/03/2022: ₹ 3321 Crore, ₹ 1092 Crore, ₹ 425 Crore and ₹ 225 Crore, respectively)

(c) Investment in associates and joint ventures accounted for by the equity method are not allocated to any of the reportable segment.

(d) The total of Non-Current assets excluding goodwill, financial assets, equity accounted investments and deferred tax assets analysed by the country in which assets are located are given below.

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
India	44,602	43,540
Outside India - (i)	52,275	45,999
	96,877	89,539

(i) Major geography wise break up of non-current asset located outside India:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
United States	27,158	22,342
Asia and Other Pacific	7,499	7,342
Brazil	7,324	6,714
Canada	410	363
Germany	4,473	4,294
Rest of Europe	5,411	4,944
	52,275	45,999

(D) Segment Liabilities:

For Aluminium Upstream, Aluminium Downstream and Copper segment, liabilities are allocated based on the operations of the segment. Items like borrowings, current and deferred tax liabilities, liabilities associated with disposal group classified as held for sale etc. are not considered to be segment liabilities. Further, corporate administrative liabilities of an entity having operation which are part of more than one reporting segments are not allocated to individual segments as they are generally managed at corporate levels and does not linked to any specific segment.

In case of Novelis segment, segment liabilities are measured at the amount of all the liabilities of Novelis Inc., except borrowings, as reported under US GAAP financial reporting. The difference between 'Segment Liabilities' reported under USGAAP and 'Total Liabilities' reported under Ind AS, together with any adjustment items identified between US GAAP and Ind AS is presented as "Adjustment on account of different accounting policies for Novelis Segment" as part of reconciliation.

(a) Segment liabilities and reconciliation of the same with total liabilities as follows:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Novelis	43,298	53,458
Aluminium Upstream	5,656	8,650
Aluminium Downstream	1,062	756
Copper	13,376	11,541
Total Segment Liabilities	**63,392**	**74,405**
Adjustment on account of different accounting policies for Novelis Segment	1,247	1,454
Liabilities of Discontinued Operations	-	93
Borrowings (Non-Current and Current)	58,335	63,235
Other Corporate Liabilities	7,026	5,673
Total Liabilities	130,000	144,860

45. Related Party Transactions

The Group's related parties principally consist of its associates, joint ventures, other related parties and its key managerial personnel. The Group routinely enters into transactions for sale and purchase of products and rendering and receiving services with these related parties. Transactions and balances between the parent, subsidiaries and fellow subsidiaries and trusts, which are related parties of the Company, have been eliminated on consolidation. List of the related parties required to be given as per Ind AS 24 - Related Party Disclosure, and the details of transactions and balances between the Group and these related parties are as follows:

(a) List of Related Parties with joint control and significant influence:

	Name of the Related Party	Relationship#
1	Aditya Birla Science & Technology Company Pvt. Limited	Associate
2	Aditya Birla Renewables Subsidiary Limited	Associate
3	Aditya Birla Renewables Utkal Limited	Associate
4	Aditya Birla Renewables Solar Limited	Associate
5	France Aluminum Recyclage SPA.	Associate
6	Deutsche Aluminum Verpachung Recycling GMBH	Associate
7	MNH Shakti Limited	Joint Venture
8	Hydromine Global Minerals (GMBH) Limited	Joint Venture

\# For country of incorporation, place of operation and ownership interest, refer Note 51 (D).

(b) Key Managerial Personnel:

	Name of the Related Party	Relationship
1	Mr. Satish Pai - Managing Director	Executive Director
2	Mr. Praveen Maheshwari - Whole time Director & Chief Financial Officer	Executive Director
3	Mr. Kumar Mangalam Birla	Non Executive Director
4	Smt. Rajashree Birla	Non Executive Director
5	Mr. D Bhattacharya (Resigned w.e.f. March 02, 2022)	Non Executive Director
6	Mr. A.K.Agarwala	Non Executive Director
7	Mr. K.N. Bhandari	Non Executive Director
8	Mr. Y.P. Dandiwala	Non Executive Director
9	Mr. Anant Maheshwari	Non Executive Director
10	Ms. Alka Bharucha	Non Executive Director
11	Dr. Vikas Balia	Non Executive Director
12	Mr. Sudhir Mital	Non Executive Director

(c) Other Related Parties with whom there were transactions during the year:

	Name of the Related Party	Relationship
1	Hindalco Employee's Gratuity Fund, Kolkata ^	Post-Employment Benefit Plan
2	Hindalco Employee's Gratuity Fund, Renukoot ^	Post-Employment Benefit Plan
3	Hindalco Employee's Provident Fund Institution, Renukoot ^	Post-Employment Benefit Plan
4	Hindalco Superannuation Scheme, Renukoot ^	Post-Employment Benefit Plan
5	Hindalco Industries Limited Employees' Provident Fund II ^	Post-Employment Benefit Plan
6	Hindalco Industries Limited Senior Management Staff Pension Fund II ^	Post-Employment Benefit Plan
7	Aditya Birla Management Corporation Private Limited @	Other related party in which Director is interested

@ The Company and its subsidiary, Utkal Alumina International Limited, are members of Aditya Birla Management Corporation Private Limited (ABMCPL), a company limited by guarantee formed for the purpose of its members to mutually avail and share common facilities, expertise and other support charged on cost basis.

^ For transactions with funds covered under Post-Employment Benefit Plan please Refer Note 25

(d) The following transactions were carried out with the related parties in the ordinary course of business:**

(₹ in Crore)

	Nature of Transaction with Related Parties	Note	Year ended	
			31/03/2023	31/03/2022
(i)	**Sales of Goods**	28	**2**	**-**
	Aditya Birla Renewables Subsidiary Limited		2	-
(ii)	**Services rendered**	28	**11**	**11**
	Aditya Birla Management Corporation Private Limited		11	11
(iii)	**Interest received**	29	**2**	**2**
	Aditya Birla Science & Technology Company Private Limited		2	2
(iv)	**Purchase of Goods**		**36**	**25**
	Aditya Birla Renewables Subsidiary Limited		13	15
	Aditya Birla Renewables Solar Limited		20	7
	Aditya Birla Renewables Utkal Limited		3	3
(v)	**Services received**		**853**	**619**
	Aditya Birla Science & Technology Company Private Limited		21	17
	Aditya Birla Management Corporation Private Limited		832	602
(vi)	**Investments made**	51D	**17**	**8**
	Aditya Birla Renewables Solar Limited		17	8
(vii)	**Return of Capital**		**-**	**8**
	MNH Shakti Limited		-	8
(viii)	**Deposits, Loans and Advances received back from**	8	**7**	**4**
	Aditya Birla Science & Technology Company Private Limited		7	4
(ix)	**Reimbursement of Expenses from**		**1**	**-**
	Aditya Birla Management Corporation Private Limited		1	-
(x)	**Reimbursement of Expenses to**		**1**	**-**
	Aditya Birla Science & Technology Company Private Limited		1	-

(e) **Outstanding Balances# ****

(₹ in Crore)

	Nature of Transaction/Relationship	Note	As at 31/03/2023	As at 31/03/2022
(i)	**Payables**	22	**103**	**81**
	Aditya Birla Renewables Subsidiary Limited		1	1
	Aditya Birla Renewables Solar Limited		3	-
	Aditya Birla Renewables Utkal Limited		1	1
	Aditya Birla Management Corporation Private Limited		98	79
(ii)	**Loans, Deposits and Advances given**	8, 10	**123**	**142**
	Aditya Birla Science & Technology Company Private Limited		29	36
	Aditya Birla Management Corporation Private Limited		94	106
(iii)	**Receivable against reimbursement**		**1**	**-**
	Aditya Birla Management Corporation Private Limited		1	-

all outstanding balances are unsecured and are payable/ receivables in cash.
** Related parties having transactions / Balances less than ₹ 0.49 Crore are not disclosed above because of rounding off.

(f) **Compensation of Key Managerial Personnel (KMP) of the Company**

(₹ in Crore)

	Nature of Transaction/Relationship	Year ended 31/03/2023	Year ended 31/03/2022
(I)	**Remuneration of Executive Directors - (i) and (ii)**	**46**	**54**
	Short term employment benefit - (iv)	44	52
	Post employment benefits	2	2
(II)	**Remuneration to Non Executive Director**		
	Director Commission and Sitting Fees	**6**	**12**
	Mr. Kumar Mangalam Birla	-	-
	Smt. Rajashree Birla	3	4
	Mr. A.K. Agarwala - (iv)	-	1
	Mr. K.N. Bhandari	1	1
	Mr. Y.P. Dandiwala	1	1
	Ms. Alka Bharucha	-	-
	Dr. Vikas Balia	1	1
	Mr. Sudhir Mital	-	-
	Mr. Anant Maheshwari	-	-
	Mr. D Bhattacharya - (iii), (iv)	-	4

(i) Excludes amortisation of fair value of employee share-based payments under Ind AS 102.

(ii) As the liabilities for defined benefit plans and leave entitlements are provided on actuarial basis for the Company as a whole, the amounts pertaining to Key Management Personnel are not included.

(iii) The Board approved pension of Mr. D. Bhattacharya of ₹ 0.335 Crore per month and other post-employment benefits for his past service when he was the Managing Director of the Company. The present value of the above pension liability determined based on the actuarial valuation is accounted by the Company in the financial statements. Amount charged as expenses in the statement of profit and loss such post-employment benefit amounting to ₹ 3 Crore, included above, and does not include the impact of acturial (gains)/losses recognised in other comprehensive income.

(iv) includes director fees received from the foreign susbsidiary.

46. Contingent Liabilities and Commitments

Refer Note 1B(K) for accounting policy on Provisions and Contingencies

(A) Contingent Liabilities

The Group is party to, and may in the future be involved in, or subject to, disputes, claims and proceedings arising in the ordinary course of our business, including some we assert against others, such as environmental, health and safety, product liability, employee, tax, personal injury and other matters. The Group has established a liability with respect to contingencies for which a loss is probable and estimable. While the ultimate resolution of and liability and costs related to these matters cannot be determined with certainty, the Management does not believe any of these pending actions, individually or in the aggregate, will materially impact our operations or materially affect our financial condition or liquidity.

The evaluation model includes all asserted and unasserted claims that can be reasonably identified including claims relating to our responsibility for compliance with environmental, health and safety laws and regulations in the jurisdictions in which the Group operate or formerly operated. The estimated costs in respect of such reported liabilities are not offset by amounts related to insurance or indemnification arrangements unless otherwise noted.

The amount for which the Group is contingently liable are given below:

(₹ in Crore)

		As at 31/03/2023	As at 31/03/2022
(a)	**Claims against the Group not acknowledged as Debt**		
	Tax Matters - Direct Taxes - (i)	5	5
	Tax Matters - Indirect Taxes - (ii)	1,082	693
	Legal and Other Matters - (iii)	204	224
	(i) Tax Matters - Direct Taxes: The Group has ongoing disputes with direct tax authorities in various tax jurisdictions relating to tax treatment of certain items in the Company and some of its subsidiaries. These mainly include claims disallowed, tax treatment of certain items of income/expense, use of certain tax incentives or allowances, etc. in their tax computation.		
	(ii) Tax Matters - Indirect Taxes: There are pending litigations for various matters relating to customs, excise duty and service tax, VAT across various entities in the Group involving demands, including interest and penalties.		
	(iii) Legal and Other Matters: In addition to above matters certain Group companies are involved in several other legal claims including revenue matters, environmental matters, civil and Labour matters.		
	It is not practicable for the Group to estimate the timing of cash outflows, if any, in respect of the above matters, pending resolution of the respective proceedings.		
(b)	**Other money for which the Group is contingently liable:**		
	Customs Duty on Raw Materials imported under Advance License, against which export obligation is to be fulfilled.	14	24
(c)	For contingent liabilities relating to associates and joint ventures, Refer Note 51(D).		

(B) Commitments

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
The Group's commitments with regard to various items in respect of:		
(a) Estimated amount of contracts remaining to be executed on capital account and not provided for	2,588	1,122
(b) Purchase commitments in relation to Materials and Services (net of advances)	130,268	95,946

47. Capital Management

The Group's objective to manage its capital is to ensure continuity of business while at the same time provide reasonable returns to its various stakeholders but keep associated costs under control. In order to achieve this, requirement of capital is reviewed periodically with reference to operating and business plans that take into account capital expenditure and strategic investments. Apart from internal accrual, sourcing of capital is done through judicious combination of equity and borrowing, both short term and long term. Net debt (total borrowings + lease liabilities) to equity ratio is used to monitor capital. No changes were made to the objectives, policies or processes for managing capital during the year ended 31/03/2023 and 31/03/2022.

	As at 31/03/2023	As at 31/03/2022
Debt Equity Ratio (in times)	0.64	0.82

As at March 31, 2023 and March 31, 2022, the Group was in compliance with all of its debt covenants for borrowings.

48. Financial Instruments

Refer Note 1B(P) for accounting policy on Financial Instruments

(a) Fair Value Measurements

(i) The following table shows the carrying amount of financial assets and financial liabilities by category.

(₹ in Crore)

	Note	As at 31/03/2023			As at 31/03/2022		
		Amortised Cost	Fair value through OCI	Fair value through P&L	Amortised Cost	Fair value through OCI	Fair value through P&L
Financial Assets							
Investments in Equity Instruments #	7						
Quoted Equity Instruments	-	-	7,729	-	-	8,239	-
Unquoted Equity Instruments	-	-	129	-	-	48	-
Investments in Preference Shares	7	-	-	24	-	-	24
Investments in Debt Instruments	7						
Mutual Funds	-	-	-	5,625	-	-	5,230
Bonds & Debentures	-	-	-	130	-	-	152
Government Securities	-	-	303	-	-	375	-
Commercial Paper	-	-	-	97	-	-	-
Cash & Cash Equivalents	15	-	-	-	-	-	-
Cash & Bank	-	12,840	-	-	10,977	-	-
Liquid Mutual Funds	-	-	-	-	-	-	662
Bank Balances other than cash & cash equivalents	16	2,528	-	-	5,753	-	-
Trade receivables *	14	2,337	13,486	391	2,060	18,280	736
Loans	8	55	-	-	57	-	-
Derivatives	9	-	-	1,891	-	-	3,671
Other financial assets	10	4,466	-	-	2,599	-	380
Total Financial Assets		**22,226**	**21,647**	**8,158**	**21,446**	**26,942**	**10,855**
Financial Liabilities							
Borrowings							
Borrowings, Non-Current	20A	51,434	-	-	51,635	-	-
Borrowings, Current	20B	6,901	-	-	11,600	-	-
Lease Liabilities	3B	1,956	-	-	1,251	-	-
Supplier's Credit	21	1,035	-	4,600	-	-	2,456
Trade Payables	22	32,103	-	3,757	36,309	-	5,073
Derivatives	9	-	-	1,313	-	-	11,121
Other financial Liabilities	23	3,120	-	-	3,746	-	-
Total Financial Liabilities		**96,549**	**-**	**9,670**	**104,541**	**-**	**18,650**

* As of March 31, 2023, The Group determined that ₹ 13,486 crores of outstanding trade receivables should be classified as Fair value through other comprehensive income ("FVTOCI") rather than at amortized cost. It was determined that ₹ 18,280 crores of trade receivables had been inadvertently classified as amortized cost instead of at FVTOCI as of March 31, 2022. This did not materially impact the consolidated balance sheet, statement of profit and loss, statement of changes in equity, or statement of cash flows for the year ended March 31, 2022. It was mainly related to a disclosure within this footnote and did not materially impact the overall financial position or operations of the Group, since all trade receivables have a short maturity period i.e., less than one year.

The Group had acquired certain equity instruments for purpose of holding for a longer duration and not for the purpose of selling in near term for short term profit. Such instruments have been categorized as FVTOCI.

(ii) The following table shows fair value for financial assets and financial liabilities measured at amortised cost.

(₹ in Crore)

	Note	As at 31/03/2023		As at 31/03/2022	
		Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Assets					
Loans, Non-Current	8	47	45	50	48
Other Financial Assets, Non-Current	10	3,069	3,059	405	400
Financial Liabilities					
Non convertible debentures (NCDs)	20A	699	696	5,999	6,025
Borrowings, Non-Current #	20A	52,082	49,929	51,815	51,642
Other Financial Liabilities, Non-Current	23	207	207	139	139

Fair values for current financial assets and financial liabilities have not been disclosed because their carrying amount are a reasonable approximation of their fair values.

Carrying amount includes current portion of debt shown under short term borrowing.

Fair Value of borrowings does not include interest accrued but not due.

(iii) Derecognition of Investments in Equity Instruments designated at FVTOCI

(₹ in Crore)

	Year ended 31/03/2023		Year ended 31/03/2022	
	Fair value on the date of derecognition	Cumulative gain or loss on disposal	Fair value on the date of derecognition	Cumulative gain or loss on disposal
Investment in Equity Instrument- Quoted				
National Aluminium Company Limited	-	-	388	303
Total	**-**	**-**	**388**	**303**

(b) Fair Value Hierarchy

The following table shows the details of financial assets and financial liabilities, including their levels in the fair value hierarchy.

(i) Financial assets and liabilities measured at fair value - Recurring fair value

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial Assets							
Investments in Equity Instruments	7						
Quoted Equity Instruments		7,729	-	-	8,239	-	-
Unquoted Equity Instruments		-	-	129	-	-	48
Investments in Preference Shares	7	-	24	-	-	24	-
Investments in Debt Instruments	7	-	-	-	-	-	-
Mutual Funds		5,625	-	-	5,228	2	-
Bonds & Debentures		-	100	30	-	-	152
Government Securities		202	53	48	235	140	-
Commercial Paper		-	-	97			
Cash & Cash Equivalents	15						
Liquid Mutual Funds		-	-	-	662	-	-
Trade Receivables	14	-	13,877	-	-	19,016	-
Derivatives	9	-	1,891	-	-	3,671	-
Other Financial Assets	10	-	-	-	-	-	380
Total Financial Assets		**13,556**	**15,945**	**304**	**14,364**	**22,853**	**580**
Financial Liabilities							
Derivatives	9	-	1,313	-	-	11,121	-
Supplier's credit	21	-	4,600	-	-	2,456	-
Trade Payables	22	-	3,757	-	-	5,073	-
Total Financial Liabilities		**-**	**9,670**	**-**	**-**	**18,650**	**-**

(ii) Financial assets and liabilities measured at amortised cost for which fair value disclosure is given

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial Assets							
Loans and **Other Financial Assets**	8	-	-	3,104	-	-	448
Financial Liabilities							
Non convertible debentures (NCDs)	20A	-	696	-	-	6,025	-
Borrowings, Non-Current #	20A	-	49,929		-	51,642	-
Other Financial Liabilities, Non - Current	23	-	207	-	-	139	-

Level 1:

Hierarchy includes financial instruments valued using quoted market prices. Listed equity instruments and traded debt instruments which are traded in the stock exchanges are valued using the closing price at the reporting date. Mutual funds are valued using the closing NAV.

Level 2:

Hierarchy includes financial instruments that are not traded in active market. This includes over the counter (OTC) derivatives, close ended mutual funds and debt instruments valued including quoted using observable market data such as yield etc. of similar instruments traded in active market. All derivatives are reported at discounted values hence are included in Level 2. Borrowings have been fair valued using credit adjusted interest rate prevailing on the reporting date. Trade Receivables and Payables that are realigned based on forward LME/LBMA price movements have been included in Level 2 hierarchy.

Level 3:

If one or more significant inputs is not based on observable market data, the instrument is included in level 3. This is the case for unlisted equity instruments and certain debt instruments including quoted which are valued using assumptions from market participants. Valuations for certain derivatives for which forward prices are not observable, have been valued using forward prices for a nearby geographical market and adjusted for historical spreads between cash prices of the two markets.

(iii) Disclosure of changes in level 3 items for the period ended 31/03/2023 and 31/03/2022 respectively

(₹ in Crore)

	Unquoted Equity Instruments	Unquoted Debt Instruments	Derivatives	Contingent Consideration	Total
As at April 01, 2021	**30**	**87**	**(16)**	**819**	**920**
Acquisitions	22	-	-	-	22
Sale	-	(10)	(44)	-	(54)
Sale of Business	-	-	-	-	-
Gain/(losses) recognised in Profit or loss	-	8	47	-	55
Gain/(losses) recognised in OCI	(4)	-	13	-	9
Mark down to fair value	-	-	-	(454)	(454)
Exchange difference	-	-	-	15	15
Transfer from Level 1 & 2	-	67	-	-	67
Transfer to Level 1 & 2	-	-	-	-	-

(₹ in Crore)

	Unquoted Equity Instruments	Unquoted Debt Instruments	Derivatives	Contingent Consideration	Total
As at March 31, 2022	**48**	**152**	**-**	**380**	**580**
Acquisitions	65	96	-	-	161
Sale	-	(17)	-	-	(17)
Convert to notes Receivable	-	-	-	(380)	(380)
Sale of Business	-	-	-	-	-
Gain/(losses) recognised in Profit or loss	-	(3)	-	-	(3)
Gain/(losses) recognised in OCI	14	-	-	-	14
Mark down to fair value	-	-	-	-	-
Exchange difference	2	-	-	-	2
Transfer from Level 1 & 2	-	48	-	-	48
Transfer to Level 1 & 2	-	(101)	-	-	(101)
As at March 31, 2023	**129**	**175**	**-**	**-**	**304**
Unrealised Gain/ (loss) recognised in the statement of profit and loss relating to assets and liabilities held at the end of reporting period:					
As at March 31, 2023	-	**4**	-	-	4
As at March 31, 2022	-	**9**	-	-	9

Transfers from level 1 and 2 to level 3 and out of level 3 for unquoted debt instruments is based on unavailability/availability of market observable inputs as on the reporting date. The Group's policy is to recognise transfers into and transfers out of fair value hierarchy levels as at the end of the reporting period.

Valuation Process

Some of the Group's assets and liabilities are measured at fair value for financial reporting purposes. The Management of the Group has set up a team in the finance department which performs the valuation of financial assets and liabilities.

In estimating the fair value of an asset or a liability, the Group uses market-observable data to the extent it is available. Where Level 1 inputs are not available, the Group engages third party qualified valuers to perform the valuation. The team works closely with the qualified external valuers to establish the appropriate valuation techniques and inputs to the model. The team reports findings to the Management of the Group to explain the cause of fluctuations in the fair value of the assets and liabilities.

Valuation techniques used for valuation of instruments categorised as level 3.

For valuation of investments in equity shares which are unquoted, peer comparison has been performed wherever available. Valuation has been primarily done by considering the net worth of the company and price to book multiple to arrive at the fair value. In cases where income approach was feasible valuation has been arrived using the earnings capitalisation method. For inputs that are not observable for these instruments, certain assumptions are made based on available information. The most significant of these assumptions are the discount rate and credit spreads used in the valuation process.

For valuation of investments in debt securities categorised as level 3, market polls which represent indicative yields are used as assumptions by market participants when pricing the asset.

There were no significant inter-relationships between unobservable inputs that materially affect fair values.

Forward prices are not observable for Oswego, New York facility and electricity swaps which is derived based on forward prices of a geographically nearby market with adjustments for historical spreads of cash prices between the two markets. Valuations are adjusted for various factors such as liquidity, bid/offer spreads and credit considerations.

Contingent Consideration is recognised based on discounted value of amount estimated to be receivable. Discount rate used for determination are based on credit risk of the purchaser. Refer Note 53 on Discontinued Operations.

49. Financial Risk Management

Refer Note 1B(Q) for accounting policy on Derivatives and Hedge Accounting

The Group's activities exposes it to various risks such as market risk, liquidity risk and credit risk. This section explains the risks which the Group is exposed to and how it manages the risks.

(a) Market Risk

(i) Commodity Price Risk

Hindalco's India Operations consist of two businesses – Copper Business and Aluminium Business. The Copper Business works under a "Custom Smelting" model wherein the focus is to improve the processing margin. The timing mis-match risk between the input and output price, which is linked to the same international pricing benchmark, is eliminated through use of derivatives. This off-set hedge model (through use of derivatives) is used to manage the timing mis-match risk for both Commodity (Copper and Precious Metals) and Currency Risk (primarily, USD/INR). The Copper Business also has a portion of View Based exposure for both Commodity and Currency, beyond the above timing mis-match risk. Lower Copper Prices, Stronger USD/INR exchange rate and Higher "Other Input" Prices (eg. Coal, furnace oil, natural gas etc) are the major price risks that adversely impact the business. Here, the Group may use derivative instruments, wherever available, to manage these pricing risks. A variety of factors, including the risk appetite of the business and price view, are considered while taking Hedging Decisions. Such View based hedges are usually done for the next 1-12 quarters.

The Aluminium Business is a vertically integrated business model wherein the input and output pricing risks are independent of each other, i.e. – are on different pricing benchmarks, if any. Here, the Group may use derivative instruments, wherever available, to manage its pricing risks for both input and output products. Lower Aluminium Prices, weaker USD/INR exchange rate and Higher Input Prices (e.g. Alumina, Furnace Oil, Coal, Electricity, Natural Gas, Diesel Fuel) are the major price risks that adversely impact the business. Hedging decisions are based on a variety of factors, including risk appetite of the business and price View. Such Hedge decisions are usually done for the next 1-12 quarters.

Embedded Derivatives

Copper concentrate is purchased on future pricing model based on month's average LME (in case of copper) / LBMA (in case of gold and silver). Since, the value of the concentrate changes with response to change in commodity pricing indices, embedded derivatives (ED) is identified and segregated in the contract. The ED so segregated, is treated like commodity derivative and qualify for hedge accounting. These derivatives are put into a Fair Value hedge relationship with respect to inventory.

Novelis business model is conducted under a conversion model which allows us to pass through increases or decreases in the price of aluminium to our customers . Derivative instruments are used to preserve conversion margins and manage timing differences associated with metal price lag related to base aluminium price. Novelis also uses several sources of energy such as natural gas, electricity, fuel oil and transport oil in manufacturing and delivery of its products.

(a) The table below summarises the gain/(loss) impact on account of increase in the commodity prices on the Group's equity and profit for the period.

(₹ in Crore)

Commodity Risk	Price Index	Increase in Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
			Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax	Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax
Aluminium	LME	10%	(219)	(1,146)	(34)	(2,528)
Copper	LME	10%	(682)	-	(847)	-
Gold	LBMA/ MCX	10%	(159)	-	(136)	-
Silver	LBMA	10%	-	-	(10)	-
Zinc	LME	10%	3	-	2	-
Furnace Oil	AG Platts	10%	-	10	-	-
Natural Gas	ICE Brent/ Henry NYMEX	10%	1	12	1	29
Diesel Fuel	EIA Flat Tax On- Highway	10%	5	3	-	12

Decrease in prices by 10% will have equal and opposite impact in financial statements. Sensitivity analysis has been computed by stress testing the market price of the underlying price index on the outstanding derivative position as on the reporting date by assuming all other factors constant.

(ii) Foreign Currency Risk

Exchange rate movements, particularly the United States Dollar (USD) and Euro (EUR) against Indian Rupee (INR) and Euro, the Swiss franc, the Brazilian real and the Korean won against the U.S. dollar have an impact on our operating results.

In India, in addition to the foreign exchange inflow from exports, the commodity prices in the domestic market are derived based on the landed cost of imports where LME prices and USD/INR exchange rate are the main factors. In case of conversion business, the objective is to match the exchange rate of outflows and related inflows through derivative financial instruments. With respect to Aluminium business where costs are predominantly in INR, the strengthening of INR against USD adversely affects the profitability of the business and benefits when INR depreciates against USD. The Group enters into various foreign exchange contracts to protect profitability. The Group also enters into various foreign exchange contracts to mitigate the risk arising out of foreign currency exchange rate movement in foreign currency contracts executed with foreign suppliers to procure capital items for its project activities.

In Europe, where the Group has predominantly local currency selling prices and operating costs, it benefits as the Euro strengthens, but is adversely affected as the Euro weakens. For Swiss operations, where operating costs are incurred primarily in the Swiss franc and a large portion of revenues are denominated in the Euro, the Group benefits as the franc weakens but is adversely affected as the franc strengthens. In South Korea, for local currency operating costs and U.S. dollar denominated selling prices for exports, the Group benefits as the Korean won weakens but are adversely affected as the Korean won strengthens. In Brazil, where the Group has predominately U.S. dollar selling prices and local currency manufacturing costs, it benefits as the Brazilian real weakens, but is adversely affected as the Brazilian real strengthens.

(a) The Group's exposure to foreign currency risk at the end of the reporting period expressed in INR , is as follows:

(₹ in Crore)

Unhedged Foreign Currency Payable / (Receivable)

Currency Pair	As at 31/03/2023	As at 31/03/2022
USD	208	-
GBP	(166)	281
NOK	1	1
CAD	(23)	19
AUD	-	-
CHF	1	348
BRL	-	-
JPY	(8)	(3)
EUR	46	
	59	**646**

Assets and liabilities that are naturally hedged against future transactions are excluded for the purpose of above disclosure.

The table below summarises the gain/(loss) impact on account of increase in the exchange rates on the Group's equity and profit for the period on total foreign currency receivable and payable as at balance sheet date:

(₹ in Crore)

Currency Pair	Increase in Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
		Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax	Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax
USD_INR	10%	(126)	(1,271)	(13)	(1,158)
EUR_USD	10%	140	211	121	89
BRL_USD	10%	(25)	(45)	80	117
KRW_USD	10%	123	209	138	322
CAD_USD	10%	(13)	(18)	9	15
GBP_USD	10%	(377)	-	304	-
CHF_USD	10%	1	1	(27)	25
CNY_USD	10%	14	-	12	-
GBP_CHF	10%	(6)	-	6	-
EUR_CHF	10%	290	53	244	45
EUR_GBP	10%	210	-	170	-
EUR_CNY	10%	9	-	1	-
EUR_KRW	10%	3	-	1	1
EUR_INR	10%	(1)	-	-	-
GBP_INR	10%	-	-	-	-
NOK_INR	10%	-	-	-	-
CHF_INR	10%	-	-	-	-

Decrease in prices by 10% will have equal and opposite impact in financial statements.Sensitivity analysis has been computed by stress testing the market price of the underlying currency index on the outstanding derivative position and unhedged exposure as on the reporting date by assuming all other factors constant.

(iii) Interest Rate Risk

(a) The Group is exposed to interest rate risk on financial liabilities such as borrowings, both short-term and long-term. It maintains a balance of fixed and floating interest rate borrowings and the proportion is determined by current market interest rates, projected debt servicing capability and view on future interest rates. Such interest rate risk is actively evaluated and interest rate swap is taken whenever considered necessary.

The Group is also exposed to interest rate risk on its financial assets that include fixed deposits, bonds , debentures, commercial paper, mutual funds and liquid investments comprising mainly mutual funds (which are part of cash and cash equivalents). Since, all these are generally for short durations, the Group believes it has manageable and limited interest rate risk.

The table below summarises the (gain)/loss impact on account of increase in the benchmark interest rates on the Group's equity and profit for the period.

(₹ in Crore)

	Increase in Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
		Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax	Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax
Interest rate on floating rate borrowings	100 bps	(191)	-	(193)	-

Decrease in rates by 100 bps will have equal and opposite impact in financial statements.

(b) Interbank Offered Rates (IBOR) Reform

The following table contains details of all financial instruments that are referenced to IBOR which have not yet transitioned to an alternative interest rate benchmark (ARR):

Non-derivative assets and liabilities	IBOR Exposure	Carrying Value (₹ in Crore)	Alternative Interest Rate Benchmark
Long Term Foreign Currency Borrowings	USD 1M-6M LIBOR	10,083	Secured Overnight funding Rate (SOFR)
Short Term Foreign Currency Borrowings	USD 1M LIBOR	3,804	

Derivatives

The Group has interest rate hedges outstanding as on the reporting date, accordingly IBOR related impact on hedge accounting including discounting of other derivatives is not expected to be material.

(iv) Equity Securities Price Risk

The Group's exposure to equity securities price risk arises from movement in market price of related securities classified either as fair value through OCI or as fair value through profit and loss. The Group manages the price risk through diversified portfolio.

The table below summarises the gain/(loss) impact on account of increase in the equity share prices on the Group's equity and profit for the period.

(₹ in Crore)

	Increase in Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
		Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax	Gain/(Loss) in Statement of Profit & Loss post Tax	Gain/(Loss) in Other Components of Equity Post Tax
Investment in Equity securities	10%	-	683	-	728

Decrease in prices by 10% will have equal and opposite impact in financial statements.Sensitivity analysis has been computed by stress testing the market price of the underlying price index on the investment portfolio as on the reporting date.

(b) Liquidity Risk

The Group determines its liquidity requirements in the short, medium and long term. This is done by drawing up cash forecast for short and medium term requirements and strategic financing plans for long term needs.

The Group manages its liquidity risk in a manner so as to meet its normal financial obligations without any significant delay or stress. Such risk is managed through ensuring operational cash flow while at the same time maintaining adequate cash and cash equivalent position. The management has arranged for diversified funding sources and adopted a policy of managing assets with liquidity in mind and monitoring future cash flows and liquidity on a regular basis. Surplus funds not immediately required are invested in certain investments (including mutual fund) which provide flexibility to liquidate at short notice and are included in current investments and cash and cash equivalents. Besides, it generally has certain undrawn credit facilities which can be accessed as and when required; such credit facilities are reviewed periodically.

The Group has developed appropriate internal control systems and contingency plans for managing liquidity risk. This incorporates an assessment of expected cash flows and availability of alternative sources for additional funding, if required.

(i) Financing Arrangement

The Group had access to the following undrawn borrowing facilities at the end of the reporting period:

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Bank Overdraft and other facilities	13,285	15,197

Undrawn limit has been calculated based on the available drawing power and sanctioned amount at each reporting date.

(ii) Maturity Analysis

The table below shows the Group's financial liabilities into relevant maturity groupings based on their contractual maturities for all non-derivative financial liabilities and net settled derivative financial instruments. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

(₹ in Crore)

Contractual maturities of financial liabilities as at March 31, 2023	Note No	Less than 1 Year	Between 1 and 2 Years	Between 2 and 5 Years	Over 5 Years	Total	Carrying Value
Non Derivatives							
Borrowings #	20A, 20B	9,519	9,751	20,489	28,131	67,890	58,335
Lease liabilities	3B	507	331	576	1,244	2,658	1,956
Supplier's credit	21	5,701	-	-	-	5,701	5,635
Trade payables	22	35,860	-	-	-	35,860	35,860
Other financial liabilities	23	2,598	44	16	146	2,804	3,120
Total Non Derivative liabilities		**54,185**	**10,126**	**21,081**	**29,521**	**114,913**	**104,906**
Derivatives (net settled)	9	1,268	59	1	-	1,328	1,313
Total Derivative liabilities		**1,268**	**59**	**1**	**-**	**1,328**	**1,313**

(₹ in Crore)

Contractual maturities of financial liabilities as at March 31, 2022	Note No	Less than 1 Year	Between 1 and 2 Years	Between 2 and 5 Years	Over 5 Years	Total	Carrying Value
Non Derivatives							
Borrowings #	20A, 20B	14,132	3,099	23,001	39,516	79,748	63,235
Lease liabilities	3B	348	360	461	1,042	2,211	1,251
Supplier's credit	21	2,459	-	-	-	2,459	2,456
Trade payables	22	41,382	-	-	-	41,382	41,382
Other financial liabilities	23	3,607	13	-	126	3,746	3,746
Total Non Derivative liabilities		**61,928**	**3,472**	**23,462**	**40,684**	**129,546**	**112,070**
Derivatives (net settled)	9	10,649	464	10	-	11,123	11,121
Total Derivative liabilities		**10,649**	**464**	**10**	**-**	**11,123**	**11,121**

Includes Principal and interest payments, short term borrowings, current portion of debt and excludes unamortised fees.

Total cash outflow for leases is ₹ 1,037 Crore (31/03/2022: is ₹ 694 Crore) which includes ROU Lease payments, Short term leases, variable lease payments and Leases of low value assets - (Refer Note 20A(g) and 39(a).

(c) Credit Risk

Credit risks is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligation, and arises principally from the Group's receivables from customers.

Credit risk arises from cash and cash equivalents, contractual cash flows of debt investments, favourable derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to customers including outstanding receivables.

Credit risk is managed on an group basis. The Group has adopted a policy of dealing only with creditworthy counterparties and obtaining sufficient collateral, where appropriate, as a means of mitigating risk of financial loss from defaults. The Group invests only in those instruments issued by high rated banks/ institutions and government agencies. The Group assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. The Group's investments in debt instruments and certain loans are considered as low credit risk investments. The credit ratings of the investments are monitored for credit deterioration.

For some trade receivables the Group obtains security in the form of guarantees, deed of undertaking or letters of credit which can be called upon if the counterparty is in default under the terms of the agreement.

For other financial assets, the Group assesses and manages credit risk based on the credit rating. The Group has assessed its other financial assets as high quality, negligible credit risk. The Group periodically monitors the recoverability and credit risks of its other financials assets including security deposits and other receivables. The Group evaluates 12 months expected credit losses for all the financial assets for which credit risk has not increased. In case credit risk has increased significantly, the Group considers life time expected credit losses for the purpose of impairment provisioning.

The Group has used a practical expedient by computing the expected credit loss allowance for trade receivables based on a provision matrix. The provision matrix takes into account historical credit loss experience and adjusted for forward-looking information.

(₹ in Crore)

Movement in the allowance for doubtful debts :

Particulars	As at 31/03/2023	As at 31/03/2022
Balance at the beginning of the year	(84)	(77)
Impairment losses (recognised)/ reversed on receivables	(10)	(10)
Amounts written off during the period as uncollectible	1	3
Foreign exchange translation gains and losses	-	-
Balance at the end of the year	(93)	(84)

For further details, Refer Note 14 Trade receivables

Financial assets at FVTPL and at FVTOCI: The Company is also exposed to credit risks in relation to financial assets that are measured at FVTPL or at FVTOCI. The maximum exposure at the end of the reporting period is the carrying amount of these assets.

50. Offsetting Financial Liabilities and Financial Assets

Refer Note 1B(P) for accounting policy on Financial Instruments

Financial instruments subject to offsetting , enforceable master netting arrangement and similar arrangement.

(₹ in Crore)

As at 31/03/2023	Note No	Effects on Balance sheet			Related amounts not offset		
		Gross amount	Gross amount set off in the balance sheet	Net amount in the balance sheet	Amounts subject to master netting	Financial Instrument collateral	Net Amount
Financial Assets							
Derivatives	9	2,009	(118)	1,891	(592)	-	1,299
Financial Liabilities							
Derivatives	9	1,431	(118)	1,313	(592)	(362)	359

(₹ in Crore)

As at 31/03/2022	Note No	Effects on Balance sheet			Related amounts not offset		
		Gross amount	Gross amount set off in the balance sheet	Net amount in the balance sheet	Amounts subject to master netting	Financial Instrument collateral	Net Amount
Financial Assets							
Derivatives	9	3,695	(24)	3,671	(1,792)	-	1,879
Financial Liabilities							
Derivatives	9	11,145	(24)	11,121	(1,792)	(345)	8,984

51. Interest in Other Entities

A. Subsidiaries:

The Group's wholly-owned subsidiaries along with country of incorporation, place of operation and principal activities for the year ended 31/03/2023 are set out below:

S. No.	Name of Entity	Principal Activity	Country of Incorporation	Place of Operation
1	Minerals & Minerals Limited	Mining	India	India
2	Renukeshwar Investments & Finance Limited	Investment	India	India
3	Renuka Investments & Finance Limited	Investment	India	India
4	Lucknow Finance Company Limited	Investment	India	India
5	Dahej Harbour and Infrastructure Limited	Cargo services	India	India
6	Utkal Alumina International Limited	Manufacturing	India	India
7	Utkal Alumina Social Welfare Foundation	Welfare	India	India
8	Kosala Livelihood and Social Foundation	Welfare	India	India
9	Birla Copper Asoj Private Limited (formerly known as "Ryker Base Private Limited")	Manufacturing	India	India
10	AV Minerals (Netherlands) N.V.	Investment	Netherland	Netherland
11	AV Metals Inc. - (a)	Investment	Canada	Canada
12	Novelis Inc.	Manufacturing	Canada	Canada
13	Novelis do Brasil Ltda.	Manufacturing	Brazil	Brazil
14	Brecha Energetica Ltda.	Distribution Services	Brazil	Brazil
15	4260848 Canada Inc.	Management Company	Canada	Canada
16	4260856 Canada Inc.	Management Company	Canada	Canada
17	8018227 Canada Inc.	Management Company	Canada	Canada
18	Novelis (China) Aluminum Products Co., Ltd.	Manufacturing	China	China
19	Novelis (Shanghai) Aluminum Trading Co., Ltd.	Import and export aluminum	China	China
20	Novelis Ventures LLC - (b)	Holding Company	USA	USA
21	Novelis PAE SAS	Engineering	France	France
22	Novelis Aluminium Beteiligungs GmbH	Dormant	Germany	Germany
23	Novelis Deutschland GmbH(formerly known as "Aleris Deutschland Holding GmbH")	Manufacturing	Germany	Germany
24	Novelis Sheet Ingot GmbH	Manufacturing	Germany	Germany
25	Novelis Aluminum Holding Unlimited Company	Intermediate subsidiary	Ireland	Ireland
26	Novelis Italia SpA	Manufacturing	Italy	Italy
27	Novelis de Mexico S.A. de C.V.	Dormant	Mexico	Mexico
28	Novelis Korea Limited	Manufacturing	South Korea	South Korea
29	Novelis AG	Management Company	Switzerland	Switzerland
30	Novelis Switzerland S.A.	Manufacturing	Switzerland	Switzerland
31	Novelis MEA Ltd.	Import and export aluminum	UAE	UAE
32	Novelis Europe Holdings Limited	Intermediate subsidiary	UK	UK
33	Novelis UK Ltd.	Manufacturing	UK	UK
34	Novelis Services Limited	Management Company	UK	UK
35	Novelis Corporation	Manufacturing	USA	USA
36	Novelis South America Holdings LLC	Intermediate subsidiary	USA	USA
37	Novelis Holdings Inc.	Intermediate subsidiary	USA	USA
38	Novelis Services (North America) Inc.	Cash management service provider	USA	USA
39	Novelis Global Employment Organization, Inc.	Management Company	USA	USA
40	Novelis Services (Europe) Inc.	Management Company	USA	USA
41	Novelis Vietnam Company Limited	Manufacturing	Vietnam	Vietnam
42	Aleris Asia Pacific International (Barbados) Ltd.	Holding Company	Barbados	Barbados
43	Novelis Aluminum (Zhenjiang) Co., Ltd. (formerly known as "Aleris Aluminum (Zhenjiang) Co., Ltd.")	Manufacturing	China	China
44	Aleris (Shanghai) Trading Co., Ltd.	Management Company	China	China
45	Aleris Asia Pacific Limited	Holding Company	Hong Kong	Hong Kong
46	Aleris Aluminum Japan, Ltd.	Sales Office	Japan	Japan
47	Novelis Casthouse Germany GmbH (formerly known as "Aleris Casthouse Germany GmbH")	Manufacturing	Germany	Germany
48	Novelis Deutschland Holding GmbH	Holding Company	Germany	Germany
49	Novelis Koblenz GmbH (formerly known as "Aleris Rolled Products Germany GmbH")	Manufacturing	Germany	Germany
50	Novelis Netherlands B.V. (formerly known as "Aleris Aluminum Netherlands B.V.")	Management Company	Netherlands	Netherlands
51	Aleris Switzerland GmbH	Management Company	Switzerland	Switzerland
52	Aleris Aluminum UK Limited	Sales Office	United Kingdom	United Kingdom
53	Aleris Holding Canada ULC	Holding Company	Canada	Canada
54	Novelis ALR Aluminum Holdings Corporation(formerly known as "Aleris Corporation")	Manufacturing	USA	USA
55	Novelis ALR International, Inc. (formerly known as "Aleris International, Inc.")	Manufacturing	USA	USA
56	Novelis ALR Rolled Products, LLC (formerly known as "Aleris Rolled Products,LLC")	Management Company	USA	USA
57	Novelis ALR Rolled Products, Inc. (formerly known as "Aleris Rolled Products, Inc.")	Management Company	USA	USA
58	Novelis ALR Aluminum, LLC (formerly known as "Nichols Aluminum LLC")	Management Company	USA	USA

S. No.	Name of Entity	Principal Activity	Country of Incorporation	Place of Operation
59	Novelis ALR Rolled Products Sales Corporation (formerly known as "Aleris Rolled Products Sales Corporation")	Management Company	USA	USA
60	Novelis ALR Recycling of Ohio, LLC (formerly known as "IMCO Recycling of Ohio, LLC")	Manufacturing	USA	USA
61	Novelis ALR Aluminum-Alabama, LLC (formerly known as "Nichols Aluminum-Alabama LLC")	Dormant	USA	USA
62	Novelis ALR Asset Management Corporation (formerly known as "UWA Acquisition Co.")	Holding Company	USA	USA
63	Novelis (India) Infotech Ltd. - (c)	Dormant	India	India
64	Hindalco Kabushiki Kaisha - (d)	Sales Office	Japan	Japan
65	White Rock USA Protected Cell 24 - (e)	Captive Insurance Cell	USA	USA
66	Hindalco Jana Seva Trust - (f)	Welfare	India	India
67	Copper Jana Seva Trust - (f)	Welfare	India	India
68	Utkal Alumina Jan Seva Trust - (f)	Welfare	India	India

(a) AV Metals Inc., a wholly owned subsidiary was merged with Novelis Inc. w.e.f. September 01, 2022.

(b) Novelis Ventures LLC was formed on May 20, 2022

(c) Novelis (India) Infotech Ltd. was dissolved on September 23, 2022.

(d) Hindalco Kabushiki Kaisha (Hindalco K.K.), a wholly owned subsidiary was incorporated on April 08, 2022.

(e) Novelis is participating in a protected rent-a-captive arrangement viz. White Rock USA Protected Cell with the purpose of maintaining incremental insurance coverage. This Participant Agreement was entered into on March 28, 2022 and effective as of March 9, 2022. This structure is not an incorporated legal entity, but Novelis has control over the specified assets of this protected cell which are the only source of payment for specified liabilities of the protected cell (Deemed separate entity) There are no transactions with the protected cell till date.

(f) Trusts controlled by the Group

B. Non-Controlling Interests (NCI)

The Group has following non-wholly owned subsidiaries:

Name of Entity	Principal Activity	Country of Incorporation	Place of Operation	Ownership interest held by the Group	
				31/03/2023	31/03/2022
Suvas Holdings Limited	Power Generation	India	India	74.00%	74.00%
Hindalco-Almex Aerospace Limited	Manufacturing	India	India	97.18%	97.18%
East Coast Bauxite Mining Company Private Limited	Mining	India	India	74.00%	74.00%

None of the above non-wholly owned subsidiaries are material to the Group, therefore financial information about these non-wholly owned subsidiary are not disclosed separately.

C. Joint Operations

The Group is engaged in various arrangements on a joint basis with other companies. In assessing whether joint control exists for these arrangements, management evaluates the structure and legal framework and contracts governing the arrangement combined with an assessment of which decisions that significantly influence the return from the arrangement.

The Group assesses whether joint arrangements are joint operations where the Group has rights to the assets and obligations for the liabilities related to the arrangement, or a joint venture where the group has an interest in the net assets of the joint arrangement. Accordingly, the Group has identified the following joint arrangements as joint operations:

Name of the Joint Operations	Principal Activity	Country of Incorporation	Place of Operation	Group's proportion of ownership interest and voting power	
				31/03/2023	31/03/2022
Mahan Coal Limited - (a)	Mining	India	India	50.00%	50.00%
Tubed Coal Mines Limited - (a)	Mining	India	India	60.00%	60.00%
Aluminum Norf GmbH - (b)(i)	Rolling and recycling	Germany	Germany	50.00%	50.00%
Logan Aluminum Inc. - (b)(ii)	Rolling and finishing	USA	USA	40.00%	40.00%
Ulsan Aluminum Limited - (b)(iii)	Rolling and recycling	South Korea	South Korea	50.00%	50.00%
AluInfra Services SA - (b)(iv)	Service Company	Switzerland	Switzerland	50.00%	50.00%

(a) The proportionate share of total assets and total comprehensive income in the above joint operations are included in standalone financial statements of the Parent.

(b) Novelis Inc, a wholly owned subsidiary of the Group, is engaged in the following arrangements that are concluded to be joint operations.

(i) Aluminum Norf GmbH ("Alunorf"), a large rolling mill in Germany, is a joint operation between Novelis and Hydro Aluminum Deutschland GmbH ("Hydro") Both Novelis and Hydro hold a 50% interest in equity, profits and losses, shareholder voting and management control. Novelis shares control of the management of Alunorf with Hydro through a jointly-controlled shareholders' committee and supervisory board. Management of Alunorf is led jointly by two managing executives, one nominated by Novelis and one nominated by Hydro. The primary objective of Alunorf is to provide tolling services (output) exclusively to Novelis and Hydro as the total output capacity is allocated between Novelis and Hydro. This indicates that both Novelis and Hydro get substantially all of the economic benefits from the assets of the joint arrangement. The major or sole sources of cash inflows for Alunorf are Novelis and Hydro, who are legally obliged to cover production costs.

(ii) Logan Aluminum Inc ("Logan"), an aluminum rolling mill in Kentucky, is a joint operation between Novelis and Tri-Arrows Aluminum Inc. ("Tri-Arrows") Logan processes metal exclusively received from Novelis and Tri-Arrows and charges the respective partner a fee to cover expenses. This indicates that both Novelis and Tri-Arrows get substantially all of the economic benefits from the assets of the joint arrangement. Logan is thinly capitalized and relies on the regular reimbursement of costs and expenses by Novelis and Tri-Arrows to fund its operations, indicating that Novelis and Tri-Arrows have an obligation for the liabilities of the arrangement. Other than these contractually required reimbursements, Novelis does not provide other material support to Logan. Logan's creditors do not have recourse to Novelis' general credit. Novelis has a 40% voting interest; however, its participating interest in operations ranges from greater that 50% to approximately 55% depending on output. Novelis has joint ability to make decisions regarding Logan's production operations and take its share of production and associated costs.

(iii) In May 2017, Novelis Korea Ltd., a subsidiary of Novelis Inc., entered into definitive agreements with Kobe Steel Ltd. ("Kobe"), an unrelated party, under which Novelis Korea and Kobe Steel Ltd. will jointly own and operate Ulsan Aluminum, Ltd. (UAL), the joint arrangement. UAL is controlled by an equally represented Board of Directors in which neither entity has sole decision making ability regarding production operations or other significant decisions. Furthermore, neither entity has the ability to take the majority share of production or associated costs over the life of the joint venture. UAL currently produces flat rolled aluminum products exclusively for Novelis and Kobe. As of the March 31, 2023, each of the parties to the joint arrangement hold a 50% interest in the equity, profits and losses, shareholder voting, management control and rights to use the production capacity of the facility.

(iv) In July 2018, Novelis Switzerland SA (Novelis Switzerland), a subsidiary of Novelis, entered into definitive agreements with Constellium Valais SA (Constellium), an unrelated party, under which Novelis Switzerland and Constellium will jointly own and operate AluInfra Services SA (AluInfra), the joint arrangement. Each of the parties to the joint arrangement hold a 50% interest in the equity, profits and losses, shareholder voting, management control and rights to use the production capacity of the facility.

D. Equity Accounted Investments

(a) Investments in Associates:

Details of Associates of the Group are set out below. The country of incorporation is also their principal place of business and the proportion of ownership interest is the same as the proportion of voting rights held. The Group's interest in these entities are accounted for using equity method in the consolidated financial statements.

Name of Entity	Country of Incorporation	Place of Operation	Proportion of Ownership Interests (%)		Carrying Amount (₹ Crore)	
			31/03/2023	31/03/2022	31/03/2023	31/03/2022
Aditya Birla Science & Technology Company Pvt. Limited (ABSTCPL)	India	India	49.00%	49.00%	36	27
Aditya Birla Renewables Subsidiary Limited (ABRSL)	India	India	26.00%	26.00%	8	6
Aditya Birla Renewables Utkal Limited (ABRUL)	India	India	26.00%	26.00%	2	2
Aditya Birla Renewables Solar Limited (ABRSolar)	India	India	26.00%	26.00%	27	9
Deutsche Aluminum Verpachung Recycling GMBH#	Germany	Germany	30.00%	30.00%	-	-
France Aluminum Recyclage SPA.#	France	France	20.00%	20.00%	-	-
					73	**44**

(i) Summarised financial information in respect of the Group's associates are set out below. These information is based on their Ind-AS financial statements after alignment of Group's accounting policies.

(₹ in Crore)

	As at 31/03/2023				As at 31/03/2022			
	ABSTCPL	ABRSL	ABRUL	ABRSolar	ABSTCPL	ABRSL	ABRUL	ABRSolar
Summarised Balance Sheet								
Non-current Assets	108	107	18	407	110	111	20	156
Current Assets	49	10	3	41	43	7	1	5
Non-current Liabilities	(71)	(82)	(14)	(327)	(84)	(86)	(14)	(120)
Current Liabilities	(13)	(5)	(1)	(17)	(13)	(4)	(1)	(7)
Net Assets	**73**	**30**	**6**	**104**	**56**	**28**	**6**	**34**
Group's share of Net Assets of Associates	36	8	2	27	27	7	2	9
Dividend Received	-	-	-	-	-	1	-	-
Carrying Amount	36	8	2	27	27	6	2	9
Contingent Liabilities								
Share of Contingent Liabilities of the associate	6	-	-	-	6	-	-	-

(₹ in Crore)

	Year ended 31/03/2023				Year ended 31/03/2022			
	ABSTCL	ABRSL	ABRUL	ABRSolar	ABSTCL	ABRSL	ABRUL	ABRSolar
Summarised Statement of Profit and Loss								
Total Revenues	78	16	3	21	64	15	3	8
Total Profit/ (Loss) for the year	17	2	1	3	9	2	1	2
Other comprehensive income for the year	-	-	-	-	-	-	-	-
Group's share of Profit/ (Loss) of Associates	8	-	-	1	4	1	-	1
Group's share of Other comprehensive income of Associates	-	-	-	-	-	-	-	-
Reconciliation to carrying amounts								
Opening net assets	56	28	6	34	47	29	6	1
Increase on account of acquisition/issue	-	-	1	67	-	-	1	31
Profit/(Loss) for the year	17	2	1	3	9	2	1	2
Other comprehensive income	-	-	-	-	-	-	-	-
Amounts directly recognised in equity:								
Dividend Paid	-	-	(2)	-	-	(3)	(2)	-
Closing net assets	73	30	6	104	56	28	6	34
Group's share (%)	49.00%	26.00%	26.00%	26.00%	49.00%	26.00%	26.00%	26.00%
Group's share (Amount)	36	8	2	27	27	7	2	9
Dividend Received	-	-	-	-	-	(1)	-	-
Carrying amount	36	8	2	27	27	6	2	9

Deutsche Aluminum Verpachung Recycling GMBH and France Aluminum Recyclage SPA. are immaterial associates of Novelis with no existing operations.

(b) Interests in Joint Ventures:

Details of Joint Ventures of the Group are set out below. The joint ventures listed below have share capital consisting solely equity shares, which are directly held by the Group. The country of incorporation is also their principal place of business and the proportion of ownership interest is the same as the proportion of voting rights held. No entity listed below is listed on any public stock exchange. The Group's interests in these entities are accounted for using equity method in the consolidated financial statements.

(₹ in Crore)

	Country of Incorporation	Place of Operation	Proportion of Ownership Interests		Carrying Amount	
			31/03/2023	31/03/2022	31/03/2023	31/03/2022
MNH Shakti Limited (MNH Shakti)	India	India	15.00%	15.00%	6	7
Hydromine Global Minerals (GMBH) Limited (Hydromine) #	British Virgin Islands	British Virgin Islands	45.00%	45.00%	-	-
					6	7

Immaterial joint venture with no existing operations.

E. Interest in Trusts controlled by the Company accounted as Treasury Shares:

Name of the Trust	% of Holding	Country of Incorporation	Place of Operation
Trident Trust	#	India	India
Hindalco Employee Welfare Trust	#	India	India

Treasury Shares are held in Trusts whose sole beneficiary is Hindalco Industries Limited, Refer Note 18(b)(i) and (ii) for further details.

52. Business Combination

Refer Note 1B(B) for accounting policy on Business Combination

During year ended 31/03/2023, the Group does not have any business acquisition transaction to report. During year ended 31/03/2022, the Group reported the following business acquisition transactions:

(A) Acquisition of Birla Copper Asoj Private Limited (formerly known as 'Ryker Base Private Limited'):

On November 18, 2021, the Group through it's wholly owned subsidiary Renuka Investments & Finance Limited had acquired 100% of equity shareholdings of Birla Copper Asoj Private Limited (Birla Asoj) which is in the business of manufacturing Copper Rods on job work basis. The acquisition was in line with the Group's intention to expand in the downstream portfolio. The amount of puchase consideration, net assets acquired and the resultant Goodwill on acquisition of Birla Asoj, which was allocated to the Copper segment, is given below:

	(₹ in Crore)
Purchase Consideration (including ₹ 31 Crore Cash and Cash Equivalents received)	178
Less: Net identifiable assets acquired	(115)
Goodwill on Business Combination	**63**

(B) Acquisition of Kuppam unit of SAPA Extrusions India Private Limited:

On February 1, 2022, the Group completed the acquisition of the Extrusion business of SAPA Extrusion India Private Limited (Kuppam Unit), manufacturer of high end extrusion products. The acquisition increased the Group's footprint in high-end extrusion products, pursuant to a Business Transfer Agreement dated December 17, 2021. The amount of puchase consideration, net assets acquired and the resultant Goodwill on acquisition of Kuppam Unit, which was allocated to the Aluminium Downstream segment, is given below:

	(₹ in Crore)
Purchase Consideration	265
Less: Net identifiable assets acquired	(261)
Goodwill on Business Combination	**4**

53. Discontinued Operations

Refer Note 1B(H) for accounting policy on Non-Current Assets or Disposal Groups Held for Sale and Discontinued Operations

On April 14, 2020, the Group closed the acquisition of Aleris done through its wholly owned foreign subsidiary, Novelis Inc. (Novelis) As a result of the European Union (EU) and United States (US) antitrust review processes required for approval of the acquisition, Novelis is obligated to divest Aleris' European and North American automotive assets, including its plants in Duffel, Belgium (Duffel) and Lewisport, Kentucky (Lewisport)

Duffel

On September 30, 2020 ("transaction date for Duffel business"), Novelis completed the sale of Duffel to Liberty Group through its subsidiary, ALVANCE, the international aluminium business of the GFG Alliance. Previously, the European Commission and Chinese State Administration for Market Regulation (SAMR) determined that acquisition of Aleris, which closed earlier this year, could proceed on the condition that Novelis divest Duffel to a third party that met certain buyer suitability requirements. ALVANCE agreed to acquire Duffel for €310 million (₹ 2,675 Crore ($364 million) as of September 30, 2020) Both regulators approved ALVANCE as a suitable buyer. At the transaction date, Novelis received €210 million (₹ 1,812 Crore ($246 million) as of September 30, 2020) in cash and a €100 million (₹ 863 Crore ($117 million) as of September 30, 2020) receivable that is deemed to be contingent consideration subject to the results of a binding arbitration proceeding. More specifically, the arbitration will determine the liability of ALVANCE and certain affiliates to Novelis based on the parties' relative culpability for any breaches of any obligation in connection with the purchase and sale agreement with respect to SAMR, reduced by certain claims purchaser may have against seller. The arbitrators may award Novelis no more than €100 million and may not award any damages to ALVANCE. In addition to the cash and contingent consideration, the Group have recorded ₹ 130 Crore (€15 million/$18 million as of September 30, 2020) receivable for net debt and working capital adjustments. As of September 30, 2021 the amount receivable from Liberty group on account of net debt and working capital adjustments was impaired.

During the year ended 31/03/2022, Novelis marked all outstanding receivables related to the sale of Duffel to an estimated fair value of € 45 million (₹ 381 Crore ($ 51 million)), which resulted in a loss of € 51 million (₹ 454 Crore ($ 61 million)) recorded in "Loss from discontinued operations" for the year ended 31/03/2022.

In June 2022, Duffel was acquired by American Industrial Partners Capital Fund VII, L.P. (together with its affiliates, "AIP") In December 2022, the Company reached a settlement with AIP in order to reach a resolution to the dispute being arbitrated, among other matters. As part of the settlement, the contingent consideration balance was settled for €45 million ((₹ 381 Crore ($ 46 million)) , on the settlement date, AIP paid €5 million (₹ 47 Crore ($5 million)) in cash and issued a note in the amount of €40 million (₹ 353 Crore ($41 million)) The note bears interest at the annual rate of 5% and matures on December 31, 2027, with interest and €0.2 million of principal payable semi-annually and the remainder of the principal payable at maturity. As a result of the settlement, the arbitration was dismissed in January 2023. The settlement did not have a material impact on the Group's consolidated financial statements.

The resolution reached with AIP also included the settlement of certain assets and liabilities that were previously classified as current assets and current liabilities of discontinued operations on our consolidated balance sheets. The settlement of such assets and liabilities did not have a material impact on the consolidated statement of profit and loss.

Lewisport

On November 8, 2020, the Group entered into a definitive agreement with American Industrial Partners (AIP) for the sale of Lewisport and closed the sale on November 30, 2020 ("transaction date for Lewisport business"). Upon closing, the Group received ₹ 1,335 Crore ($ 180 million) in cash proceeds. In addition, the Group recorded a ₹ 123 Crore ($ 17 million) receivable for net working capital adjustments which was subsequently received during year ended March 31, 2022. During the year ended March 31, 2022, the Group has incurred additional cost to sales amounting to ₹ 10 Crore ($1.3 million) primarily related to legal expenses.

The results of operations and cash flows of Lewisport have been presented as discontinued operations in the consolidated statement of profit and loss and consolidated statement of cash flows for the year ended March 31, 2022.

(a) The Financial Performance of the Discontinued Operations are as follows:

(₹ in Crore)

	Year ended	
Particulars	**31/03/2023**	**31/03/2022**
Total Income	-	-
Total Expenses	-	464
Profit/ (Loss) before income tax	**-**	**(464)**
Income tax benefit	-	(7)
Profit/ (Loss) after income tax from discontinued operations	**-**	**(471)**
Comprehensive Income	**-**	**(471)**

(b) **The following assets and liabilities were classified as held for sale in relation to the discontinued operation:**

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Assets or Disposal Group Classified as Held for Sale (refer Note 17A)		
Trade receivables	-	46
	-	**46**
Liability Associated with Disposal Group Classified as Held for Sale (refer Note 17B)		
Trade payables	-	93
	-	**93**

54. Disposal of Subsidiaries

Refer Note 1B(A) for accounting policy on Principles of Consolidation

During year ended 31/03/2023, the Group does not have any disposal of subsidiary transaction to report. During year ended 31/03/2022, the Group reported the following disposal of subsidiaries transactions:

(A) Disposal of Hindalco Do Brasil Industria e Comercio de Alumina Ltda.

In December 2021, the Group decided to sell its entire equity interest in its wholly owned Brazilian subsidiary, Hindalco Do Brasil Industria e Comercio de Alumina Ltda. ('Hindalco Do Brasil') and accordingly the assets and liabilities of Hindalco Do Brasil classified as 'Disposal Group Held for Sale' and recognized an impairment loss of ₹ 59 Crore (USD 8 million), Refer Note 37 for further details. The sale of Hindalco Do Brasil was completed on March 7, 2022, and as a result of this the Group had recognised a loss on sale of subsidiary of ₹ 152 Crore (USD 22 million) which has been presented as exceptional expenses, Refer Note 40 for further details.

(B) Disposal of Saras Micro Devices Inc.

On November 22, 2021, the Group sold 90% of its equity ownership in its subsidiary Saras Micro Devices Inc. As a result of this, the Group recognised a gain on sale of subsidiary of ₹ 112 Crore (USD 15 million) which has been presented as exceptional income, Refer Note 40 for further details.

As a part of this transaction, the Group received ₹ 66 Crore (USD 9 million) in cash upon closure during year ended 31/03/2022 and approximately ₹ 48 Crore (USD 6 million) in deferred cash receipts, which comprises of promissory note amounting to ₹ 24 Crore (USD 3 million) due in November 2022 and note amounting to ₹ 24 Crore (USD 3 million) due in November 2023. The amount of promissory note of ₹ 24 Crore (USD 3 million) has been received in November 2022 on due date.

55. Relationship with struck off companies

Disclosure related to relationship of the Company with a company which is Struck off under Section 248 of the Companies Act, 2013 or Section 530 of Companies Act, 1956:

(₹ in Crore)

	Name of struck off Company	Nature of transactions with struck-off Company	Balance outstanding as at 31/03/2023	Balance outstanding as at 31/03/2022	Relationship with the Struck off company
(a)	**Receivables**				
1	Daga Nylomet Private Limited	Sale of Goods and Services	1	1	Not a related party
2	Copral Insulated Conductors Private Limited	Sale of Goods and Services	-	-	Not a related party
3	Krs And Sons Construction Private Limited	Sale of Goods and Services	-	-	Not a related party
4	Maheshwary Metal & Alloys Private Limited	Sale of Goods and Services	-	-	Not a related party
5	Nathanz Chemicals Private Limited	Sale of Goods and Services	-	-	Not a related party
6	Nicco Eastern Private Limited	Sale of Goods and Services	-	-	Not a related party
7	Payal Synthetics Private Limited	Sale of Goods and Services	-	-	Not a related party
8	Tecon Surface Coating & Engineering Private Limited	Sale of Goods and Services	-	-	Not a related party
(b)	**Payables**				
1	Agngreen Pest Control Services Private Limited	Purchase of Goods and Services	-	-	Not a related party
2	Anand Motors	Purchase of Goods and Services	-	-	Not a related party
3	Arc India Limited	Purchase of Goods and Services	-	-	Not a related party
4	Associated Enterprises	Purchase of Goods and Services	-	-	Not a related party
5	Bharat Timber Industries	Purchase of Goods and Services	-	-	Not a related party
6	D Wren Industries Private Limited	Purchase of Goods and Services	-	-	Not a related party
7	K.P.Industries	Purchase of Goods and Services	-	-	Not a related party
8	Knop Trading Company Private Limited	Purchase of Goods and Services	-	-	Not a related party
9	Multitech Engineers Private Limited	Purchase of Goods and Services	-	-	Not a related party
10	Nuwave Technology Private Limited	Purchase of Goods and Services	-	-	Not a related party
11	Paramount Engineering Company	Purchase of Goods and Services	-	-	Not a related party

	Name of struck off Company	Nature of transactions with struck-off Company	Balance outstanding as at 31/03/2023	Balance outstanding as at 31/03/2022	Relationship with the Struck off company
12	Pyrotech Electronics Private Limited	Purchase of Goods and Services	-	-	Not a related party
13	R V Briggs And Co Private Limited	Purchase of Goods and Services	-	-	Not a related party
14	Singhal Bricks Private Limited	Purchase of Goods and Services	-	-	Not a related party
15	Sitaram Mall	Purchase of Goods and Services	-	-	Not a related party
16	Vikadis Consulting Engineering Private Limited	Purchase of Goods and Services	-	-	Not a related party
17	Xtend Apt Solutions Private Limited	Purchase of Goods and Services	-	-	Not a related party
18	Zion Construction	Purchase of Goods and Services	-	-	Not a related party
19	Boc India Limited	Purchase of Goods and Services	-	-	Not a related party
20	AMCO Construction & Engineering Private Limited	Purchase of Goods and Services	-	-	Not a related party
21	Vijay Construction	Trade Deposit	-	-	Not a related party
22	B P Construction Company	Trade Deposit	-	-	Not a related party

(c) Details of other struck off entities holding equity shares in the Company is as below:

		Number of shares held	Paid-up as at March 31, 2023 (₹)	Paid-up as at March 31, 2022 (₹)
1	Siddha Papers Private Limited	5	5	5
2	Vaishak Shares Limited	1	1	1
3	Alike Trading Private Limited	50	50	50
4	Fayda Portfolio Private Limited	100	100	100
5	Kothari Intergroup Limited	1	1	1
6	Arunoday Holdings Private Limited	6,551	6,551	4,387
7	Dreams Broking Private Limited	5	5	5
8	Tushar Commercial Company Limited	2,000	2,000	2,000
9	Agents India Limited	120	120	120
10	Ambica Multifibres Limited	10,714	10,714	10,714
11	Tangmarg Investment And Trading Private Limited	1,525	1,525	2,370
12	Victor Properties Private Limited	2,286	2,286	1,286
13	Central Investment Private Limited	5,820	5,820	5,820
14	Shri Vishnu Commodities Private Limited	140	140	140
15	Nacon Software Services Private Limited	1,500	1,500	1,500
16	Murli Tie- Up Private Limited	46	46	46
17	Architectural Glass Private Limited	60	60	60

56. Additional Regulatory Information:

(a) Details of loans given, investment made and guarantee given covered under section 186(4) of the Companies Act, 2013:

(i) Loans and Financial Guarantees given below:

(₹ in Crore)

Name of the Company	Relationship	Nature of Transaction	Purpose / Utilisation	As at 31/03/2023	31/03/2022
Aditya Birla Science and Technology Company Private Limited	Associate	Loan	Working capital Use	29	36

(ii) Disclosure relating to amount outstanding at year end and maximum outstanding during the year of loans and advances, in nature of loan, required under SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, are given below:

(₹ in Crore)

		Outstanding balance as at		Maximum outstanding during the year ended on	
Name of the Company	Relationship	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Aditya Birla Science and Technology Company Private Limited	Associate	29	36	36	41

(b) Other Information

(i) No proceedings have been initiated on or are pending against the Group for holding benami property under the Benami Transactions (Prohibition) Act, 1988 (45 of 1988) and Rules made thereunder.

(ii) None of the entities in the Group have been declared wilful defaulter by any bank or financial institution or government or any government authority.

(iii) The Group has complied with the number of layers prescribed under the Companies Act, 2013.

(iv) There is no undisclosed income under the tax assessments under the Income Tax Act, 1961 for the year ending March 31, 2023 and March 31, 2022 which needs to be recorded in the books of account of any of the entities consolidated in the Group.

(v) The Group has not traded or invested in crypto currency or virtual currency during the current or previous year.

(vi) Utilisation of borrowed funds and share premium

The Group has not advanced or loaned or invested funds to any other person(s) or entity(ies), including foreign entities (Intermediaries) with the understanding that the Intermediary shall:

a. directly or indirectly lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the group (Ultimate Beneficiaries) or

b. provide any guarantee, security or the like to or on behalf of the ultimate beneficiaries

(vii) The Group has not received any fund from any person(s) or entity(ies), including foreign entities (Funding Party) with the understanding (whether recorded in writing or otherwise) that the Group shall:

a. directly or indirectly lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Funding Party (Ultimate Beneficiaries) or

b. provide any guarantee, security or the like on behalf of the ultimate beneficiaries

(viii) Borrowings obtained by the Group from banks and financial institutions have been applied for the purposes for which such loans were taken.

57. Subsequent Events

The Management has evaluated all the activities of the Group till May 24, 2023 and concluded that there were no additional subsequent events required to be reflected in the Consolidated financial statements.

58. During the financial year ended 31/03/2023, the Group has reclassified following comparatives which are primarily to conform to the current years classification. This reclassifications do not have material impact on the Consolidated Financial Statements.

(₹ in Crore)

	Note	Note Description	Previously Reported Amount	Revised Amount	Change in Amount	Reason for Reclassification
A.	**Consolidated Balance Sheet**					
	10	Other Financial Asset (Current)	2,131	2,193	62	Reclassified by a subsidiary to align with the parent presentation
	12	Other Current Assets	4,362	4,300	(62)	
	24	Provisions (Current)	2,841	1,726	(1,115)	Employee Benefit Obligations separately presented on the face of the Balance Sheet. Further, reclassified balance of a subsidiary to align with the parent presentation.
	24	Provisions (Non-Current)	6,848	661	(6,187)	
	25	Employee Benefit Obligations (Current)	-	1,178	1,178	
	25	Employee Benefit Obligations (Non-Current)	-	6,124	6,124	
	2A	Property, Plant and Equipment	76,470	74,547	(1,923)	Right of Use Assets separately presented on the face of the Balance Sheet
	3A	Right of Use Assets	-	1,923	1,923	
			92,652	**92,652**	**-**	
B.	**Consolidated Statement of Profit and Loss**					
	33	Employee Benefits Expenses	11,936	12,023	87	Reclassified by of a subsidiary to align with the parent presentation
	39	Other Expenses	25,780	25,693	(87)	
			37,716	**37,716**	**-**	

59. Additional information required under Schedule III of the Companies Act, 2013

Information regarding subsidiaries, associates and joint ventures included in the consolidated financial statements for the year ended 31/03/2023:

(₹ in Crore)

	Net Assets i.e. total Assets minus total Liabilities		Share in Profit/ (Loss)		Share in Other Comprehensive Income		Share in Total Comprehensive Income	
	As % of Consolidated Net Assets	Amount	As % of Consolidated Profit/ (Loss)	Amount	As % of Other Comprehensive Income	Amount	As % of Total Comprehensive Income	Amount
Parent:								
Hindalco Industries Limited	61.69%	58,489	32.94%	3,326	22.82%	1,702	28.64%	5,028
Subsidiaries:								
Indian:								
Minerals & Minerals Limited	0.02%	19	0.06%	6	0.00%	-	0.03%	6
Utkal Alumina International Limited	11.37%	10,782	16.75%	1,691	-0.11%	(8)	9.59%	1,683
Utkal Alumina Social Welfare Foundation	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Suvas Holdings Limited	0.03%	30	0.01%	1	0.00%	-	0.01%	1
Renuka Investments & Finance Limited	0.25%	240	0.01%	1	0.05%	4	0.03%	5
Renukeshwar Investments & Finance Limited	0.15%	143	0.06%	6	0.00%	-	0.03%	6
Dahej Harbour and Infrastructure Limited	0.11%	109	0.14%	14	0.00%	-	0.08%	14
Lucknow Finance Company Limited	0.02%	22	0.02%	2	0.00%	-	0.01%	2
Hindalco-Almex Aerospace Limited	0.11%	107	0.01%	1	0.00%	-	0.01%	1
East Coast Bauxite Mining Company Private Ltd	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Kosala Livelihood and Social Foundation	0.00%	2	-0.02%	(2)	0.00%	-	-0.01%	(2)
Birla Copper Asoj Private Limited	0.09%	87	0.13%	13	0.00%	-	0.07%	13
Hindalco Jana Seva Trust	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Copper Jann Seva Trust	-0.01%	(8)	-0.02%	(2)	0.00%	-	-0.01%	(2)
Utkal Alumina Jana Seva Trust	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Foreign:								
AV Minerals (Netherlands) N.V.	11.87%	11,250	2.25%	227	12.08%	901	6.42%	1,128
AV Metals Inc.	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Novelis Inc. (Consolidated)	43.14%	40,900	51.49%	5,199	76.78%	5,728	62.24%	10,927
Hindalco Do Brasil Industria Comercia de Alumina Ltda.	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Hindalco Kabushiki Kaisha	0.00%	-	-0.02%	(2)	0.00%	-	-0.01%	(2)
Non-controlling Interest	0.01%	11	0.00%	-	0.00%	-	0.00%	-
Associates								
Indian:								
Aditya Birla Renewable Subsidiary Limited	0.01%	8	0.00%	-	0.00%	-	0.00%	-
Aditya Birla Renewable Utkal Limited	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Aditya Birla Renewable Solar Limited	0.03%	27	0.01%	1	0.00%	-	0.01%	1
Aditya Birla Science and Technology Co. Pvt. Ltd.	0.04%	36	0.08%	8	0.00%	-	0.05%	8
Joint Ventures								

(₹ in Crore)

	Net Assets i.e. total Assets minus total Liabilities		Share in Profit/ (Loss)		Share in Other Comprehensive Income		Share in Total Comprehensive Income	
	As % of Consolidated Net Assets	Amount	As % of Consolidated Profit/ (Loss)	Amount	As % of Other Comprehensive Income	Amount	As % of Total Comprehensive Income	Amount
Indian:								
MNH Shakti Limited	0.01%	6	0.00%	-	0.00%	-	0.00%	-
Foreign:								
Hydromine Global Minerals (GMBH) Limited	0.00%	-	0.00%	-	0.00%	-	0.00%	-
	128.95%	**122,263**	**103.89%**	**10,490**	**111.62%**	**8,327**	**107.18%**	**18,817**
Consolidation Adjustments	-28.95%	(27,446)	-3.89%	(393)	-11.62%	(867)	-7.18%	(1,260)
Total	**100.00%**	**94,817**	**100.00%**	**10,097**	**100.00%**	**7,460**	**100.00%**	**17,557**

Information regarding subsidiaries, associates and joint ventures included in the consolidated financial statements for the year ended 31/03/2022:

(₹ in Crore)

	Net Assets i.e. total Assets minus total Liabilities		Share in Profit/ (Loss)		Share in Other Comprehensive Income		Share in Total Comprehensive Income	
	As % of Consolidated Net Assets	Amount	As % of Consolidated Profit/ (Loss)	Amount	As % of Other Comprehensive Income	Amount	As % of Total Comprehensive Income	Amount
Parent:								
Hindalco Industries Limited	69.60%	54,428	40.11%	5,507	34.58%	(397)	40.61%	5,110
Subsidiaries:								
Indian:								
Minerals & Minerals Limited	0.02%	14	0.02%	3	0.00%	-	0.02%	3
Utkal Alumina International Limited	11.64%	9,099	8.00%	1,099	-0.78%	9	8.81%	1,108
Utkal Alumina Social Welfare Foundation	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Suvas Holdings Limited	0.04%	30	0.00%	-	0.00%	-	0.00%	-
Renuka Investments & Finance Limited	0.30%	235	0.01%	1	-4.62%	53	0.43%	54
Renukeshwar Investments & Finance Limited	0.18%	137	-0.01%	(1)	-5.05%	58	0.45%	57
Dahej Harbour and Infrastructure Limited	0.12%	95	0.09%	13	0.00%	-	0.10%	13
Lucknow Finance Company Limited	0.02%	19	0.01%	2	0.00%	-	0.02%	2
Hindalco-Almex Aerospace Limited	0.14%	106	0.06%	8	0.00%	-	0.06%	8
East Coast Bauxite Mining Company Private Ltd	0.00%	-	0.00%	-	0.00%	-	0.00%	-
Kosala Livelihood and Social Foundation	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Birla Copper Asoj Private Limited	0.10%	75	-0.03%	(4)	0.00%	-	-0.03%	(4)
Hindalco Jana Seva Trust	0.00%	2	0.00%	-	0.00%	-	0.00%	-
Copper Jann Seva Trust	-0.01%	(6)	-0.03%	(4)	0.00%	-	-0.03%	(4)
Utkal Alumina Jana Seva Trust	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Foreign:								
AV Minerals (Netherlands) N.V.	14.27%	11,157	-1.82%	(250)	-32.32%	371	0.96%	121
AV Metals Inc.	14.21%	11,110	0.00%	-	-35.80%	411	3.27%	411
Novelis Inc. (Consolidated)	39.30%	30,734	54.84%	7,529	78.66%	(903)	52.66%	6,626

(₹ in Crore)

	Net Assets i.e. total Assets minus total Liabilities		Share in Profit/ (Loss)		Share in Other Comprehensive Income		Share in Total Comprehensive Income	
	As % of Consolidated Net Assets	Amount	As % of Consolidated Profit/ (Loss)	Amount	As % of Other Comprehensive Income	Amount	As % of Total Comprehensive Income	Amount
Hindalco Do Brasil Industria Comercia de Alumina Ltda.	0.00%	-	-0.12%	(16)	-3.22%	37	0.17%	21
Non-controlling Interest	0.01%	11	0.00%	-	0.00%	-	0.00%	-
Associates								
Indian:								
Aditya Birla Renewable Subsidiary Limited	0.01%	7	0.00%	-	0.00%	-	0.00%	-
Aditya Birla Renewable Utkal Limited	0.00%	1	0.00%	-	0.00%	-	0.00%	-
Aditya Birla Renewable Solar Limited	0.01%	9	0.01%	1	0.00%	-	0.01%	1
Aditya Birla Science and Technology Co. Pvt. Ltd.	0.03%	27	0.03%	4	0.00%	-	0.03%	4
Joint Ventures								
Indian:								
MNH Shakti Limited	0.01%	6	0.01%	1	0.00%	-	0.01%	1
Foreign:								
Hydromine Global Minerals (GMBH) Limited	0.00%	-	0.00%	-	0.00%	-	0.00%	-
	149.99%	**117,298**	**101.19%**	**13,893**	**31.45%**	**(361)**	**107.55%**	**13,532**
Consolidation Adjustments	-49.99%	(39,096)	-1.19%	(163)	68.55%	(787)	-7.55%	(950)
Total	**100.00%**	**78,202**	**100.00%**	**13,730**	**100.00%**	**(1,148)**	**100.00%**	**12,582**

As per our report annexed

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration No. 304026E/E-300009

Sarah George
Partner
Membership No. 045255

Place: Mumbai
Date: May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director and
Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN-00026078

Independent Auditor's Report

To the Members of Hindalco Industries Limited

Report on the Audit of the Standalone Financial Statements

Opinion

1. We have audited the accompanying Standalone Financial Statements of Hindalco Industries Limited ("the Company"), which comprise the Balance Sheet as at March 31, 2023, and the Statement of Profit and Loss (including Other Comprehensive Income), the Statement of Changes in Equity and the Statement of Cash Flows for the year then ended, and notes to the standalone financial statements, including a summary of significant accounting policies and other explanatory information in which are included the financial statements of two joint operations consolidated on a proportionate basis and two trusts (Refer note 53 to the standalone financial statements) for the year ended on that date audited by the other auditors (hereinafter referred to as "standalone financial statements").

2. In our opinion and to the best of our information and according to the explanations given to us and based on the consideration of reports of other auditors on the audited financial statements of the joint operations and trusts, the aforesaid standalone financial statements give the information required by the Companies Act, 2013 ("the Act") in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the state of affairs of the Company, its joint operations and trusts, as at March 31, 2023, and total comprehensive income (comprising of profit and other comprehensive income), changes in equity and its cash flows for the year then ended.

Basis for Opinion

3. We conducted our audit in accordance with the Standards on Auditing (SAs) specified under Section 143(10) of the Act. Our responsibilities under those Standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our report. We are independent of the Company in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to our audit of the standalone financial statements under the provisions of the Act and the Rules thereunder, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the Code of Ethics. We believe that the audit evidence we have obtained and the audit evidence obtained by the other auditors in terms of their reports referred to in sub-paragraph 13 of the Other Matter paragraph below, is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

4. Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the standalone financial statements of the current period. These matters were addressed in the context of our audit of the standalone financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
1. Measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress consisting of precious metals Refer Notes 1C(b) and 15(d) to the standalone financial statements. Of the Company's ₹ 20,186 crores of inventory as at March 31, 2023, ₹ 4,232 crores of inventory comprised of coal, bauxite, copper concentrate and work in progress consisting of precious metals. This was determined a key audit matter, as the measurement of these inventory quantities lying at the Company's yards, smelters and refineries is complex and involves significant judgements and estimates resulting from measuring the surface area, dip measurement of material in tanks/silos and such other parameters. The Company uses internal and external experts, as applicable, to perform volumetric surveys and assessments basis which the quantities of these inventories are estimated	• Our audit procedures relating to the measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress of precious metals included the following: • Understanding and evaluating the design and testing the operating effectiveness of controls over the physical count process and measurement of such inventory; • Evaluation of the independence, competency and capabilities of the management's experts; • Physically observing inventory measurement and count procedures carried out by management using experts to assess its appropriateness and completeness and performing roll forward procedures; and • Obtaining and inspecting inventory measurement and physical count results for such inventories, including assessing and evaluating the results of analysis performed and adjustments made by management in respect of differences between book and physical quantities. Based on the above procedures performed, we did not identify any material exceptions in the measurement of inventory quantities of coal, bauxite, copper concentrate and work in progress inventories consisting of precious metals.
2. Migration to a new ERP system The Company's financial reporting process significantly relies on the design and operating effectiveness of its IT systems. The Company is migrating to a centralised enterprise- wide resource planning ('ERP') system in a phased manner across its plants and offices. The changes in the ERP system represent a financial reporting risk as controls and processes that have been established and embedded over a number of years are updated and migrated into a new environment. Due to changes in the ERP system, there is a risk of breakdown in internal financial controls and a risk of inaccurate or incomplete processing of the financial data. Further, the migration involved significant programme and configuration changes. Accordingly, it is considered as a key audit matter.	• We performed the following procedures with respect to transition to the new ERP system: • Obtained an understanding of the changes in the IT environment, IT infrastructure and the ERP system by involving technology specialists; • Obtained an understanding and tested the controls over data migration including proper authorisation, completeness and accuracy; • Tested a sample of the migrated balances of general ledgers, sub-ledgers and open items for completeness and accuracy as of the date of migration at the respective plants/offices; • Evaluated and tested relevant IT general controls over the ERP system and IT dependencies identified as relevant for our audit of the standalone financial statements; and • Communicated with those charged with governance and management and tested a combination of compensating controls or remediated controls and/or performed alternative audit procedures, wherever necessary. Based on the above no significant exceptions were noted.

Key audit matter	How our audit addressed the key audit matter
3. Provisions recognised and contingencies disclosed with regards to certain legal and tax matters including uncertain tax positions	
Refer Notes 1C (c) and (d), 13, 14, 25 and 48(A) to the standalone financial statements. The Company operates in a complex tax jurisdiction with certain tax exemption/ deduction that may be subject to challenge and audit by the tax authorities. Further, there are open tax matters under litigation with the tax authorities. As at March 31, 2023, the Company has, recognised provisions and disclosed contingent liabilities towards various legal and tax matters, including environmental, mining, local and state levies, income tax holidays, availing of input tax credits and such other matters. This is a key audit matter, as evaluation of these matters requires management judgement and estimation, related legal advice including those leading to interpretation of laws and regulations and application of relevant judicial precedents to determine the probability of the outflow of economic resources for recognising provisions, disclosing contingent liabilities and making related disclosures in the standalone financial statements.	Our audit procedures relating to provisions recognised and contingencies disclosed with regard to certain legal and tax matters included the following: • Understanding and evaluating the design and testing the operating effectiveness of controls over the recognition, measurement, presentation and disclosures made in the standalone financial statements in respect of these matters; • Obtaining details of legal and tax matters, inspecting the supporting documents to evaluate management's assessment of probability of outcome and the magnitude of potential loss as well as testing related to provisions and disclosures in the standalone financial statements through inquiries with the management and legal counsel; • Assessing on test basis on the underlying calculation supporting the contingent liabilities and other litigation disclosures in the standalone financial statements; • Reviewing orders and other communication from tax and regulatory authorities and management responses thereto; • Assessing the management expert's legal advice and opinion, as applicable, obtained by the Company's management to corroborate management assessment and evaluating competence and capabilities of the experts; and • Using auditor's specialist for technical assistance in evaluating certain significant and judgemental complex direct and indirect tax litigation and positions in tax returns and their possible outcome. Based on the above procedures performed, we did not identify any material exceptions in the provisions recognised and contingent liabilities disclosed in the standalone financial statements with regard to such legal and tax matters.

Other Information

5. The Company's Board of Directors is responsible for the other information. The other information comprises the information included in the integrated annual report, but does not include the financial statements and our auditor's report thereon. The integrated annual report is expected to be made available to us after the date of this auditor's report.

   Our opinion on the standalone financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

   In connection with our audit of the standalone financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the standalone financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

   When we read the annual integrated report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance and take appropriate action as applicable under the relevant laws and regulations.

Responsibilities of management and those charged with governance for the standalone financial statements

6. The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Act with respect to the preparation of these standalone financial statements that give a true and fair view of the financial position, financial performance, changes in equity and cash flows of the Company in accordance with the accounting principles generally accepted in India, including the Accounting Standards specified under Section 133 of the Act. The respective Board of Directors of the Company, its joint operations and trusts are responsible for maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding of the assets of the Company, its joint operations and trusts and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error, which have been used for the purpose of preparation of the standalone financial statements by the Directors of the Company, as aforesaid.

7. In preparing the standalone financial statements, the respective Board of Directors of the Company, its joint operations and trusts are responsible for assessing the ability of the Company, its joint operations and trusts to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the respective management either intends to liquidate the Company, its joint operations and trusts, or to cease its operations, or has no realistic alternative but to do so. The respective Board of Directors of the Company, its joint operations and trusts are also responsible for overseeing the financial reporting process of the Company, its joint operations and trusts.

Auditor's responsibilities for the audit of the standalone financial statements

8. Our objectives are to obtain reasonable assurance about whether the standalone financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these standalone financial statements.

9. As part of an audit in accordance with SAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the standalone financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances. Under Section 143(3)(i) of the Act, we are also responsible for expressing our opinion on whether the Company has adequate internal financial controls with reference to standalone financial statements in place and the operating effectiveness of such controls. (Refer paragraph 13 below)
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability of the Company, its joint operations and trusts to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the standalone financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company, its joint operations and trusts to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the standalone financial statements, including the disclosures, and whether the standalone financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial statements of the joint operations and trusts which are included in the Company to express an opinion on the standalone financial statements. We are responsible for the direction, supervision and performance of the audit of the financial statements of such entities included in the standalone financial statements of which we are the independent auditors. For the other entities included in the standalone

financial statements, which have been audited by other auditors, such other auditors remain responsible for the direction, supervision and performance of the audits carried out by them. We remain solely responsible for our audit opinion.

10. We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

11. We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

12. From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the standalone financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Matter

13. We did not audit the financial statements of two joint operations and two trusts included in the standalone financial statements of the Company, which constitute total assets of ₹ 356 crores and net assets of ₹ 51 crores as at March 31, 2023, total revenue of ₹ Nil, total comprehensive income (comprising of profit and other comprehensive income) of ₹ 2 crores and net cash outflows amounting to ₹ 10 crores for the year then ended. These financial statements and other financial information have been audited by other auditors whose reports have been furnished to us by the management, and our opinion on the standalone financial statements (including other information) in so far as it relates to the amounts and disclosures included in respect of these joint operations and trusts and our report in terms of sub-section (3) of section 143 of the Act including report on Other Information insofar as it relates to the aforesaid joint operations, is based solely on the reports of such other auditors. In respect of one joint operation an emphasis of matter paragraph with regard to going concern and in respect of one joint operation, a material uncertainty related to going concern has been reported by the auditors of the respective entities vide their audit report, however, the same is not considered to be material to the financial statements of the Company.

Our opinion on the standalone financial statements, and our report on other legal and regulatory requirements is not modified in respect of above matter with respect to our reliance on the work done and the reports of the other auditors.

Report on other legal and regulatory requirements

14. As required by the Companies (Auditor's Report) Order, 2020 ("the Order"), issued by the Central Government of India in terms of sub-section (11) of Section 143 of the Act, we give in the "Annexure B" a statement on the matters specified in paragraphs 3 and 4 of the Order, to the extent applicable.

15. As required by Section 143(3) of the Act, we report that:

(a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.

(b) In our opinion, proper books of account as required by law have been kept by the Company so far as it appears from our examination of those books and the reports of the other auditors.

(c) The Standalone Balance Sheet, the Standalone Statement of Profit and Loss (including other comprehensive income), the Standalone Statement of Changes in Equity and the Standalone Statement of Cash Flows dealt with by this Report are in agreement with the relevant books of account.

(d) In our opinion, the aforesaid standalone financial statements comply with the Accounting Standards specified under Section 133 of the Act.

(e) On the basis of the written representations received from the directors of the Company as on April 1, 2023, taken on record by the Board of Directors of the Company and the reports of the statutory auditors of its joint operations, none of the directors is disqualified as on March 31, 2023 from being appointed as a director in terms of Section 164(2) of the Act.

(f) With respect to the adequacy of the internal financial controls with reference to financial statements of the Company and its joint operations, and the operating effectiveness of such controls, refer to our separate Report in "Annexure A".

(g) With respect to the other matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditors) Rules, 2014 (as amended), in our opinion and to the best of our information and according to the explanations given to us:

i. The standalone financial statements disclose the impact of pending litigations on the standalone financial position of the Company, its joint operations and trusts – Refer Note 13, 25 and 48(A) to the standalone financial statements;

ii. Provision has been made in the standalone financial statements, as required under the applicable law or accounting standards, for material foreseeable losses, if any, on long-term contracts including derivative contracts as at March 31, 2023– Refer Note 11, 13 and 25 to the standalone financial statements in respect of such items as it relates to the Company, its joint operations and trusts;

iii. Except as referred to in Note 24 to the standalone financial statements, there has been no delay in transferring amounts, required to be transferred, to the Investor Education and Protection Fund by the Company and its joint operations.

iv. (a) The respective managements of the Company and its joint operations whose financial statements have been audited under the Act, have represented to us and the other auditors of such joint operations, respectively that, to the best of its knowledge and belief, as disclosed in the notes to the accounts, no funds have been advanced or loaned or invested (either from borrowed funds or share premium or any other sources or kind of funds) by the Company or any of such joint operations to or in any other persons or entities, including foreign entities ("Intermediaries"), with the understanding, whether recorded in writing or otherwise, that the Intermediary shall, whether, directly or indirectly, lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Company or any of such joint operations ("Ultimate Beneficiaries") or provide any guarantee, security or the like on behalf of the Ultimate Beneficiaries (Refer Note 58(c) to the standalone financial statements);

(b) The respective managements of the Company and its joint operations whose financial statements have been audited under the Act, have represented to us and the other auditors of such joint operations, respectively that, to the best of its knowledge and belief, as disclosed in the notes to the accounts, no funds have been received by the Company or any of such joint operations from any persons or entities, including foreign entities ("Funding Parties"), with the understanding, whether recorded in writing or otherwise, that the Company or any of such joint operations shall, whether, directly or indirectly, lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Funding Party ("Ultimate Beneficiaries") or provide any guarantee, security or the like on behalf of the Ultimate Beneficiaries (Refer Note 58(c) to the standalone financial statements); and

(c) Based on such audit procedures that we considered reasonable and appropriate in the circumstances, performed by us and those performed by the auditors of joint operations whose financial statements have been audited under the Act, nothing has come to our or other auditors' notice that has caused us to believe that the representations under sub-clause (a) and (b) contain any material misstatement.

v. The dividend declared and paid during the year by the Company is in compliance with Section 123 of the Act. The joint operations have not declared or paid any dividend during the year.

vi. As proviso to Rule 3(1) of the Companies (Accounts) Rules, 2014 (as amended), which provides for books of account to have the feature of audit trail, edit log and related matters in the accounting software used by the Company and its joint operations, is applicable to the Company and its joint operations only with effect from financial year beginning April 1, 2023, the reporting under clause (g) of Rule 11 of the Companies (Audit and Auditors) Rules, 2014 (as amended), is currently not applicable.

16. The Company and its joint operations has paid/ provided for managerial remuneration in accordance with the requisite approvals mandated by the provisions of Section 197 read with Schedule V to the Act.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVQ8568

Place : Mumbai
Date : May 24, 2023

Annexure A to Independent Auditor's Report

Referred to in paragraph 15(f) of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the standalone financial statements as of and for the year ended March 31, 2023

Report on the Internal Financial Controls with reference to the Standalone Financial Statements under clause (i) of sub-section 3 of Section 143 of the Act

1. We have audited the internal financial controls with reference to the standalone financial statements of Hindalco Industries Limited ("the Company") as of March 31, 2023 in conjunction with our audit of the standalone financial statements of the Company for the year ended on that date, which includes internal financial controls with reference to financial statements of the Company's two joint operations, as of that date.

Management's Responsibility for Internal Financial Controls

2. The respective Board of Directors of the Company and its joint operations, to whom reporting under clause (i) of sub section 3 of Section 143 of the Act in respect of the adequacy of the internal financial controls with reference to financial statements is applicable, are responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company, its joint operations considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting ("the Guidance Note") issued by the Institute of Chartered Accountants of India ("ICAI"). These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to the respective company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information, as required under the Act.

Auditor's Responsibility

3. Our responsibility is to express an opinion on the Company's internal financial controls with reference to financial statements based on our audit. We conducted our audit in accordance with the Guidance Note and the Standards on Auditing deemed to be prescribed under Section 143(10) of the Act to the extent applicable to an audit of internal financial controls, both applicable to an audit of internal financial controls and both issued by the ICAI. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate internal financial controls with reference to financial statements was established and maintained and if such controls operated effectively in all material respects.

4. Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system with reference to financial statements and their operating effectiveness. Our audit of internal financial controls with reference to financial statements included obtaining an understanding of internal financial controls with reference to financial statements, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

5. We believe that the audit evidence we have obtained and the audit evidence obtained by the other auditors in terms of their reports referred to in the Other matter paragraph below is sufficient and appropriate to provide a basis for our audit opinion on the Company's internal financial controls system with reference to financial statements.

Meaning of Internal Financial Controls with reference to financial statements

6. A company's internal financial controls with reference to financial statements is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal financial controls with reference to financial statements includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls with reference to financial statements

7. Because of the inherent limitations of internal financial controls with reference to financial statements, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls with reference to financial statements to future periods are subject to the risk that the internal financial controls with reference to financial statements may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

8. In our opinion, the Company and its joint operations, has in all material respects, an adequate internal financial controls system with reference to financial statements and such internal financial controls with reference to financial statements were operating effectively as at March 31, 2023, based on the internal control over financial reporting criteria established by the Company and its joint operations considering the essential components of internal control stated in the Guidance Note issued by ICAI.

Other Matter

9. Our aforesaid report under Section 143(3)(i) of the Act on the adequacy and operating effectiveness of the internal financial controls with reference to financial statements insofar as it relates to two joint operations, is based on the corresponding reports of the auditors of such joint operations. Our opinion is not modified in respect of this matter.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVQ8568

Place : Mumbai
Date : May 24, 2023

Annexure B to Independent Auditor's Report

Referred to in paragraph 14 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the standalone financial statements as of and for the year ended March 31, 2023

i. (a) (A) The Company is maintaining proper records showing full particulars, including quantitative details and situation, of Property, Plant and Equipment.

B) The Company is maintaining proper records showing full particulars of Intangible Assets.

(b) The Property, Plant and Equipment are physically verified by the Management according to a phased programme designed to cover all the items over a period of 3 years which, in our opinion, is reasonable having regard to the size of the Company and the nature of its assets. Pursuant to the programme, a portion of the Property, Plant and Equipment has been physically verified by the Management during the year and no material discrepancies have been noticed on such verification.

(c) The title deeds of all the immovable properties (other than properties where the Company is the lessee and the lease agreements are duly executed in favour of the lessee), as disclosed in Note 2A on 'Property, Plant and Equipment', Note 3A 'Right of Use Assets', Note 4 on 'Investment Properties' and Note 19 on 'Non-Current Assets Held for Sale' to the standalone financial statements, are held in the name of the Company, except for the following (Also refer Note 55 on 'Title deeds of the immovable properties pending for transfer as at 31/03/2023'):

Description of property	Gross carrying value (₹ in crore)	Held in the name of	Whether promoter, director or their relative or employee	Period held - indicate range, where appropriate (Financial year-FY)	Reason for not being held in the name of the Company
Freehold Land (Property,Plant and Equipment and Investment Property) at Bharuch and Nashik; and Building (Investment Property) at Mumbai	8	Indogulf Fertilizer and Chemicals Corporation Limited	No	Since FY 2002-2003	The title deeds are held in the name of Indogulf Fertilizer and Chemicals Corporation Limited which has subsequently been amalgamated with the Company
Freehold Land (Property,Plant and Equipment and Rights of Use Assets)/ Buildings (Property,Plant and Equipment) at various locations	6	Indian Aluminium Company Limited	No	Since FY 2004-2005	The title deeds are held in the name of Indian Aluminium Company Limited which has subsequently been amalgamated with the Company
Freehold Land (Property,Plant and Equipment) at Kuppam	1	SAPA Extrusion India Private Limited	No	Since FY 2021-2022	The title deeds are held in the name of the SAPA Extrusion India PrivateLimited which has subsequently been acquired by the Company.
Freehold Land (Property,Plant and Equipment) at Mahan unit	4	Various individual land owners	No	Since FY 2013 -2014	Certain original land-related documents held in the name of original land owners were submitted to the bank that had provided borrowing for the Mahan project. These original documents are required to be submitted to the land department in order to get the title deed registered in the name of the Company. The Company is awaiting receipt of these original land-related documents from the bank to initiate the process of transfer of the title of the land in favour of the Company.
Freehold Land (Property,Plant and Equipment) at Kathautia mine	27	Various individual land owners	No	Since FY 2018 -2019	Approval of the District collector is awaited which is a prerequisite as per the Chota Nagpur Tenancy Act, 1908 to transfer the title deed in the name of the Company. The Company is in the process of obtaining these approvals.

(d) The Company has not revalued its Property, Plant and Equipment (including Right of Use assets) or intangible assets or both during the year. Consequently, the question of our commenting on whether the revaluation is based on the valuation by a Registered Valuer, or specifying the amount of change, if the change is 10% or more in the aggregate of the net carrying value of each class of Property, Plant and Equipment (including Right of Use assets) or intangible assets does not arise.

(e) Based on the information and explanations furnished to us, no proceedings have been initiated on or are pending against the Company for holding benami property under the Prohibition of Benami Property Transactions Act,

Annexure B to Independent Auditor's Report

Referred to in paragraph 14 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the standalone financial statements as of and for the year ended March 31, 2023

1988 (as amended in 2016) (formerly the Benami Transactions (Prohibition) Act, 1988 (45 of 1988)) and Rules made thereunder, and therefore the question of our commenting on whether the Company has appropriately disclosed the details in its financial statements does not arise.

ii. (a) The physical verification of inventory excluding stocks with third parties has been conducted at reasonable intervals by the Management during the year and, in our opinion, the coverage and procedure of such verification by Management is appropriate. In respect of inventory lying with third parties, these have substantially been confirmed by them. The discrepancies noticed on physical verification of inventory as compared to book records were not 10% or more in aggregate for each class of inventory.

(b) During the year, the Company has been sanctioned working capital limits in excess of ₹ 5 crores, in aggregate, from banks on the basis of security of current assets. In our opinion, the quarterly returns or statements filed by the Company with such banks are in agreement with the unaudited books of account of the Company.

The Company has filed provisional statement with the bank for the quarter ended March 31, 2023, with respect to Company's Aluminium division and the final statement will be submitted to the bank upon finalization of the audited financial statements.

(Also refer Note 58(c) to the standalone financial statements).

iii. (a) The Company has made investments in 3 companies, 82 mutual fund schemes and granted unsecured loans to a company and its 304 employees. The aggregate amount during the year, and balance outstanding at the balance sheet date with respect to such loan to a subsidiary and to its employees are as per the table given below:

Particulars	Aggregate amount of loan granted / provided during the year * (₹ in crores)	Balance outstanding as at balance sheet date in respect of these cases* (₹ in crores)
Subsidiary	1	1
Others	3	2

*excludes loan granted to Hindalco Employee Welfare Trust for administering share based awards to employees of the Company.

(Also refer Note 10 and Note 47 to the standalone financial statements)

(b) In respect of the aforesaid investments/loans, the terms and conditions under which such loans were granted/ investments were made are not prejudicial to the Company's interest.

(c) In respect of the loans, the schedule of repayment of principal and payment of interest has been stipulated, and the parties are repaying the principal amounts, as stipulated, and are also regular in payment of interest as applicable.

(d) In respect of the loans, there is no amount which is overdue for more than ninety days.

(e) Following loans were granted to same parties, which has fallen due during the year and were renewed/extended. Further, in respect of following loans fresh loans were granted to settle the overdue loans.

Name of the parties	Aggregate amount dues renewed or extended or settled by fresh loans (₹ in crores)	Percentage of the aggregate to the total loans or advances in the nature of loans granted during the year
Birla Copper Asoj Private Limited	164	97.62%
Suvas Holdings Limited	1	0.60%

(Also refer Note 10 to the standalone financial statements)

(f) The loans granted during the year, including to related parties had stipulated the scheduled repayment of principal and payment of interest and the same were not repayable on demand.

iv. In our opinion, and according to the information and explanations given to us, the Company has complied with the provisions of Sections 185 and 186 of the Companies Act, 2013 (the "Act") in respect of the loans and investments made, and guarantees and security provided by it.

v. The Company has not accepted any deposits or amounts which are deemed to be deposits referred in Sections 73, 74, 75 and 76 of the Act and the Rules framed there under to the extent notified.

vi. Pursuant to the rules made by the Central Government of India, the Company is required to maintain cost records as specified under Section 148(1) of the Act in respect of its products. We have broadly reviewed the same and are of the opinion that, prima facie, the prescribed accounts and records have been made and maintained. We have not, however, made a detailed examination of the records with a view to determine whether they are accurate or complete.

vii. (a) According to the information and explanations given to us and the records of the Company examined by us, in our opinion, the Company is generally regular in depositing undisputed statutory dues in respect of goods and service tax, income tax and profession tax, though there have been slight delays in a few cases, and is regular in depositing undisputed statutory dues, including employees' state insurance, sales tax, service tax, duty of customs, duty of excise, value added tax and cess and other material statutory dues, as applicable, with the appropriate authorities (Refer note 45(b)). Also, refer note 35(ii) to the standalone financial statements regarding management's assessment on certain matters relating to provident fund.

(b) According to the information and explanations given to us and the records of the Company examined by us, there are no statutory dues of provident fund as referred to in sub-clause (a) which have not been deposited on account of any dispute. The particulars of other statutory dues referred to in sub-clause (a) as at March 31, 2023 which have not been deposited on account of a dispute, are as follows:

Name of the statute	Nature of dues	Amount (₹ in crore)#	Period to which the amount relates	Forum where the disputes are pending
Central Sales Tax Act and Local Sales Tax (including VAT) Act	Sales Tax	31	1995-2010, 2014-2016	Assistant Commissioner/Deputy Commissioner /Commissioner/ Revisionary Authorities/ Joint Commissioner (A) /Additional Commissioner (A)
		5	2002-2007, 2009-2011	Tribunal
		33	1999-2007, 2012-2013	High Court
The Central Excise Act, 1944	Excise Duty	13	2000-2003, 2005-2006, 2008-2009, 2012-2018	Assistant Commissioner/ Commissioner/ Revisionary Authorities/ Commissioner (A)
		1,373	2001-2018	Customs, Excise and Service Tax Appellate Tribunal (CESTAT)
		207	2001-2008	High Court
		3	2014-2016	Supreme Court
Clean environment cess		17	2017-2018	Customs, Excise and Service Tax Appellate Tribunal (CESTAT)
The Customs Act, 1962	Custom Duty	1	2004-2005, 2010-2014, 2020-2021	Commissioner (Appeal)

Annexure B to Independent Auditor's Report

Referred to in paragraph 14 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the standalone financial statements as of and for the year ended March 31, 2023

Name of the statute	Nature of dues	Amount (₹ in crore)#	Period to which the amount relates	Forum where the disputes are pending
		30	2004-2006, 2010-2013, 2016-2018	Customs, Excise and Service Tax Appellate Tribunal (CESTAT)
		9	2014-2015	High Court
The Service Tax under the Finance Act, 1994	Service Tax	9	2008 – 2018	Assistant Commissioner/ Commissioner/ Revisionary Authorities /Commissioner (A)
		476	2004-2018	Customs, Excise and Service Tax Appellate Tribunal (CESTAT)
		48	2013-2018	High Court
The Central Goods and Service Tax Act, 2017	Goods and Services Tax	134	2016-2019, 2020-2023	Assistant Commissioner/ Commissioner (A)/ Joint Commissioner
		14	2017-2018	High Court
Income Tax Act, 1961	Income Tax	19	2015-2017	Commissioner of Income Tax Appeals
Building and Other Construction Workers Welfare Cess Act, 1996	BOCW Cess	191	2008-2018	State Labour Commissioner
Mines and Minerals (Development and Regulation) Act, 1957	Royalty	37	1991-2011	Certificate Officer
Orissa Entry Tax, 1999	Entry Tax	76	2003-2018	High Court
Uttar Pradesh Tax on Entry of Goods into Local Areas Act, 2007	Entry Tax	298	2000-2012	High Court
Uttar Pradesh Stamp Act	Stamp Duty	253	2006-2007	High Court
Indian Stamp Act, 1899	Stamp Duty	*	2003-2004	High Court
The Employees State Insurance Act, 1948	Employees State Insurance	*	2004-2005	Employees State Insurance Court
Transit Permit Pass Regulation, 1973	Transit Permit Pass	1	2006-07	High Court
Uttar Pradesh Kshetra Panchayat and Zila Panchayat Adhiniyam, 1961	Toll Tax	54	2003-2017	High Court
Procurement of Energy from renewable sources, 2010 (Regulations)	Renewable Power Obligation	5	2010-2011	Commissioner (A)/ Joint Commissioner

The above amounts does not include the matters where the Company has favourable orders at various forums without an outstanding demand as at year end and the Revenue authorities have preferred an appeal.

above amounts are net of payments made under protest.

* Represents figures below the rounding off convention used in this report.

viii. According to the information and explanations given to us and the records of the Company examined by us, there are no transactions in the books of account that has been surrendered or disclosed as income during the year in the tax assessments under the Income Tax Act, 1961, that has not been recorded in the books of account.

ix. (a) According to the records of the Company examined by us and the information and explanation given to us, the Company has not defaulted in repayment of loans or other borrowings or in the payment of interest to any lender during the year.

(b) According to the information and explanations given to us and on the basis of our audit procedures, we report that the Company has not been declared Wilful Defaulter by any bank or financial institution or government or any government authority.

(c) According to the records of the Company examined by us and the information and explanations given to us, the Company has not obtained any term loans.

(d) According to the information and explanations given to us, and the procedures performed by us, and on an overall examination of the standalone financial statements of the Company, we report that no funds raised on short-term basis have been used for long-term purposes by the Company.

(e) According to the information and explanations given to us and on an overall examination of the financial statements of the Company, we report that the Company has not taken any funds from any entity or person on account of or to meet the obligations of its subsidiaries, associates or joint ventures.

(f) According to the information and explanations given to us and procedures performed by us, we report that the Company has not raised loans during the year on the pledge of securities held in its subsidiaries, joint ventures or associate companies.

x. (a) The Company has not raised any money by way of initial public offer or further public offer (including debt instruments) during the year. Accordingly, the reporting under clause 3(x)(a) of the Order is not applicable to the Company.

(b) The Company has not made any preferential allotment or private placement of shares or fully or partially or optionally convertible debentures during the year. Accordingly, the reporting under clause 3(x)(b) of the Order is not applicable to the Company.

xi. (a) During the course of our examination of the books and records of the Company, carried out in accordance with the generally accepted auditing practices in India, and according to the information and explanations given to us, we have neither come across any instance of material fraud by the Company or on the Company, noticed or reported during the year, nor have we been informed of any such case by the Management.

(b) During the course of our examination of the books and records of the Company, carried out in accordance with the generally accepted auditing practices in India, and according to the information and explanations given to us, a report under Section 143(12) of the Act, in Form ADT-4, as prescribed under rule 13 of Companies (Audit and Auditors) Rules, 2014 was not required to be filed with the Central Government. Accordingly, the reporting under clause 3(xi)(b) of the Order is not applicable to the Company.

(c) During the course of our examination of the books and records of the Company carried out in accordance with the generally accepted auditing practices in India, and according to the information and explanations given to us, the Company has received whistle-blower complaints during the year, which have been considered by us for any bearing on our audit and reporting under this clause. In respect of a complaint, for which preliminary findings of the investigation has been provided to us by management, our consideration of the complaint having any bearing on our audit is limited to such preliminary findings.

Annexure B to Independent Auditor's Report

Referred to in paragraph 14 of the Independent Auditor's Report of even date to the members of Hindalco Industries Limited on the standalone financial statements as of and for the year ended March 31, 2023

xii. As the Company is not a Nidhi Company and the Nidhi Rules, 2014 are not applicable to it, the reporting under clause 3(xii) of the Order is not applicable to the Company.

xiii. The Company has entered into transactions with related parties in compliance with the provisions of Sections 177 and 188 of the Act. The details of such related party transactions have been disclosed in the standalone financial statements as required under Indian Accounting Standard 24 "Related Party Disclosures" specified under Section 133 of the Act.

xiv. (a) In our opinion and according to the information and explanation given to us, the Company has an internal audit system commensurate with the size and nature of its business.

(b) The reports of the Internal Auditor for the period under audit have been considered by us.

xv. The Company has not entered into any non-cash transactions with its directors or persons connected with him. Accordingly, the reporting on compliance with the provisions of Section 192 of the Act under clause 3(xv) of the Order is not applicable to the Company.

xvi. (a) The Company is not required to be registered under Section 45-IA of the Reserve Bank of India Act, 1934. Accordingly, the reporting under clause 3(xvi)(a) of the Order is not applicable to the Company.

(b) The Company has not conducted non-banking financial / housing finance activities during the year. Accordingly, the reporting under clause 3(xvi)(b) of the Order is not applicable to the Company.

(c) The Company is not a Core Investment Company (CIC) as defined in the regulations made by the Reserve Bank of India. Accordingly, the reporting under clause 3(xvi)(c) of the Order is not applicable to the Company.

(d) Based on the information and explanations provided by the management of the Company, the Group has five CICs as part of the Group. We have not, however, separately evaluated whether the information provided by the management is accurate and complete.

xvii. The Company has not incurred any cash losses in the financial year or in the immediately preceding financial year.

xviii. There has been no resignation of the statutory auditors during the year and accordingly the reporting under clause (xviii) is not applicable.

xix. According to the information and explanations given to us and on the basis of the financial ratios (Also refer Note 57 to the standalone financial statements), ageing and expected dates of realisation of financial assets and payment of financial liabilities, other information accompanying the financial statements, our knowledge of the Board of Directors and management plans and based on our examination of the evidence supporting the assumptions, nothing has come to our attention, which causes us to believe that any material uncertainty exists as on the date of the audit report that Company is not capable of meeting its liabilities existing at the date of balance sheet as and when they fall due within a period of one year from the balance sheet date. We, however, state that this is not an assurance as to the future viability of the Company. We further state that our reporting is based on the facts up to the date of the audit report and we neither give any guarantee nor any assurance that all liabilities falling due within a period of one year from the balance sheet date will get discharged by the Company as and when they fall due.

xx. (a) In respect of other than ongoing projects, as at balance sheet date, the Company does not have any amount remaining unspent under Section 135(5) of the Act. Accordingly, reporting under clause 3(xx)(a) of the Order is not applicable.

(b) The Company has transferred the amount of Corporate Social Responsibility remaining unspent under sub-section (5) of Section 135 of the Act pursuant to ongoing projects to a special account in compliance with the provision of sub-section (6) of Section 135 of the Act. (Also refer Note 58(a) to the standalone financial statements)

xxi. As required by paragraph 3(xxi) of the CARO 2020, we report that the auditors of the following joint operation companies, which are companies incorporated in India, have given qualification or adverse remarks in their CARO report on the standalone financial statements of the respective joint operation companies which are consolidated in standalone financial statements of the Company:

Sr. No.	Name of the Company	CIN	Relationship with the Holding Company	Date of the respective auditors' report	Paragraph number and comment in the respective CARO report reproduced below
1	Mahan Coal Limited	U01010MP2006PLC018586	Joint Operation	May 17, 2023	xiv. The Company did not have an internal audit system for the year under Audit. xvii. The Company has incurred cash losses during the current financial year as well as in the immediately preceding financial year. The amount of cash loss during the current year is ₹ 2,065.01 and ₹ 3,361.71 (₹ In hundreds) in the immediately preceding financial year.
2	Tubed Coal Mines Limited	U10100MH2007PLC174466	Joint Operation	May 17, 2023	vii. (b) According to the information and explanations provided by management and the records examined by us, the Company is yet to pay Professional Tax of ₹ 4,600 for FY 18-19, ₹ 4,600/- for FY 19-20, ₹ 4,600/- for FY 20-21, ₹ 3,700/- for FY 21-22 and ₹ 2,500/- for FY 22-23. xvii. The Company has not incurred cash losses during the financial year, however the Company had incurred cash loss in the immediately preceding financial year.

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership Number: 045255
UDIN: 23045255BGYVVQ8568

Place : Mumbai
Date : May 24, 2023

Standalone Balance Sheet

as at March 31, 2023

(₹ in Crore)

	Page No.	Note	As At 31/03/2023	As At 31/03/2022
ASSETS				
Non-Current Assets				
Property, Plant and Equipment	551	2A	30,304	30,926
Capital Work-in-Progress	552	2B	2,968	1,573
Right of Use Assets	554	3A	1,272	833
Investment Properties	556	4	7	8
Goodwill	557	5	4	4
Other Intangible Assets	557	6A	516	529
Intangible Assets Under Development	558	6B	19	8
Financial Assets				
Investment in Subsidiaries	560	7	15,805	16,423
Investment in Associates and Joint Ventures	561	8	190	160
Other Investments	562	9A	8,009	8,515
Loans	563	10	174	45
Derivatives	564	11	120	174
Other Financial Assets	572	12	1,438	232
Non-Current Tax Assets (Net)	572	13	-	-
Other Non-Current Assets	576	14	1,036	760
Total Non-Current Assets			**61,862**	**60,190**
Current Assets				
Inventories	577	15	20,186	20,948
Financial Assets				
Investments	563	9B	5,762	4,557
Trade Receivables	577	16	2,610	2,671
Cash and Cash Equivalents	579	17	472	3,405
Bank Balances other than Cash and Cash Equivalents	579	18	1,317	3,015
Loans	563	10	5	172
Derivatives	564	11	516	507
Other Financial Assets	572	12	524	1,156
Other Current Assets	576	14	3,647	2,433
			35,039	38,864
Non-Current Assets Held for Sale	579	19	21	3
Total Current Assets			**35,060**	**38,867**
Total Assets			**96,922**	**99,057**
EQUITY AND LIABILITIES				

(₹ in Crore)

	Page No.	Note	As At 31/03/2023	As At 31/03/2022
Equity				
Equity Share Capital	580	20	222	222
Other Equity	582	21	58,267	54,206
Total Equity			**58,489**	**54,428**
Liabilities				
Non-Current Liabilities				
Financial Liabilities				
Borrowings	584	22A	11,559	11,668
Lease Liabilities	555	3B	649	277
Derivatives	564	11	4	387
Other Financial Liabilities	588	24	61	13
Provisions	589	25	276	332
Employee Benefit Obligations	591	26	145	142
Deferred Tax Liabilities (Net)	572	13	4,704	2,948
Other Non-Current Liabilities	602	27	654	585
Total Non-Current Liabilities			**18,052**	**16,352**
Current Liabilities				
Financial Liabilities	587	22B	749	7,411
Borrowings				
Lease Liabilities	555	3B	114	65
Supplier's Credit	603	28	5,635	2,456
Trade Payables	587	23		
(I) Outstanding dues of Micro and Small Enterprises			161	96
(II) Outstanding dues of creditors other than Micro and Small Enterprises			9,582	10,919
Derivatives	564	11	190	3,376
Other Financial Liabilities	588	24	747	1,000
Provisions	589	25	914	731
Employee Benefit Obligations	591	26	282	275
Contract Liabilities	603	29	193	180
Current Tax Liabilities (Net)	572	13	1,244	1,121
Other Current Liabilities	601	27	570	647
Total Current Liabilities			**20,381**	**28,277**
Total Liabilities			**38,433**	**44,629**
Total Equity and Liabilities			**96,922**	**99,057**
Basis of Preparation and Significant Accounting Policies	526	1		

The accompanying Notes are an integral part of the Standalone Financial Statements

This is the Standalone Balance Sheet referred in our report of even date

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership No. 045255

Place : Mumbai
Dated : May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director & Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN No.: 00026078

Standalone Statement of Profit and Loss

for the year ended March 31, 2023

(₹ in Crore)

	Page No.	Note	Year ended 31/03/2023	Year ended 31/03/2022
INCOME				
Revenue from Operations	603	30	76,878	67,653
Other Income	605	31	586	535
Total Income			**77,464**	**68,188**
EXPENSES				
Cost of Materials Consumed	605	32	45,793	41,979
Trade Purchases	606	33	1,553	1,922
Changes in inventories of Finished Goods, Work-in-Progress and Stock-in-Trade	606	34	1,062	(3,344)
Employee Benefits Expense	607	35	2,218	2,058
Power and Fuel	607	36	11,318	6,781
Finance Cost	607	37	1,300	1,417
Depreciation and Amortization Expense	608	38	1,874	1,752
Impairment Loss/ (Reversal) on Non-Current Assets (Net)	608	39	53	95
Impairment Loss/ (Reversal) on Financial Assets (Net)	609	40	12	2
Other Expenses	609	41	7,447	6,962
Total Expenses			**72,630**	**59,624**
Profit/(Loss) before Exceptional Items and Tax			4,834	8,564
Exceptional Income/ (Expenses) (Net)	610	42	41	(107)
Profit/(Loss) before Tax			**4,875**	**8,457**
Tax Expense	572	13		
Current Tax Expense			917	1,496
Deferred Tax Expense			632	1,454
Profit/(Loss) for the year			**3,326**	**5,507**

(₹ in Crore)

	Page No.	Note	Year ended 31/03/2023	Year ended 31/03/2022
Other Comprehensive Income/ (Loss)	611	43		
Items that will not be reclassified to Statement of Profit and Loss				
Remeasurement of Defined Benefit Obligation			(10)	(5)
Change in Fair Value of Equity Instruments Designated as FVTOCI			(485)	1,108
Income Tax effect			37	(231)
Items that will be reclassified to Statement of Profit and Loss				
Change in Fair Value of Debt Instruments Designated as FVTOCI			(13)	(9)
Effective Portion of Cash flow Hedges			3,269	(1,867)
Cost of Hedging Reserve			64	(75)
Income Tax effect			(1,160)	682
Other Comprehensive Income/ (Loss) for the year			**1,702**	**(397)**
Total Comprehensive Income/ (Loss) for the year			**5,028**	**5,110**
Earnings Per Share	612	44		
Basic (₹)			14.96	24.76
Diluted (₹)			14.94	24.73
Basis of Preparation and Significant Accounting Policies	526	1		

The accompanying Notes are an integral part of the Standalone Financial Statements

This is the Standalone Statement of Profit and Loss referred in our report of even date

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership No. 045255

Place : Mumbai
Dated : May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director & Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN No.: 00026078

Standalone Statement of Changes in Equity

for the Year ended March 31, 2023

A. **Equity Share Capital** (₹ in Crore)

Particulars	Note	Amount
Balance as at 01/4/2021	20	222
Changes in Equity Share Capital		-
Balance as at 31/03/2022	20	222
Changes in Equity Share Capital		-
Balance as at 31/03/2023	20	222

B. **Other Equity** (₹ in Crore)

Particulars	Note	Share Application Money Pending Allotment	Reserves and Surplus									Other Reserves				Total Other Equity
			Capital Reserve	Capital Redem-ption Reserve	Business Recons-truction Reserve	Securities Premium	Debenture Redemption Reserve	Employee Stock Options	Treasury Shares held by ESOP Trust	General Reserve	Retained Earnings	Gain/ (Loss) on Equity Instruments FVTOCI	Gain/ (Loss) on Debt Instruments FVTOCI	Effective portion of Cash Flow Hedge	Cost of Hedging Reserve	
Balance as at 01/4/2021		**-**	**145**	**102**	**7,715**	**8,224**	**1,350**	**55**	**(129)**	**21,354**	**5,494**	**6,117**	**1**	**(596)**	**10**	**49,842**
Profit/ (Loss) for the year										5,507						5,507
Other Comprehensive Income/ (Loss) for the year		-	-	-	-	-	-	-	-	-	(2)	874	(6)	(1,214)	(49)	(397)
Total Comprehensive Income/ (Loss) for the year		-	-	-	-	-	-	-	-	-	5,505	874	(6)	(1,214)	(49)	5,110
Hedging (Gain)/ Loss and cost of hedging transferred to non-financial assets		-	-	-	-	-	-	-	-	-	-	-	-	(41)	-	(41)
Realised Gain/ (Loss) on Equity FVTOCI transferred to Retained Earnings		-	-	-	-	-	-	-	-	-	68	(68)	-	-	-	-
Transfer to Debenture Redemption Reserve		-	-	-	-	-	150	-	-	-	(150)	-	-	-	-	-
Transactions with owners in their capacity as owners																
Shares Acquired by the Trust		-	-	-	-	-	-	-	(94)	-	-	-	-	-	-	(94)
Shares Issued by the Trust		-	-	-	-	-	-	(11)	24	-	2	-	-	-	-	15
Employee Share Based Transactions		-	-	-	-	9	-	(3)	-	-	-	-	-	-	-	6
Employee Share Options Expenses		-	-	-	-	-	-	35	-	-	-	-	-	-	-	35
Employee Share Options Lapsed/Forfeited		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends Paid		-	-	-	-	-	-	-	-	-	(667)	-	-	-	-	(667)
Balance as at 31/03/2022	**21**	**-**	**145**	**102**	**7,715**	**8,233**	**1,500**	**76**	**(199)**	**21,354**	**10,252**	**6,923**	**(5)**	**(1,851)**	**(39)**	**54,206**

Particulars	Note	Share Application Money Pending Allotment	Reserves and Surplus									Other Reserves				Total Other Equity
			Capital Reserve	Capital Redem-ption Reserve	Business Recons-truction Reserve	Securities Premium	Debenture Redemption Reserve	Employee Stock Options	Treasury Shares held by ESOP Trust	General Reserve	Retained Earnings	Gain/ (Loss) on Equity Instruments FVTOCI	Gain/ (Loss) on Debt Instruments FVTOCI	Effective portion of Cash Flow Hedge	Cost of Hedging Reserve	
Balance as at 31/03/2022	**21**	**-**	**145**	**102**	**7,715**	**8,233**	**1,500**	**76**	**(199)**	**21,354**	**10,252**	**6,923**	**(5)**	**(1,851)**	**(39)**	**54,206**
Profit/ (Loss) for the year		3,326	3,326													
Other Comprehensive Income/ (Loss) for the year		-	-	-	-	-	-	-	-	-	(7)	(451)	(9)	2,127	42	1,702
Total Comprehensive Income/ (Loss) for the year		-	-	-	-	-	-	-	-	-	3,319	(451)	(9)	2,127	42	5,028
Hedging (Gain)/ Loss and cost of hedging transferred to non-financial assets		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Realised Gain/ (Loss) on Equity FVTOCI transferred to Retained Earnings		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Retained Earnings from Debenture Redemption Reserve		-	-	-	-	-	(1,500)	-	-	-	1,500	-	-	-	-	-
Transactions with owners in their capacity as owners																
Shares Acquired by the Trust		-	-	-	-	-	-	-	(131)	-	-	-	-	-	-	(131)
Shares Issued by the Trust		-	-	-	-	1	-	(15)	24	-	(3)	-	-	-	-	7
Employee Share Based Transactions		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employee Share Options Expenses		-	-	-	-	-	-	47	-	-	-	-	-	-	-	47
Employee Share Options Lapsed/Forfeited		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends Paid		-	-	-	-	-	-	-	-	-	(890)	-	-	-	-	(890)
Balance as at 31/03/2023	**21**	**-**	**145**	**102**	**7,715**	**8,234**	**-**	**108**	**(306)**	**21,354**	**14,178**	**6,472**	**(14)**	**276**	**3**	**58,267**
Basis of Preparation and Significant Accounting Policies	1															

The accompanying notes are an integral part of the Standalone Financial Statements

This is the Standalone Statement of Changes in Equity referred in our report of even date

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership No. 045255

Place : Mumbai
Dated : May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director & Chief Financial Officer
DIN-00174361

Geetika Anand
Company Secretary

Satish Pai
Managing Director
DIN-06646758

K N Bhandari
Director
DIN No.: 00026078

Standalone Statement of Cash Flows

for the Year ended March 31, 2023

(₹ in Crore)

		Note	Year ended 31/03/2023	Year ended 31/03/2022
A.	**CASH FLOW FROM OPERATING ACTIVITIES**			
	Profit/ (Loss) before Tax		4,875	8,457
	Adjustment for :			
	Finance Cost	37	1,300	1,417
	Depreciation and Amortization Expense	38	1,874	1,752
	Equity settled share-based payment	35	47	35
	Impairment Loss/ (Reversal) on Non-Current Assets	39	53	95
	Impairment Loss/ (Reversal) on Financial Assets (Net)	40	12	2
	Other Non-Operating (Income)/Expenses (Net)		(180)	(117)
	Unrealised Foreign Exchange (Gain)/ Loss (Net)		(59)	29
	Unrealised (Gain)/ Loss on Derivative Transactions (Net)		(445)	53
	Fair Value (Gain)/ Loss on modification of Borrowings (Net)		(48)	(53)
	(Gain)/ Loss on Assets held for Sale (Net)		-	-
	(Gain)/ Loss on Property, Plant and Equipment and Intangible Assets Sold/Discarded (Net)	31	31	31
	Interest Income	31	(290)	(144)
	Dividend Income	31	(33)	(31)
	Exceptional (Income)/ Expense (Net)	42	(41)	107
	Changes in Cash Flow Hedges (realised)		1	(34)
	(Gain)/ Loss on Investments measured at FVTPL (Net)	31	(163)	(263)
	Operating Profit before Working Capital Changes		**6,934**	**11,336**
	Changes in Working Capital:			
	(Increase)/ Decrease in Inventories (Net)		846	(4,797)
	(Increase)/ Decrease in Trade Receivables		51	(1,030)
	(Increase)/ Decrease in Other Financial Assets		19	(91)
	(Increase)/ Decrease in Other Non-Financial Assets		(1,148)	(767)
	Increase/ (Decrease) in Trade Payables		(1,092)	1,898
	Increase/ (Decrease) in Other Financial Liabilities		(6)	32
	Increase/ (Decrease) in Non-Financial Liabilities (including Contract Liabilities)		26	179
	Cash Generated from Operation before Tax		**5,630**	**6,760**
	Refund/ (Payment) of Income Tax (Net)		(794)	(1,552)
	Net Cash Generated/ (Used) - Operating Activities		**4,836**	**5,208**
B.	**CASH FLOW FROM INVESTING ACTIVITIES**			
	Payments to acquire Property Plant and Equipment, Intangible Assets and Investment Property		(2,726)	(1,506)
	Proceeds from disposal of Property Plant and Equipment, Intangible Assets and Investment Property		52	67
	Acquisition of business		-	(265)
	Investment in Subsidiaries		(4)	(26)
	Return of Capital from Subsidiary		793	557
	Investment in Associates and Joint Ventures		(17)	(1)
	(Purchase)/ Sale of Investment in Equity Shares at FVTOCI (Net)		-	102
	(Purchase)/ Sale of Other Investments (Net)		(1,047)	2,966
	Loans and Deposits given		(3,022)	(4,029)
	Receipt of Loans and Deposits given		4,224	44
	Interest Received		233	123
	Dividend Received		33	31
	Net Cash Generated/ (Used) - Investing Activities		**(1,481)**	**(1,937)**

(₹ in Crore)

		Note	Year ended 31/03/2023	Year ended 31/03/2022
C.	**CASH FLOW FROM FINANCING ACTIVITIES**			
	Proceeds from issue of Equity Shares (Including Share Application Money)		-	6
	Treasury Shares acquired by ESOP Trust		(131)	(94)
	Proceeds from Shares issued by ESOP Trust		6	15
	Proceeds from Non-Current Borrowings	22A	700	2,500
	Pre-payment of Non-Current Borrowings	22A	(74)	(460)
	Repayment of Non-Current Borrowings	22A	(6,002)	(8)
	Principal Payments of Leases Liabilities	22A	(132)	(71)
	Proceeds from/ (Repayment of) Current Borrowings (Net)	22A	(1,378)	(2,923)
	Proceeds from Current Borrowings from Subsidiary		-	1,000
	Repayment of Current Borrowings from Subsidiary		-	(1,000)
	Increase/ (Decrease) in Supplier's Credit (Net)	28	3,214	2,161
	Finance Cost Paid		(1,603)	(1,328)
	Dividend Paid		(890)	(667)
	Net Cash Generated/ (Used) - Financing Activities		**(6,290)**	**(869)**
	Net Increase/(Decrease) in Cash and Cash Equivalents		**(2,935)**	**2,402**
	Add: Opening Cash and Cash Equivalents		3,405	1,003
	Closing Cash and Cash Equivalents		**470**	**3,405**
	Reconciliation of Closing Cash and Cash Equivalents with Balance Sheet:			
	Cash and Cash Equivalents as per Balance Sheet	17	**472**	**3,405**
	Less: Temporary Overdraft Balance in Current Accounts	24	(2)	-
	Cash and Cash Equivalents as per Cash Flow Statement		**470**	**3,405**
	Supplemental Information			
	Non Cash Transactions from Investing and Financing Activities:			
	Acquisition of Right of Use Assets	3A	**555**	**131**
	Basis of Preparation and Significant Accounting Policies	**1**		

The accompanying Notes are an integral part of the Standalone Financial Statements

This is the Standalone Statement of Cash Flows referred in our report of even date

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration Number: 304026E/ E-300009

Sarah George
Partner
Membership No. 045255

Place : Mumbai
Dated : May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director & Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN No.: 00026078

Company Information:

Hindalco Industries Limited ("the Company"), bearing Corporate Identity Number L27020MH1958PLC011238, is a public limited company incorporated in India in the year 1958. The Company is domiciled in India and its registered office is at Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400093. The equity shares of the Company are listed on National Stock Exchange of India Limited (NSE) and BSE Limited (BSE) and its Global Depositary Receipts (GDR) are listed on the Luxembourg Stock Exchange.

The Company along with its subsidiaries has manufacturing operations in ten countries including India spread over four continents viz North America, South America, Asia and Europe. The Company is primarily engaged in two main streams of business namely Aluminium and Copper. In Aluminium business, the Company has presence across the entire value chain starting from mining of bauxite and coal through production of primary Aluminium and value added products like flat rolled product, extrusion and light gauge products for use in various applications like packaging, can, foil, food and beverage as well as products for use in aerospace, automotive, electronic, transportation, building and construction and other industrial segments.

In Copper business, the Company has one of the largest single location Copper smelting facility in India. The Company produces copper cathode, copper rods and precious metals.

The standalone financial statements ("the financial statements") presents the financial position of the Company and it includes the financial information of two joint operations consolidated on proportionate basis and two trusts. The list of entities incorporated in the standalone financial statements are provided in Note 53.

The standalone financial statements for the year ended March 31, 2023 have been approved for issue by the Board of Directors of the Company in their meeting held on May 24, 2023.

1. Basis of Preparation and Significant Accounting Policies

The basis of preparation and the accounting policies have been applied consistently to all the periods presented in the standalone financial statements, unless otherwise stated. The accounting policies adopted are the same as those which were applied for the previous financial year.

Statement of Compliance

The standalone financial statements comply in all material aspects with the Indian Accounting Standards ("Ind-AS") as prescribed under section 133 of the Companies Act 2013 ("the Act"), other relevant provisions of the Act as notified under the Companies (Indian Accounting Standards) Rules, 2015, (including subsequent amendments) and other accounting principles generally accepted in India.

1A. Basis of preparation

The standalone financial statements have been prepared and presented on the going concern basis using accrual basis of accounting and under the historical cost convention except for following assets and liabilities:

- Derivative financial instruments; see Note 1B(R) for accounting policy
- Certain financial assets and liabilities; see Note 1B(Q) for accounting policy
- Assets held for sale; see Note 1B(I) for accounting policy
- Employee's defined benefit plan assets; see Note 1B(V) for accounting policy
- Liability for cash based share-based payments; see Note 1B(W) for accounting policy
- Assets and liabilities acquired under business combination; see Note 1B(FF) for accounting policy
- Inventories those are designated in a fair value hedge relationship; see Note 1B(N), (R) for accounting policy
- Assets and liabilities designated as hedged items in fair value hedges that would otherwise be carried at cost; see Note 1B(R) for accounting policy

Historical cost is generally based on the fair value of the consideration in exchange for goods and services.

The Company has determined current and non-current classification of its assets and liabilities in the standalone financial statements as per the Company's normal operating cycle, and other criteria set out in Schedule III of the Companies Act, 2013. Based on the nature of products and the time lag between the acquisition of assets for processing and their realisation in cash and cash equivalents, the Company has ascertained its normal operating cycle as 12 months for the purpose of current and non-current classification of its assets and liabilities.

The standalone financial statements have been presented in Indian Rupees (₹), which is the functional currency of the Company and the currency of the primary economic environment in which the Company operates. All financial information presented in Indian Rupees has been rounded off to nearest Crore Rupees (₹ 1 Crore = ₹ 10,000,000) without any decimal unless otherwise stated. Amounts below rounding off convention are considered as Nil in the standalone financial statements.

1B. Significant Accounting Policies

A summary of the significant accounting policies applied in the preparation of the financial statements are as given below. These accounting policies have been applied consistently to all the periods presented in the financial statements.

(A) Investment in Subsidiaries and Joint Ventures

The investments in subsidiaries and joint ventures are carried in the financial statements at historical cost except when the investment, or a portion thereof, is classified as held for sale, in which case measured at lower of carrying amount and fair value less costs to sell. When the Company is committed to a sale plan involving disposal of an investment, or a portion of an investment, in any subsidiary or joint venture, the investment or the portion of the investment that will be disposed of is classified as held for sale when the criteria described above are met. Any retained portion of an investment in a subsidiary or a joint venture that has not been classified as held for sale continues to be accounted for at historical cost.

Investments in subsidiaries and joint ventures carried at cost are tested for impairment in accordance with Ind AS 36 Impairment of Assets. The carrying amount of the investment is tested for impairment as a single asset by comparing its recoverable amount with its carrying amount, any impairment loss recognised reduces the carrying amount of the investment.

(B) Investment in Associates

The investments in associates are carried in these financial statements at fair Value through Other Comprehensive Income (OCI).

(C) Investment in Joint Operations

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

When the Company undertakes its activities under joint operations, the Company as a joint operator recognises in relation to its interest in a joint operation:

- its assets, including its share of any assets held jointly;
- its liabilities, including its share of any liabilities incurred jointly;
- its revenue from the sale of its share of the output arising from the joint operation;
- its share of the revenue from the sale of the output by the joint operation; and
- its expenses, including its share of any expenses incurred jointly.

The Company accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the standard applicable to the particular assets, liabilities, revenues and expenses.

When the Company transacts with a joint operation in which the Company is a joint operator (such as a sale or contribution of assets), the Company is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognised in the financial statements only to the extent of other parties' interests in the joint operation.

When the Company transacts with a joint operation in which the Company is a joint operator (such as a purchase of assets), the Company does not recognise its share of the gains and losses until it resells those assets to a third party.

See Note 7 - Investment in Subsidiaries for further details.

See Note 8 - Investment in Associates and Joint Ventures for further details.

(D) **Property, Plant and Equipment**

Property, plant and equipment held for use in the production or/and supply of goods or services, or for administrative purposes, are stated in the balance sheet at cost, less any subsequent accumulated depreciation and subsequent accumulated impairment losses except for freehold land which is carried at historical cost.

The initial cost at cash price equivalent of property, plant and equipment acquired comprises its purchase price, including import duties and non-refundable purchase taxes, any directly attributable costs of bringing the assets to its working condition and location and present value of any obligatory decommissioning costs for its intended use. Cost may also include effective portion on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment transferred from hedge reserve as basis adjustment.

In case of self-constructed assets, cost includes the costs of all materials used in construction, direct labour, allocation of overheads, directly attributable borrowing costs and effective portion of cash flow hedges of foreign currency transferred from the hedge reserve as basis adjustment.

Subsequent expenditure on major maintenance or repairs includes the cost of the replacement of parts of assets and overhaul costs. Where an asset or part of an asset is replaced and it is probable that future economic benefits associated with the item will be available to the Company, the expenditure is capitalised and the carrying amount of the item replaced is derecognised.

Similarly, overhaul costs associated with major maintenance which can be measured reliably are capitalised and depreciated over their useful lives where it is probable that future economic benefits will be available and any remaining carrying amounts of the cost of previous overhauls are derecognised. All other costs are charged to profit and loss during the reporting period in which they are incurred.

Capital Work-in-Progress

Capital work-in-progress comprises of tangible items in the course of construction for production or/and supply of goods or services or administrative purposes are carried at cost, less any accumulated impairment loss. At the point when an asset is capable of operating at management's intended use, the cost of construction is transferred to the appropriate category of property, plant and equipment. Costs associated with the commissioning of an asset are capitalised.

Depreciation

Depreciation is charged so as to write off the cost or value of assets, net off their residual values, over their estimated useful lives. Depreciation is recorded using the straight line basis. The estimated useful lives and residual values are reviewed at each year end, with the effect of any changes in estimate accounted for on a prospective basis. Each component of an item of property, plant and equipment with a cost that is significant in relation to the total cost of that item is depreciated separately if its useful life differs from the others components of the asset.

Depreciation commences when the assets are ready for their intended use. Depreciated assets and accumulated depreciation amounts are retained fully until they are removed/retired from active use.

Leasehold improvements are depreciated over the shorter of their useful life or the lease term, unless the entity expects to use the assets beyond the lease term.

The useful life of the items of Property, Plant and Equipment estimated by the management for the current and comparative period are in line with the useful life as per Schedule II of the Companies Act, 2013, (refer Note 2).

Disposal of assets

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between net disposal proceeds and the carrying amount of the asset and is recognised in the statement of profit and loss.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 38 - Depreciation and Amortization Expense for further details.

(E) **Investment Properties**

Investment properties held to earn rentals or for capital appreciation or both are stated in the balance sheet at cost, less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Subsequent expenditure on major maintenance or repairs includes the cost of the replacement of parts of assets. Where an asset or part of an asset is replaced and it is probable that future economic benefits associated with the item will be available to the Company, the expenditure is capitalised and the carrying amount of the item replaced is derecognised. All other repairs and maintenance costs are recognised in the statement of profit and loss. Depreciation is charged on a straight line basis over their estimated useful lives. Any gain or loss on disposal of investment property is determined as the difference between net disposal proceeds and the carrying amount of the property and is recognized in the statement of profit and loss. Transfer to, or from, investment property is done at the carrying amount of the property.

See Note 4 - Investment Properties for further details.

See Note 38 - Depreciation and Amortization Expense for further details.

(F) **Intangible Assets (Other than Goodwill)**

Intangible assets acquired separately

Intangible assets acquired are reported at cost less accumulated amortization and accumulated impairment losses. Amortization is charged on a straight line basis over their estimated useful lives other than Mining rights. The estimated useful life and amortization method are reviewed at the end of each annual reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Internally-generated intangible assets

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if all of the following can be demonstrated:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- management's intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;
- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognized for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset is recognised. Where no internally-generated intangible asset can be recognized, development expenditure is charged to the statement of profit and loss in the period in which it is incurred.

Subsequent to initial recognition, internally-generated intangible assets are reported at cost less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets acquired separately.

Intangible assets acquired in a business combination

Identified intangible assets acquired in a business combination and recognised separately from goodwill are initially recognised at their fair values at the acquisition date.

Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets acquired separately.

Mineral Reserves, Resources and Rights (Mining Rights)

Mineral reserves, resources and rights (together referred to as 'mining rights') which can be reasonably valued, are recognised in the assessment of fair values on acquisition. Exploitable mineral rights are amortised using the unit of production basis over the commercially recoverable reserves. Mineral resources are included in amortisation calculations where there is a high degree of confidence that they will be extracted in an economic manner. Commercially recoverable reserves are proved and probable reserves. Changes in the commercial recoverable reserves affecting unit of production calculations are dealt with prospectively over the revised remaining reserves.

Exploration for and evaluation of mineral resources

Expenditures associated with exploration for and evaluation of mineral resources after obtaining of legal rights to explore a specific area but before technical feasibility and commercial viability of extracting mineral resources are demonstrable are recognized as Exploration and Evaluation assets.

If a project does not prove viable, all irrecoverable exploration and evaluation expenditure associated with the project net of any related impairment allowances is written off to the statement of profit and loss.

The Company measure its Exploration and Evaluation assets at cost and classifies it as Property, Plant and Equipment or Intangible Assets according to the nature of assets acquired and applies the classification consistently.

As the assets is not available for use, it is not depreciated but are monitored for indication of impairment. An exploration and evaluation asset is no longer classified as such when the technical feasibility and commercial viability of extracting minerals resources are demonstrable and the development of the deposit is intended by the management. The carrying value of such exploration and evaluation asset is reclassified as Mining Rights.

De-recognition of intangible assets

An intangible asset is derecognised on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset are recognised in the statement of profit and loss when the asset is derecognised.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment annually, and whenever there is an indication that the asset may be impaired.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 38 - Depreciation and Amortization Expense for further details.

(G) **Goodwill**

Goodwill arising on acquisition is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any. For the purpose of impairment testing, goodwill is allocated to each of the cash-generating units expected to benefit from the synergies of the combination.

Cash-generating units to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro-rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognised for goodwill is not reversed in a subsequent period.

See Note 5 - Goodwill for further details.

(H) **Stripping cost**

Stripping costs incurred during the mining production phase are allocated between cost of inventory produced and the existing mine asset. The stripping ratio, as approved by the regulatory authority, for the life of the mine is obtained by dividing the estimated quantity of overburden by the estimated quantity of mineable coal / bauxite reserve to be extracted over the life of the mine. This ratio is periodically reviewed and changes, if any, are accounted for prospectively.

Stripping costs are allocated and included as a component of the mine asset when they represent significantly improved access to ore, provided all the following conditions are met:

- it is probable that the future economic benefit associated with the stripping activity will be realised;
- the component of the ore body for which access has been improved can be identified; and
- the costs relating to the stripping activity associated with the improved access can be reliably measured.

The overburden removal costs are included in Mining Rights under Intangible assets and amortised based on stripping ratio on the quantity of coal / bauxite excavated.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 38 - Depreciation and Amortization Expense for further details.

(I) **Non-Current Assets or Disposal Group Held for Sale and Discontinued Operations**

Non-current assets and disposal group are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the asset (or disposal group) is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such asset (or disposal group) and its sale is highly probable. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets (and disposal group) classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell except for those assets that are specifically exempt under relevant Ind AS. Once the assets are classified as "Held for sale", those are not subjected to depreciation till disposal.

An impairment loss is recognised for any initial or subsequent write-down of the asset (or disposal group) to fair value less costs to sell. A gain is recognised for any subsequent increases in fair value less costs to sell of an asset (or disposal group), but not in excess of any cumulative impairment loss previously recognised.

A gain or loss not previously recognised by the date of the sale of the non-current asset (or disposal group) is recognised at the date of derecognition.

Non-current assets classified as held for sale and the assets of a disposal group classified as held for sale are presented separately from the other assets in the balance sheet.

Discontinued Operations

A discontinued operation is a component of the entity that has been disposed off or is classified as held for sale and that represents a separate major line of business or geographical area of operations, is part of a single co-ordinated plan to dispose of such a line of business or area of operations, or is a subsidiary acquired exclusively with a view to resale. The results of discontinued operations are presented separately in the statement of profit and loss.

See Note 19 - Non-Current Assets Held For Sale for further details.

(J) **Impairment of Non-Current Assets (excluding Goodwill)**

At the end of each reporting period, the Company reviews the carrying amounts of its tangible, intangible and other non-current assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset/cash generating unit is estimated in order to determine the extent of the impairment loss (if any). Recoverable amount is the higher of fair value less cost to sell and value in use. Where it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised immediately in the statement of profit and loss.

Non-current assets (other than Goodwill) that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period. Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised immediately in the statement of profit and loss.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 4 - Investment Properties for further details.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 39 - Impairment Loss on Non-Current Assets (Net) for further details.

(K) **Foreign currency Transactions and Translation**

In preparing the financial statements, transactions in currencies other than the Company's functional currency (foreign currencies) are recognised at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are translated at the rates prevailing at that date. Non-monetary items are measured at historical cost.

Exchange differences on monetary items are recognised in the statement of profit and loss in the period in which they arise, except for:

- eligible exchange differences on foreign currency borrowings relating to qualifying assets under construction are included in the cost of those assets when they are regarded as an adjustment to interest costs; and
- exchange differences on transactions entered into in order to hedge certain foreign currency risks (see below for hedge accounting policies).

Changes in the fair value of non-monetary equity instruments irrevocably classified as fair value through other comprehensive income includes gain or loss on account of exchange differences.

The fair value of financial liabilities and financial assets denominated in a foreign currency are translated at the spot rate at the end of the reporting period. The foreign exchange component forms part of its fair value gain or loss. Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was measured.

See Note 37 - Finance Cost for further details.

See Note 41 - Other Expenses for further details.

See Note 43 - Other Comprehensive Income/ (Loss) for further details.

(L) **Provisions and Contingencies**

Provisions are recognized when there is a present obligation (legal or constructive) as a result of a past event and it is probable ("more likely than not") that it is required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the balance sheet date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the estimated cash flows to settle the present obligation, its carrying amount is the present value of those cash flows. The discount rate used is a pre-tax rate that reflects current market assessments of the time value of money in that jurisdiction and the risks specific to the liability.

Onerous contracts

An onerous contract is considered to exist when a contract under which the unavoidable costs of meeting the obligations exceed the economic benefits expected to be received from it.

A provision for onerous contracts is recognised when the expected benefits to be derived by the Company from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract.

Restructurings

A restructuring provision is recognised when there is a detailed formal plan for the restructuring which has raised a valid expectation in those affected that the Company will carry out the restructuring by stating to implement the plan or announcing its main feature to those affected by it. The measurement of a restructuring provision includes only the direct expenditures arising from the restructuring which are both necessarily entailed by the restructuring and not associated with the ongoing activities of the Company.

Restoration (including Mine closure), rehabilitation and decommissioning

Close-down and restoration costs are provided for in the accounting period when the obligation arising from the related disturbance occurs, based on the net present value of the estimated future costs of restoration to be incurred during the life of the mining operation and post closure. Provisions for close-down and restoration costs do not include any additional obligations which are expected to arise from future disturbance.

The initial close-down and restoration provision is capitalised. Subsequent movements in the close-down and restoration provisions for ongoing operations, including those resulting from new disturbance related to expansions or other activities qualifying for capitalisation, updated cost estimates, changes to the estimated lives of operations, changes to the timing of closure activities and revisions to discount rates are also capitalised within "Property, plant and equipment". The effect of time value of money on the restoration, rehabilitation and decommissioning liabilities is recognised in the statement of profit and loss as interest expense.

Environmental Liabilities

Environment liabilities are recognised when the Company becomes obliged, legally or constructively, to rectify environmental damage or perform remediation work. The effect of time value of money on the environmental liabilities is recognised in the statement of profit and loss as interest expense.

Litigation

Provision relating to legal, tax and other matters is recognised once it has been established that the Company has a present obligation based on consideration of the information which becomes available up to the date on which the Company's financial statements are approved and may in some cases entail seeking expert advice in making the determination on whether there is a present obligation.

Contingent Liabilities and Assets

A contingent liability is a possible obligation that arises from a past event, with the resolution of the contingency dependent on uncertain future events, or a present obligation where no outflow is probable. Material contingent liabilities are disclosed in the financial statements unless the possibility of an outflow of economic resources is remote. Contingent assets are not recognized in the financial statements unless it is virtually certain that the future event will confirm the asset's existence and the asset will be realised.

Enterprise Social Commitment

Enterprise Social Commitment is the amount to be spent on social and economic development of the surrounding area over a period of time where any new project is set up. Such obligation arises out of conditions mentioned in the Environment Clearance Certificate given by the Government for new projects and are generally defined as a percentage of total project cost. Present value of such future cash flows discounted at appropriate and applicable discount rates are capitalised against the obligation created. Actual cash flows that happen over the period are adjusted against the obligation. The effect of time value of money on the environmental liabilities is recognised in the statement of profit and loss as interest expense.

Renewable Power Obligation

Provision towards Renewable Power obligation is created to the extent any obligated unit is unable to source renewable energy as a replacement to carbon energy as per requirement of the applicable regulation during the reporting period and is carried in books till the obligation is discharged by purchasing Renewable Energy Certificate from any of the authorised exchanges.

See Note 25 - Provisions for further details.

See Note 48 - Contingent Liabilities and Commitments for further details.

(M) **Leases**

The Company as Lessee

The Company assesses whether a contract is or contains a lease, at inception of the contract. The Company recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low value assets. For these leases, the Company recognises the lease payments as an operating expense on a straight-line basis over the lease term, unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed. Contingent and variable rentals are recognized as expense in the periods in which they are incurred.

Lease Liability

The lease payments that are not paid at the commencement date are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Company, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

To determine the incremental borrowing rate, the Company uses a build-up approach that starts with a risk-free interest rate adjusted for credit risk and makes adjustments specific to the lease, e.g. term, security etc.

Lease payments included in the measurement of the lease liability comprise:

- Fixed lease payments (including in-substance fixed payments) payable during the lease term and under reasonably certain extension options, less any lease incentives;
- Variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- The amount expected to be payable by the lessee under residual value guarantees;
- The exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- Payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

Lease payments are allocated between principal and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance liability for each period.

The lease liability is presented as a separate line in the Standalone Balance Sheet.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Company remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) to reflect any re-assessment, lease modification, or revised in-substance fixed lease payments.

Right of Use (ROU) Assets

The ROU assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses.

Whenever the Company incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under Ind AS 37 Provisions, Contingent Liabilities and Contingent Assets. The costs are included in the related right-of-use asset.

For the certain class of assets, the Company allocates lease or non-lease components on the basis of their relative stand-alone prices while assessing a contract at its inception or on reassessment.

The Company applies Ind AS 36- Impairment of Assets to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as per its accounting policy on 'property, plant and equipment'.

Extension and termination options are included in many of the leases. In determining the lease term, the management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option.

ROU assets are depreciated over the shorter period of the lease term and useful life of the underlying asset. If the Company is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. The depreciation starts at the commencement date of the lease.

Deferred tax on the deductible temporary difference and taxable temporary differences in respect of carrying value of right of use assets and lease liability and their respective tax bases are recognised separately.

The Company as Lessor

The Company enters into lease arrangements as a lessor with respect to some of its investment properties and buildings.

Leases for which the Company is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as finance lease. All other leases are classified as operating leases.

When the Company is an intermediate lessor, it accounts for the head lease and sublease as two separate contracts. The sublease is classified as finance or operating lease by reference to the right-of-use asset arising from the head lease.

Rental income from operating leases is recognised on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised on a straight-line basis over the lease term.

Amounts due from lessees under finance leases are recognised as receivables at the amount of the Company's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Company's net investment outstanding in respect of the leases.

When a contract includes lease and non-lease components, the Company applies Ind AS 115, Revenue from Contracts with Customers to allocate the consideration under the contract to each component.

See Note 3 – Right of Use Assets and Lease Liabilities for further details.

See Note 37 – Finance Cost for further details.

See Note 41 – Other Expenses for further details.

(N) **Inventories**

Inventories are stated at the lower of cost and net realizable value. The cost of finished goods and work in progress includes raw materials, direct labour, other direct costs and related production overheads. Costs of inventories include the transfer from equity any gains/losses on qualifying cash flow hedges for purchases of raw materials.

Cost of raw material and Traded Goods comprises of Cost of purchases and also include all other costs incurred in bringing the inventories to their present location and condition and are net of rebates and discounts.

The Inventories are measured at Fair Value only in those cases where the Inventories are designated into a fair value hedge relationship.

Cost is determined using the weighted average cost basis. However, the same cost basis is applied to all inventories of a particular class. Inventories of stores and spare parts are valued at weighted average cost basis after providing for cost of obsolescence and other anticipated losses, wherever considered necessary.

Net realizable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale.

Materials and other supplies held for use in the production of inventories (finished goods, work-in-progress) are not written down below the cost if the finished products in which they will be used are expected to sell at or above the cost.

See Note 15 – Inventories for further details.

(O) **Trade Receivables**

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. If the receivable is expected to be collected within a period of 12 months or less from the reporting date (or in the normal operating cycle of the business, if longer), they are classified as Current Assets otherwise as Non-Current Assets.

Trade receivables are measured at their transaction price on initial recognition, unless it contains a significant financing component or pricing adjustments embedded in the contract in which cases it is recognised at fair value. Trade receivables are held with the objective of collecting the contractual cash flows and therefore are subsequently measured at amortised cost less loss allowance.

Trade receivables which are subject to a factoring arrangement without recourse are de-recognized from the Balance Sheet in its entirety. Under this arrangement, the Company transfers relevant receivables to the factor in exchange for cash and does not retain late payment and credit risk.

Trade receivables which arise from contracts where the sale price is provisional and revenue model have the character of a commodity derivative are measured at fair value. The fair value is measured at forward rate and subsequent changes are recognised as Other Operating Revenue.

See Note 16 – Trade Receivables for further details

(P) **Trade and Other Payables**

These amounts represent liabilities for goods and services provided to the Company and are unpaid at the end of the financial year. The amounts are unsecured and usually paid within time limits as contracted. Trade and other payables are presented as current liabilities unless the payment is not due within 12 months after the reporting period.

They are recognised initially at their transactional value which represents the fair value and subsequently measured at amortised cost using the effective interest method wherever applicable.

See Note 23 – Trade Payables for further details.

(Q) **Financial Instruments**

All financial assets are recognised on trade date when the purchase of a financial asset is under a contract whose term requires delivery of the financial asset within the timeframe established by the market concerned. Financial assets are initially measured at fair value, plus transaction costs, except for those financial assets which are classified as at fair value through profit or loss (FVTPL) at inception. All recognised financial assets are subsequently measured in their entirety at either amortised cost or fair value.

Classification of financial assets

Financial assets are classified as 'equity instrument' if it is a non-derivative and meets the definition of 'equity' for the issuer. All other non-derivative financial assets are 'debt instruments'.

Financial assets at amortised cost and the effective interest method

Debt instruments are measured at amortised cost if both of the following conditions are met:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows; and
- the contractual terms of the instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments meeting these criteria are subsequently measured at amortised cost using the effective interest method less any impairment, with interest recognised on an effective yield basis in other income.

The effective interest method is a method of calculating the amortised cost of a debt instrument and of allocating interest over the relevant period. The effective interest rate is the rate that exactly discounts the estimated future cash receipts (including all fees or and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the debt instrument, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

The Company may irrevocably elect at initial recognition to classify a debt instrument (on an instrument-by-instrument basis) that meets the amortised cost criteria above as at FVTPL if that designation eliminates or significantly reduces an accounting mismatch had the financial asset been measured at amortised cost.

Financial assets at fair value through other comprehensive income (FVTOCI)

Debt instruments are measured at FVTOCI if both of the following conditions are met:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows and selling assets; and
- the contractual terms of the instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Debt instruments meeting these criteria are subsequently measured at fair value with any gains or losses arising on re-measurement recognised in other comprehensive income, except for impairment gains or losses, interest income and foreign exchange gains or losses which are recognised in the statement of profit and loss. Interest calculated using the effective interest method is recognised in the statement of profit and loss in other income. When the debt instrument is derecognised the cumulative gain or loss previously recognised in other comprehensive income is reclassified to the statement of profit and loss account as a reclassification adjustment.

At initial recognition, an irrevocable election is made (on an instrument-by-instrument basis) to designate investments in equity instruments (other than held for trading purpose) at FVTOCI.

A financial asset is held for trading if:

- it has been acquired principally for the purpose of selling it in the near term; or
- on initial recognition it is part of a portfolio of identified financial instruments that the Company manages together and has evidence of a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated in an effective hedge relationship as a hedging instrument or not a financial guarantee.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognised in other comprehensive income and accumulated in the 'Gain/ (Loss) on Equity Instruments FVTOCI'. Where the asset is disposed of, the cumulative gain or loss previously accumulated in the 'Gain/ (Loss) on Equity Instruments FVTOCI' is directly reclassified to retained earnings.

For equity instruments measured at fair value through other comprehensive income, no impairments are recognised in the statement of profit and loss.

Financial assets at Fair Value through profit and loss (FVTPL)

Financial assets that do not meet the criteria of classifying as amortised cost or fair value through other comprehensive income described above, or that meet the criteria but the entity has chosen to designate as at FVTPL at initial recognition, are measured at FVTPL.

Investments in equity instruments are classified as at FVTPL, unless the Company designates an investment that is not held for trading at FVTOCI at initial recognition.

Financial assets at FVTPL are subsequently measured at fair value, with any gains or losses arising on re-measurement recognised in statement of profit and loss. Interest income from these financial assets is included in other income.

Impairment of financial assets

On initial recognition of the financial assets, a loss allowance for expected credit loss is recognised for debt instruments carried at amortised cost and FVTOCI. For debt instruments that are measured at FVTOCI, the loss allowance is recognised in the statement of profit and loss.

Expected credit losses of a financial instrument is measured in a way that reflects:

- an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
- the time value of money; and
- reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

At each reporting date, the Company assesses whether the credit risk on a financial instrument has increased significantly since initial recognition.

When making the assessment, the Company compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and consider reasonable and supportable information, that is available without undue cost or effort, that is indicative of significant increases in credit risk since initial recognition.

If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, the Company measures the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses. If, the credit risk on that financial instrument has increased significantly since initial recognition, the Company measures the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses.

For Trade Receivables and Contract Assets, the Company applies the simplified approach required by Ind AS 109, which requires expected life time losses to be recognized from initial recognition of the receivables.

The amount of expected credit losses (or reversal) that is required to adjust the loss allowance at the reporting date is recognised as an impairment gain or loss in the statement of profit and loss.

De-recognition of financial assets

The Company derecognises a financial asset on trade date only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity or when it retains contractual rights to retain contractual cash flows from financial assets, but assumes a contractual obligation to pay the cash flows to one or more recipient. If the Company neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Company recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Company retains substantially all the risks and rewards of ownership of a transferred financial asset, the Company continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On de-recognition of a financial asset other than in its entirety (e.g. when the Company retains an option to repurchase part of a transferred asset), the Company allocates the previous carrying amount of the financial asset between the part it continues to recognise under continuing involvement, and the part it no longer recognises on the basis of the relative fair values of those parts on the date of the transfer. The difference between the carrying amount allocated to the part that is no longer recognised and the sum of the consideration received for the part no longer recognised and any cumulative gain or loss allocated to it that had been recognised in other comprehensive income is recognised in the statement of profit and loss. Cumulative gain or loss that had been recognised in other comprehensive income is allocated between the part that continues to be recognised and the part that is no longer recognised on the basis of the relative fair values of those parts.

Financial liabilities and equity instruments issued by the Company

Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognised at the proceeds received, net of direct issue costs.

Compound instruments

The component parts of compound instruments (convertible instruments) issued by the Company are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangement. At the date of issue, the fair value of the liability component is estimated using the prevailing market interest rate for a similar non-convertible instrument. This amount is recorded as a liability on an amortised cost basis using the effective interest method until extinguished upon conversion or at the instrument's maturity date. The equity component is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognised and included in equity, net of income tax effects, and is not subsequently re-measured.

Financial guarantee contract liabilities

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of loss allowance is determined by using expected credit loss model as per Ind AS 109; and
- the amount initially recognised less, where appropriate, cumulative amount of income recognised in accordance with the revenue recognition policies.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at FVTPL' or 'other financial liabilities'.

Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when the financial liability is either held for trading or it is designated as at FVTPL.

A financial liability is classified as held for trading if:

- it has been acquired or incurred principally for the purpose of repurchasing it in the near term; or
- on initial recognition it is part of a portfolio of identified financial instruments that the Company manages together and for which there is evidence of a recent actual pattern of short-term profit-taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading may also be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise; or
- the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is

evaluated on a fair value basis, in accordance with the Company's documented risk management or investment strategy, and information about the Company is provided internally on that basis; or

- it forms part of a contract containing one or more embedded derivatives, and Ind-AS 109 Financial Instruments permits the entire combined contract to be designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on re-measurement recognised in the statement of profit and loss, except for the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability which is recognised in other comprehensive income.

The net gain or loss recognised in the statement of profit and loss incorporates any interest paid on the financial liability.

Other financial liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs.

Other financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

De-recognition of financial liabilities

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the statement of profit or loss.

Offsetting financial instruments

Financial assets and liabilities are offset and the net amount is reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

See Note 9A and 9B –Investments for further details.

See Note 10 – Loans for further details.

See Note 12 – Other Financial assets for further details.

See Note 18 – Bank Balance other than Cash and Cash Equivalents for further details.

See Note 22A and 22B – Borrowings for further details.

See Note 31 – Other Income for further details.

See Note 40 – Impairment Loss/ (Reversal) on Financial Assets (Net) for further details.

See Note 51 – Financial Instruments for further details.

See Note 52 – Financial Risk Management for further details.

See Note 50 – Offsetting Financial Liabilities and Financial Assets for further details.

(R) **Derivatives and Hedge Accounting**

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value at the end of each reporting date. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The Company has a policy to designate certain derivatives as either:

(a) hedges of the fair value of recognised assets or liabilities or a firm commitment (fair value hedge); or

(b) hedges of a particular risk associated with the cash flow of recognised assets or liabilities or a highly probable forecast transaction (cash flow hedge);

The Company documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Company also documents the nature of the risk being hedged and how the Company will assess whether the hedging relationship meets the hedge effectiveness requirements (including its analysis of the sources of hedge ineffectiveness and how it determines the hedge ratio).

Change in Fair value of derivatives that are not designated in any hedge relationship as mentioned above are accounted through the Statement of Profit and Loss at each reporting date.

The Company also identifies embedded derivatives in certain transactions. Embedded derivatives closely related to the host contracts are not separated. Derivatives embedded in a host contract that is an asset within the scope of Ind AS 109 are not separated. Derivatives embedded in all other host contract are separated only if the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host and are measured at fair value through profit or loss. Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest. These derivatives are designated into a hedge relationship if they meet hedge accounting criteria. Change in Fair Value of such embedded derivatives are accounted in Other Comprehensive Income if they are designated in a cash flow hedge relationship. Fair Value change of all other embedded derivatives including those that are not designated in any hedge relationship are accounted through the statement of profit and loss.

The full fair value of a hedging derivative is classified as a non-current asset or liability when the residual maturity of the derivative is more than 12 months and as a current asset or liability when the residual maturity of the derivative is less than 12 months.

Fair value hedge

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the statement of profit and loss, together with any changes in the fair value of the hedged item that are attributable to the hedged risk.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortised to the statement of profit and loss from that date except for inventory that is charged to statement of profit and loss on sale of goods.

Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income and accumulated under the heading cash flow hedging reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in the statement of profit and loss, and is included in the '(Gain) / Loss in Fair Value of Derivatives' line item.

Amounts previously recognised in other comprehensive income and accumulated in equity are reclassified to the statement of profit and loss in the periods when the hedged item affects the statement of profit and loss, in the same line as the recognised hedged item. However, when the hedged forecast transaction results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously recognised in other comprehensive income and accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability as a basis adjustment.

If the hedge ratio for risk management purposes in no longer optimal but the risk management objective remains unchanged and the hedge continues to qualify for hedge accounting, the hedge relationship will be rebalanced by adjusting either the volume of the hedging instrument or the volume of the hedged item so that the hedge ratio aligns with the ratio used for risk management purposes. Any hedge ineffectiveness is calculated and accounted for in the statement of profit and loss at the time of the hedge relationship rebalancing.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. Any gain or loss recognised in other comprehensive income and accumulated in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the statement of profit and loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognised immediately in the statement of profit and loss.

See Note 11 – Derivatives Financial Instruments for further details.

See Note 51 - Financial Instruments for further details.

(S) Cash and Cash Equivalents

Cash and cash equivalents comprise of cash at bank and in hand, short-term deposits and short term highly liquid investments with an original maturity of three months or less that are readily convertible to known amounts of cash and are subject to insignificant risk of changes in value.

See Note 17 – Cash and Cash Equivalents for further details.

(T) Borrowing Cost

General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. The Company considers a period of twelve months or more as a substantial period of time. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale.

Transaction costs in respect of long-term borrowings are amortised over the tenure of respective loans using effective interest method. All other borrowing costs are expensed in the period in which they are incurred.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

See Note 2 - Property, Plant and Equipment and Capital Work-in-Progress for further details.

See Note 6 - Other Intangible Assets and Intangible Assets under Development for further details.

See Note 37 - Finance Cost for further details.

(U) Government Grants

Government grants are recognized at fair value when there is reasonable assurance that we will comply with the conditions attached to them and that the grants will be received.

Government grants are recognised in the statement of profit and loss on a systematic basis over the periods in which the Company recognises as expenses the related costs for which the grants are intended to compensate. Government grants whose primary condition is that the Company should purchase, construct or otherwise acquire non-current assets are recognized in the balance sheet by setting up the grant as deferred income and its amortization is recognized in 'Other Income' on straight line basis over expected useful lives of related assets.

Other government grants (grants related to income) are recognized as income over the periods necessary to match them with the costs for which they are intended to compensate, on a systematic basis. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of providing immediate financial support with no future related costs are recognized in the statement of profit and loss in the period in which they become receivable.

Grants related to income are presented under 'Other Income' or 'Other Operating Revenue' in the statement of profit and loss depending upon the nature of the underlying grant, except for grants received in the form of rebate or exemptions related to expenditures, which are deducted in reporting the related expense.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

See Note 30 – Revenue from Operations for further details.

See Note 31 – Other Income for further details.

(V) Employee Benefits

Retirement benefit and termination benefits

A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity. The Company has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Payments to defined contribution retirement benefit plans are recognised as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement and medical plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each annual reporting period. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yields of government bonds having terms approximating to the terms of related obligation.

Re-measurement, comprising of actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected in the balance sheet with a charge or credit recognised in other comprehensive income in the period in which they occur. Re-measurement recognised in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to the statement of profit and loss. Past service cost is recognised in the statement of profit and loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are categorised as follows:

- service cost (including current service cost, past service cost, as well as gains and losses on curtailments and settlements);
- net interest expense or income; and
- re-measurements

The Company presents the first two components of defined benefit costs in the statement of profit and loss in the line item employee benefits expense. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognised in the balance sheet represents the actual deficit or surplus in the Company's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

A liability for a termination benefit is recognised at the earlier of when the entity can no longer withdraw the offer of the termination benefit or when the entity recognises any related restructuring costs which involves the payment of terminations benefits.

In the case of an offer made to encourage voluntary redundancy, the termination benefits are measured based on the number of employees expected to accept the offer. Benefits falling due more than 12 months after the end of the reporting period are discounted to their present value.

Short-term and other long-term employee benefits

A liability is recognised for benefits accruing to employees in respect of wages and salaries in the period the related service is rendered at the undiscounted amount of the benefits expected to be paid in exchange for that service.

Liabilities recognised in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related service.

Liabilities recognised in respect of other long-term employee benefits such as annual leave and sick leave are measured at the present value of the estimated future cash outflows expected to be made by the Company in respect of services provided by employees up to the reporting date. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit retirement plans. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to the statement of profit and loss in the period in which they arise. These obligations are valued annually by independent qualified actuaries.

The obligations are presented as current liabilities in the balance sheet if the entity does not have an unconditional right to defer settlement for at least twelve months after the reporting period, regardless of when the actual settlement is expected to occur.

See Note 26 - Employee Benefit Obligations for further details.

See Note 35 – Employee Benefits Expense for further details

(W) **Employee Share-based Payments**

Equity settled share-based payments to employees are measured at the fair value of the options at the grant date.

The fair value of option at the grant date is expensed over the respective vesting period in which all of the specified vesting conditions are to be satisfied with a corresponding increase in equity as "Employee Stock Options Account". In case of forfeiture of unvested option, portion of amount already expensed is reversed. In a situation where the vested option forfeited or expires unexercised, the related balance standing to the credit of the "Employee Stock Options Account" are transferred to the "Retained Earnings".

When the options are exercised, the Company issues new equity shares of the Company of ₹ 1/- each fully paid-up. The proceeds received and the related balance standing to credit of the Employee Stock Options Account, are credited to share capital (nominal value) and Securities Premium Account.

Share appreciation rights which are cash settled, are recognised as employee benefit expense over the relevant service period. The liability is fair valued at each reporting date and are presented as employee benefit obligations in the balance sheet.

Employee Stock Option Scheme administered by any independent trust is deemed as extended arm of the Company and is consolidated in the standalone financial statements. When the options are exercised, the trust transfers the appropriate number of shares to the employee. The proceeds received, net of any directly attributable transaction costs, are credited directly to equity.

See Note - 26 Employee Benefit Obligations for further details

See Note - 35 Employee Benefits Expense for further details

(X) **Income Taxes**

Income tax expense represents the sum of the tax currently payable and deferred tax.

Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from 'profit before tax' as reported in the statement of profit and loss because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date.

Deferred tax

Deferred tax is recognised on differences between the carrying amounts of assets and liabilities in the balance sheet and the corresponding tax bases used in the computation of taxable profit.

Deferred tax liabilities are generally recognised for all taxable temporary differences.

Deferred tax assets are generally recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from initial recognition of goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that at the time of transaction affects neither the taxable profit nor the accounting profit.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realised, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off when they relate to income taxes levied by the same taxation authority. Current tax assets and tax liabilities are offset where the Company has a legally enforceable right to offset and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Minimum Alternative Tax (MAT) is recognized as an asset only when and to the extent there is convincing evidence that the Company will pay normal income tax during the specified period. In the year in which the MAT credit becomes eligible to be recognized as an asset, the said asset is created by way of credit to the statement of profit and loss and included in deferred tax assets. The Company reviews the same at each balance sheet date and writes down the carrying amount of MAT entitlement to the extent there is no longer convincing evidence to the effect that Company will pay normal income tax during the specified period.

Current and deferred tax for the period

Current and deferred tax are recognised in the statement of profit and loss, except when they relate to items that are recognised in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognised in other comprehensive income or directly in equity, respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation and considers whether it is probable that the taxation authority will accept tax position taken by the Company. Uncertain tax positions are reflected in the overall measurement of the Company's tax expense and are based on the most likely amount or the expected value arrived at by the Company which provides a better prediction of the resolution of uncertainty. Uncertain tax positions are monitored and updated as and when new information becomes available, typically upon examination or action by the taxing authorities or through statute expiration and judicial precedent.

The Company considers when a particular amount payable for interest and penalties on income taxes is determined to be within the scope of Ind AS 37, it is presented as part of financing cost or other expenses, respectively unless when there is an overall settlement with tax authority and the interest and penalties cannot be identified separately in which case it is determined to be part of income taxes and accounted under Ind AS 12.

See Note 13 – Income Taxes for further details

(Y) **Revenue Recognition**

The Company derives revenue principally from sale of hydrate, speciality alumina, aluminium and aluminium value added products, di-ammonium phosphate, copper, precious metals (gold and silver) and other materials.

The Company recognizes revenue when it satisfies a performance obligation in accordance with the contract with the customer. This is achieved when control of the product has been transferred to the customer, which is generally determined when legal title, physical possession, risk of obsolescence, loss and rewards of ownership pass to the customer and the Company has the present right to payment, all of which occurs at a point in time upon shipment or delivery of the product. The Company considers shipping and handling activities as costs to fulfil the promise to transfer the related products and the customer payments for shipping and handling costs are recorded as a component of revenue.

In situations where revenue is recognized on shipment of goods, shipping and handling services are treated as a distinct separate performance obligation and the Company recognises revenue for such services when the performance obligation is completed.

The Company considers the terms of the contract in determining the transaction price. The transaction price is based upon the amount the Company expects to be entitled to in exchange for transferring of promised goods and services to the customer after deducting incentive programs, including but not limited to discounts, volume rebates etc. Transaction price excludes taxes and duties collected on behalf of the government.

For incentives offered to customers, the Company makes estimates related to customer performance and sales volume to determine the total amounts earned and to be recorded as deductions from "Revenue from contracts with customers". In making these estimates, the Company considers historical results that have a predictive value of the amount that the Company expects to be entitled to for the transferred goods and services. If historical results have limited predictive value or the Company has limited experience with similar types of incentives, the estimate is made in such a manner, which ensures that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. The actual amounts may differ from these estimates and are accounted for prospectively. No element of significant financing is deemed present as the sales are made with a credit term, which is consistent with market practice. The Company's obligation to repair or replace faulty products under the standard warranty terms is recognised as a cost with a corresponding provision.

For certain customer contracts, final prices are determined based on the underlying market index of commodity prices at a future date, for example prices on the London Metal Exchange Limited (LME) or London Bullion Markets Association (LBMA). In such contracts, the Company records revenue on a provisional basis considering current market price when control is transferred to the customer. At the end of each period, prior to final settlement date, adjustments are made to the provisional sale price based on movements in the underlying market index of commodity prices up to the date of final price determination. Such variable price movement is accounted as other operating revenue.

Revenue from irrevocable bill and hold/ holding certificate contracts is recognised when it is probable that delivery will be made, goods have been identified and kept separately, are ready for delivery in the present condition and the Company does not have the ability to use the product or to direct it to another customer. Under these arrangements, revenue is recognised once legal title has passed and control of the asset sold is transferred to the customer.

Export incentives and subsidies are recognized when there is reasonable assurance that the Company will comply with the conditions and the incentive will be received.

Claim on insurance companies, railway authorities and others are accounted for on acceptance basis.

Revenue excludes any taxes and duties collected on behalf of the government.

See Note 30 – Revenue from Operations for further details

(Z) **Contract Liability**

Contract liability is recognised when a payment is received from the customer before the Company transfers goods or services to the customer.

As these are contracts that the Company expects, and has the ability, to fulfil through delivery of a non-financial item, these are presented as advance from customers and are recognised as revenue as and when control of respective commodities is transferred or service is provided to the customers under the agreements. The portion of the advance where either the Company does not have a unilateral right to defer settlement beyond twelve months or expects settlement within twelve months from the balance sheet date is classified as a current liability.

See Note 29 – Contract Liabilities for further details

(AA) **Dividend and Interest Income**

Dividend Income

Dividend income on investments are recognised in the statement of profit and loss when the Company's right to receive payment is established, it is probable that the economic benefits associated with the dividend will flow to the entity; and the amount of the dividend can be measured reliably.

Interest Income

Interest income from a financial asset is recognised when it is probable that the economic benefits will flow to the Company and the amount of income can be measured reliably. Interest income is accrued on a time proportion basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

See Note 31 – Other Income for further details

(BB) **Exceptional Items**

Exceptional items include income or expense that are considered to be part of ordinary activities, however are of such significance and nature that separate disclosure enables the user of the financial statements to understand the impact in a more meaningful manner. Exceptional items are identified by virtue of their size, nature and incidence so as to facilitate comparison with prior periods and to assess underlying trends in the financial performance of the Company.

See Note 42 – Exceptional Income/ (Expenses) (Net) for further details

(CC) **Earnings Per Share**

Basic earnings per share is computed by dividing the net profit for the period attributable to the equity shareholders of the Company by the weighted average number of equity shares outstanding during the period. The weighted average number of equity shares outstanding during the period and for all periods presented is adjusted for events, such as bonus shares, other than the conversion of potential equity shares that have changed the number of equity shares outstanding, without a corresponding change in resources. Partly paid-up shares are included as fully paid equivalents according to the fraction paid-up.

Diluted earnings per share adjusts the figures used in the determination of basic earnings per share to take into account the after income tax effect of interest and other financing costs associated with dilutive potential equity shares and the weighted average number of additional equity shares that would have been outstanding assuming the conversion of all dilutive potential equity shares.

Treasury shares are excluded from weighted average numbers of equity shares used as a denominator in the calculation of basic as well as diluted earnings per share.

See Note 44 – Earnings Per Share for further details

(DD) **Statement of Cash Flows**

Cash flows are reported using the indirect method, whereby the profit before tax is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments and item of income or expenses associated with investing or financing cash flows. The cash flows from operating, investing and financing activities of the Company are segregated.

For the purposes of the statement of cash flow, cash and cash equivalents is net of outstanding bank overdrafts which are integral part of cash management activities. In the standalone balance sheet, bank overdrafts are shown within borrowings in current liabilities.

(EE) **Treasury Shares**

Treasury shares are the own equity instruments of the Company that are re-acquired by the Company. Treasury shares are recognised at cost and the par value of treasury shares is reduced from equity share capital whereas the difference between cost and par value is deducted from other equity. No gain or loss is recognised in the statement of profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments. Consideration received on issue or sale is recognised directly in equity.

(FF) **Business Combination**

Business combinations are accounted for using the acquisition method. The consideration transferred in a business combination comprises the fair values of the assets transferred, liabilities incurred to the former owners of the acquired business, equity interests issued by the Company and fair value of any assets or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred.

At the acquisition date, the identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured at their acquisition date fair values. However, certain assets and liabilities i.e. deferred tax assets or liabilities, assets or liabilities related to employee benefit arrangements, liabilities or equity instruments related to share-based payment arrangements, lease liabilities under Ind AS 116 and assets or disposal groups that are classified as held for sale, acquired or assumed in a business combination are measured as per the applicable Ind-AS.

The excess of the consideration transferred over the fair value of the net identifiable assets acquired is recorded as goodwill.

Any gain on a bargain purchase is recognised in other comprehensive income and accumulated in equity as Capital Reserve if there exists clear evidence of the underlying reasons for classifying the business combination as resulting in a bargain purchase, otherwise the gain is recognised directly in equity as Capital Reserve.

Where settlement of any part of cash consideration is deferred, the amounts payable in future are discounted to their present value as at the date of exchange. The discount rate used is entity's incremental borrowing rate, being the rate at which similar borrowing could be obtained from an independent financier under comparable terms and conditions. Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not re-measured subsequently and settlement is accounted for within equity. Other contingent consideration is re-measured at fair value at each reporting date and changes in the fair value of contingent consideration are recognised in profit or loss.

When a business combination is achieved in stages, any previously held equity interest in the acquiree is re-measured at its acquisition-date fair value and the resulting gain or loss, if any, is recognised in the statement of profit and loss or other comprehensive income, as appropriate.

Where it is not possible to complete the determination of fair values by the end of the reporting period in which the combination occurs, a provisional assessment of fair values is made and any adjustments required to those provisional values, and the corresponding adjustments to goodwill, are finalised within 12 months of the acquisition date.

See Note 54 – Business Combinations for further details.

(GG) **Fair value measurement of Financial Instruments**

The estimated fair value of the financial instruments is based on market prices and valuation techniques. Valuations are made with the objective to include relevant factors that market participants would consider in setting a price, and to apply accepted economic and financial methodologies for the pricing of financial instruments. References for less active markets are carefully reviewed to establish relevant and comparable data.

Marketable and non-marketable Equity Securities

Fair value for listed shares is based on quoted market prices as of the reporting date. Fair value for unlisted shares is calculated based on commonly accepted valuation techniques utilizing significant unobservable data, primarily cash flow based models.

Derivatives

Fair value of financial derivatives is estimated as the present value of future cash flows, calculated by reference to quoted price curves and exchange rates as of the balance sheet date. Options are valued using appropriate option pricing models and credit spreads are applied where deemed to be significant.

Embedded Derivatives

Embedded derivatives that are separated from the host contract are valued by comparing the forward curve at contract inception to the forward curve as of the balance sheet date. Changes in the present value of the cash flows related to the embedded derivative are recognized in the consolidated balance sheet and in the consolidated statement of profit and loss.

1C. Critical Accounting Judgment and Key Sources of Estimation Uncertainty

The preparation of standalone financial statements, in conformity with the Ind AS, requires judgements, estimates and assumptions to be made, that affect reported amounts of assets and liabilities and the disclosure of contingent liabilities as at the date of the financial statements and the amounts of revenue and expenses during the reported period. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates. Any revision to such estimates is recognised in the period in which the same is determined. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and future periods affected.

Key source of estimation of uncertainty at the date of financial statements, that have significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next financial year, are given below:

a. **Impairment of Non-Current Assets (excluding Goodwill)**

Ind AS 36 requires that the Company assesses conditions that could cause an asset or a Cash Generating Unit (CGU) to become impaired and to test recoverability of potentially impaired assets. These conditions include changes resulting from market and economic environment, including internal and external factors such as the Company's market capitalization, significant changes in the Company's planned use of the assets or a significant adverse change in the expected prices, sales volumes or raw material cost. The identification of CGUs involves judgment, including assessment of where active markets exist, and the level of interdependency of cash inflows. CGU is usually the individual plant, unless the asset or asset Company is an integral part of a value chain where no independent prices for the intermediate products exist, a Company of plants is combined and managed to serve a common market, or where circumstances otherwise indicate significant interdependencies.

Determination of the recoverable amount involves management estimates on highly uncertain matters, such as commodity prices and their impact on markets and prices for upgraded products, development in demand, inflation, currency rate movements, input cost prices, operating expenses and tax and legal environment. The Company uses internal business plans, quoted market prices and the Company's best estimate of commodity prices, currency rates, discount rates and other relevant information. A detailed forecast is developed for a period of three to five years with projections thereafter. (The policy has been detailed in Note 1B (J) and further information are set out in Note 39)

b. **Inventory Measurement**

Measurement of bulk inventory quantities (such as coal, bauxite, copper concentrates, etc.) lying at yards and work in progress of precious metals at smelter and refinery is material, complex and involves significant judgement and estimate resulting from measuring the surface area, dip measurement of materials in tanks/silos, etc.

The Company performs physical counts of above inventory on a periodic basis using internal / external experts to perform volumetric surveys and assessments, basis which the estimate of quantity for these inventories is determined. The variations noted between book records and physical quantities of above inventories are evaluated and appropriately accounted in the books of accounts. (The policy has been detailed in Note 1B (N) and further information are set out in Note 15)

c. **Taxes Uncertainties and Valuation Allowances**

The Company calculates income tax expense based on reported income. Deferred income tax expense is calculated based on the differences between the carrying value of assets and liabilities for financial reporting purposes and their respective tax basis that are considered temporary in nature. Valuation of deferred tax assets is dependent on management's assessment of future recoverability of the deferred tax benefit. Expected recoverability may result from expected taxable income in the future, planned transactions or planned tax optimizing measures. Economic conditions may change and lead to a different conclusion regarding recoverability. (The policy has been detailed in Note 1B (X) and further information are set out in Note 13)

d. **Contingent Liabilities and Provisions**

There are various legal, direct and indirect tax matters and other obligations including environmental, mining, local and state levies, income tax holiday, availing input tax credits etc., which may impact the Company. Evaluation of uncertain liabilities and contingent liabilities and assets arising out of above matters require management judgment and assumptions, regarding the probability outflow or realization of economic resources and the timing and amount, or range of amounts, that may ultimately be determined. Such estimates may vary from the ultimate outcome as a result of differing interpretations of laws and facts, or application of relevant judicial precedents. (The policy has been detailed in Note 1B (L) and further information are set out in Note 48)

e. **Fair value measurements of Financial Instruments**

The Company applies valuation techniques to determine the fair value of financial instruments (where active market quotes are not available) and non-financial assets. This involves developing estimates and assumptions consistent with the market participants to price the instrument. The Company's assumptions are based on observable data as far as possible, otherwise on the best information available. Estimated fair values may vary from the actual prices that would be achieved in an arm's length transaction at the reporting date. (The policy has been detailed in Note 1B (GG) and further information are set out in Note 51)

1D Recent Accounting Pronouncements

a. **New and amended standards adopted by the Company**

The Ministry of Corporate Affairs had vide notification dated March 23, 2022 notified Companies (Indian Accounting Standards) Amendment Rules, 2022 which amended certain accounting standards, and are effective April 1, 2022. These amendments did not have any impact on the amounts recognised in prior periods and are not expected to significantly affect the current or future periods.

b. **New and amended standards issued but not effective**

The Ministry of Corporate Affairs has vide notification dated March 31, 2023 notified Companies (Indian Accounting Standards) Amendment Rules, 2023 (the 'Rules') which amends certain accounting standards, and are effective April 1, 2023.

The Rules predominantly amend Ind AS 12, Income taxes, and Ind AS 1, Presentation of financial statements. The other amendments to Ind AS notified by these rules are primarily in the nature of clarifications.

These amendments are either not applicable to the Company or not expected to have a material impact on the Company in the current or future reporting periods and on foreseeable future transactions.

2. Property, Plant and Equipment and Capital Work-in-Progress

Refer Note 1B (D) for accounting policy on Property, Plant and Equipment
Refer Note 1B (J) for accounting policy on Impairment of Non-Current Assets
Refer Note 1B (T) for accounting policy on Borrowing cost

A. Property, Plant and Equipment

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Property, Plant and Equipment - Cost	51,048	50,394
Less: Accumulated Depreciation and Impairment	20,744	19,468
Net Carrying amount of Property, Plant and Equipment	**30,304**	**30,926**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at 01/04/2022	Additions	Addition due to acquisition	Disposal/ Adjustments	As at 31/03/2023	As at 01/04/2022	Additions	Disposal/ Adjustments	As at 31/03/2023	As at 01/04/2022	Recognised/ (Reversed)	Disposal/ Adjustments	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Freehold Land	638	10	-	-	648	18	4	-	22	1	-	-	1	625	619
Buildings	8,389	92	-	(30)	8,451	2,467	259	(12)	2,714	100	-	(14)	86	5,651	5,822
Plant and Machinery	39,817	881	-	(412)	40,286	15,255	1,291	(270)	16,276	746	-	(63)	683	23,327	23,816
Vehicles and Aircraft	444	44	-	(21)	467	239	31	(14)	256	-	-	-	-	211	205
Railway Wagons	189	51	-	-	240	113	11	-	124	-	-	-	-	116	76
Railway Sidings	506	1	-	-	507	232	28	-	260	17	-	-	17	230	257
Furniture and Fixtures	174	14	-	-	188	108	7	-	115	1	-	-	1	72	65
Office Equipment	237	30	-	(6)	261	170	24	(6)	188	1	-	-	1	72	66
Total	**50,394**	**1,123**	**-**	**(469)**	**51,048**	**18,602**	**1,655**	**(302)**	**19,955**	**866**	**-**	**(77)**	**789**	**30,304**	**30,926**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at 01/04/2021	Additions	Addition due to acquisition	Disposal/ Adjustments	As at 31/03/2022	As at 01/04/2021	Additions	Disposal/ Adjustments	As at 31/03/2022	As at 01/04/2021	Recognised/ (Reversal)	Disposal/ Adjustments	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Freehold Land	611	5	22	-	638	14	4	-	18	1	-	-	1	619	596
Buildings	8,178	176	53	(18)	8,389	2,210	263	(6)	2,467	86	14	-	100	5,822	5,882
Plant and Machinery	39,001	1,022	56	(262)	39,817	14,229	1,213	(187)	15,255	689	62	(5)	746	23,816	24,083
Vehicles and Aircraft	447	38	-	(41)	444	242	28	(31)	239	-	-	-	-	205	205
Railway Wagons	189	-	-	-	189	103	10	-	113	-	-	-	-	76	86
Railway Sidings	496	10	-	-	506	204	28	-	232	17	-	-	17	257	275
Furniture and Fixtures	152	24	-	(2)	174	101	9	(2)	108	1	-	-	1	65	50
Office Equipment	217	29	1	(10)	237	158	21	(9)	170	1	-	-	1	66	58
Total	**49,291**	**1,304**	**132**	**(333)**	**50,394**	**17,261**	**1,576**	**(235)**	**18,602**	**795**	**76**	**(5)**	**866**	**30,926**	**31,235**

(a) The Company's share in Jointly owned assets has been grouped together with the relevant class of Property, Plant and Equipment. The proportion of the Original Cost and Carrying amount included in relevant class of assets are given below:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Original Cost	Net Carrying Amount	Original Cost	Net Carrying Amount
Freehold Land	52	52	52	52
Buildings	54	40	54	40
Plant and Machinery	6	1	6	1
Furniture & Fixtures	29	19	27	22
Office Equipment	8	1	9	2

(b) Refer Note 22A (b) for details of Property, Plant and Equipments (except Jointly owned assets) pledged and hypothecated against borrowings.

(c) Useful life of Property, Plant and Equipment are given below :

Items of Property, Plant and Equipment	Useful Life (Years)$
Freehold land	Infinite ^
Buildings	30-60
Plant and Machinery	15-40
Vehicles and Aircraft	8-20
Railway Wagons	15
Railway Sidings	15
Furniture and Fixtures	8-10
Office Equipment	3-6

^ Includes freehold land used for mining is depreciated over 8 - 30 years.

$ Cost incurred subsequent to capitalisation, accounted as a separate component, is depreciated over the remaining useful life of the underlying asset.

(d) Residual values and useful life of Property, Plant and Equipment are reviewed, and adjusted if appropriate, at the end of each reporting period. The Company has not revalued its property, plant and equipment during the current or previous year.

(e) Refer Note 55 for the details of Immovable properties for which registration/ transfer of title deeds is pending.

(f) During the previous year, the Company had impaired certain assets related to Di Ammonium Phosphate (DAP) plant amounting to ₹ 76 Crore, Refer Note 39 (c) for further details.

B. Capital Work-in-Progress

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Capital Work-in-Progress	2,968	1,573
	2,968	**1,573**

(a) The Company's share in Jointly owned assets has been grouped together with the Capital Work-in-Progress. The cost amount are given below:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Capital Work-in-Progress	135	101
	135	**101**

(b) Capital Work-in-Progress comprise of various projects and expansions spread over all units. Major Capital Work-in-Progress are related to the following Segments :

(₹ in Crore)

	As at	
Segment	**31/03/2023**	**31/03/2022**
Aluminium - Upstream	1,439	852
Aluminium - Downstream	1,155	500
Copper	227	119
Others - Not Allocable to segment	147	102
Total	**2,968**	**1,573**

(c) The Company has tested the carrying value of Capital Work-in-Progress for impairment as at reporting date and has impaired ₹ 65 Crore (year ended 31/03/2022 ₹ 19 Crore), Refer Note 39 (a) and 39 (d) for further details.

(d) During the current year, interest capitalised on qualifying assets is ₹ 48 Crore (year ended 31/03/2022 ₹ 18 Crore), Refer Note 37 for further details.

(e) Capital Work-in-Progress (CWIP) ageing schedule as at 31/03/2023

(₹ in Crore)

Particulars	Amount in CWIP for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	2,055	374	280	124	2,833
Projects temporarily suspended	1	1	-	133	135
Total	**2,056**	**375**	**280**	**257**	**2,968**

Capital Work-in-Progress (CWIP) ageing schedule as at 31/03/2022

(₹ in Crore)

Particulars	Amount in CWIP for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	835	354	96	87	1,372
Projects temporarily suspended	1	2	21	177	201
Total	**836**	**356**	**117**	**264**	**1,573**

(f) CWIP completion schedule for projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2023 are given below :

(₹ in Crore)

Particulars	To be completed in				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Project in Progress					
Strategic Projects	60	5	-	-	65
Environmental, Occupational Health and Safety Projects	211	-	-	-	211
Project temporarily suspended					
Strategic Projects	-	-	4	73	77
Environmental, Occupational Health and Safety Projects	-	-	-	-	-
Total	**271**	**5**	**4**	**73**	**353**

CWIP completion schedule for projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2022 are given below :

(₹ in Crore)

Particulars	To be completed in				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Project in Progress					
Strategic Projects	37	-	-	-	37
Environmental, Occupational Health and Safety Projects	79	-	-	-	79
Project temporarily suspended					
Strategic Projects	-	69	-	73	142
Environmental, Occupational Health and Safety Projects	-	-	-	-	-
Total	**116**	**69**	**-**	**73**	**258**

(g) Refer Note 48B for capital expenditures contracted but not incurred.

3. Right of Use Assets and Lease Liabilities

Refer Note 1B (M) for accounting policy on Leases

A. Right of Use Assets

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Right of Use Assets	1,476	1,020
Less: Accumulated Depreciation and Impairment	204	187
Net Carrying amount of Right of Use Assets	**1,272**	**833**

(₹ in Crore)

Particulars	ORIGINAL COST				ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at 01/04/2022	Additions	Disposal/ Adjustments	As at 31/03/2023	As at 01/04/2022	Additions	Disposal/ Adjustments	As at 31/03/2023	As at 01/04/2022	Recognised/ (Reversed)	Deduction/ Adjustments	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Leasehold Land	783	67	(3)	847	65	31	(3)	93	-	-	-	-	754	718
Buildings	89	116	(61)	144	60	29	(58)	31	-	-	-	-	113	29
Plant and Machinery	53	352	(12)	393	27	36	(12)	51	-	-	-	-	342	26
Vehicles	42	20	(13)	49	14	12	(13)	13	-	-	-	-	36	28
Railway Wagons	41	-	-	41	12	4	-	16	-	-	-	-	25	29
Railway Sidings	2	-	-	2	-	-	-	-	-	-	-	-	2	2
Furniture and Fixtures	10	-	(10)	-	9	-	(9)	-	-	-	-	-	-	1
Total	**1,020**	**555**	**(99)**	**1,476**	**187**	**112**	**(95)**	**204**	**-**	**-**	**-**	**-**	**1,272**	**833**

(₹ in Crore)

Particulars	ORIGINAL COST				ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at 01/04/2021	Additions	Disposal/ Adjustments	As at 31/03/2022	As at 01/04/2021	Additions	Disposal/ Adjustments	As at 31/03/2022	As at 01/04/2021	Recognised/ (Reversed)	Deduction/ Adjustments	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Leasehold Land	760	57	(34)	783	54	32	(21)	65	-	-	-	-	718	706
Buildings	84	15	(10)	89	44	26	(10)	60	-	-	-	-	29	40
Plant and Machinery	83	30	(60)	53	50	14	(37)	27	-	-	-	-	26	33
Vehicles	19	29	(6)	42	10	10	(6)	14	-	-	-	-	28	9
Railway Wagons	41	-	-	41	8	4	-	12	-	-	-	-	29	33
Railway Sidings	2	-	-	2	-	-	-	-	-	-	-	-	2	2
Furniture and Fixtures	10	-	-	10	7	2	-	9	-	-	-	-	1	3
Total	**999**	**131**	**(110)**	**1,020**	**173**	**88**	**(74)**	**187**	**-**	**-**	**-**	**-**	**833**	**826**

(a) Disposal/ Adjustments for the lease hold land includes Nil (31/03/2022 ₹ 16 Crore) transferred from right of use assets to mining rights under intangible assets, Refer Note 6A for further details.

(b) Refer Note 55 for the details of Immovable properties for which registration/ transfer of title deeds is pending.

B. Lease Liabilities

(a) Lease liabilities recognised against Right of Use Assets are as follows:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Lease liabilities against Right of Use Assets	649	114	277	65
	649	**114**	**277**	**65**

4. Investment Properties

Refer Note 1B (E) for accounting policy on Investment properties
Refer Note 1B (J) for accounting policy on Impairment of Non-Current Assets

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Cost	13	13
Less: Accumulated Depreciation and Impairment	6	5
Net Carrying amount	**7**	**8**

(₹ in Crore)

Particulars	ORIGINAL COST				ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at April 01, 2022	Addition	Disposal/ Adjustments	As at March 31, 2023	As at April 01, 2022	Addition	Disposal/ Adjustments	As at March 31, 2023	As at April 01, 2022	Recognised/ (Reversed)	Disposal/ Adjustments	As at March 31, 2023	As at March 31, 2023	As at March 31, 2022
Freehold Land	1	-	-	1	-	-	-	-	-	-	-	-	1	1
Buildings	12	-	-	12	5	1	-	6	-	-	-	-	6	7
Total	**13**	**-**	**-**	**13**	**5**	**1**	**-**	**6**	**-**	**-**	**-**	**-**	**7**	**8**

(₹ in Crore)

Particulars	ORIGINAL COST				ACCUMULATED DEPRECIATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at April 01, 2021	Addition	Disposal/ Adjustments	As at March 31, 2022	As at April 01, 2021	Addition	Disposal/ Adjustments	As at March 31, 2022	As at April 01, 2021	Recognised/ (Reversed)	Disposal/ Adjustments	As at March 31, 2022	As at March 31, 2022	As at March 31, 2021
Freehold Land	1	-	-	1	-	-	-	-	-	-	-	-	1	1
Buildings	12	-	-	12	5	-	-	5	-	-	-	-	7	7
Total	**13**	**-**	**-**	**13**	**5**	**-**	**-**	**5**	**-**	**-**	**-**	**-**	**8**	**8**

(₹ in Crore)

		Year ended 31/03/2023	Year ended 31/03/2022
(a)	Amount recognised in the Statement of Profit and Loss for Investment Properties are as under:		
	Rental income	3	3
	Direct operating expenses (including repairs and maintenance) on properties generating rental income	(1)	-
	Direct operating expenses (including repairs and maintenance) on properties not generating rental income	-	-

(b) The Company has no contractual obligations to purchase, construct or develop investment properties or for repairs, maintenance and enhancements. There is no restrictions on the realisability of investment properties or the remittance of income and proceeds of disposal on the Company.

(c) **Fair value of the Investment properties :**

(i) The fair value of the Company's investment properties as at March 31, 2023 and March 31, 2022 have been arrived at on the basis of valuation carried out at the respective dates by an external, independent valuer who is registered under Rule 2 of Companies (Registered Valuers and Valuation) Rules, 2017.

(ii) The fair value measurement for all the investments properties has been categorised as Level 2 based on the inputs to the valuation technique used. Considering the type of the assets, market approach (sales comparable method) to estimate the fair value of the subject properties is adopted. Fair Value of Investment Properties are given below :

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Freehold Land	1	1
Buildings	51	50
	52	**51**

(d) Useful life of Investment Properties are given below :

Items of Investment Properties	Useful Life (Years)
Freehold Land	Infinite
Buildings	60

(e) Refer Note 55 for the details of Immovable properties for which registration/ transfer of title deeds is pending.

5. Goodwill

Refer Note 1B (G) for accounting policy on Goodwill

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Cost	4	4
Less: Accumulated Impairment	-	-
Net Carrying amount of Goodwill	**4**	**4**

(i) Goodwill was generated during the previous year on acquisition of extrusion business of Kuppam unit. The Company tested the goodwill for impairment as at 31/03/2023 and no impairment has been identified.

(ii) Refer Note 54 Business Combination for further details.

6. Other Intangible Assets and Intangible Assets under Development

Refer Note 1B (F) for accounting policy on Intangible Assets (Other than Goodwill)
Refer Note 1B (H) for accounting policy on Stripping cost
Refer Note 1B (J) for accounting policy on Impairment of Non-Current Assets
Refer Note 1B (T) for accounting policy on Borrowing cost

A. Other Intangible Assets

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Cost	1,162	1,076
Less: Accumulated Amortization and Impairment	646	547
Net Carrying amount of Intangible Assets	**516**	**529**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED AMORTIZATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at 01/04/2022	Addition	Addition due to acquisition	Disposal/ Adjust-ments	As at 31/03/2023	As at 01/04/2022	Addition	Disposal/ Adjust-ments	As at 31/03/2023	As at 01/04/2022	Recognised/ (Reversed)	Disposal/ Adjust-ments	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Mining rights	760	88	-	-	848	390	80	-	470	44	-	-	44	334	326
Technology and Software	301	5	-	(7)	299	113	24	(7)	130	-	-	-	-	169	188
Customer related Intangible Assets	15	-	-	-	15	-	2	-	2	-	-	-	-	13	15
Total	**1,076**	**93**	**-**	**(7)**	**1,162**	**503**	**106**	**(7)**	**602**	**44**	**-**	**-**	**44**	**516**	**529**

(₹ in Crore)

Particulars	ORIGINAL COST					ACCUMULATED AMORTIZATION				ACCUMULATED IMPAIRMENT				NET CARRYING AMOUNT	
	As at April 01, 2021	Addition	Addition due to acquisition	Disposal/ Adjust-ments	As at March 31, 2022	As at April 01, 2021	Addition	Disposal/ Adjust-ments	As at March 31, 2022	As at April 01, 2021	Recognised/ (Reversed)	Disposal/ Adjust-ments	As at March 31, 2022	As at March 31, 2022	As at 31/03/2021
Mining rights	661	86	-	13	760	304	85	1	390	44	-	-	44	326	313
Technology and Software	116	179	8	(2)	301	108	7	(2)	113	-	-	-	-	188	8
Customer related Intangible Assets	-	-	15	-	15	-	-	-	-	-	-	-	-	15	-
Total	**777**	**265**	**23**	**11**	**1,076**	**412**	**92**	**(1)**	**503**	**44**	**-**	**-**	**44**	**529**	**321**

(a) Addition in Mining Rights includes ₹ 86 Crore (as at 31/03/2022, ₹ 57 Crore) and amortization expense includes ₹ 67 Crore (as at 31/03/2022, ₹ 76 Crore) towards stripping activity assets.

(b) Useful life of Other Intangible Assets are given below :

Items of Other Intangible Assets	Useful Life (Years)
Mining rights	8-41
Technology and Software	3-10
Customer related Intangible assets	5

(c) Remaining amortisation period of Mining rights, Technology and Software and Customer related Intangible assets ranges between 1 -33 years.

(d) The useful life of Intangible assets are reviewed, and adjusted if appropriate, at the end of each reporting period.

(e) During the current year, interest capitalised was Nil (31/03/2022: ₹ 8 Crore), Refer Note 37 (d) for further details.

B. Intangible Assets Under Development

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Intangible Assets under Development	19	8
	19	**8**

(a) The Company has tested the carrying value of Intangible Asset under Development for impairment as at reporting date and no impairment has been identified.

(b) Intangible asset under development (IAUD) ageing schedule as at 31/03/2023 :

(₹ in Crore)

Particulars	Amount in IAUD for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	12	1	4	2	19
Projects temporarily suspended	-	-	-	-	-
Total	**12**	**1**	**4**	**2**	**19**

Intangible asset under development (IAUD) ageing schedule as at 31/03/2022 :

(₹ in Crore)

Particulars	Amount in IAUD for a period of				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Projects in progress	2	4	2	-	8
Projects temporarily suspended	-	-	-	-	-
Total	**2**	**4**	**2**	**-**	**8**

(c) Intangible asset under development completion schedule for projects, whose completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2023 are given below:

(₹ in Crore)

Particulars	To be completed in				Total
	Less than 1 year	1-2 years	2-3 years	More than 3 years	
Project in Progress					
Strategic Projects	3	-	-	-	3
Environmental, Occupational Health and Safety Projects	-	-	-	-	-
Project temporarily suspended					
Strategic Projects	-	-	-	-	-
Environmental, Occupational Health and Safety Projects	-	-	-	-	-
Total	**3**	**-**	**-**	**-**	**3**

No Intangible Assets under Development projects completion is overdue or has exceeded its cost compared to its original plan as at 31/03/2022.

7. Investment in Subsidiaries

(Fully paid-up unless otherwise stated)

Refer Note 1B (A) for accounting policy on Investment in subsidiaries

(₹ in Crore)

	Face Value Per Unit	Numbers as at 31/03/2023	Numbers as at 31/03/2022	Value as at 31/03/2023	Value as at 31/03/2022
Investment in Equity Shares at Cost - (a) and (e)					
Unquoted					
A V Minerals (Netherlands) N.V. - (b)	€ 499.04	2,376,838	2,376,838	9,155	9,778
Dahej Harbour & Infrastructure Limited	₹ 10	50,000,000	50,000,000	50	50
East Coast Bauxite Mining Company Pvt Limited	₹ 10	7,400	7,400	-	-
Hindalco Almex Aerospace Limited	₹ 5	172,115,744	172,115,744	83	83
Lucknow Finance Company Limited	₹ 10	9,902,500	9,902,500	10	10
Minerals & Minerals Limited	₹ 10	50,000	50,000	-	-
Renuka Investments & Finance Limited	₹ 10	34,250,000	34,250,000	34	34
Renukeshwar Investments & Finance Limited	₹ 10	4,795,000	4,795,000	5	5
Suvas Holdings Limited	₹ 10	22,149,714	22,149,714	22	22
Utkal Alumina International Limited	₹ 10	6,251,482,818	6,251,482,818	6,362	6,362
Hindalco K.K. Japan - (d)	JPY 10,000	3,000	-	2	-
Kosala Livelihood and Social Foundation	₹ 10	4,000,000	1,600,000	4	1
				15,727	**16,345**
Other Equity Investment - (c) **(Fair Value of Financial Guarantee given for)**					
Utkal Alumina International Limited				75	75
A V Minerals (Netherlands) N.V.				3	3
				78	**78**
				15,805	**16,423**

(a) None of the subsidiaries are listed on any stock exchange in India or outside India and these investments are carried at cost. There is no accumulated impairment as at current or previous year end.

(b) A V Minerals (Netherlands) N.V., a wholly owned subsidiary of the Company has remitted $ 100 Million (₹ 793 Crore) towards return of capital by reducing the nominal value of its shares from € 541.05 to € 499.04 . The Company has accounted for the same as reduction in Company's carrying value of investment in the said subsidiary by ₹ 622 Crore and the foreign exchange gain arising on account of this transaction amounting to ₹ 171 Crore has been recognised in the standalone financial statements as "(Gain)/ Loss on Foreign Currency Transactions (Net)" under 'Other Expenses'.

(c) Financial guarantees given to subsidiaries were initially recognised at fair value will continue to be accounted as Other Equity Investment until the investment in subsidiaries are derecognised or impaired.

(d) During the current year, the Company has made investment in Hindalco K.K. Japan, a wholly owned subsidiary.

(e) Refer Note 47 Related Party Disclosure for information on principal place of business of the above Subsidiaries.

8. Investment in Associates and Joint Ventures

(Fully paid-up unless otherwise stated)

Refer Note 1B (B) for accounting policy on Investment in Associates

Refer Note 1B (A) for accounting policy on Investment in Joint Ventures

(a) Investments in Associates

(₹ in Crore)

	Face Value Per Unit	Numbers as at 31/03/2023	Numbers as at 31/03/2022	Value as at 31/03/2023	Value as at 31/03/2022
Investment in Equity Shares at FVTOCI - (i) and (iv)					
Unquoted					
Aditya Birla Science and Technology Company Private Limited	₹ 10	9,800,000	9,800,000	110	59
Aditya Birla Renewables Subsidiary Limited	₹ 10	6,895,200	6,895,200	7	47
Aditya Birla Renewables Solar Limited	₹ 10	24,084,015	8,307,000	68	48
Total (a)				**185**	**154**

(b) Investments in Joint Ventures

	Face Value Per Unit	Numbers as at 31/03/2023	Numbers as at 31/03/2022	Value as at 31/03/2023	Value as at 31/03/2022
Investment in Equity Shares at Cost - (i) and (iv)					
Unquoted					
MNH Shakti Limited - (ii)	₹ 10	5,265,000	5,265,000	5	5
Hydromine Global Minerals GMBH Limited (iii)	$ 100	66,562	66,562	-	1
Total (b)				**5**	**6**
Investment in Associates and Joint Ventures (a+b)				**190**	**160**
(i) Aggregate cost of investments is given below:					
Unquoted investments in Associates				42	25
Unquoted investments in Joint Ventures				38	38
Impairment on unquoted investments in a Joint Venture				(33)	(32)

(ii) Pursuant to an order received by MNH Shakti Limited from the Hon'ble NCLT related to its capital reduction, the Company received an amount of ₹ 8 Crore during the previous year ended 31/03/2022.

(iii) During the year, the Company has impaired the value of its investment in Joint Venture, Hydromine Global Minerals GMBH Limited, amounting to ₹ 1 Crore.

(iv) Refer Note 47 Related Party Disclosure for information on principal place of business of the above Associates and Joint Ventures.

9. Other Investments

Refer Note 1B (Q) for accounting policy on Financial Instruments

A. Other Investments, Non-Current

(Fully paid-up unless otherwise stated)

(a) Equity instruments at FVTOCI

(₹ in Crore)

	Face Value	Numbers as at		Value as at	
	Per Unit	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Quoted					
Grasim Industries Limited	₹ 2	28,222,468	28,222,468	4,607	4,696
UltraTech Cement Limited	₹ 10	1,258,515	1,258,515	959	831
Aditya Birla Fashion & Retail Limited	₹ 10	50,239,794	50,239,794	1,077	1,518
Vodafone Idea Limited	₹ 10	751,119,164	751,119,164	436	725
Aditya Birla Capital Limited	₹ 10	39,511,455	39,511,455	607	425
				7,686	**8,195**
Unquoted					
Sai Wardha Power Generation Limited	₹ 10	2,830,352	2,830,352	-	-
Birla International Limited	CHF 100	2,500	2,500	6	5
Woodlands Multi Speciality Hospital Limited	₹ 10	7,200	-	-	-
Bharuch Dahej Railway Company Limited	₹ 10	13,530,000	13,530,000	19	10
				25	**15**
Total (a)				**7,711**	**8,210**
(b) Debt Instruments at FVTOCI					
Quoted					
Government Securities					
6.83% Government of India Bond, 2039	2,000,000	2,000,000		19	20
6.57% Government of India Bond, 2033	5,000,000	5,000,000		47	48
6.45% Government of India Bond, 2029	5,000,000	5,000,000		48	49
5.79% Government of India Bond, 2030	10,000,000	10,000,000		93	94
6.19% Government of India Bond, 2034	10,000,000	10,000,000		91	92
Total (b)				**298**	**303**
(c) Debt Instruments at FVTPL					
Unquoted					
Mutual Funds					
Investments in Debt Schemes of Mutual Funds				-	2
Total (c)				**-**	**2**
Other Investments (a+b+c)				**8,009**	**8,515**

(₹ in Crore)

		Value as at	
		31/03/2023	31/03/2022
(i)	Aggregate amount of Quoted and Unquoted Investments, Market value of Quoted Investments are given below:		
	Aggregate Cost of Quoted Investments	1,484	1,484
	Aggregate Market value of Quoted Investments	7,984	8,498
	Aggregate Cost of Unquoted Investments	17	25
	Aggregate amount of impairment in value of investments	3	3
	Aggregate Carrying value of Quoted and Unquoted Investments	8,009	8,515

(ii) Investments in Government Securities include ₹ 24 Crore (as at 31/03/2022 ₹ 25 Crore) being deposit as margin money with counter parties for derivative transactions.

B. Other Investments, Current

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Quoted		
Investments in Government securities at FVTOCI	5	72
Investments in Commercial Paper at FVTPL	97	-
Investment in Debentures and Bonds at FVTPL	130	152
Investments in Mutual Funds at FVTPL - (b)	5,530	4,333
	5,762	**4,557**

(a)	Aggregate amount of Quoted and Unquoted Investments, Market value of Quoted Investments are given below:		
	Aggregate Cost of Quoted Investments	5,641	4,425
	Aggregate Market value of Quoted Investments	5,762	4,557
	Aggregate Cost of Unquoted Investments	-	-
	Aggregate amount of impairment in value of investments	-	-
	Aggregate Carrying value of Quoted and Unquoted Investments	5,762	4,557

(b) Investments in Debt Schemes of Mutual Funds include ₹ 338 Crore (as at 31/03/2022 ₹ 320 Crore) being deposit as margin money with counter parties for derivative transactions.

10. Loans

(Unsecured, Considered Good unless otherwise stated)

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Loan to Related Parties - (a), (b) and (c)	169	-	38	167
Loan to Employees	5	5	7	5
	174	**5**	**45**	**172**

(a) There is no Loans or Advances in the nature of loans granted to promoters, directors, KMPs and related parties, that are repayable on demand as on 31/03/2023 and 31/03/2022.

(b) Refer Note 47 for balances with related parties.

(c) Refer Note 58 (b)(ii) and (iii) for disclosure as per section 186(4)of the Companies Act 2013 and SEBI (LODR) 2015.

11. Derivatives

Refer Note 1B (Q) for accounting policy on Financial Instruments
Refer Note 1B (R) for accounting policy on Derivatives and hedge accounting

The Company uses derivative financial instruments such as forwards, futures, options etc. to hedge its risks associated with foreign exchange fluctuation and price risk movements. Risks associated with fluctuation in the price of the products (copper, aluminium, coal, furnace oil, natural gas, coal tar pitch and precious metals) are minimized by undertaking appropriate derivative instruments. Derivatives embedded in other contracts are treated as separate derivatives when their risks and characteristics are not closely related to their host contracts. In some cases, the embedded derivatives may be designated in a hedge relationship. The fair values of all such derivative financial instruments are recognized as assets or liabilities at the balance sheet date.

The Company also applies hedge accounting using certain foreign currency non-derivative monetary items which are used as hedging instruments for hedging foreign exchange risk.

(a) The Asset and Liability position of various outstanding derivative financial instruments is given below:

(₹ in Crore)

Particulars	Nature of Risk being Hedged	As at 31/03/2023			As at 31/03/2022		
		Liability	Asset	Net Fair Value	Liability	Asset	Net Fair Value
Current							
Cash flow hedges							
Commodity contracts	Price Risk Component	(1)	303	302	(2,772)	16	(2,756)
Foreign currency contracts	Exchange rate movement risk	(33)	59	26	(7)	214	207
Fair Value Hedge							
Commodity contracts	Price Risk Component	(197)	-	(197)	(183)	67	(116)
Foreign currency contracts	Exchange rate movement risk	(5)	1	(4)	(12)	1	(11)
Non-designated hedges							
Commodity contracts	Price Risk Component	(66)	253	187	(414)	224	(190)
Foreign currency contracts	Exchange rate movement risk	(3)	15	12	(12)	8	(4)
Total		**(305)**	**631**	**326**	**(3,400)**	**531**	**(2,869)**
Offsetting		115	(115)	-	24	(24)	-
Total (A)		**(190)**	**516**	**326**	**(3,376)**	**507**	**(2,869)**

(₹ in Crore)

Particulars	Nature of Risk being Hedged	As at 31/03/2023			As at 31/03/2022		
		Liability	Asset	Net Fair Value	Liability	Asset	Net Fair Value
Non - current							
Cash flow hedges							
Commodity contracts	Price Risk Component	-	21	21	(387)	2	(385)
Foreign currency contracts	Exchange rate movement risk	(6)	99	93	-	172	172
Non-designated hedges							
Foreign currency contracts	Exchange rate movement risk	(1)	3	2	-	-	-
Total		**(7)**	**123**	**116**	**(387)**	**174**	**(213)**
Offsetting		**3**	**(3)**	**-**	**-**	**-**	**-**
Total (B)		**(4)**	**120**	**116**	**(387)**	**174**	**(213)**
Current							
Fair Value Hedge							
Embedded Derivatives (i)	Risk of change in Fair Value of unpriced inventory	(428)	23	(405)	(489)	5	(484)
Total (C)		**(428)**	**23**	**(405)**	**(489)**	**5**	**(484)**
Grand Total (A+B+C)		**(622)**	**659**	**37**	**(4,252)**	**686**	**(3,566)**

(i) Fair Value net loss of ₹ 405 Crore (31/03/2022 net Loss ₹ 484 Crore) is classified as part of Trade Payables.

The maturity profile for Commodity forwards, future and Options ranges from April 2023 to March 2024, Foreign Exchange Forwards ranges from April 2023 to March 2027. Hedge Ratio of 1:1 is used by the Company.

(b) Outstanding position and fair value of various foreign exchange derivative financial instruments:

Particulars	Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Weighted Average Strike Rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)	Weighted Average Strike Rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Foreign currency options							
Cash flow hedges							
Sell	USD_INR	84.00	204	6	-	-	-
Foreign currency forwards							
Cash flow hedges							
Sell	USD_INR	86.87	1,066	113	81.22	1,196	379
Total				**119**			**379**
Fair Value hedges							
Buy	USD_INR	82.64	181	(4)	76.85	189	(11)
Total				**(4)**			**(11)**

Particulars	Currency Pair	As at 31/03/2023			As at 31/03/2022		
		Weighted Average Strike Rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)	Weighted Average Strike Rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss) (₹ in Crore)
Non-Designated							
Buy	EUR_INR	-	-	-	98.96	0	(0)
Buy	USD_INR	82.19	31	-	77.04	0	(0)
Sell	USD_INR	82.59	215	6	76.35	182	7
Buy	CNY_USD	6.80	10	-	-	-	-
Buy	EUR_USD	1.08	56	8	1.19	16	(11)
Total				**14**			**(4)**
Grand Total				**129**			**364**

(c) Outstanding position and fair value of various foreign exchange non-derivative financial instruments used as hedging instruments:

(₹ in Crore)

Particulars	Note No	Currency Pair	As at 31/03/2023			As at 31/03/2022		
			Average exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss)	Average exchange rate	Notional Value in foreign currency (in Million)	Fair Value Gain/ (Loss)
Foreign currency monetary items								
Cash flow hedges								
Debt	22B	USD_INR	-	-	-	74.55	185	(25)
Liability for Copper Concentrate								
Host Liability		USD_INR	82.39	519	12	75.51	695	(19)
Supplier's credit	28	USD_INR	81.80	560	(20)	74.77	324	(39)
Total					**(8)**			**(83)**

(d) Outstanding position and fair value of various commodity derivative financial instruments

(i) Outstanding position and fair value of various commodity derivative financial instruments as at 31/03/2023

(₹ in Crore)

Particulars		Currency	Weighted Average Strike Rate	Quantity	Unit	Notional value USD (in millions)	Fair Value Gain/(Loss)
Commodity Futures/Forwards/Swaps							
Cash Flow Hedge							
Aluminium	Sell	USD	2,859	102,475	MT	293	319
Furnace Oil	Buy	USD	375	52,000	MT	19	4
Total							**323**
Fair Value Hedge							
Copper	Sell	USD	8,333	10,700	MT	89	(57)
Gold	Sell	INR	5,630,292	4,425	KGS	24,914	(140)
Total							**(197)**

(₹ in Crore)

Particulars		Currency	Weighted Average Strike Rate	Quantity	Unit	Notional value USD (in millions)	Fair Value Gain/(Loss)
Non Designated hedges							
Aluminium	Buy	USD	2,298	47,300	MT	109	29
Aluminium	Sell	USD	2,501	47,300	MT	118	49
Copper	Buy	USD	8,601	12,225	MT	105	39
Copper	Sell	USD	8,854	14,275	MT	126	(16)
Gold	Buy	INR	5,693,633	3,028	KGS	17,240	75
Silver	Buy	USD	22	909,754	TOZ	20	13
Silver	Sell	USD	24	514,516	TOZ	12	(2)
Total							**187**
Embedded derivatives							
Fair Value Hedge							
Copper	Sell	USD	8,705	130,979	MT	1,140	(300)
Gold	Sell	USD	1,857	98,953	TOZ	184	(98)
Silver	Sell	USD	22	399,859	TOZ	9	(6)
Total							**(405)**
Grand Total							**(92)**

(ii) Outstanding position and fair value of various commodity derivative financial instruments as at 31/03/2022

(₹ in Crore)

Particulars		Currency	Weighted Average Strike Rate	Quantity	Unit	Notional value USD (in millions)	Fair Value Gain/(Loss)
Commodity Futures/Forwards/Swaps							
Cash Flow Hedge							
Aluminium	Sell	USD	2,535	456,000	MT	1,156	(3,141)
Total							**(3,141)**
Fair Value Hedge							
Copper	Sell	USD	10,552	37,600	MT	397	50
Gold	Sell	INR	4,972,320	7,543	KGS	37,506	(159)
Silver	Sell	USD	23	485,904	TOZ	11	(7)
Total							**(116)**
Non Designated hedges							
Aluminium	Buy	USD	3,546	32,150	MT	114	(14)
Aluminium	Sell	USD	1,902	32,100	MT	61	(386)
Copper	Buy	USD	10,156	27,400	MT	278	45
Copper	Sell	USD	10,763	35,500	MT	382	105
Gold	Buy	INR	5,041,209	4,352	KGS	21,939	51
Silver	Buy	USD	25	244,244	TOZ	6	-
Silver	Sell	USD	24	244,244	TOZ	6	(1)
Furnace Oil	Buy	USD	241	3,335	MT	1	10
Furnace Oil	Sell	USD	634	3,335	MT	2	-
Total							**(190)**

(₹ in Crore)

Particulars		Currency	Weighted Average Strike Rate	Quantity	Unit	Notional value USD (in millions)	Fair Value Gain/(Loss)
Embedded derivatives							
Fair Value Hedge							
Copper	Sell	USD	9,838	120,552	MT	1,186	(487)
Gold	Sell	USD	1,949	29,697	TOZ	58	2
Silver	Sell	USD	25	371,143	TOZ	9	0
Total							**(484)**
Grand Total							**(3,931)**

(e) The following table presents details of amount held in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and the period during which these are going to be released and affecting Statement of Profit and Loss.

(₹ in Crore)

Effective Portion of Cash Flow Hedges	As at 31/03/2023			As at 31/03/2022		
	Closing Value Cash Flow Hedges	Release		Closing Value Cash Flow Hedges	Release	
		Within 12 Months	After 12 Months		Within 12 Months	After 12 Months
	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)
Commodity Forwards/Futures/Swaps						
Aluminium	316	316	-	(3,132)	(2,987)	(145)
Copper	-	-	-	-	-	-
Furnace Oil	5	5	-	-	-	-
	321	**321**	**-**	**(3,132)**	**(2,987)**	**(145)**
Non-Derivative Financial Instruments						
Debt	-	-	-	(25)	(25)	-
Liability for Copper Concentrate						
Host Liability	(5)	(5)	-	(29)	(29)	-
Supplier's credit	(3)	(3)	-	(39)	(39)	-
Foreign currency Forwards						
USD_INR	112	20	92	379	207	172
Foreign currency Options						
USD_INR	(1)	(1)	-	-	-	-
	103	**11**	**92**	**286**	**114**	**172**
Total	**424**	**332**	**92**	**(2,846)**	**(2,873)**	**27**
Deferred Tax on above	(148)	(116)	(32)	995	1,004	(9)
Total	**276**	**216**	**60**	**(1,851)**	**(1,869)**	**18**

(₹ in Crore)

Cost of Hedging Reserve	As at 31/03/2023			As at 31/03/2022		
	Closing Value Cost of Hedge Reserve	Release		Closing Value Cost of Hedge Reserve	Release	
		Within 12 Months	After 12 Months		Within 12 Months	After 12 Months
	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)	Gain/(Loss)
Commodity Forwards/Swaps						
Copper	(4)	(4)	-	(60)	(60)	-
Foreign currency Options						
USD_INR	8	8	-	-	-	-
	4	**4**	**-**	**(60)**	**(60)**	**-**
Deferred Tax on above	(1)	(1)	-	21	21	-
Total	**3**	**3**	**-**	**(39)**	**(39)**	**-**

(f) Gain/(loss) recognized in OCI, recycled and closing position:

(i) The following tables presents the amount of gain/(loss) recognized in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and recycled during the financial year 2022-23 along with closing amount in hedging reserve:

(₹ in Crore)

Effective Portion of Cash Flow Hedges	Opening Balance	Net Amount recognised	Recycled			Closing Balance
			Net Amount to P&L	Net Amount added to Non-Financial Assets	Total Amount recycled	
Commodity	(3,132)	3,493	40	-	40	321
Forex	286	(847)	(664)	-	(664)	103
Total	**(2,846)**	**2,646**	**(624)**	**-**	**(624)**	**424**
Deferred Tax on above	995	(925)	218	-	218	(148)
Total	**(1,851)**	**1,721**	**(406)**	**-**	**(406)**	**276**

(₹ in Crore)

Cost of Hedging Reserve	Opening Balance	Net Amount recognised	Recycled			Closing Balance
			Net Amount to P&L	Net Amount added to Non-Financial Assets	Total Amount recycled	
Commodity	(60)	(71)	(127)	-	(127)	(4)
Forex	-	8	-	-	-	8
Total	**(60)**	**(63)**	**(127)**	**-**	**(127)**	**4**
Deferred Tax on above	21	22	44	-	44	(1)
Total	**(39)**	**(41)**	**(83)**	**-**	**(83)**	**3**

(ii) The following tables presents the amount of gain/(loss) recognized in Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and recycled during the financial year 2021-22 along with closing amount in hedging reserve:

(₹ in Crore)

Effective Portion of Cash Flow Hedges	Opening Balance	Net Amount recognised	Recycled			Closing Balance
			Net Amount to P&L	Net Amount added to Non-Financial Assets	Total Amount recycled	
Commodity	(1,292)	(4,286)	(2,508)	62	(2,446)	(3,132)
Forex	373	(67)	20	-	20	286
Total	**(919)**	**(4,353)**	**(2,488)**	**62**	**(2,426)**	**(2,846)**
Deferred Tax on above	323	1,520	869	(21)	848	995
Total	**(596)**	**(2,833)**	**(1,619)**	**41**	**(1,578)**	**(1,851)**

Cost of Hedging Reserve	Opening Balance	Net Amount recognised	Recycled			Closing Balance
			Net Amount to P&L	Net Amount added to Non-Financial Assets	Total Amount recycled	
Commodity	15	(360)	(285)	-	(285)	(60)
Forex	-	-	-	-	-	-
Total	**15**	**(360)**	**(285)**	**-**	**(285)**	**(60)**
Deferred Tax on above	(5)	126	100	-	100	21
Total	**10**	**(234)**	**(185)**	**-**	**(185)**	**(39)**

(g) The following table presents the amount of gain/ (loss) recycled from Effective portion of Cash Flow Hedge and Cost of Hedging Reserve and reference of the line item in the Statement of Profit and Loss where those amounts are included:

(₹ in Crore)

			Year Ended	
Note No.	**Note Description**	**Particulars**	**31/03/2023**	**31/03/2022**
30	Revenue From Operations	Commodity	40	(2,634)
30	Revenue From Operations	Forex	(664)	20
30	Revenue From Operations	Precious Metals	-	-
41	Other Expenses	Gain/(Loss) on Derivatives	(127)	(159)
			(751)	**(2,773)**

(h) The adjustment as a part of the carrying value of inventories arising on account of fair value hedges is as follows:

(₹ in Crore)

Increase/ (Decrease) in Inventory Value	As at 31/03/2023			As at 31/03/2022		
Inventory Type	**Raw Material**	**WIP and Finished Goods**	**Total**	**Raw Material**	**WIP and Finished Goods**	**Total**
Copper	300	3	303	486	(48)	438
Gold	98	29	127	(2)	69	67
Silver	7	-	7	-	6	6
Total	**405**	**32**	**437**	**484**	**27**	**511**

(i) The Company's hedging policy allows for effective hedge relationships to be established. The effective portion of hedge is recognised in OCI, while ineffective portion of hedge is recognised immediately in the Statement of Profit and Loss. For Cash flow hedges, the Company uses hypothetical derivative method to assess effectiveness based on "lower off" assessment.

Sources of Hedge ineffectiveness summarised by risk category are as follows :

Risk Category	Sources of Hedge Ineffectiveness	Type of Hedge
	Critical terms Mismatch	Cash Flow and Fair Value Hedge
Price Risk	Basis Risk	Fair Value Hedge
	Credit Risk Adjustment	Cash Flow and Fair Value Hedge
Exchange Risk	Credit Risk Adjustment	Cash Flow Hedge

The amount of gain/ (loss) recognised in the Statement of Profit and Loss on account of hedge ineffectiveness is as follows:

(₹ in Crore)

				Year Ended	
Note No.	**Note Description**	**Note Description**	**Type of Hedge**	**31/03/2023**	**31/03/2022**
41	Other Expenses	Gain/(Loss) on Derivatives	Cash Flow Hedges	39	(162)
41	Other Expenses	Gain/(Loss) on Derivatives	Fair Value Hedges	(261)	(130)
				(222)	**(292)**

(j) Certain hedges of forecast sale transaction for hedging currency risk were discontinued during the current and previous year since the hedged forecast transaction was not expected to occur.

12. Other Financial Assets

(Unsecured, Considered Good unless otherwise stated)

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Security Deposits	136	64	122	53
Deposit with Banks - (a)	644	-	43	-
Deposit with Non-Banking Financial Companies	650	260	60	915
Accrued Interest	-	101	-	44
Deposit with Others	8	-	7	-
Other Receivables				
Unsecured, Considered Good	-	99	-	144
Unsecured, Considered Doubtful	-	2	-	2
Less: Loss Allowances	-	(2)	-	(2)
	1,438	**524**	**232**	**1,156**

(a) Deposit with Banks include ₹ 44 Crore (as at 31/03/2022 ₹ 43 Crore) towards earmarked balances lying in escrow accounts/ under lien with various authorities.

13. Income Taxes

Refer Note 1B (X) for accounting policy on Income Taxes

A. Current Tax and Deferred Tax Expense

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
(a) Income tax expenses recognised in Statement of Profit and Loss		
Current Tax		
Current income tax Expenses for the year	864	1,496
Tax Adjustment for earlier years	53	-
	917	**1,496**
Deferred Tax		
Deferred Income Tax (benefits)/expenses for the year	175	1,040
MAT Credit Entitlement	684	397
Tax Adjustment for earlier years**	(227)	17
	632	**1,454**
Total Income Tax Expenses recognised in Statement of Profit and Loss for the year	**1,549**	**2,950**

** During the year ended March 31, 2023, the Company has made an assessment of the impact of the Taxation law (Amendment) Ordinance, 2019 and decided to continue with the existing tax structure until utilization of accumulated Minimum Alternate Tax (MAT) Credit and deduction available under section 80IA of the Income Tax Act 1961. However, in accordance with the accounting standards, the Company has remeasured the deferred tax liability that is expected to reverse in future when the Company would migrate to the new tax regime. Accordingly, the Company has written back its net deferred tax liability to the extent of ₹ 184 Crore in Q4 FY 23.

(b) Reconciliation of estimated Income Tax Expenses at Indian Statutory Income Tax Rate to Income Tax Expenses reported in Statement of the Comprehensive Income

(₹ in Crore)

		Year ended	
		31/03/2023	31/03/2022
	Profit before Income Taxes	4,875	8,457
	Indian Statutory Income Tax Rate *	34.94%	34.94%
	Estimated Income Tax Expenses	**1,704**	**2,955**
	Tax effect of adjustments to reconcile expected Income Tax expenses to reported Income Tax Expenses:		
	Income Exempt from Tax & Deduction	(13)	(1)
	Long-Term Capital (Gains)/Loss	(5)	(3)
	Expenses not deductible in determining Taxable Profit	76	51
	Reversal / (Deduction) on Power Plant u/s 80IA of the Income Tax Act during tax holiday period	21	(13)
	Exchange gain on Return on Capital	(60)	(56)
	Tax adjustment for earlier years - Deferred Tax Reversal (refer footnote to (a) above)	(184)	-
	Tax adjustment for earlier years - Deferred Tax - Others	(43)	17
	Tax adjustment for earlier years - Current Tax	53	-
		(155)	**(5)**
	Income Tax Expenses recognised in the Statement of Profit and Loss	**1,549**	**2,950**
	*Applicable Indian statutory tax rate for the years ended 31/03/2023 and 31/03/2022 is 34.94%.		
(c)	**Income Tax expenses recognised in OCI - Refer Note - 43 for further details**	**1,123**	**(451)**
(d)	**Income Tax expense recognised directly in Equity - Basis adjustment on Cash flow hedges & others**	**-**	**(21)**

B. Deferred Tax Assets and Liabilities (Net)

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Deferred Tax Assets		
Deferred Tax Assets	877	1,845
MAT Credit Entitlement	1,356	2,040
	2,233	**3,885**
Deferred Tax Liabilities		
Deferred Tax Liabilities	(6,937)	(6,833)
	(6,937)	**(6,833)**
Net Deferred Tax Assets/(Liabilities)	**(4,704)**	**(2,948)**

a) **Movement in Deferred Tax Assets and (Liabilities) as of and during the year ended :**

(₹ in Crore)

Particulars	Opening Balance As at 01/04/2022	Recognised in the Statement of Profit and Loss	Recognised in Other Comprehensive Income	Deferred tax on basis adjustment	As at 31/03/2023
Deferred Income Tax Assets					
Provisions deductible for tax purposes in future period	525	170	-	-	695
Retirement Benefits and Compensated Absences	59	(49)	3	-	13
Deferred Income	200	(31)	-	-	169
Cash flow hedges	1,016	-	(1,016)	-	-
MAT Credit Entitlement	2,040	(684)	-	-	1,356
Others	45	(45)	-	-	-
	3,885	(639)	(1,013)	-	2,233
Deferred Income Tax Liabilities					
PPE Depreciation and Intangible Amortisation	(6,558)	108	-	-	(6,450)
Cash Flow Hedges	-	-	(149)	-	(149)
Fair Value Measurements of Financial Instruments	(275)	-	66	-	(209)
Others	-	(101)	(27)	-	(128)
	(6,833)	7	(110)	-	(6,937)
Net Deferred Tax Assets/(Liabilities) (Net)	**(2,948)**	**(632)**	**(1,123)**	**-**	**(4,704)**

(₹ in Crore)

Particulars	As at 01/04/2021	Recognised in the Statement of Profit and Loss	Recognised in Other Comprehensive Income	Deferred tax on basis adjustment	As at 31/03/2022
Deferred Income Tax Assets					
Provisions deductible for tax purposes in future period	481	44	-	-	525
Tax Losses/Benefits carry forwards (Net) *	1,015	(1,015)	-	-	-
Retirement Benefits and Compensated Absences	71	(15)	3	-	59
Deferred Income	207	(7)	-	-	200
Cash Flow Hedges	316	-	679	21	1,016
MAT Credit Entitlement	2,436	(396)	-	-	2,040
Others	15	30	-	-	45
	4,541	(1,359)	**682**	**21**	3,885
Deferred Income Tax Liabilities					
PPE Depreciation and Intangible Amortisation	(6,470)	(88)	-	-	(6,558)
Fair Value Measurements of Financial Instruments	(37)	(7)	**(231)**	-	(275)
	(6,507)	(95)	**(231)**	-	(6,833)
Net Deferred Tax Assets/(Liabilities) (Net)	**(1,966)**	**(1,454)**	**451**	**21**	**(2,948)**

* Tax Losses/Benefits carry forwards represents deferred income tax asset on unabsorbed depreciation carried forward under the Income Tax Act, for which there is no expiry period.

(b) Deferred tax assets and deferred tax liabilities have been offset wherever the Company has a legally enforceable right to set-off current tax assets against current tax liabilities and where the deferred tax assets and deferred tax liabilities relates to income tax levied by the same taxation authorities.

(c) The Company has not recognised deferred tax assets on following long term capital losses as presently it is not probable of recovery.

(₹ in Crore)

Description	AY@	Amount	Tax impact	Year of Expiry
Long Term Capital Loss	2016-17	34	8	AY 2024-25
Long Term Capital Loss	2017-18	901	210	AY 2025-26
		935	**218**	

@ Assessment Year (AY).

(d) The Company has not recognised deferred tax asset in respect of deductible temporary differences related to certain subsidiaries and associates as presently it is not probable that future taxable long term capital gain will be available in the foreseeable future to recover such deferred tax assets.

C. Income Tax Assets and Liabilities with Tax Authorities

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Income Tax Assets		
Non-Current Tax Assets (Net)	-	-
	-	**-**
Income Tax Liabilities (Net)		
Current Tax Liabilities (Net)	1,244	1,121
	1,244	**1,121**

The Company is subject to tax assessments and ongoing proceedings, which are pending before various Tax Appellate Authorities. Management periodically evaluates the positions taken in tax returns with respect to above matters, including unresolved tax disputes, which involves interpretation of applicable tax regulations and judicial precedents. Current tax liability and tax asset balances are presented, after recognising as appropriate, provision for taxes payable and contingencies basis management's assessment of outcome of such ongoing proceedings and amounts that may become payable to the tax authorities. Considering the nature of such estimates and uncertainties involved, the amount of such provisions may change upon final resolution of the matters with tax authorities, Refer Note 1C

14. Other Non-Current and Current Assets
(Unsecured, Considered Good unless otherwise stated)

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Considered Good				
Capital Advance - (a)	523	-	221	-
Advance to Employees	-	7	-	6
Deposit with Government and Other Authorities	-	34	-	30
Advance to Supplier for Goods and Services - (f)	2	1,691	2	1,158
Prepaid Expenses - (b) and (c)	27	106	6	72
Others - (d) and (e)	484	1,809	531	1,167
Considered Doubtful				
Advance to Supplier for Goods and Services	12	110	22	108
Others	-	40	-	11
Less: Loss Allowances	(12)	(150)	(22)	(119)
	1,036	**3,647**	**760**	**2,433**

(a) Gujarat Industrial Development Corporation ('GIDC') is constructing a common desalination plant (the 'Plant') at Dahej Industrial Area in Gujarat through a SPV, having total estimated cost of ₹ 1,140 Crore. The Company particpation is 10% of total MLD. The Company has paid an advance of ₹ 91 Crore to GIDC (representing 80% of our share out of total planned cost). Pending finalisation of the structure of the SPV, this amount has been recorded under Capital Advance.

(b) Prepaid Expenses - current include Nil (as at 31/03/2022 ₹ 24 Crore) towards excess CSR spent carried forward to subsequent years, Refer Note 58(a) for further details.

(c) Prepaid Expenses - current includes ₹ 50 Crore (as at 31/03/2022 Nil) towards surplus Plan Assets of Gratuity Fund recognised, Refer Note 26A (I)(a)(iv) for further details.

(d) Mainly includes unutilised Indirect tax credits and claims receivables from Indirect Tax Authorities.

(e) Includes ₹ 192 Crore (Garepalma mines at Chattisgarh ₹ 74 Crore and Kathautia mines in Jharkhand ₹ 118 Crore) [as at 31/03/2022 ₹ 192 Crore (Garepalma mines ₹ 74 Crore and Kathautia mines ₹ 118 Crore)] towards appropriation of Performance Bank Guarantee by Nominated Authority (NA), Refer Note 45 (a) for further details.

(f) Refer Note 47 for balances with related parties.

15. Inventories
Refer Note 1B (N) for accounting policy on Inventories

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	In Hand	In Transit	Total	In Hand	In Transit	Total
Raw Materials	3,873	4,921	8,794	3,061	5,529	8,590
Work-in-Progress	7,666	41	7,707	8,211	57	8,268
Finished Goods	2,174	269	2,443	1,832	248	2,080
Stock-in-Trade	20	-	20	884	-	884
Stores and Spares	845	80	925	699	16	715
Coal and Fuel	192	105	297	402	9	411
	14,770	**5,416**	**20,186**	**15,089**	**5,859**	**20,948**

(a) The Company has applied fair value hedge accounting on its inventory which forms part of Work-in-Progress and Finished Goods. Fair value hedges are mainly used to hedge the exposure to change in fair value of commodity price risks. The fair value adjustment remains part of the carrying value of inventory and is taken to the statement of profit and loss when the inventory is either sold or consumed, Refer Note 11(a) and 11(h).

(b) For Inventories hypothecated against secured short-term borrowings, Refer Note 22B (a).

(c) Write downs of inventories (net of reversal) to net realizable value related to raw materials, work-in-progress and finished goods amounted to ₹ 625 Crore (as at 31/03/2022 ₹ 586 Crore). These were recognized as expense during the year and included in 'cost of material consumed' and 'change in value of inventories of Finished goods, Work-in-Progress and Stock in Trade' in the Statement of Profit and Loss.

(d) Inventories in hand include bulk materials of Coal, Bauxite and Copper Concentrate lying at yards, mines, plants and precious metals of Gold and Silver lying at Copper smelter and refinery aggregating to ₹ 4,232 Crore (as at 31/03/2022 ₹ 4,302 Crore).

16. Trade Receivables
Refer Note 1B (O) for accounting policy on Trade receivable

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Trade Receivables:		
Secured, Considered Good	-	3
Unsecured, Considered Good	2,624	2,671
Unsecured, Credit Impaired	34	34
	2,658	**2,708**
Less: Loss Allowances - (d)	(48)	(37)
	2,610	**2,671**

(a) Trade Receivable ageing schedule as at 31/03/2023 :

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of receipt					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 yrs.	More than 3 yrs.	
(i) Undisputed – considered good	-	2,167	330	105	15	-	7	2,624
(ii) Undisputed – which have significant increase in credit risk	-	-	-	-	-	-	-	-
(iii) Undisputed – credit impaired	-	-	-	-	-	-	13	13
(iv) Disputed – considered good	-	-	-	-	-	-	-	-
(v) Disputed – which have significant increase in credit risk	-	-	-	-	-	-	-	-
(vi) Disputed – credit impaired	-	-	-	-	-	-	21	21
Total	**-**	**2,167**	**330**	**105**	**15**	**-**	**41**	**2,658**
Less: Loss Allowances								(48)
Net Trade Receivables								**2,610**

Trade Receivable ageing schedule as at 31/03/2022 :

(₹ in Crore)

Particulars	Unbilled	Not due	Outstanding for following periods from due date of receipt					Total
			Less than 6 months	6 months -1 year	1-2 years	2-3 yrs.	More than 3 yrs.	
(i) Undisputed – considered good	-	2,439	219	9	1	-	6	2,674
(ii) Undisputed – which have significant increase in credit risk	-	-	-	-	-	-	-	-
(iii) Undisputed – credit impaired	-	-	-	-	-	-	10	10
(iv) Disputed – considered good	-	-	-	-	-	-	-	-
(v) Disputed – which have significant increase in credit risk	-	-	-	-	-	-	-	-
(vi) Disputed – credit impaired	-	-	-	-	-	3	21	24
Total	**-**	**2,439**	**219**	**9**	**1**	**3**	**37**	**2,708**
Less: Loss Allowances								(37)
Net Trade Receivables								**2,671**

(b) For trade receivables hypothecated against borrowings, Refer Note 22B (a)

(c) No trade or other receivable are due from directors or other officers of the Company either severally or jointly with any other person. Further, no trade or other receivable are due from firms or private companies respectively in which any director is a partner, or director or member.

(d) Loss allowances includes provision of ₹ 14 Crore (31/03/2022: ₹ 3 Crore) made on account of expected credit loss on Trade Receivables: Refer Note 52 (c)(i).

(e) Refer Note 47 for balances with related parties.

17. Cash and Cash Equivalents

Refer Note 1B (S) for accounting policy on Cash and cash equivalents

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Cash on Hand	-	-
Cheques and Drafts on Hand including remittance in transit- (a)	39	14
Balances with Banks		
Current Accounts	433	281
Deposit with Initial maturity of less than three months	-	2,500
Short term liquid Investments in Mutual Funds	-	610
	472	**3,405**

(a) Includes ₹ 38 Crore (as at 31/03/2022- Nil) remittance in transit.

(b) There is no restriction with regard to cash and cash equivalents at the end of reporting period and prior periods.

18. Bank Balances other than Cash and Cash Equivalents

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Balances with Banks		
Earmarked Balances - (a)	15	14
Deposits with Initial Maturity more than three months	1,302	3,001
	1,317	**3,015**

(a) Includes unclaimed dividend of ₹ 6 Crore (as at 31/03/2022 ₹ 5 Crore)

19. Non-Current Assets classified as Held for Sale

Refer Note 1B (I) for accounting policy on Non-current assets (or disposal groups) held for sale

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Non-Current assets classified as Held for Sale	21	3
	21	**3**
(a) Details of Assets classified as held for sale		
Land and Building	-	1
Plant and Machinery	21	2
Total	**21**	**3**

(b) The Company is in the process of disposing the above assets.

(c) During the previous year ended 31/03/2022, the Company evaluated operational performance along with present environmental norms of its Di Ammonium Phosphate (DAP) Plant and decided to decommission the same. Accordingly it recognised impairment loss amounting to ₹ 76 Crore. During the year ended 31/03/2023, the Company has classified these assets having carrying amount of ₹ 14 Crore as held for sale.

(d) In earlier years, the Company had impaired certain equipment and accessories classified as held for sale resulting carrying amount ₹ 2 Crore as at 31/03/2022. During the year ended 31/03/2023, the Company has written back impairment loss on determination of its realizable value (Net of cost to sales) amounting to ₹ 12 Crore. Portion of such equipments are disposed during the year and rest with carrying amount ₹ 7 Crore lying as at 31/03/2023.

(e) The fair value of the assets held for sale approximates the carrying value.

20. Equity Share Capital

(₹ in Crore)

	Numbers as at		As at	
	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Authorised				
Equity Shares of ₹ 1/- each	2,500,000,000	2,500,000,000	250	250
Redeemable Cumulative Preference Shares of ₹ 2/- each	25,000,000	25,000,000	5	5
			255	255
Issued				
Equity Shares of ₹ 1/- each - (a)	2,247,748,231	2,247,726,370	225	225
			225	225
Subscribed and Paid-up				
Equity Shares of ₹ 1/- each fully paid-up	2,247,740,834	2,247,718,973	225	225
Less: Face Value of Equity Shares forfeited	(546,249)	(546,249)	-	-
Add: Forfeited Shares (Amount originally Paid up)			-	-
	2,247,194,585	2,247,172,724	225	225
Less: Treasury Shares				
Equity Shares. - (b)(i)	(16,316,130)	(16,316,130)	(2)	(2)
Equity Shares - (b)(ii)	(9,219,067)	(7,064,997)	(1)	(1)
	2,221,659,388	**2,223,791,597**	**222**	**222**

(a) Issued Equity Capital as at 31/03/2023 includes 7,397 Equity Shares (as at 31/03/2022 7,397 Equity Shares) of ₹ 1/- each issued on Rights basis kept in abeyance due to legal case pending.

(b) Treasury shares include :

(i) Shares held by Trident Trust which represents equity shares of ₹ 1/- each fully paid-up of the Company issued, pursuant to a Scheme of Arrangements approved by the Hon'ble High Courts of Mumbai and of Allahabad, vide their Orders dated 31st October, 2002, and 18th November, 2002, respectively, to the Trident Trust, created wholly for the benefit of the Company and is being managed by trustees appointed by it. The tenure of the Trust is up to January 23, 2024.

(ii) Shares held by Hindalco Employee Welfare Trust (ESOP Trust) which represents equity shares of ₹ 1/- each fully paid-up of the Company. The Trust buys shares of the Company from the market, for giving shares to employees pursuant to the Employees Stock Option Scheme (ESOS), 2018. Refer Note 21 (a) (viii) for further details.

(c) Reconciliation of shares outstanding at the beginning and at the end of the reporting period:

	As at 31/03/2023		As at 31/03/2022	
	Numbers	₹ in Crore	Numbers	₹ in Crore
Equity shares outstanding at the beginning of the year	2,223,791,597	222	2,224,543,152	222
Equity shares allotted pursuant to exercise of ESOS 2006 & 2013	21,861	-	488,477	-
Equity shares purchased by Hindalco Employee Welfare Trust from market pursuant to ESOS 2018	(2,956,000)	-	(2,119,000)	-
Equity shares allotted pursuant to exercise of ESOS 2018 through Hindalco Employee Welfare Trust	801,930	-	878,968	-
Equity shares outstanding at the end of the year	2,221,659,388	222	2,223,791,597	222

(d) The Company has one class of equity shares having a par value of ₹ 1/- per share. Each shareholder is eligible for one vote per share held. The dividend proposed by the Board of Directors is subject to the approval of the shareholders in the ensuing Annual General Meeting, except in case of interim dividend. In the event of liquidation, the equity shareholders are eligible to receive the remaining assets of the Company after distribution of all preferential amounts, in proportion to their shareholding.

(e) Details of shareholders holding more than 5% Equity Shares in the Company on reporting date:

	As at 31/03/2023		As at 31/03/2022	
	Number of Shares Held	Percentage of Holding *	Number of Shares Held	Percentage of Holding *
IGH Holdings Private Limited	350,088,487	15.58%	350,088,487	15.58%
Birla Group Holdings Private Limited	228,292,308	10.16%	228,292,308	10.16%
Life Insurance Corporation of India and its Associates	216,823,769	9.65%	189,588,459	8.44%

* Percentage have been calculated on the basis of total number of shares outstanding (before adjusting Treasury shares), refer footnote (b) above.

(f) Shares held by promoters at the end of the year and Movement

Promoter's Name $	No. of Shares as at 31/03/2023	Percentage of total shares *	No. of Shares as at 31/03/2022	Percentage of total shares *	% Change during the Year
Kumar Mangalam Birla	901,635	0.04%	901,635	0.04%	-
Birla Group Holdings Private Limited	228,292,308	10.16%	228,292,308	10.16%	-
Total	**229,193,943**		**229,193,943**		

$ Promoter here means promoter as defined in Section 2(69) of the Companies Act, 2013.

* Percentage have been calculated on the basis of total number of shares outstanding (before adjusting Treasury shares), refer footnote (b) above.

(g) Shares reserved for issue under options:

The Company has reserved equity shares for issue under the Employee Stock Option Schemes, Refer Note 26B(b) - Employee Share-based Payments for details of Employee Stock Option Schemes.

(h) The Company during the preceding 5 years:

i. Has not allotted shares pursuant to contracts without payment received in cash.

ii. Has not issued shares by way of bonus shares.

iii. Has not bought back any shares.

21. Other Equity

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Share Application Money pending Allotment	-	-
Reserves and Surplus		
Capital Reserve	145	145
Capital Redemption Reserve	102	102
Business Reconstruction Reserve	7,715	7,715
Securities Premium	8,234	8,233
Debenture Redemption Reserve	-	1,500
Employee Stock Options	108	76
Treasury Shares held by ESOP Trust	(306)	(199)
General Reserve	21,354	21,354
Retained Earning	14,178	10,252
	51,530	**49,178**
Other Reserves		
Gain/ (Loss) on Equity Instruments FVTOCI	6,472	6,923
Gain/ (Loss) on Debt Instruments FVTOCI	(14)	(5)
Effective portion of Cash Flow Hedge	276	(1,851)
Cost of Hedging Reserve	3	(39)
	6,737	**5,028**
	58,267	**54,206**

(a) Brief Descriptions of items of Other Equity are given below:

(i) Share Application Money pending Allotment:

Share application money pending allotment represents amount received from employees who has exercised employee stock options for which shares are pending allotment as on balance sheet date.

(ii) Capital Reserve:

The Company has created capital reserve pursuant to past mergers and acquisitions.

(iii) Capital Redemption Reserve:

The Company has created capital redemption reserve as per the requirement of the Companies Act.

(iv) Business Reconstruction Reserve:

The Company had formulated a scheme of financial restructuring under sections 391 to 394 of the Companies Act 1956 ("the Scheme") between the Company and its equity shareholders approved by the High Court of judicature of Bombay to deal with various costs associated with its organic and inorganic growth plan. Pursuant to this, a separate reserve account titled as Business Reconstruction Reserve ("BRR") was created during the year 2008-09 by transferring balance standing to the credit of Securities Premium Account of the Company for adjustment of certain expenses as prescribed in the Scheme.

(v) Securities Premium:

Securities premium reserve is used to record the premium on issue of shares. The reserve is utilized in accordance with the provision of the Act.

(vi) Debenture Redemption Reserve:

The Company is required to create a debenture redemption reserve out of the profits which is available for payment of dividend, for the purpose of redemption of debentures.

(vii) Employee Stock Options:

The employee stock option account is used to recognize the grant date fair value of options /RSUs issued to employees under stock option schemes.

(viii) Treasury Shares held by ESOP Trust

The Company has created a trust, namely "Hindalco Employee Welfare Trust"(ESOP Trust) for providing share-based payments to its employees (including its Subsidiaries' employees). The Company uses this Trust as a vehicle for issuing shares to employees covered under the Scheme. The Trust buys shares of the Company from the stock exchange, for issuing shares to employees after excercising under the Employees Stock Option Scheme, 2018. Shares held by Trust are treated as Treasury shares. Equity instruments that are reacquired (Treasury shares) are recognised at cost and deducted from equity. No gain or loss is recognised in Statement of Profit and Loss on purchase, sale, issue or cancellation of Equity instruments. Share options whenever exercised, would be utilised from such treasury shares, Refer Note 26B(b).

(ix) General Reserve:

The Company has created this reserve by transferring certain amount out of the profit at the time of distribution of dividend in the past.

(x) Retained Earning

Amount of retained earnings represents accumulated profit and losses of the Company as on reporting date. Such profits and losses are after adjustment of payment of dividend, transfer to any reserves as statutorily required and adjustment for realised gain/loss on derecognition of equity instruments measured at FVTOCI. Actuarial Gain/ Loss arising out of Actuarial valuation is immediately transferred to Retained Earning.

(xi) Gain/ (Loss) on equity and debt instruments accounted as FVTOCI

The Company has elected to recognize changes in the fair value of certain investments in other comprehensive income. These changes are accumulated within the FVTOCI equity investments reserve and FVTOCI debt investment reserve within equity.

(xii) Effective portion of Cash Flow Hedge:

The Company uses hedging instruments as part of its risk management policy for commodity and foreign currency risk as described in note 11. The Cash Flow hedging reserve is used to recognise the effective portion of gain or loss on designated hedging relationship, Refer Note 11 (e) and 11 (f).

(xiii) Cost of Hedging Reserve:

The Company designates the spot component of some of its derivative instruments in fair value hedge relationship and cash flow hedge relationship. The Company defers changes in the forward element of such instruments in the cost of hedging reserve. For fair value hedge forward points at inception is amortized on a straight line basis from the OCI based on the remaining life of trade. For cash flow hedge the deferred cost of hedging are included in the initial cost of the related hedged items when it is recognized or reclassified to the statement of profit and loss when the hedged item effects the statement of profit and loss. The Company designates the intrinsic value of option contracts whereas the time value of option contracts is included in the cost of hedging reserve, Refer Note 11 (e) and 11 (f).

(b) Movement of each item of other equity is presented in Statement of Changes in Equity.

(c) Shareholders of the Company approved final dividend of ₹ 4 per fully paid up equity shares aggregating to ₹ 890 Crore (net of dividend on treasury shares) for the year ended 31/03/2022 which was paid during this financial year.

(d) The Board of Directors of the Company has recommended final dividend of ₹ 3 per fully paid up equity share aggregating to ₹ 667 Crore (net of dividend on treasury shares) for the year ended 31/03/2023 which has not been recognised in the financial statement, and is subject to the approval of shareholders in annual general meeting.

22. Borrowings

A. Borrowings, Non-Current

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Non-Current Portion	Current Maturities #	Total	Non-Current Portion	Current Maturities #	Total
Secured						
Non-Convertible Debentures - (a)	-	-	-	-	5,999	5,999
Rupee Term Loans - (b)	11,559	50	11,609	11,668	8	11,676
Unsecured						
Non-Convertible Debentures - (a)	-	699	699	-	-	-
	11,559	**749**	**12,308**	**11,668**	**6,007**	**17,675**

Current maturities of non-current borrowings have been disclosed under "Borrowings, Current", Refer Note 22B.

(a) Debentures comprise of following:

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022		Redemption Date
	Gross Amount	Carrying Value	Gross Amount	Carrying Value	
Secured - (i)					
30,000 9.55% Redeemable Non-Convertible Debentures of ₹ 10 lakhs each	-	-	3,000	3,000	25/04/2022
15,000 9.55% Redeemable Non-Convertible Debentures of ₹ 10 lakhs each	-	-	1,500	1,500	27/06/2022
15,000 9.60% Redeemable Non-Convertible Debentures of ₹ 10 lakhs each	-	-	1,500	1,499	02/08/2022
	-	-	**6,000**	**5,999**	
Unsecured - (ii)					
70,000 7.60% Redeemable Non-Convertible Debentures of ₹ 1 lakhs each	700	699	-	-	18/03/2024
	700	**699**	-	-	

(i) All the secured Debentures were secured by movable items of Property, Plant and Equipment, both present and future (except movable assets of Mahan Aluminium plant, Aditya Aluminium plant, Kalwa plant, Current Assets of the Company) and certain immovable properties of the Company: Refer Note 2A.

(ii) During the year, the Company has issued 70,000 7.60% Redeemable Non-Convertible Debentures amounting to ₹ 700 crore maturing on March 18, 2024 to meet the working capital requirement. These Non-Convertible debt securities has been issued to comply with provisions of SEBI Circular No. SEBI/HO/DDHS/CIR/P/2018/144 dated November 26, 2018 related to listed large corporate. As of March 31, 2023, the entire proceeds from issue of non-convertible debentures have been utilized for the purpose mentioned in the Debenture Trust Deed.

(b) Rupee term loan from banks comprise of the following:

(₹ in Crore)

	Note	Rate of Interest^ applicable as on 31/03/2023	As at 31/03/2023		As at 31/03/2022		End of tenure
			Gross Amount	Carrying Value	Gross Amount	Carrying Value	
Axis Bank		Repo Rate + 160 bps	619	603	619	602	31/03/2030
State Bank of India		MCLR 3 Month + 10 bps	2,239	2,228	2,239	2,216	31/03/2030
ICICI Bank			-	-	76	75	31/03/2030
Rupee Term Loans : (A)	(I)		**2,858**	**2,831**	**2,934**	**2,893**	
State Bank of India		MCLR 3 Month + 10 bps	4,672	4,665	4,672	4,665	01/09/2030
PNB Bank		Repo Rate + 160 bps*	256	258	256	255	01/09/2030
Axis Bank		Repo Rate + 160 bps	1,371	1,355	1,371	1,363	01/09/2030
Rupee Term Loans : (B)	(II)		**6,299**	**6,278**	**6,299**	**6,283**	
State Bank of India		MCLR 3 Month + 15 bps	2,500	2,500	2,500	2,500	20/01/2032
Rupee Term Loans : (C)	(III)		**2,500**	**2,500**	**2,500**	**2,500**	
Total Rupee Term Loans (A)+(B)+(C)			**11,657**	**11,609**	**11,733**	**11,676**	

* Benchmark changed, benchmark as at 31/03/22 was MCLR 1 month.

The Borrowings are subsequently measured at amortised cost and interest accrued thereon is included in Note 24 - Other Financial Liability.

^ **Definition of abbreviation used**

(i) 100 basis points (bps) is equal to 1%

(ii) Repo rate is the rate at which RBI lends funds to commercial banks.

(iii) Marginal Cost of funds based Lending Rate (MCLR) is a tenor-linked internal benchmark rate of respective bank

(I) The term loans from banks of ₹ 2,858 Crore (gross) (31/03/2022: ₹ 2,934 Crore) are secured by a first ranking charge/ mortgage/ security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Mahan Aluminium plant, both present and future, carrying value ₹ 10,861 Crore (as at 31/03/2022 ₹ 11,238 Crore), Refer Note 2A. Term loan amounting to ₹ 2,858 Crore (gross) (31/03/2022: ₹ 2,934 Crore) is to be repaid in 17 quarterly instalments commencing from June 2026. ICICI Bank loan of ₹ 76 Crore has been prepaid in FY 2023.

(II) The term loan of ₹ 6,299 Crore (gross) (31/03/2022: ₹ 6,299 Crore) is secured by a first ranking charge/ mortgage/security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Aditya Aluminium plant both present and future, carrying value of ₹ 11,320 Crore (as at 31/03/2022 ₹ 11,693 Crore), Refer Note 2A. Term loan amounting to ₹ 6,299 Crore (gross) (31/03/2022: ₹ 6,299 Crore) is to be repaid in 26 quarterly instalments commencing from 01/06/2024.

(III) The term loan of ₹ 2,500 Crore (gross) is secured by a first ranking charge/ mortgage/security interest in respect of all the movable and immovable items of Property, Plant and Equipment of Mahan Aluminium plant both present and future, carrying value ₹ 10,861 Crore (as at 31/03/2022 ₹ 11,238 Crore), Refer Note 2A.Term loan amounting to ₹ 2,500 Crore (gross) is to be repaid in 34 quarterly instalments commencing from October 2023.

(c) Changes in liabilities arising from financing activities as at 31/03/2023 :

(₹ in Crore)

Particulars	Other Assets -Cash and Cash Equivalents@	Liabilities from Financing Activities				Net
		Non-Current Borrowings	Current Borrowings	Lease Liabilities	Supplier's Credit	
Balance as at 31/03/2022 #	**3,405**	**18,202**	**1,409**	**342**	**2,456**	**19,004**
Additions	-	-	-	555	-	555
Cash Flows (Net)@	(2,933)	(5,376)	(1,378)	(132)	3,214	(739)
Foreign Exchange Adjustments	-	-	-	-	(32)	(32)
Fair Value Changes, Refer Note 31 (a)	-	(48)	(25)	-	-	(73)
Debt Issuance Costs and Amortisation	-	59	-	-	-	59
Interest Expense **	-	972	52	47	140	1,211
Interest Paid **	-	(1,420)	(58)	(43)	(74)	(1,595)
Other Changes/ Reclassification - Modification/ Reassessment	-	-	-	(6)	-	(6)
Balance as at 31/03/2023 #	**472**	**12,389**	**-**	**763**	**5,703**	**18,383**
Less: Accrued interest as at 31/03/2023	-	(81)	-	-	(69)	(150)
Balance as at 31/03/2023 as per Balance Sheet	**472**	**12,308**	**-**	**763**	**5,635**	**18,234**

Changes in liabilities arising from financing activities as at 31/03/2022 :

(₹ in Crore)

Particulars	Other Assets -Cash and Cash Equivalents@	Liabilities from Financing Activities				Net
		Non-Current Borrowings	Current Borrowings	Lease Liabilities	Supplier's Credit	
Balance as at 01/04/2021 #	**1,003**	**16,162**	**4,294**	**311**	**255**	20,019
Additions	-	-	-	131	-	131
Cash Flows (Net)@	2,402	2,032	(2,923)	(71)	2,161	(1,203)
Foreign Exchange Adjustments	-	1	36	-	40	77
Fair Value Changes, Refer Note 31 (a)	-	(53)	-	-	-	(53)
Debt Issuance Costs and Amortisation	-	57	-	-	-	57
Interest Expense **	-	1,201	63	26	8	1,298
Interest Paid **	-	(1,198)	(61)	(23)	(8)	(1,290)
Other Changes/ Reclassification - Modification/ Reassessment	-	-	-	(32)	-	(32)
Balance as at 31/03/2022 #	**3,405**	**18,202**	**1,409**	**342**	**2,456**	**19,004**
Less: Accrued interest as at 31/03/2022	-	(527)	(5)	-	-	(532)
Balance as at 31/03/2022 as per Balance Sheet	**3,405**	**17,675**	**1,404**	**342**	**2,456**	**18,472**

\# Borrowings include Interest accrued on borrowings and current maturities of related borrowings.
@ Include temporary overdraft balances in current accounts.
** Interest expense and interest paid relates to borrowings and lease liabilities before interest capitalisation.

B. Borrowings, Current

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Secured		
Rupee Loans from Banks - (a)	-	3
	-	**3**
Unsecured		
Foreign currency Loans from Indian Banks - (b)	-	1,401
	-	**1,401**
Current maturities of Long-Term Borrowings	749	6,007
	749	**7,411**

(a) Working Capital loan for Aluminium business, granted under the Consortium Lending Arrangement, are secured by a first pari-passu charge on entire stocks of raw materials, work-in-process, finished goods, consumable stores and spares and also book debts pertaining to the Company's Aluminium business, both present and future. Working Capital loan for the Copper business is secured by a first pari passu charge on stocks of raw materials, work-in-process, finished goods and consumable stores and spares and also book debts and other movable assets of Copper business, both present and future, Refer Note 15 (b) and 16 (b).

(b) Foreign currency loans from Indian Banks and Offshore branch of Foreign banks are mainly in nature of Buyers credit which has been availed for Copper business to meet its working capital requirement mostly to settle import payments of copper concentrate and certain other raw materials. Refer Note 11(c) on non-derivative financial instruments used as hedging instruments.

23. Trade Payables

Refer Note 1B (P) for accounting policy on Trade and other payables

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Micro and Small Enterprises - (b)	-	161	-	96
Other than Micro and Small Enterprises - (c) and (d)	-	9,582	-	10,919
	-	**9,743**	**-**	**11,015**

(a) Trade Payables ageing schedule as at 31/03/2023 :

(₹ in Crore)

S. No.	Particulars	Unbilled	Not due	Outstanding for following periods from due date of payment				Total
				Less than 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Micro and Small Enterprises	12	103	39	5	1	1	**161**
(ii)	Others	893	5,380	3,161	82	16	50	**9,582**
(iii)	Disputed dues - Micro and Small Enterprises	-	-	-	-	-	-	**-**
(iv)	Disputed dues - Others	-	-	-	-	-	-	**-**
	Total	**905**	**5,483**	**3,200**	**87**	**17**	**51**	**9,743**

Trade Payables ageing schedule as at 31/03/2022 :

(₹ in Crore)

S. No.	Particulars	Unbilled	Not due	Outstanding for following periods from due date of payment				Total
				Less than 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Micro and Small Enterprises	14	31	44	3	3	1	**96**
(ii)	Others	865	2,351	7,516	26	22	52	**10,832**
(iii)	Disputed dues - Micro and Small Enterprises	-	-	-	-	-	-	**-**
(iv)	Disputed dues - Others	-	-	21	22	44	-	**87**
	Total	**879**	**2,382**	**7,581**	**51**	**69**	**53**	**11,015**

(b) Information related to Micro and Small Enterprises, as per the Micro, Small and Medium Enterprises Development Act, 2006 (MSME Development Act), are given below. The information given below have been determined to the extent such enterprises have been identified on the basis of information available with the Company:

(₹ in Crore)

		As at 31/03/2023	As at 31/03/2022
(i)	Principal amount outstanding	159	94
(ii)	Interest on Principal amount due thereon	-	-
(iii)	Interest and Principal amount paid beyond appointed day	-	-
(iv)	The amount of interest due and payable for the period of delay in making payment (which have been paid but beyond the appointed date during the year) but without adding the amount of interest specified under MSME Development Act.	2	2
(v)	The amount of interest accrued and remaining unpaid at the end of the year.	4	2
(vi)	The amount of further interest remaining due and payable even in the succeeding years, until such date when the interest dues as above are actually paid to the Small enterprise, for the purpose of disallowance as a deductible expenditure under Section 23 of MSME Development Act.	2	2

(c) Refer Note 11 for Embedded derrivative and non-derivative financial instruments used as hedging instruments.

(d) Refer Note 47 for balances with related parties.

24. Other Financial Liabilities

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Interest Accrued but not due	-	150	-	532
Liability for Capital Expenditure	53	439	8	304
Retention Amount Payable	6	111	2	118
Security and Other deposits	2	39	3	41
Investor Education and Protection Fund				
Unclaimed Dividends - (a)	-	6	-	5
Temporary Book Overdraft	-	2	-	-
	61	**747**	**13**	**1,000**

(a) This amount do not include any amount due and outstanding, to be credited to Investor Education and Protection Fund except ₹ 0.09 Crore (as at 31/03/2022 ₹ 0.09 Crore) which is held in abeyance due to legal cases pending.

25. Provisions

Refer Note 1B (L) for accounting policy on Provisions and contingencies

(₹ in Crore)

	As at 31/03/2023			As at 31/03/2022		
	Non-Current	Current	Total	Non-Current	Current	Total
Asset Retirement Obligations	112	-	112	110	-	110
Environmental Liability (d)	15	305	320	83	179	262
Enterprise Social Commitment	148	15	163	138	10	148
Legal Cases	-	304	304	-	383	383
Renewable Power Obligation (c)	-	283	283	-	148	148
Miscellaneous Provisions	1	7	8	1	11	12
	276	**914**	**1,190**	**332**	**731**	**1,063**

(a) The details of provisions movement are as under:

(₹ in Crore)

Particulars	Assets Retirement Obligations	Environ-mental Liability	Enterprise Social Commitment	Legal Cases	Renewable Power Obligation	Miscellaneous Provisions	Total
Balance as at 01/04/2021	**99**	**63**	**148**	**331**	**156**	**13**	**810**
Provision made during the year (d)	6	200	-	53	112	-	371
Reclassified	-	-	-	-	-	-	-
Provision utilised during the year	(1)	(2)	(10)	(1)	(107)	(1)	(122)
Provision reversed during the year	-	-	-	-	(13)	-	(13)
Unwinding of discount	6	1	10	-	-	-	17
Balance as at 31/03/2022	**110**	**262**	**148**	**383**	**148**	**12**	**1,063**
Provision made during the year	-	106	25	5	73	-	209
Reclassified	-	-	-	7	-	-	7
Provision utilised during the year (c)	(4)	(36)	(5)	(87)	94	(1)	(39)
Provision reversed during the year	-	(13)	(15)	(4)	(32)	(3)	(67)
Unwinding of discount	6	1	10	-	-	-	17
Balance as at 31/03/2023	**112**	**320**	**163**	**304**	**283**	**8**	**1,190**

(b) Brief Description of Provisions

(i) Assets Retirement Obligations

Asset Retirement Obligation (ARO) is a legal or constructive obligation associated with the ash ponds, ash pipeline and coal transportation system at captive power plants, red mud ponds at refineries and mining area where these lands need to be restored back to usable condition after closing of activities. This is a statutory requirement in which the timing or method of settlement may be conditional on one or multiple future events, the occurrence of which may not be within the control of the entity. The outflow of economic resources is expected over a period until FY 47. The same has been appropriately discounted.

(ii) Environmental Liability

Environmental Liability associated with Wild Life Conservation Plan (WLCP) and disposal of hazardous material generated during the course of manufacturing or mining operation e.g. disposal of spent pot lining, Gypsum, Slag, Ash etc. This disposal generally takes place as per the guidelines set by various regulatory authorities of States and Central Government. The outflow of economic resources is generally expected over a period until FY 31.

(iii) Enterprise Social Commitment

Enterprise Social Commitment is the amount to be spent on social and economic development of the surrounding area where new project is being setup. This is generally defined as a certain percentage of the total cost of the project. The outflow of economic resources is expected expected over a period until FY 56. This has been appropriately discounted wherever necessary.

(iv) Legal Cases

There are few Legal cases against which provision has been made since these events are probable to happen i.e. more likely than not but timing of occurrence of such events is uncertain as it depends on when the matter will be settled at the highest Court of Law.

(v) Renewable Power Obligation (RPO)

Some of our units situated in various states like Odisha, Madhya Pradesh , Maharashtra ,Gujarat, Jharkhand etc. who gets power from Captive power plants or procure power from open source, are obligated to purchase certain portion of their power consumption from Renewable Energy sources both solar and non-solar. This gives rise to Renewable Power Obligation (RPO). In case the obligated units fail to procure power from such renewable sources, they may satisfy the obligation by purchasing Renewable Energy Certificates from authorised exchanges as an alternative.

(vi) Miscellaneous Provision

Includes Statutory provisions related to Indirect Taxes, Coal Cess etc.

(c) During 2017-18, while purchasing Non-Solar Renewable Energy Certificates (REC) to meet our obligation, the Company had to pay ₹ 500 per REC aggregating to ₹ 134 Crore as deposit to the REC Exchange in an Escrow account pursuant the directives from the Supreme Court of India. Provision for RPO as at 31/03/2022 was net of these REC deposits under escrow amount. During the current year, the REC Exchange has returned this amount against the bank guarantee provided by the Company. Accordingly, the provision has been adjusted for the same.

(d) Pursuant to the notification dated 31/12/2021 issued by Ministry of Environment, Forest and Climate Change (MoEFCC), the Company recognised provision of ₹ 107 Crore for expected cost of disposal/stabilisation of legacy ash lying in ash dykes/ponds as at 31/03/2022. The estimate was based on the plan for disposal and/ or stabilisation of ash dykes/ponds considering feasibility of extraction of ash from ash dykes/ponds.

Subsequently, the MoEFCC, vide notification dated 30/12/2022 amended the said notification whereby, any new or operational thermal power plant may be permitted to designate its ash dykes/ponds as operational ash dyke/pond. The Central Pollution Control Board (CPCB) in consultation with the Central Electricity Authority (CEA) was directed to issue guidelines, on or before 31/03/2023, relating to technical specifications of operational as well as stabilised and reclaimed ash dykes/ ponds, procedure for annual certification of such ash dykes/ponds or on various aspects like safety, mode of disposal etc.

Considering that such guidelines are yet to be notified, the Company continues to recognise the balance provision amounting to ₹ 91 Crore as at 31/03/2023 towards expected cost of disposal/stabilisation under provision for Environmental Liability.

26. Employee Benefit Obligations

Refer Note 1B (V) for accounting policy on Employee Benefits

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Defined Benefit Plans				
Gratuity	102	4	96	5
Pension	39	4	42	4
Post-Retiral Medical Benefit	4	-	4	1
Other Employee Benefit Plans				
Compensated Absences	-	271	-	261
Stock Appreciation Right	-	3	-	4
	145	**282**	**142**	**275**

A. Post-Employment Benefits

The Company provides various benefit plans to its employees. Some of them are defined benefit in nature while some are contributory.

I. Defined Benefit Plans:

Major Post retiral defined benefit plans of the Company include Gratuity, Post retirement medical benefit and Provident Fund (to the extent of Company's obligation to fund any shortfall on the yield of the trust's investments over the administered interest rates on an annual basis by Central Provident Fund Organisation of Goverment of India). The Company does Actuarial valuation for its identified defined benefit plans.

Methodology for actuarial valuation of Defined Benefit Obligations:

The Projected Unit Credit (PUC) actuarial method has been used to assess the plan's liabilities, including those related to death-in-service and incapacity benefits.

Under PUC method a projected accrued benefit is calculated at the beginning of the year and again at the end of the year for each benefit that will accrue for all active members of the plan. The projected accrued benefit is based on the plan's accrual formula and upon service as of the beginning or end of the year, but using a member's final compensation, projected to the age at which the employee is assumed to leave active service. The plan liability is the actuarial present value of the projected accrued benefits for active members.

Defined benefit plans expose the Company to actuarial risks such as: Interest Rate Risk, Salary Risk and Demographic Risk.

(i) Interest Rate Risk: While calculating the defined benefit obligation a discount rate based on government bonds yields of matching tenure is used to arrive at the present value of future obligations. If the bond yield falls, the defined benefit obligation will tend to increase and plan assets will decrease.

(ii) Salary risk: Higher than expected increases in salary will increase the defined benefit obligation.

(iii) Demographic risk: This is the risk of variability of results due to unsystematic nature of decrements that include mortality, withdrawal, disability and retirement. The effect of these decrements on the defined benefit obligations is not straight forward and depends on the combination of salary increase, discount rate and vesting criteria. It is important not to overstate withdrawals because in the financial analysis the retirement benefit of a short career employee typically costs less per year as compared to a long service employee.

(a) Gratuity Plans

The Company has various schemes (funded/unfunded) for payment of gratuity to all eligible employees calculated at specified number of days (ranging from 15 days to 1 month) of last drawn salary depending upon the tenure of service for each year of completed service subject to minimum service of five years payable at the time of separation upon superannuation or on exit otherwise. These defined benefit gratuity plans are governed by the Payment of Gratuity Act, 1972.

(₹ in Crore)

(i) Change in Defined Benefit Obligations (DBO)	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
DBO at the beginning of the year	1,009	101	1,110	1,018	95	1,113
Current service cost	38	7	45	40	6	46
Interest Cost on the DBO	70	7	77	62	6	68
Acquisitions cost	-	-	-	-	2	2
Actuarial (gain)/ loss - experience	30	2	32	17	4	21
Actuarial (gain)/ loss - financial assumption	(39)	(5)	(44)	(60)	(7)	(67)
Benefits paid directly by Company	(47)	(6)	(53)	(42)	(5)	(47)
Benefits paid from plan assets	(23)	-	(23)	(26)	-	(26)
DBO at the end of the year	**1,038**	**106**	**1,144**	**1,009**	**101**	**1,110**

(₹ in Crore)

(ii) Change in Fair Value of Plan Assets	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Fair Value of Plan Assets at the beginning of the year	1,114	-	1,114	984	-	984
Interest Income on plan assets	79	-	79	62	-	62
Employer's contributions	49	-	49	52	-	52
Return on plan assets greater/(lesser) than discount rate	(34)	-	(34)	42	-	42
Benefits Paid	(23)	-	(23)	(26)	-	(26)
Fair Value of Plan Assets at the end of the year	**1,185**	**-**	**1,185**	**1,114**	**-**	**1,114**

(₹ in Crore)

(iii) Development of Net Balance Sheet Position	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
DBO	(1,038)	(106)	(1,144)	(1,009)	(101)	(1,110)
Fair Value of Plan Assets	1,185	-	1,185	1,114	-	1,114
Status {surplus/(deficit)}	147	(106)	41	105	(101)	4
Funded surplus not recognised - (xiv)	(97)	-	(97)	(105)	-	(105)
Net defined benefit asset/(liability) recognised in the Balance Sheet	**50**	**(106)**	**(56)**	**-**	**(101)**	**(101)**

(₹ in Crore)

(iv) Reconciliation of Net Balance Sheet Position	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Net Defined benefit asset/(Liability)at beginning of the year	-	(101)	(101)	(34)	(95)	(129)
Service cost	(38)	(7)	(45)	(40)	(6)	(46)
Net Interest on net defined benefit liability/(asset)	9	(7)	2	-	(6)	(6)
Actuarial gain/loss and return on plan assets recognised in OCI	(25)	3	(22)	85	3	88
Funded surplus recognised/(not recognised) in OCI - (xiv)	8	-	8	(105)	-	(105)
Employer's contributions	49	-	49	52	-	52
Benefit paid directly by Company	47	6	53	42	5	47
Acquisition credit/(cost)	-	-	-	-	(2)	(2)
Net Defined benefit asset/(Liability)at the end of the year	**50**	**(106)**	**(56)**	**-**	**(101)**	**(101)**

(₹ in Crore)

(v) Expense recognised during the year	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Current Service cost	38	7	45	40	6	46
Net Interest on net defined benefit liability/(asset)	(9)	7	(2)	-	6	6
Net Gratuity Cost	**29**	**14**	**43**	**40**	**12**	**52**

(₹ in Crore)

(vi) Other Comprehensive Income(OCI)	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Actuarial (Gain)/ Loss due to DBO experience	30	2	32	17	4	21
Actuarial (Gain)/ Loss due to DBO assumption changes	(39)	(5)	(44)	(60)	(7)	(67)
Actuarial (Gain)/ Loss arising during the period	(9)	(3)	(12)	(43)	(3)	(46)
Return on Plan Assets (greater)/less than discount rate	34	-	34	(42)	-	(42)
Funded surplus (recognised)/not recognised in OCI - (xiv)	(8)	-	(8)	105	-	105
Actuarial (Gain)/ Loss recognised in OCI	**17**	**(3)**	**14**	**20**	**(3)**	**17**

(₹ in Crore)

(vii) Defined Benefit Costs	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Service Cost	38	7	45	40	6	46
Net Interest on net defined benefit liability/(asset)	(9)	7	(2)	-	6	6
Actuarial (gain)/loss recognised in OCI	25	(3)	22	(85)	(3)	(88)
Funded surplus (recognised)/not recognised in OCI - (xiv)	(8)	-	(8)	105	-	105
Defined Benefit Cost	**46**	**11**	**57**	**60**	**9**	**69**

(viii) Principal Actuarial Assumptions

	Year ended	
	31/03/2023	31/03/2022
Discount rate (based on the market yields available on Government bonds at the accounting date with a term that matches that of the liabilities)	7.50%	7.00%
Salary escalation rate	7.50%	7.50%
Weighted average duration of the defined benefit obligation	8 years	8 years
Mortality Rate	Indian Assured Lives Mortality (2006-08) Ultimate	

(ix) Non-Current and Current portion of Employee Benefit Obligations (Refer Note 26) & Fair Value of Plan Assets (Refer Note 14)

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Current portion	50	(4)	46	-	(5)	(5)
Non-current portion	-	(102)	(102)	-	(96)	(96)
Assets/(Liabilites)	**50**	**(106)**	**(56)**	**-**	**(101)**	**(101)**

(x) Sensitivity analysis

Sensitivity analysis are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be co-related. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the defined benefit liability recognised in the balance sheet.

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Discount Rate						
Effect on DBO due to 1% increase in discount rate	(71)	(9)	(80)	(71)	(9)	(80)
Effect on DBO due to 1% decrease in discount rate	80	10	90	82	10	92
Salary Escalation Rate						
Effect on DBO due to 1% increase in salary escalation rate	79	10	89	80	10	90
Effect on DBO due to 1% decrease in salary escalation rate	(71)	(9)	(80)	(72)	(9)	(81)

(xi) The Expected Maturity Analysis of Undiscounted Gratuity is as follows:

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Funded	Unfunded	Total	Funded	Unfunded	Total
Within 1 year	67	4	71	61	5	66
From 1 year to 2 Year	101	6	107	93	6	99
From 2 year to 3 Year	105	8	113	96	6	102
From 3 year to 4 Year	106	9	115	98	8	106
From 4 year to 5 Year	108	10	118	101	9	110
From 5 year to 10 Year	591	75	666	552	66	618
Beyond 10 years	2,038	376	2,414	1,914	360	2,274

(xii) Composition of Plan Assets

Major categories of Plan Assets are as under: *						
Cash & Bank Balances	1.29%	NA	1.29%	1.37%	NA	1.37%
Scheme of insurance - Conventional product	0.19%	NA	0.19%	0.20%	NA	0.20%
Scheme of insurance - ULIP product	98.52%	NA	98.52%	98.43%	NA	98.43%
	100.00%	**NA**	**100.00%**	**100.00%**	**NA**	**100.00%**

* Investment in Plan assets are unquoted.

(xiii) Expected Contributions to post employment benefit plan of Gratuity for the year ending 31st March, 2024 are nil.

(xiv) The Company has not recognised the surplus in its plan assets of gratuity fund since no future economic benefits are expected in the form of reduction in future contributions to the gratuity plan or refund from the gratuity plan.

(b) Post Retirement Medical Benefit

This is a defined benefit plan where the Company provides post retirement medical benefit to its certain retired employees. The scheme involves reimbursement of expenses towards medical treatment of self and dependents. The amount charged to the Statement Profit and Loss during the year is ₹ 0.33 Crore (year ended 31/03/2022 ₹ 0.32 Crore) and amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (2) Crore (year ended 31/03/2022 ₹ (4) Crore). The obligation with respect to said scheme as at 31/03/2023 ₹ 4 Crore (year ended 31/03/2022 ₹ 5 Crore) .

(c) Junior and Senior Pension Plan

Junior and Senior Pension Plan provided to certain employees is in the nature of defined benefit plan which provides an annuity in the form of pension amount at retirement.

(d) Other Pension Plan

It is a pension benefit provided to erstwhile Managing Director. The amount charged to statement of Profit and Loss during the year is ₹ 3 Crore (year ended 31/03/2022 ₹ 3 Crore). Amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (2) Crore (year ended 31/03/2022 ₹ 0 Crore). The obligation with respect to these schemes as at 31/03/2023 ₹ 43 Crore (year ended 31/03/2022 ₹ 46 Crore).

(e) Provident Fund (Managed by Trust)

The Company's contribution towards Provident Fund managed by approved trusts, which are substantially a defined benefit plan, is debited to the Statement of Profit and Loss. The Company has an obligation to fund any shortfall on the yield of the trust's investments over the administered interest rates on an annual basis by Central Provident Fund Organisation of Government of India. The amount debited to Statement of Profit and Loss during the year was ₹ 75 Crore (year ended 31/03/2022 ₹ 68 Crore). Based on actuarial valuation, the Company has recognised obligation of Nil as at 31/03/2023 (year ended 31/03/2022 Nil) towards shortfall on the yield of the trust's investments over the administered interest rates. Amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ (0) Crore (year ended 31/03/2022 ₹ (5) Crore).

(₹ in Crore)

Sensitivity Analysis for Discount Rate :-	Year ended 31/03/2023	Year ended 31/03/2022
Provident Fund		
Effect on DBO due to 1% increase in discount rate	(6)	(3)
Effect on DBO due to 1% decrease in discount rate	7	4
Pension		
Effect on DBO due to 1% increase in discount rate	(0)	(0)
Effect on DBO due to 1% decrease in discount rate	0	0
Post Retirement Medical		
Effect on DBO due to 1% increase in discount rate	(0)	(0)
Effect on DBO due to 1% decrease in discount rate	0	0

Assumption use in determining the present value obligation of the interest rate guarantee under the Deterministic Approach:

	Year ended 31/03/2023	Year ended 31/03/2022
Discount rate	7.50%	7.00%
Expected EPFO (Employees' Provident Fund Organisation) Return	8.15%	8.10%

II. Defined Contribution Plans

The Company has certain defined contribution plans such as provident funds (not managed by Trust), superannuation fund and family pension fund for the benefit of the employees. The Contributions are made to registered funds/ organisation administered by the government. The obligation of the Company is limited to the amount contributed and it has no further contractual nor any constructive obligation.

(a) Pension

It is a contributory benefit plan where the Company contributes a certain percentage of salary for all eligible employees in the managerial cadre towards Superannuation Funds with option to put certain portion in National Pension Scheme (NPS) and/or in funds managed by Birla Sunlife Insurance Company to be converted to annuity of Life Insurance Corporation of India at retirement. The amount charged to statement of Profit and Loss during the year is ₹ 17 Crore (year ended 31/03/2022 ₹ 16 Crore). Amount of actuarial (gain)/ loss recognised in Other Comprehensive Income during the year is ₹ 0 Crore (year ended 31/03/2022 ₹ 0 Crore).

(b) Provident Fund (Other than Trust)

In respect of certain employees, the Company's contribution towards Provident Fund as specified under the law is paid to the Regional Provident Fund Commissioner and is debited to the Statement of Profit and Loss. The Company also contributes to Coal Mines Provident Fund (CMPF) in respect of employees working in coal mines. The amount debited to Statement of Profit and Loss during the year is ₹ 30 Crore (year ended 31/03/2022 ₹ 32 Crore).

B. Other Employee Benefit plans

(a) Leave Obligation

The leave obligation cover the Company's liability for earned and sick leave. The entire amount of the provision of ₹ 271 Crore (year ended 31/03/2022 ₹ 261 Crore) is presented as current, since the Company does not have an unconditional right to defer settlement for these obligations. Expected amount towards settlement of Leave for the next 12 months are ₹ 44 Crore (31/03/2022 ₹ 41 Crore) .

(b) Employee Share-based Payments

Refer Note 1B (W) for accounting policy on Employee Share-based Payments

The Company has formulated employee share-based payment schemes with the objective to attract and retain talent and align the interest of employees with the Company as well as to motivate them to contribute to its growth and profitability. The Company views employee stock options as instruments that would enable the employees to share the value they create for the Company in the years to come. At present, the following employee share-based payment schemes are in operation, details of which are given below:

(i) Employee Stock Option Scheme 2006 ("ESOS 2006"):

The shareholders of the Company has approved on 23/01/2007 an Employee Stock Option Scheme 2006 ("ESOS 2006"), under which the Company may grant up to 3,475,000 stock options to its permanent employees in the management cadre, whether working in India or out of India, including Managing and the Whole Time Directors of the Company, in one or more tranches. The ESOS 2006 is administrated by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee"). Each stock option, when exercised, would be converted into one fully paid-up equity share of ₹ 1/- each of the Company. The stock options will vest in 4 equal annual instalments after completion of one year of service from the date of grant. The exercise price shall be average price of the equity shares of the Company in the immediate preceding seven day period on the date prior to the date on which the ESOS compensation committee finalises the specific numbers of Options to be granted to the employees discounted by such percentage not exceeding 30 % (thirty percent) to be determined by ESOS Compensation Committee in the best interest of the various stake holders in the prevailing market conditions. The maximum period of exercise is 5 years from the date of vesting and these stock options do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/ expired stock options are also available for grant. Further, on 23/09/2011 the ESOS 2006 has been partially modified and by which the Company may grant 6,475,000 stock options to its eligible employees.

Under the ESOS 2006, till 31/03/2023 the Committee has granted 4,328,159 stock options (31/03/2022: 4,328,159 stock options) to its eligible employees out of which 1,819,941 stock options (31/03/2022: 1,819,941 stock options) has been forfeited/ expired and are available for grant as per term of the Scheme.

A summary of movement of the stock options and weighted average exercise price (WAEP) is given below:

	As at 31/03/2023		As at 31/03/2022	
	Number	WAEP	Number	WAEP
Outstanding at beginning of the year	-	-	391,304	118.73
Granted during the year	-	-	-	-
Forfeited during the year	-	-	-	-
Exercised during the year	-	-	(391,304)	118.73
Expired during the year	-	-	-	-
Outstanding at year end	-	-	-	-
Vested and Exercisable at year end	-	-	-	-

Under ESOS 2006, as at 31/03/2023 exercise prices for stock options outstanding was Nil (31/03/2022: Nil) whereas the weighted average remaining contractual life of the stock options outstanding was Nil (31/03/2022: Nil).

The weighted average share price at the date of exercise of ESOS 2006 was Nil (31/03/2022 ₹ 428.07 per share).

(ii) Employee Stock Option Scheme 2013 ("ESOS 2013"):

The shareholders of the Company has approved on 10/09/2013 an Employee Stock Option Scheme 2013 ("ESOS 2013"), under which the Company may grant up to 5,462,000 Options (comprising of Stock Options and/ or Restricted Stock Units (RSU)) to the permanent employees in the management cadre and Managing and Whole time Directors of the Company and its subsidiary companies in India and abroad, in one or more tranches. The ESOS 2013 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee"). The stock options exercise price would be determined by the Committee, whereas the RSUs exercise price shall be the face value of the equity shares of the Company as at the date of grant of RSUs. Each stock option and each RSU entitles the holders to apply for and be allotted one fully paid-up equity share of ₹ 1/- each of the Company upon payment of exercise price during exercise period. The stock options will vest in 4 equal annual instalments after completion of one year of the services from the date of grant, whereas RSU will vest upon completion of three years of services from the date of grant. The maximum period of exercise is 5 years from the date of vesting and these stock option/ RSU do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/ expired stock options and RSUs are also available for grant.

In terms of ESOS 2013, till 31/03/2023 the Committee has granted 2,250,754 stock options and 2,252,254 RSUs (31/03/2022: 2,250,754 stock options and 2,252,254 RSUs) to the eligible employees of the Company and some of its subsidiary companies. Further, 301,381 stock options and 213,095 RSUs (31/03/2022: 301,381 stock options and 213,095 RSUs) has been forfeited/ expired and are available for grant as per term of the Scheme.

A summary of movement of stock options and RSUs and weighted average exercise price (WAEP) is given below:

	As at 31/03/2023				As at 31/03/2022			
	Stock Options		RSUs		Stock Options		RSUs	
	Number	WAEP	Number	WAEP	Number	WAEP	Number	WAEP
Outstanding at beginning of the year	26,248	135.39	27,553	1.00	110,700	132.68	55,691	1.00
Granted during the year	-	-	-	-	-	-	-	-
Re-instated during the year	-	-	-	-	-	-	-	-
Forfeited during the year	-	-	-	-	-	-	-	-
Exercised during the year	(21,861)	129.02	-	-	(80,067)	132.52	(17,106)	1.00
Expired during the year	(2)	119.45	-	-	(4,385)	119.45	(11,032)	1.00
Outstanding at year end	4,385	167.15	27,553	1.00	26,248	135.39	27,553	1.00
Vested and Exercisable at year end	4,385	167.15	27,553	1.00	26,248	135.39	27,553	1.00

Under ESOS 2013, the range of exercise prices for stock options outstanding as at 31/03/2023 was ₹ 119.45 to ₹ 167.15 (31/03/2022: ₹ 119.45 to ₹ 167.15) whereas exercise price in case of RSUs was ₹ 1.00 (31/03/2022: ₹ 1.00). The weighted average remaining contractual life for the stock options and RSUs outstanding as at 31/03/2023 was 1.72 years and 1.72 years, respectively (31/03/2022: 1.09 years and 2.73 years, respectively).

The weighted average share price at the date of exercise of ESOS 2013 was ₹ 392.76 per share (31/03/2022 ₹ 460.52 per share).

(iii) Employee Stock Option Scheme 2018 ("ESOS 2018"):

The shareholders of the Company has approved on 21/09/2018 an Employee Stock Option Scheme 2018 ("ESOS 2018"), formulated by the Company, under which the Company may grant not more than 13,957,302 [Stock Options and Restricted Stock Units('RSU')] to the permanent employees of the Company in management cadre including Managing and the Wholetime Director of the Company and its subsidiary companies in India and abroad, in one or more tranches. The ESOS 2018 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee") and the Hindalco Employees Welfare Trust ("Trust"). The Stock options exercise price would be determined by the Committee whereas the RSU exercise price shall be the face value of the equity shares of the Company as at the date of grant of RSUs. Each stock option and each RSU entitles the holders to apply for and be allotted one fully paid-up equity share of ₹ 1/- each of the Company upon payment of exercise price during the exercise period. The Options and RSUs Granted under the Scheme 2018 shall vest, subject to compliance with the minimum vesting period of one year, within a period of four years for Options and of three years for RSUs from the Grant Date, in the manner set out in the respective vesting letters to be issued by the Company to the Grantees from time to time. The maximum period of exercise is 5 years from the date of vesting and these stock options/RSUs do not carry rights to dividends or voting rights till the date of exercise. Further, forfeited/expired stock options and RSUs are also available for grant. The options shall lapse in case of performance linked vesting conditions are not met.

In terms of ESOS 2018, till 31/03/2023 the Committee has granted 9,465,173 stock options and 2,766,817 RSUs (31/03/2022: 7,062,503 stock options and 1,981,539 RSUs) to the eligible employees of the Company and some of its subsidiary companies. Further, 1,143,828 stock options and RSUs 203,461 (31/03/2022: 1,006,926 stock options and 149,597 RSUs) has been forfeited/ expired and are available for grant as per term of the Scheme. A summary of movement of stock options and RSUs and weighted average exercise price (WAEP) is given below:

	As at 31/03/2023				As at 31/03/2022			
	Stock Options		RSUs		Stock Options		RSUs	
	Number	WAEP	Number	WAEP	Number	WAEP	Number	WAEP
Outstanding at beginning of the year	5,324,888	302.51	1,640,675	1.00	4,277,702	226.06	1,279,318	1.00
Granted during the year	2,402,670	395.45	785,278	1.00	1,872,984	448.89	612,560	1.00
Re-instated during the year	-	-	-	-	17,719	278.05	-	-
Forfeited during the year	(136,902)	384.73	(53,864)	1.00	(155,816)	306.39	(59,936)	1.00
Exercised during the year	(251,593)	232.43	(550,337)	1.00	(687,701)	224.10	(191,267)	1.00
Expired during the year	-	-	-	-	-	-	-	-
Outstanding at year end	7,339,063	333.81	1,821,752	1.00	5,324,888	302.51	1,640,675	1.00
Vested and Exercisable at year end	3,720,192	261.63	640,908	1.00	2,370,953	228.84	966,695	1.00

Under ESOS 2018, the range of exercise prices for stock options outstanding as at 31/03/2023 was ₹ 159.30 to ₹ 453.95 (31/03/2022 was ₹ 159.30 to ₹ 453.95) whereas exercise price in case of RSUs was ₹ 1 (31/03/2022: ₹ 1). The weighted average remaining contractual life for the stock options and RSUs outstanding as at 31/03/2023 was 5.02 years and 5.90 years, respectively (31/03/2022 was 5.29 years and 5.50 years respectively).

The weighted average share price at the date of exercise of ESOS 2018 was ₹ 416.04 per share (31/03/2022 was ₹ 509.37 per share).

The fair values at grant date of stock options granted during the year ended 31/03/2023 was ₹ 159.32 to ₹ 215.70 (31/03/2022 was ₹ 176.04 to ₹ 220.36) and fair values in case of RSUs was ₹ 350.00 to ₹ 413.12 (31/03/2022 was ₹ ₹ 419.15 to ₹ 435.62), respectively. The fair valuation has been carried out by an independent valuer by applying Black and Scholes Model. The inputs to the model include the exercise price, the term of option, the share price at grant date and the expected volatility, expected dividends and the risk free rate of interest for terms of options.

The details of options granted, the key assumptions for Fair Value on the date of grant are as under :

	FY 2022-23					
	Tranche IX		Tranche X		Tranche XI	
	Stock Option	RSU	Stock Option	RSU	Stock Option	RSU
Grant date	22/07/2022	22/07/2022	11/11/2022	11/11/2022	09/02/2023	09/02/2023
Exercise price (₹)	375.95	1.00	415.10	1.00	436.50	1.00
Expected terms of options granted (years)	4.43 to 6.43 years	8 years	4.43 to 6.43 years	8 years	4.43 to 6.43 years	8 years
Share price on grant date (₹)	381.25	381.25	429.85	429.85	444.55	444.55
Expected volatility (%)	42.23%	42.23%	41.51%	41.51%	38.93%	38.93%
Expected dividend (%)	1.05%	1.05%	0.93%	0.93%	0.90%	0.90%
Risk free interest rate (%)	7.09% - 7.26%	7.23%	7.10% - 7.20%	7.23%	7.21% - 7.28%	7.29%

	FY 2021-22			
	Tranche VII		Tranche VIII	
	Stock Option	RSU	Stock Option	RSU
Grant date	06/08/2021	06/08/2021	12/11/2021	12/11/2021
Exercise price (₹)	443.25	1.00	453.95	1.00
Expected terms of options granted (years)	4.43 to6.43 years	6 to 8 years	4.43 to6.43 years	6 to 8 years
Share price on grant date (₹)	443.10	443.10	453.95	453.95
Expected volatility (%)	41.10%	41.10%	41.45%	41.45%
Expected dividend (%)	0.68%	0.68%	0.66%	0.66%
Risk free interest rate (%)	5.64% - 6.22%	6.12% - 6.54%	5.54% - 6.12%	6.01% - 6.44%

The expected volatility was determined based on the historical share price volatility over the past period depending on life of the options granted which is indicative of future periods and which may not necessarily be the actual outcome.

(iv) Stock Appreciation Rights ('SAR 2018'):

The Company till 31/03/2023, has granted 196,064 Option SAR and 57,150 RSU SAR (31/03/2022: 156,694 Option SAR and 50,665 RSU SAR) under the Share Appreciation Rights Scheme 2018 ("SAR 2018") to its eligible employees. The Options and RSU SAR Granted shall vest, in the manner set out in the respective vesting letters to be issued by the Company to the Grantees from time to time.The SAR 2018 is administered by the Nomination and Remuneration Committee of the Board of Directors of the Company ("the Committee"). The SAR 2018 have performance linked vesting conditions which are decided by the committee and are cash settled. The options shall lapse in case of performance linked vesting conditions are not met.

A summary of movement of SAR and weighted average exercise price (WAEP) is given below:

	As at 31/03/2023				As at 31/03/2022			
	Option SARs		RSU SARs		Stock Options		RSUs	
	Number	WAEP	Number	WAEP	Number	WAEP	Number	WAEP
Outstanding at beginning of the year	97,927	236.82	29,996	1.00	76,652	215.00	20,514	1.00
Granted during the year	39,370	351.58	6,485	1.00	60,879	255.50	30,151	1.00
Forfeited during the year	-	-	-	-	-	-		
Exercised during the year	(16,853)	262.78	(5,745)	1.00	(39,604)	223.29	(20,669)	1.00
Expired during the year	-	-	-	-	-	-	-	-
Outstanding at year end	120,444	270.70	30,736	1.00	97,927	236.82	29,996	1.00
Vested and Exercisable at year end	80,141	228.09	22,836	1.00	47,115	218.80	13,565	1.00

The range of exercise price of the Option SAR is ₹ 159.30 to ₹ 443.25 and RSU SAR is ₹ 1 (31/03/2022 : Option SAR is ₹ 159.30 to ₹ 443.25 and RSU SAR is ₹ 1). The fair values per Option SAR as at 31/03/2023 was ₹ 102.54 to ₹ 274.24 (31/03/2022 ₹ 248.38 to ₹ 440.84) and for RSU SAR as at 31/03/2023 was ₹ 384.00 to ₹ 397.73 (31/03/2022 ₹ 552.96 to ₹ 560.60). The fair value has been carried out by an independent valuer by applying Black and Scholes Model. The inputs to the model include the exercise price, the term of option, the share price at grant date and the expected volatility, expected dividends and the risk free rate of interest. The assumptions used for fair valuation for Option SAR and RSU SAR are given below:

	As at 31/03/2023		As at 31/03/2022	
	Option SARs	RSU SARs	Option SARs	RSU SARs
Valuation Date	31/03/2023	31/03/2023	31/03/2022	31/03/2022
Exercise price (₹)	159.30 - 443.25	1.00	159.30 - 443.25	1.00
Expected volatility (%)	39.50%	39.50%	40.05%	40.05%
Expected dividend (%)	0.99%	0.99%	0.53%	0.53%
Risk Free interest rate (%)	7.04% - 7.14%	7.04% - 7.14%	5.26% - 6.30%	5.26% - 6.30%

The weighted average remaining contractual life for the Option SAR as at 31/03/2023 is 1.70 to 5.31 years (31/03/2022: 2.70 to 5.35 years) and RSU SAR as at 31/03/2023 is 1.70 to 5.31 years (31/03/2022: 2.70 to 5.35 years).

The total intrinsic value at the end of the year of the vested Option SAR and RSU SAR is ₹ 2.86 Crore (31/03/2022 ₹ 2.42 Crore). The liability for outstanding option is of ₹ 3 Crore (31/03/2022: ₹ 4 Crore).

Effect of Employee Share-Based Payment transactions on Profit or Loss for the period and on financial position:

For the year ended 31/03/2023, the Company recognised total expenses of ₹ 47 Crore (31/03/2022 ₹ 40 Crore) related to equity-settled and cash-settled share based transactions. During the year ended 31/03/2023, the Company has directly allotted 21,861 (31/03/2022: 488,477) fully paid-up equity shares of ₹ 1/- each of the Company on exercise of equity settled options for which the Company has realised ₹ 0.28 Crore (31/03/2022: ₹ 6 Crore) as exercise prices. The Company has also allotted 801,930 (31/03/2022: 878,968) fully paid-up equity share of ₹ 1/- each of the Company through its ESOP trust on exercise of equity settled options for which the Company has realised ₹ 6 Crore (31/03/2022: ₹ 15 Crore) as exercise prices.

The Company has received ₹ 0.66 Crore (31/03/2022 ₹ 0.70 Crore) from Utkal Alumina International Limited and Hindalco - Almex Aerospace Limited (Subsidiaries) towards the grant of 112,836 Stock Options and 77,790 RSUs (31/03/2022: 91,611 Stock Options and 49,061 RSUs) under ESOS 2018 which is netted off from Employee Share-Based Payments Expenses.

C. Summary of Employee Benefits Obligations :

(₹ in Crore)

	Year ended 31/03/2023			Year ended 31/03/2022		
	Charge in P&L	Charge in OCI	Provision	Charge in P&L	Charge in OCI	Provision
(a) Defined Benefit Plans						
Gratuity Plans Employee	43	14	106	52	17	101
Post Retirement Medical Benefit	-	(2)	4	-	(4)	5
Other Pension	3	(2)	43	3	-	46
Provident Fund	75	-	-	68	(5)	-
Provident Fund Shortfall	-	-	-	-	(3)	-
	121	**10**	**153**	**123**	**5**	**152**
(b) Defined Contribution Funds						
Pension	17	-	-	16	-	-
Provident Fund	30	-	-	32	-	-
	47	**-**	**-**	**48**	**-**	**-**
(c) Other Employee Benefit plans						
Compensated Absences	-	-	271	-	-	261
Stock Appreciation Rights	(1)	-	3	5	-	4
Equity-settled share-based payment	47	-	-	35	-	-
	46	**-**	**274**	**40**	**-**	**265**
Grand Total	**214**	**10**	**427**	**211**	**5**	**417**

For (gain)/ loss recognised in Other Comprehensive Income (OCI), Refer Note 43

27. Other Non-Current and Current Liabilities

(₹ in Crore)

	As at 31/03/2023		As at 31/03/2022	
	Non-Current	Current	Non-Current	Current
Customer Refund Liability - (a)	-	139	-	119
Statutory Dues Payable	-	354	-	487
Deferred Income - (b)	622	26	554	20
Other Payable	32	51	31	21
	654	**570**	**585**	**647**

(a) Customer refund liability are recognised mainly for discount payable to customers.

(b) Represents deferred income in respect of grant related to Export Promotion Capital Goods (EPCG) amounting to ₹ 568 Crore (as at 31/03/2022 ₹ 574 Crore) and Manufacture and Other Operations in Warehouse Regulations (MOOWR) amounting to ₹ 80 Crore (as at 31/03/2022 Nil).

28. Supplier's Credit

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Supplier's Credit	5,635	2,456
	5,635	**2,456**

(a) Supplier's credit represents the extended interest bearing credit offered by the supplier which is secured against Usance Letter of Credit (LC). Under this arrangement, the supplier is eligible to receive payment from negotiating bank prior to the expiry of the extended credit period. The interest for the extended credit period payable to the bank on maturity of the LC has been presented under Finance Cost.

(b) Supplier's credit also includes amounts payable towards Accounts Receivable Purchase Scheme ("ARPS") entered into with the suppliers. Under this arrangement, the supplier is eligible to receive payment prior to the expiry of extended credit period by assigning such invoices to a third-party purchaser bank based on security in the form of an undertaking issued by the Company to the bank. Further, the supplier charges interest to the Company for the extended credit period which has been presented under Finance Cost.

29. Contract Liabilities

Refer Note 1B (Z) for accounting policy on Contract Liability

(₹ in Crore)

	As at 31/03/2023	As at 31/03/2022
Advance from Customers	193	180
	193	**180**
(a) **Reconciliation of contract liabilities for the periods presented:**		
Balance at beginning of the year	**180**	**136**
Amount received during the year against which revenue has not been recognized	170	165
Revenue recognized during the year		
a) Contract liabilities at the beginning of the year	(157)	(121)
b) Performance obligations satisfied in previous years	-	-
Balance at end of the year	**193**	**180**

30. Revenue from Operations

Refer Note 1B (Y) for accounting policy on Revenue recognition
Refer Note 1B (U) for accounting policy on Government grants

(₹ in Crore)

	Year ended 31/03/2023	Year ended 31/03/2022
Revenue from Contracts with Customers		
Sale of Products - (a)		
Domestic Sales	56,421	44,274
Export Sales	17,363	21,318
	73,784	**65,592**
Trade Sales - (b)	2,300	1,140
Sale of Services - (c)	319	233
	76,403	**66,965**

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Other Operating Revenues - (a) and (d)	475	688
	76,878	**67,653**
Reconciliation of revenue recognised with contract price:		
Contract Price	**77,241**	**70,478**
Adjustments for:		
Refund Liabilities and discounts	(317)	(779)
Hedging Gain/ (Loss)	(624)	(2,614)
Others - Provisionally priced contracts	103	(120)
Revenue from Contracts with Customers	**76,403**	**66,965**

(a) Sales of Copper products and precious metals are accounted for provisionally, pending finalization of price and quantity. Variations are accounted for in the period of settlement. Final price receivable on sale of above products for which provisional price was not finalized are realigned at year end forward LME/LMBA rate and is being presented as part of other operating revenue. Revenue from subsequent variation in price movement is Gain of ₹ 12 Crore (year ended 31/03/2022, loss of ₹ 24 Crore).

(b) Includes nutrient based subsidy of Phosphorus (P) & Potassium (K) arising from sale of Di-Ammonium phosphate (DAP) ₹ 1,292 Crore (year ended 31/03/2022 ₹ 441 Crore).

(c) Sale of services predominantly include freight and insurance on exports which are identified as separate performance obligation under Ind AS 115.

(d) Includes Government Grant in the nature of sales related export Incentives and other benefits of ₹ 400 Crore (year ended 31/03/2022 ₹ 408 Crore).

(e) The amount of its revenue from external customers analysed by the country, in which customers are located, are given below:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
India	58,785	45,597
Outside India		
China	667	5,976
Korea	4,244	6,352
Others	12,782	9,320
Total Revenue from customers	**76,478**	**67,245**
Add: Export Incentive and other benefits	400	408
Total Revenue from Operations	**76,878**	**67,653**

(f) Refer Note 47 for related party transactions.

(g) Applying the practical expedient as given in Ind AS 115, the Company has not disclosed the remaining performance obligations related disclosures for contracts where revenue recognized corresponds directly with value to the customer of the entity's performance completed to date.

31. Other Income

Refer Note 1B (AA) for accounting policy on Dividend and Interest Income
Refer Note 1B (U) for accounting policy on Government grants
Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Interest Income, (Refer Note - 51(A)(iii))		
On Non-Current Investments	20	20
On Current Investments	14	16
On Others - (a)	256	108
Dividend Income, (Refer Note - 51(A)(iii))		
On Non-Current Investments - (b)	33	31
Rent Income	7	6
Income from Government Grants (c)	20	20
Gain/ (Loss) on Property, Plant and Equipment and Intangible Assets sold/ discarded (Net)	(31)	(31)
Gain/ (Loss) on Investments Measured at FVTPL (Net)		
On sale of Financial Assets	162	245
On change of Fair Value of Financial Assets	1	18
Other Non-Operating Income - (a)	104	102
	586	**535**

(a) Includes gain on modification of borrowings of ₹ 48 Crore (year ended 31/03/2022 ₹ 53 Crore) resulting from change in benchmark interest rate and timing of expected cash flows on term loans.

(b) Refer Note 47 for related party transactions.

(c) Includes grant related to Export Promotion Capital Goods Scheme. There are no unfulfilled conditions or other contigencies attached to these grants.

32. Cost of Materials Consumed

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Copper Concentrate - (a)	30,062	26,677
Alumina	4,351	3,265
Bauxite	739	668
Caustic Soda	764	456
Calcined Petroleum Coke	3,624	2,081
Copper Anode	1,302	2,741
Copper Cathodes	1,674	3,940
Pitch	1,060	703
Others	2,217	1,448
	45,793	**41,979**

(a) Purchase of copper concentrate is accounted for provisionally pending finalization of contents in the concentrate and price. Variations are accounted for in the period of settlement. Final price payable on purchase of copper concentrate for which provisional price and quantity were not finalized during the year are realigned based on forward LME and LBMA rate. Impact on cost from subsequent variation in price movement for year ended 31/03/2023 was loss of ₹ 405 Crore (year ended 31/03/2022 loss of ₹ 484 Crore).

33. Trade Purchases

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Aluminum Rolled Product	474	256
Fertilizer	1,073	1,530
Others	6	136
	1,553	**1,922**

34. Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade

(₹ in Crore)

	Opening Inventories		Closing Inventories		Net Change	
	As at		As at		Year ended	
	01/04/2022	01/04/2021	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Work-in-Progress	8,268	6,428	7,707	8,268	561	(1,840)
Finished Goods	2,080	1,448	2,443	2,080	(363)	(632)
Stock-in-Trade	884	4	20	884	864	(880)
	11,232	**7,880**	**10,170**	**11,232**	**1,062**	**(3,352)**
Inventories acquired in business combination	-	-	-	-	-	8
	11,232	**7,880**	**10,170**	**11,232**	**1,062**	**(3,344)**

Details of inventories under broad heads are given below:

(₹ in Crore)

	Work-in-Progress		Finished Goods		Stock-in-Trade		Total	
	As at		As at		As at		As at	
	31/03/2023	31/03/2022	31/03/2023	31/03/2022	31/03/2023	31/03/2022	31/03/2023	31/03/2022
Alumina	451	393	91	93	-	-	542	486
Aluminium and Aluminium Products	1,477	1,108	666	461	16	17	2,159	1,586
Copper and Copper Products	3,301	4,287	1,492	1,327	-	-	4,793	5,614
Precious Metals	1,112	1,393	182	186	-	-	1,294	1,579
Others - (a)	1,366	1,087	12	13	4	867	1,382	1,967
	7,707	**8,268**	**2,443**	**2,080**	**20**	**884**	**10,170**	**11,232**

(a) Others include mainly inventories of own mined coal, anode, soda in process, Di Ammonium Phosphate (DAP), Nitrogen, Phosphorus and Potassium (NPK) and other materials.

35. Employee Benefits Expense

Refer Note 1B (V) for accounting policy on Employee Benefits

Refer Note 1B (W) for accounting policy on Employee Share-based Payments

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Salaries and Wages	1,843	1,689
Post-Employment Benefits, Refer Note 26A		
Defined Benefit Plans	121	123
Defined Contribution Plans	47	48
Employee Share-Based Payments, Refer Note 26B		
Equity settled share-based payment	47	35
Cash settled share-based payment	(1)	5
Employee Welfare Expenses	183	181
	2,240	**2,081**
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	22	23
	2,218	**2,058**

(i) The Code on Social Security, 2020 ('Code') relating to employee benefits during employment and post employment benefits received Presidential assent in September 2020. The Code has been published in the Gazette of India. However, the date on which the Code will come into effect has not been notified. The Company will assess the impact of the Code when it comes into effect and will record any related impact in the period the Code becomes effective.

(ii) The Hon'ble Supreme Court of India ("SC") by their order dated February 28, 2019, in the case of Surya Roshani Limited v/s EPFO, set out the principles based on which allowances paid to the employees should be identified for inclusion in basic wages for the purposes of computation of Provident Fund contribution. The Company has given effect of the above judgement effective March 1, 2019. This does not have any material impact on the Financial Statements.

36. Power and Fuel

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Power and Fuel Expenses	11,323	6,782
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	(5)	(1)
	11,318	**6,781**

37. Finance Cost

Refer Note 1B (T) for accounting policy on Borrowing cost

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Interest Expenses on Financial Liabilities not at FVTPL - (a) and (b)	1,278	1,388
Interest Expenses for Lease arrangements	47	26
Other Borrowing Costs - (c)	23	29
	1,348	**1,443**
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development (d)	48	26
	1,300	**1,417**

(a) Interest expenses include Nil (year ended 31/03/2022 ₹ 9 Crore) paid to Income Tax Department.

(b) Includes difference between effective interest rate and contracted interest rate of ₹ 59 Crore (year ended 31/03/2022 ₹ 57 Crore) mainly from amortisation of debt issuance cost.

(c) Mainly includes unwinding of discount on Enterprise Social Commitment and Asset Retirement Obligations: Refer Note - 25 (a).

(d) The Capitalisation rate used to determine the amount of borrowing costs to be capitalised is the weighted average interest rate applicable to general borrowings. Capitalisation rate for year ended 31/03/2023 is 6.61% p.a. (year ended 31/03/2022 - 6.32% p.a.).During the current year, ₹ 48 Crore and Nil (year ended 31/03/2022 ₹ 18 crore and ₹ 8 crore) were transferred to Capital Work-in-Progress and Intangible Assests under development respectively.

38. Depreciation and Amortisation Expenses

Refer Note 1B (D) for accounting policy on Property, Plant and Equipment
Refer Note 1B (E) for accounting policy on Investment properties
Refer Note 1B (F) for accounting policy on Intangible Assets (Other than Goodwill)
Refer Note 1B (H) for accounting policy on Stripping cost
Refer Note 1B (M) for accounting policy on Leases

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Depreciation on Property, Plant and Equipment, Refer Note 2A	1,655	1,576
Depreciation on Right of Use Assets, Refer Note 3A	112	88
Depreciation on Investment Properties, Refer Note 4	1	-
Amortisation of Intangible Assets, Refer Note 6A	106	92
	1,874	**1,756**
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	-	4
	1,874	**1,752**

39. Impairment Loss/ (Reversal) on Non-Current Assets (Net)

Refer Note 1B (J) for accounting policy on Impairment of Non-Current Assets (excluding Goodwill)

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Impairment Loss/ (Reversal) on Property, Plant and Equipment (c)	-	76
Impairment Loss/ (Reversal) on Capital Work in Progress (a) and (d)	65	19
Impairment Loss/ (Reversal) on of Asset Held for Sale (b)	(12)	-
	53	**95**

(a) During the current year, the Company has Impaired certain Plant and Machineries construction of which was suspended due to various environment and safety reasons amounting to ₹ 65 Crore.

(b) During the current year, the Company has written back Impairment loss on certain equipments and accessories that were impaired earlier on determination of its realizable value (Net of cost to sales) amounting to ₹ 12 Crore.

(c) During the previous year, the Company has evaluated operational performance along with current environmental norms of its Di Ammonium Phosphate (DAP) Plant and decided to decommission the same. As a result, the Company has recognized impairment in respect of existing DAP plant amounting to ₹ 76 Crore.

(d) During the previous year, the Company has impaired certain mining assets which was underutilized due to various reasons such as environmental clearances etc. amounting to ₹ 19 Crore .

40. Impairment Loss on Financial Assets (Net)

Refer Note 1B (Q) for accounting policy on Financial Instruments

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Provision for Doubtful Debts, Loans and other financial assets/ (written back) (Net)	11	1
Impairment on Investment in Equity Share, Refer Note 8 (b)(iii)	1	-
Bad Debts Loans and other financial assets/ (written back) (Net)	-	1
	12	**2**

41. Other Expenses

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Consumption of Stores and Spares	1,158	1,269
Repairs to Buildings	156	154
Repairs to Machinery	1,112	977
Rates and Taxes	44	57
Equipment and Material Handling Expenses	246	340
Lease Expenses - (c)	224	130
Insurance Charges	134	125
Payment to Auditors - (a)	5	5
Research and Development	33	31
Freight and Forwarding Expenses (Net) - (b)	1,064	1,012
Donation - (d)	1	10
Non-Executive Directors' Fees and Commission	6	7
(Gain)/Loss on Foreign Currency Transactions (Net), Refer Note 7 (b)	(117)	(145)
(Gain)/Loss in Change in Fair Value of Derivatives (Net)	507	862
Business Support Expenses	775	559
Miscellaneous Expenses - (e)	2,130	1,599
	7,478	**6,992**
Less: Transferred to Capital Work-in-Progress/ Intangible Assets under development	31	30
	7,447	**6,962**

(a) Details to Payment to Auditors are given below:

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Statutory Auditors:		
Statutory Audit Fees	3	4
Other Services	2	1
Reimbursement of Out-of-Pocket Expenses	-	-
Cost Auditors:		
Cost Audit Fee and Expenses	-	-
	5	5

(b) Freight and forwarding expenses is net of freight subsidy of ₹ 29 Crore (year ended 31/03/2022 ₹ 10 Crore) received on sale of DAP.

(c) Lease expenses on account of Short Term Lease, Variable Lease and Low Value Lease on Low value assets are as follows :

(₹ in Crore)

Particulars	Year ended	
	31/03/2023	31/03/2022
Short Term Leases	163	76
Variable lease	61	54
Total	**224**	**130**

(d) Donation includes Nil (year ended 31/03/2022 of ₹ 10 Crore) paid to AB General Electoral Trust towards political donation.

(e) Miscellaneous expenses include Nil (year ended 31/03/2022 ₹ 0.10 Crore) paid to a firm of solicitors in which one of the Director of the Company is a partner.

(f) Refer Note 47 for related party transactions.

42. Exceptional Income/ (Expenses) (Net)

Refer Note 1B (BB) for accounting policy on Exceptional items

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Exceptional Income	41	-
Exceptional (Expenses)	-	(107)
	41	**(107)**

Details of Exceptional Income/ (Expenses) as follows:

(₹ in Crore)

Particulars	Year ended	
	31/03/2023	31/03/2022
Exceptional Income:		
Reversal of provision made during the previous year towards Cross Subsidy Surcharge (CSS) and Additional Surcharge (ASC) related to FY 2017-18 and FY 2018-19. This reversal was affected pursuant to the undertaking given by MSEDCL (Maharashtra State Electricity Distribution Co. Ltd.) to Maharashtra Electricity Regulatory Commission (MERC) on July 29, 2022, to refund CSS and commencement of ASC refund.	41	-
Total	**41**	**-**
Exceptional Expenses:		
Pursuant to the notification by Ministry of Environment, Forest and Climate Change (MoEFCC), the Company has recognised provision for expected cost of disposal of legacy ash lying in ash dykes/ponds as at December 31, 2021. The above provision is estimated based on the plan for disposal of ash and stabilisation of ash dykes/ponds (subject to approval of Pollution Control Board) considering feasibility of extraction of ash from ash dykes/ponds.	-	**(107)**
Total	**-**	**(107)**

43. Other Comprehensive Income/ (Loss)

The disaggregation of changes to other comprehensive income (OCI) by each class is given below:

(₹ in Crore)

		Year ended 31/03/2023			Year ended 31/03/2022		
		Gross	Tax	Net	Gross	Tax	Net
(i)	**Items that will not be reclassified to Statement of Profit and Loss**						
	Remeasurement of Defined Benefit Obligation (Refer Note - 26C)	(10)	3	(7)	(5)	3	(2)
	Change in Fair Value of Equity Instruments Designated as FVTOCI	(485)	34	(451)	1,108	(234)	874
		(495)	37	(458)	1,103	(231)	872
(ii)	**Items that will be reclassified to Statement of Profit and Loss**						
	Change in Fair Value of Debt Instruments designated as FVTOCI	(13)	4	(9)	(9)	3	(6)
	Effective portion of Cash Flow Hedges	3,269	(1,142)	2,127	(1,867)	653	(1,214)
	Cost of Hedging Reserve	64	(22)	42	(75)	26	(49)
		3,320	(1,160)	2,160	(1,951)	682	(1,269)

Total Other Comprehensive Income/ (Loss)	**2,825**	**(1,123)**	**1,702**	**(848)**	**451**	**(397)**

44. Earnings per Share (EPS)

Refer Note 1B (CC) for accounting policy on Earnings per Share

(₹ in Crore)

	Year ended	
	31/03/2023	31/03/2022
Profit attributable to Equity Shareholders	3,326	5,507
Weighted average numbers of equity shares for calculation of EPS:		
Weighted-average numbers of equity shares for Basic EPS	2,222,884,407	2,224,071,351
Dilutive impact of Employee Stock Option Scheme	2,922,977	2,968,669
Weighted-average numbers of equity shares for Diluted EPS	**2,225,807,384**	**2,227,040,020**
Face Value per Equity Share (₹)	1.00	1.00
Earnings per Share		
Basic (₹)	14.96	24.76
Diluted (₹)	14.94	24.73

Stock options granted to the employees under various ESOP schemes are considered to be potential equity shares. They have been included in the determination of diluted earnings per share to the extent they are dilutive. 833,136 shares (year ended 31/03/2022 538,978 Shares) options granted under Employee Stock option scheme but were not included in the calculation of diluted earnings per share because they are antidilutive for the period. Options can potentially dilute basic earnings per share in the future depending on future share price of the Company.The stock options have not been included in the determination of basic earnings per share. For details relating to stock options, Refer Note 26.

45 (a) Gare Palma IV/4 (GP-4), Gare Palma IV/5 (GP-5) and Kathautia coal mines were acquired by the Company through auction conducted by the Nominated Authority (NA constituted under the Ministry of Coal, Government of India. The Company was required to achieve certain efficiency parameters and reach their Peak Rated Capacity (PRC) during FY 2015-16. Performance security in the form of Performance Bank Guarantees (PBG) of ₹ 318 Crore (for GP-4), ₹ 369 Crore (for GP-5) and ₹ 267 Crore (for Kathautia) were provided by the Company to NA in this regard.

Due to the various delays on the part of Government Authorities, PRC was achieved by the Company for GP-4 and GP-5 during FY 2016-17 and for Kathautia during FY 2017-18. Having satisfied itself about achievement of efficiency parameters/ PRC, NA returned the PBG in respect of GP-4 on June 19, 2017. However, in a volte face action, vide a letter dated 25th April, 2018, NA imposed a penalty equal to 20% of PBG amounting to ₹ 64 Crore for GP-4, ₹ 74 Crore for GP-5 and ₹ 118 Crore for Kathautia (Refer Note - 14(e)). As the PBG for GP-5 is still with NA, it also appropriated an amount equal to the penalty from the PBG of the GP-5 mines. For Kathautia Coal Mine only appropriated amount of ₹ 118 Crore is with NA. In terms of agreement, the Company has not renewed the PBG for remaining amount.

The above actions were contested by the Company. The Hon'ble Chhattisgarh High Court at Bilaspur has already given its judgment in favour of the Company in the matter related to GP-5. As per the judgment, Hon'ble High Court has asked NA to refund the amount appropriated by them and return the PBG to the Company. The NA has filed an appeal before the Hon'ble Supreme Court. The Company's appeal to quash the demand raised by NA in case of GP-4 and Kathautia is yet to be decided and is pending before the Mines Tribunal at Bilaspur and Ranchi respectively.

(b) For the period from 1st July 2021 to 25th November 2021, there was lack of clarity with regard to the deduction of tax at source on procurement of coal as there were concurrent provision for collection as well as deduction of tax at source. There was an existing provision for tax collection at source by the seller u/s 206C(1) whereas the newly introduced section 194Q provided for deduction of tax at source by the buyer. At the same time, subsection 5 of section 194Q specifically excluded the operation of section 194Q in cases where tax collection at source was already applicable. It was, therefore, evident that there was no need for deduction of tax at source by the buyer (in the present case, the Company). However, on 25th November 2021, CBDT came out with a circular stating that tax deduction was applicable in cases where buyer is using coal for his own consumption, tax need to be deducted at source by the buyer. Accordingly, the Company started deducting and depositing tax on such purchases with effect from 1st November 2021. However, the tax for the period from 1st July 2021 to 31st October 2021 was deposited by the Company in October 2022 along with applicable interest.

46. Segment Reporting

The Company has presented segment information in its Consolidated Financial Statements, which are part of the same annual report. Accordingly, in terms of provisions of Accounting Standard on Segment Reporting (Ind AS 108), no disclosure related to the segment are presented in the Standalone Financial Statements.

47. Related party disclosures

A. List of Related Parties where control exists:

	Name of the Related Party	Principal Place of Business
(a)	**Subsidiary Companies:**	
1	Minerals & Minerals Limited	India
2	Renukeshwar Investments & Finance Limited	India
3	Renuka Investments & Finance Limited	India
4	Lucknow Finance Company Limited	India
5	Dahej Harbour and Infrastructure Limited	India
6	Utkal Alumina International Limited	India
7	Utkal Alumina Social Welfare Foundation	India
8	Kosala Livelihood And Social Foundation	India
9	Birla Copper Asoj Private Limited (formerly known as "Ryker Base Private Limited")	India
10	AV Minerals (Netherlands) N.V.	Netherland
11	AV Metals Inc. - (i)	Canada
12	Novelis Inc.	Canada
13	Novelis do Brasil Ltda.	Brazil
14	Brecha Energetica Ltda.	Brazil
15	4260848 Canada Inc.	Canada
16	4260856 Canada Inc.	Canada
17	8018227 Canada Inc.	Canada
18	Novelis (China) Aluminum Products Co., Ltd.	China
19	Novelis (Shanghai) Aluminum Trading Co., Ltd.	China
20	Novelis Ventures LLC - (ii)	United States of America
21	Novelis PAE SAS	France
22	Novelis Aluminium Beteiligungs GmbH	Germany
23	Novelis Deutschland GmbH (formerly known as "Aleris Deutschland Holding GmbH")	Germany

	Name of the Related Party	Principal Place of Business
24	Novelis Sheet Ingot GmbH	Germany
25	Novelis Aluminum Holding Unlimited Company	Ireland
26	Novelis Italia SpA	Italy
27	Novelis de Mexico S.A. de C.V.	Mexico
28	Novelis Korea Limited	South Korea
29	Novelis AG	Switzerland
30	Novelis Switzerland S.A.	Switzerland
31	Novelis MEA Ltd.	UAE
32	Novelis Europe Holdings Limited	United Kingdom
33	Novelis UK Ltd.	United Kingdom
34	Novelis Services Limited	United Kingdom
35	Novelis Corporation	United States of America
36	Novelis South America Holdings LLC	United States of America
37	Novelis Holdings Inc.	United States of America
38	Novelis Services (North America) Inc.	United States of America
39	Novelis Global Employment Organization, Inc.	United States of America
40	Novelis Services (Europe) Inc.	United States of America
41	Novelis Vietnam Company Limited	Vietnam
42	Aleris Asia Pacific International (Barbados) Ltd.	Barbados
43	Novelis Aluminum (Zhenjiang) Co., Ltd. (formerly known as "Aleris Aluminum (Zhenjiang) Co., Ltd.")	China
44	Aleris (Shanghai) Trading Co., Ltd.	China
45	Aleris Asia Pacific Limited	Hong Kong
46	Aleris Aluminum Japan, Ltd.	Japan
47	Novelis Casthouse Germany GmbH (formerly known as "Aleris Casthouse Germany GmbH")	Germany
48	Novelis Deutschland Holding GmbH	Germany
49	Novelis Koblenz GmbH (formerly known as "Aleris Rolled Products Germany GmbH")	Germany
50	Novelis Netherlands B.V. (formerly known as "Aleris Aluminum Netherlands B.V.")	Netherlands
51	Aleris Switzerland GmbH	Switzerland
52	Aleris Aluminum UK Limited	United Kingdom
53	Aleris Holding Canada ULC	Canada
54	Novelis ALR Aluminum Holdings Corporation (formerly known as "Aleris Corporation")	United States of America
55	Novelis ALR International, Inc. (formerly known as "Aleris International, Inc.")	United States of America
56	Novelis ALR Rolled Products, LLC (formerly known as "Aleris Rolled Products,LLC")	United States of America
57	Novelis ALR Rolled Products, Inc. (formerly known as "Aleris Rolled Products, Inc.")	United States of America
58	Novelis ALR Aluminum, LLC (formerly known as "Nichols Aluminum LLC")	United States of America
59	Novelis ALR Rolled Products Sales Corporation (formerly known as "Aleris Rolled Products Sales Corporation")	United States of America
60	Novelis ALR Recycling of Ohio, LLC (formerly known as "IMCO Recycling of Ohio, LLC")	United States of America
61	Novelis ALR Aluminum-Alabama, LLC (formerly known as "Nichols Aluminum-Alabama LLC")	United States of America
62	Novelis ALR Asset Management Corporation (formerly known as "UWA Acquisition Co.")	United States of America
63	Novelis (India) Infotech Ltd. - (iii)	India
64	Hindalco Kaubushiki Kaisha - (iv)	Japan
65	White Rock USA Protected Cell 24 - (v)	United States of America
66	Suvas Holdings Limited	India
67	Hindalco-Almex Aerospace Limited	India
68	East Coast Bauxite Mining Company Private Limited	India
(b)	**Trust Controlled by the Company**	
1	Hindalco Jan Seva Trust	India
2	Copper Jan Seva Trust	India
3	Utkal Alumina Jan Seva Trust	India

During the year ended 31/03/2023 and 31/03/2022 :

(i) A.V. Metals Inc. Canada based wholly owned susbsidiary was merged with Novelis Inc. w.e.f. August 31, 2022.

(ii) Novelis Ventures LLC was formed on May 20, 2022

(iii) Novelis (India) Infotech Ltd. was dissolved on September 23, 2022.

(iv) Hindalco Kaubushiki Kaisha (Hindalco K.K.) wholly owned subsidiary was incorporated in the current year.

(v) White Rock USA Protected Cell 24 was formed on March 9, 2022. Novelis is participating in a protected rent-a-captive arrangement with the purpose of maintaining incremental insurance coverage. This Participant Agreement was entered into on March 28, 2022 and effective as of March 9, 2022. This structure is not an incorporated legal entity, but Novelis has control over the specified assets of this protected cell which are the only source of payment for specified liabilities of the protected cell (Deemed separate entity).

B. List of Related Parties with joint control and significant influence:

	Name of the Related Party	Principal Place of Business
(a)	**Joint Ventures (Joint Control):**	
1	MNH Shakti Limited	India
2	Hydromine Global Minerals (GMBH) Limited	British Virgin Islands
(b)	**Associates (Significant Influence):**	
1	Aditya Birla Science & Technology Company Private Limited	India
2	Aditya Birla Renewables Subsidiary Limited	India
3	Aditya Birla Renewables Solar Limited	India
4	Aditya Birla Renewables Utkal Limited	India
5	Deutsche Aluminum Verpachung Recycling GMBH	Germany
6	France Aluminum Recyclage SPA.	France

C.	**Key Managerial Personnel**	
1	Mr. Satish Pai - Managing Director	Executive Director
2	Mr. Praveen Kumar Maheshwari - Whole time Director & Chief Financial Officer	Executive Director
3	Mr. Kumar Mangalam Birla	Non Executive Director
4	Smt. Rajashree Birla	Non Executive Director
5	Mr. D Bhattacharya (Resigned w.e.f. March 02, 2022)	Non Executive Director
6	Mr. A.K. Agarwala	Non Executive Director
7	Mr. K.N. Bhandari	Non Executive Director
8	Mr. Y.P. Dandiwala	Non Executive Director
9	Mr. Anant Maheshwari	Non Executive Director
10	Ms. Alka Bharucha	Non Executive Director
11	Dr. Vikas Balia	Non Executive Director
12	Mr. Sudhir Mital	Non Executive Director
D.	**Other Related Parties with whom there were transactions during the year:**	
1	Hindalco Employee's Gratuity Fund, Kolkata	Post-Employment Benefit Plan
2	Hindalco Employee's Gratuity Fund, Renukoot	Post-Employment Benefit Plan
3	Hindalco Employee's Provident Fund Institution, Renukoot	Post-Employment Benefit Plan
4	Hindalco Superannuation Scheme, Renukoot	Post-Employment Benefit Plan
5	Hindalco Industries Limited Employees' Provident Fund II	Post-Employment Benefit Plan
6	Hindalco Industries Limited Senior Management Staff Pension Fund II	Post-Employment Benefit Plan
7	Aditya Birla Management Corporation Private Limited @	Other related party in which Director is interested

@ The Company is a member of Aditya Birla Management Corporation Private Limited (ABMCPL), a company limited by guarantee formed for the purpose of its members to mutually avail and share common facilities, expertise and other support charged on cost basis.

E. The following transactions were carried out with the Related parties in the ordinary course of business:

(₹ in Crore)

Nature of Transaction**	Note No.	Year Ended 31/03/2023				Year Ended 31/03/2022			
		Subsidiaries	Associates	Joint Ventures	Others	Subsidiaries	Associates	Joint Ventures	Others
Sale of Goods	**30**	**288**	**2**	**-**	**-**	**87**	**-**	**-**	**-**
Aditya Birla Renewables Subsidiary Limited		-	2	-	-	-	-	-	-
Birla Copper Asoj Private Limited		129	-	-	-	13	-	-	-
Hindalco Almex Aerospace Limited		59	-	-	-	56	-	-	-
Novelis Inc		-	-	-	-	18	-	-	-
Utkal Alumina International Limited		100	-	-	-	-	-	-	-

(₹ in Crore)

Nature of Transaction**	Note No.	Year Ended 31/03/2023				Year Ended 31/03/2022			
		Subsidiaries	Associates	Joint Ventures	Others	Subsidiaries	Associates	Joint Ventures	Others
Services rendered	**30**	**-**	**-**	**-**	**11**	**1**	**-**	**-**	**11**
Aditya Birla Management Corporation Private Limited		-	-	-	11	-	-	-	11
Dahej Harbour and Infrastructure Limited		-	-	-	-	1	-	-	-
Interest received	**31**	**12**	**2**	**-**	**-**	**6**	**2**	**-**	**-**
Aditya Birla Science and Technology Company Private Limited		-	2	-	-	-	2	-	-
Birla Copper Asoj Private Limited		12	-	-	-	5	-	-	-
Suvas Holdings Limited		-	-	-	-	1	-	-	-
Dividend received	**31**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**
Aditya Birla Renewables Subsidiary Limited		-	-	-	-	-	1	-	-
Purchase of Goods		**4,310**	**33**	**-**	**-**	**3,607**	**22**	**-**	**-**
Aditya Birla Renewables Solar Limited		-	20	-	-	-	7	-	-
Aditya Birla Renewables Subsidiary Limited		-	13	-	-	-	15	-	-
Hindalco Almex Aerospace Limited		16	-	-	-	5	-	-	-
Kosala Livelihood and Social Foundation		1	-	-	-	-	-	-	-
Minerals & Minerals Limited		57	-	-	-	46	-	-	-
Novelis PAE SAS		3	-	-	-	-	-	-	-
Suvas Holdings Limited		4	-	-	-	3	-	-	-
Utkal Alumina International Limited		4,229	-	-	-	3,553	-	-	-
Purchase of property and other assets		**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Novelis PAE SAS		1	-	-	-	-	-	-	-
Utkal Alumina International Limited		1	-	-	-	-	-	-	-
Services received		**104**	**19**	**-**	**782**	**44**	**16**	**-**	**559**
Aditya Birla Science and Technology Company Private Limited		-	19	-	-	-	16	-	-
Aditya Birla Management Corporation Private Limited		-	-	-	775	-	-	-	559
Copper Jan Seva Trust		-	-	-	7	-	-	-	-
Birla Copper Asoj Private Limited		58	-	-	-	7	-	-	-
Dahej Harbour and Infrastructure Limited		37	-	-	-	34	-	-	-
Lucknow Finance Company Limited		1	-	-	-	1	-	-	-
Novelis Global Employment Organization Inc		5	-	-	-	-	-	-	-
Novelis Inc		1	-	-	-	2	-	-	-
Novelis Koblenz GmbH		2	-	-	-	-	-	-	-

(₹ in Crore)

Nature of Transaction**	Note No.	Year Ended 31/03/2023				Year Ended 31/03/2022			
		Subsidiaries	Associates	Joint Ventures	Others	Subsidiaries	Associates	Joint Ventures	Others
Trust Controlled by the Company		**-**	**-**	**-**	**1**	**-**	**-**	**-**	**1**
Hindalco Jan Seva Trust		-	-	-	1	-	-	-	1
Recovery of ESOP Expenses		**1**	**-**	**-**	**-**	**1**	**-**	**-**	**-**
Utkal Alumina International Limited		1	-	-	-	1	-	-	-
Investments made	**7, 8**	**5**	**17**	**-**	**-**	**26**	**8**	**-**	**-**
Aditya Birla Renewables Solar Limited		-	17	-	-	-	8	-	-
Hindalco K.K. Japan		2	-	-	-	-	-	-	-
Kosala Livelihood and Social Foundation		3	-	-	-	1	-	-	-
Renuka Investments & Finance Limited		-	-	-	-	25	-	-	-
Deposits, Loans and Advances made	**10, 14**	**1**	**-**	**-**	**-**	**200**	**-**	**-**	**-**
Birla Copper Asoj Private Limited		-	-	-	-	200	-	-	-
Suvas Holdings Limited		1	-	-	-	-	-	-	-
Return of Capital	**7, 8**	**622**	**-**	**-**	**-**	**557**	**-**	**8**	**-**
MNH Shakti Limited		-	-	-	-	-	-	8	-
AV Minerals (Netherlands) N.V.	**$**	622	-	-	-	557	-	-	-
Deposits, Loans and Advances received back from	**10, 14**	**30**	**7**	**-**	**-**	**39**	**5**	**-**	**-**
Aditya Birla Science and Technology Company Private Limited		-	7	-	-	-	5	-	-
Birla Copper Asoj Private Limited		27	-	-	-	36	-	-	-
Suvas Holdings Limited		3	-	-	-	3	-	-	-
Deposits, Loans and Advances obtained from	**10, 14**	**-**	**-**	**-**	**-**	**1,000**	**-**	**-**	**-**
Utkal Alumina International Limited		-	-	-	-	1,000	-	-	-
Deposits, Loans and Advances given back to	**10, 14**	**-**	**-**	**-**	**-**	**1,000**	**-**	**-**	**-**
Utkal Alumina International Limited		-	-	-	-	1,000	-	-	-
Reimbursement of Expense from		**1**	**-**	**-**	**1**	**-**	**-**	**-**	**-**
Aditya Birla Management Corporation Private Limited		-	-	-	1	-	-	-	-
Dahej Harbour and Infrastructure Limited		1	-	-	-	-	-	-	-
Reimbursement of Expense to		**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**
Aditya Birla Science and Technology Company Private Limited		-	1	-	-	-	-	-	-

$ Includes return of capital from AV Minerals (Netherlands) N.V. amounting to ₹ 662 Crore (year ended 31/03/2022: ₹ 557 Crore) Foreign Currency Exchange gain of ₹ 171 Crore (year ended 31/03/2022: ₹ 160 Crore) there on recognised in Note 41, Other Expenses under (Gain)/ Loss on Foreign Currency Transactions (Net) .

@ For transactions with funds covered under Post-Employment Benefit Plan Refer Note 26.

F. The following are the Outstanding balances with the Related parties:

(₹ in Crore)

Nature of Transaction**	Note No.	As at 31/03/2023				As at 31/03/2022			
		Subsidiaries	Associates	Joint Ventures	Others	Subsidiaries	Associates	Joint Ventures	Others
Receivables	**16**	**49**	**-**	**-**	**-**	**17**	**-**	**-**	**-**
Birla Copper Asoj Private Limited		40	-	-	-	4	-	-	-
Minerals & Minerals Limited		8	-	-	-	13	-	-	-
Utkal Alumina International Limited		1	-	-	-	-	-	-	-
Payables	**23**	**460**	**4**	**-**	**90**	**435**	**1**	**-**	**70**
Aditya Birla Renewables Solar Limited		-	3	-	-	-	-	-	-
Aditya Birla Renewables Subsidiary Limited		-	1	-	-	-	1	-	-
Aditya Birla Management Corporation Private Limited		-	-	-	90	-	-	-	70
Birla Copper Asoj Private Limited		5	-	-	-	4	-	-	-
Dahej Harbour and Infrastructure Limited		3	-	-	-	-	-	-	-
Minerals & Minerals Limited		2	-	-	-	-	-	-	-
Novelis Global Employment Organization Inc		8	-	-	-	-	-	-	-
Novelis Inc		1	-	-	-	9	-	-	-
Novelis Koblenz GmbH		3	-	-	-	-	-	-	-
Novelis PAE SAS		4	-	-	-	-	-	-	-
Utkal Alumina International Limited		434	-	-	-	422	-	-	-
Deposits, loans and advances given	**10, 14**	**142**	**29**	**-**	**88**	**169**	**36**	**-**	**88**
Aditya Birla Science and Technology Company Private Limited		-	29	-	-	-	36	-	-
Aditya Birla Management Corporation Private Limited		-	-	-	88	-	-	-	88
Birla Copper Asoj Private Limited		137	-	-	-	164	-	-	-
Novelis PAE SAS		2	-	-	-	-	-	-	-
Suvas Holdings Limited		3	-	-	-	5	-	-	-
Receivable from Trust		**-**	**-**	**-**	**6**	**-**	**-**	**-**	**-**
Copper Jan Seva Trust		-	-	-	6	-	-	-	-
Payable to Trust		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4**
Copper Jan Seva Trust		-	-	-	-	-	-	-	4
Receivable against reimbursement		**-**	**-**	**-**	**1**	**-**	**-**	**-**	**-**
Aditya Birla Management Corporation Private Limited		-	-	-	1	-	-	-	-
Guarantees & Collateral Securities given		**5**	**-**	**-**	**-**	**5**	**-**	**-**	**-**
Dahej Harbour and Infrastructure Limited		5	-	-	-	5	-	-	-

all outstanding balances are unsecured and are payable in cash.

** Related parties having transactions / Balances less than ₹ 0.50 Crore are not disclosed as the amounts are below rounding off convention.

For details of investment in Subsidiaries, Joint Ventures and Associates (Refer Notes 7 and 8)

G. Compensation of Key Managerial Personnel (KMP) of the Company:

(₹ in Crore)

Nature of Transaction / Relationship	Year Ended 31/03/2023	31/03/2022
Remuneration of Executive Directors	**45**	**53**
Short term employment benefit	43	51
Post-employment benefits	2	2
Remuneration to Non - Executive Directors	**6**	**10**
Director Commission and Sitting Fees		
Mr. Kumar Mangalam Birla	-	-
Smt. Rajashree Birla	3	4
Mr. A.K. Agarwala	-	-
Mr. K.N. Bhandari	1	1
Mr. Y.P. Dandiwala	1	1
Ms. Alka Bharucha	-	-
Dr. Vikas Balia	1	1
Mr. Sudhir Mital	-	-
Mr. Anant Maheshwari	-	-
Mr. D. Bhattacharya - (c)	-	3

(a) Excludes amortisation of fair value of employee share-based payments under Ind AS 102.

(b) As the liabilities for defined benefit plans and leave entitlements are provided on actuarial basis for the Company as a whole, the amounts pertaining to Key Management Personnel are not included.

(c) The Board approved pension of Mr. D. Bhattacharya of ₹ 0.335 Crore per month and other post-employment benefits for his past service when he was the Managing Director of the Company. The present value of the above pension liability determined based on the actuarial valuation is accounted by the Company in the financial statements. Amount charged as expenses in the statement of profit and loss towards such post-employment benefit amounting to ₹ 3 Crore and does not include the impact of acturial (gains)/losses recognised in other comprehensive income.

48. Contingent Liabilities and Commitments

Refer Note 1B (L) for accounting policy on Provisions and contingencies

A. Contingent Liabilities

The Company is party to, and may in the future be involved in, or subject to, disputes, claims and proceedings arising in the ordinary course of our business, including some we assert against others, such as environmental, health and safety, product liability, employee, tax, personal injury and other matters. The Company has established a liability with respect to contingencies for which a loss is probable and estimable. While the ultimate resolution of liability and costs related to these matters cannot be determined with certainty, the Management does not believe any of these pending actions, individually or in the aggregate, will materially impact our operations or materially affect our financial condition or liquidity. The Company's estimates involve significant judgment, and therefore, the estimate will change from time to time and actual losses may differ from the current estimate.

Management reviews the status of, and estimated liability related to, pending claims and civil actions on a quarterly basis. The evaluation model includes all asserted and unasserted claims that can be reasonably identified including claims relating to our responsibility for compliance with environmental, health and safety laws and regulations. The estimated costs in respect of such reported liabilities are not offset by amounts related to insurance or indemnification arrangements unless otherwise noted.

(₹ in Crore)

		As at 31/03/2023	31/03/2022
(a)	**Claims against Company not acknowledged as Debt:**		
	Following demands are disputed by the Company and are not provided for:		
(i)	The tax authorities issued an arbitrary Demand Notice to the company for payment of interest on Entry Tax. Company has challenged the said notice by filing a Writ Tax -218/2023 in Allahabad High Court. The High Court by its Order gave protection against any coercive action till next date of listing. The challenge is to the power of levy of interest as well as legitimacy of such levy in the face of the facts as well as applicable law.	278	-
(ii)	Customs duty implication on goods importing during transition into GST regime. The matter is pending at Customs, Excise and Service Tax Appellate Tribunal (CESTAT).	16	-
(iii)	Demand for Stamp Duty by Collector (Stamp), Kanpur, Uttar Pradesh (U.P.) on merger of Copper Business of Indo-Gulf Corporation with the Company.The matter is pending before the Hon'ble High Court of Allahabad. The Company believes that there is no substantive/computation provision for levy/calculation of stamp duty within the provisions of Uttar Pradesh Stamp Act on scheme of arrangement under the Companies Act, 1956, approved by the Court. Moreover, the properties in question are located in the State of Gujarat and, thus, the Collector (Stamp), Kanpur, has no territorial jurisdiction to make such a demand. Further, the Company has already paid the stamp duty for the same in 2003-04 which has been accepted as per the provisions of the Bombay Stamp Act, 1958.	20	20
(iv)	Demand towards drawal of energy during peak hours by Uttar Pradesh Power Corporation Limited (UPPCL)/ Purvanchal Vidyut Vitran Nigam Limited (PVVNL). The dispute relates to the agreement entered with UPPCL for the period 2009-14. Demand was raised by UPPCL for drawl of banked energy during peak hours. The Hon'ble Supreme Court has stayed the demand and the matter is pending with Appellate Tribunal for Electricity (APTEL).	81	81
(v)	Retrospective revision of Water Rates by UP Jal Vidyut Nigam Limited. Writ petition pending with Lucknow Bench of Allahabad High Court. The demand for arrears stayed.	4	4
(vi)	Demand for Entry Tax relating to valuation dispute. Appeals have been filed with Additional CCT, Sambalpur.	28	28
(vii)	Interest demand on Entry tax for the year 2009-2017. Hon'ble High Court of Odisha has earlier granted stay on the demand, which is now disposed with direction to pay. The Company is in process of filling appeal against the order.	27	27
(viii)	Demand from State and Central Sales Tax authorities for various years at different levels of appeal.	19	26
(ix)	Disallowances of Cenvat Credit on inputs & Capital goods & short payment of excise on additional consideration received from recipient of deemed exporter. Matters are pending with CESTAT.	10	9
(x)	Disallowances of Service Tax credit on Input services at various locations. These matters are pending with CESTAT authorities.	107	104
(xi)	Demand for recovery of cenvat credit availed on service tax paid on Goods Transport Agency (outward charges) . The matter is pending with Commissioner (Appeals), Vadodara & Commissioner, Bharuch.	9	9
(xii)	Green Cess Provision Under Electricity Act Year-2012-13 to Year 2017-18. The matter is pending at Hon'ble Supreme Court.	15	14
(xiii)	Penalty For Unauthorised Disposal Of Anode Butts. The matter is pending with Odisha High Court.	14	14
(xiv)	Demand of reverse charge liability on statutory fees payable to the Government authorities. Matters are pending with various authorities.	18	-
(xv)	Demand on tax credits on transition to GST Regime .	2	-
(xvi)	Other Contingent Liabilities in respect of Excise, Customs, Sales Tax etc. each being for less than ₹ 1 Crore. The demands are in dispute at various legal forums .	5	8
		653	**344**

It is not practicable for the Company to estimate the timings of cash outflows, if any, in respect of the above matters, pending resolution of the respective proceedings.

(₹ in Crore)

		As at	
		31/03/2023	31/03/2022
(b)	**Other money for which Company is contingently liable**		
(i)	Customs Duty on Raw Materials imported under Advance License, against which export obligation is to be fulfilled.	14	24
B.	**Commitments**		
(a)	Estimated amount of contracts remaining to be executed on capital account and not provided for (net of advances)	2,450	1,073
(b)	Other Commitment for purchase of goods and Services (Net of Advance)	2,490	3,100

49. Capital Management

The Company's objective to manage its capital is to ensure continuity of business while at the same time provide reasonable returns to its various stakeholders, but keep associated costs under control. In order to achieve this, requirement of capital is reviewed periodically with reference to operating and business plans that take into account capital expenditure and strategic investments. Apart from internal accrual, sourcing of capital is done through judicious combination of equity and borrowing, both short term and long term. Total debt (total borrowings + lease liabilities) to equity ratio is used to monitor capital. No changes were made to the objectives, policies or processes for managing capital during the years ended March 31, 2023 and March 31, 2022.

	As at	
	31/03/2023	31/03/2022
Debt Equity Ratio (In Times)	0.22	0.36

As at March 31, 2023 and March 31, 2022, the Company was in compliance with all of its debt covenants for borrowings. The Company is required to maintain the Debt Service Coverage Ratio of 1.25 times. For the the year ended 31/03/2023 the Debt Service Coverage Ratio of the Company is 1.08 times. The Company has repaid its NCDs amounting to ₹ 6,000 Crore in FY 23 . Without considering this repayment, the Company's Debt Service Coverage Ratio will be 5.43 times. This does not have any impact on the Financial Statements of the Company.

50. Offsetting Financial Liabilities and Financial Assets

Refer Note 1B (Q) for accounting policy on Financial Instruments

Financial instruments subject to offsetting , enforceable master netting arrangement and similar arrangements.

(₹ in Crore)

As at 31/03/2023	Effects on Balance sheet			Related amounts not offset		
	Gross amount	Gross amount set off in the balance sheet	Net amount presented in the balance sheet	Amounts subject to master netting arrangements	Financial Instrument collateral	Net Amount
Financial Assets						
Derivatives	754	(118)	636	-	-	636
Financial Liabilities						
Derivatives	312	(118)	194	-	(362)	(168)

(₹ in Crore)

As at 31/03/2022	Effects on Balance sheet			Related amounts not offset		
	Gross amount	Gross amount set off in the balance sheet	Net amount presented in the balance sheet	Amounts subject to master netting arrangements	Financial Instrument collateral	Net Amount
Financial Assets						
Derivatives	705	(24)	681	-	-	681
Financial Liabilities						
Derivatives	3,787	(24)	3,763	-	(345)	3,418

51. Financial Instruments

Refer Note 1B (Q) for accounting policy on Financial Instruments

(a) Fair Value Measurement

(i) The following table shows the carrying amounts of Financial Assets and Financial Liabilities by category:

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Amortised Cost	FVTOCI	FVTPL	Amortised Cost	FVTOCI	FVTPL
Financial Assets							
Investments in Associate							
Unquoted Instruments	8	-	185	-	-	154	-
Investments in Equity Instruments							
Quoted Equity Instruments*	9A	-	7,686	-	-	8,195	-
Unquoted Equity Instruments*	9A	-	25	-	-	15	-
Investments in Debt Instruments							
Mutual Funds	9A, 9B	-	-	5,530	-	-	4,335
Bonds and Debentures	9A, 9B	-	-	130	-	-	152
Government Securities	9A, 9B	-	303	-	-	375	-
Commercial Paper	9B	-	-	97	-	-	-
Loans	10	179	-	-	217	-	-
Trade receivables	16	2,219	-	391	1,935	-	736
Cash and Cash Equivalents							
Cash and Bank	17	472	-	-	2,795	-	-
Liquid Mutual Funds	17	-	-	-	-	-	610
Bank Balances other than cash & cash equivalents	18	1,317	-	-	3,015	-	-
Derivatives	11	-	-	636	-	-	681
Other financial assets	12	1,962	-	-	1,388	-	-
		6,149	**8,199**	**6,784**	**9,350**	**8,739**	**6,514**

(₹ in Crore)

	Note No	As at 31/03/2023		As at 31/03/2022	
		Amortised Cost	FVTPL	Amortised Cost	FVTPL
Financial Liabilities					
Borrowings					
Borrowings, Non-Current	22A	11,559	-	11,668	-
Non convertible debentures (NCDs)	22A, 22B	699	-	5,999	-
Borrowings, Current	22B	50	-	1,412	-
Lease Liabilities	3B	763	-	342	-
Supplier's Credit	28	1,035	4,600	-	2,456
Trade Payables	23	5,986	3,757	5,942	5,073
Derivatives	11	-	194	-	3,763
Other financial Liabilities	24	808	-	1,013	-
		20,900	**8,551**	**26,376**	**11,292**

* The Company had acquired certain equity instruments for purpose of holding for a longer duration and not for the purpose of selling in near term for short term profit. Such instruments have been categorized as FVTOCI.

(ii) The following table shows the fair values of Financial Assets and Financial Liabilities measured at amortised cost:

(₹ in Crore)

	Note No	As at 31/03/2023		As at 31/03/2022	
		Carrying value	Fair Value	Carrying value	Fair Value
Financial Assets					
Loans, Non Current	10	174	172	45	43
Other Financial Asset, Non Current	12	1,438	1,428	232	227
		1,612	**1,600**	**277**	**270**

(₹ in Crore)

	Note No	31/03/2023		31/03/2022	
		Carrying value	Fair Value	Carrying value	Fair Value
Financial Liabilities					
Borrowings					
Non convertible debentures (NCDs)	22A, 22B	699	696	5,999	6,025
Long term Borrowings #	22A	11,609	11,708	11,676	11,778
Other Financial Liabilities, Non - Current	24	61	61	13	13
		12,369	**12,465**	**17,688**	**17,816**

Carrying amount includes current portion of long term borrowing shown under short term borrowing (Refer Note 22B).

Fair Value of borrowings does not include interest accrued but not due.

Fair values for current financial assets and financial liabilities have not been disclosed because their carrying amount are a reasonable approximation of their fair values.

(iii) Classification of finance income and finance cost by instrument category

(₹ in Crore)

	Note No	Year ended 31/03/2023			Year ended 31/03/2022		
		Amortised Cost	FVTOCI	FVTPL	Amortised Cost	FVTOCI	FVTPL
Income							
Interest Income	31	255	24	11	116	19	9
Dividend Income	31	-	33	-	-	31	-
		255	**57**	**11**	**116**	**50**	**9**
Expense							
Interest Expense (a)	37	1,272	-	-	1,356	-	-
		1,272	**-**	**-**	**1,356**	**-**	**-**

(₹ in Crore)

Details of amount not included in the table above	As at	
	31/03/2023	31/03/2022
(a) Interest on Income Tax and other finance cost	76	87

For amortised cost and FVTOCI instruments, interest expense is recognised at effective interest rate.

(iv) Derecognition of Investments in Equity Instruments designated at FVTOCI

(₹ in Crore)

	Year ended 31/03/2023		Year ended 31/03/2022	
	Fair value on the date of derecognition	Cumulative gain or (loss) on disposal	Fair value on the date of derecognition	Cumulative gain or (loss) on disposal
Investment in Equity Instrument- Quoted				
National Aluminium Company Limited	-	-	116	68
	-	**-**	**116**	**68**

(b) Fair Value Hierarchy

The following table shows the details of financial assets and financial liabilities including their levels in the fair value hierarchy:

(i) Financial assets and financial liabilities measured at fair value - recurring fair value measurements:

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial Assets							
Investments in Associates							
Unquoted Instruments	8	-	-	185	-	-	154
		-	**-**	**185**	**-**	**-**	**154**

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Investments in Equity Instruments							
Quoted Equity Instruments	9A	7,686	-	-	8,195	-	-
Unquoted Equity Instruments	9A	-	-	25	-	-	15
		7,686	**-**	**25**	**8,195**	**-**	**15**
Investments in Debt Instruments							
Mutual Funds	9A, 9B	5,530	-	-	4,333	2	-
Bonds and Debentures	9A, 9B	-	100	30	-	-	152
Government Securities	9A, 9B	202	53	48	235	140	-
Commercial Paper	9B	-	-	97	-	-	-
		5,732	**153**	**175**	**4,568**	**142**	**152**
Trade Receivables	16	-	391	-	-	736	-
Cash and Cash Equivalents							
Liquid Mutual Funds	17	-	-	-	610	-	-
Derivatives	11	-	636	-	-	681	-
		13,418	**1,180**	**385**	**13,373**	**1,559**	**321**
Financial Liabilities							
Trade Payables	23	-	3,757	-	-	5,073	-
Derivatives	11	-	194	-	-	3,763	-
Supplier's credit	28	-	4,600	-	-	2,456	-
		-	**8,551**	**-**	**-**	**11,292**	**-**

(ii) **Fair value disclosure of Financial Assets and Financial Liabilities measured at amortised cost:**

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial Liabilities							
Borrowings							
Non convertible debentures (NCDs)	22A, 22B	-	696	-	-	6,025	-
Long term Borrowings	22A	-	11,708	-	-	11,778	-
Other Financial Liabilities, Non - Current	24	-	61	-	-	13	-
		-	**12,465**	**-**	**-**	**17,816**	**-**

(₹ in Crore)

	Note No	As at 31/03/2023			As at 31/03/2022		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial Assets							
Loans, Non-Current	10	-	-	172	-	-	43
Other Financial Asset, Non- Current	12	-	-	1,428	-	-	227
		-	**-**	**1,600**	**-**	**-**	**270**

Level 1 Hierarchy includes financial instruments valued using quoted market prices. Listed equity instruments and traded debt instruments which are traded in the stock exchanges are valued using the closing price at the reporting date. Mutual funds are valued using the closing NAV.

Level 2 Hierarchy includes financial instruments that are not traded in active market. This includes over the counter (OTC) derivatives, close ended mutual funds and debt instruments including quoted valued using observable market data such as yield etc. of similar instruments traded in active market. All derivatives are reported at discounted values hence are included in level 2. Borrowings have been fair valued using credit adjusted interest rate prevailing on the reporting date. Trade Receivables and Payables that are realigned based on forward LME/LBMA price movements have been included in Level 2 hierarchy.

Level 3 If one or more significant inputs is not based on observable market data, the instrument is included in level 3. This is the case for unlisted equity instruments and certain debt instruments including quoted which are not actively traded valued using assumptions from market participants.

(iii) **Disclosure of changes in level 3 items for the period ended 31/03/2023 and 31/03/2022 respectively**

(₹ in Crore)

	Unquoted Associates	Unquoted Equity Instruments	Unquoted Debt Instruments	Total
As at 01/04/2021	**128**	**20**	**87**	**235**
Acquisitions	8	-	-	8
Sale	-	-	(10)	(10)
Gain/(losses) recognised in Profit or loss	-	-	9	9
Gain/(losses) recognised in OCI	18	(5)	-	13
Transfer from Level 1 and 2	-	-	66	66
Transfer to Level 1 and 2	-	-	-	-
As at 31/03/2022	**154**	**15**	**152**	**321**
Acquisitions	17	-	96	113
Sale	-	-	(17)	(17)
Gain/(losses) recognised in Profit or loss	-	-	(3)	(3)
Gain/(losses) recognised in OCI	14	10	-	24
Transfer from Level 1 and 2	-	-	48	48
Transfer to Level 1 and 2	-	-	(101)	(101)
As at 31/03/2023	**185**	**25**	**175**	**385**
Unrealised Gain/(loss) recognised in the statement of profit and loss relating to assets and liabilities held at the end of reporting period:				
As at 31/03/2023	-	-	4	4
As at 31/03/2022	-	-	9	9

Transfers from level 1 and 2 to level 3 and out of level 3 for unquoted debt instruments is based on unavailability/availability of market observable inputs as on the reporting date. The Company's policy is to recognise transfers into and transfers out of fair value hierarchy levels as at the end of the reporting period.

(iv) Sensitivity analysis of Level-3 Instruments:

(₹ in Crore)

Increase/(Decrease) in Fair Value	Unquoted Associates		Unquoted Equity Instruments		Unquoted Debt Instruments	
	Impact on Statement of Profit and Loss Post Tax	Impact on OCI Post Tax	Impact on Statement of Profit and Loss Post Tax	Impact on OCI Post Tax	Impact on Statement of Profit and Loss Post Tax	Impact on OCI Post Tax
Increase in Yield by 0.5%						
As at 31/03/2023	-	-	-	-	(1)	(1)
As at 31/03/2022	-	-	-	-	(2)	-
Increase in Earnings Multiple by 10%						
As at 31/03/2023	-	5	-	2	-	-
As at 31/03/2022	-	7	-	1	-	-
Increase in Weighted average cost of capital 0.5%						
As at 31/03/2023	-	(3)	-	-	-	-
As at 31/03/2022	-	-	-	-	-	-

Sensitivity with decrease in yield, Weighted average cost of capital and Price Book Multiplier by 0.5% and 10% will have equal and opposite impact in financial statement.

(v) Valuation Process

Some of the Company's assets and liabilities are measured at fair value for financial reporting purposes. The Management of the Company has set up a team in the finance department which performs the valuation of financial assets and liabilities.

In estimating the fair value of an asset or a liability, the Company uses market-observable data to the extent it is available. Where Level 1 inputs are not available, the Company engages third party qualified valuers to perform the valuation. The team works closely with the qualified external valuers to establish the appropriate valuation techniques and inputs to the model. The team reports findings to the Management of the Company to explain the cause of fluctuations in the fair value of the assets and liabilities.

(vi) Valuation techniques used for valuation of instruments categorised as level 3

For valuation of investments in equity shares and associates which are unquoted, peer comparison has been performed wherever available. Valuation has been primarily done by considering the net worth of the Company and price to book multiple to arrive at the fair value. In cases where income approach was feasible valuation has been arrived using the earnings capitalisation method or discounted cash flow method. For inputs that are not observable for these instruments, certain assumptions are made based on available information. The most significant of these assumptions are the discount rate and credit spreads used in the valuation process.

For valuation of investments in debt securities categorised as level 3, market polls which represent indicative yields are used as assumptions by market participants when pricing the asset.

There were no significant inter-relationships between unobservable inputs that materially affect fair values.

52. Financial Risk Management

Refer Note 1B (Q) for accounting policy on Financial Instruments

The Company's activities exposes it to various risks such as market risk, liquidity risk and credit risk. This section explains the risks, which the Company is exposed to and how it manages those risks.

(a) Market Risk

(i) Market Risk : Commodity Price Risk

Hindalco's India Operations consist of two businesses – Copper Business and Aluminium Business. The Copper Business works under a "Custom Smelting" model wherein the focus is to improve the processing margin. The timing mis-match risk between the input and output price, which is linked to the same international pricing benchmark, is eliminated through use of derivatives. This off-set hedge model (through use of derivatives) is used to manage the timing mis-match risk for both Commodity (Copper and Precious Metals) and Currency Risk (primarily, USD/INR). The Copper Business also has a portion of View Based exposure for both Commodity and Currency, beyond the above timing mis-match risk. Lower Copper Prices, Stronger USD/INR exchange rate and Higher "Other Input" Prices (eg Coal, furnace oil, natural gas etc) are the major price risks that adversely impact the business. Here, the Company may use derivative instruments or non-derivative instrument, wherever available, to manage these pricing risks. A variety of factors, including the risk appetite of the business and price view, are considered while taking Hedging Decisions. Such View based hedges are usually done for the next 1-12 quarters.

The Aluminium Business is a vertically integrated business model wherein the input and output pricing risks are independent of each other, i.e. – are on different pricing benchmarks, if any. Here, the Company may use derivative instruments, wherever available, to manage its pricing risks for both input and output products. Lower Aluminium Prices, weaker USD/INR exchange rate and Higher Input Prices (e.g. Alumina, furnace oil, coal, coal tar pitch) are the major price risks that adversely impact the Business. Hedging decisions are based on a variety of factors, including risk appetite of the business and price View. Such Hedge decisions are usually done for the next 1-12 quarters.

Embedded Derivatives

Copper concentrate is purchased on future pricing model based on month's average LME (in case of copper) / LBMA (in case of gold and silver). Since, the value of the concentrate changes with response to change in commodity pricing indices, embedded derivatives (ED) is identified and segregated in the contract. The ED so segregated, is treated like commodity derivative and qualify for hedge accounting. These derivatives are put into a Fair Value hedge relationship with respect to inventory.

(ii) The table below summarises gain/(loss) impact of increase/decrease in the commodity price on the Company's equity and profit for the year:

(₹ in Crore)

Commodity Risk	Price Index	Increase in Price	Year ended 31/03/2023		Year ended 31/03/2022	
			Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax	Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax
Aluminium	LME	10%	(3)	(129)	-	(767)
Copper	LME	10%	(691)	-	(850)	-
Gold	LBMA/ MCX	10%	(159)	-	(136)	-
Silver	LBMA	10%	-	-	(10)	-
Furnace Oil	AG Platts	10%	-	10	-	-

Decrease in prices by 10% will have equal and opposite impact in financial statements. Sensitivity analysis has been computed by stress testing the market price of the underlying price index on the outstanding derivative position as on the reporting date by assuming all other factors constant.

(iii) **Market Risk : Foreign Currency Risk**

Exchange rate movements, particularly the United States Dollar (USD) and Euro (EUR) against Indian Rupee (INR), have an impact on our operating results. In addition to the foreign exchange inflow from exports, the commodity prices in the domestic market are derived based on the landed cost of imports in India where LME prices and USD/INR exchange rate are the main factors. In case of conversion business, the objective is to match the exchange rate of outflows and related inflows through derivative financial instruments. With respect to Aluminium business where costs are predominantly in INR, the strengthening of INR against USD adversely affects the profitability of the business and benefits when INR depreciates against USD. The Company enters into various foreign exchange contracts to protect profitability. The Company also enters into various foreign exchange contracts to mitigate the risk arising out of foreign currency exchange rate movement in foreign currency contracts executed with foreign suppliers to procure capital items for its project activities.

During the year ended, the Company's foreign currency exposure arising from exports and import transactions resulted in the FOB value of exports amounting to ₹ 17,319 Crore (31/03/2022 ₹ 21,416 Crore) and the CIF value of imports amounting to ₹ 37,993 Crore (31/03/2022 ₹ 36,087 Crore).

(iv) **The Company's net exposure to foreign currency risk at the end of the reporting period expressed in ₹ is given below:**

(₹ in Crore)

Unhedged Foreign Currency Payable / (Receivable)	As at	
Currency Pair	**31/03/2023**	**31/03/2022**
USD	43	17
EUR	5	3
GBP	-	-
NOK	1	1
CHF	1	1
	50	**22**

The above disclosure is after adjusting foreign currency assets of ₹ 255 Crores (March 31, 2022 ₹ 489 Crores) and foreign currency liabilities ₹ 988 (March 31, 2022 ₹ 1,436 Crores) against derivative contracts (forward, future and option contracts).

Assets and liabilities that are naturally hedged against future transactions are excluded for the purpose of above disclosure. As on March 31, 2023 the Company has USD, EUR and GBP foreign currency payables of ₹ 11,563 Crore (March 31, 2022 ₹ 10,110 Crore) which will be offseted by an equal amount of foreign currency receivables in the next financial year.

(v) **The table below summarises gain/(loss) impact of increase/decrease in the exchange rates on the Company's equity and profit for the year:**

(₹ in Crore)

Currency Risk	Increase in Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
		Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax	Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax
USD/INR	10%	(126)	(1,271)	(15)	(1,158)
EUR/INR	10%	(1)	-	-	-
EUR/USD	10%	-	-	8	-
GBP/INR	10%	-	-	-	-
NOK/INR	10%	-	-	-	-
CHF/INR	10%	-	-	-	-

Decrease in prices by 10% will have equal and opposite impact in financial statements.

Sensitivity analysis has been computed by stress testing the market price of the underlying currency index on the outstanding derivative position and unhedged exposure as on the reporting date by assuming all other factors constant.

(vi) **Market Risk: Equity Securities Price Risk**

The Company's exposure to equity securities price risk arises from movement in market price of related securities classified either as FVTOCI or FVTPL. The Company manages the price risk through diversified portfolio.

The table below summarises gain/(loss) impact on of increase/decrease in the equity share price on the Company's equity and profit for the year:

(₹ in Crore)

Other Price Risk	Price Index	Increase Rate/Price	Year ended 31/03/2023		Year ended 31/03/2022	
			Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax	Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax
Investment in Equity Securities	NSE	10%	-	679	-	724

Decrease in prices by 10% will have equal and opposite impact in financial statements.

Sensitivity analysis has been computed by stress testing the market price of the underlying price index on the investment portfolio as on the reporting date by assuming all other factors constant.

(vii) **Market Risk: Interest Rate Risk**

The Company is exposed to interest rate risk on financial liabilities such as borrowings, both short-term and long-term. It maintains a balance of fixed and floating interest rate borrowings and the proportion is determined by current market interest rates, projected debt servicing capability and view on future interest rates. Such interest rate risk is actively evaluated and interest rate swap is taken whenever considered necessary.

The Company is also exposed to interest rate risk on its financial assets that include fixed deposits, bonds, debentures, commercial papers, other mutual funds and liquid investments comprising mainly mutual funds (which are part of cash and cash equivalents). Since, majority of these are generally for short durations, the Company believes it has limited interest rate risk.

(viii) **The table below summarises gain/(loss) impact of increase/decrease in the interest rates on the Company's equity and profit for the year:**

(₹ in Crore)

Interest Rate Risk	Increase in Rate	Year ended 31/03/2023		Year ended 31/03/2022	
		Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax	Gain/ (Loss) in Statement of Profit and Loss Post Tax	Gain/ (Loss) in Other Components of Equity Post Tax
Interest rate on floating rate borrowings	100 bps	(77)	-	(60)	-

Decrease in rates by 100 bps will have equal and opposite impact in financial statements. Sensitivity analysis has been computed by stress testing the interest rates applicable (i.e. USD 6M SOFR, SBI 3M MCLR, PNB 1M MCLR, Repo Rate and 3M T-bill etc.) on the amount of borrowings during the year by assuming all other factors constant.

Derivatives

The Company does have any interest rate hedges outstanding as on the reporting date, accordingly IBOR related impact on hedge accounting including discounting of other derivatives is not expected to be material.

(b) Liquidity Risk

The Company determines its liquidity requirements in the short, medium and long term. This is done by drawing up cash forecast for short and medium term requirements and strategic financing plans for long term needs.

The Company manages its liquidity risk in a manner so as to meet its normal financial obligations without any significant delay or stress. Such risk is managed through ensuring operational cash flow while at the same time maintaining adequate cash and cash equivalents position. The management has arranged for diversified funding sources and adopted a policy of managing assets with liquidity in mind and monitoring future cash flows and liquidity on a regular basis. Surplus funds not immediately required are invested in certain financial assets (including mutual funds) which provide flexibility to liquidate at short notice and are included in current investments and cash equivalents. Besides, it generally has certain undrawn credit facilities which can be accessed as and when required, which are reviewed periodically.

The Company has developed appropriate internal control systems and contingency plans for managing liquidity risk. This incorporates an assessment of expected cash flows and availability of alternative sources for additional funding, if required.

(i) **Financing Arrangement**

The Company had access to the following undrawn borrowing facilities at the end of the reporting period:

(₹ in Crore)

	As at	
	31/03/2023	31/03/2022
Bank Overdraft and other facilities	1,642	1,642

Undrawn limit has been calculated based on the available drawing power and sanctioned amount at each reporting date.

(ii) **Maturity Analysis**

The Company's financial liabilities into relevant maturity groupings based on their contractual maturities for all non-derivative financial liabilities and net settled derivative financial instruments. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

(₹ in Crore)

Contractual maturities of financial liabilities as at 31/03/2023	Note No	Less than 1 Year	Between 1 and 2 Years	Between 2 and 5 Years	Over 5 years	Total	Carrying Value
Non Derivatives							
Borrowings (a)							
Principal Payments	22A, 22B, 24	750	986	4,571	6,050	12,357	12,308
Interest Payments		954	912	2,077	819	4,762	-
Lease liabilities (b)	3B	152	137	318	766	1,373	763
Supplier's Credit	28	5,704	5,704	5,635			
Trade payables	23	9,743	-	-	-	9,743	9,743
Other financial liabilities	24	747	44	16	1	808	888
		18,050	**2,079**	**6,982**	**7,636**	**34,747**	**29,337**
Derivatives (net settled)	11						
Commodity forwards/swaps/options		162	-	-	-	162	165
Currency forwards/options		39	7	1	-	47	29
		201	**7**	**1**	**-**	**209**	**194**

(₹ in Crore)

Contractual maturities of financial liabilities as at 31/03/2022	Note No	Less than 1 Year	Between 1 and 2 Years	Between 2 and 5 Years	Over 5 years	Total	Carrying Value
Non Derivatives							
Borrowings (a)							
Principal Payments	22A, 22B, 24	7,412	83	3,991	7,651	19,137	19,079
Interest Payments		897	757	2,048	1,126	4,828	-
Lease liabilities (b)	3B	82	54	130	542	808	342
Supplier's Credit	28	2,459	2,459	2,456			
Trade payables	23	11,015	-	-	-	11,015	11,015
Other financial liabilities	24	1,000	13	-	-	1,013	1,013
		22,865	**907**	**6,169**	**9,319**	**39,260**	**33,905**
Derivatives (net settled)	11						
Commodity forwards/swaps/options		3,368	387	10	-	3,765	3,732
Currency forwards/options		31	-	-	-	31	31
		3,399	**387**	**10**	**-**	**3,796**	**3,763**

(a) Includes Principal and interest payments, short term borrowings, current portion of debt and excludes unamortised fees.

(b) Total cash outflow for leases for the year ended 31/03/2023 is ₹ 399 Crore (31/03/2022: ₹ 224 Crore), includes ROU Lease payment, Short term lease and Low value lease, refer note 22A(c) and 41(c).

(C) Credit Risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligation.

Credit risk arises from cash and cash equivalents, contractual cash flows of debt investments, favourable derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to customers including outstanding receivables.

Credit risk is managed on an entity level basis. The Company has adopted a policy of dealing only with creditworthy counterparties and obtaining sufficient collateral, where appropriate, as a means of mitigating risk of financial loss from defaults. The Company invests only in those instruments issued by high rated banks/ institutions and government agencies. The Company assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. The Company's investments in debt instruments and certain loans are considered to have low credit risk. The credit ratings of the investments are monitored for credit deterioration.

For some trade receivables, the Company obtains security in the form of guarantees, deed of undertaking or letters of credit which can be called upon if the counterparty is in default under the terms of the agreement.

The Company periodically monitors the recoverability and credit risks of its other financials assets including security deposits and other receivables. The Company evaluates 12 months expected credit losses for all the financial assets for which credit risk has not increased. In case credit risk has increased significantly, the Company considers life time expected credit losses for the purpose of impairment provisioning.

The Company has used a practical expedient by computing the expected credit loss allowance for trade receivables based on a provision matrix. The provision matrix takes into account historical credit loss experience and adjusted for forward-looking information. The expected credit loss allowance is based on the ageing of the days for which the receivables are due and the expected loss rates as given in the provision matrix. The provision matrix at the end of the reporting period is as follows:

(i) **Summary of trade receivables and provision with ageing as at 31-Mar-23**

(₹ in Crore)

Particulars		Past due					
	Not due	1 to 30 days	31 to 60 days	61 to 120 days	121 to 180 days	Over 180 days	Total
Gross carrying amount - Domestic	1,910	195	35	39	24	159	2,362
Gross carrying amount - Export	258	34	3	-	-	1	296
Expected loss rate	0.05%	0.00%	0.00%	0.00%	0.00%	8.13%	**0.53%**
Expected credit loss provision	1	-	-	-	-	13	14
Loss allowance - Credit impaired - Export	-	-	-	-	-	1	1
Loss allowance - Credit impaired - Domestic	-	-	-	-	-	33	33
Total Provision	1	-	-	-	-	47	48
Carrying amount of trade receivables (net of impairment)	**2,167**	**229**	**38**	**39**	**24**	**113**	**2,610**

(ii) **Summary of trade receivables and provision with ageing as at 31-Mar-22**

(₹ in Crore)

Particulars		Past due					
	Not due	1 to 30 days	31 to 60 days	61 to 120 days	121 to 180 days	Over 180 days	Total
Gross carrying amount - Domestic	1,938	133	37	18	6	49	2,181
Gross carrying amount - Export	501	23	1	1	-	1	527
Expected loss rate	0.00%	0.00%	0.00%	0.00%	0.00%	6%	**0.11%**
Expected credit loss provision	-	-	-	-	-	3	3
Loss allowance - Credit impaired - Export	-	-	-	-	-	1	1
Loss allowance - Credit impaired - Domestic	-	-	-	-	-	33	33
Total Provision	-	-	-	-	-	37	37
Carrying amount of trade receivables (net of impairment)	**2,439**	**156**	**38**	**19**	**6**	**13**	**2,671**

(iii) **Reconciliation of Provision**

(₹ in Crore)

Loss allowance as at 31/03/2021	32
changes in loss allowance	5
Loss allowance as at 31/03/2022	37
changes in loss allowance	11
Loss allowance as at 31/03/2023	48

Of the trade receivables balance as at 31/03/2023, ₹ 473 Crore (as at 31/03/2022, ₹ 368 Crore) is due from a single customer being the Company's largest customer. There are no other customers who represent more than 10% of the total balance of trade receivables.

Financial assets at FVTPL and at FVTOCI: The Company is also exposed to credit risks in relation to financial assets that are measured at FVTPL or at FVTOCI. The maximum exposure at the end of the reporting period is the carrying amount of these assets.

53. The Company has recognised its interest in the Joint Operations disclosed below in these standalone financial statements. Further, the trusts disclosed below have been considered as an extension of the Company and therefore included in these standalone financial statements.

Name of the Entity	Relationship	% of Holding	Country of Incorporation
Mahan Coal Limited	Joint Control Operation *	50%	India
Tubed Coal Mines Limited	Joint Control Operation *	60%	India
Trident Trust	Trust controlled by the Company	#	India
Hindalco Employee Welfare Trust	Trust controlled by the Company	#	India

Treasury Shares are held in Trusts whose sole beneficiary is Hindalco Industries Limited, Refer Note 20 for further details.

* The proportionate share of total assets and total comprehensive income in the above joint operations are included in the standalone financial statements.

54. Business Combinations

Refer Note 1B (FF) for accounting policy on Business Combinations

During the year ended 31/03/2023, the Company does not have any business acquisition transaction to report. During year ended 31/03/2022, the Company had acquired Kuppam unit of SAPA Extrusions India Private Limited.

On 01/02/2022, the Company has completed the acquisition of the Extrusion business of SAPA Extrusion India Private Limited, manufacturer of high end extrusion products, pursuant to a Business Transfer Agreement dated 17/12/2021. The acquisition increases the Group's footprint in high end extrusion products by expanding the portfolio of services provided to its customers.

The amount of purchase consideration, the net assets acquired and resultant Goodwill on acquisition are given below. The Goodwill associated with the acquisition of Kuppam unit has been allocated to the Aluminium Downstream segment.

(₹ in Crore)

Consideration transferred	265
Less: Net identifiable assets acquired	(261)
Goodwill	**4**

55. Title deeds of the Immovable Properties pending for transfer as at 31/03/2023 are as are as follows:

(₹ in Crore)

S. No.	Relevant line item in the Balance sheet	Description of item of property	Gross carrying value	Title deeds held in the name of	Whether title deed holder is a promoter, director or relative of promoter/director or employee of promoter/ director	Property held since which date	Reason for not being held in the name of the Company
1	Property, plant and equipment	Freehold Land at Birla Copper	0	Indogulf Fertilizer & Chemicals Corporation Limited	No	Since FY 2002-03	The title deeds of which are held in the name of Indogulf Fertilizer & Chemicals Corporation Limited (erstwhile Company) which have subsequently been amalgamated with the Company
2	Investment Property	Freehold Land at Birla Copper	0				
3	Investment Property	Building at Ahura Centre, Mumbai	7				
4	Property, plant and equipment	Freehold Land at Muri unit and Kolkata Branch	0	Indian Aluminium Company Limited	No	Since FY 2004-05	The title deeds of which are held in the name of Indian Aluminium Company Limited (erstwhile Company) which have subsequently been amalgamated with the Company
5	Property, plant and equipment	Various Buildings at Delhi, Bangalore, Kolkata, Darjeeling, Bhubaneshwar and Coimbatore	5				
6	Right of use Assets	Land at Kolkata Branch	0				
7	Property, plant and equipment	Freehold Land at Kuppam	1	SAPA Extrusion India Private Limited	No	Since FY 2021-22	The title deeds are held in the name of the SAPA Extrusion India Private Limited (erstwhile Company) which have subsequently been acquired by the Company. The Company is in process of registering the title deed of this land in its name.
8	Property, plant and equipment	Freehold Land at Mahan	4	Various Individual Landowners	No	Since FY 2013-14	Certain original land-related documents held in the name of original landowners were submitted to the bank that had financed the Mahan project. These original documents are required to be submitted to the land department in order to get the title deed registered in the name of the Company . The Company is awaiting receipt of these original land-related documents from the bank to initiate the process of transfer of the title of the land in favour of the Company.
9	Property, plant and equipment	Freehold Land at Kathotia Mines	27	Various Individual Landowners	No	Since FY 2018-19	Approval of the District collector is awaited which is a prerequisite as per the Chota Nagpur Tenancy Act, 1908 to transfer the title deed in the name of the company. The company is in the process of obtaining these approvals.

Title deeds of the Immovable Properties pending for transfer as at 31/03/2022 are as are as follows:

(₹ in Crore)

S. No.	Relevant line item in the Balance sheet	Description of item of property	Gross carrying value	Title deeds held in the name of	Whether title deed holder is a promoter, director or relative of promoter/director or employee of promoter/ director	Property held since which date	Reason for not being held in the name of the Company
1	Property, plant and equipment	Freehold Land at Birla Copper	0	Indogulf Fertilizer & Chemicals Corporation Limited	No	Since FY 2002-03	The title deeds of which are held in the name of Indogulf Fertilizer & Chemicals Corporation Limited (erstwhile Company) which have subsequently been amalgamated with the Company
2	Investment Property	Freehold Land at Birla Copper	0				
3	Investment Property	Building at Ahura Centre, Mumbai	7				
4	Property, plant and equipment	Freehold Land at Hirakud unit, Muri unit and Kolkata Branch	0	Indian Aluminium Company Limited	No	Since FY 2004-05	The title deeds of which are held in the name of Indian Aluminium Company Limited (erstwhile Company) which have subsequently been amalgamated with the Company
5	Property, plant and equipment	Various Buildings at Mumbai, Delhi, Bangalore, Kolkata, Darjeeling, Bhubaneshwar and Coimbatore	10				
6	Right of use Assets	Land at Hirakud unit and Kolkata Branch	0				
7	Property, plant and equipment	Freehold Land at Kuppam	1	SAPA Extrusion India Private Limited	No	Since FY 2021-22	The title deeds are held in the name of the SAPA Extrusion India Private Limited (erstwhile Company) which have subsequently been acquired by the Company. The Company is in process of registering the title deed of this land in its name.
8	Property, plant and equipment	Freehold Land at Mahan	4	Various Individual Landowners	No	Since FY 2013-14	Certain original land-related documents held in the name of original landowners were submitted to the bank that had financed the Mahan project. These original documents are required to be submitted to the land department in order to get the title deed registered in the name of the Company . The Company is awaiting receipt of these original land-related documents from the bank to initiate the process of transfer of the title of the land in favour of the Company.
9	Property, plant and equipment	Freehold Land at Kathotia Mines	27	Various Individual Landowners	No	Since FY 2018-19	Approval of the District collector is awaited which is a prerequisite as per the Chota Nagpur Tenancy Act, 1908 to transfer the title deed in the name of the company. The company is in the process of obtaining these approvals.

56. Relationship with struck off companies

Disclosure related to relationship of the Company with a company which is Struck off under Section 248 of the Companies Act, 2013 or Section 530 of Companies Act, 1956 as at 31/03/2023 and 31/03/2022 are as follows:

S. No.	Name of struck off Company	Nature of transactions with struck-off Company	Balance outstanding as at 31/03/2023	Balance outstanding as at 31/03/2022	Relationship with the Struck off company, if any, to be disclosed
Receivables					
1	Daga Nylomet Private Limited	Sale of Goods and Services	1.00	1.00	Not a related party
2	Copral Insulated Conductors Private Limited	Sale of Goods and Services	-	-	Not a related party
3	Krs And Sons Construction Private Limited	Sale of Goods and Services	-	-	Not a related party
4	Maheshwary Metal & Alloys Private Limited	Sale of Goods and Services	-	-	Not a related party
5	Nathanz Chemicals Private Limited	Sale of Goods and Services	-	-	Not a related party
6	Nicco Eastern Private Limited	Sale of Goods and Services	-	-	Not a related party
7	Payal Synthetics Private Limited	Sale of Goods and Services	-	-	Not a related party
8	Tecon Surface Coating & Engineering Private Limited	Sale of Goods and Services	-	-	Not a related party
Payables					
1	Agngreen Pest Control Services Private Limited	Purchase of Goods and Services	-	-	Not a related party
2	Anand Motors	Purchase of Goods and Services	-	-	Not a related party
3	Arc India Limited	Purchase of Goods and Services	-	-	Not a related party
4	Associated Enterprises	Purchase of Goods and Services	-	-	Not a related party
5	Bharat Timber Industries	Purchase of Goods and Services	-	-	Not a related party
6	D Wren Industries Private Limited	Purchase of Goods and Services	-	-	Not a related party
7	K.P.Industries	Purchase of Goods and Services	-	-	Not a related party
8	Knop Trading Company Private Limited	Purchase of Goods and Services	-	-	Not a related party
9	Multitech Engineers Private Limited	Purchase of Goods and Services	-	-	Not a related party
10	Nuwave Technology Private Limited	Purchase of Goods and Services	-	-	Not a related party
11	Paramount Engineering Company	Purchase of Goods and Services	-	-	Not a related party
12	Pyrotech Electronics Private Limited	Purchase of Goods and Services	-	-	Not a related party
13	R V Briggs And Co Private Limited	Purchase of Goods and Services	-	-	Not a related party
14	Singhal Bricks Private Limited	Purchase of Goods and Services	-	-	Not a related party
15	Sitaram Mall	Purchase of Goods and Services	-	-	Not a related party
16	Vikadis Consulting Engineering Private Limited	Purchase of Goods and Services	-	-	Not a related party
17	Xtend Apt Solutions Private Limited	Purchase of Goods and Services	-	-	Not a related party
18	Zion Construction	Purchase of Goods and Services	-	-	Not a related party
19	Boc India Limited	Purchase of Goods and Services	-	-	Not a related party
20	B P Construction Company	Deposit Refundable	-	-	Not a related party
21	Vijay Construction	Deposit Refundable	-	-	Not a related party

Details of other struck off entities holding equity shares in the Company is as below:

		No. of shares heldas at 31/03/2023	Paid-up as at 31/03/2023 (₹)	Paid-up as at 31/03/2022 (₹)
1	Siddha Papers Private Limited	5	5	5
2	Vaishak Shares Limited	1	1	1
3	Alike Trading Private Limited	50	50	50
4	Fayda Portfolio Private Limited	100	100	100
5	Kothari Intergroup Limited	1	1	1
6	Arunoday Holdings Private Limited	6551	6,551	4,387
7	Dreams Broking Private Limited	5	5	5
8	Tushar Commercial Company Limited	2000	2,000	2,000
9	Agents India Limited	120	120	120
10	Ambica Multifibres Limited	10714	10,714	10,714
11	Tangmarg Investment And Trading Private Limited	1525	1,525	2,370
12	Victor Properties Private Limited	2286	2,286	1,286
13	Central Investment Private Limited	5820	5,820	5,820
14	Shri Vishnu Commodities Private Limited	140	140	140
15	Nacon Software Services Private Limited	1500	1,500	1,500
16	Murli Tie- Up Private Limited	46	46	46
17	Architectural Glass Private Limited	60	60	60

57. Financials Ratio Analysis:

S. No.	Particulars	As at 31/03/2023	31/03/2022	Change in %
(a)	**Current Ratio (Times)** (Current Assets/Current Liabilities excluding Current Maturities of Long term Borrowings)	1.79	1.75	2.32%
(b)	**Debt-Equity Ratio (Times)** (i) (Borrowings + Lease Liabilities)/ Total Equity	0.22	0.36	-37.37%
(c)	**Debt Service Coverage Ratio (Times)** (i) (Profit before Depreciation, Amortisation, Impairment Loss on Non-Current Assets, Finance Cost and Tax)/ (Finance Cost (net of capitalization) + Scheduled Principal Repayment (Excluding Prepayment))	1.08	7.83	-86.19%
(d)	**Return on Equity Ratio (%) (ii)** Profit after tax/ Average shareholder equity	6%	11%	-44.12%
(e)	**Inventory turnover ratio (Times)** Revenue from Operations/Average Inventory	3.74	3.66	2.04%
(f)	**Trade Receivables turnover ratio (Times)** Revenue from Operations /Average Trade Receivable	29.11	31.67	-8.09%
(g)	**Trade payables turnover ratio (Times)** Purchases of Raw Material and traded purchases/ Average Trade Payable related to Raw Material and traded purchases	5.99	5.60	6.92%
(h)	**Net capital turnover ratio (Times)** Revenue from Operations/ Working Capital excluding Current Maturities of Long term Borrowings	4.98	4.08	22.26%
(i)	**Net profit ratio (%)** (ii) Profit after tax/ Revenue from Operations	4%	8%	-46.86%
(j)	**Return on Capital employed (%)** (ii) Earnings before interest and taxes/ Capital Employed (Tangible Net worth + Total Debt + Deferred Tax liability)	8%	13%	-37.02%
(k)	**Return on investment (%)** (ii) Earnings before interest and tax/ Average total assets	6%	11%	-40.32%

Clarification for changes

(i) During the current year, the company has repaid the debentures of ₹ 6,000 Crore. Further, the Company has issued new debentures amounting to ₹ 700 Crore. Ratio improved majorly due to the same.

(ii) Decrease in this ratio is mainly on account of lower net profit available in the current year.

58. Additional Regulatory Information

(a) As per Section 135 of the Companies Act, 2013, a Company, meeting the applicability threshold, needs to spend at least 2% of its average net profit for the immediately preceding three financial years on Corporate Social Responsibility (CSR) activities. A CSR committee has been formed by the Company as per the Act. The funds were primarily allocated to a corpus and utilized through the year on these activities which are specified in Schedule VII of the Companies Act, 2013:

(i) Gross amount required to be spent by the company during the year is ₹ 69 Crore (Year ended 31/03/2022 ₹ 24 Crore).

(ii) Amount approved by the Board to be spent during the year is ₹ 45 Crore (Year ended 31/03/2022 is ₹ 38 Crore).

(iii) Amount spent during the year

(₹ in Crore)

Particulars	Year Ended 31/03/2023	31/03/2022
a) Construction/ acquisition of any asset^	-	-
b) On purposes other than (a) above	36	38
Total	**36**	**38**

^ Assets are not in the books of the Company

(iv) Details of excess amount spent under Section 135(5) of the Companies Act, 2013

(₹ in Crore)

Particulars	Year Ended 31/03/2023	31/03/2022
Opening Balance excess spent	**24**	**12**
Amount required to be spent during the year	69	24
Amount spent during the year	36	38
Unspent CSR amount in Current year **	10	-
CSR expenses claimed/ Debited in Statement of profit and loss in Current year	70	26
Closing Balance excess spent	**-**	**24**

(v) Details of ongoing projects under Section 135(6) of the Companies Act, 2013

(₹ in Crore)

Particulars	Year Ended 31/03/2023		Year Ended 31/03/2022	
	With Company's Bank A/c	In Separate CSR Unspent A/c	With Company's Bank A/c	In Separate CSR Unspent A/c
Opening Balance	-	-	-	-
Amount required to be spent during the year **	-	10	-	-
Amount spent during the year	-	-	-	-
Closing Balance	**-**	**10**	**-**	**-**

**Unspent CSR amount of ₹ 9.50 Crore, pursuant to ongoing project undertaken by the Company has been deposited to Unspent CSR account maintained in a scheduled bank on 28/04/2023. This amount is planned to be spent by end of FY 26 as permitted under Companies (CSR Policy) Rules, 2014.

(vi) The areas for CSR activities are eradication of hunger and malnutrition, promoting education, art and culture, healthcare, destitute care and rehabilitation, environment sustainability, disaster relief, COVID-19 relief and rural development projects.

(vii) The contribution to a trust controlled by the Company (Hindalco Jan Seva Trust) in relation to CSR expenditure is ₹ 1 Crore (year ended 31/03/2022 ₹ 1 Crore).

(viii) There is provision made with respect to a liability incurred by entering into a contractual obligation during the current year ₹ 1 Crore (year ended 31/03/2022 Nil).

(b) Details of loans given, investment made and guarantee given covered under section 186(4) of the Companies Act, 2013:

(i) Details of investments made have been given as part of Note '7' Investments in Subsidiary, Note '8' Investments in Associates and Joint Ventures and Note '9' Other Investments.

(ii) Loans and Financial Guarantees given below:

(₹ in Crore)

Name of the Company	Relationship	Nature of Transaction	Purpose / Utilisation	As at 31/03/2023	As at 31/03/2022
Details of Loans					
Aditya Birla Science and Technology Company Private Limited	Associate	Loan	Working capital Use	29	36
Suvas Holding Limited	Subsidiary	Loan	Working capital Use	3	5
Birla Copper Asoj Private Limited (formerly known as Ryker Base Private Limited)	Subsidiary	Loan	Prepayment of Loan and Working capital Use	137	164
Details of Guarantee					
Dahej Harbour and Infrastructure Limited	Subsidiary	Performance Guarantee	To the Commissioner of Customs	5	5

Transactions during the year are disclosed in Note 47 - Related Party Transactions.

(iii) Disclosure relating to amount outstanding at year end and maximum outstanding during the year of loans and advances, in nature of loan, required under SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, are given below:

(₹ in Crore)

Name of the Company	As at 31/03/2023	Maximum outstanding during FY 2022-23	As at 31/03/2022	Maximum outstanding during FY 2021-22
Associate:				
Aditya Birla Science and Technology Company Private Limited	29	36	36	41
Subsidiaries:				
Suvas Holding Limited	3	5	5	8
Birla Copper Asoj Private Limited (formerly known as Ryker Base Private Limited)	137	164	164	200

(c) Other additional disclosures required under Schedule III as per Companies Act 2013 are as follows:

(i) No proceedings have been initiated on or are pending against the Company for holding benami property under the Benami Transactions (Prohibition) Act, 1988 (45 of 1988) and Rules made thereunder.

(ii) Hindalco Industries limited have not been declared wilful defaulter by any bank or financial institution or government or any government authority.

(iii) Hindalco Industries Limited has complied with the number of layers prescribed under the Companies Act, 2013.

(iv) There is no undisclosed income under the Income Tax Act, 1961 for the year ending 31/03/2023 and 31/03/2022 which needs to be recorded in the books of account.

(v) Hindalco Industries Limited has not traded or invested in crypto currency or virtual currency during the current or previous year.

(vi) The borrowings obtained by the company from banks and financial institutions have been applied for the purposes for which such loans were was taken.

(vii) There are no charges or satisfaction which are yet to be registered with the Registrar of Companies beyond the statutory period.

(viii) **Utilisation of borrowed funds and share premium.**

(I) The Company has not advanced or loaned or invested funds to any other person(s) or entity(ies), including foreign entities (Intermediaries) with the understanding that the Intermediary shall:

a. directly or indirectly lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the group (Ultimate Beneficiaries) or

b. provide any guarantee, security or the like to or on behalf of the ultimate beneficiaries

(II) The Company has not received any fund from any person(s) or entity(ies), including foreign entities (Funding Party) with the understanding (whether recorded in writing or otherwise) that the Company shall:

a. directly or indirectly lend or invest in other persons or entities identified in any manner whatsoever by or on behalf of the Funding Party (Ultimate Beneficiaries) or

b. provide any guarantee, security or the like on behalf of the ultimate beneficiaries

(ix) The Company has not entered into any scheme of arrangement which has an accounting impact on current or previous financial year.

(x) The Company has borrowings from banks on the basis of security of current assets. The quarterly returns or statements of current assets filed by the Company with banks are in agreement with the books of accounts except incase of quarter ended 31/03/2023 where the Company has filed provisional statement with the bank and the final statement will be submitted to the bank after finalization of audited financial statements.

59. During the financial year ended March 31, 2023, the Company has reclassified following comparatives. These reclassifications are primarily to conform to the current years classification, which do not have material impact on the Standalone Financial Statements.

(₹ in Crore)

Note No.	Note Description	Previously Reported Amount	Revised Amount	Change	Purpose
Balance Sheet					
25	Provisions (Current Liabilities)	1,006	731	(275)	For Better Presentation
26	Employee Benefit Obligations (Current Liabilities)	-	275	275	For Better Presentation
25	Provisions (Non-Current Liabilities)	474	332	(142)	For Better Presentation
26	Employee Benefit Obligations (Non-Current Liabilities)	-	142	142	For Better Presentation
2A	Property, Plant and Equipment	31,759	30,926	(833)	For Better Presentation
3A	Right of Use Assets	-	833	833	For Better Presentation

As per our report annexed

For Price Waterhouse & Co Chartered Accountants LLP
Firm Registration No. 304026E/E-300009

Sarah George
Partner
Membership No. 045255

Place: Mumbai
Date: May 24, 2023

For and on behalf of the Board of **Hindalco Industries Limited**

Praveen Kumar Maheshwari
Whole-time Director and
Chief Financial Officer
DIN-00174361

Satish Pai
Managing Director
DIN-06646758

Geetika Anand
Company Secretary

K N Bhandari
Director
DIN-00026078

Assurance Statement

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Independent Assurance Statement

The Management and Board of Directors

Hindalco Industries Limited,

Birla Centurion, 7th Floor,

Mumbai - 400030, Maharashtra, India.

Scope

We have been engaged by Hindalco Industries Limited to perform a 'Type 1 Moderate' level of assurance, as defined by AccountAbility Assurance Standard (AA1000 AS v3) and Limited Assurance, as defined by International Standards on Assurance Engagements (ISAE 3000), hereafter referred to as the engagement, for Hindalco Industries Limited's Integrated Annual Report FY 2022-23, prepared as per The International Integrated Reporting Council (IIRC framework) (the "Subject Matter") for the period from 1st April 2022 to 31st March 2023.

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the Report, and accordingly, we do not express a conclusion on this information.

Criteria applied by Hindalco Industries Limited

In preparing the integrated report, Hindalco Industries Limited applied, The International Integrated Reporting Council (IIRC framework), and Global Reporting Initiative (GRI) Standards.

Hindalco Industries Limited's Responsibilities

Hindalco Industries Limited management is responsible for selecting the Criteria, and for presenting the Integrated Report FY 2022-23 in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records, and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

EY's Responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000'), and third edition of AccountAbility's AA1000 Assurance Standard (AA1000 AS v3). The terms of reference for this engagement as agreed with Hindalco Industries Limited on 15th November 2022. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a provide a basis for our limited assurance conclusions.

Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and have the required competencies and experience to conduct this assurance engagement

EY also applies International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Description of procedures performed

Our procedures included:

- Conducted interviews with select personnel at manufacturing units and corporate teams to understand the process for collecting, collating, and reporting the subject matter as per Global Reporting Initiative (GRI) Standards;
- Checked that the calculation criteria have been correctly applied in accordance with the methodologies outlined in the Criteria;
- Undertook analytical review procedures to support the reasonableness of the data, Verification of data, on a selective test basis, for the following sites and indicators, through consultations with the site team and sustainability team;

Business Operations	Location
Renukoot Aluminium	Sonebhadra, Uttar Pradesh
Birla Copper Division	Dahej, Gujarat
Gurdari Mines, Kunjam Mines, Amtipani Mines	Netarhat Plateau, Jharkhand

S. No.	Indicators	GRI Reference
1.	Process to determine material topics	3-1
2.	List of material topics	3-2
3.	Materials used by weight or volume	301-1
4.	Recycled input materials used	301-2
5.	Energy consumption	302-1
6.	Water Withdrawal	303-3
7.	Water Discharge	303-4
8.	Water Consumption	303-5
9.	Direct (Scope 1) GHG emissions	305-1
10.	Energy indirect (Scope 2) GHG emissions	305-2
11.	Emissions of ozone-depleting substances (ODS)	305-6
12.	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	305-7
13.	Waste generated	306-3
14.	Waste diverted from disposal	306-4
15.	Waste directed to disposal	306-5
16.	New employee hires and employee turnover	401-1
17.	Worker training on occupational health and safety	403-5
18.	Work-related injuries	403-9
19.	Training and Education	404-1
20.	Diversity of governance bodies and employees	405-1
21.	Operations with local community engagement, impact assessments, and development programs	413-1

- Execution of an audit trail of claims and data streams, on a selective test basis, to determine the level of accuracy in collection, transcription and aggregation processes followed;
- Review of the Company's plans, policies, and practices, pertaining to their social, environment and sustainable development, so as to be able to make comments on the fairness of sustainability

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reporting.

- Review of the Company's approach towards materiality assessment disclosed in the Report to identify relevant issues
- Review of select qualitative statements in various sections of the Integrated Report FY 2022-23

We also performed such other procedures as we considered necessary in the circumstances

The assurance scope excludes:

- Data and information outside the defined reporting period (1st April 2022 to 31st March 2023)
- Data and information on economic and financial performance of the Company
- Data, statements and claims already available in the public domain through Annual Report, Integrated Report, or other sources available in the public domain
- The Company's statements that describe the expression of opinion, belief, inference, aspiration, expectation, aim, or future intention provided by the Company
- The Company's compliance with regulations, acts, guidelines with respect to various regulatory agencies and other legal matters

Conclusion

Based on our procedures and the evidence obtained, we are not aware of any material modifications that need to be made to the Integrated Annual Report FY 2022-23 for the period from 1st April 2022 to 31st March 2023, in order for it to be in accordance with the Criteria.

On the basis of our review scope and methodology to obtain 'Type 1, Moderate' level of assurance (as per AA1000 AS) our conclusions are as follows:

- **Inclusivity:** The company has described its stakeholder engagement approach and activities in the report. We are not aware of any matter that would lead us to conclude that the company has not applied the principle of inclusivity in engaging with the key stakeholder groups identified in the report.
- **Materiality:** The company has identified key issues material to its ability to create value and has described the process for materiality analysis in the Report. Nothing has come to our attention that causes us to believe that material issues so identified have been excluded from the Report by the Company.
- **Responsiveness:** We are not aware of any matter than would lead us to believe that the Company has not applied the responsiveness principle in its engagement with stakeholders identified in the Report on material aspects covering its sustainability performance.
- **Impact:** As per the information provided to us, we are not aware of any matter that would lead us to conclude that the criteria related to the impact principle has not been applied for the key stakeholders.

Restricted use

This report is intended solely for the information and use of Hindalco Industries Limited and is not intended to be and should not be used by anyone other than Hindalco Industries Limited.

Chaitanya Kalia
20/07/2023
Mumbai, India

AA1000
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000-43/V3-8YU42

ADITYA BIRLA
HINDALCO

Hindalco Industries Limited

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