



ENRICHING LIVES

MINING FOR A GREENER FUTURE



Essel Mining & Industries Limited
Sustainability Report | FY 2021-22

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ABOUT THE REPORT

Essel Mining & Industries Limited (hereon referred to as 'EMIL' or 'the company') and its subsidiary companies Bhubaneshwari Coal Mining Limited, Rajmahal Coal Mining Limited, Pro Minerals Private Limited, and EMIL Mines and Mineral Resources Limited, present their second Sustainability Report for FY 2021-22 that provides insights into the company's progress on its journey to embed Environment, Social and Governance (ESG) considerations at the core of its business. The report provides transparent disclosures on the management approach, indicators, performance and accountability related to EMIL and its subsidiary companies' ESG-related material topics as ascertained through in-depth stakeholder consultations, peer reviews and industry trends.

Reporting Standards

The report has been developed in reference to the Global Reporting Initiative (GRI) 2020. The GRI content index is available at the end of this report. It also outlines our contributions to help meet the United Nations Sustainable Development Goals (UN SDGs).

Reporting Boundary

The scope of this report covers the following divisions and subsidiaries of the company:



EMIL head office



Iron ore business (hereafter referred as 'iron ore')



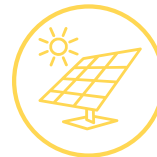
Madanpur(south) coal block (hereafter referred as 'Madanpur')



Noble Ferro Alloys business (hereafter referred as 'NFA')



Bunder Diamond Business (hereafter referred as 'Bunder Diamond')



Renewable energy business (hereafter referred as 'Wind and Solar')

EMIL subsidiaries



Pro Minerals Private Limited (hereafter referred as 'PMPL')



Bhubaneshwari Coal Mining Limited (hereafter referred as 'BCML')



Rajmahal Coal Mining Limited (hereafter referred as 'RCML')



EMIL Mines and Mineral Resources Limited (hereafter referred as 'EMMRL')

Reporting Period

Unless otherwise stated, the data presented in this report is for the Indian Fiscal Year (FY) 2021-22, covering the period between April 1st, 2021 to March 31st, 2022.

Materiality

The report focuses on the universe of material topics that can impact our value creation abilities for stakeholders the most and are critical for the continued well-being of our business. These issues have been identified through in-depth stakeholder consultations, peer reviews and relevance to global standards and have been woven into our strategy. Through such publications, the company reiterates its commitment to enhance the transparency of disclosures and staying accountable to prevent, reduce and mitigate the impact of our activities on people and the planet.

Forward-Looking Statement

Statements in this report highlighting our objectives, projections, estimates, and expectations may constitute 'forward-looking statements' within the meaning of applicable laws and regulations. Although the expectations are based on reasonable assumptions, the final results might differ.

Communication

We look forward to feedback and suggestions from our stakeholders on this report and our sustainability performance. You may write to:

Email- emil.registered@adityabirla.com

To know more about Essel Mining, log on to:
www.esselmining.com



ENRICHING LIVES MINING FOR A GREENER FUTURE



Mining has powered human existence and economic activity since the emergence of the civilised world almost 7000 years ago. It has provided the world with minerals and materials that allowed organized societies to emerge and sustain. In the modern world, mining activities generate livelihoods, strengthen economic value creation and catalyse social empowerment.

In our 72-year journey, EMIL has provided minerals and value-added products that have powered independent India's rise as a global power. Alongside this, we created socio-economic opportunities to empower thousands of community members of the country to have better lives. Advanced technology and a culture of innovation allowed us to operate cautiously, use valuable resources judiciously, manage waste and minimise disruptions to natural habitats and communities. We mine for minerals and materials that serve as the building blocks of the holistic development of our nation and people. We have also installed solar and wind power generation to meet the evolving need for cleaner power.



If mining is not undertaken in responsible manner, it may have adverse consequence on environment and social system. As the call for greater environmental accountability gets stronger, mining companies must adopt green ways of extracting and processing minerals to reduce the carbon footprint of their activities, even as the world requires greater quantities of minerals. As a pioneer and an industry leader, EMIL is well-placed to propagate the adoption of sustainable mining methods and motivate others to follow. This is the only way, together, we can craft a better future for our country and people in partnership with the government, industry and society.



As we look ahead, we reiterate our commitment to enriching lives by accelerating the use of green mining methods leveraging our digital edge, innovation leadership and adopting global best practices. We will continue to redefine and re-align our business to provide new minerals and solutions that India needs as it transitions into a net-zero nation by 2070 while mitigating the environmental impact of our activities.

EMIL SUSTAINABILITY HIGHLIGHTS

Governance

9

Board Members

11.1%

Board Diversity

5

Board committees

3 pillars and 2 enablers

ESG Strategy



Environment

6777 GJ

Reduction in Energy Requirement

192484

MTCO₂e of GHG Emissions (Scope 1 + Scope 2)

2312 MT

of Hazardous Waste Recycled

550741 m³

Rain Water Harvested

CDM Recognised

Wind Energy Unit

100%

Facilities with wastewater treatment plants



Social

14873

Training Hours

3.8%

Women Employees

ZERO

Fatalities across all operations

12000+

CSR Beneficiaries

₹ 3318 Lac

CSR Spend



LEADERSHIP MESSAGES



From the desk of Advisor

Dear Stakeholders,

I pen down this note as my final communication to you for the company's 'Annual Sustainability Report, 2021-22'. Mining and minerals are key to a country's economic progress. This industry creates opportunities for society to prosper and enhance the quality of life for many. However, even as the industry's consumption of natural resources grows to meet the demand of citizens and nations, we must recognise our responsibility to optimise its effective use, bring in innovation to enhance the recovery of metals and minerals, and undertake responsible disposal to extend product lifecycles safely and reduce environmental impact.

Sustainability is at the heart of our business and central to the trust placed in our company by customers, employees, suppliers, and partners alike. I am proud of the actions we are undertaking to drive long-term value to our stakeholders.



EMIL is a purpose-led business that aims to enrich people's lives through innovation and positively impact society through responsible operations, products, and services. We are committed to improve safety, minimize freshwater/ground water consumption, reduce waste generation, reduce the energy intensity and carbon footprint of our operations, maintaining biodiversity to contribute towards building a sustainable planet.



A year back, we decided to deepen the transparency of our ESG disclosures and published our first sustainability report highlighting our ESG goals and performance. Throughout the reporting year, we focused on improving our performance on the gaps identified and set new goals and targets for the coming years to deepen sustainability across our operations and accelerate our efforts toward green mining.

I wish the EMIL team and all our stakeholders the very best as they carry forward the sustainability agenda of the company to enrich lives and craft a greener future for all.

Tuhin Kumar Mukherjee



From the desk of the Managing Director

Dear Stakeholders,

I welcome you to EMIL's second sustainability report that shares our performance on Environment, Social and Governance (ESG) parameters through FY 2021-22. The report highlights the importance we place on aligning our financial and non-financial strategies to deliver holistic value and enrich lives through green practices.

EMIL has been extracting and processing minerals and metals for over 70 years to help society meet its most critical needs of infrastructure development, housing, energy, transportation, and healthcare, amongst others, generating shared economic and social values. As the modern world prospers, the demand, production, and consumption of metals and minerals will only grow to meet current and evolving needs. We will also see tighter regulations needed to protect the planet and the strident call for responsible mining becoming stronger. At EMIL, we see the move to green mining as an opportunity to craft a better tomorrow for our company, people, and the planet.

Doing the right thing and leading with responsibility and accountability has been a way of life for us at the Aditya Birla Group from the very beginning. This year we have articulated a comprehensive ESG strategy that looks to transform our portfolio to meet the evolving needs of society as nations, including India, take decisive steps to transition to a net zero future. The strategy also aims to integrate sustainability principles deeper across our value chain so our collective actions can better balance the needs of the environment, social well-being, and economic prosperity.

Strengthening Environmental Stewardship

Since our inception, we have embraced cutting-edge technology, transformed our processes, and aligned our people and value chains to look for innovative and responsible ways to use natural resources, including energy and water, and enhance operational efficiencies to reduce waste and emissions. Sustainability principles are woven into our operational framework covering planning, management and decommissioning of units.



EMIL's Koirra mine was conferred a five-star rating in 2017 in recognition of the successful implementation of the Sustainable Development Framework (SDF). We handed over the Koirra mines to the Odisha government in April 2022 following the best-in-class processes for mine closures. The mine assets were removed with utmost caution without disrupting the community fabric with minimal environmental impact.



Recognising the basic human right of access to clean water, we aim to strengthen our water stewardship and work towards a water-positive status in the long run. 100% of the wastewater generated across our units is recycled for reuse in activities like washing heavy earth-moving machinery and other permissible activities. We monitor our Scope 1 and 2 emissions and deploy innovative measures to contain fugitive emissions to protect the health and safety of our people. Solutions like using multi-row blasts in a staggered pattern help avoid fly rocks, and dust collector systems deployed on drill machines along with wet drilling practices minimise ambient pollution. We have set up a first-of-its-kind pelletisation plant globally to use the Circular Pelletization technology (CPT) that conserve resources and energy. Going forward, we propose to inventorise our Scope 3 emissions, develop a net-zero map aligned to the Science Based Target Initiative (SBTi) and play an active role in fostering a circular economy in India.

Transforming our Portfolio for a Greener Tomorrow

As the world and India look for ways to accelerate the decarbonising of the economy in line with the Paris Agreement and UN Sustainable Development Goals (SDGs), we will see a shift in the types of metals and minerals needed as well as how they are extracted and processed. Demand for new metals, minerals and energy sources to support the transition to the net-zero world will grow powered by low-carbon energy sources. Additionally, we will need to think of sustainable ways to extract the metals and minerals predominantly used today, like coal and iron ore.

We have 155MW of installed solar and wind power capacity. Our wind power project is certified as Clean Development Mechanism (CDM), making them eligible for carbon credits. We are evaluating ways to strengthen our environmental stewardship and conducting water audits and other means to scale operations as per global frameworks.

“As India aims to become a net zero nation by 2070 through self-sufficient means, we look forward to powering the country’s transition to a greener tomorrow by providing the metals, minerals, and energy resources of the future responsibly. We are working on a portfolio strategy evaluating alternate minerals like copper, cobalt, lithium, and others that are critical for accelerating India’s transition to a net zero future and expanding our presence in new renewable energy sources.”

Creating Shared Value for our People and Society

EMIL’s engagement and endeavours to enrich the lives of our people, communities and the larger ecosystem through shared value creation lie at the core of our sustainability aspirations. We have generated economic value to the tune of INR 1439 Crores for the local and central governments through taxes and other contributions. Our community development interventions have created a meaningful impact for underserved people, broadening their access to quality living. Since inception, we have created opportunities for local suppliers, generating indirect socio-economic benefits for people.

The responsibility and accountability we have to keep our people and communities’ safe override all other considerations at EMIL. We continue strengthening our occupational health and safety framework and reporting parameters and are happy to share that we have had zero fatalities in FY 2021-22.

Our people-focused policies and interventions are being transformed to create a future-ready workforce who will be the true brand ambassadors of EMIL and ABG. This will help us to stay relevant and resilient in the face of dynamically changing industry and economic conditions. Enhancing the diversity of our workforce is a strategic imperative.

“We are exploring opportunities to increase the presence of diverse work groups like women, Persons with Disabilities and LGBTQ+ in our organisation and industry by creating mainstream roles for them, including new operational models”

Leveraging Technology and Digitalization for a Greener Future

The increasing use of green mining Technology and digitalization of our processes are the catalysts that are helping manage the carbon footprint, enhance operational safety and productivity and broaden growth opportunities for our people. We have deployed the Regulatory Compliance Management (RCM) which operates on ENABLON platform, to monitor regulatory changes and stay compliant to all applicable regulations at each level, which helps us manage risks effectively and deepen the transparency of our disclosures. Tracking and controlling movable assets across our mines is a complex process. A QR-based coding system has helped us improve the tracking of such assets, removing the challenges of a physical verification process. The digitalization of the invoicing and waybill generation process to reduce operational risks, controls and turnaround time on the movement of goods.

“Advanced technology solutions like robotics, artificial intelligence, and machine learning are fundamentally changing the way we operate, including our governance mechanisms. We are actively looking for potentially scalable solutions designed by start-ups to bring in new-age technology for green mining. We will continue to look for ways to enhance efficiencies and our ESG performance through the widespread digitalization of our operations.”

As we intensify our efforts to redefine our company to enrich lives and accelerate the adoption of responsible mining, we will continue to explore new vistas and opportunities to create consistent and sustained value for our stakeholders.

Thomas M Cherian

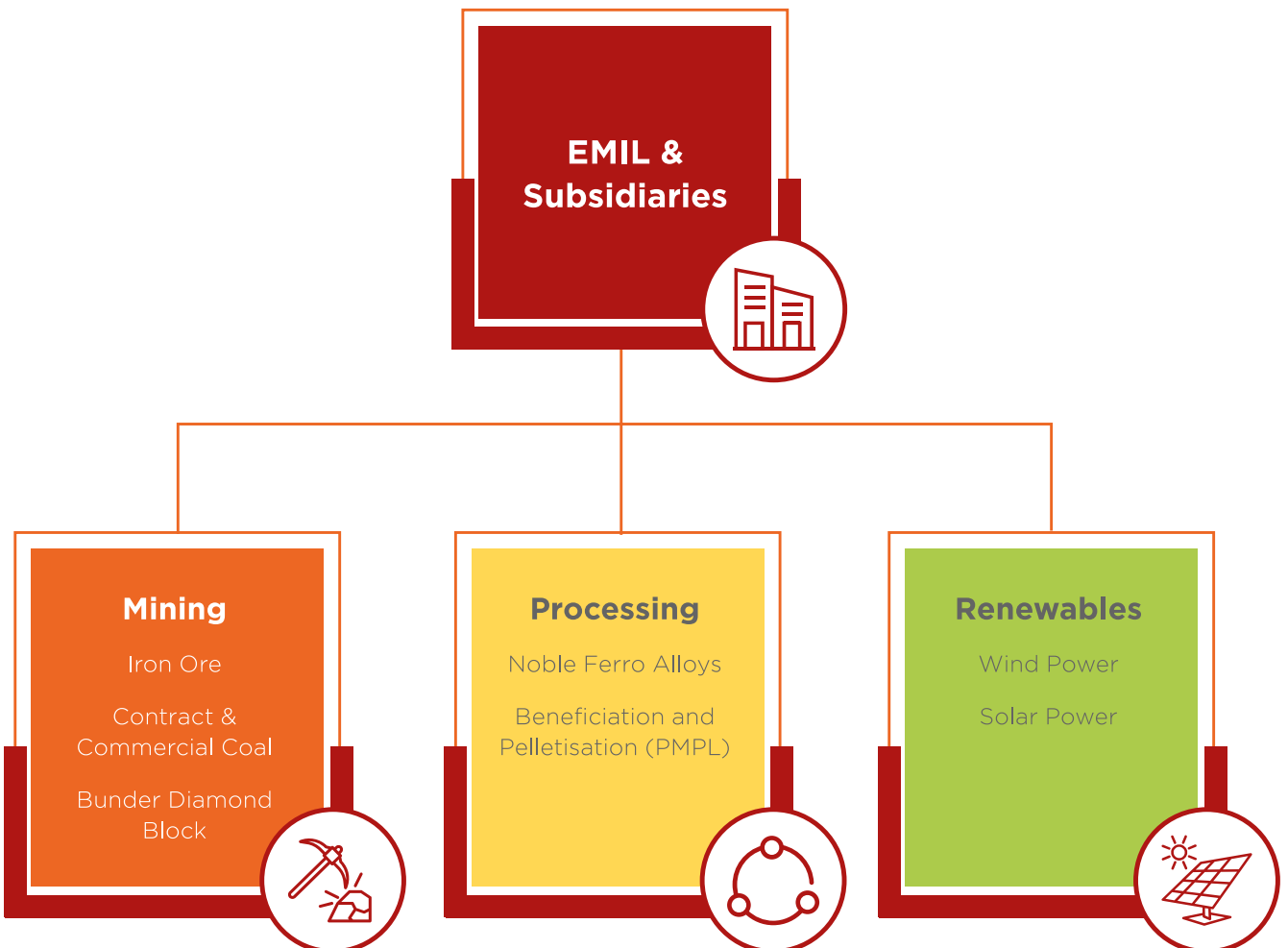
COMPANY OVERVIEW

ESSEL MINING & INDUSTRIES LIMITED

SEVEN DECADES OF ENHANCING STAKEHOLDER VALUE

Incorporated in 1950, Essel Mining & Industries Limited ('EMIL') is one of India's leading mining and minerals processing companies. A part of the USD 60 billion conglomerate, Aditya Birla Group, EMIL is built on a strong foundation of stakeholder value creation and responsible mining. We have provided the fundamental building blocks for independent India's socio-economic development by supplying critical resources like Iron Ore and Coal and value-added products such as Pellets and Noble Ferro-Alloys. EMIL is among India's leading producers of Iron Ore and Noble Ferro Alloys. We have a presence in the renewable energy space with installed solar and wind generation capabilities.

With a footprint spanning 14 locations in India and revenues of **₹ 4941 Cr**, we manage our broad spectrum of businesses directly and through subsidiaries.





Mining Services (Coal)

- 1st MDO to start operation in India
- Operating Capacity: ~45 MTPA



Commercial Coal

- Radhikapur East in Odisha
- Bandha in Madhya Pradesh
- Capacity: ~12.5 MTPA (under project stage)



Bunder Diamond Project

- Located in Chhatarpur, Madhya Pradesh
- Estimated resource: ~34 Million carats of rough diamonds (under project stage)



Iron Ore Beneficiation and Pellet Plant

- Located at Koenjhar, Odisha
- Circular Pelletizing technology (CPT)
- Capacity ~ 1 MTPA



Noble Ferro Alloy Business

- Located in Vapi, Gujarat
- Largest Ferro Alloys producer
- Produces FeV, FeMo, FeTi
- Capacity : 9000 MTPA



Wind Power Plant

- Located in Dhule, Maharashtra
- Commissioned in 2004-05
- Capacity : ~ 75 MW



Solar Power Generation

- Located in Gujarat, Rajasthan, and Telangana
- Capacity ~ 80 MW

Operational Highlights

32.46 million MT

Coal Output

2.42 million MT

Iron Ore Output (till Aug'21)

479000 MT

Iron Pellets

122408 MWh

Solar Power Generation

89971 MWh

Wind Power Generation

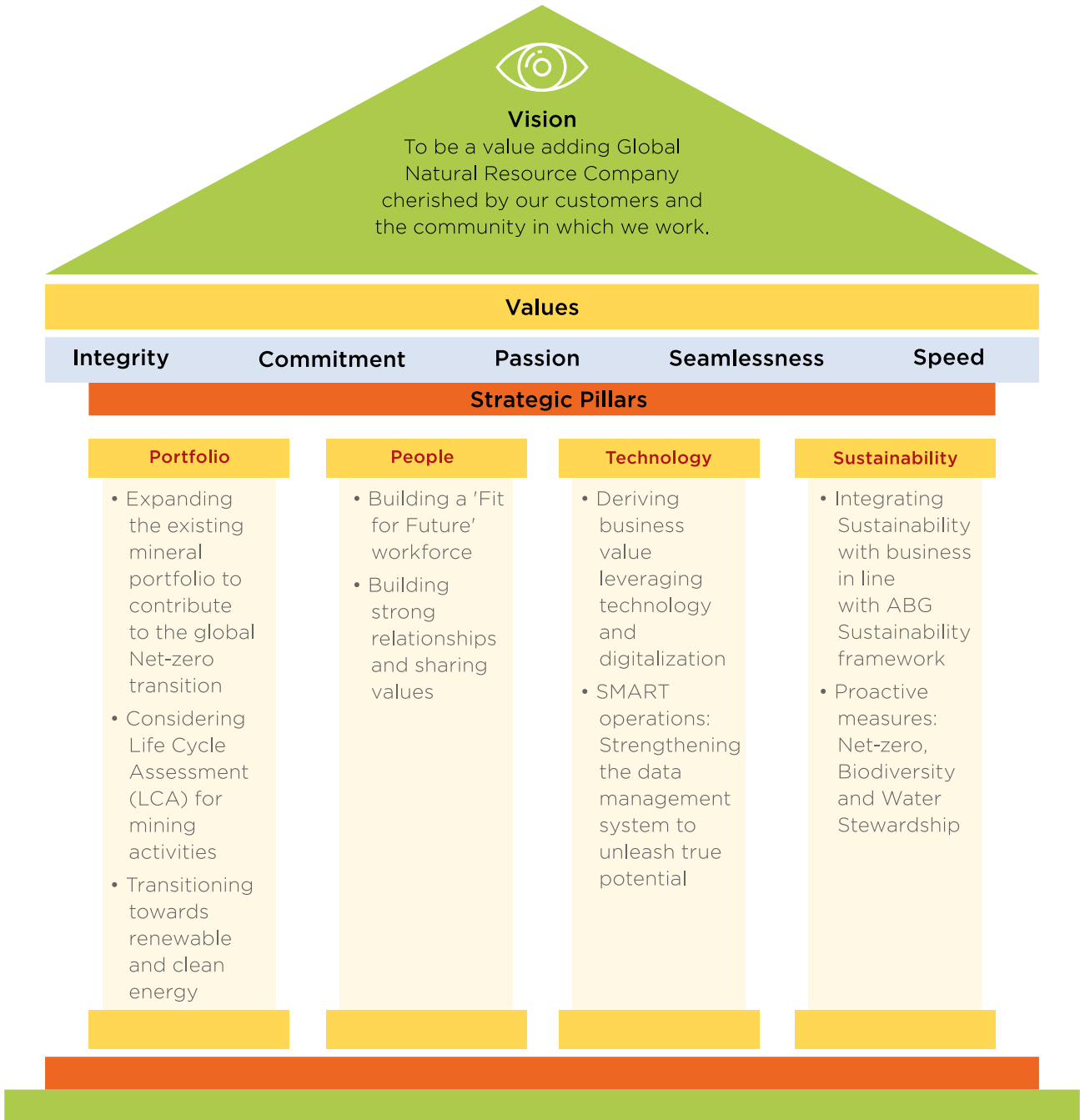
₹ 1228 Cr

Profits Generated



BUILDING A FUTURE FIT ORGANISATION

EMIL'S STRATEGIC FRAMEWORK



Led by an empowered leadership team, we have crafted a strategic growth framework to strengthen our sustainability foundations powered by future-fit products and team, cutting-edge technology and innovation, enabling people practices and transparent governance.

Backed by a strong supply chain and responsible practices, we are integrating ESG parameters across our operations, enhancing and protecting biodiversity and fortifying our water stewardship to move toward a net-zero future. We see opportunities to broaden our portfolio to provide new metals & minerals and energy solutions as countries, including India and organisations increasingly embrace sustainable practices and commit to net-zero.

MISSION, VISION, VALUES



Vision

To be a value adding global natural resource company cherished by our customers and the community in which we work.



Mission

To consistently be the best in creating value for our shareholders, customers, employees and community.

Values



Integrity

Acting and taking decisions in a manner that is fair and honest. Following the highest standards of professionalism and being recognised for doing so. Integrity for us means not only financial and intellectual integrity but also encompasses all other forms as are generally understood.



Commitment

On the foundation of integrity, doing all that is needed to deliver value to all stakeholders. In the process, being accountable for our own actions and decisions, those of our team and those in those parts of the organisation for which we are responsible.



Passion

An energetic, intuitive zeal that arises from emotional engagement with the organisation that makes work joyful and inspires each one to give his or her best. A voluntary, spontaneous and relentless pursuit of goals and objectives with the highest level of energy and enthusiasm.



Seamlessness

Thinking and working together across functional groups, hierarchies, businesses and geographies. Leveraging diverse competencies and perspectives to garner the benefits of synergy while promoting organisational unity through sharing and collaborative efforts.



Speed

Responding to internal and external customers with a sense of urgency. Continuously striving to finish before deadlines and choosing the best rhythm to optimise organisational efficiencies.

OUR OPERATIONS & OFFERINGS

Mining



Iron Ore

Iron ore mining contributed around 90% of the company’s EBIDTA in FY 2021-22. EMIL has been extracting iron ore in Koira in Sundargarh, Odisha, for the last five decades. With a 6 MTPA operational capacity, the Koira mine is equipped with fully mechanised processes and state-of-the-art technology and equipment to enhance the sustainability of mining operations. Advanced software like SURPAC is used for ore reserve estimation, mine planning and scheduling of operations. Cutting-edge XRF analysers help determine ore quality accurately. The deployment of Flip Flow technology helps handle ores with high moisture content and maintain product quality during monsoons. Modern mining equipment, in-pit, cone and mobile crushers further enhance the cost and operational efficiency, leading to strong customer and employee satisfaction and resource efficiencies. The operations are supported by a robust infrastructure with easy connectivity to ports, rail links and rolling stock.

Production Volumes

Koira Mines:
24.25 Lac MT of
Iron ore

Products

Calibrated Lump Ore (CLO) of sizes DRI lumps (+5-18mm) and BF grade lumps (+10-30 mm)

Used to manufacture steel through the Direct Reduced Iron (DRI)/ Blast Furnace (BF) Process

Iron Ore Fines (-5mm)

Used to make sinters and pellets for manufacturing steel

Responsible Mine Closure: Koira Mines

The Koira mines was leased to EMIL till August 2021 and was handed over to the Odisha government in April 2022. In line with EMIL’s commitment to responsible operations, the mine was closed in a structured manner by :

- Removing the assets from the area without causing damage to the environment, biodiversity, and people
- Managing the smooth transition of people through redeployment and incentivisation as per regulations

For more information, please refer to Page 61 of this report.





Mining Services (Coal)

Production Volumes
 BCML:
 28 Million MT
 of coal
 RCML:
 4.46 Million MT
 of coal

EMIL diversified into coal mining as a mine developer-and-operator (MDO) in 2010 when it was awarded a contract to operate the Bhubaneswari Coal Mines in Angul, Odisha, by Mahanadi Coalfields Limited (MCL). Under the MDO arrangement, the operator charges a pre-agreed mining fee per tonne of coal extracted from the owner. The company was awarded a second MDO in 2013 to manage the Rajmahal Coal Mines in Godda, Jharkhand, owned by Eastern Coalfields Limited (ECL). In 2019, EMIL bid for and won the MDO contract to manage the Madanpur (south) coal block in Korba, Chattisgarh, for APMDC, a government of Andhra Pradesh undertaking. The two operational MDOs together produced about 32.46 Million MT of coal in FY 2021-22.

Product

Coal	Coal mined by EMIL is handed over to its principal employer for further sales and industry use.
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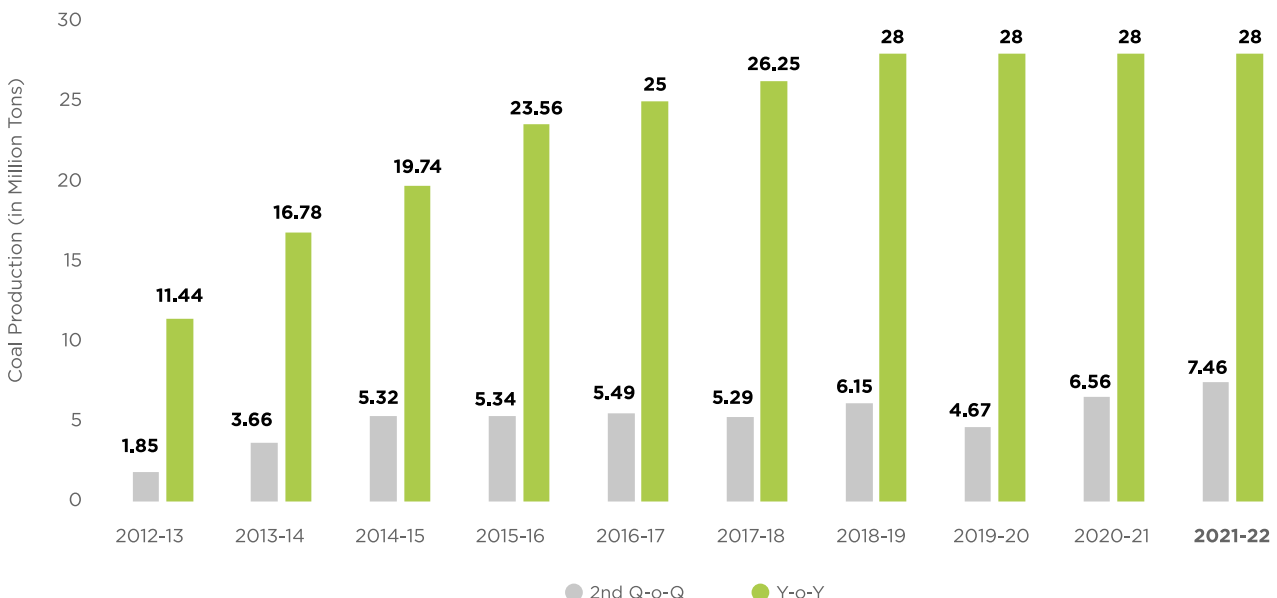


Stepping forward to help avert a national fuel crisis

The second quarter of FY 2021-22 saw an energy crisis in India that threatened to disrupt the country's recovery from the economic downturn brought about by the pandemic. The country was limping back from the devastation of the second Covid wave when it faced the brunt of heavy monsoons. Most of the other subsidiaries of Coal India were recording below-par coal production because of sluggish demand during the first wave of the pandemic. This development coincided with an increase in electricity demand due to the revival of industrial output. Alternative energy sources for electricity production, like hydroelectric or wind energy, were also unable to ramp up production to bridge this gap. A possible scenario of substantial unmet demand for coal loomed large across the country.

The BCML rose to the challenge and evaluated the entire coal production workflow to identify areas where productivity could be improved. The team went beyond the call of duty and made a significant effort to optimise production to record our highest single-day despatch of coal. We were ably aided by the East Coast Railway, our transportation partners, who also clocked their highest single-day coal handling volumes. The BCML unit went on to record its best-ever quarterly production in Q2 of FY 2021-22.

2nd QoQ and YoY comparison of Coal Production





Commercial Coal

As part of a move to make the coal sector self-reliant, the Government of India opened commercial coal mining to private companies and auctioned 19 coal blocks. The company's subsidiary, EMIL Mines and Mineral Resources Ltd., emerged as a successful bidder for the Radhikapur East in Angul, Odisha, and Bandha in Singrauli, Madhya Pradesh, with geological reserve of 183 MT and 560 MT, respectively. The mines are expected to start operations in coming years.



Bunder Diamond Mines

EMIL was declared a successful bidder in the auction of the mining lease for the Bunder Diamond Block in Chhatarpur, Madhya Pradesh, in 2019. A greenfield project covering an area of 364 Ha in the Buxwaha region is estimated to have about 53.70 MT of Kimberlite Ore containing about 34 Million Carats of rough diamonds. The project has the potential to become one of the largest diamond mines in Asia and rank amongst the top 10 globally.

Processing



Iron Ore- Beneficiation & Pelletisation

EMIL's Iron Ore Beneficiation & Pelletisation Division (PMPL), with its plant in Keonjhar, Odisha, is one of India's high quality pellet supplier with an installed capacity of 1 MTPA. The division strongly focuses on adopting advanced technology that helps enhance the sustainability of manufacturing processes while ensuring superior quality products.

The iron-ore beneficiation plant has deployed technology imported from Allmineral GmbH, Germany. This technology reuses and recycles process water to ensure Zero Effluent Discharge and uses low-grade fines of 58-60% Fe available in the vicinity of the plant, thereby reducing transportation costs and environmental footprint.

The pelletisation unit uses unique Circular Pelletisation Technology (CPT) provided by Primetals GmbH, Austria. The design and process of the circular travelling grate, the first-of-its-kind globally, requires minimum shutdown time for pellet grate change. The process also generates near-zero waste as all input materials pass through input loops, thereby minimising the environmental footprint.

Products

Beneficiated ore	Used as feed for DRI, Sinter and Pellet plant
Fe pellet	Used in the manufacture of steel



Noble Ferro Alloys

EMIL's Noble Ferro Alloys division, set up in 1980 in Vapi, Gujarat, is one of the major producers of Noble Ferro Alloys in India, with over 34% market share and has an installed capacity of 9000 MTPA. The division offers specialised technical support to help existing and new customers use the products efficiently and responsibly. A vast distribution network and a strong marketing structure help reach the products and services to customers across far-flung regions of the country.

Products

Ferro- Molybdenum (FeMo)
Ferro-Vanadium (FeV)
Ferro-Titanium (FeTi)

Used to manufacture high-strength and low-alloy steel (HSLA), high-speed steels and other special-grade steels.

Ferro Molybdenum Powder
Ferro Vanadium Powder

Used in the manufacture of welding electrodes.

Unfused Vanadium Pentaoxide (V₂O₅)

Used as a catalyst in the fertiliser and chemical processing industries.

Renewable Energy



Wind & Solar Power

In line with its commitment to crafting a sustainable future for its business and stakeholders, EMIL expanded into the renewable energy sector in 2005 when it set up a wind power generation unit of 75 MW in Dhule and Nandurbar, Maharashtra. Since 2012, EMIL has commissioned seven solar power plants across India with a total generation capacity of ~80 MWp.

- 5 MWp capacity plant in Vituza, Rajasthan
- 15 MWp plant in Charanka, Gujarat, through its subsidiary company.
- 22 MWp solar power plant in the Bhadla Solar Park, Rajasthan
- 38 MWp plants in four locations in Telangana (Kalwakurthy -11 MWp, Achampet -5.60 MWp, Peddashankarampet-11 MWp, Mustyal -11 MWp)

Today we have a combined portfolio of over 155 MW of clean and renewable energy.

Products

Wind Power

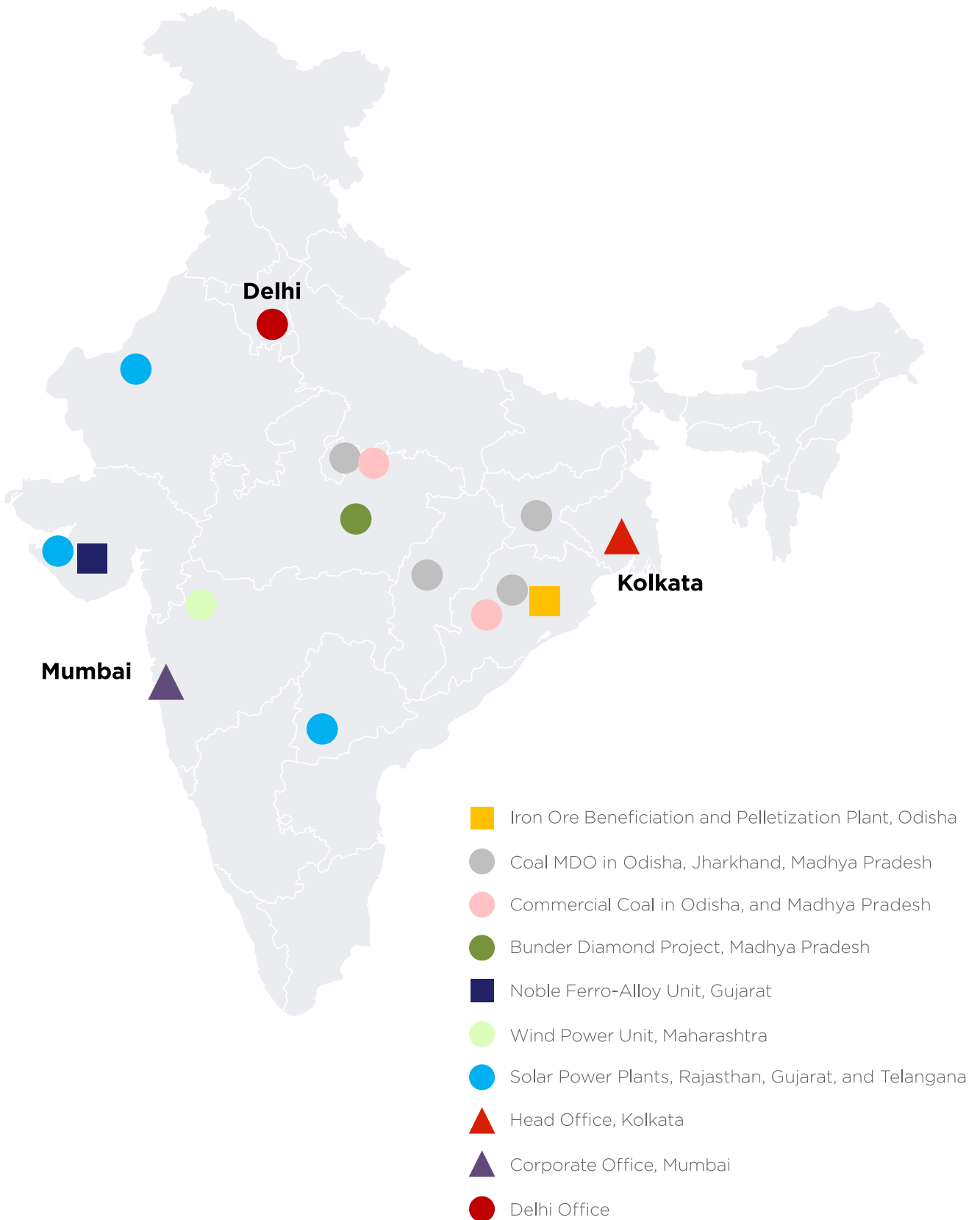
Sold to Maharashtra State Electricity Distribution Company Limited under a committed Power Purchase Agreement (PPA) at a pre-determined tariff.

Solar Power

Sold to discoms of Gujarat, Rajasthan and Telangana under committed PPAs at pre-determined tariff.

GEOGRAPHICAL FOOTPRINT

Essel Mining & Industries Limited



CERTIFICATIONS

EMIL focuses on continuous improvement and enhancing its operational standards, including health, safety and quality of products by adhering to globally recognised standards and benchmarks. The company has been assessed and certified by leading worldwide bodies.



Mining

BCML is certified as ISO 27001 unit by the British Standards Institution (BSI).



Processing

The Noble Ferro Alloys unit is accredited with the Integrated Management System (IMS), ISO 9001 (Quality Management System), ISO 14001 (Environmental Management System) and ISO 45001 (Occupational Health and Safety Management System).

MEMBERSHIPS AND ASSOCIATIONS

EMIL plays an active role in business associations like the Confederation of India Industries (CII), the Federation of Indian Chambers of Commerce & Industry (FICCI) and the Federation of Indian Mineral Industries (FIMI) to advocate for measures to help the industry grow holistically and sustainably.



AWARDS AND RECOGNITIONS

Our high standards of operational excellence and safety adherence, led by ESG commitments, have been recognised by leading organisations in India.



In FY 2021-22, during 'The Annual Mines Safety Fortnight', Bhubaneswari OCP received the second prize in "Mines Lighting & Electrical Installations"



The BBSRI-OCP was declared the winner of the "22nd Greentech Environment Award 2022" for outstanding achievements in "Environment Protection".



EMIL was awarded the first Prize for excellence in Grade conformity for Rail mode by MCL.



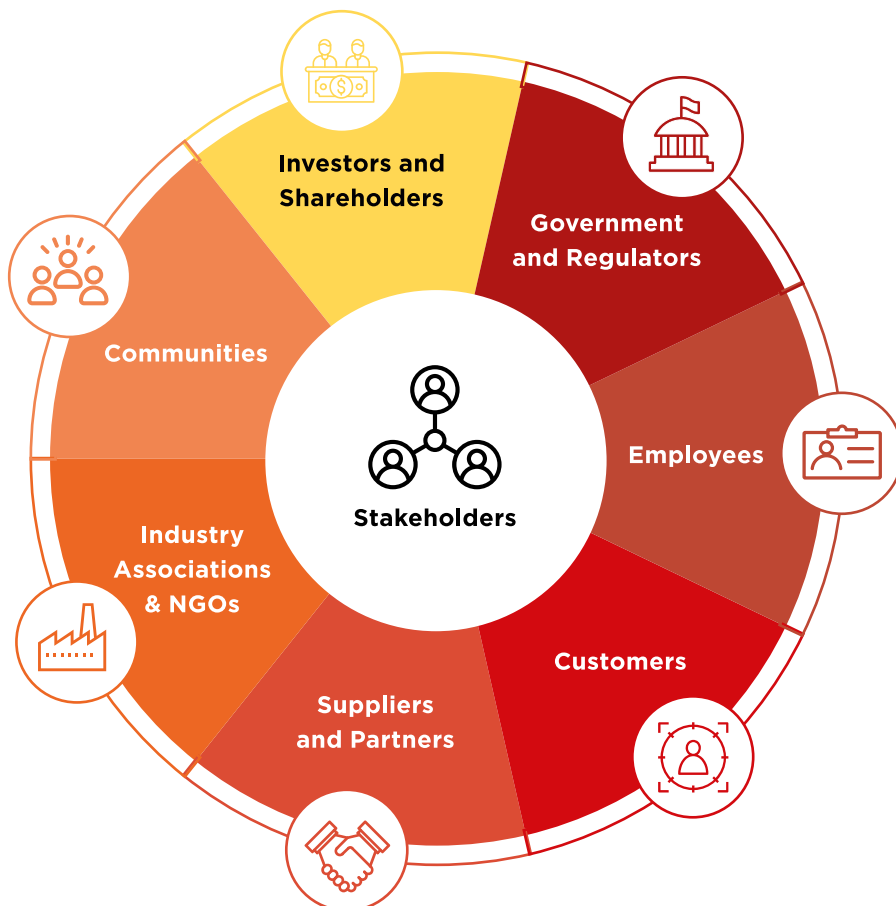
EMIL was awarded the first Prize for excellence in Grade conformity for Road mode by MCL.

STAKEHOLDER ENGAGEMENT AND MATERIALITY

STAKEHOLDER ENGAGEMENT

Our stakeholders are integral to our progress and we align the company's goals and strategies to their needs to create holistic and inclusive value for them. Ongoing, transparent and open engagement with our stakeholders helps us identify their concerns, garner insights on improving our business and ESG performance and deepen our relationships of trust with them. Their feedback helps the company foster innovation and new product development, grow market share, stay accountable, track and mitigate existing and emerging risks in a timely manner.

EMIL's key stakeholders



Stakeholder Engagement Matrix

Category	Engagement Frequency	Key Concern Areas	Mode of Engagement
Investors and Shareholders 	Monthly/ Quarterly/ Half-yearly/ Annually	<ul style="list-style-type: none"> Financial performance Responsible investments Ethical business conduct Long-term business growth Risk management Corporate governance Brand Management 	<ul style="list-style-type: none"> Investor calls and presentations Conferences One-on-one meetings Annual reports Press releases Company website
Government and Regulators 	Quarterly/ Annually/Half yearly, Need based	<ul style="list-style-type: none"> Regulatory compliance Participation in Public Policy Corporate Governance disclosures 	<ul style="list-style-type: none"> Legal filings Industry representation forums One-on-one meetings
Employees 	Weekly/ Monthly/ Quarterly	<ul style="list-style-type: none"> Health and Safety Training & Learning Career progression Growth opportunities Recognition Job security Fair remuneration Diverse, inclusive and enabling work culture Work-life balance 	<ul style="list-style-type: none"> Online surveys HR for You Comex Values Forum Newsletters Policies Training and Development
Suppliers and Partners 	Monthly/ Quarterly/ Annually/ Need basis	<ul style="list-style-type: none"> Ethical business conduct Risk and Opportunity management Material sourcing Sustained business growth Contract development and procurement Timely payment of invoices 	<ul style="list-style-type: none"> Supplier performance evaluation Supplier engagement forum Procurement meetings
Customers 	Monthly/ Half yearly/ Annually	<ul style="list-style-type: none"> Product quality and safety Data privacy and security Value added services Customer Service Supply chain management 	<ul style="list-style-type: none"> Surveys Web portals Performance review meetings Customer meetings and audits
Industry Associations and NGOs 	Need based /Quarterly/ Annually	<ul style="list-style-type: none"> Partnership for CSR project implementation Policy advocacy discussions 	<ul style="list-style-type: none"> Seminars, Representations, CSR implementation
Community 	Continuous/ Need basis/ Annually	<ul style="list-style-type: none"> Community development needs Operate as a responsible company Meet community expectations and needs 	<ul style="list-style-type: none"> CSR projects, Grievance Mechanism

Materiality Assessment

We undertook a detailed materiality assessment in FY 2020-21 to identify and prioritise ESG issues that are most significant to our company and our stakeholders in the short, medium, and long-term following the Global Reporting Initiative (GRI) framework. We identified our key internal and external stakeholders through careful deliberations with the Board and the management team basis their relevance to our business and ESG commitments in line with industry best practices and global standards. Our discussions with our stakeholders helped us identify and prepare the matrix of material issues most pertinent for our business and a sustainable future. The materiality matrix enables us to develop a robust and responsive strategy to address these issues proactively and in a timely manner and report on our progress consistently and transparently.

Materiality Assessment

1 Identification and selection of material topics

- Develop list of ESG topics from internal and external sources relevant to business strategy, GRI Standards and the Sustainability Accounting Standards Board (SASB)
- Benchmark topics with industry peers

1

2 Identification and engagement with key stakeholders

- Leadership & ESG subject matter experts, identified key stakeholders including employees, investors, suppliers, customers, communities, NGOs and regulatory bodies
- Consultative exercise to prioritise material topics through one-on-one interviews with local communities, focus group discussions with employee union representatives, formal and informal feedback from suppliers, vendors, customers and need-based talks with regulatory bodies
- Stakeholders rated issues as 'high', 'medium', 'low'

2

3 Materiality assessment findings discussed with the leadership team

- Leadership in consultation with SME assess the impact of the material topics as relevant to ESG goals, business strategies, policies and market trends to draw final list of issues

3

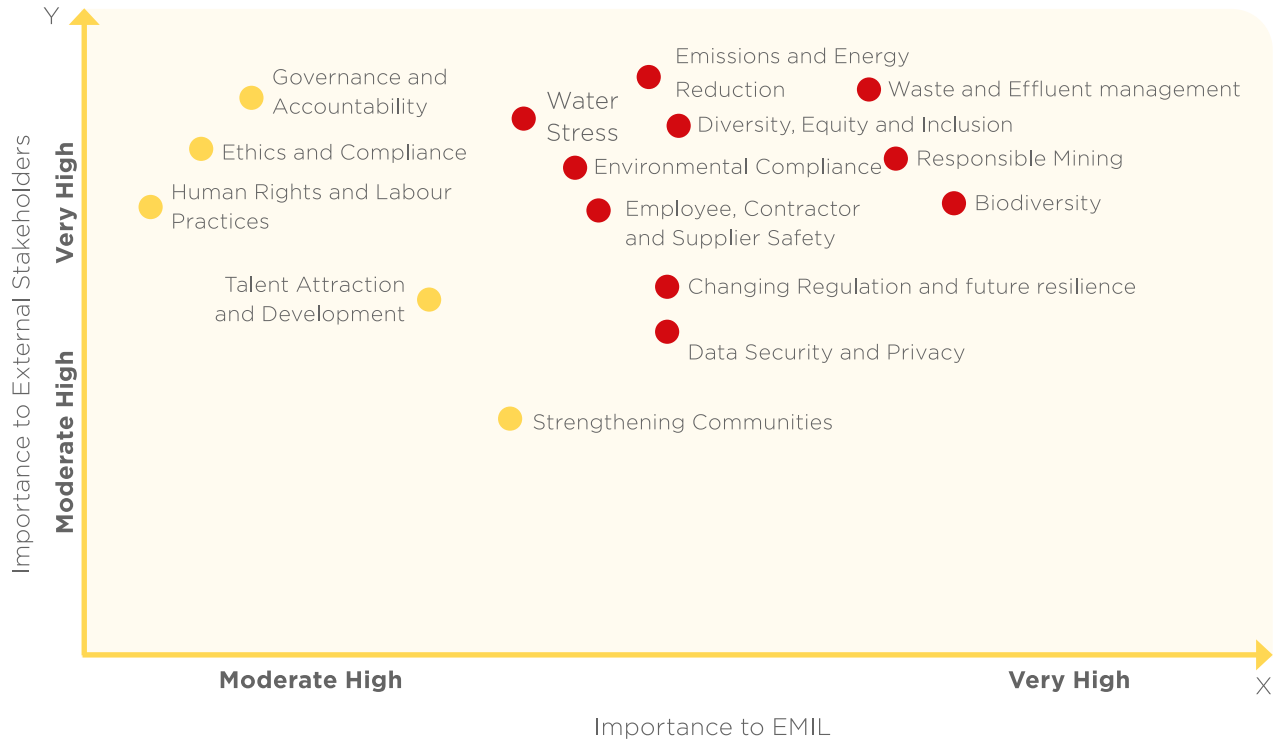
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4 Materiality Matrix

- Material Matrix developed based on importance of topics to EMIL and stakeholders.

Materiality Matrix

While the materiality matrix includes topics rated Moderate High to Very High on relevance, the materiality of identified issues may change given any variations in business imperatives, market trends, regulatory environment or unforeseen disruptions. We will periodically review the current materiality matrix to ensure it stays relevant to current realities.



- EMIL perceives as moderate importance in terms of risk
- EMIL perceives as High importance in terms of risk

Material Topics



Environment

- Emissions and energy reduction
- Water stress
- Waste and effluent management
- Responsible mining
- Biodiversity



Social

- Employee, Contractor and supplier safety
- Talent attraction and development
- Diversity, Equality and Inclusion
- Human rights and labour practices
- Strengthening communities



Governance

- Changing regulation and future resilience
- Data security and privacy
- Governance and accountability
- Ethics and compliance
- Environmental compliance



From the desk of Head - Sustainability, Strategy and Business Development

Dear Stakeholders,

As a responsible corporate entity, EMIL is dedicated to enriching lives through green mining practices. This year, we have released our second sustainability report, which highlights our focus on strengthening environmental stewardship and increasing the transparency of our ESG disclosures. Our ESG strategy and roadmap outline our targets for the short, medium, and long-term to institutionalise green mining practices and create value for communities around us.

Our efforts to optimise resource use have resulted in substantial savings and a reduced environmental impact. We have successfully decreased the waste we generate and implemented wastewater treatment at all our facilities. Our units have also reduced emissions and air pollution through process improvements and the introduction of

efficient tools. Additionally, we have taken steps to enhance biodiversity around our locations through native species plantations, rice cultivation, responsible land reclamation, and the preservation of ecological hotspots.

Mining plays a critical role in promoting socioeconomic development globally. A broader cross-industry collaboration will be crucial in facilitating the transition to a net-zero future while fostering holistic, sustainable growth. We will continue to build on these initiatives in the coming years and strive to set a benchmark for green mining in India. Your feedback and suggestions regarding our progress and future course are most welcome.

Rakesh Paliwal



From the desk of CFO and Head: Renewable Energy

Dear Stakeholders,

As part of the Aditya Birla Group's focus on sustainable growth, our stakeholders expect us to demonstrate financial prudence, comply with government regulations, and make transparent disclosures. Our commitment to create value for all stakeholders, balancing our financial and non-financial obligations is unwavering, especially as the world faces the increasing impact of climate change. Despite

facing the financial, legal, market, and operational risks in the past year, our sound operating principles allowed us to maintain growth and overcome challenges.

Our renewable energy division, with a generation capacity of 155 MWh in solar and wind, plays a crucial role in helping India reach its goal of 500 GW of renewable energy by 2030 and meeting 50% of its energy needs from renewables. The power generated is sold to distribution companies in Maharashtra,

Gujarat, Telangana, and Rajasthan at predetermined tariffs through power purchase agreements, providing financial stability to our business.

Although our wind power facilities faced operational challenges due to the lowest average wind speeds witnessed in the last 45 years, our solar power generation is on track. We aim to stabilise our alternate energy portfolio before expanding further. Our solar and wind power units are listed as white-category

industries and do not generate any hazardous waste.

We are proud of the value we have created for our stakeholders and the contributions we have made to the country's economy while upholding our sustainability commitments. We look forward to continuing this balance in the years to come.

Arun Garg



From the desk of CHRO and Head: Noble Ferro Alloys Unit

Dear Stakeholders,

At EMIL, people are at the heart of everything we do. Our focus on employee development, safety, and inclusion help us attract the best talent, ensuring a strong future for our business. In FY 2021-22, we hired 21 new employees for senior, middle, and junior management positions and staff. Our talented workforce now includes 899 permanent employees and 2635 contract workers. Our code of conduct enforces respect for human rights, ensuring a fair and safe workplace for all employees. There were no reported human rights violations during the year.

Our learning and development initiatives are adapting to the digital age, offering gamified management training and knowledge-sharing sessions that help our employees upskill. Our employees underwent 99,555 person-hours of training in FY 2021-22. Our developmental initiatives have positively impacted a broad spectrum of marginalised and vulnerable people. We engage with communities in the vicinity of the projects under development, to understand how we

can weave in parameters to protect their way of life, livelihoods and natural habitats once we start operations. Most of our raw materials are sourced sustainably from local vendors, reducing transportation costs and emissions and expanding the livelihoods of communities around us.

At Noble Ferro Alloys, our high-quality products have helped us maintain a substantial market share. We are investing in R&D and advanced technology to improve efficiency, sustainability, and resilience to stay competitive. Our measures include the introduction of an automatic filter press and conveyor system. We have initiated steps to implement a salt recovery process to minimise waste, reduce gas consumption, and treat wastewater.

The future looks bright as we continue strengthening our sustainability practices to enrich the lives of our people and society.

Vinod Chaturvedi

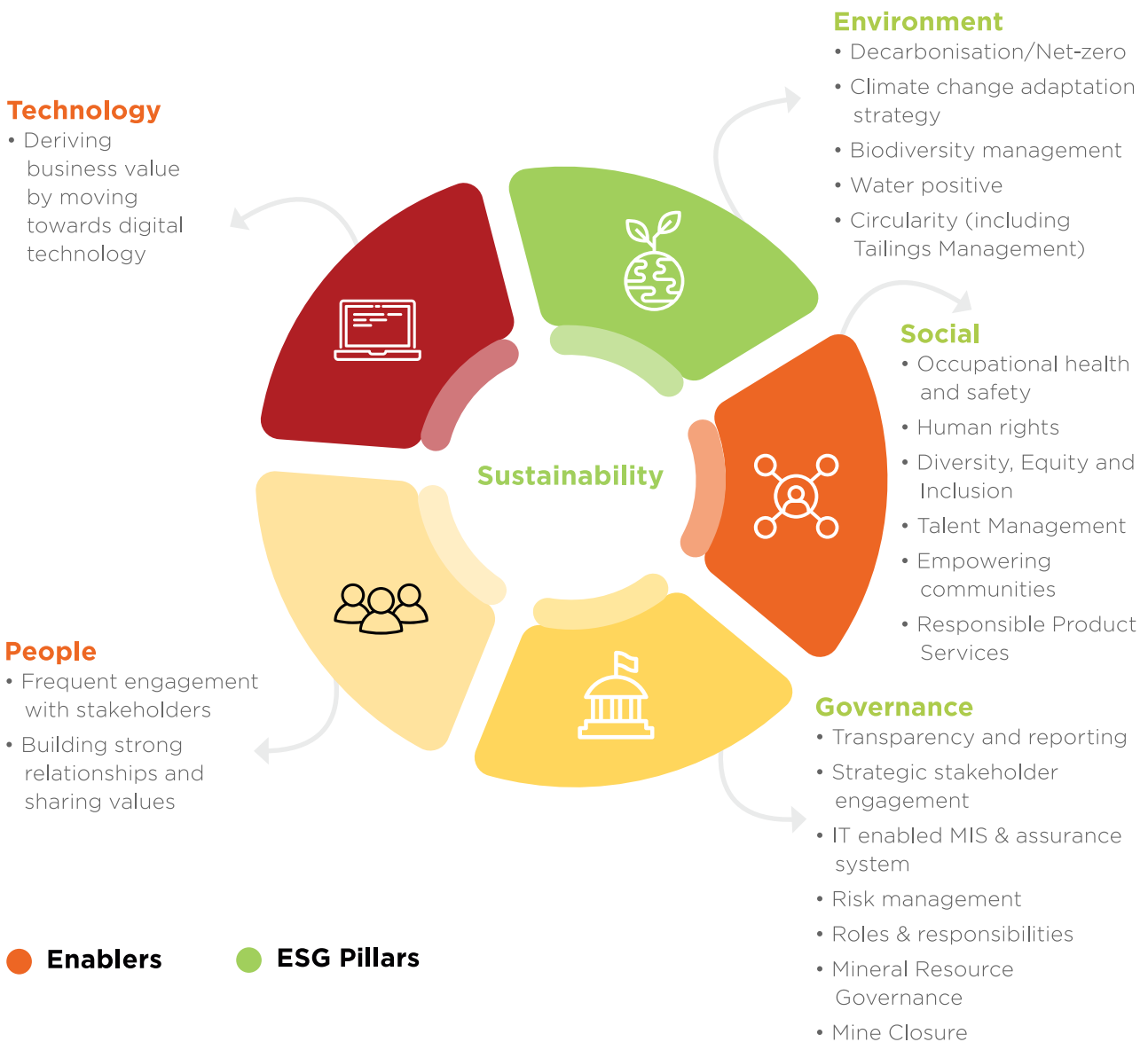


ESG STRATEGY



ESG STRATEGY

EMIL endeavours to become a diversified global mineral resource company through sustainable business practices aimed at value creation for its stakeholders, conservation of mineral resources, protection of the environment, development and enhancement of health, safety, and well-being of its people and contributing to society at large.

Our ESG strategy draws on the sustainability tenets of the Aditya Birla Group. It outlines the roadmap to achieve our goal of transforming into a green mining company. We have ascertained 18 operational focus areas to address our key material topics with short, medium and long-term targets. The execution of the strategy will be executed with the help two enabling pillars of technology and people with three focus areas i.e. Environment, Social and Governance to accelerate the digitalization of operations and deepen stakeholder engagement and relationships to foster shared values. The management team will implement the strategy, and the progress will be overseen by the Board of Directors.




ESG Targets: Short, Medium, Long Term

Scope	EMIL's Focus Areas	Short-term Targets (FY 2024)	Medium-term / Long-term Targets
 ENVIRONMENT	Decarbonisation/ Net-zero	<ul style="list-style-type: none"> GHG inventourisation (Scope 1, 2 &3) Net-zero roadmap in line with SBTi 	<ul style="list-style-type: none"> Aim for net-zero emissions across operations
	Climate Change Adaptation Strategy	<ul style="list-style-type: none"> Carry out site-specific inspections to understand climate change risk Integrate vulnerability assessment tool in the climate strategy 	<ul style="list-style-type: none"> Integrate TCFD into the risk management framework and understand the financial implications
	Biodiversity Management	<ul style="list-style-type: none"> Develop a biodiversity policy Conduct one pilot biodiversity assessment 	<ul style="list-style-type: none"> Implement plans towards No Net loss
	Water Resilience	<ul style="list-style-type: none"> Carry out water audits internally/externally to evaluate opportunities for water reduction/recycling 	<ul style="list-style-type: none"> Aim to achieve a water-positive status
	Circularity (including Tailings Management)	<ul style="list-style-type: none"> Identify the amount of waste directed to the landfill Develop an action plan to divert the waste (primarily tailings) from landfill to recycling/reuse 	<ul style="list-style-type: none"> Achieve zero waste to landfill
 SOCIAL	Occupational Health and Safety	<ul style="list-style-type: none"> Develop a comprehensive safety management system consisting of SI, IM, CSM, PSM, and High-Risk Activities (HRA) Achieve and upgrade OHSAS 18001/ ISO 45001 certification Conduct training on health and safety for 100% of permanent and contractual employees 	<ul style="list-style-type: none"> Achieve zero cases of injuries in the workforce Sustain zero fatalities Lifestyle management for a healthier workforce
	Human Rights	<ul style="list-style-type: none"> Develop a human rights policy aligned with global standards Develop a framework for HR Due Diligence and conduct (HRDD) 	<ul style="list-style-type: none"> 100% sites to conduct HRDD Ensure no human rights violation occurs on the premises
	Diversity, Equity and Inclusion	<ul style="list-style-type: none"> Set a target for diversity hiring (female, LGBTQIA, PWDs, armed forces, sports fraternity) Develop a recruitment policy to hire diverse employees Action plan to build an inclusive workforce 	<ul style="list-style-type: none"> Aim to attain a higher percentage of overall diversity Disclose the gender pay ratio in public reporting
	Talent Management	<ul style="list-style-type: none"> Carry out talent attraction and retention initiatives 	<ul style="list-style-type: none"> Achieve best place to work certification

- TCFD Task Force On Climate-Related Financial Disclosures
- SI Safety Interactions
- IM Incident Investigation
- CSM Contractor Supplier Management
- PSM Process Safety Management
- LGBTQIA Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, Intersex, Asexual
- PWDs Persons with Disabilities
- GHG Green House Gases
- HRDD Human Right Due Diligence

ESG Targets: Short, Medium, Long Term

Scope	EMIL's Focus Areas	Short-term Targets (FY 2024)	Medium-term / Long-term Targets
SOCIAL	Empowering Communities	<ul style="list-style-type: none"> Continue engaging and upskilling the local communities through CSR programmes Set a target to hire workforce from the local communities 	<ul style="list-style-type: none"> Implement employee volunteering schemes Conduct strategic CSR activity with a thematic intervention approach
	Responsible Product Services	<ul style="list-style-type: none"> Monitor end-of-life treatment of the products 	<ul style="list-style-type: none"> Ensure no harm throughout the lifecycle of the product Carry out Lifecycle Assessment (LCA) of the existing and new products
GOVERNANCE	 Transparency and Reporting	<ul style="list-style-type: none"> Report the company's ESG performance as per the GRI index and voluntarily publish the BRSR report with external assurance 	<ul style="list-style-type: none"> Participate in different ESG ratings such as CDP, DJSI, etc.
	Strategic Stakeholder Engagement	<ul style="list-style-type: none"> Internal and external communication through in-person meetings, websites & social media Conduct comprehensive stakeholder engagement and annually report ESG performance 	<ul style="list-style-type: none"> Aligning with the global best practices
	IT enabled MIS & Assurance System	<ul style="list-style-type: none"> Automate the data management portal Strengthen internal audit systems 	<ul style="list-style-type: none"> Develop IT based MIS and assurance system
	Risk Management	<ul style="list-style-type: none"> Identify potential ESG and climate risks to business Formulate a risk management framework and process 	<ul style="list-style-type: none"> Develop an enterprise risk matrix
	Roles & Responsibilities	<ul style="list-style-type: none"> Linked KMP KPIs with ESG parameters in the financial review Identify ESG criteria to be included as a part of KPIs in performance reviews 	<ul style="list-style-type: none"> Expand the linkage of ESG KPIs in the performance review of all the employees
	Mine Closure & Mineral Resource Governance	<ul style="list-style-type: none"> Ensure responsible extraction Publish mine closure playbooks Include mine closure considerations in the overall operational plan of new mines Ensure transparent tax governance 	<ul style="list-style-type: none"> Ensure commitment to reporting on GRI 207-4 or the OECD BEPS file Adapt to integrated mine closure guidance from ICMM (Good practice guide, Closure maturity framework tool, and KPI for tool closure)

BRSR	Business Responsibility & Sustainability Report	KPI	Key Performance Indicator
ESG	Environmental, Social & Governance	OECD	Organisation For Economic Co-Operation And Development
CDP	Carbon Disclosure Project	BEPS	Base Erosion And Profit Shifting
DJSI	Dow Jones Sustainability Indices	GRI	Global Reporting Initiative
KMP	Key Management Personnel	ICMM	International Council Of Mining & Metals
		CSR	Corporate Social Responsibility

Digitalization to enhance ESG performance

The digitalization of our mining processes is accelerating our sustainability journey, improving the experience of our employees, vendors, and customers, strengthening our operational resilience, and reducing our environmental footprint.

Solution	Impact
 <p>Plant Maintenance</p>	<p>The major maintenance processes at PMPL, NFA, and iron ore processing units are run on SAP. The system allows monitoring and managing maintenance activities online while improving the health & safety of plant machinery. The status of maintenance orders can be viewed online in real-time, along with estimated costs for each task without needing physical visits, leading to enhanced efficiencies and lower transportation costs and carbon footprint.</p>
 <p>E-Waybill & E-Invoice Automation</p>	<p>E-invoicing has been used at the Iron Ore and NFA units since October 2020, the BCML and RCML units since January 2021, and the PMPL unit since April 2021. The system is integrated with the SAP Weighbridge. Automating the e-waybill generation process was a digital innovation that reduced operational risks, turnaround time and paper use while ensuring compliance.</p>
 <p>Auto GRN for Incoming Raw Material</p>	<p>Automating the Goods Received Note (GRN) process that records the receipt of goods by buyers has eliminated manual interventions and reduced data entry errors. Before automation, the process involved manual effort covering security check-in, weighing the truckload, making an entry at the gate, and recording information on the SAP platform. Now security checks are done through a QR Code. After recording the weight of the cargo in SAP, the GRN of incoming raw materials is generated automatically, and information is updated on the system making the process hassle-free, transparent and efficient.</p>
 <p>CO-PA (Costing & Profitability Analysis)</p>	<p>CO-PA provides the sales, marketing, product management, and corporate planning departments with actionable insights to support their pricing decisions and assess performance vis-a-vis the competition. This tool provides a view of the Cost of Goods Sold (COGS) at a high and granular level as a comparison of standard and actual prices. The solution provides the leadership with a detailed view of cost and profitability at the product, unit and Group levels and ensures fair pricing for customers.</p>
 <p>Asset QR Code based Transaction</p>	<p>A QR-based coding system has been implemented to better track and control movable assets and simplify the physical verification process. Any changes in the asset master module in SAP are updated in real-time to avoid any information gaps. This has improved the efficiency and transparency of the asset security process.</p>
 <p>SAP Migration to AWS Cloud</p>	<p>When the hardware underlying our SAP platform was nearing the end of life, we decided to migrate to the Cloud to leverage new functionalities. The lift and shift migration was done smoothly with negligible downtime. We also facilitated EHP upgrade and UAT refresh through on-demand services of SAP DEV & UAT, saving costs incurred on individual servers and energy usage.</p>



CORPORATE GOVERNANCE & ETHICS

GOVERNANCE PHILOSOPHY



As part of the Aditya Birla Group, we have always led with ethics and integrity, transparent operations, compliance with regulations, and accountability to our stakeholders. Being an industry pioneer, we have defined the standards for effective governance and responsible operations that extend care for people and the planet while creating sustainable value for our stakeholders. The key focus areas for our governance framework include the continuous adherence to government regulations regarding land acquisition and use, pollution levels, and preservation of forests and water bodies. Our responsive and adaptable framework is reviewed and refined to meet ever-evolving regulations and global sustainability standards.



Material Topics

- Governance and accountability
- Ethics and compliance
- Environmental compliance
- Changing regulation and future resilience
- Data security and privacy

UN SDG supported



Governance Philosophy

We follow the Aditya Birla Group’s governance philosophy, which rests on six pillars that define our conduct and functioning. The spirit of ethical and pervasive corporate governance at EMIL encourages ownership of the corporate values throughout the organisation.



Transparency And Disclosures

Transparency, integrity, and disclosures are keys to corporate governance practices. Our practices ensure that we make timely and accurate disclosures.



Accountability And Interests

Our practices ensure accountability towards all stakeholders and the protection of minority interests and rights.



Ethics

Our practices ensure that we maintain high standards of ethics.



Monitor

Effective monitoring and reviewing risk management framework and associated practices are ensured.



Review

Regular review of processes and management systems for improvement is ensured.



Control

Effective control systems are maintained to ensure efficient conduct of business and discharge of responsibilities.

BOARD OF DIRECTORS

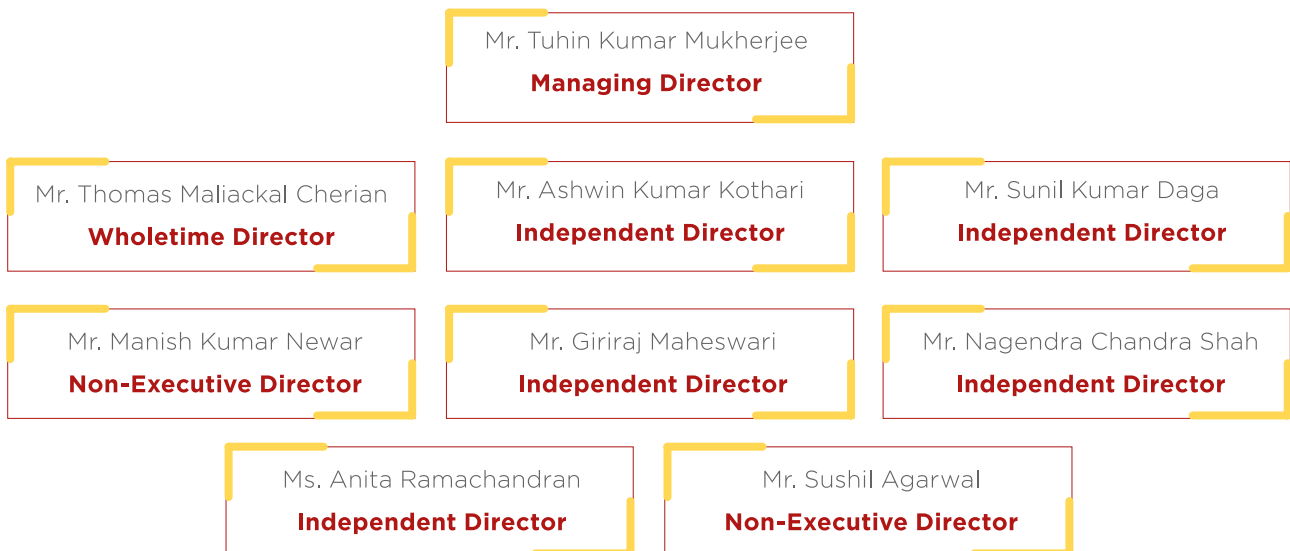
Our organization is led by competent and empowered Board of Directors comprised of experienced professionals from a variety of industries and functions, who provide strategic directions and oversight of our strategic goals and performance in accordance with our values.

Our governance framework ensures the Board's independence, provides decision-making freedom, and requires them to act equitably and inclusively to increase stakeholder value in short, medium, and

long-term. The Board regularly engages with the management team to ensure stakeholder interests are served through the organization's strategic imperatives and our performance is disclosed transparently and regularly with them.

Our nine-member Board is headed by Mr. Tuhin Kumar Mukherjee, Managing Director, EMIL, who has more than three decades of experience in the mining industry across multiple geographies.

EMIL Board of Directors



Changes to the Board of Directors during the reporting period

During the FY 2021-22, the following changes took place in the composition of our Board of Directors:

- Mr. Sushil Agarwal was appointed as a Non-Executive Director with effect from April 1st, 2021.
- Mr. Thomas Maliackal Cherian joined the Board on December 15th, 2021, as an Additional Director, and this appointment continued till the 72nd AGM of the company. He was also appointed to the Board as a Whole Time Director from December 15th, 2021 to March 31st, 2022.
- Mr. Tuhin Kumar Mukherjee retired as Managing Director on March 31, 2022 and was appointed as a non-executive Additional Director on the Board with effect from April 1st, 2022.
- Mr. Thomas Maliackal Cherian joined the Board as Managing Director for five years with effect from April 1st, 2022.

The Management Team

Given the spread of our operations, different divisions are led by experienced leadership teams who serve as a bridge between the Board, its committees, and the rest of the organisation. They are responsible for executing the organisation's vision in their respective businesses and reporting progress to the Board periodically.

Sr	Unit	Executive In-Charge
1.	Iron Ore Beneficiation & Pelletisation Division	Mr. Prasanna Panda – Unit Head
2.	Mining Services (MDO)	Mr. Rajinder Malhotra – Head
3.	Commercial Coal Mining Division	Mr. Satya Prakash – Head
4.	Wind Power Business	Mr. Arun Garg – Unit Head
5.	Noble Ferro Alloys Division	Mr. Vinod Chaturvedi – Unit Head
6.	Company Secretary	Mr. Dhananjoy Karmakar
7.	Bhubaneswar Coal Mining Ltd.	Mr. Mukesh Kumar – COO
8.	Rajmahal Coal Mining Ltd.	Mr. Sanjay Tiwari – COO
9.	Bandha Coal Project	Mr. Shatrujit Kumar – Unit Head
10.	Radhikapur East Coal Project	Mr. Shiva Shankar Mahto – Unit Head
11.	Bunder Diamond Project	Mr. Rakesh Paliwal – Unit Head

Board Committees

The Board functions through dedicated committees responsible for specific areas of operations supported by teams drawn from various functions, sites, and business units in line with the Companies Act 2013. We have four committees, each responsible for specific aspects of operations. The committees can also take any other decisions which may be required urgently, including those delegated by the Board from time to time, except for matters which are required to be specifically considered only at a Board meeting and cannot be entrusted to any committee in line with the Company Act, 2013.

Audit Committee

The Audit Committee is responsible for supervising the financial reporting process as well as reviewing and approving the financial statements submitted by the management team prior to publishing. The members also assess the adequacy of the internal controls, including the audit process and risk management framework. They identify the scope of audits and discuss observations and findings with internal and statutory auditors to enhance the resilience and transparency of operations.

Mr. Sunil Kumar Daga

Chairman

Mr. Giriraj Maheswari

Member

Mr. Tuhin Kumar Mukherjee

Member

Mr. Nagendra Chandra Shah

Member

Finance Committee

The Board's Finance Committee ensures the company has adequate financial resources to deliver on its strategic and execution priorities. They oversee the availability of resources through funds and non-fund-based facilities, securing loans and working capital from commercial banks. They have the authority to approve the company's endeavours to undertake foreign exchange and commodity hedging transactions, issue Power of Attorney to officers/ executives, launch new projects, and form subsidiaries, Special Purpose Vehicles, joint ventures etc.

Mr. Ashwin Kumar Kothari

Member

Mr. Sunil Kumar Daga

Member

Mr. Tuhin Kumar Mukherjee

Member

Mr. Giriraj Maheswari

Member

Nomination and Remuneration Committee (NRC)

The NRC is responsible for identifying and recommending potential candidates who can qualify to become members of the Board and the senior management team. The Committee approves the induction or removal of such appointees. The members are also entrusted with developing the Board's Diversity Policy, evaluating the performance, and proposing the remuneration of Board members, the management team and other employees.

Mr. Ashwin Kumar Kothari

Chairman

Mr. Sunil Kumar Daga

Member

Mr. Manish Kumar Newar

Member

Mr. Giriraj Maheswari

Member

Corporate Social Responsibility (CSR) Committee

The Board's CSR Committee formulates the Company's CSR policy, identifies and approves community-facing engagements, and allocates appropriate budgets for the activities. They provide ongoing guidance and oversight and monitor the progress of CSR initiatives to ensure we meet our goal of making a meaningful difference in the lives of communities around our operations.

Mr. Ashwin Kumar Kothari

Chairman

Mr. Sunil Kumar Daga

Member

Mr. Tuhin Kumar Mukherjee

Member

Risk Management Committee (RMC)

The Board defines the roles and responsibilities of the RMC. It may delegate preparing, monitoring and reviewing the risk management plan to this committee or another committee, such as the Audit Committee or other functions as it may deem fit.

The RMC reports to the Board Audit Committee and is responsible for risk management at the corporate level for EMIL. This team comprises the Managing Director (MD), Chief Financial Officer (CFO) and the Chief Human Resources Officer (CHRO) of EMIL. This committee nominates a Corporate Risk Officer for the enterprise level who is assisted by Unit Risk Officers (UROs) for all business units.

The Board Committees meet once in each quarter. In FY 2021-22, the committees met 4 times.

EMIL

Mr. Thomas M Cherian, Mr. Arun Garg and Mr. Vinod Chaturvedi

BCML

Mr. Arun Garg (Director)

RCML

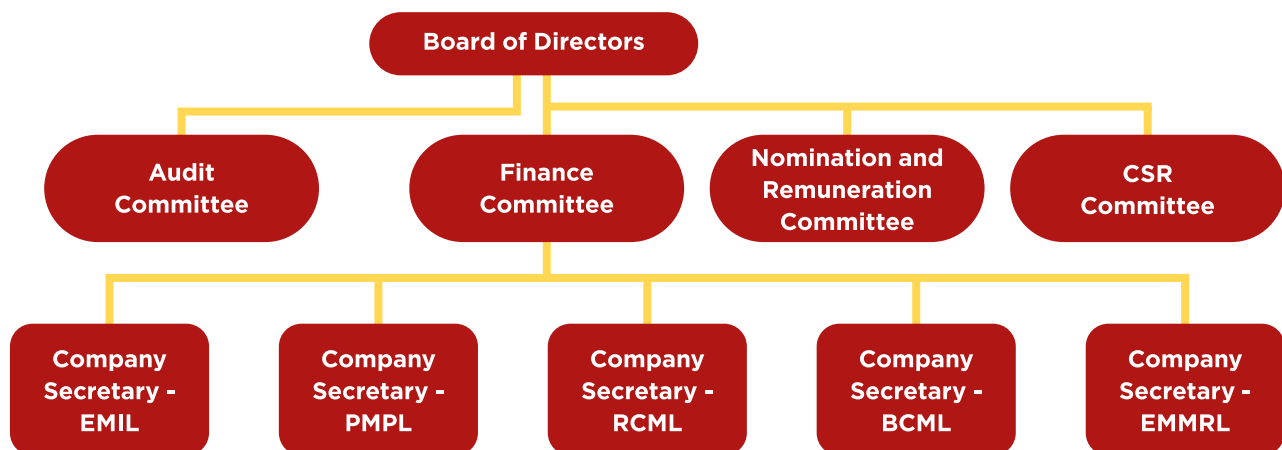
Mr. Arun Garg (Director)

EMMRL

Mr. Arun Garg
Mr. Krishna Fatesaria
Mr. Satya Prakash

Board Governance Structure

We have a robust governance framework to run operations safely and without disruptions in a risk-averse and responsible manner to deliver value to our stakeholders sustainably.



Board Evaluation

The NRC outlines the process and conducts the formal evaluation of the Board, its Committees, and individual Directors annually. Each individual and group is assessed based on the criteria adopted by the Board as recommended by the NRC. The process involves circulating evaluation forms individually for the Board and its Committees, Independent Directors /Non-Executive Directors/Executive Directors covering different aspects of their functioning, effectiveness of delivering on roles and responsibilities, contribution in meetings and the exercise of independent judgement. The Directors conduct an evaluation of the Board as a whole and individual members and Committees, excluding the Director being evaluated. The Directors submit a collated view of their individual assessments to the NRC and the cumulative feedback is shared with the Board.

CODE OF CONDUCT

We are led by the Aditya Birla Group code of conduct which mandates leading with integrity, inclusiveness, and transparency at all times. The code is followed by the Board and all employees. Mandatory training for all employees at the time of joining the company helps them understand and imbibe the principles and agree to adhere to them at all times.



Integrity in Personal Conduct

- All employees shall abide by the laws of the land in whichever country we operate in
- All employees shall transact with others (including each other) in a fair and dignified manner, including being diversity sensitive
- Each employee shall be responsible, to the best of their knowledge, for fair representation and accuracy of the information in the documents prepared or signed off by them
- Each employee shall ensure that the personal information provided to the organisation is factual and accurate, including prior work experience, educational qualification, compensation details, etc.



Conduct at Work

- All employees shall take decisions in the best interest of the Aditya Birla Group/ business
- All employees shall adhere to Group/ business policies, processes, systems, and regulations in letter and spirit
- All employees shall secure the physical, financial, and intellectual property/ assets and interests of the organisation by observing the discipline of internal controls
- Each employee shall highlight deviations to their manager from the stated organisation process and policy by an individual or a team

CORPORATE POLICIES

A comprehensive policy framework helps us to facilitate informed decision-making by considering risks and their mitigation. These policies apply across all business divisions and are available for easy reference to all employees and business partners.



Anti-bribery and anti-corruption policy

This policy defines the standards of integrity and fairness that we expect from our employees and the external entities that are a part of our value chain. It covers parameters like extending and receiving gifts and hospitality, political donations, offering employment or contracts to relatives and extortion or blackmail among others.



Whistleblower policy

We encourage our Directors, employees and business partners to come forward and report all such violations they witness or are made aware of without fear of reprisal and seek fair redressal.



Executive remuneration policy

The executive remuneration policy is a comprehensive document that charts the entire compensation journey for executives, from incentives to promotions and retirement benefits.



CSR policy

The policy outlines the scope of our CSR activities in line with Section 135 of the Companies Act 2013, read with the Companies CSR Rules 2014. It highlights the thematic areas and provides guidelines for allocating budgets for different activities.

GOVERNANCE FRAMEWORKS

Environment & Workplace Safety Governance

Ensuring the safety of our people, assets and the environment is a key focus of our growth strategy. A three-tier safety governance system at the Apex, business and unit levels has been constituted with relevant and updated checks and balances. Our safety governance system is aligned with the Aditya Birla Group’s existing Safety Management Standard, Technical Standard and 8 elements of the Safety Management System. The team structure and responsibilities are outlined below:



HR Governance

A three-tiered HR governance structure defined based on Group policies ensures employee needs are addressed on time with executive oversight provided by the Company’s HR head and supported by BCOE-HR and BCOE-Talent Management, Learning and Development, Organisational Effectiveness. The HR governance system spans policies and processes for Talent Acquisition, Learning & Development, Performance Management System, Talent Management System and Organisational Development. A comprehensive system for ongoing monitoring and periodic reviews of the company’s performance on these parameters helps identify areas of improvement and enhancement

COMPLIANCE AND AUDITS

EMIL's operations are covered by the Aditya Birla Group's internal audit process that rates and reports the effectiveness of the risk management process to senior management at regular intervals. The designated individuals and committees are responsible for assessing and reviewing risks, deciding on risk mitigation strategies, and providing timely monitoring and assurance. The designated Chief Risk Officer and Unit Risk Officer maintain and update risk registers at the corporate and unit levels periodically.

To ensure that our operations adhere to global best practices and perform optimally, we undertake a comprehensive set of audits as outlined below:

- Group Human Resource audit once a quarter to assess the effectiveness of HR policies and their implementation
- ISO audit to evaluate compliance with ISO 9001 and ISO 14001 guidelines in addition to verifying the adherence to OHSMS ISO 45001 norms
- Internal Finance Control (IFC) Audit to evaluate control mechanisms for financial parameters
- Government audits at regular intervals to check compliance with regulations and submissions made within the stipulated timelines
- Risk Control Matrix led checks to ensure that all compliances are closed by respective owners every month in addition to annual reviews.

RISK MANAGEMENT AND GOVERNANCE

A well-designed risk management framework is woven into our organisational strategy development process as well as execution value chain at a unit level facilitated by transparent communications across functions and units.



Risk Assessment and Reporting

Review the results of the risk assessment and provide inputs
Review and seek responses to specific critical risks that have not been highlighted in the exercise. Review the results of the 'risk register' to prioritise the risks that are critical (as advised by respective unit heads) and must be worked on by specific process owners.



Risk Mitigation

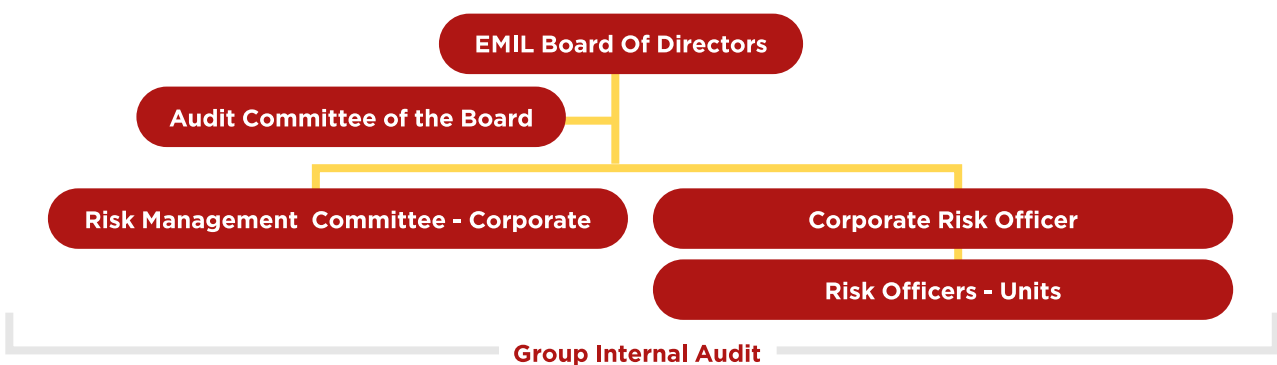
Review mitigation plans across root-causes, specific action plans, owners and timelines. Facilitate cross functional engagement as applicable to mitigate risks.



Risk Monitoring and Assurance

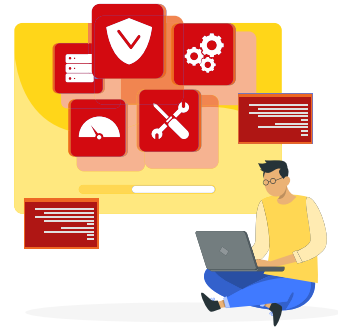
Review unit risk officer's implementation of action plans and resolve any bottlenecks or issues. Develop reports for the RMC and assist in their review process.

Risk Governance

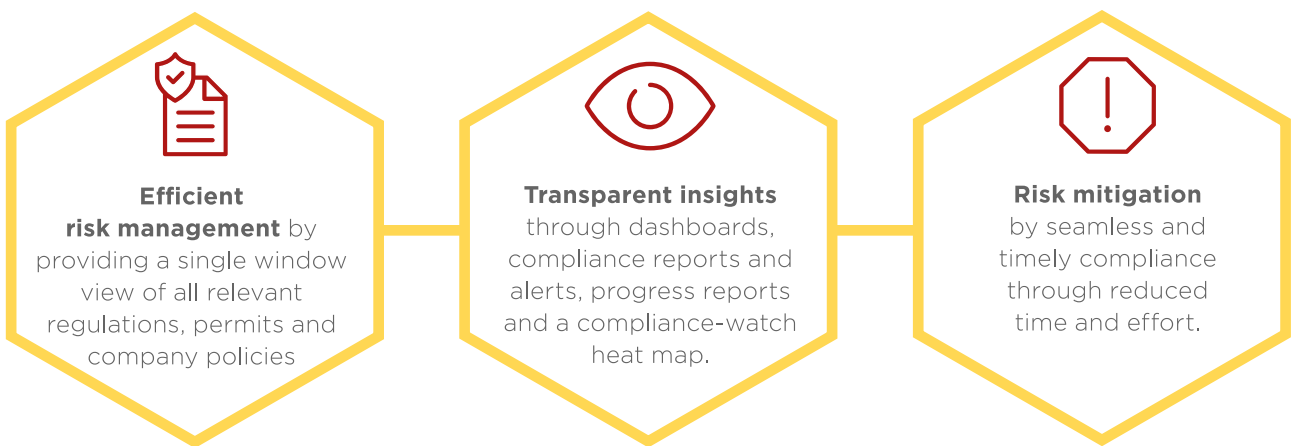


DIGITALIZATION FOR EFFECTIVE GOVERNANCE

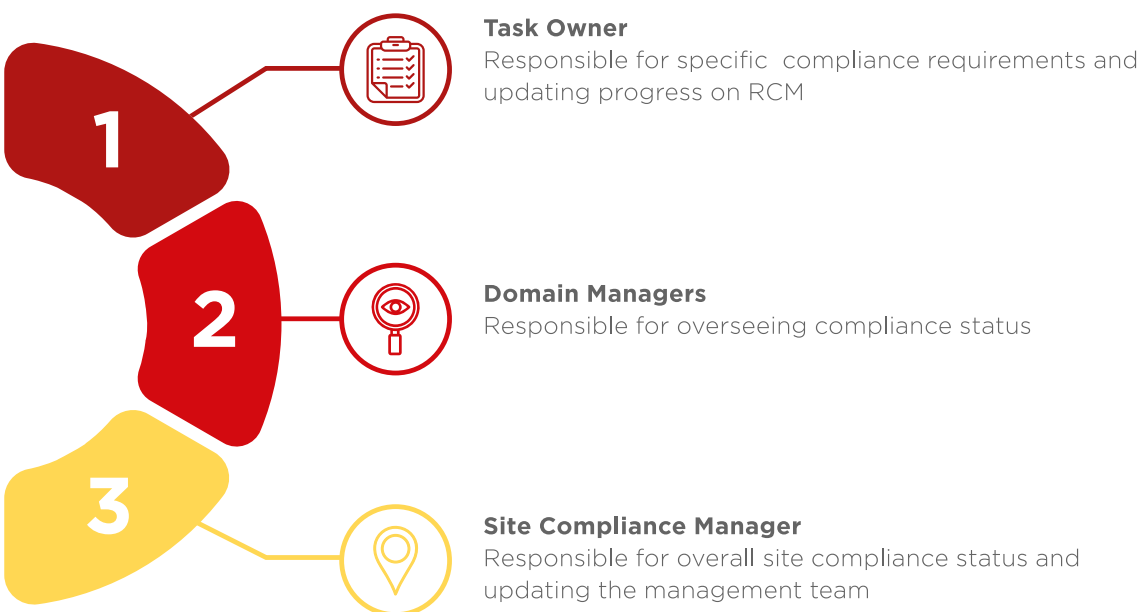
To enhance the efficacy of our governance system, we have adopted the Regulatory Compliance Management (RCM) module which operates on technology platform ENABLON's. The RCM helps us monitor the dynamically changing regulatory environment and stay compliant with evolving requirements and policy changes at local, national and global levels. The software allows us to monitor regulatory changes seamlessly and mitigates compliance deviations by anticipating and addressing new requirements on time.



RCM's three-pronged benefits include the following:



RCM's Governance Structure



Supported by sustainability focal points at unit and corporate levels

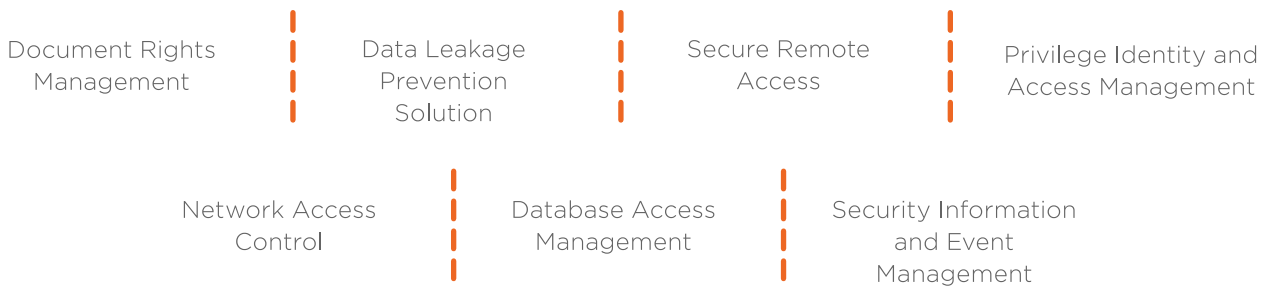
INFORMATION SECURITY AND DATA PRIVACY

The rise of digitalization has also brought in its wake the risk of unauthorised access and the need to ensure information security and data privacy to protect our operations, employees, vendors, customers, and other stakeholders.

We have adopted several control protocols like Network and Web Application Firewalls along with Intrusion Prevention Systems to detect and eliminate cyber threats. Adhering to industry benchmarked practices, conducting regular risk assessments and aggressively testing the resilience of our digital infrastructure to external threats helps us protect our systems from unauthorised access and keep our data safe.



EMIL's Information Security Control Framework Spans:



Our IT network is spread across our multiple locations and offices, and network access controls are critical to prevent unauthorised access. With the rising propensity of employees and vendors to log into our systems remotely, we have ensured that all instances of remote access are completely secure. Access privileges are provided as needed.

Information Security Process

EMIL has a robust process for information security, as outlined below.



Information security structure

We have established a three-layered shield spanning People, Processes and Technology to enhance our data security and resilience.

People

e-learning programmes	Email Communication Newsletters	Information Security Week Campaigns	CISO Conferences	Phishing Campaigns	Tech Champs
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Process

Information Security Policy	Data Privacy Policy	Data Privacy Impact Assessment	Information Security Frameworks	OT Security Framework	Information Security Risk and Maturity Assessment
Cyber Insurance	Computer Emergency and Response Team	ISO 27001 Certifications	Audits	BCP and DRP	Breach Simulations
	Security Metrics & KPIs	Minimum Security Baselines	CISO Dashboard	Crown Jewel Protection Progress	

Technology

SOAR with STOIC	Threat Hunting + Intelligence	Deception as MDR	Digital Fraud Prevention	Anti-Shadow IT Services + Deep Darkweb	NG Antivirus & EDR
Deep Security Manager	Endpoint Threat Hunting	Full disk encryption	Endpoint DLP	Network DLP	Information Rights Management
Firewalls, IDS	Cloud Proxy	Vulnerability Assessment and Penetration Testing	Red/Blue/Purple Teaming	Application Security Testing	Information Rights Management
Mobile Device Management	NextGen VPN	Network Access Control & Segmentation	DMARC	CASB	NAC
	Secure DNS	SSL Inspection	Adv. DDoS		



During Covid, with many employees working from home, we rapidly scaled our technology platforms to help them operate seamlessly. We also deployed appropriate protocols like multifactor authentication to ensure that our systems and data remained safe and secure. Our Information Security process mandates that antivirus solutions are run across all systems. Regular awareness and mandatory data security training sessions for all employees help further strengthen the process. We have adopted the ISO 27001 framework across our sites and a Global File Sharing framework to further improve our data governance practices.

DIGITALIZATION TO ENHANCE INFORMATION SECURITY AND DATA PRIVACY



Cloud Proxy by ZScaler

We use the ZScaler Secure access service edge (SASE) to safely connect users, systems, and endpoints to applications and services by combining Cloud-native security technologies with wide area network (WAN) capabilities. This tool offers a frictionless and transparent user experience securely. It also facilitates standardisation across locations without needing device management and separate services by the IT team for each unit or location.



Endpoint Detection and Response (EDR)

With cyber threats becoming a real and emergent risk, we have implemented a next-gen EDR solution based on Indicators of Attack (IOA) behavioural techniques to increase the defence efficiency of on-disk and in-memory threats, securing online and offline assets. The features include advanced prevention capabilities across the environment, including real-time application monitoring, Machine Learning (ML) for unknown malware and SLA-based resolution.



Web Application Firewall on AWS Cloud

The EMIL Cloud hosts multiple web applications with huge volumes of daily transactions with inward and outward traffic. We have established appropriate web application firewalls (WAF) to protect these applications by filtering, monitoring and blocking any malicious traffic entering the web applications. These firewalls also prevent unauthorised data from leaving the applications. A set of pre-configured rules help each WAF determine which part of the traffic is malicious so that action can be taken and the other harmless data packets can be allowed through safely.



Land Acquisition and Management System (LAMS)

The land we need for our operations is acquired from multiple owners. We also need to secure several approvals and regulatory clearances before we can start operations. The acquisition process, therefore, is a complex one where various activities are conducted at the same time. We propose implementing a digital Land Acquisition and Management System (LAMS) application to provide a single, transparent view of all parallel processes underway. This will help us monitor progress on land acquisition and ensure transactions with multiple landowners are processed seamlessly in compliance with all relevant regulations.

The application uses a Geographical Information System (GIS) to visualise the plots of land under consideration, along with the demarcation of boundaries etc. It also allows us to verify ownership and encumbrance details of specific land parcels and the history of litigations, if any.

If EMIL is involved in any judicial proceedings, the LAMS tool can be configured to send timely reminders for court submissions. This application will become a repository of relevant information for EMIL. Once implemented, our employees can upload documents, photographs etc., to enrich the data and make the tool more effective. Employees can also access LAMS on their mobile devices to update information on the go.

The launch of LAMS, proposed in Q4 of next year, is expected to revolutionise the way EMIL deals with land acquisition and management, thereby making our business processes more compliant and efficient.



LEADERSHIP MESSAGE



Message from the desk of Head: Commercial Coal Business

Dear Stakeholders,

Led by our Group values and ESG commitments, our goal is to foster socio-economic wellbeing through responsible mining. A structured framework helps us manage our environmental footprint, optimise consumption efficiencies and implement measures to ensure minimal disruption for our communities as we work to start operations in the blocks allocated to us.

A mining drainage system is being developed to prevent mined water from entering the nearby river. An extensive afforestation project is being taken up to moderate any changes in the ambient temperatures once mining operations begin. We will conserve the topsoil for future land reclamation,

and garlands will be used to prevent surface water contamination.

We ensure regular monitoring of mine water quality and treatment of domestic water discharge. Surface miners will be used to control noise pollution, even though there may be a possibility of high noise levels for short durations. Using appropriate tools and machinery will ensure that the suspended particulate matter stays within acceptable limits.

We are confident that with these proactive steps, EMMRL will introduce a new paradigm in sustainable mining and improve the lives of our communities.

Satya Prakash



From the desk of Head: Mining Services (MDO)

Dear Stakeholders,

The coal mining sector in India experienced growth in FY 2021-22, and EMIL was no exception. We introduced several technological advances, leading to a significant increase in the top line. EMIL maintained its safety record with no major accidents in any of its mines

Earlier this year, as the Indian economy slowly returned to normalcy, the country faced a looming

energy crisis when the supply of coal for power plants was hampered. We are proud to share that our BCML unit rose to the occasion and recorded the highest ever single-day despatches of coal based on Q-o-Q comparison for the second quarter for keeping the nation's power plants up and running.

At BCML and RCML units, we made several process changes that allowed us to generate substantial savings in water and energy

usage as part of our ESG commitments. We continued to prioritise responsible mining through initiatives like zero liquid discharge and responsible land reclamation.

Overall, our responsible mining practices and financial performance both saw great success in

FY 2021-22, and we look forward to even bigger achievements in the future.

Rajinder Malhotra



From the desk of Head: Iron Ore Beneficiation and Pelletization

Dear Stakeholders,

The year saw us increase production and despatch targets to meet the renewed demand for iron ore on the back of economic resurgence while adhering to our ESG targets for sustainable operations.

We moved from diesel to grid electricity and reduced diesel usage to 1 KL daily. The environmental footprint associated with grid electricity usage was managed by installing VFD and replacing plant lights with LED fixtures. We have initiated water conservation efforts through process and design changes which will be completed by August 2023.

We introduced digital monitoring of the pelletisation process to reduce the risk of injury during manual tracking and equipped our fleet

of trucks with RFID for better safety of drivers and materials.

Our iron ore beneficiation plant uses a sustainable solution technology imported from Allmineral GmbH that uses local low grade fines of 58-60% Fe available in the vicinity of the plant to reduce transportation costs, recycles process water and environmental footprint.

We are working on improving the grade of the pellets we produce to capture a larger share of the domestic market, accelerate our adoption of responsible mining and scale stakeholder value creation.

Prasanna Kumar Panda

MANAGING OUR ENVIRONMENTAL FOOTPRINT

The environmental impact of business activities and incidents of climatic disturbances are a growing concern globally for investors, customers, employees, communities and others. Adopting sustainable mining practices goes a long way to reducing and mitigating the carbon footprint of our operations. Measures such as reducing water and energy consumption, minimising land disturbance and waste production, preventing soil, water, and air pollution and conducting successful mine closures and reclamation activities define our environmental management efforts.



Material Topics

- Energy and emissions reduction
- Water stress
- Waste and effluent management
- Responsible mining
- Biodiversity

UN SDGs supported

6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



15 LIFE ON LAND



ENERGY MANAGEMENT

Energy is a critical resource to ensure the seamless running of our processes. We manage our energy consumption through measures such as reimagining mine designs, improving mine grades, increasing the share of renewables, reducing volumes of waste that need transportation, deploying efficient equipment to reduce the energy intensity of our products and lower GHG emissions. We draw energy from the grid and other sources like Coal, LPG, PNG, furnace oil and high-speed diesel (HSD). As part of our energy management efforts, we propose to:

- Implement large-scale renewable energy integration
- Install rooftop solar panels at all facilities
- Construct energy efficient infrastructures

CDM Projects



EMIL's wind energy unit is recognised as clean development projects (CDMs) under the Kyoto protocol. It is authorised to provide certified emission reduction (CER) credits which are required for carbon off-setting.

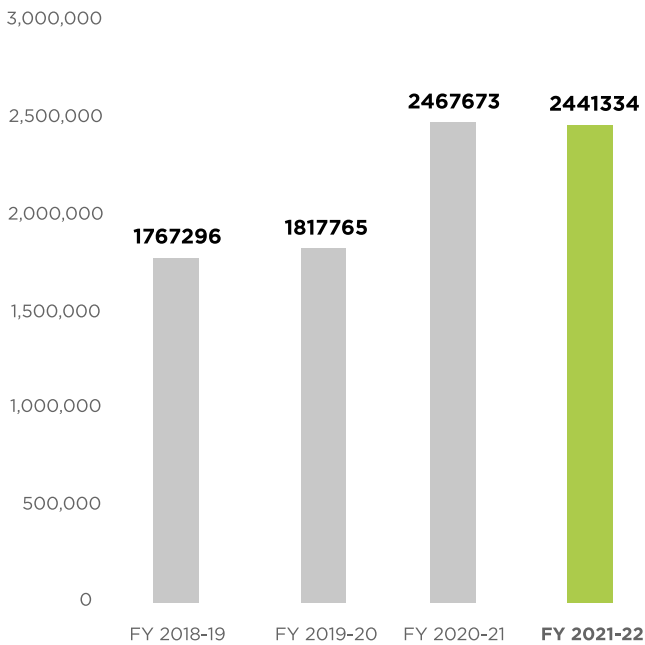
Energy Consumption: 4-year trend

#	Energy Source	Unit	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Diesel for DG sets	GJ	1716066	1763403	2405626	2374674
2	Purchased Electricity (Non-Renewable)	GJ	51229	54361	62047	63661
3	Purchased Electricity (Renewable)	GJ	-	-	-	2997
Total Energy Consumption		GJ	1767296	1817765	2467673	2441334

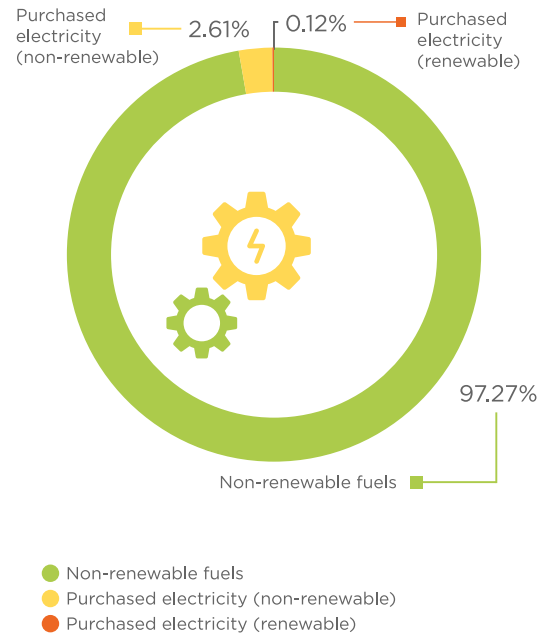
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ESSEL MINING & INDUSTRIES LTD

Total Energy Consumption (in GJ)



Energy Consumption by Source in FY22



Energy Conservation



We continuously monitor our energy usage, evaluate cutting-edge technologies, and innovate our processes to reduce energy consumption. At PMPL, we operate fan speeds based on feed rate during induration using Variable Frequency Drives (VFDs), which helps to reduce energy usage. Additionally, our plant is based on Circular Pelletisation Technology (CPT) which enables us to enhance the energy efficiency of the pellet manufacturing process. The technology has helped us transform the operating process so that fewer pellet cars are required per unit of product manufactured. The new circular grate uses only 40 pellet cars compared to the 108 needed in a straight grate resulting in:

- Reduced energy consumption
- Need for lower maintenance and spare parts
- Use of lesser space given the circular arrangement of the CPT
- Only 25% of pellet cars stay outside the furnace due to improved efficiency

The boiler pipelines at the NFA unit have been redesigned for optimisation, resulting in a reduction of natural gas consumption by 5.11 SCM per metric tonne of ferrovandium produced.

Various other initiatives to reduce energy consumption have been implemented across units in the reporting year, as outlined below:

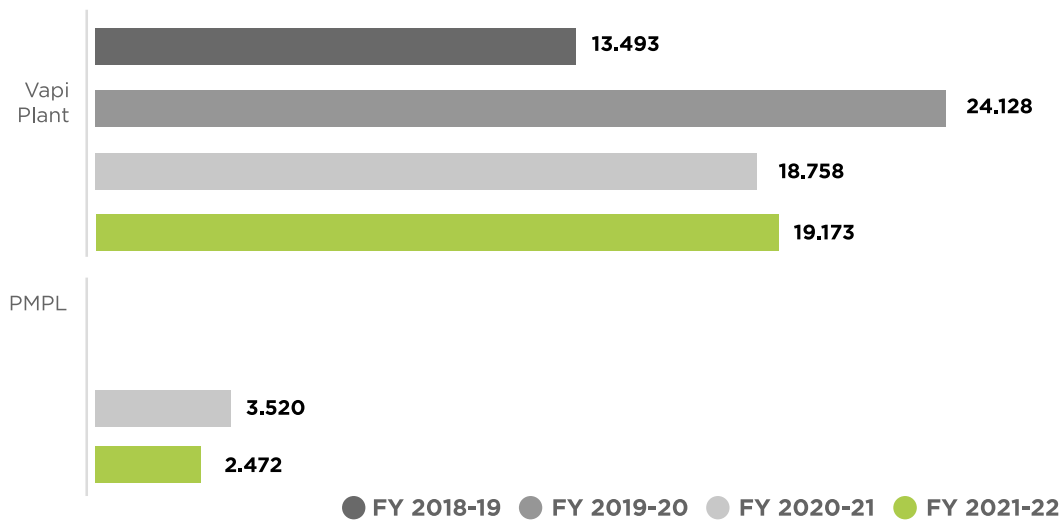
- At RCML, the replacement of sodium vapour lamps with LED lights delivered energy savings of 444 GJ
- At NFA, the rationalisation of air compressors and improved boiler efficiencies with excess air control led to savings of 2 and 616 GJ of energy
- At BCML, the optimisation of Max Engine RPM in PC -2000 and 1250 led to energy savings of 2747 and 2966 GJ, respectively

Energy Intensity: 4-year trend

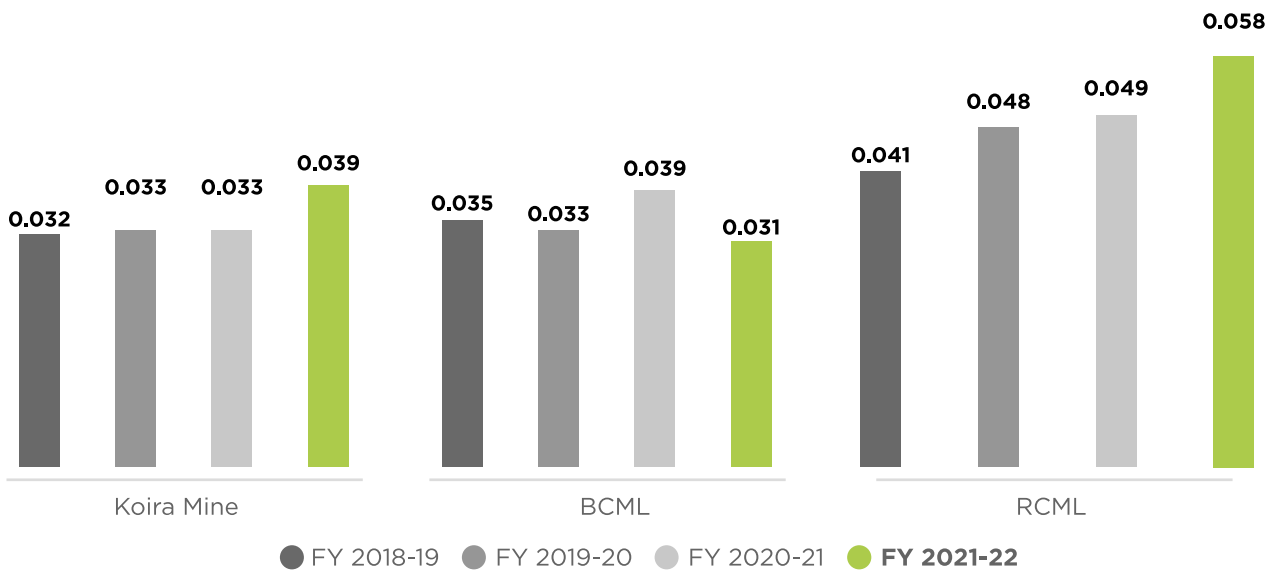
#	Intensity basis and Unit	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
A	Production basis (GJ/MT)	0.0374	0.0383	0.0527	0.0690

While the total energy consumption was lower than previous year, however due to increase in site developmental activities and relative production, energy intensity has increased during the reporting year.

Processing Units: Energy Intensity (GJ/MT of Production)



Mining Units: Energy Intensity (GJ/MT of Production)



EMISSIONS MANAGEMENT

A critical aspect of our strategy to move towards a carbon-neutral future is monitoring and managing stack emissions, reducing fugitive emissions, and maintaining ambient air quality within the prescribed regulatory limits. We monitor our Scope 1 and 2 emissions. The business sustainability team reviews the monthly data to ensure compliance. Third-party assessments regularly monitor ambient air quality and stack emissions across our mining and mineral processing operations.

Our Scope 1 emissions are attributed to the fuel used within the plants and from vehicles we own or manage and other activities or equipment that generate direct emissions. Scope 2 emissions emanate from indirect sources such as the consumption of grid electricity.

We proactively comply with the standards set by the State Pollution Control Board (SPCB) and Central Pollution Control Board (CPCB). Our systems and processes are designed to maintain emissions at par with global benchmarks and stay compliant. Suspended particulate matter and SO_x, NO_x emissions are maintained within permissible limits.

Scope 1 and Scope 2 Emissions: 4-year trend

#	Emissions Type	Unit	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Scope 1 Emissions	tCO ₂ e	126387	129921	178918	178578
2	Scope 2 Emissions	tCO ₂ e	11668	11929	13558	13911
Total Emissions		tCO ₂ e	138056	141850	192476	192489

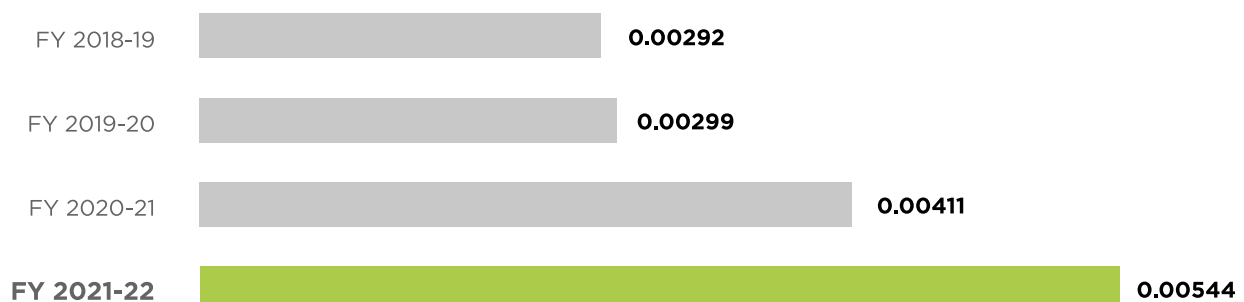
Plant commissioning trails and production ramp-up activities were progressed on non-renewable fossils fuels due to delay in grid power supply.

Emissions Intensity: 4-year trend

#	Intensity basis and Unit	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
A	Production basis (tCO ₂ e/MT)	0.00292	0.00299	0.00411	0.00544

Due to increase of use of non-renewable fossil fuel for site developmental activities and related production, the emission intensity has increased during the reporting period.

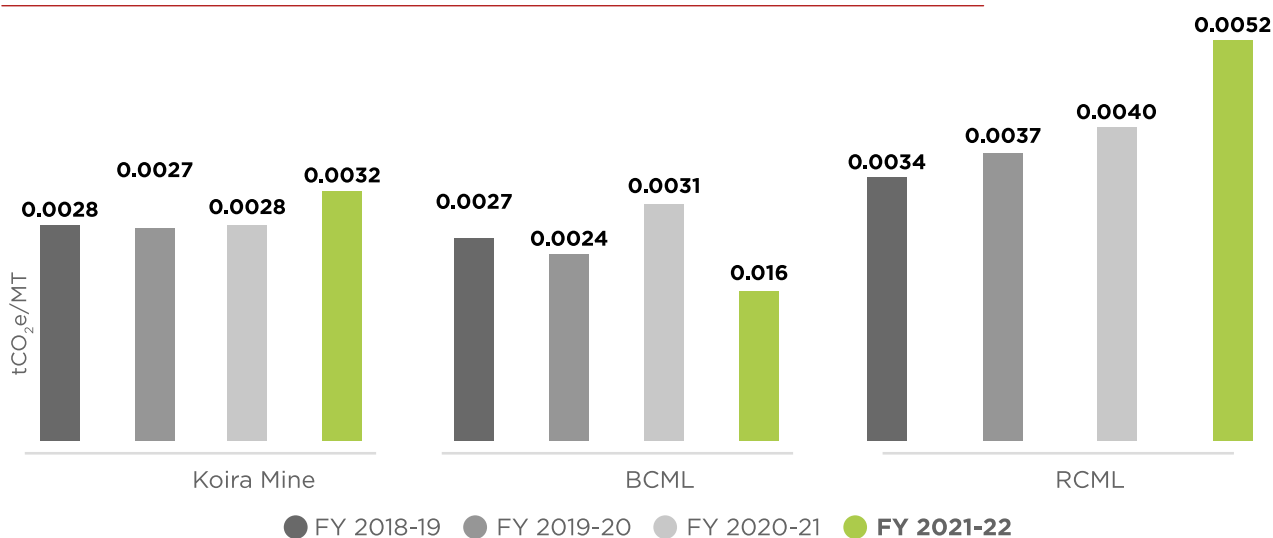
Emissions Intensity (tCO₂e/MT)



Processing Units: Emission Intensity (MTCO₂E/MT of Production)



Mining Units: Emission Intensity (MTCO₂E/MT of Production)



Sources of Emissions

The high-speed diesel (HSD) used in heavy earth-moving machinery, diesel generator set, blasting, crushing, and transportation of minerals are the primary sources of emissions for our mining operations. The processing of raw materials into pellets and gaseous emissions and dust pollution are other sources of air emissions at our PMPL and NFA units, respectively.

Managing Emissions

We have introduced several interventions to reduce dust and gas emissions in iron ore mining. Emulsion explosives are used during blasting to ensure optimal energy transfer from the explosives to the rock faces. We use multi-row blasts in a staggered pattern to avoid fly rocks. Drill machines are equipped with dust collector systems. Both crushing and screening units are provided with mist gun sprayer arrangements. The transfer points of these units have dry fog systems installed that wets suspended air particles. We have installed two pressurised water sprinklers of capacity 28 KL each on the feeder and haul roads to suppress dust. Mist gun water sprayers and mobile water tankers keep the working faces, screening, crushing and stacking areas dust free. We add chemical-based Dust Bloc agents to the sprinkling water to effectively bind and suppress the dust particles.

The wet drilling methods adopted at RCML have helped reduce dust emissions during mining. We have installed dust suppression systems in both crushing and conveying systems. Water is sprinkled on the haul roads used for transportation to suppress ambient dust.



Dust Control at BCML

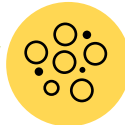
The use of the latest heavy earth-moving machinery with higher productivity and fuel efficiency at BCML ensures our compliance with United States Environment Protection Agency (USEPA) Tier 2 and BS 04 norms. It has brought down HSD consumption. We have also introduced two new surface miners with inbuilt dust suppression systems to control airborne dust generation. The fuel throttle system in our excavator fleet has been modified and aligned with each excavator's load factor to suppress dust more effectively and reduce fuel consumption by 10%. Water sprinklers are used to reduce the dust in the ambient air. The introduction of three mist sprinklers has made the process more effective since the size of the water particles in the mist is around 300 microns, which improves the binding of dust particles.

The use of piped natural gas (PNG) for the boiler and furnace operations at the NFA unit has reduced SOx and NOx emissions. The vanadium pentoxide furnace at the unit emits ammonia gas traces which impact the air quality. We have designed an ammonia scrubbing unit with a ventury scrubber system that converts the gas into an ammonium chloride solution. We also have adequate dust suppression measures in the form of charging hoods over the hearth furnace pits. These, in turn, create multi-cyclones and the bag filter house that minimises the release of dust.



Dust Control at RCML

The increase in active mining area at RCML increased the distance for transportation of coal by 6 to 7 kms, leading to concern about traffic congestion and dust emissions. The introduction of in-pit crushing and conveying system to replace dumpers and haulers for more efficient transfer of coal to storage yards brought down traffic on the roads and dust pollution.



Circularity in the Pelletisation plant

Our Pellet plant is provided with niche CPT provided by Primetals technologies (the than JV between Siemens and Mitsubishi) enables us to cut down our emissions and overall resource footprint. The indurating machine uses a circular pellet technology (CPT) fitted with two electrostatic precipitators (ESPs). The dust generated in the drying and preheating stages passes through the two ESP units. The updraft passes through the hood exhaust ESP while the downdraft is sent to the wind box exhaust ESP. The clean air is then discharged through a chimney at 75 metres. The dust that collects is reused in the Pelletisation process.

We have also installed bag filters to pass the dust generated from the pellet handling and screening process. While the clean air is sent out through a 40 metre high chimney, the dust gets reused.

The use of four storage bins, each with a capacity of 125 m³ and equipped with a bag filter, allows us to segregate different types of dust generated from various stages of the production cycle. This includes limestone, bentonite, coke breeze and ESP, which are reused in the plant.



WATER CONSERVATION

Our water usage relates the volumes of minerals mined and running operational processes. We are also conscious of the amount of water used by our suppliers to service our needs and used in the end product. Further, some of our operations are located in the water-stressed regions of Odisha and Jharkhand. We undertake a broad set of measures to manage our water consumption and limit the impact of our water use on the communities around our operations and the environment.

Water Usage

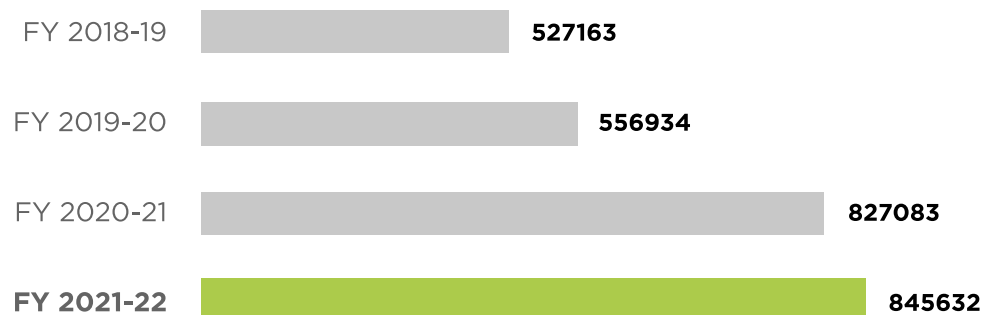


Our mining and processing operations depend on harvested rainwater, third party and groundwater to meet their requirements. NFA also sources piped water from the Gujarat Industrial Development Corporation as needed. Rainwater harvested and recycled water from ETPs is reused for mining activities. Several units use water-conserving equipment like mist guns, high-pressured nozzle-based water pipes and dry fog tankers to suppress road dust. We conduct ongoing awareness sessions on ways to use water responsibly to secure the participation of employees and their families who live in the residential colonies around our mines to help meet water conservation goals.

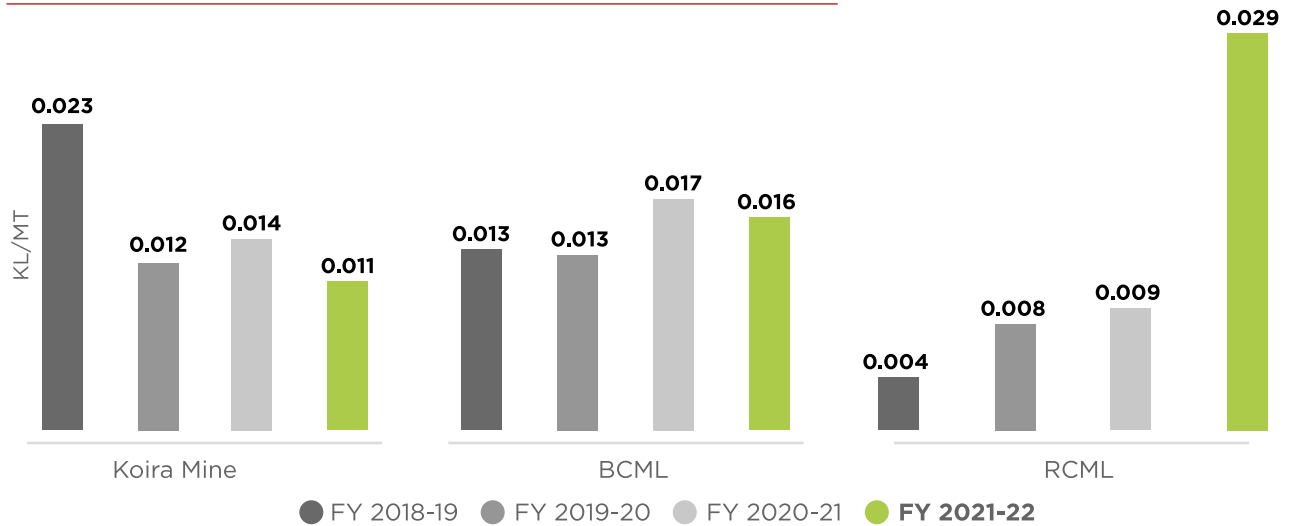
Water Withdrawal

#	Type of source	Units	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Surface water	m ³	0	0	0	0
2	Groundwater	m ³	43229	46163	182137	251392
3	Seawater	m ³	0	0	0	0
4	Produced water	m ³	478644	493042	619374	562629
5	Third-party water	m ³	5289	17729	25571	31611
Total water withdrawal		m³	527162	556934	827082	845632

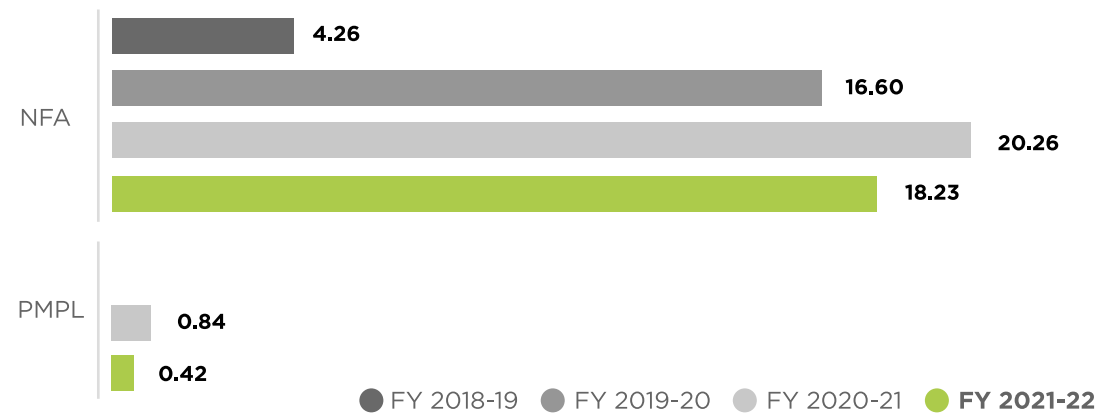
Total Water Withdrawal (in m³)



Mining Units: Water Intensity (KL/MT of Production)



Processing Units: Water Intensity (KL/MT of Production)



The increase in water consumption is mainly due to production ramp up activities, increased surfaces and increased mine water quantity.

Water Management Framework

We draw on the six-step Aditya Birla Group water management framework to strengthen EMIL's water stewardship. The framework draws on the approach of the Alliance for Water Stewardship (AWS) standards and shows actions, criteria and indicators required to manage water at the site level and beyond.



EMIL Water Management Execution Approach

Led by the Group's strategy, EMIL's water management execution approach is outlined below:



Monitoring Usage

Water flow meters installed across our mining operations help monitor ongoing usage. These meters are calibrated annually and duly certified by the Legal and Metrology department. Daily meter readings are consolidated every month and submitted to the concerned authorities. Water meters have been installed at all withdrawal points for the processing units, and the consumption is monitored daily. This data helps us to set the baseline for performance improvements and bring conservation measures to ensure we meet our water consumption goals and targets. Additionally, all units monitor and strictly adhere to the annual budgets for water use.

Water Conservation

Recycling and reusing water

We recharge groundwater levels and recycle and reuse wastewater across our divisions and subsidiaries. A network of sumps and recharge pits form the foundation of our recycling process. The water accumulated from the mines and rainwater in the sumps is used for dust suppression, fire fighting requirements, workshop utilities and in the canteen and the operators' hostel. We do not need to source water from outside agencies for the BCML, RCML and PMPL plants.

We harvested **562629 KL** of rain water in FY 2021-22 across our operations.



At the RCML unit in Godda, Jharkhand, a well-entrenched rainwater harvesting system recharges the water table and supplements groundwater offtake. Additionally, we are deepening ponds in nearby villages to raise the groundwater table and store seeped water from the mines in a sump for use.

Our iron ore mining unit in Koira, Odisha, has taken several steps to optimise water consumption, including constructing rainwater harvesting structures that help reuse surface runoff water and revive groundwater levels.

A huge reservoir with a capacity of more than 2 lakh metric cubes has been constructed inside the PMPL unit to collect the runoff from the rainwater for reuse for sprinkling and recharging groundwater. Our solar energy plant in Telangana has also introduced rainwater harvesting to meet its water needs.



Use of sumps to recycle water at BCML

A sump is an infiltration basin that manages surface runoff water and recharges underground aquifers to rejuvenate the water table. At our BCML site in Angul, Odisha, we have constructed three sumps, of which two are active. The reclaimed water is used for dust suppression, firefighting and workshop utilities. The supply meets 100% of the water needs of the canteen and the operators' hostel except for drinking. We have also made two groundwater recharge pits that draw the accumulated water from the sumps to improve the groundwater levels.

Wastewater Management

We have a comprehensive mechanism to treat and recycle wastewater generated across our processes for reuse. Water seeped from the mines is used in the BCML workshops for washing heavy earth-moving machinery. The resulting dirty water is thereafter sent to an effluent treatment plant (ETP) installed to treat and recycle waste water at the mines.

At RCML, an ETP of 100 m³ treats the waste water generated from machinery washing for reuse. The treated water percolates through a series of chambers so impurities that are either heavier or lighter than the water can be removed. An oil skimmer removes the oil from the liquid, and the clean water is collected in a chamber for reuse in the machinery washing process.

The input and output water from all ETPs are tested at regular intervals to ensure it meets the stipulated standards.



Wastewater treatment at Noble Ferro Alloys (NFA)

Vanadium sludge is the source from which Vanadium Pentoxide is extracted for use in the NFA plant in Vapi, Gujrat. The wastewater generated during processing is treated with a two stage chemical treatment before reuse.

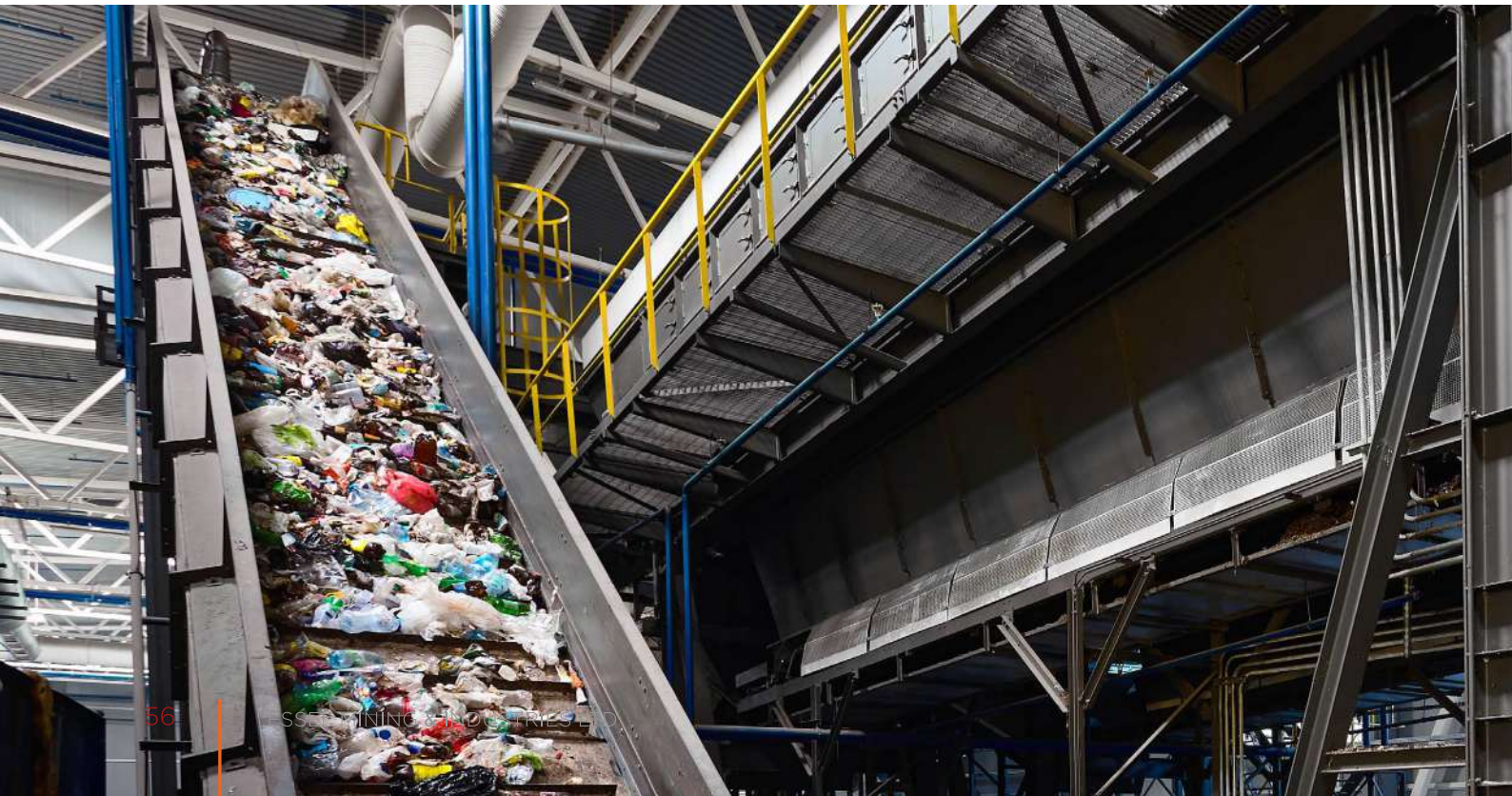
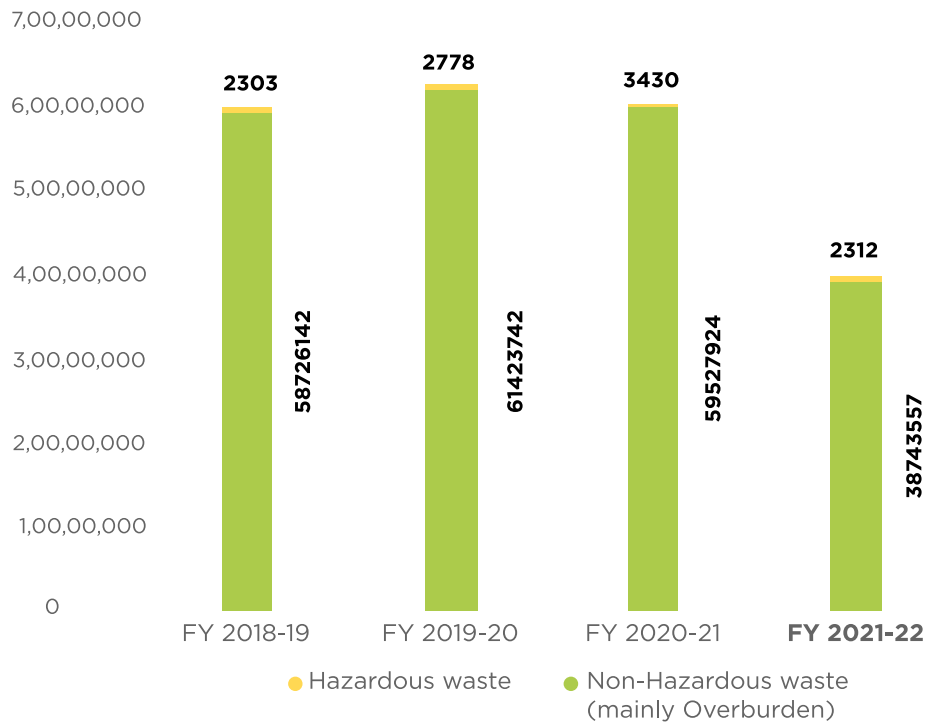
The first stage involves treatment with lime so that the alkalinity can be increased and impurities removed. In the second stage, a stripper column is used to strip the water of ammonia using steam. After final evaporation, the treated water is sent to the Common Multi-effect Evaporator (CMEE) of Gujarat Industrial Development Corporation (GIDC) VAPI.



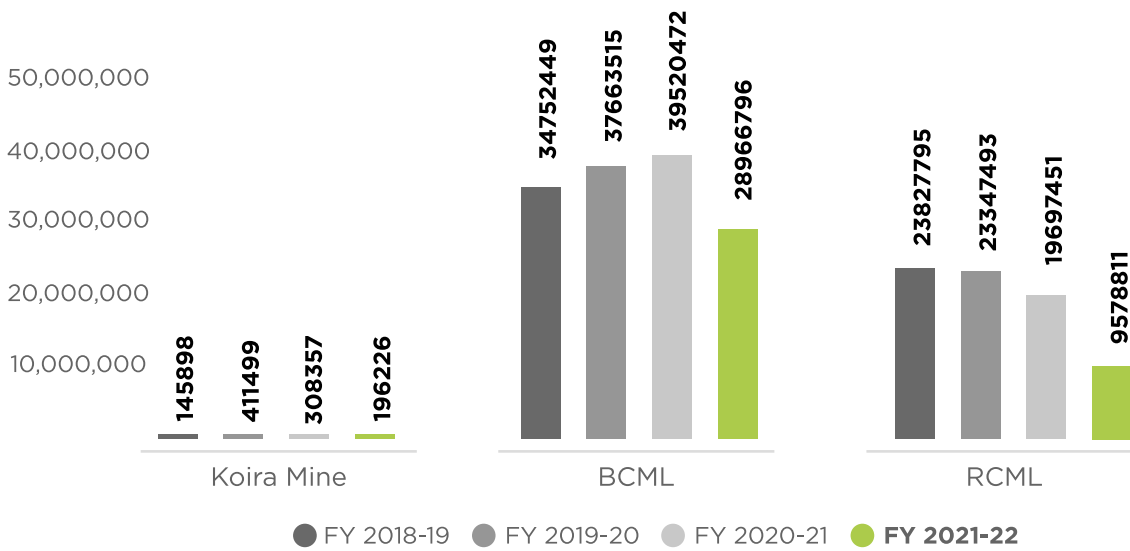
WASTE MANAGEMENT

Our operations generate waste like rock/overburden, tailings and hazardous substances like spent oil. We reduce waste volumes generated through scientific mining operations and recycle as much as possible for reuse across our operations. Overburden waste is used to backfill excavated land. Hazardous waste is sustainably disposed through authorized recyclers.

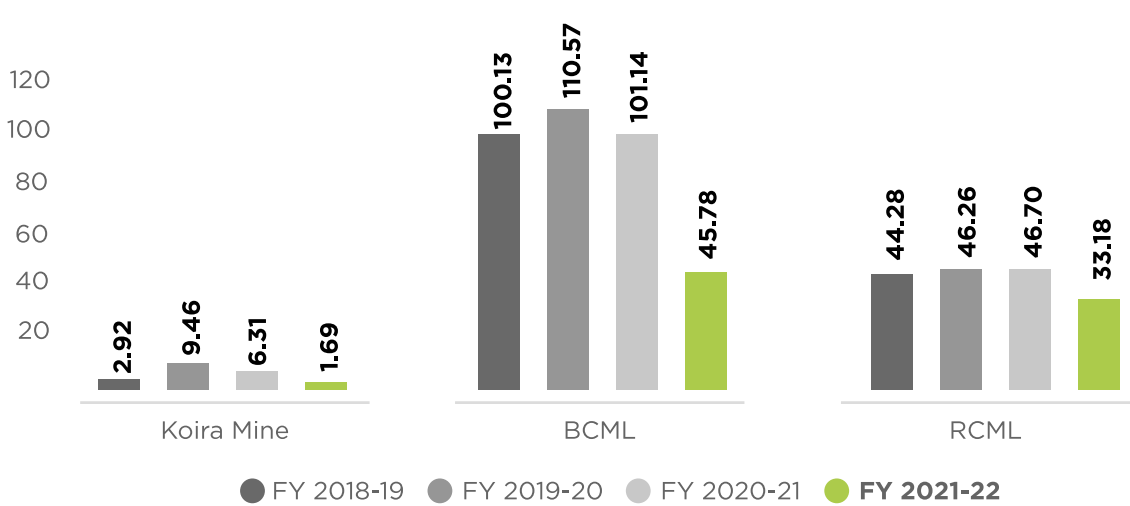
Waste Generated (in MT)



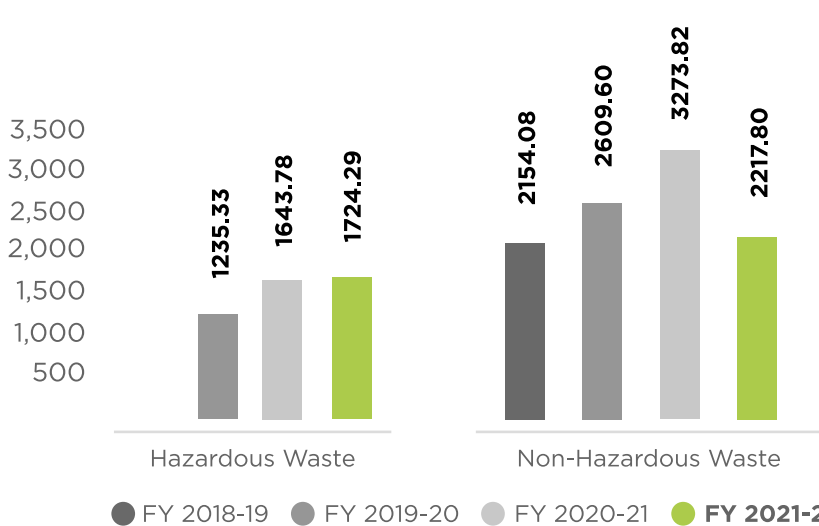
Over Burden Generated (MT)



Hazardous Waste Generation (MT)



Waste Generated in NFA (MT)



The total volume of waste generated across our operations in FY 2021-22 stood at 38745870.03 MT, down from 58728444.61 MT in FY 2018-19, a reduction of 34.03% as our Koira mines ceased operations in August 2021, 99.9% of the non-hazardous waste is overburden which gets refilled back into the mine.

Non-hazardous waste management

The non-hazardous waste, primarily overburdens, generated across the BCML, RCML, and the Iron Ore unit is reused to fill abandoned mining pits.

The NFA plant generates chemically active but non-hazardous waste like thermic process slag, which is reused for civil works or sold to authorised vendors for responsible disposal.



Sewage Treatment Plant (STP) at PMPL

A 10 KLD STP at PMPL is used to treat water discharged from the administrative building and canteen for reuse in the plantations. Another STP with a capacity of 50 KLD per day has been installed to treat domestic sewage generated in the residential colony of employees. The recovered water is used for gardening and cleaning pavements.



Compaction of rejects at PMPL to avoid fugitive emissions

The stringent quality control standards followed at our beneficiation and pelletisation processes led to the generation of a large volume of rejects. We have allocated an area of more than 12 hectares within the plant premises for stacking these rejects following the Government of India's environmental guidelines. However, storing the metallic waste also has an associated risk of producing harmful emissions. We prevent this by compacting and conditioning the rejects at regular intervals to avoid fugitive emissions.

Extending the life of tyres to reduce wastage

The heavy earth-moving machinery we use must be regularly maintained to ensure peak running conditions. The impact of heavy loads carried by the vehicles impact their tyres considerably. At all EMIL sites, we take several measures and precautions to ensure safe operations and timely maintenance of tyres. Tyre handling arrangements have reduced human intervention substantially, minimised time taken for changing tyres and improved operational safety levels. As a result of these initiatives, we have successfully improved our average tyre life to 14000 hours, reducing the frequency of replacement and managing the waste generated from discarded tyres.

Ongoing maintenance activities

- Maintaining the performance history of all tyres
- Monthly analysis of wear trends
- Visual inspection of tyres several times during the day
- Immediate buffing to repair minor cuts
- Regular monitoring of air pressure (both hot and cold)
- Tyre rotation and side reversing periodically

Modifications of roads in the mines area

- The speed of the vehicle generates a centrifugal force on the curves in roads creating a pressure differential between the inner and outer tyres, leading to uneven wearing. To counter this, all curves on roads are provided with a superelevation
- Transverse slopes that offer a slight angle of camber to facilitate the easy drainage of water on haul roads
- Scrapping or grading operations immediately to clear roads of any spillage

Technological interventions to extend the life of tyres and ensure safety

- All tyres are filled with nitrogen instead of oxygen to prevent pressure variations, tyre bursts, and corrosion of the metal rims. Nitrogen generation plants help in the easy refilling of tyres of our vehicles, including on-load cold operations
- An auto-inflator device is used for safe tyre inflation
- A combination of tyre fixtures and curing bags, including a control panel, two heat pads, a flat airbag and a harness guide used for repairs. The airbag provides the required pressure during the repair process so that there are no unwanted distortions in the tyre after the repair is done.
- The use of pneumatic torque wrenches provides accuracy and repeatability. These wrenches have continuous gearing and are less noisy.

**Hazardous waste management**

The burnt oil from the heavy earth moving machinery, including lubricating oil, gear oil, hydraulic oil and transformer oil across our mining and mineral processing units, represent the hazardous waste generated across the operations. The waste is collected, stored and disposed of according to the Hazardous Waste Management Rules 2016 and the respective State Pollution Control Board norms. We collect the different waste oils in barrels which are stored in a covered shed with concrete floors. Oily sludge, grease and oily filter/cotton are collected and stored in non-porous pits. The wastes are thereafter given to authorised vendors for disposal following approved mechanisms.

The NFA division also generates hazardous sludge from the V sludge process and the ETP, which is initially stored at a designated shed and then transferred to the authorised Treatment, Storage and Disposal Facility (TSDF) in Dahej.

Our solar and wind power units are listed as a white-category industry and do not generate any hazardous waste.

E-waste

The electronic scrap generated at our locations is stored and disposed-off within six months to designated vendors for recycling, reuse or appropriate disposal. Our iron ore and solar plants have a buy-back arrangement with the suppliers of electronic items.

PROTECTING BIODIVERSITY

The Aditya Birla Group's Sustainability Vision guides our endeavours to protect biodiversity. Since 2016, the goal of maintaining biodiversity has been a core part of our sustainable growth plan. The Group-wide Corporate Biodiversity Policy of 'No Net Loss' guides our actions and mandates that negative impacts be balanced by measures to enhance biodiversity. A robust Group-level biodiversity policy outlines the technical standards and guidelines to be followed to achieve this goal. All the new projects undertaken post-2016 have complied with the Group biodiversity policy over and above meeting central and state government regulations.

Even though there are no ecological hotspots around our units, we proactively take steps to improve the environmental balance and provide a healthy and safe environment for flora and fauna to flourish, enhancing the quality of life and livelihoods of the communities around our operations. Measures like land use planning and biodiversity surveys at our mines and processing units underline our efforts to enrich our biodiversity. We work closely with local forest officials and involve community members in our biodiversity programs. All our units follow the regulations of EC and FC scrupulously.



Reducing bird hits at PMPL

At PMPL, birds often collided with our power lines resulting in their death and damaging the cables as the wires were not always visible against the background of dark foliage. We attached bird deflectors in bright colours to the cables to make them visible to birds from a long distance so they could divert their line of flight and avoid hitting the power lines and save themselves.



Responsible Mining at EMIL

Creating Positive Post-Mining Legacies- Koira, Odisha

EMIL started operations in Koira in August 1971 with a grant of 30 years lease and renewed for another 20 years by the Government of Odisha. When we commenced on the lease, environmental and forest conservation related acts had not come into existence in India. Over the years, as the policy framework developed, our operations adhered to evolving regulations like Mineral Conservation and Development Rules, 1988 and Mineral Concession Rules, amongst others.

The Koira mines spread over 90.143 Ha included 59.458 Ha of forest, 12.252 Ha of non-forest and 18.433 Ha of tenanted land. Of this, excavation for minerals was carried out on 36.622 Ha of land. Through the five-decade journey, we reclaimed 5.360 Ha of land and rehabilitated 1.985 Ha of waste dumping ground. We also grew plantations and expanded the green belt on 5.613 Ha of land, and rehabilitated 4.797 Ha of degraded forests next to the leasehold area. To meet the needs of our operations and the community around, we transformed 18.558 Ha of excavated area into water reservoirs.

As part of the regulatory provisions, we ceased operations in August 2021 and handed back the mines to the Government in April 2022. We meticulously planned and executed the cessation and handover in compliance with the Final Mine Closure Plan approved by the Indian Bureau of Mines, Ministry of Mines, Government of India.

The evacuation of the mines was done in a phased manner led by EMIL's commitment to responsible operations and adhering to stipulated mine closure norms, which involved:

- Removing the assets from the area without causing damage to the environment, biodiversity, and people
- Dismantling and selling equipment, site structures along with the remaining iron ore stock
- Compensating employees as per the provisions of the Industrial Dispute Act, 1947 under the supervision of the Ministry of Labour & Employment, Government of India.


The closure process complied with FC Act, 1980, EP Act-1986, Air & Water (PCP) Act and MC Rule 1960.

We handed over the mines in good shape with properly implemented mine closure activities. The Government recognised our efforts and ensured that our bank guarantees were returned without any penalties post inspection by the Indian Bureau of Mines.



ENRICHING LIVES

The inclusive and holistic empowerment and development of our people, including employees, partners, customers and communities, lie at the core of our strategic intent to strengthen India’s energy and minerals security. The active participation and support of our family of 899 permanent employees, 2635 contract workers, suppliers and community members is critical to help us run disruption-free operations. Our financial strength, ESG goals and innovation leadership power our efforts to nurture human capital, bring quality products to customers, maintain a responsible value chain and create meaningful socio-economic opportunities for all.




Material Issues

- Talent attraction and development
- Diversity, Equality and Inclusion
- Human rights and Labour practices
- Employee contractor and supplier safety
- Strengthening communities

UN SDG supported

8 DECENT WORK AND ECONOMIC GROWTH




10 REDUCED INEQUALITIES



5 GENDER EQUALITY



11 SUSTAINABLE CITIES AND COMMUNITIES



BUILDING A FUTURE-FIT TALENT POOL

At EMIL, our people have been the force that has crafted our ongoing success and strengthened the foundation of our responsible business over seven decades. Our mission is to create opportunities for them to learn, innovate, grow, and build enriching professional careers and personal lives. We also promote their holistic development by encouraging them to walk paths uncharted, lead with integrity and treat their colleagues, partners, community members and all other stakeholders with respect and empathy. Our motivated employees are constantly researching, innovating and thinking out of the box to create value for customers across 19 industries.

Our Human Resources (HR) practices focus on strengthening diversity, inclusiveness and safety at the workplace, enhancing our employees’ physical and mental health and well-being, and building a culture of learning and development to help grow talent.

Permanent Employees Head Count FY 2021-22

BCML	296
RCML	209
PMPL	136
Head Office	87
Iron Ore	79
NFA	75
EMMRL	17

*The Solar unit has no permanent employees. All workers are hired on contract at EMIL.

899
Permanent Employees

2635
Contractual Workforce

62

ESSEL MINING & INDUSTRIES LTD.

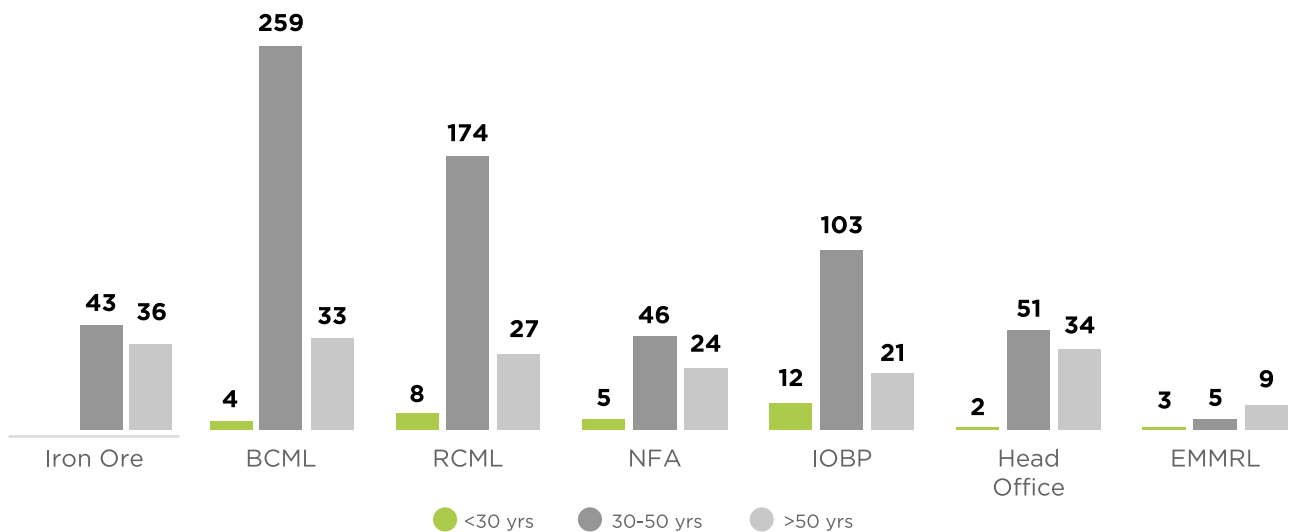
Diversity, Equality and Inclusion (DEI)

We believe a diverse workforce brings a broad spectrum of perspectives that helps us serve our customers better, develop sustainable growth strategies and transform and innovate our business. These principles are enshrined in our people-centric policies and the Code of Conduct. We do not discriminate against deserving talent on any grounds, be it gender, age, ethnicity, nationality etc. and have zero tolerance for discrimination in the workplace.

Our DEI strategies focus on promoting the participation of women in the workforce and being actively engaged in the decision-making and execution at a corporate and unit level.

We also mandate our value chain, including suppliers and contractors, to embrace the Company's DEI principles and create inclusive workplaces where their employees operate freely and without prejudice of any kind.

Age Diversity (Permanent Employees) FY 2021-22



Policy for prevention of sexual harassment (POSH) at the workplace

We have a documented Prevention of Sexual Harassment (POSH) policy to make our workplaces safe and inclusive, making reporting related violations easy and without fear. Business and unit-level POSH committees, which include women employees and an external representative, address any violation of the policy. An internal complaint committee (ICC) at the Unit level is set up so complaints can be promptly heard and resolved at the Unit level itself. All employees sign to comply with POSH regulations and policy at the time of joining the Company.

Familiarisation and training programmes are provided to all new joiners, and refresher programmes are run periodically for all employees to align them with our DEI principles. This includes mandatory training on POSH for all employees. 100% of our employees have completed the POSH training in FY 2021-22. Other specially designed training programmes that are designed to deepen DEI practices across the organisation include "Being Your Best", "ABG Star Programme", and "Making emotions work for me."

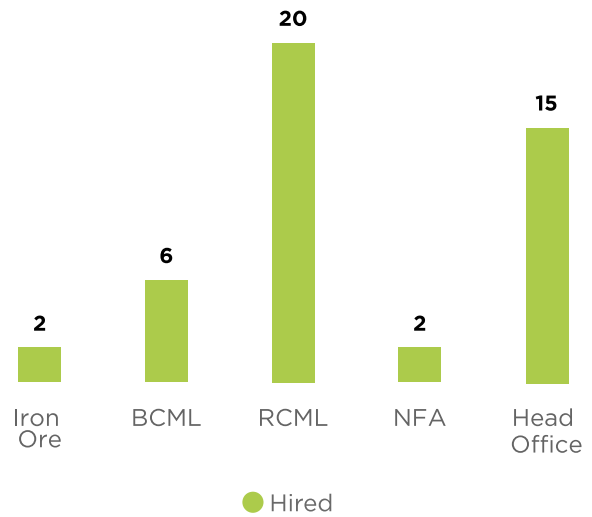
Talent Acquisition

Our employees provide us with a unique competitive edge, and we rely on benchmarked HR practices to attract, develop and retain the best talent. We use a mix of both internal and external hiring to get the best talent available in the shortest possible time. The Company has a dedicated staffing team that oversees talent attraction and retention. We give preference to hiring local talent subject to fitment to the role. Suitable PAPs are considered for employment under different contractors. Our recruitment policy gives priority to leveraging available talent across the Group.

Our hiring process is managed through 'Poornata', an online platform to ensure transparency, efficiency and a seamless employee experience. Vacancies are published for our internal employees for seven days and then opened up for external candidates if no suitable candidate is found within the Group. Internal candidates can apply for positions using the online platform Xplore careers@ABG, which helps them make informed decisions and external candidates can apply through the job portal on the Company website.

A formal onboarding process helps acclimatise the new employees to the Company's goals, values, principles and business operations for smooth integration.

Permanent Employees hired : FY 2021-22



We hired a total of 45 employees in FY 2021-22, with 5 in senior management, 11 in middle management and 19 in junior management and 10 in staff positions. Most of our hiring was in the 30 to 50 age group.



Grooming Internal Talent

As part of the Aditya Birla Group, we can access a wide pool of qualified and experienced professionals aligned with our principles and values. We encourage EMIL employees to look for better opportunities within the Group to further advance their careers. This also encourages employees to continuously strive for self-development by moving into new roles that could align with their past or current experience and learning and developmental goals or offer a new career trajectory. Our people policies are designed to facilitate internal movements within the Group and provide relocation support.

The table below details the different opportunities for intra-company movements available to employees of EMIL.

Opportunity	Advantages
Career Move @ ABG	Change in role with increased responsibility to widen employee's perspective and increase exposure.
Transfer	Change in business unit or location, or job function.
Cross-functional change	Change in the job category, like moving from Operations to Projects, HR to Operations etc.
Promotion	Moving to a higher job band which may or may not be accompanied by a transfer.
Career Exposure	This is a short-term movement for up to 18 months or less to handle a one-time or temporary assignment or swap job responsibilities with a colleague for a short duration to broaden experience.

Talent management framework

A documented talent management policy applicable to leaders, managers and employees articulates all facets of talent management at Aditya Birla Group and provides a common understanding of professional development pathways.

The level of talent potential rating is categorised into three categories:

A = High potential, B = Good potential, C = At level

Talent management process



Learning and Development

Our learning and development framework aims to build a future-ready talent pool with relevant technical and behavioural competencies and strengthen the leadership pipeline to facilitate effective succession planning.

Training planning process



We encourage our employees to take ownership of their professional learning journeys through the 'My Development Plan'(MDP), which helps them identify their training needs in consultation with business and unit leaders and the training planning team. Identifying top talent through potential assessment and DAC evaluation is also a key part of talent planning.



Our managers proactively discuss and guide employees on their learning path, allowing them to acquire relevant skills and build competencies to take on future roles with bigger responsibilities. We identify training needs and develop a calendar for specific learning needs of workers with a focus on multi-skilling and sharpening specific skills through different projects as applicable under 'Margadarshan'.

Identified training needs that form an employee's MDP are a culmination of their career aspirations and also offer opportunities to bridge performance gaps. Once an employee's MDP is in place, it is evaluated by their manager and HR practitioner in line with the annual plans and budgets before approval. Approved organisation and unit training calendars are implemented throughout the year.

Training Framework

We leverage cutting-edge technology, world-class trainers, and subject matter experts to conduct a broad range of training programmes and workshops on domain-specific, technical and cross-functional skills. Our training programmes can be broadly categorised into:

Need-based programmes

To enhance behavioural attributes like communications and creativity, innovation and business writing skills and technical skills



Curriculum-based programmes

To develop the knowledge and skills in distribution technology and material management

Specific interventions

To address business priorities like safety which is critical for the mining and processing industry

Leadership development

For mid-management to strengthen leadership potential

Categories of Training

We offer three categories of training to our employees to meet their aspirational needs and the organisation's strategic requirements and stay relevant. In addition, all employees must undergo mandatory policies and procedures training.

Technical Training

Focused on developing technical skills of employees to embrace advanced mining practices and stay abreast of evolving technology and processes, global market scenarios etc. Renowned subject matter experts are also invited to conduct sessions.



Behavioural Training

Conducted for employees across job levels to improve understanding of teamwork, leadership, planning, decision-making and communication.

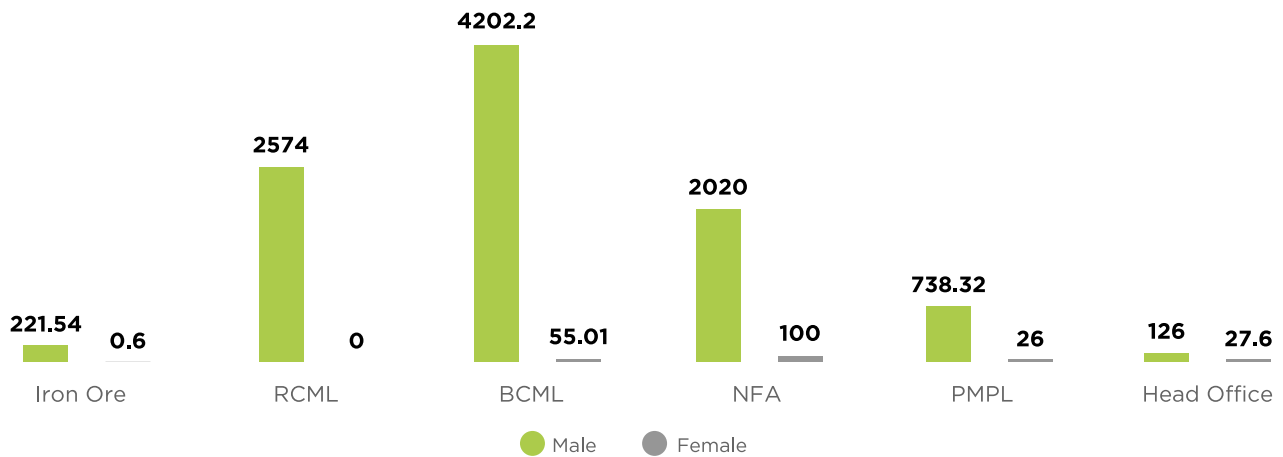
Our Group training institute named 'Gyanodaya', derived from 'gyana' or knowledge and 'udaya' or 'dawn', offers senior leaders globally benchmarked learning solutions in collaboration with leading institutes.

Induction Programme

For new employees to introduce them to the legacy, vision, mission and core strategies of EMIL and the Aditya Birla Group along with their roles and responsibilities

Our employees avail of various learning modules through Gyanodaya and the e-learning platform on Poornata following the ISO standard of training along with departmental sessions, mock-drills and workshops conducted by subject matter experts from across the country.

Total Training Personhours (Permanent Employees) FY 2021-22



Measuring Impact

The impact of our training efforts is measured as part of the feedback process on the EMS framework and other pre and post-session evaluations. We engage a third party to assess the ability and capacity of our senior leadership team to ensure an objective and impartial assessment of their skills and capabilities.

Performance Management

Our performance management system and industry-benchmarked compensation and benefits programme are crucial for our employee retention strategies.

A comprehensive performance management framework involves an ongoing discussion between a supervisor and an employee throughout the year, covering areas like goal setting, feedback, and performance reviews. Our performance management systems use online and offline channels to engage and evaluate employees every six months and annually. Poornata, our enterprise-wide HR information management system, provides a platform for transparent and objective performance evaluation in line with the Group HR and talent pool guidelines. The evaluation process is easy to use for both managers and subordinates and provides a circular feedback mechanism that both can avail. Refresher courses on goal setting are conducted during the year so employees can set pragmatic and accurate goals.

Managers get several opportunities for counselling and mentoring employees through platforms like SAMPARK, 'Fit for Future', and 'Conversations that Count'.



Sampark
A meeting where employees meet with their skip-level manager once in six months to discuss career development opportunities.



Fit for Future
A meeting where employees meet with their skip-level manager once in six months to discuss career development opportunities.



Conversations that Count
A meeting where employees meet with their skip-level manager once in six months to discuss career development opportunities.

Employee Compensation and Benefits

Our employees are paid fairly aligned to industry benchmarks and Group policies. Different job groups have specified cost-to-company (CTC) commensurate with the responsibilities, qualifications and experience defined by the talent staffing policy. Our compensation structure includes gratuity, superannuation, reimbursements, Leave Travel Allowance, variable pay (one-time payment), medical insurance, and vehicle opt facilities as part of the salary. Nischint, a term policy is provided to all management cadre employees with coverage based on their Job Band. A portion of the premium is paid by the employee & rest is borne by the Company. A similar policy is extended to all staff cadre employees along with health insurance and other welfare measures

For outstation new joiners, we provide Company's guest house for up to a maximum of 10 days at the work location. The Company's Administrative Department assists the incumbent in looking for suitable accommodation and schools for dependent children, if any as needed in the new work location. We also provide travel and settlement expenses for new joiners and their spouse, dependent children and parents applicable to their level, including rail/air travel, local transportation, meals, movers and packers etc. SAHYOG is a programme that helps employees during relocation. A relocation allowance is also provided once the employee joins the organisation.

The remuneration of workers is fixed based on the state government's stipulations for minimum wages for all categories of employees, including High-Skilled, Unskilled, Skilled etc. Workers are engaged through different contract labour establishments through formal work orders and are paid as per applicable labour laws. The workers receive the stipulated wages in their bank accounts from the contractors after verification of all statutory documents before the 7th of the succeeding month. All workers are covered by Provident Fund, ESIC and WC. Notice for wage payment schedule and terms are prominently displayed in units and defined in contract agreements before deploying any workers. We review the wage structure and compliance status to stipulations for workers every six months. We verify wage bills monthly and ensure timely payment to all workers by checking online bank statements.

We adhere to the HPC wage mandate of Coal India Limited, the owner of the BCML mines, wherein workers are paid higher than the specified Central Minimum Wages. This rate is revised twice a year, like the minimum wage notifications of the Centre and States. The wage registers of workers and operators are checked and certified by the Personnel Department of MCL every month before issuing the CLPC (Contract Labour Payment Certificate) to BCML.

Rewards and Recognition

We have a comprehensive rewards and recognition programme that celebrates the contributions of our high performers and energises and motivates them to do better. Some of these rewards include:



Given by Unit Heads and respective managers to recognise individual employee contributions and encourage them further



For recognising and rewarding department-wise contributions and achievements



An online appreciation forum runs as part of the Organisational Effectiveness week celebrations



Recognitions awarded during meets like HR for You and ComEx for meritorious employees. Recognition of employees and contractual workers - during Independence day and Republic day celebrations for punctuality, safe driving, integrity etc



To recognise potential performers for extraordinary deliverables



For all round exceptional performances



Retention

Our retention strategies use an optimal combination of a structured approach to attracting and hiring the talent we need, interventions to integrate them into the Company culture and value system, creating opportunities for them to grow and build satisfying careers with EMIL and the Group and providing for benchmarked compensation and a robust set of benefits. In FY 2021-22, we saw a total of 360 resignations from EMIL. However, 99 of these resignations were due to transfers to other JVs and group companies. Our employee turnover rate in the reporting period stood at 16%.

Employee Engagement

Across our different business interests and locations, we try to curate the best combination of activities and opportunities that keep our employees aligned and engaged with the broader vision of EMIL. The enforced lockdowns during the better part of FY 2021-22 meant that a number of these activities had to be completed online, but that did not dampen the enthusiasm of either facilitators or participants.

Strengthening Bonds and Relationships

Across our units, we host annual sports meets, picnics and social get-togethers for our employees and their families. Celebrations are also held on employee birthdays every month. Our employees, their families, and local community members celebrate religious and social festivals enthusiastically. The units also mark special occasions like 'Women's Day' and 'Environment Day' to reinforce their commitment to the Company's sustainable and inclusive growth goals. Mindfulness circles are held to improve our employees' emotional stability and mental well-being.



PMPL

Environment days celebrations, Mines Environment and Mineral Conservation Week celebration & Kaizen are the practices to deepen the awareness of ESG practices amongst employees and their families who bring in their creative skills to present innovative ideas to accelerate sustainability across the organisation through posters and slogan writing.

Employee Engagement Platforms

Gamified management development exercises and knowledge-sharing sessions help the employees to engage and connect and offer valuable opportunities to enhance their competencies and capabilities. We also conduct regular engagement sessions for employees to share their insights, concerns and suggestions to improve the workplace environment, operational efficiencies, ESG practices and people policies. Some of these are outlined below



COMEX

A quarterly employee-management engagement session where a free exchange of ideas takes place and concerns and suggestions of employees are addressed by the executive leadership.



Values Forum

A quarterly forum where employees discuss their dilemmas, temptations and any violations of values.



'Meet Your HR'

A monthly engagement for employees to share their concerns and needs with HR focal points for appropriate redressal.

Employee Satisfaction

We conduct a Group-wide employee satisfaction survey, Team VIBES, every two years. Additionally, sessions like 'HR FOR YOU' conducted at RCML and COMEX hosted across EMIL once a quarter also offer a platform for employees to raise their grievances and seek redressal for issues related to welfare, safety, health & hygiene and infrastructural facilities. Inhouse surveys on the status of facilities are conducted for the management-level employees.

Human Rights

As a responsible signatory to the United Nations Global Compact (UNGC), EMIL is committed to upholding human rights for all. A Human rights policy at the Group and unit level guides our endeavours on this front. We prohibit child labour and forced labour. Where we hire lesser experienced workers, we ensure we do not expose them to activities that need higher skills or experience and may prove dangerous for them. We do not discriminate against anyone on any grounds, whether caste, creed, gender, age, or culture. We guarantee minimum wages and statutory benefits as outlined by the central and state governments based on specific locations. Our workers work eight hours with adequate rest periods and are given holidays as mandated by the Mines Act, Government of India. Our human rights obligations also extend to our suppliers and contractors. Our contracts are fair and mention all terms & conditions, including human rights obligations and are shared with our vendors well in advance.

Specific departments have been set up to monitor human rights adherence at a unit level. Our employees, including contractual staff, are provided with the numbers and e-mail IDs of the designated person responsible for handling human rights issues. Mine inspectors and labour enforcement officers regularly visit our sites to ensure that all norms are followed.

We periodically reiterate our human rights commitments and their implications for our operations to our employees and partners so they are aligned and act as mandated in all their transactions. Any violation of human rights is met with strict disciplinary action in line with Certified Standing Order & ID Act.

0
Reports of
human rights
violations in
FY 2021-22



DIGITALIZATION TO IMPROVE EMPLOYEE EXPERIENCE AND PRODUCTIVITY

Implementing a safe and efficient attendance system in BCML

A biometric system was used for recording attendance at the Talcher unit of BMCL before the onset of COVID-19. However, the government guidelines during the pandemic meant that a combination of distancing norms, masking requirements and temperature checks had to be introduced for all 1600 employees, contractors and temporary staff who entered the mines area. This necessitated a move from the automatic biometric attendance system to manual checking by our security personnel at different entry points. This was not only a time and resource-intensive activity but also prone to manual errors. The staffing requirement had to be increased threefold to support the three shifts during each 24-hour cycle.



Therefore, we faced the challenge of making the attendance system more efficient and accurate while maintaining health and safety at our workplace by enforcing COVID-appropriate behaviour. The IT team at Talcher developed a single contactless system, VF1000, that could facilitate all three tasks without manual intervention, including recording attendance, measuring body temperature and checking for proper usage of masks.

The team had only 15 days to test the prototype and make necessary device adjustments. Despite the tight deadlines, the VF1000 solution proved flawless and helped efficiently ensure health and safety. The individual details were checked in a few seconds, and attendance was recorded only if the other two requirements (mask worn and temperature below the specified level) were met. If any of these requirements were not met, a notification was sent to the IR team for necessary action. The system was hosted on the Cloud and therefore did not take up physical infrastructure for storage. It also permitted dashboards of attendance to be viewed on laptops or mobiles.

The solution worked so well for BMCL that it was subsequently rolled out at other EMIL units and the corporate office. The project and the team were recognised within the Aditya Birla Group, winning an ABG BIZLABS digital award for outstanding performance in business continuity.



Robotic Process Automation (RPA) for document processing

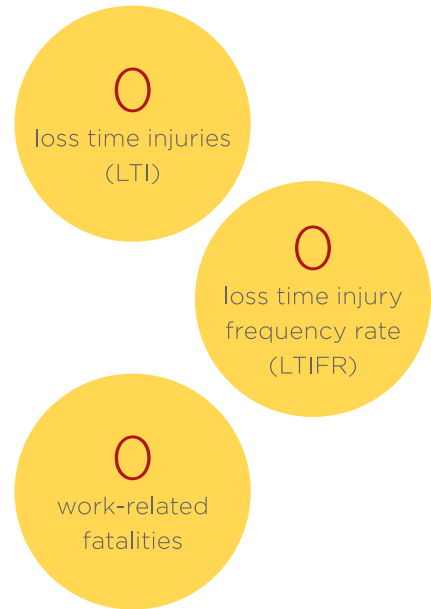
Pricing decisions at EMIL are usually based on several standard documents or publications like metal bulletins, Metal Week, RBI website and NALCO web portals. The implementation of an RPA solution along with Optical Character Recognition (OCR) in the last quarter of 2022 will automate the scanning of standard format documents like price circulars and invoices and process them quickly and with zero errors. The RPA bot uses the source documents to calculate the benchmark price and automatically generates a mail requesting approval from the designated authorities for the calculated price. This transformation will usher in several efficiencies, including freeing up resources to be deployed in other value-added activities and reducing errors associated with manual processing.

ORGANISATIONAL HEALTH AND SAFETY

The policy framework of the Aditya Birla Group and the requirements of ISO certifications provide the roadmap and necessary guidance for implementing organisational health and safety (OHS) interventions at EMIL.

We have deployed the QHSE MS IMS system in line with the ISO requirement of ISO 9001: 2015, ISO 14001:2015 and ISO 45001:2018 and the sustainability framework of the Aditya Birla group for enhancing Quality, Environmental impact and Occupational Health and Safety at the unit. These frameworks help to derive overall goals for the Unit, including “zero harm” and developing a safety culture at the plant level. The progress on these QHSE objectives is evaluated at the monthly review meetings. We use the HIRA (Hazard Identification and Risk Assessment) framework to assess the risks to workplace safety. Every line manager is provided with specific goals for safety, and their performance is assessed periodically. Line managers maintain and update the quality risk register, HIRA register, business risk register and environment aspect-impact register.

During FY 2021-22, we had



A robust framework ensures that our employees stay safe at the workplace, including measures like:

- Compliance with safety regulations
- Maintenance of safe working techniques, maintenance of machines and equipment, particularly any devices provided in the interest of safety
- Enhancing the competence of managers, supervisors and workers
- Taking all steps to eliminate or control hazards or risks to employees and others arising during the production, including the proper care and use of personal protective equipment, facilities and equipment placed at their disposal
- Report any unusual conditions at the workplace or affecting installations and equipment to the immediate supervisor or safety representative
- Cooperate with the management and other employees to ensure compliance with the duties and responsibilities placed on the management and employees



RCML Coal Handling Plant safety measures

We have instituted measures at RCML to set benchmarks for safe operations including:

- Conveyor fencing
- Earth Pit Connection shifted to less dust prone areas
- Widening of the discharge chute and reducing the height so that collected metals may easily enter the chute preventing any spill outs from the conveyors.
- Erecting a walkway for safe passage near cross belt magnetic separator
- RCC flooring of Transfer Tower - 4 to reduce coal dust pile up
- Construction of mason guard wall near existing and retaining wall to prevent surface water and mud seeping under the conveyor stream
- Corrosion resistant painting of conveyor gallery, transfer towers, take-up towers
- 70 Watt HPSV lights replaced by 40 Watt LED lights



Strengthening the safety and health culture

We foster an all-pervasive safety culture backed by a robust Occupational Health and Safety policy and practices in line with regulations. We engage, align and involve our employees and management across levels in ensuring the day-to-day safety of our operations through several measures as outlined below:

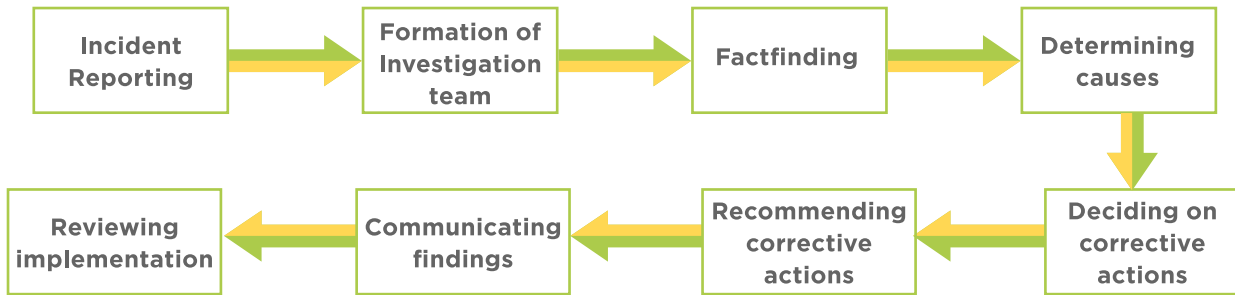
Execution and Compliance	Reviews and Audits	Awareness and Training	Health and Safety
<ul style="list-style-type: none"> On-Site Emergency plan HIRA for hazardous activities & SOP and SMP for Plant activities Sharing safety contacts before the start of any meetings Regulatory & Legal compliance concerning Safety & Fire Increase illumination levels inside and surrounding the plants Developing guarding systems for moving machinery & equipment Global Positioning System (GPS) management for tracking vehicle speed to prevent accidents 	<ul style="list-style-type: none"> Internal safety audits / inspections in hazardous areas Monthly Apex Safety committee meetings Monthly safety meetings 	<ul style="list-style-type: none"> Mock Drills as per the Emergency Preparedness plan Safety awareness training for employees Daily Tool Box talk on the shop floor 	<ul style="list-style-type: none"> Pre-employment and periodic medical examination of employees Systematic drives/campaigns on site-specific prevailing health problems



ENABLON - Environmental Health and Safety Dashboard

We use a cloud-based on Environmental Health and Safety (EHS) platform that records, monitors and tracks health and safety parameters across all units. The safety incidents recorded on the platform are categorised as per the severity and consequences of their impact, in increasing order from 1 to 5. The dashboard is accessible to the senior executives across the reporting chain. An 8-step root cause analysis (RCA) is carried out for the reported incidents on Enablon, and actions are recommended to avoid recurrence. Implementation of recommended actions are reviewed till closure.

8 Step incident management at EMIL



OHS at our units

At our units, we run self-assessment questionnaires (SAQ) to understand the gaps in preparedness, Quantitative exposure assessments (GEA) and Qualitative exposure assessments (GLEA). All our units use a combination of standard safety practices that are common across EMIL, as well as specific interventions designed in line with conditions and risks specific to their operations and business. Each unit's workflow is broken into standard operating procedures (SOPs). These SOPs are used to develop safe work procedures (SWPs) after incorporating appropriate precautions into the work processes. The well-documented SWPs are the core of our safety procedures, covering monitoring, prevention and corrective actions. We provide requisite Personal Protective Equipment to workers and do not depend on the contractor to provide them.

EMIL's wind and solar energy units have a system of real-time monitoring of health and safety parameters, with an established procedure for incident reporting daily. Apart from the business-level safety committees, we also have unit-level committees which meet regularly.



Enhancing safety at EMIL's Wind Unit

To reduce human efforts and save time, the wind power generation unit installed a mechanised climbing system in each machine replacing the existing monkey-climbing stairs. This has lessened the burden of carrying a heavy tool kit to the gearbox located on top of the machinery for the workers, making it safer for them and helping them attend to equipment faults faster.

At PMPL, we have digitized the monitoring process for the pellet formation stages. Pellets are formed passing through Induration machine at 1300°C to harden the pellet and cool it down to 80 to 100°C before discharging it. The manual monitoring of the process, therefore, has considerable risk exposure in terms of safety. As part of the digitalization effort, we have installed transducers to detect if any part of the process has an issue and shut down the system.



RFID Tagging for improving efficiency and safety for the transportation fleet at PMPL

The PMPL unit has a substantial number of trucks used to transport raw materials, intermediate inputs and finished goods. The tracking of these vehicles and their contents was done manually within the plant and once the trucks went out.

We propose introducing radio frequency identification (RFID) tagging for all trucks in our fleet for better monitoring. The device will help track the location and movement of every vehicle in real-time. This system will also photograph the loaded vehicles to decide the appropriate treatment of goods at the unloading point. It will also help in preventing pilferage and theft from the trucks. Since all records will be maintained digitally, the volume of paperwork will reduce drastically, saving time, effort and our environmental footprint.

The vehicle's security, along with that of the drivers and goods, will be enhanced by the system's ability to generate alerts every time the vehicle goes outside the designated areas or shows movement beyond stipulated operating hours. Transparent visibility of the locations and destinations of all vehicles will help in better logistics planning and save time and effort for the fleet administrators.

Safety Training

An annual training calendar helps employees, contract workers, and others engaged in the Company's activities to better understand and follow workplace safety practices. Safety training is mandatory for all new joiners. Trainings are categorised into classroom training, SOP training and on-the-job training and are provided to employees to create awareness and promote a safety culture covering the following topics:

First Aid	Fall Protection	Scaffolding	Drilling, charging and blasting	Fire Safety	Confined space
Machine Guarding	HEMM working	Near Miss Reporting and Safety Observations	Hot Work	Electrical Safety	Lifting and Supporting
Personal Protective Equipment	Lock Out Tag Out and Permit System	Hazardous Chemicals Management	Permit to work	Emergency and Disaster Preparedness	Road and Vehicular Safety
		Ergonomics	Welding work		

A CUSTOMER FIRST COMPANY



Our customers are primarily located in Odisha, Chhattisgarh, West Bengal, Jharkhand and parts of Maharashtra, Uttar Pradesh and Madhya Pradesh.

As a customer-centric organisation, we continuously design and develop products and services to empower them to grow sustainably and stay resilient. Drawing on our long customer relationships, we have a rich repository of insights that allows us to transform and innovate our processes to meet their current and emerging needs. Our mines in Odisha are ideally located to serve major domestic Indian markets in the ferrous metallurgy sector during reporting period. We are one of the leading suppliers of quality iron ore to integrated steel plants and standalone Pig / Sponge iron plants in India. Our high-quality sinter feed & pellet feed fines are considered ideal for the agglomerate-producing sector.



A responsive and expansive supply chain and operational systems, along with robust inland and ocean logistics and freight and port management teams, help us deliver seamless and quality service across the customer engagement lifecycle.

EMIL's marketing offices are located in Kolkata and Barbil in India. The Kolkata office focuses on international customers and end-users in China, and the Barbil office serves the domestic market. They serve as focal points to interface with customers, understand their requirements, ensure timely delivery of products and respond to their queries and address grievances as per our Company's policies and norms.

BUILDING A SUSTAINABLE SUPPLY CHAIN

As part of our efforts to improve the sustainability of our supply chain, we identify and monitor potential ESG risks across our value chain. We encourage our partners to align with our sustainability commitments and pre-emptively mitigate or adapt the assessed risks. These steps are key to protecting our Company and suppliers from reputation damage, non-compliance, and climate change-related disruptions and preventing human rights violations. For suppliers & vendors, a yearly survey is conducted to understand their levels of satisfaction.

A streamlined supply chain focusing on local sourcing allows us to increase production while optimising resources and reducing our environmental footprint. Our endeavours have carved several success stories enabling us to transform our supply chain through collaborations, innovation and co-creation powered

by digitalization and advanced technology. We have automated vendor banking transactions and initiated e-payments for vendors. This has reduced manual interventions and cheque issuance, facilitated immediate transfer of funds and automated the exchange of files & information with approval on the bank portal with robust encryption.

A structured vendor management system allows us to enter transparent and fair contracts with them and effectively address their concerns. We engage with our vendors regularly to understand their emerging needs and address them. A supplier grievance mechanism allows us to receive and redress their grievances on time. Annual vendor meets also help us assess gaps and collaborate with our partners to improve their experience with EMIL.

In line with our focus on fostering inclusive growth and generating shared value, we encourage the development of local and short supply chains involving small and micro manufacturers. This helps us derisk our operations and reduce our transportation and storage-related environmental footprint while creating local jobs and propelling the socio-economic development of communities.



Transparency and efficiency for the value chain

We propose to introduce a consolidated portal that will digitise the end-to-end processes across our value chain and can be used by EMIL employees, buyers and suppliers. Starting from vendor registration to inviting bids and releasing requests for quotes (RFQ), the automated system will cover the lifecycle of our vendor relationships and make transactions seamless, transparent and risk-free.

This portal will share information and process business transactions between vendors and EMIL. It will allow for a fair and transparent evaluation of vendor quotations and facilitate informed decision-making on awarding contracts. The tool will also provide historical data to help better decision-making on an ongoing basis. Additionally, vendor transactions involve time, resources and paperwork that takes up a lot of effort on both sides. Once the portal goes live, all documents related to a particular transaction or family of transactions will be available and visible to all stakeholders, enhancing transparency and trust.



NURTURING RESILIENT COMMUNITIES

At EMIL, we are guided by the Aditya Birla Group’s philosophy that aims to transcend the conventional boundaries of business because we care. For over 50 years, the Group has driven impact-led upliftment initiatives for the marginalised and vulnerable across 9,000 villages, reaching out to 11 million people annually in India and across the globe.

Our Corporate Social Responsibility (CSR) activities are designed to enhance the human capital index and improve socioeconomic opportunities for our communities. A comprehensive CSR policy with a structured execution approach and defined budgets guides our activities under the oversight of our Board.



CSR Strategic Framework and Execution Approach

Our community-facing engagements are taken forward by 'The Aditya Birla Centre for Community Initiatives and Rural Development' under the leadership of its Chairperson, Smt. Rajashree Birla. The programs are implemented in partnership with government bodies, district authorities, village panchayats and community members. We also actively collaborate and network with other bilateral and unilateral agencies to ideate, co-create, learn, and share experiences to amplify the reach and impact of community engagements and accelerate advocacy for sustainable socioeconomic transformation.

Some of the institutions and NGOs we partner with include:

Odisha State Aahar Society

Impact India Foundation

Shree Vishudhanand Hospital And Research Institute

A World of Opportunity Foundation

Cancer Patients Aid Association

Gram Vikas

G.D.Birla Medical Research & Education Foundation

Smile Foundation

Indian Institute of Forest Management

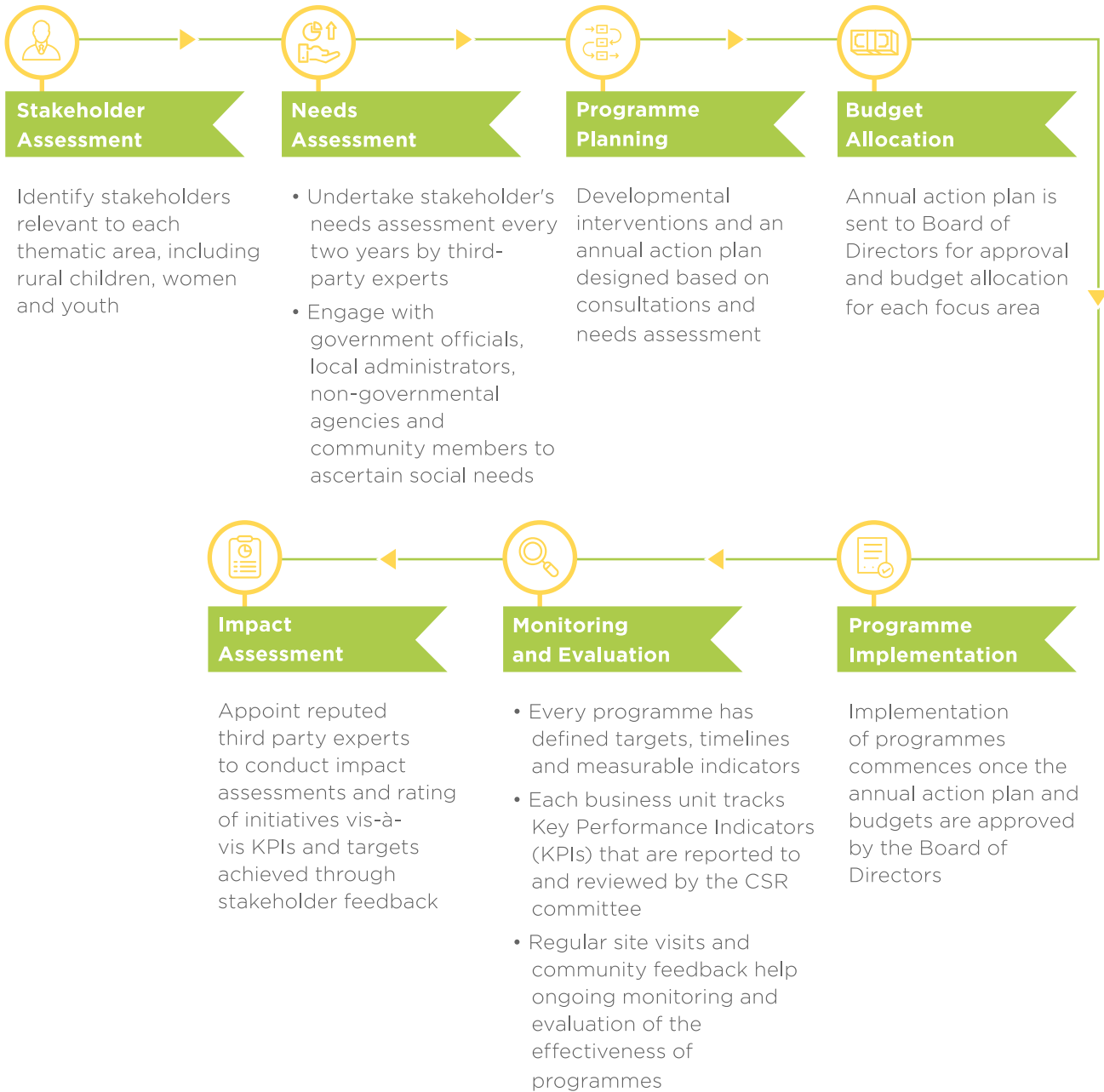
Centre for Youth and Social Development

Foundation For Innovations In Health

Institute of Neurosciences

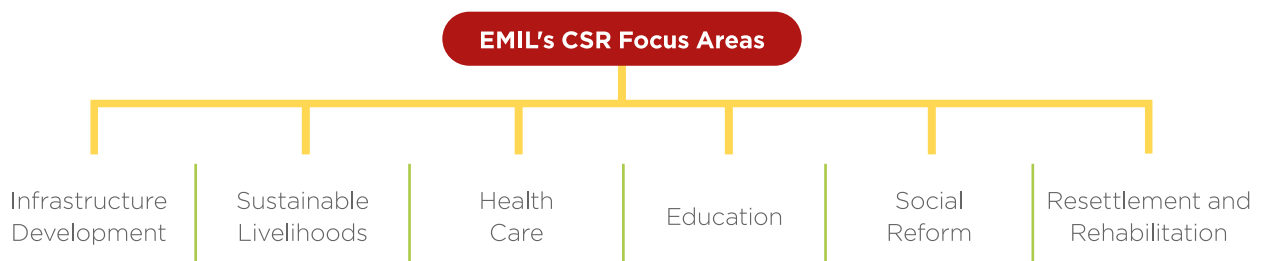


CSR Strategic Framework and Execution Approach



CSR Focus Areas

The Company's CSR activities are designed in consultation with community members to meet their needs and to address any impacts of our operations on their lives and livelihood. They aim to address the "quality of life" challenges faced by underserved and marginalised communities and make a 'meaningful difference' to them. Our CSR endeavours focus on the following need areas.



Our CSR activities during FY 2021-22 supported various developmental programmes outlined below

Infrastructure Development



Goal

To improve quality of life and ease of living by enhancing the infrastructural backbone of the rural areas around our operations



Initiatives

- Building roads, community centres
- Broadening access to potable water and power
- Promoting the use of green energy through the installation of solar panels



Action

The BCML unit supported infrastructural improvements to the local hospital in Angul to improve the patient experience by providing additional seating, air conditioning units and water filtration facilities. In Godda, Jharkhand, we installed borewells, pumps, switch rooms and overhead tanks to improve the potable water supply for the community. We made significant investments in rural development projects in Odisha and Madhya Pradesh. Solar Street Lights maintenance work was carried out at Koira, Odisha. Ongoing monitoring and maintenance of common infrastructure assets like community centres, clubhouses, electric installations and water supply structures for the use of the community were undertaken across all our units.



Performance: FY 2021-22

Provided INR 8.55 crore for rural development projects in Odisha and Madhya Pradesh.

Maintenance of solar lights in Koira in Odisha



Maintenance of community infrastructure



Upgraded hospital in Angul



Sustainable Livelihoods



Goal

To empower community members to earn a sustainable livelihood, become self-sufficient, financially independent, and live with dignity.



Initiatives

- Agricultural and non-agricultural capacity building and training programmes



Action

We have trained and provided infrastructure support in Odisha and Madhya Pradesh to equip the marginalised, including women, to pursue sustainable livelihoods and become self-reliant. We actively support the formation of self-help groups to help women become financially independent.

Agricultural and horticultural fields developed in previous years were maintained with a limited workforce following COVID-appropriate behaviour in Odisha. We have rejuvenated small water bodies in Jharkhand to help farmers and fisheries.

Maintenance of agricultural fields



Women empowerment



Healthcare



Goal

To broaden access to quality and affordable healthcare for communities through preventive, curative, promotional and supportive services.



Initiatives

- Immunisation of children
- Eye camps
- Healthcare campaigns and awareness sessions

**Action**

In FY 2021-22, we continued our larger healthcare initiatives in addition to the initiatives focused on managing the impact of COVID in the previous reporting year.

Under preventive healthcare services in Koira, the distribution of masks, sanitisers and cleaning of public drains was carried out to curb the spread of COVID-19.

Three critical care ambulances sponsored by the Company to help community members in remote areas to access emergency and quality healthcare in Cuttack and Rourkela. One of our Critical Care Ambulances was placed with the District Medical Officer, Keonjhar, to support the fight against COVID-19 in Barbil.

We have partnered with governments in Odisha, Madhya Pradesh, Jharkhand, West Bengal and Maharashtra for programs to eradicate hunger, poverty and malnutrition and promote health care, sanitation and safe drinking water.

We partnered with the district health team for a polio immunisation programme for rural children in and around Barbil, Odisha, to ensure protection against the disease.

Two static dispensaries in Koira and Barbil supported by EMIL have two full-time doctors and seven paramedical staff to treat rural patients. The centres also provide diagnostic services managed through automated channels and trained paramedics, minimising the need for people in neighbouring villages to undertake expensive and time-consuming travel to avail of diagnostic facilities.

In line with the Government vision of 'Swachh Bharat', we carried out regular housekeeping and maintenance of the Government Community Health Centre, Koira, to ensure clean premises.

Medical equipment was provided to three hospitals in Buxhawa, Chattarpur and Badamalehra in Madhya Pradesh and one hospital in Kolkata, West Bengal, to treat underprivileged patients.

Air conditioners, water purifiers and steel seats were provided to the sub-divisional hospitals in Angul, Odisha.

EMIL extended support for the Odisha government's AAHAR Yojana food subsidisation programme to provide affordable lunch to the urban poor at an affordable price of INR 5. It was inaugurated on April 1, 2015 and targets to serve more than 60,000 people per day.

Performance: FY 2021-22

5843 children were given polio drops in Barbil.

Company-sponsored ambulances traversed **14578** kilometres to serve patients

9868 beneficiaries availed of our health services

9304 patients were provided curative health care services by the Koira dispensary

564 highly subsidised pathological and diagnostics tests conducted

INR **2.01 Crores** given to the Government of Odisha for eradication of hunger, poverty and malnutrition

Committed **INR 14.62 crore** to eradicate hunger, poverty and malnutrition, promoting health care, sanitation and safe drinking water in Odisha, Madhya Pradesh, Jharkhand, West Bengal and Maharashtra



A Lifeline for Angul

Impact India Foundation (IIF) has been a torchbearer for social welfare projects around the country for almost four decades. One of their projects that has had the most impact in the country's rural hinterland is the IIF Lifeline Express Hospital train. In the last thirty years, the Lifeline Express has benefited almost 2 million people in 160 districts of 25 states of India.

During FY 2021-22, three Life Line Express projects supported by EMIL brought medical care facilities to communities in Odisha, Jharkhand and Madhya Pradesh, serving 27,391 villagers in remote locations.

The BCML unit brought the Lifeline Express to Angul, Odisha, for 21 days. The train consisted of seven coaches to deliver medical care and a state-of-the-art operation theatre for carrying out medical procedures. The Lifeline Express proved to be a boon for the communities by bringing high-quality healthcare to their doorstep.

A total of 8306 patients from 3107 rural households benefited from the Lifeline Express during these three weeks. The Lifeline Express carried out 295 surgeries and 404 dental procedures. A variety of medical aids and appliances like spectacles, hearing aids and callipers were distributed to 1486 people. We also facilitated different medical tests. Ten women availed of the PAP smear test, while 3322 blood pressure and diabetes tests were completed.

Education



Goal

To make education the cornerstone of inclusive and sustainable growth and development by strengthening educational infrastructure for underserved rural children



Initiatives

- School infrastructure development
- Providing students with educational amenities like stationery, uniforms, solar lamps etc.
- School enrolment programmes
- Education of the Girl Child



Action

Our efforts to promote education include interventions for special education and vocational skills for improving employability.

We focused on strengthening formal school systems and improving the quality of learning by tapping private school teachers, promoting girl child education and encouraging volunteerism in Odisha.

Free school bus facilities are provided for children in remote areas in Odisha to reach schools and colleges safely and continue their education without disruption.

We engaged teaching volunteers to scale up the quality and depth of learning at Government schools.

Meritorious underprivileged students are awarded scholarships for higher education through the 'A World of Opportunity Foundation' in Mumbai.



Performance: FY 2021-22

Strengthened formal schools systems to positively impact 2,370 students
Engaged ten teaching volunteers for 10 Government schools with a combined strength of 1,760 students

Free school bus facilities for 108 students from remote villages of Odisha
495 students provided scholarships for higher education
Invested INR 10 crore to promote education and employment and enhance vocational skills.

Fostering literacy in Talcher, Odisha

We helped construct a bicycle stand in the Talcher Women's College, benefiting around 600 students and installed smart classrooms to encourage the use of technology by teachers. Desks, benches and hand sanitisers were supplied to peripheral schools and colleges, impacting about 1300 people.

Ensuring Mental Health of Students & Teachers in Maharashtra

In Maharashtra, students and teachers were provided counselling by Mpower, a unit of the Aditya Birla Education Trust to improve mental health in schools as part of our CSR initiatives.

657 students and teachers counselled by Mpower on mental health.

Teaching volunteers at Government Schools in Odisha



Free school bus services



Counselling session by Mpower



Social Reform



Goal

To respect and maintain the rural heritage of the areas in which we operate and create opportunities to enhance economic independence and social integration of the community members



Initiatives

- Awareness campaigns
- Maintaining rural heritage
- Preserve rural culture and ethnicity



Action

We undertake proactive action to understand and preserve the heritage and traditional practices of the communities in which we operate..

Rural youth are rewriting India's sporting history with their successful feats in the country and on global platforms like the Olympics. Skilled sportspersons from rural areas must get opportunities to integrate into the national sporting scene overcoming the lack of access and reach. We organise rural sports tournaments in the villages around our sites. These events help us identify youngsters with potential for whom we provide coaching to help sharpen their talent and create opportunities for them to shine on national and global sporting platforms.



Resettlement and Rehabilitation



Goal

To protect and preserve cultural heritage and social mores of the population who have welcomed us into their areas and integrate into the society we inhabit



Initiatives

- Preserving cultural heritage
- Minimising impact on the community



Action

We respect the connection of indigenous and traditional communities with the land where we mine.

The lifecycle of our operations at all locations is conceived, planned and executed in a way that prioritises the needs of indigenous peoples and ensures their rights are protected at every step.

We proactively identify and manage risks emanating from our operations and their impact on indigenous people. Ongoing and constructive dialogue helps us identify their cultural and socioeconomic needs and design initiatives to address them.

Our code of conduct ensures that all our stakeholders, including employees and suppliers, engage with indigenous people impacted by our operations through appropriate consultation in a fair and transparent manner and respect their rights.

We also work with these communities to help them broaden their opportunities for socioeconomic growth and potential for sustainable livelihoods.

Even when we exit operations, we undertake every effort to deploy effective post-mining legacies to ensure communities continue to thrive socially and economically.

Community Grievance Channels

We conduct ongoing dialogue and engagement with community members to understand their evolving needs and address any concerns they may have with respect to our operations and activities. A robust and responsive grievance redressal process guides our efforts to receive, investigate, address and close complaints from impacted communities in a timely, fair, transparent and consistent manner.

Assurance Statement

The Directors and Management,
Industry House, 18th Floor, 10,
Camac Street, Kolkata 700 017, India.

Essel Mining & Industries Limited (hereafter 'EMIL') commissioned TUV India Private Limited (TUVI) to conduct independent external assurance of non-financial ESG performance indicators disclosed in EMIL's Sustainability Report (hereinafter 'the Report') for the period April 1, 2021 to March 31, 2022. This engagement was comprised a "limited assurance" of EMIL's sustainability information for the applied reporting period. The Verification was conducted remote assessments in month of November 2022 at the EMIL's installations as listed under "Scope and Boundary" below. The Report is based on the principles of GRI 2020 Standards (hereafter 'GRI'). This assurance engagement was conducted in accordance with ISAE 3000 (revised).

Management's Responsibility

EMIL developed the Report's content by monitoring the performance data. EMIL management is responsible for identifying material topics and carrying out the collection, analysis, and disclosure of the information presented in the Report (web-based and print), including website maintenance and integrity, and for ensuring its quality and accuracy in reference with the applied criteria stated in the GRI Standards in such a way that it is free of intended or unintended material misstatements.

Scope and Boundary

The scope of work includes limited assurance of the following non-financial performance / KPI disclosures as disclosed in the Report. In particular, the assurance engagement included the following:

- a) Review of the disclosures submitted by EMIL;
- b) Review of the quality of information;
- c) Review of evidence (on a sample basis) for identified non-financial indicators

TUVI has verified the below-mentioned disclosures given in the Report:

Topic	Indicator	GRI Disclosure
Governance	Governance structure	102-18
	Management approach	103-1, 103-2, 103-3
Water	Water withdrawal	303-3
	Water discharge	303-4
	Water consumption	303-5
Waste	Waste generated	306-3
	Waste diverted from disposal	306-4
	Waste directed to disposal	306-5
Emissions	Direct (Scope 1) GHG emissions	305-1
	Energy indirect (Scope 2) GHG emissions	305-2
	GHG emission intensity ratio	305-4
	Reduction of GHG emissions	305-5
Energy	Energy consumption within the organization	302-1
	Reduction in energy requirements of products and services	302-4
Occupational Health and Safety	Workers covered by an occupational health and safety management system	403-8
	Work-related injuries	403-9

	Work-related ill health	403-10
Employment	New employee hires and employee turnover	401-1
	Benefits provided to full-time employees that are not provided to temporary or part-time employees	401-2
Training	Average hours of training per year per employee	404-1
Local communities	Operations with local community engagement, impact assessments, and development programs	413-1

The reporting boundaries for the above topics includes

- 1) *Essel Mining & Industries Limited, Wind power site Office: Sakri, Dist.: Dhulia, Maharashtra*
- 2) *Essel Mining and Industries Limited, Noble Ferro Alloy unit, Plot No 165/166, 2nd Phase, GIDC Industrial Estate, Vapi – 396195*
- 3) *Bhubaneswari Coal Mining Ltd. (BCML), Old Mcl Store campus, Deulbeda Colliery, Talcher, Angul-759102*
- 4) *Rajmahal Coal Mining Limited (RCML), Urjanagar, Po-mahagama, Di-Godda, Jharkhand-code-814154*
- 5) *Koira Mine, Essel Mining & Industries, Koira Iron Ore Mine, At/Post- Koira, Dust-Sundergarh- 770048*
- 6) *Iron Ore Benefaction & Pelletization Division (IOBP), Plot No-7/43, Khata no- 224/122, At/Post-Basantpur, Dust-Keonjhar- 758034*
- 7) *Solar site, located at Rajasthan (Vituza and Bhadla), Gujarat (Charanka), Telangana (Mehbubnagar-Kalwakurthy, Achampet, Alladurg in Medak and Mustyal in Siddipet)*

The assurance activities were carried remotely for above sites; desk review was carried out for other sites as reported under the sustainability report.

Limitations

TUVI did not perform any assurance procedures on the prospective information, such as targets, expectations, and ambitions, disclosed in the Report. Consequently, TUVI draws no conclusion on the prospective information. During the assurance process, TUVI did not come across any limitation to the agreed scope of the assurance engagement. TUVI expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement.

Our Responsibility

TUVI's responsibility in relation to this engagement was to perform a limited level of assurance and to express a conclusion based on the work performed. This engagement did not include an assessment of the sufficiency of the principles of GRI Standards: Core option, and ISAE 3000 (revised), other than those mentioned in the scope of the ESG data assurance. TUVI's responsibility regarding this verification is in accordance with the agreed scope of work which includes non-financial quantitative and qualitative information disclosed by EMIL. This assurance engagement assumes that the data and information provided to us by EMIL are reliable, complete and true.

Verification Methodology

During the assurance engagement, TUVI adopted a risk-based approach, focusing on verification efforts with respect to disclosures. TUVI has verified the disclosures and assessed the robustness of the underlying data management system, information flows, and controls. In doing so:

- i. TUVI examined and reviewed the documents, data, and other information made available by EMIL for non-financial disclosures;
- ii. TUVI conducted interviews with key representatives, including data owners and decision-makers from different functions of EMIL;
- iii. TUVI reviewed the level of adherence to principles of GRI standards: Core option.
- iv. TUVI examined and reviewed the documents, data (on sample basis) and other information made available by EMIL for the reported disclosures including the Management Approach and performance disclosure;

Opportunities for Improvement

The following are the opportunities for improvement reported to EMIL. However, they are generally consistent with EMIL management's objectives and programs. EMIL already identified below topics and Assurance team endorse the same to achieve the Sustainable Goals of organization.

- 1) Formal grievance mechanism to capture the feedbacks from local community can be established to strengthen the disclosure 413-1 and hence inclusivity principle;

- 2) EMIL can further include the data of contract employee for reporting the disclosure 102-8 and 404 (Training and Education);
- 3) GHG, water, waste, and other applicable impacts due to employee colony can be considered during next periodic reporting;
- 4) All indirect GHG emissions following the requirements of ISO 14064 could be calculated and published during next periodic reporting;
- 5) EMIL can reassess its GHG emission targets following the "Science-Based Targets" methodology (Sectoral de-carbonization approach or Absolute based targets or Economic approach);

Our Conclusion

In our opinion, based on the scope of this assurance engagement, the disclosures on sustainability performance reported in the Report along with the referenced information provides a fair representation of the material topics, related strategies, and performance disclosures and meets the general content and quality requirements of the GRI Standards: Core option.

Disclosures: TUVI is of the opinion that the reported disclosures generally meet the GRI Standards reporting requirements in reference with the "Core" option. EMIL refers to general disclosure to report contextual information about EMIL, while the Management Approach is discussed to report the management approach for each material topic.

Universal Standard: EMIL followed GRI 101: Reporting Principles for defining report content and quality, GRI 102: General Disclosures were followed when reporting information about an Organization's profile, strategy, ethics and integrity, governance, stakeholder engagement practices, and reporting process. Furthermore, GRI 103 was selected for Management's Approach on reporting information about how an organization manages a material topic. TUVI is of the opinion that the reported specific disclosures for each material topic generally meet the GRI Standards reporting requirements in reference with the "Core" option.

Topic Specific Standard: 200 series (Economic topics), 300 series (Environmental topics), and 400 series (Social topics); These Topic-specific Standards were used to report information on the organization's impacts related to environmental and social topics. *TUVI is of the opinion that the reported material topics and Topic-specific Standards that EMIL used to prepare its Report are appropriately identified and addressed.*

Limited Assurance Conclusion: Based on the procedures we have performed, nothing has come to our attention that causes us to believe that the information subject to the limited assurance engagement was not prepared in all material respects. TUVI found the sustainability information to be reliable in all material respects, with regards to the reporting criteria ("Core") of the GRI Standards.

This assurance statement has been prepared in accordance with the terms of our engagement. In accordance to the ISAE 3000 (revised) requirements

Independence:

TUVI follows IESBA (International Ethics Standards Board for Accountants) Code which, adopts a threats and safeguards approach to independence. It is confirmed that the Assurance Team is selected to avoid situations of self-interest, self-review, advocacy and familiarity. The Assessment Team was safeguarded from any type of intimidation.

Quality control:

The Assurance Team complies with the Code of Ethics for Professional Accountants issued by the IESBA, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. In accordance with International Standard on Quality Control, TUVI 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.

In the context of Assurance, the following contemporary principles has been observed:

Evaluation of the adherence to other contemporary Principles

Inclusivity: Stakeholder identification and engagement is carried out by EMIL on a periodic basis to bring out key stakeholder concerns as material topics of significant stakeholders. In our view, the Report meets the requirements.

Materiality: The materiality assessment process has been carried out based on the requirements of the GRI Standards, considering topics that are internal and external to the EMIL range of businesses. The Report fairly brings out the aspects and topics and their respective boundaries of the diverse operations of EMIL. In our view, the Report meets the requirements.

Responsiveness: TUVI believes that the responses to the material aspects are fairly articulated in the report, i.e., disclosures on EMIL policies and management systems, including governance. In our view, the Report meets the requirements.

Impact: EMIL communicates its sustainability performance through regular, transparent internal and external reporting throughout the year, aligned with GRI, and its policy framework encompassing the Environmental, Social, Ethical and other policies. EMIL reports on sustainability performance to the Top Management, who oversees and monitors the implementation and performance of objectives, as well as progress against goals and targets for addressing sustainability-related issues.

TUVI expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement. The intended users of this assurance statement are the Management of EMIL. The Management of the EMIL is responsible for the information provided in the Report as well as the process of collecting, analyzing, and reporting the information presented in web-based and printed Reports, including website maintenance and its integrity. TUVI's responsibility regarding this verification is in accordance with the agreed scope of work which includes non-financial quantitative and qualitative information (Sustainability Performance) disclosed by EMIL in the Report. This assurance engagement is based on the assumption that the data and the information provided to TUVI by EMIL are complete and true.

Our Assurance Team and Independence

TUVI is an independent, neutral third party providing sustainability services with qualified environmental and social specialists. TUVI states its independence and impartiality and confirms that there is "No Conflict of Interest" with regard to this assurance engagement. In the reporting year, TUVI did not work with EMIL on any engagement that could compromise the independence or impartiality of our findings, conclusions, and recommendations. TUVI was not involved in the preparation of any content or data included in the Report, with the exception of this assurance statement. TUVI maintains complete impartiality towards any individuals interviewed during the assurance engagement.

For and on behalf of TUV India Private Limited



Manojkumar Borekar
Project Manager and Reviewer
Head – Sustainability Assurance Service



Date: 29-12-2022
Place: Mumbai, India
Project Reference No: 8120767302
www.tuv-nord.com/in

GRI CONTENT INDEX

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ABBREVIATIONS

ABBREVIATIONS	Full Form
APMDC	ANDRAPRADESH MINERALS DEVELOPMENT CORPORATION
BCML	BHUBANESHWARI COAL MINING LIMITED
BEPS	BASE EROSION AND PROFIT SHIFTING
BF	BLAST FURNACE
BRSR	BUSINESS RESPONSIBILITY & SUSTAINABILITY REPORT
BSI	BRITISH STANDARD INSTITUTION
CDM	CLEAN DEVELOPMENT MECHANISM
CDP	CARBON DISCLOSURE PROJECT
CLO	CALIBRATED LUMP ORE
COGS	COST OF GOODS SOLD
CO-PA	COSTING AND PROFITABILITY ANALYSIS
COO	Chief Operating Officer
CPT	CIRCULAR PELLETTIZING TECHNOLOGY
CSM	CONTINUOUS SURFACE MINER
CSR	CORPORATE SOCIAL RESPONSIBILITY
DJSI	DOW JONES SUSTAINABILITY INDICES
DRI	DIRECT REDUCED IRON
EBITDA	EARNING BEFORE INTEREST TAXES, DEPRICIATION & AMORTIZATION
EMIL	ESSEL MINING & INDUSTRIES LIMITED
EMMRL	EMIL MINES & MINERALS RESOURCES LIMITED
ESG	ENVIRONMENTAL, SOCIAL & GOVERNANCE
FeMo	FERRO MOLYBDENUM
FeTi	FERROTITANIUM
FEV	FERRO VANADIUM
FY	FISCAL YEAR
GHG	GREEN HOUSE GASES
GJ	GIGAJoule
GmbH	GESELLSCHAFT MIT BESCHRANKTER
GRI	GLOBAL REPORTING INITIATIVE
GRN	GOODS RECEIVED NOTE
HIRA	HAZARD IDENTIFICATION & RISK ASSESSMENT
HRDD	HUMAN RIGHTS DUE DILIGENCE
ICMM	INTERNATIONAL COUNCIL OF MINING & METALS
IM	INCIDENT INVESTIGATION

ABBREVIATIONS	Full Form
IMS	INTEGRATED MANAGEMENT SYSTEM
KMP	KEY MANAGEMENT PERSONNEL
KPI	KEY PERFORMANCE INDICATOR
LCA	LIFE CYCLE ASSESSMENT
MDO	MINE DEVELOPERS & OPERATORS
MEMCW	MINES ENVIRONMENT AND MINERAL CONSERVATION WEEK
MP	MADHYA PRADESH
MT	METRIC TONNE
MTPA	METRIC TONNES PER UNIT
MW	MEGA WATT
MWH	MEGA WATT HOUR
MWp	MEGA WATT PEAK
NFA	NOBLE FERRO ALLOYS BUSINESS
OECD	ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
OH & SAS	OCCUPATIONAL HEALTH & SAFETY ASSESSMENT SERIES
PMP	PRO MINERALS PRIVATE LIMITED
PSM	PROCESS SAFETY MANAGEMENT
PWDs	PERSONS WITH DISABILITIES
RCM	REGULATORY COMPLIANCE MANAGEMENT
RCML	RAJMHAL COAL MINING LIMITED
SASB	SUSTAINABILITY ACCOUNTING STANDARDS BOARD
SBTi	SCIENCE BASED TARGET INITIATIVE
SDF	SUSTAINABLE DEVELOPMENT FRAMEWORK
SI	SAFETY INTERACTIONS
SMP	SAFETY MANAGEMENT PLAN
SOP	STANDARD OPERATING PROCEDURES
TCFD	TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES
UNSDGs	UNITED NATION SUSTAINABLE DEVELOPMENT GOALS
USEPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
XRF	X-RAY FLUORESCENCE SPECTROSCOPY



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