



# Transforming for good

# Contents

## Introduction

- 00 Our approach to transformation
- 00 About the report
- 00 Chairman's message
- 00 Message from the CEO

## Introducing Vedanta

- 00 Vedanta at a glance
- 00 Products and production

## Sustainability approach

- 00 Sustainability strategy
- 00 Message from ESG Committee Chairperson
- 00 Stakeholder engagement
- 00 Materiality assessment
- 00 Our ESG scorecard

## Embedding sustainability

- 00 Fostering human capital
- 00 Responsible supply chain management

## Annexures



Pillar 1

## Transforming communities

- 00 Aim 1
- 00 Aim 2
- 00 Aim 3



Pillar 2

## Transforming planet

- 00 Aim 4
- 00 Aim 5
- 00 Aim 6



Pillar 3

## Transforming workforce

- 00 Aim 7
- 00 Aim 8
- 00 Aim 9

# Transforming for good

How should a global, diversified natural resources company respond to/prepare itself for a world that is in urgent need for solutions that can help resolve global environmental and societal challenges? How does a mining company uplift millions out of poverty and become the backbone of a country's economic aspirations? How does a company take more than two decades of experience in turning around businesses in the metals and mining sector, imagine its next 25 years of growth ambitions?

These were the questions front-and-centre of our minds when we decided to undertake a programme to transform how we do business. What was clear, when we began discussions in early 2021, was that as we grew our business, we had to simultaneously become partners to the world when it came to address issues such as the climate crisis, water stress, biodiversity loss, equity, inclusion, human rights and social development. In other words, we had to align our vision to that of the UN's Sustainable Development Goals (UN SDGs).

What emerged at the end of these discussions was our desire to go far beyond "Transforming Elements" to "Transforming for good". This one statement encapsulates our ambition to embed ESG-thinking into every business decision we take. The pages that follow outline our ambition and invite you – our stakeholder – to become partners in this journey.

## FY 2021-22 highlights

### ENVIRONMENT

**580 MW**  
RENEWABLE ENERGY RTC EQ  
RE Power Distribution Agreement signed (against target of 2.5 GW RE by 2030) will be online by FY 2025

**0.48**  
WATER POSITIVITY RATE

**115%**  
FLY ASH RECYCLED

### PEOPLE

**11.63%**  
GENDER DIVERSITY RATIO

**1.4**  
TOTAL RECORDABLE INJURY  
FREQUENCY RATE (TRIFR)

**11.15%**  
ATTRITION RATE

### COMMUNITY

**3,262**  
NANDGHAR ESTABLISHED

**4.63 million**  
CSR BENEFICIARIES

### ECONOMIC PERFORMANCE

**~ ₹541 billion**  
CONTRIBUTION TO THE  
NATIONAL EX-CHEQUER

**₹13,11,920 million**  
REVENUE  
51% y-o-y growth

**₹358,334 million**  
SPEND ON LOCAL\*  
SUPPLIERS

\*Suppliers in same state

# Our approach to transformation

PILLAR 1

## Transforming Communities



**Aim 1**  
Keep community welfare at the core of business decisions

- We strive to create shared value and mutual trust with communities, and will adopt policies to ensure:
  - Local livelihood generation
  - Community involvement in business decision-making
  - Strong grievance redressal system
  - Trust-based channels of communication
  - Trust-based channels of communication



**Aim 2**  
Empowering over 2.5 million families with enhanced skillsets

- We believe in inclusive growth and want to co-create economic value with our communities by:
  - Enhancing skilling efforts across business units, Nand Ghars and the Vedanta Foundation
  - Creating employability for 2.5 million people
  - Providing income generation activities and farm-based livelihoods for ~120k people by 2030



**Aim 3**  
Uplifting over 100 million women and children through Education, Nutrition, Healthcare and Welfare

- We care deeply about the cause of women and children
  - Nand Ghar – direct intervention in ~30k anganwadis with scale-up model for 1.4 million
  - Vedanta Foundation – improved schooling and higher education for ~9 million students
  - Continued co-investment in augmenting India's public healthcare system



PILLAR 2

## Transforming the planet



**Aim 4**  
Net-carbon neutrality by 2050 or sooner

- We are in alignment with the Paris Agreement, and will lead the way for India's 2070 Net Zero commitment
  - Reduction in absolute GHG emissions by 25% by 2030
  - Use of 2.5 GW Round-the-Clock (equivalent) Renewable Energy by 2030
  - US\$5 billion spend goals over the next 10 years
  - No further investment in coal-based power
  - Decarbonise 100% of our LMV fleet by 2030 and 75% of our mining fleet by 2035
  - Pilot programmes to accelerate adoption of green hydrogen
  - Scope 3 emission accounting across 100% of our businesses by 2025
  - Disclosure in alignment with TCFD principles



**Aim 5**  
Achieving net water positivity by 2030

- We want to see our communities thrive and set an example of water stewardship across areas where we operate. Driven by:
  - Water recycling and reuse
  - Reducing freshwater withdrawal
  - Water-shed recharge programmes
  - Transition to renewables



**Aim 6**  
Innovations for greener business model

- We aim to embed 'green' into our business by tapping pockets of innovation
  - Partnerships on cutting-edge solutions like CCUS, carbon neutral/carbon free mining and smelting
  - Moving to circular business model through investments in 'Waste to Wealth'
  - Protecting and enhancing biodiversity in and around our areas of operation



PILLAR 3

## Transforming the workplace



**Aim 7**  
Prioritising safety and health of all employees

- The well-being of our people is our topmost priority; we are fully committed to Zero Harm and Zero Fatalities through:
  - Institutionalisation of best practices through the Vedanta Sustainability Assurance Programme and Visible Felt Leadership
  - Critical Risk Management in line with ICMM methodology
  - Partnerships with leading safety solution providers
  - KPIs on safety embedded into performance pay and career advancement



**Aim 8**  
Promote gender parity, diversity, and inclusivity

- We want to create a space for all voices at Vedanta, and have set up the Diversity and Inclusion Council to:
  - Undertake initiatives to ensure that by 2030, women make up 25% of the Board, 30% of all decision-making bodies, 40% of leaders and 20% of full-time employees
  - Run specific programmes to celebrate and increase other forms of diversity
  - Sensitise leaders and employees on diversity to make everyone feel respected



**Aim 9**  
Adhere to global business standards of corporate governance

- We are changing our ways of working and committed to ensuring zero controversies around governance. With ESG sub-committee set up at the board level, we are:
  - Strengthening and expanding our codes, policies and practices
  - Embedding sustainability metrics in executive compensation
  - Building an organization structure to embed sustainability-thinking into all aspects of our business
  - Staying committed transparently to report our ESG performance



Strategic Interventions



# About the report

We stand for trust and commitment to all stakeholders as a part of our journey towards a more sustainable future. In furtherance of that purpose, we consider it imperative to share insights into our progress, milestones, challenges and prospects with all our stakeholders annually.

The Vedanta Limited Sustainability Report 2021-22 outlines our (Vedanta Limited) approach in integrating sustainability into our policies, structure, management and operations, and provides insights into our strategies. This report also highlights the economic, environmental and social aspects of the developments and operations. Our aim is to share our sustainability commitment with various stakeholders, including employees, investors, customers, business partners, suppliers and lenders, the community, and the government.

## SCOPE AND BOUNDARY

This report is an annual publication and provides material information relating to our sustainability performance, material risks and governance for 100% of our business. It covers the reporting period from 1 April 2021 to 31 March 2022. It provides holistic information on Vedanta Limited, a subsidiary of Vedanta Resources Limited.

This report provides insights into our operations across all our business units namely zinc-lead-silver, oil & gas, aluminium, power, iron ore, steel, and copper. Our assets are located across India, South Africa and Namibia, and across the value chain comprising exploration, asset development, extraction, processing and value-accretion activities.

## THIS REPORT PERTAINS TO

Business Unit (BU)	Sector	Locations
HZL	Zinc	Rajasthan
VZI		South Africa, Namibia
Vedanta Ltd	Aluminium	Jharsuguda, Odisha
Vedanta Ltd		Lanjigarh, Odisha
Balco		Korba, Chattisgarh
Sterlite Copper	Copper	Tuticorin, Tamil Nadu
		Silvasa
TSPL	Power	Mansa, Punjab
Cairn Oil & Gas	Oil and Gas	MBA, Barmer
		RJ Gas
		Suvali, Gujrat
		Rawa, Andhra Pradesh
SESA Iron Ore	Iron Ore	Goa
		Karnataka
		Vizag
		Bokaro, Jharkhand
ESL	Fero Cromite	Bhadrak, Odisha
FACOR		



## FRAMEWORK ADOPTED IN THIS REPORT

- Global Reporting Initiative (GRI): in accordance with the core option
- United Nations Sustainable Development Goals (UN SDGs)
- United Nations Global Compact Principles (UNGC)
- National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of business (NVG-SEE)

## DATA COMPILATION METHODOLOGY

Data presented in this report is sourced from respective corporate functions at business units. All calculations and underlying assumptions involved have been explained throughout the report wherever applicable. The GRI content index has been presented at the end of the report. This report has been prepared in accordance with the GRI Standards: Core option.

## APPROACH TO MATERIALITY

Individuals or organisations showing an interest in, or/ and whose actions impact our strategic implementation are our stakeholders. We consistently engage with different stakeholder groups to actively respond to their concerns and issues. This report consists of information that will be of interest to our stakeholders. It helps us discuss and resolve matters that impact our ability to create value over the short, medium and long term.

## ASSURANCE

We safeguard the quality of information contained in this report through a robust assurance process, leveraging our internal expertise and external assurance carried out by Ernst & Young Associates LLP, an independent third-party assurance provider. You can find our Assurance Report on page 146.

Please email your suggestions, views and opinions to [esg@vedanta.co.in](mailto:esg@vedanta.co.in)



# Chairman's message



## Dear Stakeholders,

At Vedanta, we have always been committed to creating value and improving lives through sustainable and responsible mining. In the past year, we took a deep dive to analyse our place in the world – and the actions we must take to fulfil our commitment to the planet, our people, our communities and our country.

At a time when the world is gravely impacted by the overexploitation of its natural resources and facing enormous challenges in the form of climate change, unprecedented natural calamities and diseases, it was necessary to go back to the drawing board. There is no doubt that the COVID-19 pandemic has given humanity another chance to step back and reconsider the road it is going to follow towards the future, how it will balance the imperatives of economic growth and societal needs with sustainability concerns.

## Renewed sense of mission

The introspection has led us to reformulate our mission as a natural resources company. With our portfolio of base metals like copper, zinc, aluminium, silver, which remain at the core of industries, we believe we can play a transformative role in this onward journey towards a safer and more sustainable future.

We are looking ahead with our renewed purpose of 'Transforming for good', a mission whose more granular components are transforming communities, transforming the planet, and transforming the workforce. Together, they give shape to our vision to promote environmental stewardship, social responsibility and good governance. With our target to become Net Zero by 2050, plans to promote green manufacturing practices and green products, sustained drive through our CSR projects that create opportunities for ordinary lives, focus on evolved people practices and ethical and transparent governance, we want to set off a transformative momentum. The renewed purpose further strengthens our commitment to work for greater good, for national prosperity and for sustainable growth.

## Sustainability leadership

We are constantly transforming ourselves to take on this critical role. We are first Indian metals and mining company to release the Climate Change Report in line with the Taskforce on Climate-related Financial Disclosures (TCFD). We have signed the Declaration of the Private Sector on Climate Change, a Government of India initiative, and Vedanta Aluminium this year became the largest buyer of renewable energy from the Indian Energy Exchange.

One of the other crowning glories this year was the launch green Aluminium under the brands 'Restora' & 'Restora Ultra', with which we join the exclusive club of green metal producers. Manufactured using renewable energy and with a carbon emission intensity, which is far below the global record for such metals, the Restora products will further enhance India's reputation as one of the most prominent drivers of sustainability in the world.

## Committed to community interests

During a trying year, we ensured that we did not shift our gaze from our commitment to our communities. We continued to respond to the global pandemic, which posed fresh challenges to our business operations, by implementing protocols to keep our workforce safe and supporting public health efforts in our operating jurisdictions. We answered to critical oxygen needs by supplying to COVID care centres and hospitals while continuing to create awareness among communities so that they could better protect themselves from the scourge. We promoted the livelihood initiatives of SHGs (Self Help Groups) by buying masks in bulk from them and supplying to communities in the vicinity of our plants and offices. On the other hand, we continued with our usual CSR drives to promote education and nutrition support through our Nand Ghar project and building relationships of trust with local communities. I am proud that we have set up 3,262 Nand Ghars so far, benefiting 1,20,000 children and 90,000+ women.

## Strengthening our human capital and safety culture

We strive to create a caring work environment that fosters innovation, curiosity and collaboration. Diversity and inclusion are essential to achieving that goal. To further our diversity agenda, we have constituted the Group Diversity, Equity & Inclusion Council in FY2022. The council's mandate is to ensure the integration of our DE&I goals into the ESG framework in line with organisation's broader business strategy.

Protecting the health, safety, well-being and security of our workforce and the communities in our direct impact zones have always been a top priority for us. However, with extreme regret I report that we lost 12 of our business partner employees this year in work-related incidents. Such incidents once again indicate that safety is a continuous learning experience, and we are more intensely looking at ways to better identify, understand and control all the risks associated with workplace hazards. This makes our Fatality Risk Management program one of the most important focus areas for us.

**VEDANTA WILL BECOME A NET ZERO CARBON COMPANY BY 2050 OR SOONER.**

## Combating the climate crisis

At Vedanta, we believe that we have a fundamental responsibility, alongside the government and communities, to address the global challenge of climate change. In keeping with India's promise of Net Zero by 2070 and the Paris Agreement, we have committed to become a Net Zero carbon business by 2050 and inscribed this into our Energy and Carbon Policy. We are driving innovations and adopting the latest technologies to move towards a greener business model. This includes targets to reduce our absolute carbon emissions by 25% from a 2021 baseline along with achieving Net water positivity by 2030. Towards this end, we aim to spend US\$5 billion over the next 10 years to accelerate our transition to Net Zero Carbon. We are also committed to ensuring that 100% of our light-motor-vehicle fleet is decarbonised by 2030 and 75% of our mining fleet runs without fossil fuels by 2035.

## Future roadmap

Our roadmap for transformation derives from our ESG vision, which has become a business imperative together with digitalisation to ensure business sustainability. We will continue to prioritise the well-being of our people, local communities and the natural environment. We remain committed to making India and the world a better place to live by banking on the principles of social equity and impact, environmental care and good corporate governance practices.

Regards,

**Anil Agarwal**  
Chairman

# Message from the CEO



**Dear Stakeholders,**

At Vedanta, we believe that agility, simplicity and resilience will help businesses become more sustainable. To us, sustainability is an integral and non-negotiable factor that helps us foster a nurturing environment for our businesses and communities to flourish. I am pleased to present our 14th Sustainability Report, which gives our stakeholders a concise, complete, and transparent assessment of our ability to create longstanding value.

Vedanta demonstrated its resilience and agility in an extraordinary year, delivering on its business strategy, which has an integrated approach to sustainability at its core. Recognising the urgency of addressing climate change, we set aggressive carbon-neutrality targets, the path to which is enabled by innovative technologies and collaboration with our stakeholders across the value chain. Out of the 17 transition metals for the

emerging green economy, we have nine metals in our portfolio. Thus, it is important for us to do what we do in the most sustainable manner

Transforming for Good, our refreshed ESG vision, is supported by three pillars – Transforming communities, transforming the planet and transforming the workplace. These pillars reflect Vedanta's unwavering commitment to becoming a best-in-class company while also ensuring that we are future-ready to deal with current and emerging risks. These pillars are supported by nine goals, each of which has specific quantifiable goals to track our progress. The goals for each were reached after a thorough examination of our material aspects, the interests and concerns of our stakeholders, including investors and ESG rating agencies and our management ambitions.

## Transforming communities

As per our redefined ESG strategy, our overall purpose is supported by three pillars. The first pillar – Transforming communities – underpins the critical role communities play in the continued longevity of our business. They are often the first to see the impacts of our business, and we believe, they should be among the first to experience the positive transformation industry can bring to their lives. This pillar reminds us that we need to cultivate trusting relationships with communities who live around our operational areas and see them as partners in and key stakeholders in our growth journey. At the same time, we continue to build upon the strong social impact projects that help bring access to healthcare, education, livelihood programmes, revival of cultural traditions, and development or upkeep of public infrastructure. In FY2022 alone, our CSR initiatives have benefited nearly, 4.63 million people across 1,268 villages, including through the establishment of 3,200+ Nand Ghars, which ensure that women and children get access to quality early childhood education and nutrition, even in the remotest parts of the country.

**9 OUT OF THE 17 TRANSITION METALS ARE PART OF VEDANTA'S PORTFOLIO.**

## Transforming the planet

Vedanta's commitment to become a Net Zero carbon business by 2050 or sooner was a key highlight for the year under the second pillar of Transforming the planet. Taking early action, we by signed a 580 MW renewable power delivery agreement; launched the Restora and Restora Ultra brand of green aluminium to usher in a new era of green metals and became the largest purchaser of renewable power in the country. During the year, we achieved nearly 100% recycling of our High Volume Low Toxicity (HVL) waste. The Jharsuguda unit dispatched the first fly ash rake to a cement plant, in line with our goal of transitioning to a greener business model. We also made significant progress in inventorising our Scope 3 emissions, and we have published the results in this report. We are making significant progress toward meeting our commitments to renewable energy and decarbonisation, as you will find in this report.

Assisted by latest technologies, we are moving toward using cleaner fuels in our operations. VAL-Lanjigarh has signed a partnership with GAIL for the supply of natural gas. This fuel switch will reduce alumina emission intensity by about 20%. We are collaborating with TERI on a number of environmental initiatives involving water, climate, and habitat management. We have set ourselves a goal of becoming water positive by 2030 and have onboarded an agency to monitor and guide our journey towards water positivity at our various locations. I am proud to report that Hindustan Zinc is 2.41x water positive. We are also actively working towards ensuring the integrity of our tailings dams and are striving to align all our tailings facilities with ICMM's Global Industry Standard on Tailings Management (GISTM) by FY2025.

## Transforming the workplace

Under the third pillar of transforming the workplace, we are making steady progress towards ensuring greater gender parity, diversity and inclusivity across the organisation, down from the senior leadership and decision-making bodies. Our people practices reflect our promise to be an inclusive business and we are an equal-opportunity employer when it comes to attracting, retaining and developing fresh talent. We are also conscious of how our organisation is run. We ensure that good governance is practised across the organisation through stringent policies and regulations, and we are constantly seeking to raise the bar.

As the Group's Chief Safety Officer, I am deeply saddened by the loss of 12 lives during the year. We are taking steps to minimise incidents and improving our overall safety performance. Our senior leadership team has completed their investigation into the incidents and the outcomes have been shared immediately with all our sites to deploy the learnings. Safety stand-downs have been conducted across the sites to communicate the learning to all employees and business partners. We have also initiated the implementation of fatality learnings across businesses, led by the CEOs, together with increased leadership time on field through Visible Felt Leadership (VFL) and personal safety programmes. Further, we have onboarded DuPont Sustainability Solutions for the implementation of Critical Risk Management.

## Looking ahead

Mining has historically been a capital-intensive industry that has been slow to develop and/or adopt new technologies. Technology advancements are critical in assisting Vedanta to meet not only our operational objectives, but also our goals of creating a safe and healthy workplace and a more sustainable business. We launched the Green Spark Group-wide programme to scale up partnerships with innovative start-ups to leverage their technological capability and execution speed, with the goal of achieving strategic goals in operational excellence, new product development, and 360-degree sustainability.

Our business will continue to improve and grow, and we will keep our promises. Looking ahead, we must all work together to help rebuild economies and protect our natural world. To that end, mining products are becoming increasingly important in improving people's lives, an important component of which is making our planet a healthier place.

This report also serves as a Communication of Progress (COP) for the UN Global Compact reporting principles.

Regards,

**Sunil Duggal**  
CEO



# Vedanta at a glance

Vedanta Limited is one of the world's foremost natural resources conglomerates, with primary interests in zinc-lead-silver, iron ore, steel, copper, aluminium, power, oil and gas. With world-class, low-cost, long-life strategic assets based in India and Africa, we are rightly positioned to create long-term value for our stakeholders with superior cash flows and our commitment to create positive, all-round impact on the communities in which we operate.

## OUR CORE PURPOSE

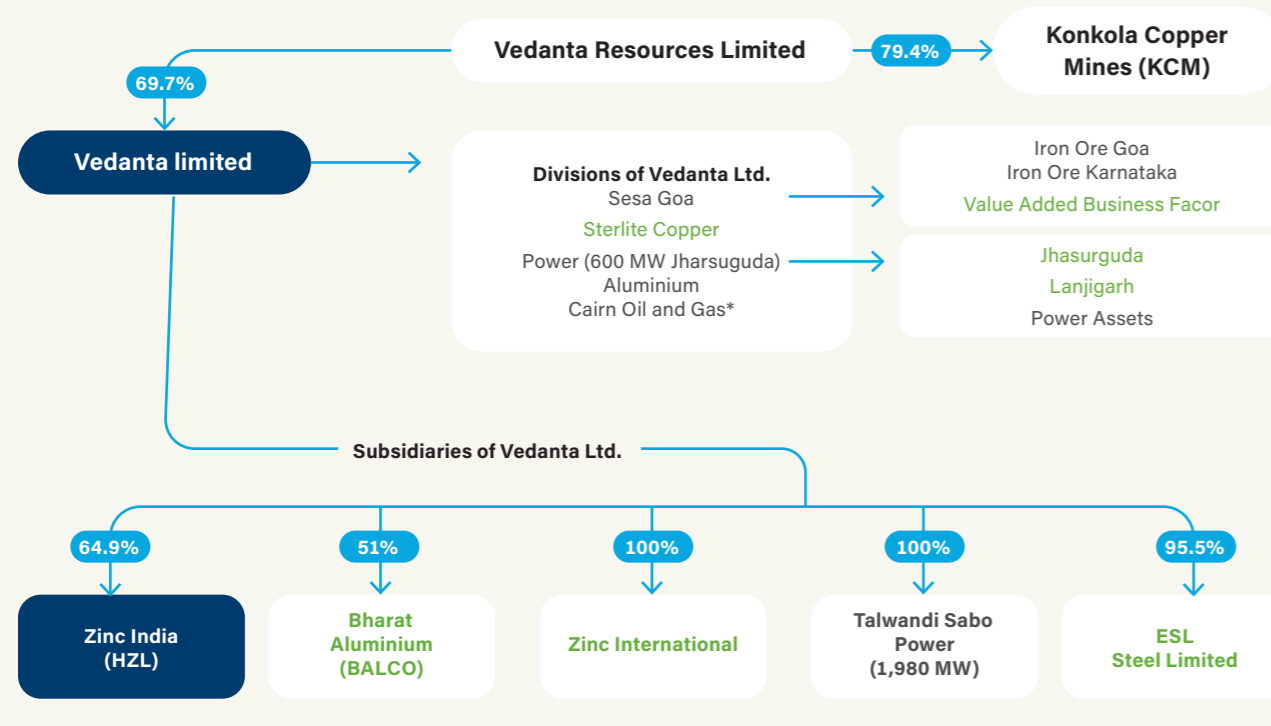
Our goal is to create long-term value for all our stakeholders through research, discovery, acquisition, sustainable development and utilisation of diversified natural resources. For accomplishing that, we empower our people to drive excellence and innovation. We demonstrate world-class standards of governance, safety, sustainability and social responsibility.

## OUR CORE VALUES

Our core values underpin everything we do at Vedanta. These universal values guide our behaviour, as we expand into new markets and countries.

- |                         |                  |
|-------------------------|------------------|
| <b>TRUST</b>            | <b>INTEGRITY</b> |
| <b>ENTREPRENEURSHIP</b> | <b>CARE</b>      |
| <b>INNOVATION</b>       | <b>RESPECT</b>   |
| <b>EXCELLENCE</b>       |                  |

## THE GROUP'S STRUCTURE



● Listed Entity    ○ Unlisted Entity    ● Metal Business

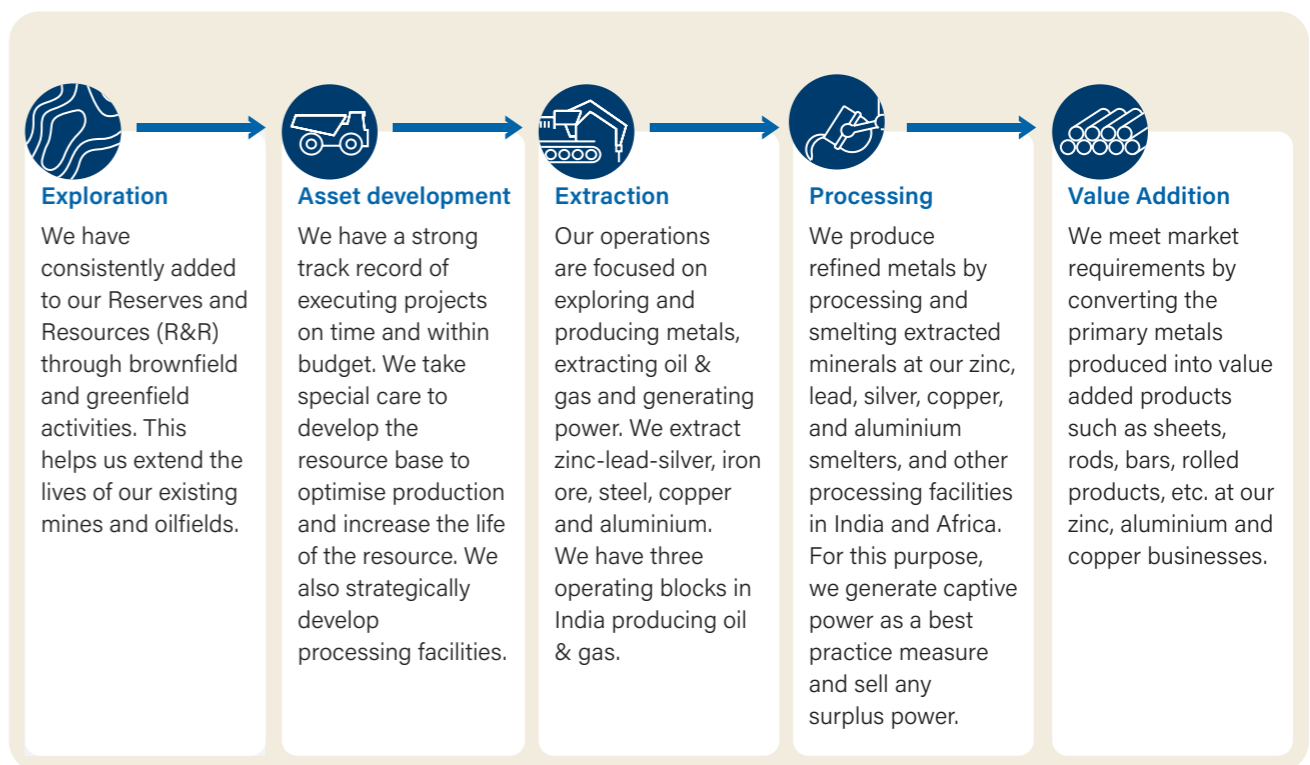
**Note:** Shareholding as on May 01, 2021  
\*50% of the share in the RJ Block is held by a subsidiary of Vedanta Ltd.



## VALUE CHAIN

**Vedanta Limited supplies natural resources that help the world grow.**

We have a portfolio of top-notch, low-cost, scalable assets that consistently generate strong profitability with robust cash flows, contributing to industry leading market shares across our core divisions. We have undertaken several greenfield and brownfield expansion projects across the world and have successfully completed capital expansions involving large investments and the adoption of complex technologies, in record time and at significantly lower costs.





# Products and production

Vedanta is India's largest natural resources conglomerate with leading positions in seven key business segments.

## COPPER

One of the largest copper producers in India



**Business**  
COPPER INDIA

**Production volume**  
125 kt cathode

**EBITDA (in ₹ million)**  
(1,150)

**Application areas**

- Used for making cables, transformers, castings, motors and alloy-based products

## ALUMINIUM

Largest primary aluminium producer in India



**Business**  
ALUMINIUM SMELTERS AT JHARSUGUDA AND KORBA (BALCO)

ALUMINA REFINERY AT LANJIGARH

**Production volume**  
2,268 kt ALUMINIUM      1,968 kt ALUMINA

**EBITDA (in ₹ million)**  
1,17,370

**Application areas**

- Power systems, automotive sector, aerospace, building & construction, packaging

## POWER

One of the largest private sector power generators in India with a c.9 GW power portfolio and among the leading producers of wind power



**Business**  
POWER ASSETS AT TALWANDI SABO, JHARSUGUDA, KORBA AND LANJIGARH

**Production volume**  
11,872 million units  
POWER SALES

**EBITDA (in ₹ million)**  
10,820

**Application areas**

- 16% commercial power backed by Power Purchase Agreements
- 84% captive use

## IRON ORE

One of the largest merchant iron ore miners in India and one of the largest producers and exporters of merchant pig iron in India



**Business**  
IRON ORE INDIA

**Production volume**  
5.4 million dmt IRON ORE      790 kt PIG IRON

**EBITDA (in ₹ million)**  
22,800

**Application areas**

- Essential for steelmaking
- Used in construction, infrastructure and automotive sectors

# Products and production

## OIL & GAS

Operates c.25% of India's crude oil production



**Business**  
CAIRN INDIA

**Production volume**  
**161** kboepd  
AVERAGE DAILY GROSS OPERATED PRODUCTION

**EBITDA (in ₹ million)**  
**59,920**

- Application areas**
- Crude oil is used by hydrocarbon refineries
  - Natural gas is mainly used by the fertilizer sector

## ZINC-LEAD-SILVER

World's largest integrated zinc-lead producers; commands 80% market share in India's primary zinc market (Hindustan Zinc Limited); 9th largest silver producer in the world



**Business**  
ZINC INDIA (HZL)  
ZINC INTERNATIONAL

**Zinc India (HZL) production capacity (smelter capacity)**

<b>913</b> kt	<b>210</b> kt	<b>800</b> t
ZINC CAPACITY	LEAD CAPACITY	SILVER

**Zinc India (HZL) production volume**

<b>776</b> kt	<b>191</b> kt	<b>647</b> t
ZINC	LEAD	SILVER

**223** KT  
ZINC INTERNATIONAL

**EBITDA (in ₹ million)**

<b>1,76,940</b>	
<b>1,61,610</b>	<b>15,330</b>
ZINC INDIA (HZL)	ZINC INTERNATIONAL

- Application areas**
- Galvanising for infrastructure and construction sectors
  - Die-casting alloys, brass, oxides and chemicals

## STEEL

One of the major suppliers of steel to the domestic market with 3 mtpa design capacity



**Business**  
ELECTROSTEEL INDIA

**Production volume**  
**1,260** kt

**EBITDA (in ₹ million)**  
**7,010**

- Application areas**
- Construction, infrastructure, transport, energy, packaging, appliances and industry
  - Product portfolio includes pig iron, billets, TMT bars, wire rods and ductile iron pipes

## FACOR

Ferro Alloys Corporation (FACOR) has the capacity to produce 80 ktpa of Charge Chrome/Ferro Chrome and has a 100 MW power plant in Bhadrak, Odisha. It has also established a mining complex at Jaipur and Dhenkanal districts in Odisha for the mining of Chrome Ore, with an annual capacity of 250 ktpa



**Business**  
FERRO ALLOYS CORPORATION LTD.

**Production volume**  
**75** kt  
FERRO CHROME

**EBITDA (Alloy) (in ₹ million)**  
**3,250**

- Application areas**
- Used for making stainless steel, carbon steel, ball-bearing steels, tool steels as well as other alloy steels



# Sustainability strategy

Vedanta intends to become an ESG leader in the natural resources sector. Our ESG strategy inter-twines with our business growth plans. As the world transitions towards a low-carbon economy, the demand of metals and minerals is expected to grow significantly. Vedanta produces nine out of the 17 metals & minerals that will lay the foundation for green technologies such as Electric Vehicles, solar, and wind power generation, and battery storage. It is in this context that our refreshed vision takes on new meaning. Our goal is to produce these metals responsibly.

## BUSINESS WITH A PURPOSE

In FY2022, we refreshed our vision to reflect the ambition that we wanted to aspire towards. Our vision of 'Transforming for Good' has been developed through extensive consultations with internal teams and external stakeholders and is designed to convey our intention to embed ESG-management principles in the way we do business.

**A new three pillar sustainability-focused vision has enabled us to embark on an exciting journey with commitments and promises that we need to fulfil to our communities, the planet and workforce. These pillars are:**

Transforming the planet



Transforming communities



Transforming the workforce

There are 9 aims under these pillars that speak to our commitment to minimise harm, in alignment with the company's philosophy of achieving "Zero Harm, Zero Waste, Zero Discharge". Our ESG strategy allows the business to respond to expectations from our key stakeholders around climate change, human rights, safe work conditions, environmental stewardship, diversity & inclusion and good governance. It builds upon the strong foundation of world-class policies and standards that the company has built over the last decade.

## Sustainability journey

### FY2014

**Businesses started embedding Vedanta Sustainability Framework** – training and implementation of policies and standards

**External review concluded (URS - Scott Wilson)** – all recommendations got successfully closed

**Sustainability linked with remuneration** – sustainable development KPIs linked to executive remuneration

**Vedanta Sustainability Assurance Programme (VSAP)** – into its second year of implementation, supported by external auditors

### FY2015

**Roll out of Vedanta Sustainability Framework continues** – introduction of safety performance standards, formal safety risk assessment, industrial hygiene baseline assessment and safety leadership coaching

**VSAP into its third year of implementation** – revised as per the material priorities, supported by external auditors

**Environment and social review of VSAP** – started external review

**Revisiting our Community Need Assessment Studies** – aligning all community projects with updated studies

### FY2016

**Environment and social review of VSAP** – continued external review

**VSAP into its fourth year of implementation** – revised as per the material priorities with more emphasis and focus on safety by inclusion of safety performance standards, supported by external auditors

**Advancing safety** – by developing safety performance standards and incorporating executive remuneration

**Social Impact Assessment Studies** – HZL and Cairn India aligning all community projects with updated studies

### FY2017

**VSAP into its fifth year of implementation**

**VSAP material priorities identified for FY2017** – occupational health and safety, resource use and management, stakeholder engagement, and supplier and contract management

**Social Impact Assessment Studies** – completed for nearly all our businesses; major social impact assessment studies done at Cairn Oil and Gas Business

**Advancing accountability** – employee health, safety and well-being identified as a material issue, a key priority for the Company

### FY2018

**Strong focus on safety**

**Alignment across businesses on a collective carbon strategy**

**Launching a systematic, Group-wide programme** – to monitor and maintain tailings dams in line with global best practices

**Consolidating efforts to drive effective implementation of the provisions of the Modern Slavery Act across our businesses**

**Re-evaluating our social performance standards** in order to enhance our social licence to operate

### FY2019

**Strategy to increase leadership engagement on workplace safety**

Work begun on upgrading tailings dam facilities and management practices

**Work begun to improve social licence to operate** – perception surveys, materiality assessment, social performance review, FPIC requirements review

### FY2020

**Pledge ₹ 101 crores towards COVID-19 relief activities**

**Aligned with the Nationally Determined Commitments** of the Government of India

**Revised Energy & Carbon policy** to include a commitment to substantially decarbonize the business by 2050

**Reinforce circular economy solutions** for the metals & mining industry through Runaya

### FY2021

**Ranked #2 by DJSI in Asia Pacific** in the metals and mining sector

**Extended the scope of Board Sustainability committee** to Board ESG Committee

**Published first TCFD report**

**Created Social Performance Steering Committees** across all the sites

### FY2022

Refresh of Vedanta's ESG vision. Vision statement changed to **"Transforming for Good"**

ESG strategy based on pillars of **"Transforming Communities", "Transforming the Planet",** and **"Transforming the Workplace"**

Announce **commitment to become a Net Zero Carbon company by 2050 or sooner**

Vedanta becomes the **largest industrial consumer of renewable power** in India

Vedanta Aluminium launches low-carbon, green aluminium product lines – Restora and Restora Ultra



# Sustainability strategy

## SUSTAINABILITY GOVERNANCE

A detailed description of our Governance Structure (Disclosures 2-9 to 2-11, 2-15 to 2-20) can be found in the company's Annual Integrated Report.

Our Board provides strategic perspectives, steering the business in line with the commitments made to various stakeholders. The Board Sustainability Committee meets twice annually. With effect from July 2021, the Board Sustainability Committee has been renamed Board ESG Committee and retains oversight on the implementation of our ESG vision. Workplace health and safety; supply chain sustainability; water, waste, biodiversity, and air quality management; tailings facility management and emergency response plans; emissions and climate change; engagement with communities and Indigenous Peoples; diversity at workplace and human rights are some of the areas under the purview ESG Committee.

**In overseeing the implementation of our ESG strategy and managing the organization's impacts on the economy, environment, and people, the Board is supported by:**

- Board ESG Committee
- Sustainability Organization
- Vedanta Sustainability Framework and Vedanta Sustainability Assurance Process (VSAP)
- Code of Business Conduct and Ethics and varied other policies and practices adopted by the Group

A detailed overview of how ESG topics are managed across the organization is given below:

### Forums set up to drive ESG agenda

#### ESG board sub-committee

<b>Group ESG ExCo</b> (Part of Group ExCo)	<b>Monthly forum with ExCo to update on overall ESG progress</b> (Overall MIS and updates)
<b>ESG ManCom</b>	<b>Fortnightly meeting to oversee</b> Program update (9 aims - Corp & BU targets against actual) Key decisions (strategic direction, cross functional support)
<b>Corporate Transformation Office</b>	<b>Weekly TO meeting with GCEO</b> to drive and accelerate the high impact project implementation
<b>Transformation Office (TOs)- BU &amp; Functional</b>	<b>9 BU TOs, Functional TOs and 1 reporting &amp; disclosure TO running on a weekly/fortnightly level</b> to monitor progress and drive implementation across the organization
<b>Communities of Practice (CoPs)</b>	<b>12 CoPs, overall CoP leaders, 250+ Community members</b> identified across all BUs/SBUs to drive agenda within communities

## COMMUNITIES OF PRACTICE (COP) - TAKING ESG TO THE SHOP-FLOOR

In order to translate our ESG vision into action, we needed an organisational structure that allowed us to embed the policies, standards, and KPIs across all levels of the organisation. We also needed avenues that allowed those on the shop-floor to identify opportunities and best-practices and send them up the organizational hierarchy so that they could be adopted across all Business Units. In this manner, we could accelerate the achievement of our ESG aims, while at the same time give an opportunity to internal subject-matter-experts to play a role in how the organisation drives ESG.

We were also mindful that the changes we make to policies need to be driven across functions (like HR, Commercial, Finance) so that ESG-thinking gets embedded in every action that we take.

Communities of Practice (CoPs) have allowed us to solve this problem. There are 12 subject-area CoPs that are present at the site, BU, sector and Group level, thereby ensuring this dissemination of information and action takes place consistently across the organisation.

#### The 12 CoPs are:

- |                   |                     |
|-------------------|---------------------|
| Water Management  | Communications      |
| Carbon and Energy | Health              |
| Waste to Wealth   | Safety              |
| Biodiversity      | Supply Chain        |
| Communities       | Acquisition/Finance |
| People            | Expansion           |



## Vedanta Sustainability Framework

Developed in line with global standards from international bodies such as International Council on Mining and Metals (ICMM), International Finance Corporation (IFC), Organisation for Economic Co-operation and Development (OECD), United Nations Global Compact (UNGC) and SDGs, the Framework comprises several policies, standards and guidance notes which facilitate its execution.

## 9 POLICIES

Biodiversity, Energy & Carbon, HIV-AIDS, Human Rights, Social, Supplier & Contractor Sustainability Management, Water

## 92 STANDARDS & GUIDANCE NOTES

- Covering all the policy subject areas
- In line with ICMM, IFC Performance Standards, Global Reporting Initiative (GRI)

### Robust monitoring

- Annual audit (VSAP) conducted at all Vedanta locations to check compliance with VSF
- Monitored by Group ExCo

## Vedanta Sustainability Assurance Process (VSAP)

VSAP is our sustainability risk assurance tool, which helps assess the compliance of all our businesses with the Vedanta Sustainability Framework. It ensures that sustainability is well integrated into all our decisions and actions. Further, VSAP guides our annual process with the Board ESG Committee specifically tracking VSAP outcomes. The ESG Committee reports to the Group Executive Committee, which, in turn, reports to the Board. The results of VSAP have a direct bearing on the overall performance evaluation of our entire full-time-employee workforce with 15% weightage attributed to sustainability KPIs.

**15%**  
WEIGHTAGE ATTRIBUTED TO SUSTAINABILITY KPIs DURING PERFORMANCE EVALUATION OF OUR FULL-TIME EMPLOYEES

\*Refer to the data annex for more information on VSF policies or refer to VSF Documents ([vedantalimited.com](http://vedantalimited.com))

# Message from the ESG Committee Chairperson



“ We aspire to be the industry leader in sustainability, which assures long-term value for all stakeholders, and demonstrate our ability to carry out responsible sourcing and manufacturing practices.

## Dear Stakeholders,

The COVID-19 pandemic exposed the weaknesses as much as the strengths of businesses. Only those organisations who had already begun to disrupt themselves through the adoption of latest technologies and accord due importance to environment, social and governance principles in their broader business strategy were able to survive and shine.

What is quite certain today is that people want to work for and support organisations that are purpose-driven and value-based. Society, in fact, expects businesses to look beyond profits and play a comprehensive role in addressing global issues. Concurrently, investor interest in sustainability issues is increasing and is being factored into valuation calculations. In keeping with its own set of values and taking into consideration the concerns of its stakeholders, Vedanta is rapidly transforming itself with ESG at the core of its core. We aspire to be the industry leader in sustainability, which assures long-term value for all stakeholders, and demonstrate our ability to carry out responsible sourcing and manufacturing practices that ensure social well-being, environmental preservation and creation of enduring value.

## Health and safety

The health, safety and security of the workforce is a responsibility for all at Vedanta, including the Board of Directors. Unfortunately, we reported 12 fatalities during the year. This is a cause of concern for us and we are undertaking measures to ensure Zero Harm at all our sites. We follow the Hazard Identification and Risk Assessment (HIRA) process along with Job Safety Analysis (JSA) for identification of risks and development of the mitigation plan. These mitigation plans are

periodically updated to ensure safety at the workplace. Guided by the Vedanta Sustainability Framework, we have implemented the Vedanta Safety Standards (VSS) and other relevant standards and guidance documents across the organisation. VSS is applicable to all the Vedanta operations, including subsidiaries and acquisitions.

To improve safety at workplace, in FY2022, we initiated the implementation of Critical Risk Management. Under this initiative, 13 critical risks have been identified across the business, based on historical safety incidents and fatality learnings. A detailed mitigation plan is being developed to minimise or eliminate each risk across the Group. This program is led by the business CEOs from across the Group companies.

At Vedanta, all fatalities, including high potential incidents, undergo detailed investigation using the Incident Cause Analysis Method (ICAM) under the oversight of the Group CEO. A corrective action and preventive action (CAPA) plan is then developed based on the findings of the investigation. The ESG Board reviews the findings. The learnings are implemented across the Group to avoid repeat incidents and corrective actions are driven by site leadership of each location. We are looking at further bolstering this system in the days ahead.

## Climate change

Climate change, and the management of climate-related risks to Vedanta's operations, host communities and society, are key concerns for us. The Board believes that the reduction of emissions, reporting of progress to targets and adaptation measures are key to maintaining the financial resiliency of the organisation and the upholding of its long-term values. In 2021, we published our first Climate Change Report, with Board oversight of its development and alignment with the Task Force on Climate-related Financial Disclosures (TCFD) framework. The inaugural report discussed climate-related risks and opportunities and detailed the Company's operational resilience under different climate-related scenarios. At the ESG Committee, we understand the importance of our role in the transition to a low-carbon economy. We are, accordingly, advancing on key projects and technology adoption that support emission reduction and the improvement of our operational

efficiencies. In this regard, we support Vedanta's ambition to become a Net Zero Carbon organization by 2050 or sooner. We believe that this goal will not only help support global efforts to reduce the impacts of climate change, but also mitigate several emerging risks for the business.

## Water and tailings management

Water and tailings management have long been a priority for Vedanta and have highly become material for our stakeholders. During the year, the ESG Committee received regular updates on the management and reviewed and discussed the Company's water strategy and biodiversity commitments. We are aligning the management of tailing dams with accepted global standards, the results of which will become visible in FY2023. The ESG Committee has also been working to align Vedanta's strategies and targets with its overall goal of supporting long-term sustainable resource management.

The Committee is also enhancing environmental management in alignment with global frameworks and standards, working with non-governmental and international organisations to promote its sustainability leadership. We have undertaken independent audits of 100% of our active facilities in FY2022 to ensure they are compliant with set standards and regulations.

## In conclusion

Vedanta continues to take a leadership position in its ESG practices and the ESG Committee, along with the Board, is constantly looking at ways to further this leadership position and set new industry benchmarks with its role in the emerging green economy. I take this opportunity to thank the Board and Vedanta's leadership and its people for upholding the values that inform the business. The coming days will see us deliver on the set goals in each of the aims we have decided on as part of our journey to trigger transformation across communities, the planet and the workplace.

Regards,

**U.K. Sinha**

*Non-Executive Independent Director  
 Chairperson of ESG Committee*



# Stakeholder engagement

Our stakeholders across multiple industries, geographies and communities, define our identity and help shape our journey forward. Their key insights help us navigate challenges, seek opportunities, find purpose in what we do and lay the foundation for a more inclusive and sustainable future.

We engage with a wide range of stakeholders to foster and maintain enduring relationships with them, which also helps in shaping our understanding of our evolving operating environment.

Our relationships with stakeholders are based on trust and mutual respect. The success of our stakeholder engagement initiatives lies in our continued emphasis on providing information that is accurate and relevant to each group in a transparent and structured manner and in addressing their concerns through effective processes and mechanisms.

## Our engagement principles

The following principles guide our stakeholder interactions:

- We want to share our knowledge and expertise with our stakeholders
- We act and operate with transparency and integrity
- We want to create value for all our stakeholders and foster long-term partnerships of mutual value
- We are always available for dialogue and respond to input and feedback in a timely and agile manner
- We believe in collaboration and base our engagement on genuine dialogue – we engage, listen and act



Why they are important	Key expectations	Types of engagement	FY2022 initiatives
<b>Local community</b>			
Our partners in progress, a harmonious relationship with the communities where we operate is key to our social licence to operate	<ul style="list-style-type: none"> <li>Increasing community outreach through our programmes</li> <li>Improving grievance mechanism for community</li> <li>Developing and undertaking need-based community projects</li> </ul>	<ul style="list-style-type: none"> <li>Community group meetings</li> <li>Village council meetings</li> <li>Community needs/social impact assessment</li> <li>Public hearings</li> <li>Grievance mechanisms</li> <li>Cultural events</li> <li>Engaging with communities via various community initiatives of Vedanta Foundation</li> </ul>	<ul style="list-style-type: none"> <li>Completion of Social Performance pilot project at Lanjigarh</li> <li>3,262 Nand Ghar's established to deliver early childhood education and nutrition programmes</li> <li>200+ programmes in place to drive social impact</li> </ul>
<b>Employees</b>			
Our employees are at the centre of all our operations; their collaborative skill and expertise are essential for our growth	<ul style="list-style-type: none"> <li>Improving training on HSE and other pertinent material issues for the organisation</li> <li>Providing increased opportunities for career growth through internal talent recognition</li> <li>Increasing gender diversity of the workforce</li> </ul>	<ul style="list-style-type: none"> <li>Chairman's workshops</li> <li>Chairman's/CEO's town hall meetings</li> <li>Feedback sessions</li> <li>Performance management systems</li> <li>Various plant-level meetings</li> <li>V-Connect mentor programme</li> <li>Event Management Committee and Welfare Committee</li> <li>Women's club</li> </ul>	<ul style="list-style-type: none"> <li>V-lead</li> <li>ACT-UP</li> <li>Chairman's awards, fortnightly Chairman's session</li> <li>Digital Patshaala: A learn together initiative on Emerging Technology</li> </ul>
<b>Shareholders, investors and lenders</b>			
As providers of capital, they are key to our growth and expansion plans	Consistent disclosure on economic, social, and environmental performance	<ul style="list-style-type: none"> <li>Regular updates</li> <li>Investor meetings</li> <li>Site visits</li> <li>AGM (Annual General Meeting) and conference</li> <li>Quarterly result calls</li> <li>Dedicated contact channel – <a href="mailto:Vedantaldt.ir@vedanta.co.in">Vedantaldt.ir@vedanta.co.in</a> and <a href="mailto:sustainability@vedanta.co.in">sustainability@vedanta.co.in</a></li> </ul>	<ul style="list-style-type: none"> <li>Actively engaged with risk rating agencies to improve disclosures</li> <li>Investor summits</li> <li>Increased participation in international webinars to improve Vedanta's presence on international forums</li> </ul>
<b>Civil societies</b>			
Collaboration is essential to advocate for and promote sustainable practices	<ul style="list-style-type: none"> <li>Expectation of being aligned with the global sustainability agenda</li> <li>Commitment to ensuring human rights for all</li> </ul>	<ul style="list-style-type: none"> <li>Partnerships with, and membership of international organisations</li> <li>Working relationships with organisations on specific projects</li> <li>Engagement with international, national, and local NGOs</li> <li>Conferences and workshops</li> <li>Dedicated contact channel – <a href="mailto:sustainability@vedanta.co.in">sustainability@vedanta.co.in</a></li> </ul>	<ul style="list-style-type: none"> <li>Engaged with RMI</li> <li>Initiated engagement with intended membership to VPSHR (Voluntary Principles on Security and Human Rights)</li> <li>Partnered with 91 NGOs for various social developmental programme</li> <li>Engaged with global business partners for various sustainability improvement programmes</li> </ul>
<b>Industry (suppliers, customers, peers, media)</b>			
A positive relationship enables us to raise growth capital in a timely and cost-effective manner	<ul style="list-style-type: none"> <li>Consistent implementation of the Code of Business Conduct and Ethics</li> <li>Ensuring contractual integrity</li> </ul>	<ul style="list-style-type: none"> <li>Customer satisfaction surveys</li> <li>Vendor scorecards</li> <li>In-person visits for customers, suppliers' and vendors' meetings (put on hold during COVID-19)</li> </ul>	<ul style="list-style-type: none"> <li>Participated in Dubai EXPo</li> <li>Executive attended 2022 Mining Indaba summit Workshop for business partners on ESG</li> </ul>
<b>Governments</b>			
Key for ensuring compliance, interpretation of regulations and uninterrupted operations	<ul style="list-style-type: none"> <li>Compliance with laws</li> <li>Contributing towards the economic development of the nation</li> </ul>	<ul style="list-style-type: none"> <li>Participation in government consultation programmes</li> <li>Engagement with national, state, and regional government bodies at business and operational level</li> </ul>	



# Materiality assessment



To align our priorities and actions towards the new ESG purpose, we refreshed our materiality assessment in FY2022 through a detailed peer benchmarking exercise and limited stakeholder consultations. The results of this assessment have been considered while adopting the three pillars and nine aims of the 'Transforming for Good' ESG framework.



## Top material topics

The top priorities across E, S and G have been identified as below. Additional topics included as per this year's assessment include risk management, economic performance, freedom of association and collective bargaining and data privacy and cybersecurity.

High	Medium	Low
Climate Change and decarbonisation	Transparent disclosure	Materials management
Workplace health, safety and well-being	Learning & Development	Circular economy
Tailings management	Innovation	Data privacy and cybersecurity
Biodiversity	Governance for sustainability	
Air quality and emissions management	Land acquisition, rehabilitation, and closure	
Solid waste management	Pandemic response and preparedness	
Water management	Talent attraction and retention	
Community relations	Freedom of association and collective bargaining	
Compliance to government regulations		
Indigenous people and cultural heritage		
Ethical business practices		
Diversity and equal opportunity		
Supply chain sustainability		
Risk management		
<b>ACT</b>	<b>MANAGE</b>	<b>OBSERVE</b>

The materiality assessment process is in line with Global Reporting Initiative (GRI) standards. The additional topics included as per this year's revision include risk management, economic performance, freedom of association and collective bargaining and data privacy and cybersecurity. This revision was carried out by management review by the Group Executive Committee (ExCO).

We will be undertaking an extensive materiality assessment in FY2023 in alignment with the updated GRI Universal Standards protocols.



# Our ESG scorecard

Over the years, we have collaborated with national and international organisations to implement best-in-class practices, adopt the latest technologies and bolster our innovation capability so that we can further our economic stewardship, deliver on our social responsibility and make our governance more robust. Here's a summary of the targets we have set for ourselves for the future and our performance against those set goals.



## Transforming Communities



### Aim 1 Keep community welfare at the core of business decisions



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Impact Management	Zero social incidents category 4 and above		1 Category 4 social incident		8.3
Transparency & Trust	Signatories and participants on VPSHR		Work to begin in FY23		
Transparency & Trust	Set up an external SP advisory body		External ESG Advisory Body established with three global experts	Community Development	
Transparency & Trust	Annual human rights assessment across all the businesses		Human Rights self-assessment conducted across all BUs		

### Aim 2 Empowering over 2.5 million families with enhanced skillsets



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Skilling		2.5 million families to be impacted through skill development and training by 2030		Community Development	2.3, 2.4, 4.4, 8.3

### Aim 3 Uplifting over 100 million women and children through Education, Nutrition, Healthcare and welfare



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Nand Ghar	29,000 Nand Ghars constructed by 2025		3,262 Nand ghars completed by FY22 MoU for establishing 25,000 Nand Ghars by 2025 signed with the Government of Rajasthan	Community Development	2.1, 2.2, 4.1, 4.2, 2.3, 2.4, 4.4, 8.3
Education, Nutrition, Healthcare and welfare		100 million women and children to be uplifted through Nand Ghars, educational by 2030			



# Our ESG scorecard

## Transforming Planet



### Aim 4 Net-carbon neutrality by 2050 or sooner



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Absolute GHG emissions	*Intentionally left blank*	25% reduction in absolute emissions by 2030 (baseline: FY2021)	4.19% increase in GHG emissions	Climate Change and Decarbonization	7.2, 12.2, 13.2
GHG Emissions Intensity	20% reduction in GHG intensity of metals business (baseline: FY2021)	*Intentionally left blank*	4.85% reduction in GHG intensity of metals business		
Renewable Energy	500 MW RE RTC or equivalent by 2025	2.5 GW of RE RTC or equivalent by 2030	464 MW RTC equivalent used		
LMV Decarbonisation	50% LMVs to be decarbonized	100% of LMVs decarbonized by 2030	*New Target*		
Energy Savings	Achieve energy savings of 10 million GJ		3.8 million GJ of energy saved		
Capital Allocation for transition		Aim to spend \$5 billion by 2030 to accelerate transition to net-zero	*New Target*		
Hydrogen as a fuel		Commitment to accelerate adoption of hydrogen as a fuel and seek to diversify into H2 fuel or related businesses	*New Target*		

### Aim 5 Achieving net water positivity by 2030



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Net Water Positivity		Net water positivity	Water positivity ratio: 0.48	Water Management	6.3, 6.4, 6.b
Water consumption	15% reduction in freshwater consumption (Baseline: FY21)		*New Target*		
Water Related Incidents	Zero category 5 incidents related to water				
Water Recycling	10% increase in the water recycling rate (baseline: FY21)		Water recycling rate: 30.6%		

## Transforming Planet



### Aim 6 Innovations for greener business model



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Fly ash	Sustain the fly ash utilization at 100%		Fly-ash utilization: 115%	Solid Waste Management	12.5
Legacy Fly ash		Zero legacy ash	*New Target*		
Waste Utilisation	100% low toxicity, high volume generated waste to be utilized		HVLT Utilization: HVLT	Tailings Dam Management	
Tailings dam audit and findings closure	All tailing facilities audited and critical actions closed with real-time monitoring		98% of Golder's Audit observations closed		
Biodiversity Risk	Review of site biodiversity risk across all our locations		To be undertaken in FY23	Biodiversity	15.1, 15.2, 15.9





# Our ESG scorecard

## Transforming Workplace



### Aim 7 Prioritizing safety and health of all employees



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Fatalities	Zero fatalities		Fatalities: 12		8.8
TRIFR	Reduce TRIFR by 30% from 2021 baseline	1.04 TRIFR per mn man hours by 2030	TRIFR: 1.40		
Occupational Health Management Systems	Health performance standards implemented and part of VSAP				
Exposure Monitoring	Employee and community exposure monitoring to be completed		To be undertaken in FY2023	Health and Safety	
Exposure Prevention		No employee exposure to red zone areas by 2030	*New Target*		
Employee Wellbeing	Mental health program in place for all employees				
Employee Wellbeing	100% of eligible employees to undergo Periodic Medical Examinations				

### Aim 8 Promote gender parity, diversity and inclusivity



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
% women in the workforce	Equal Opportunity for everyone	Gender diversity (Full-time-Employees): 20%	Gender diversity 11.63%		5.1, 5.5, 5.c
% women in the workforce		Gender diversity in leadership roles (Full-time-Employees): 40%	Gender diversity in leadership roles: 29%		
% women in the workforce		Gender diversity in decision-making bodies (Full-time-Employees): 30%	Gender diversity in decision-making bodies (Full-time-Employees): 27%		
% women in technical leader/shop floor roles		Gender diversity in technical / shop-floor roles (Full-time-employees): 10%	*New Target*	Diversity and Equal Opportunity	
Share of women in all management positions, including junior, middle and top management (as % of total management positions)		18%	15.15%		

## Transforming Workplace



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Share of women in junior management positions, i.e., first level of management (as % of total junior management positions).		23%	16.20%		5.1, 5.5, 5.c
Share of women in top management positions, i.e., maximum two levels away from the CEO or comparable positions (as % of total top management positions)		12%	7.72%	Diversity and Equal Opportunity	
Share of women in management positions in revenue-generating functions (e.g., sales) as % of all such managers (i.e., excluding support functions such as HR, IT, Legal, etc.)		14%	11%		
Share of women in STEM-related positions (as % of total STEM positions)		13%	10.14%		

### Aim 9 Adhere to global business standards of corporate governance



Key performance indicators	FY2025 Goals	FY2030 Goals	FY 2022 performance	Material matters	UN SDGs
Safety Program for Business Partners	Rubaru to be introduced at all Business Units across Vedanta				8.7
Supply Chain GHG transition	Work with our long term, tier 1 suppliers to submit their GHG reduction strategies	Align our GHG reduction strategies with our long term tier 1 suppliers		Supply Chain Sustainability	
Training on Code of Conduct	Continue to cover 100% employees in code of conduct training				
% independent directors on board	Minimum 50% independent directors on board as per SEBI requirements				
% gender diversity on the board	25% gender diversity on the board				



## Transforming Communities

We believe that long-term success for our business is closely tied with the well-being of the communities where we operate. We aspire to work in a manner that builds trust and brings transformative, positive social impact for communities. This pillar articulates our desire to retain our 'Social License to Operate' and function in a manner that ensure that we operate in a manner that is consultative, transparent, fair, and is able to deliver economic and welfare gains the society.

### Key highlights

₹ 3,995.7 million  
Total social investments

4.63 million  
(Direct beneficiaries)

1  
Social Performance  
pilot completed

### In this section

- AIM 1 Keep community welfare at the core of business decisions
- AIM 2 Empowering over 2.5 million families with enhanced skillsets
- AIM 3 Uplifting over 100 million women and children through Education, Nutrition, Healthcare and Welfare





# Aim 1

## Keep community welfare at the core of business decisions



As a socially responsible organisation, we take utmost care to ensure that we cause no harm to local life and environment. This principle of no harm is built into our commitment to responsible mining and manufacturing. We uphold human rights and the interests of potentially vulnerable communities like the indigenous people. We promote local economic growth and development, which makes us a developer of choice in the areas we operate.

### Key material issues

Community development  
Human rights

### SDGs impacted



### Sub-goals

**8.3** : Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

### Governance

Engaging with communities is a critical element for the success of our business and we have empowered management bodies to oversee the implementation of this pillar.

At the Board Level, we have two committees to provide oversight to this work – the ESG Committee and the CSR Committee. Both committees are chaired by independent directors. The ESG Committee is tasked with oversight of overall ESG risks and is primarily concerned with ensuring the business retains its social license to operate (Aim 1). The CSR Committee is tasked with overseeing the implementation of our social impact programs, which includes the programs managed by the BU CSR teams, the Anil Agarwal and Vedanta Foundations.

The Board Committees are supported by the ESG & CSR ManComs respectively. These ManComs include senior executives to oversee delivery of the programs. The “Community of Practice” manages the on-ground implementation of this pillar’s aims.

The following policies and related standards guide action on this pillar: Social Policy, CSR Policy, Human Rights Policy, Indigenous Peoples & Vulnerable Tribal Groups Policy. These are part of the Vedanta Sustainability Framework (VSF).

### Principles that govern our relationship with communities

<b>No harm to the communities</b>	Regulatory compliance Health, Safety, Environmental impacts Loss of land and Resettlement
<b>Building trust</b>	Open and consistent communication Human rights policies Stakeholder engagement Grievance management
<b>Benefit sharing</b>	Local employment opportunities Local procurement opportunities Welfare & community development programmes

### Delivery on this aim is being ensured using the following approach:

- Having the right management structure in place
- Drafting policies and standards aligned to global best-practice
- Developing the right KPIs and driving their implementation

### The Social Performance Organisation

**Aim 1 is currently managed by the “Community” Community of Practice (CoP).**

Our social performance standards call for every site to have a Social Performance Manager (SPM), whose role is to drive the implementation of social performance principles at the location. The SPM is the convening authority for the Social Performance Steering Committee (SPSC).

The SPSC is a cross-functional body at each location, chaired by the BU CEO or site-head. It is tasked with ensuring that all business decisions are viewed a social risk lens and pro-active or remedial actions are taken by the responsible business teams to eliminate or minimize social risk. The SPSC is also meant to oversee the resolution of all grievances in a timely manner. The SPSC consists of representation from at least the following functions: External Affairs/Public Relations, Operations, Security, CSR, Human Resources, HSE, Finance, and Corporate Communications.

The SPM is supported by a Community Liaison Officer (CLO), whose primary responsibility is to have regular interactions with the local communities.

### Responsible social performance

We derive a deep sense of honour from the fact that a multitude of communities host our business operations. These communities are diverse and include agrarian societies, semi-urban populations, indigenous peoples, and city-dwellers. Each of these communities it at a different stage of development and, as a result, each has a different aspiration for themselves and different expectations from us. Due to this complexity, an inclusive, transparent, process-driven, need-based approach with host communities is essential to retaining our social license to operate.

In line with globally accepted principles, we call this, our approach towards improved social performance. Fundamental to this business philosophy is that we need to keep the well-being of the community in mind in every business decision that we make and create appropriate channels for consultation to ensure that our actions are in alignment with our intentions.

# Aim 1

This structure allows us to expand responsibility for addressing social risk to departments other than CSR.

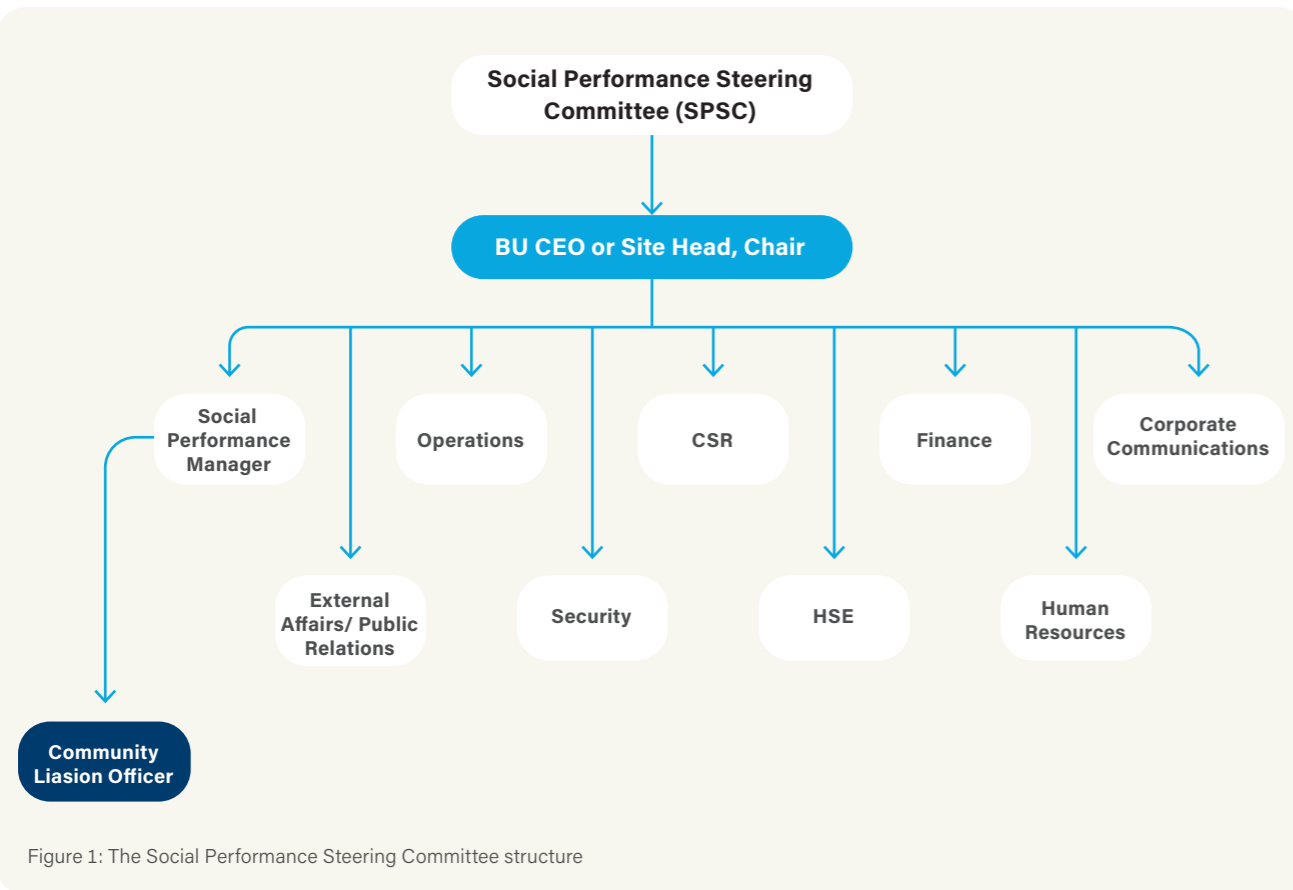


Figure 1: The Social Performance Steering Committee structure

## Social Performance policies and standards

Social Performance is driven by the following policies within the Vedanta Sustainability Framework:

- Social
- Human Rights
- Indigenous & Peoples Vulnerable Tribal Group

It is further supported by standards and guidance notes such as:

- External Stakeholder Engagement, Grievance Management, Cultural Heritage, Land & Resettlement Management, Conducting ESIA, Security Management, Community Investment, and Indigenous Peoples & Vulnerable Tribal Groups

These standards are benchmarked to respective ICMM, IFC Performance Standards, and GRI guidelines/standards. All our businesses undergo an Environmental and Social Impact Assessment (ESIA) before beginning operations. Any findings from the ESIA are considered and a mitigation plan developed.

## Feedback and grievances

Feedback mechanisms are integral to our operations and a critical part of our stakeholder engagement process. They help us map our impact on the communities and take steps to address them.

All locations also have formal grievance mechanism cells where external stakeholders can register their grievances. It is the endeavour of the business to close all grievances in a fair and timely manner. All our sites follow VSF standard on grievance mechanism, which is in alignment with global best practice recommended by ICMM and IFC performance standards.

## KPIs and Implementation

Our KPIs have been designed to ensure that we are managing social performance along the principles of (i) Do no harm, (ii) Building respectful & trusting relationships, and (iii) Sharing the benefits that result from the economic progress our activities create.

Key performance indicators	FY2025 Goals	FY 2022 performance
Impact Management	Zero social incidents category 4 and above	1 Category 4 social incident
Transparency & Trust	Signatories and participants on VPSHR	Work to begin in FY23
Transparency & Trust	Annual human rights assessment across all the businesses	Human Rights self-assessment conducted across all BUs

Additionally, we also have KPIs on: Percentage of social incidents investigated and closed, Percentage of grievances reported and resolved, Programmes in place to encourage local employment & local procurement, and CSR investment targets for local communities.

Greater participation of site leadership teams, better tracking, investigation and closure of grievances, eliminating any negative impacts on communities, and engaging the communities in economic activities are some of the key outcomes that we seek from this program.

## Our Progress - Social Performance Pilots

In FY2022, we have completed one out of two pilot projects to implement social performance across our locations. Under the guidance of global experts, the Lanjigarh location undertook an extensive exercise to coach their site leadership teams on aligning with social performance thinking. Capacity building sessions, identification of key social risks, allocation of management resources, development of site-specific Standard Operating Procedures, and monthly check-ins of the Lanjigarh SPSC were some of the key activities of this program.

Learnings from this pilot are being adopted in the unit and across the organization.

A second pilot at HZL's Rajapura Dariba Complex was kicked-off but has been delayed. We plan to bring this pilot on-track in the second half of FY2023.

## PROTECTING THE RIGHT OF INDIGENOUS COMMUNITIES

Being a part of the mining sector, some of our operations are adjacent to territories that are owned by indigenous and vulnerable communities. Building trust with indigenous communities is vital for the continuation of our operations. We recognise the rights, cultures and beliefs of the indigenous communities and are committed to respect and protect them across all our units.

At Vedanta, we are committed to recognise, promote, and protect the rights and freedoms of Indigenous Peoples in area of our operations. We are guided by UN Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples. Our Indigenous Peoples Vulnerable Tribal Group Policy along with Cultural Heritage, Land and Resettlement Management and

Indigenous Peoples/ Vulnerable Tribal Groups standards guide corporate action on the subject.

Vedanta has committed to following the principles of Free, Prior, Informed Consent (FPIC) in those project that have the potential to impact indigenous communities. In FY2019, we had undertaken an independent assessment to compare FPIC requirements with stringent Indian regulation that exists to safeguard the rights of indigenous communities. The study revealed that several portions of the Indian regulation align with the intent of FPIC. Where there are gaps, we are working to develop internal standards to comply with our commitment towards FPIC.

## Resettlement

Throughout FY2022, the Lajigarh location worked on plans to resettle and rehabilitate 132 families who currently live on the site of the proposed expansion of Lanjigarh's red-mud pond. The work has been meticulously planned over several years and is being done under the guidance of the State of Odhisha. New housing, employment opportunities for one adult member of each household, and compensation for the land/crops has been agreed upon after extensive consultation with the communities. This is also in accordance with the requirements of our Land Acquisition & Resettlement standard, which asks site teams to provide alternative homestead lands, home-building assistance, employment opportunities, and cash payments in lieu of employment.

Vedanta's teams regularly connect with community members, and district & State authorities to resolve grievances, questions and concerns arising from this future relocation of the families.

It is anticipated that the resettlement process will be completed by FY2023.



# Aim 1



## HUMAN RIGHTS

We are committed to protecting the fundamental rights of all individuals across our operations. To ensure that, we continue to strengthen our human rights management system and processes by benchmarking our performance with that of global peers and practices. We recognise the significance of human rights-related issues given the nature of our sector and are committed to upholding our core value of 'Respect'.

Our Human Rights Policy prohibits forced or child labour across our supply chain. This Group-wide policy promotes fair working conditions, equal opportunities and respect for the cultural heritage of local communities. To identify potential human rights, forced and child labour related risks, we undertake periodic reviews and risk assessment across all our units.

### Human Right Policy

Our Human Rights policy is in alignment with the United Nations Declaration on Human Rights, UN Guiding Principles of Business and Human Rights (the "Ruggie Principles"), Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social, and Cultural Rights (ICESCR), International Bill of Rights, and ILO.

**Our Code of Business Conduct and Ethics (COBE)** is aligned with all relevant national laws and regulations. Every year, all employees and business partners have to give a positive affirmation that they continue to align with and adhere to the requirements of the code. Additionally, all of our contract agreements also require our Business Partners to commit to adhering to the COBE.

<b>Aim</b>	To become signatories and participants of Voluntary Principles on Security and Human Rights (VPSHR) by 2025	<b>Progress so far</b>	In FY2022, all our sites conducted human rights self-assessment, using UN Global Compact self-assessment tool
------------	---	------------------------	---

We periodically conduct training on human rights and Code of Conduct for our employees and contractual workers. The trainings align with our human rights policy and guidance notes, which have been developed in alignment with the International Finance Corporation (IFC) Performance Standards and International Council on Mining and Metals (ICMM) guidelines.

### Human rights training

	Total Headcount	Number receiving human rights training	% Trained
Security personnel	3,632	3,396	93.50

### Human Rights Assessment

In FY2022, we conducted human rights self-assessment at all our sites using the Global Compact Self-Assessment Tool\*. The assessments were carried out by cross-functional site teams chaired by site heads including functional site leaders. The tool assesses the site on various thematic areas such as management approach, health safety impacts, labour rights: including forced labour, child labour, collective bargain and freedom of association, discrimination, environmental impacts and anti-corruption.

Through this assessment, we identified areas for development. Site level policies and plans are in place to reinforce a culture of respect to maintain human dignity in our day-to-day operations.

\*Global Compact Self-Assessment Tool. Developed by the Danish Institute for Human Rights, the Confederation of Danish Industries, the Ministry of Economic and Business Affairs and the Danish Investment Fund for Developing Countries

### Aligned to Modern Slavery Act

We have been complying with the Modern Slavery Act (UK) or MSA since 2016. With regular and systematic updates and audit mechanisms, we have been making our systems robust to ensure that our vendors and supply chain are entirely free of slave labour. We also seek MSA self-declaration from each of our vendors.

**818**  
SUPPLIER WENT THROUGH ASSESSMENT ON ESG INDICATORS

### Key initiatives

- MSA clause included in vendor contracts, SCOC and recruitment procedures
- MSA awareness and training programmes for vendors
- Suppliers' assessment on ESG indicators
- Annual declaration from vendors
- MSA compliance for onboarding new vendors
- Supply chain managers regularly trained on Vedanta Code, SCOC and Human Rights Policy

More information on Vedanta's adherence to the Modern Slavery Act can be found at: <https://www.vedantaresources.com/SiteAssets/Images/Vedanta%20Slavery%20and%20Human%20Trafficking%20Statement%202022.pdf>



### Right to freedom of association

When it comes to human rights we make no distinction between direct and indirect workers and have in place a comprehensive system for contractual labour management and employee well-being across all our locations. We endorse the right to freedom of association. Transparent and fair discussions between union representatives and management are initiated to form collective bargaining agreements. The arrangement includes remuneration, allowances, working conditions, incentives and bonuses, health and safety, manpower productivity among others.

**16,860**  
TOTAL FULL-TIME WORKFORCE

**4,703**  
COVERED BY COLLECTIVE BARGAINING AGREEMENTS

**28%**  
OF WORKFORCE COVERED BY COLLECTIVE BARGAINING AGREEMENT (FULL-TIME EMPLOYEES)

ON AVERAGE,  
**51%**  
OF OUR FULL-TIME EMPLOYEES AT BALCO, HZL, IRON ORE BUSINESS, FACOR AND ZINC INTERNATIONAL AND CMT AUSTRALIA ARE COVERED BY COLLECTIVE BARGAINING AGREEMENT



# Aim 2

## Empowering over 2.5 million families with enhanced skillsets



At Vedanta, we are committed to delivering meaningful and sustainable social impact. We recognise our responsibility to leverage our scale and expertise to deliver positive change. Under this aim, our community development programmes focus on skilling women and youth, training farmers in agricultural & non-agricultural activities and promoting a culture of entrepreneurship. We use our resources to help improve community infrastructure and develop local leadership and agency through our support for community-owned enterprises.

### Key material issues

Community development

### SDGs impacted



### Sub-goals

**2.3:** By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

**4.4:** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

**8.3:** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

Additional details on Vedanta's CSR programmes can be found in the company's CSR Annual Report



### UPSKILLING YOUTH<sup>1</sup>

India's growing economy needs skilled manpower to maintain the growth momentum. Skill development plays a pivotal role in empowering the youth of our communities. By increasing their access to better education, knowledge and skills through vocational training, we aim to build the capabilities of rural youth. We have established various skill-development centres that impart vocational training free of cost. Our focus is to provide rural youth with focused training and link them with employment opportunities, helping them generate a stable income.

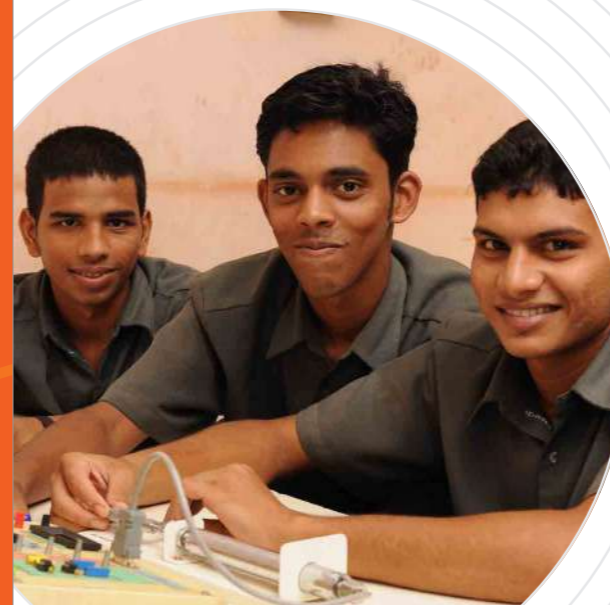
<sup>1</sup> A note on the data: Beneficiary count numbers are a sum total of the programmes managed by our "BU CSR teams + the programmes managed by the Vedanta Foundation + the programmes managed by the Anil Agarwal Foundation". Only the beneficiary data of our BU CSR programs has been assured by Ernst & Young LLC.

**10+**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**173,266**  
YOUTHS TRAINED SINCE 2016  
(FY2022: 11,778 YOUTH TRAINED;  
5,133 ACROSS BUS)

#### Type of Intervention

- Setting up skill development centres
- Enabling access to vocational training programmes including sewing, technical skills and computer literacy among others
- Opportunities for internships and placements
- Support for self-employment





# Aim 2

## CASE STUDY

### Sterlite Copper inaugurates Skill Development Centre in Thoothukudi

In Thoothukudi, a mid-sized industrial town in Southern India, a section of the population is unable to find adequate employment due to the lack of formal education and training on specific skillsets. To address this learning gap, Sterlite Copper launched a Skill Development Centre on World Youth Skills Day 2021. The centre, established under the aegis of Tamira Muthukkal, Sterlite Copper's flagship project, provides skill training to youth in and around Thoothukudi, helping them seek gainful employment. This centre offers courses focused on tailoring, welding, general electronics, logistics and food processing. The five trades were selected as per the priority areas identified by the Skill Gap Assessment Report released by the National Skill Development Corporation (NSDC). Students enrolled in the program will receive around 300-400 hours of training. The set of courses will be expanded based on the requirements of the communities.

The centre is aiming to train 600 youths in the first phase, and gradually increase the number to 1,500 in the next phase. The trained youth will also be provided support for placements, with Vedanta committing to find employment for at least 70% of the participants. The centre is supported by Vedanta Foundation, which has been actively working towards enhancing local youth's access to education and skill development

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education

**SDG 8**  
Decent work and Economic Growth



**“ I am looking forward to starting my training and am confident that I will undertake it with full seriousness and complete it. I shall give it my best efforts and am thankful to Sterlite for this opportunity.**

**Ms. Mariammal**  
*(Enrolled for tailoring)  
Resident of Sankaraperi village*

## SPORTS AND CULTURE

**16+**

INITIATIVES ACROSS OUR GROUP COMPANIES

**69,232**

SPORTSPERSONS BENEFITED

### Types of intervention:

- Football and archery training academies
- Sponsoring para-athletes
- Encouraging rural sports
- Organising marathons and sports tournaments



## CASE STUDY

### Meeting aspirations through sports

Vedanta's residential Sesa Football Academy in Goa has been shaping the careers of sportspeople for more than two decades and has produced around 200+ professional footballers, contributing immensely to Indian football. Vedanta Women's League has also been created to serve as a platform for aspiring women footballers, giving them opportunities to hone their skills and connect with each other.

One football prodigy who has greatly benefited from the Vedanta Women's League is Karishma Shirvoikar. She has made headlines for scoring her fastest goal within 15 seconds at the Junior Nationals. Karishma, who hails from a small seaside village of Odxel in Goa, had started playing football as a hobby, which soon became her passion. Vedanta Women's League was the conduit that enabled her to transform her love for football into a career in sports.

She performed exceptionally well in the inaugural edition of Vedanta Women's League at the age of 15, and then joined Gokulam Kerala FC. She represented India at the U-17 BRICS Cup in South Africa, also earning herself an offer to get trained at Palamos CF, a Spanish club. Karishma was a top scorer for Vedanta Women's League for two successive seasons.

We are proud to have played a role in fulfilling Karishma's dreams through scholarships and opportunities. She is truly an inspiration for those who want to follow their passion with hard work and dedication. Vedanta Women's League has been a go-to platform for footballers like her, who want to shine and grow. Vedanta has ambitious plans to expand this platform to reach out to other talents like her across the country.

## AGRICULTURE AND ANIMAL HUSBANDRY

**16+**

INITIATIVES ACROSS OUR GROUP COMPANIES

**69,232**

FARMERS BENEFITED SINCE 2016 FY22: 36,521  
FARMERS BENEFITED ACROSS THE BU.

### Type of Intervention

- Farmer training
- Dairy and livestock development
- SHGs, cooperatives
- Climate change adaptation
- Wadi-based agriculture
- Water-shed rejuvenation
- Agriculture-based natural resource management
- Veterinary care
- Irrigation channel maintenance

## CASE STUDY

### TSPL's Navi Disha - Promotion of sustainable agriculture

Talwandi Sabo Power Limited (TSPL) runs 'Navi Disha', a CSR project that has been benefiting farmers in villages on the company's periphery. The project is helping them reduce input costs, adopt sustainable agricultural practices and improve yields. Multiple workshops, integrated management classes, farm field schools, model farm demonstrations are used to train the farmers.

The program is run in partnership with the Nabha Foundation, which takes knowledge support from

Krishi Vigyan Kendras and other key stakeholders. Farmer Resource Centres (FRCs) have been set up to further encourage and support the farmers. FRCs act as a knowledge repository on agricultural practices and equipment, organic inputs and so on. Farmers can acquire knowledge support free of cost and agricultural equipment at a nominal price.

Over 15,000 farmers across 26 villages are benefitting from this programme.

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education

**SDG 8**  
Decent work and Economic Growth

## Aim 3

# Uplifting over 100 million women and children through Education, Nutrition, Healthcare and Welfare



Better education, health and nutrition are both indicators and instruments of development. Education, for example, enhances work skills, which equips an individual to earn a living and bring change to one's life and that of the community. At Vedanta, we promote equitable distribution of resources, promote equal access to education, healthcare, nutrition, sanitation and so on to create opportunities for people to improve their lives

### Key material issues

Community development

### SDGs impacted



### Sub-goals

- 2.1:** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- 2.2:** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons
- 4.1:** By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
- 4.2:** By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education



### NAND GHAR

Project Nand Ghar is our flagship CSR project under the Anil Agarwal Foundation Initiative in partnership with Ministry of Women and Child development. This program aims at empowering women and children and creating significant impact in the communities around our direct impact zones. Under this project, we are providing infrastructure support and upgrading model anganwadis across India. These anganwadis focus on eradicating child malnutrition, providing education, healthcare and upskilling women.



### Focus areas

- PRIMARY HEALTHCARE AND NUTRITION
- QUALITY EDUCATION AMONG CHILDREN
- GENDER EQUALITY AND SENSITISATION
- ENVIRONMENTAL SUSTAINABILITY
- RURAL DEVELOPMENT

**3,262**  
NAND GHARS BUILT

**70,000+**  
WOMEN BENEFITED

**12**  
STATES IMPACTED

**100,000+**  
CHILDREN BENEFITED

**2,833**  
OPERATIONAL  
NAND GHARS

**6,375**  
HOURS OF EMPLOYEE  
VOLUNTEERING



# Aim 3

## Key interventions

### Health

- Integrated health services comprising of mobile health vans (MHV), telemedicine among others
- OPD services including doctor consultations, non-invasive diagnostic tests, referral for beneficiaries and their families
- Awareness rallies to sensitise the community about preventive measures related to health and hygiene
- Regular immunisation and health camps

### Education

- At home learning delivered through WhatsApp and IVRS
- Encouraging parental involvement in teaching and learning process
- Training and capacity building of anganwadi workers (AWWs) and AWSs to deliver early childhood development milestones
- Imparting e-learning, play based learning through smart kits, AD boards and BaLA designs

### Nutrition

- Ensuring availability of supplementary nutrition for all our beneficiaries through Take Home Ration (THR)
- More than 5,000 nutri-gardens established at Nand Ghars and homes of beneficiaries

### Economic Empowerment

- Trade based skill development through training
- Collaboration with NGOs and skilling organisation to upskill women
- Assistance in credit, schemes and market linkage

### Digital Governance

- Data collection for key output indicators
- Tracking service through Nand Ghar app
- Analytics dashboards for predictive analysis
- Beneficiary wise nutrition status tracking for children

## CASE STUDY

### Education, healthcare, nutrition at one go

The Nand Ghar project aims to empower women and children through multiple initiatives. Women are upskilled through various skill-training programmes while the quality of pre-school education, healthcare and nutrition for children are improved as well. The project also aims to strengthen community connections through health awareness campaigns, COVID-sensitisation drive, and establishment of nutri-gardens among other initiatives.

Suruchi Padhee, an Angan-wadi worker (AWW) from Sunarimunda Nand Ghar, shared her difficulties while encouraging parents to send their children to anganwadi centres before the infrastructure work undertaken by Vedanta. Through the establishment of Nand Ghars, a better learning environment, nutritious meals, and healthcare among other facilities were made available to children. AWWs like Suruchi thus

had an easier time convincing parents to send their children, which led to an increasing enrolment ratio.

Suruchi herself ensures regular attendance of children and parents in parent-teacher meetings. She also regularly organises various COVID-sensitisation and health awareness campaigns at her centre, including targeted initiatives to create awareness on diabetes, filaria, and AIDS among others. Insights are provided to communities on healthy lifestyle habits and yoga. There are around **50 operational Nand Ghars in Jharsuguda that cater to the immediate needs of 343 pregnant and lactating women.**

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education



## Nand Ghar meets the leadership

Mrs. Ritu Jhington, CEO of project Nand Ghar and Group Director – Communications recently met **Hon'ble Prime Minister Shri Narendra Modi**. Nand Ghar's vision of women and child development, along with the substantial progress made towards achieving the objective, was appreciated by the Hon'ble Prime Minister. 3,262 centres have been established across 12 states in India aiming towards transforming the lives of 7 crore children and 2 crore women.

Mrs. Jhington also met Vice Chairman of NITI Aayog, **Dr Rajiv Kumar**. Nand Ghar and NITI Aayog had discussions about future joint collaborations for a 'Nourished India'.

# Aim 3



## CHILDREN'S WELL-BEING AND EDUCATION<sup>2</sup>

Our focus is to build the capabilities and capacities of the next generation to create long-term impact. Through multiple programmes, we have been supporting educational institutions in the communities around our operations for the holistic development of students. Our focus is to provide better education facilities to children so as to enhance their academic performance and overall learning.

**44+**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**10,972,840**  
CHILDREN BENEFITED SINCE 2016  
(FY2022: 9,712,088 CHILDREN BENEFITTED; 702,969 ACROSS BUS)

### Type of Intervention

- Anganwadis and child-healthcare centres
- Public school infrastructure
- Digital classrooms and computer-aided learning centres
- Vedanta-run schools and libraries
- Scholarships and teacher training

### CASE STUDIES

#### Enabling access to quality education in Northern Cape province

Education remains the thematic priority area of Vedanta Zinc International's CSR investment. The ultimate focus is to make quality education easily accessible to children. VZI has been strengthening and supporting early childhood development through its interventions in primary and high schools through the Black Mountain Study Trust for non-mine related bursaries in the Khâi-Ma municipal area as well as the broader Namakwa area.

In the Northern Cape Province, where the lack of quality education along with unemployment remains the biggest challenge, the Trust's HeyMaths! and HeyScience! project are creating a major impact. As the names indicate, the project is trying to enrich the experience of children in the study of maths and science in school through creative and imaginative approaches such as by giving them low floor, high ceiling tasks that allow multiple approaches to a given problem. These methods are helping children develop innovative problem-solving skills.

Educators of 21 schools in the Namakwa district were trained for implementing the HeyMaths! And HeyScience! project in the classrooms. By making it possible for children to enjoy learning maths and science through an interactive approach, the project is seeking to break the stigma that these subjects are difficult to comprehend.

**SDG 2**

Zero Hunger

**SDG 4**

Quality Education

<sup>2</sup> A note on the data: Beneficiary count numbers are a sum total of the programmes managed by our "BU CSR teams + the programmes managed by the Vedanta Foundation + the programmes managed by the Anil Agarwal Foundation". Only the beneficiary data of our BU CSR programs has been assured by Ernst & Young LLC.



## HEALTHCARE

**38+**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**2.4 million**  
PEOPLE BENEFITED

### Type of Intervention

- Supporting primary health centres
- Health camps and mobile health vans
- HIV/AIDS awareness programmes
- Specialised doctor support
- Nutrition programmes
- Health awareness drives
- Vedanta-run hospitals

### CASE STUDY

#### Enhancing healthcare as a part of Zero Harm

The Black Mountain CSR team of Vedanta Zinc International aims to create a healthy and sustainable environment throughout the Khâi-Ma region, to which most of its labourers belong. Based on local community needs, Black Mountain Mines (BMM) has rolled out several projects focused on making healthcare accessible to the community. The local Khâi-Ma Community Hospital has also been upgraded in terms of infrastructure and facilities to deliver better services to the local population.

In line with its commitment to the Zero Harm, BMM has been supporting communities through its Eye Care Surgeries Tour in collaboration with the South-African National Council of the Blind (SANCB) and the Northern Cape Department of Health. The program has made cataract surgeries easily accessible to older community members. Since inception, the project has assisted around 1,530 community members. On the recommendation of the SANCB, the tour will be continued in 2022.

**SDG 2**

Zero Hunger

**SDG 4**

Quality Education

Health Outreach Pink Drive Mobile Cancer Programme is another initiative rolled out by BMM. Under this program, health examination is conducted annually for the early detection and treatment of prostate and breast cancer. Mobile trucks are deployed within the Namakwa district and BMM host communities within the Khâi-Ma municipal area. Residents are encouraged to undergo relevant tests. The close partnership between BMM and the Department of Social Development and Health has led to this program being a huge success. The Pink-Drive programme is amongst the many programmes hosted by BMM showcasing its commitment to promote accessible healthcare services.





# Aim 3



## WOMEN EMPOWERMENT

**11**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**47,614**  
WOMEN BENEFITED

### Type of Intervention

- Self-help groups
- Women cooperatives
- Micro-enterprises
- Employment opportunities
- Skill-based training
- Increasing awareness around sanitary and menstrual hygiene

### CASE STUDY

#### Sterlite Copper launches sanitary napkin production unit

Sterlite Copper has been actively creating and ensuring better opportunities for women in Thoothukudi through need-based community projects. Multiple skill-based training and income generation activities have been launched under its Sakshi project.

Ensuring menstrual hygiene is a key concern in rural India, where both awareness around the subject and accessibility to hygienic products is lacking. Given the prejudices and lack of suitable income generation opportunities, women find it challenging to make independent choices about their health. Aiming to bridge the gap between awareness and access to menstrual hygiene products, Sterlite Copper established a sanitary napkin production unit in Swaminatham village, Thoothukudi in collaboration with Ms. Annalakshmi, Member, Bell Sumangali SHG and Proprietor, Smiley Sumangalikal Groups. Around 20 women were identified and trained a part of the project. The best performing trainees were inducted into the manufacturing unit as full-time employees. They can earn up-to Rs 350-500 per day, depending on the quantity of production. Approximately 3,150 napkins are produced per day in the unit, which are made available for purchase through tenders at lower prices.

This project is not only helping spread awareness on the benefits of adopting hygienic practices, but it is also addressing the problem of availability and affordability of sanitary napkins for women in the nearby areas.

**“ This is a much-needed initiative that will help serve a key area of women’s health, and therefore be of immense benefit to the overall community. The project will also aid in further empowering the rural women in Thoothukudi to make informed choices regarding their own well-being.**

**Mrs. A Sumathi**  
COO, Sterlite Copper  
Resident of Sankaraperi village

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education



## DRINKING WATER AND SANITATION

**20+**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**332,449**  
PEOPLE BENEFITED

### Type of Intervention

- Provision of clean drinking water
- Construction of toilets
- Installation of RO plants
- Digging of borewells
- Installing and repairing handpumps
- Sanitation drives

### CASE STUDY

#### Changing lives through the RO project in Barmer, Rajasthan

In Rajasthan’s Barmer district, where water availability remains a pressing issue, we are ensuring water security through the Jeevan Amrit project. As part of this project, 124 RO units have been set up to provide safe drinking water to rural communities at their doorstep. This project has also been creating local entrepreneurs and providing employment opportunities to rural youth. The project benefits ~100,000 people annually.

To make the units self-sustainable, the project is always creating awareness among the people and establishing village water communities while encouraging business plans to run the operations. Water operators are identified from among the community and trained to make water accessible at all times, thus strengthening accountability and sense of ownership within the community. The village water committees charge a minimum cost for the water, to ensure the RO units are properly maintained post-handover by the Company.



Beneficiaries like Bhagat Singh have played a major role in making the project successful. Once unemployed, Bhagat was trained as a water operator and now manages the operation of RO unit at Padroo village. Through strategic marketing and planning, the plant has also increased its sale of water. Thanks to a stable income now, Bhagat now owns a grocery store next to the plant and has doubled his income.

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education



# Aim 3



## COMMUNITY INFRASTRUCTURE

**50+**  
INITIATIVES ACROSS OUR GROUP COMPANIES

**963,040**  
PEOPLE BENEFITED FROM THESE PROGRAMMES

**192,608**  
FAMILIES BENEFITED FROM THESE PROGRAMMES

#We have considered average household size as 5, based on NHFS data.

### Type of Intervention

- Setting up tube-wells, open wells, borewells, check dams
- Constructing roads; parks
- Building public education
- Infrastructure, community centres, health centres, village walls and gates
- Renovation of sports complexes; temples, irrigation channels, drains; bus stands, streetlights;
- Ponds
- Installation of public CCTVs

### CASE STUDY

#### Promoting water security in Jharsuguda

Post-monsoon water availability is a major concern in some of the districts of Jharsuguda, Odisha. The reason for this is frequent drought and over-extraction of groundwater in these areas. To help the local communities, we have revived community ponds and repaired borewells in around four Gram Panchayats of Jharsuguda.



With the combined efforts of local communities, we conducted deep cleaning of the ponds and repaired handpumps. These led to significant improvements in groundwater recharge and rainwater harvesting levels. The main focus of the project has been to help the restoration of the crucial ecosystem to prevent further deterioration of local water resources.

The infrastructure development undertaken by us has ensured water availability for around 3,000 people. Additionally, changing rooms for bathers were constructed near all the ponds. Informative materials regarding cleanliness and personal hygiene were distributed among the people to sensitise them on various health issues.

**SDG 2**  
Zero Hunger

**SDG 4**  
Quality Education







## Transforming the planet

As a natural resource company, we harbour deep respect for the environment. We understand that we have a role to play in minimising the negative impacts on air, water, soil and biodiversity. We are committed to leading industry action to decarbonize the world, ensure water security for all, and embrace technological innovation to make our operations and processes environmentally responsible. We are increasing our investments in green technologies and are certain that this is the best way to generate sustained value for our stakeholders and minimise our impact on the environment.

### Key highlights

₹ 11.6 billion spend on improving environmental performance	~14 million TCO <sub>2</sub> e of avoided GHG emissions since 2012	30.61% Water recycled	₹ 2.44 billion Savings from water & energy conservation programs
--	--	--------------------------	--

### In this section

- AIM 4 Net Zero Carbon by 2050 or sooner
- AIM 5 Achieving net water positivity by 2030
- AIM 6 Innovations for a greener business model



# Aim 4

## Net Zero Carbon by 2050 or sooner



Climate change poses a grave risk to society, and it is the responsibility of all global actors to commit to decarbonize themselves at an urgent pace. We support the Paris Agreement to limit long-term global average temperature rise to well below 2°C and to pursue efforts to limit warming to 1.5°C. We welcome the Government of India's decision to make India a net zero carbon economy by 2070.

We have set ourselves carbon reduction targets that are in alignment with these national and international goals. Through a well-considered strategy to improve our energy and process efficiency together with a diversification of our energy mix across all operations, we intend to meet our goal of Net Zero Carbon by 2050 or sooner.

### Key material issues

Climate change and decarbonisation

### SDGs impacted



### Sub-goals

- 7.2:** By 2030, increase substantially the share of renewable energy in the global energy mix
- 12.2:** By 2030, achieve the sustainable management and efficient use of natural resources
- 13.2:** Integrate climate change measures into national policies, strategies and planning

### Targets

**25%**  
REDUCTION IN ABSOLUTE GHG EMISSIONS BY 2030 FROM A FY2021 BASELINE

**500 MW**  
MW RE RTC (EQUIVALENT) BY 2025; 2.5 GW RE RTC (EQUIVALENT) BY 2030

**20%**  
INTENSITY REDUCTION IN METALS AND MINING SEGMENT FROM A FY2021 BASELINE

**10 million GJ**  
OF ENERGY SAVINGS BY 2025

FY2022 was a watershed year for Vedanta's decarbonization ambitions. We significantly ramped up our ambition and our preparation to decarbonize our business. In a prelude to COP26, Vedanta announced its commitment to become a net zero carbon organisation by 2050 or sooner. This target, alongside our 2030 GHG reduction commitment in support of the 2°C Science Based Target Initiative (SBTi) scenario.

We also conducted an in-depth climate risk assessment and scenario analysis to comprehensively understand the risks and opportunities posed by climate change to our business. The findings of these studies are being used as inputs for our carbon strategy and roadmap to achieve Net Zero status by 2050. For the first time, we completed the task of inventorising our Scope 3 emissions and concluded discussions on setting an Internal Carbon Price.

With this, the stage is set for the company to deliver on its commitment.





# Aim 4

## Our 10 Net Zero commitments

- 1 **Net Zero Carbon by 2050** or sooner
- 2 Use **2.5 GW** of Round-The-Clock (equivalent) Renewable Energy and reduce absolute emissions by **25% by 2030 from a FY2021 baseline**
- 3 Aim to spend **US\$5 billion** over the next **10 years** to accelerate the transition to Net-Zero carbon
- 4 **No additional coal-based thermal power** and use of coal-based power only till the end of the existing power plants' life
- 5 Decarbonise **100% of our Light Motor Vehicle (LMV)** fleet by 2030 and **75% of our mining fleet** by 2035
- 6 Commit to accelerate adoption of **hydrogen as fuel** and seek to diversify to hydrogen fuel or related businesses
- 7 Ensure all our businesses account for their **Scope 3 GHG emissions** by 2025
- 8 Work with **long-term Tier 1 suppliers** to submit their GHG reduction strategies by 2025 and align with our commitments by 2030
- 9 Disclose our performance in alignment with **Taskforce on Climate Related Financial Disclosures (TCFD) requirements**
- 10 **Help communities adapt** to the impacts of climate change through our social impact/CSR programmes

More details about Vedanta's climate strategy can be found in our FY2022 TCFD Report.



### CLIMATE GOVERNANCE AT VEDANTA

The Carbon Forum, which was chaired by the CEO of our power business has evolved into the Energy & Carbon Community of Practice, which is chaired by the Director – ESG, Carbon, and Social Performance. It is responsible for developing and supervising Vedanta's carbon mitigation and adaptation strategy. Decisions regarding our long-term GHG emission reduction targets, physical and transition risks, carbon pricing and alignment with investor interests are taken under the CoP's supervision. It guides BUs individually to set their internal targets and is responsible for the company's energy and carbon management policies and standards. The CoP also serves as the subject-matter expert to the Board and the Executive Committee, providing oversight and advice on matters regarding carbon and energy management. It also gives guidance to the Risk Management Committee and the Board ESG Committee.

GHG reduction KPIs and implementation of the energy & carbon standards are part of the annual VSAP audit, thereby making the management of carbon footprint a determinant of the executive compensation structure.



### CLIMATE RISKS, OPPORTUNITIES AND DECARBONIZATION STRATEGY

In line with TCFD recommendations<sup>1</sup> in FY2022, we undertook a comprehensive study to understand the impact of climate change on the business under different scenarios. This climate risk assessment sought to identify physical and transition-related climate risks and formulate strategies to enhance our resilience. This assessment also covered the socio-economic vulnerability of communities around our operations and the identified climate change-related adaptation interventions.

#### Physical Risk

Our physical risk assessment considered two scenarios based on IPCC Representative Concentration Pathways (RCPs):

- **High Climate Change Scenario (RCP 8.5):** Continuation of business as usual with emissions at current rates. This scenario results into excess warming of up to 4°Celsius by 2100.
- **Moderate Climate Change Scenario (RCP 4.5):** Strong mitigation actions to reduce emissions to half of the current levels by 2080. This scenario is more likely than not to result in global temperature rise between 2°C, and 3°C by 2100.

Exposure, hazard, sensitivity and adaptive capacity assessments were conducted, for both the short term (2039) and long term (2059) scenarios. Assessing the asset value exposed to physical risks, helps us in informed decision-making and taking appropriate mitigation actions.

<sup>1</sup> Our assessment was informed by the TCFD technical guidelines (June 2017).

# Aim 4

## Exposure of BUs to Physical Risks

Business Unit	RCP 4.5					RCP 8.5				
	Change in Temperature	Change in Rainfall	Flood	Drought	Cyclone	Change in Temperature	Change in Rainfall	Flood	Drought	Cyclone
BALCO	●	●	●	●	●	●	●	●	●	●
Cairn Oil & Gas	●	●	●	●	●	●	●	●	●	●
ESL	●	●	●	●	●	●	●	●	●	●
HZL	●	●	●	●	●	●	●	●	●	●
Iron Ore Business	●	●	●	●	●	●	●	●	●	●
TSPL	●	●	●	●	●	●	●	●	●	●
VAL-L& VAL-J	●	●	●	●	●	●	●	●	●	●
Sterlite Copper	●	●	●	●	●	●	●	●	●	●
VZI	●	●	●	●	●	●	●	●	●	●

● Very Low   ● Low   ● Medium   ● High   ● Very High

We anticipate that until 2040, under the RCP 4.5 scenario, 11% - 34.5% of the asset value is at risk from climate-related events if we do not undertake any adaptive or resilience measures.



## Transition Risk

Transitioning to a lower-carbon economy requires extensive changes in policies, regulations, technologies and markets to address mitigation and adaptation requirements related to climate change. Depending on these changes, transition risks may pose varying levels of financial and reputational risks to our organisation.

To assess the impact of transition risks on our business, we used five NGFS (Network for Greening the Financial System) reference scenarios covering three aspects of its scenario matrix including orderly, disorderly, and hot house world.

The five scenarios used for Vedanta's transition risk analysis

- **Current Policies Scenario:** Under this scenario, existing climate policies stays in place without strengthening the ambition level of these policies.
- **Nationally determined contributions (NDCs) Scenario:** This scenario foresees that India's currently pledged NDCs gets implemented fully, and respective targets on energy and emissions in 2025 and 2030 are achieved.

- **Below 2°C scenario:** This scenario imposes strict temperature targets. The Below 2°C scenario keeps the 67<sup>th</sup>-percentile of warming below 2°C throughout the 21<sup>st</sup> century.

- **"Net Zero 2050" scenario:** This scenario foresees global CO2 emissions to be at net-zero in 2050. Furthermore, countries committed to specific net-zero targets in 2020 (i.e., China, EU, Japan, and United States of America) are assumed to meet their targets.

- **Delayed Transition scenario:** For the Delayed transition scenario, a 2°C temperature target was imposed for 2100 and allows for temporary overshoot.

Our portfolio could be broadly understood as spread across 4 types, with the Thermal, Oil and Gas at the highest transition risk as there is carbon in the product and currently with RE it can be easily substituted. The least transition risk is to our aluminium, copper, zinc business except through its processing.

### Type 4

**Thermal Coal Oil and Gas**

Carbon in product and widely substitutable

### Type 3

**Iron ores. Bauxite Battery minerals: Lead**

No carbon in product but carbon intensive processing and phasing out

### Type 2

**Coal-based steel, coal-based aluminum**

No carbon in product but carbon intensive processing

### Type 1

**Aluminum battery minerals: Copper, Zinc. Silver**

No carbon in product and critical enabler of low carbon future

Higher transition risk

Lower transition risk

We anticipate transition risks to remain low in the near term (until 2035), however we are monitoring emerging regulations such as the Cross Border Adjusted Mechanism (CBAM) in Europe that could potentially increase our risk exposure due to decreased market access, given our current operating scenario.



# Aim 4

## Decarbonization Strategy

Net Zero Carbon by 2050 or sooner is an ambitious (albeit essential) commitment for a business that is currently predominantly powered by coal-based energy. To deliver on our goal, we have taken intermediate targets that will serve as milestones in this journey.

By FY2025, our metals businesses, which represent more than 75% of our current GHG emissions, would have reduced their GHG intensity by 20% from a FY2021 baseline. An intensity-based target is essential in the short-term because it will help drive improvements at a stage in our business when we plan to expand our operations. Based on current projections, we anticipate our absolute GHG emissions to peak between FY2025 and FY2027.

By 2030, we intend to reduce our absolute GHG emissions by 25% from a FY2021 baseline. To do so, we have developed a comprehensive net zero roadmap at each of our BUs. The roadmap focuses on governance structures, technology interventions and continuous monitoring of our progress.

A broad outline of this roadmap is presented in the table below:

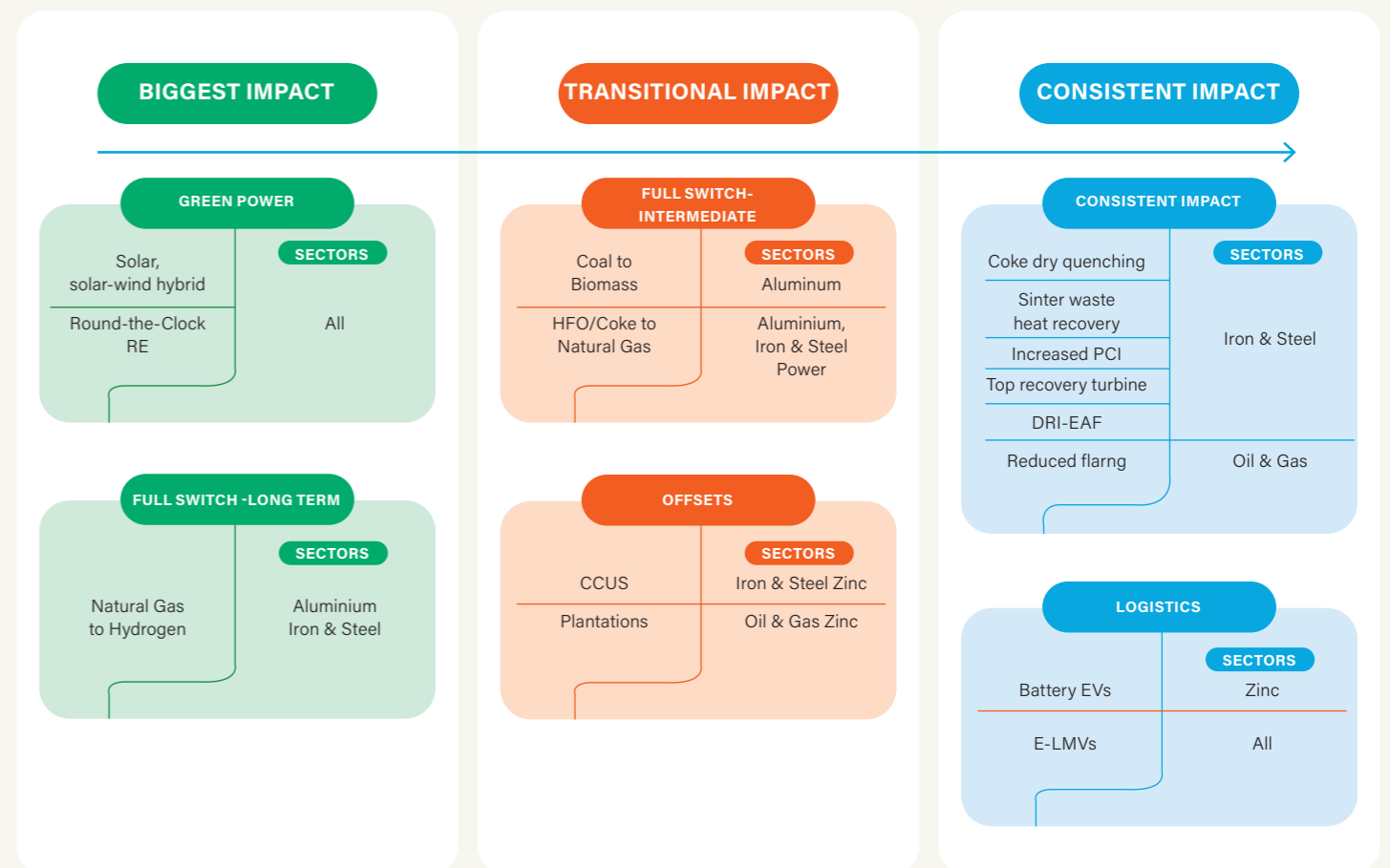
Net-Zero Roadmap	Policy and Governance	Risk management	Targets and Metrics
<b>Short Term (1-4 years)</b>			
<ul style="list-style-type: none"> <li>Draft Climate Resilience response strategy covering identified climate risks</li> <li>Develop mandatory mitigation assessment guidelines for all new projects, mergers and acquisitions including mandate to increase renewable Energy share, mandating use of Best Available Technologies</li> <li>Integrate decarbonization goals with the annual Business Planning process</li> <li>Embed climate KPIs into performance appraisal parameters for executives and managers</li> <li>Develop a supplier engagement programme to drive strengthen climate action across the value chain</li> <li>Engage with community members to build climate resilience programmes/ integrate climate adaptation into existing CSR programmes specific to the identified risks</li> </ul>	<ul style="list-style-type: none"> <li>Adapt existing enterprise-level and other risk management processes to take account of loss and damages incurred/ projected from cyclone events or heat waves</li> <li>Plan to use the same quality assurance and compliance approaches for climate-related information as for finance, management, and governance disclosures</li> <li>Embed Internal Carbon Pricing into the business decision-making process</li> </ul>	<ul style="list-style-type: none"> <li>Define a framework to consolidate BU-level targets and achievements to align with and track progress against group level targets – e.g., Net Zero by 2050, 25% absolute reduction in emissions by 2030</li> <li>Strengthen Scope 3 accounting and identification of emission hotspots within the value chain</li> <li>Set up specific, annualized targets for use/deployment of renewable energy</li> </ul>	
<b>Medium Term (4-10 years)</b>			
<ul style="list-style-type: none"> <li>Identify &amp; pilot green business opportunities involving RE storage technologies, electrolysers etc.</li> <li>Identify and carry out policy advocacy on specific areas – e.g., policy towards mitigating technological and contractual barriers of moving away from coal, just transition, removal of infrastructural bottleneck on use of cleaner fuels.</li> </ul>	<ul style="list-style-type: none"> <li>Develop BU-level adaptation plans based on identified climate risks and the techno-feasibility assessments</li> <li>Engage with external key stakeholders (along the supply chain) to manage risks</li> <li>Identify/validate business-critical suppliers of goods and services who are exposed to high physical and transition risks</li> <li>Assess and quantify the impact of the loss of the critical suppliers in the event of climate disasters, or in case of low carbon transitions</li> </ul>	<ul style="list-style-type: none"> <li>Set a target for Scope 3 emissions reduction for material categories</li> <li>Decide on the key suppliers, customers to handhold with for reduction of their scope 1 and 2 targets (i.e., Vedanta's scope 3 target)</li> <li>Drive adoption of science-based emission reduction targets by suppliers and/or customers</li> <li>Define climate change relevance of the CSR programmes – carry out BU wise studies on how and to what extent the CSR programmes are addressing the climate change risks and vulnerabilities as identified</li> </ul>	
<b>Long Term (10+ years)</b>			
<ul style="list-style-type: none"> <li>Update the Net Zero plan taking into consideration newer regulatory, market requirements and achievements of short to medium term targets set by the Group</li> <li>Develop and implement a Just Transition plan</li> </ul>	<ul style="list-style-type: none"> <li>Install measures to reduce exposure to physical climate risks identified</li> <li>Consider insurance or additional climate fund (enhanced ICP) for emergency purposes</li> </ul>	<ul style="list-style-type: none"> <li>Revise climate budget, ICP, GHG emission reduction targets according to the revised climate risk assessments</li> <li>Set up specific targets on use of clean technologies – CCUS, green hydrogen</li> </ul>	



## DECARBONIZATION LEVERS

To make an orderly transition to a net zero carbon organization, we plan to use six key levers for decarbonization:

1. Switch the green power wherever feasible
2. Switch to low-or-zero-carbon fuels where transition to green power is not possible
3. Improve the carbon efficiency of all our processes
4. Collaborate with leading institutions to pilot application of new technologies such as green hydrogen
5. Ensure that all new growth is low-or-zero-carbon
6. Purchase high-quality carbon offsets for residual GHG emissions



# Aim 4

## Decarbonization across BUs

Business Sector	Decarbonization pillars	Key measures
Zinc	Avoid	<ul style="list-style-type: none"> <li>100% renewable energy by 2040</li> <li>100% shut down of coal based CPP by 2040</li> <li>100% shift to Battery Operated Vehicles/ hydrogen vehicles</li> </ul>
	Minimise	<ul style="list-style-type: none"> <li>Carbon capture and utilize - 50% concrete, 50% soil carbon enhancement by 2050</li> </ul>
	Offset	<ul style="list-style-type: none"> <li>Plantations - 5 million trees by 2050</li> </ul>
Oil and Gas	Avoid	<ul style="list-style-type: none"> <li>Up to 50 MW of renewable energy sourcing by 2030</li> </ul>
	Minimise	<ul style="list-style-type: none"> <li>Energy conservation and process optimization</li> <li>Reduced flaring wherever possible</li> </ul>
	Offset	<ul style="list-style-type: none"> <li>Plantations - 2 million trees by 2030</li> </ul>
Thermal Power	Avoid	<ul style="list-style-type: none"> <li>Up to 25 MW of renewable energy by 2025</li> <li>Natural Gas to replace HFO/LDO by 2025</li> <li>Up to 20% acquisition of biomass-based plants</li> </ul>
Iron & Steel	Avoid	<ul style="list-style-type: none"> <li>Gradual increase in use of Natural Gas in Blast Furnace</li> <li>10 MW of solar power by 2030</li> <li>Pilot project to use hydrogen in PCI blast furnace, followed by scale-up depending on results</li> </ul>
	Minimise	<ul style="list-style-type: none"> <li>Continuously improving our processes such as coke dry quenching, sinter waste heat recovery, increased PCI, top recovery turbine etc.</li> <li>Gradual increase in carbon capture, starting with 50 TPD in the short term</li> </ul>
Aluminium - smelters	Avoid	<ul style="list-style-type: none"> <li>Phase-wise round- the-clock renewable energy capacity addition, 580 MW of which has already been committed and agreements signed</li> <li>Gradual increments in biomass cofiring in boilers</li> <li>100% HFO replacement in processes, with Natural Gas by 2035, followed by replacements with Green Hydrogen by 2050</li> </ul>
	Minimise	<ul style="list-style-type: none"> <li>Incremental and continuous energy efficiency</li> <li>Starting to invest in Inert Anodes in the short term with an aim to shift to 100% in the long term</li> </ul>
Aluminium refinery	Avoid	<ul style="list-style-type: none"> <li>50% hydrogen in cogeneration during 2035-50</li> <li>Biomass cofiring in boilers</li> <li>100% HFO replacement in processes with Natural Gas by 2030, followed by green hydrogen by 2050</li> <li>Phase-wise capacity addition of renewable energy</li> </ul>
	Minimise	<ul style="list-style-type: none"> <li>Incremental and continuous energy efficiency</li> </ul>

### Internal Carbon Pricing

Vedanta will adopt an Internal Carbon Price for our businesses from the second half of FY2023. We will be using a shadow price of US\$15/tCO<sub>2</sub>e (₹ 1,125 / tCO<sub>2</sub>e) for cap-ex projects greater than ₹ 50 million or for those projects whose absolute GHG emissions are greater than 0.5 million TCO<sub>2</sub>e.



## DELIVERING ON OUR DECARBONIZATION COMMITMENTS

In FY2022, Vedanta put in place several programmes that will help decarbonize our operations. Our efforts were not limited to merely mitigating our impact, but also sought to realize opportunities that will help position the company as a leading low-carbon, green metal producer.



### CASE STUDY

#### Vedanta launches its first line of green metal products

Our approach to decarbonization is not limited to minimising our carbon footprint. In FY2022, we forayed into developing low-carbon products for the industry. Our Aluminium business launched 'Restora' and 'Restora Ultra' – green product lines for the metal, and thus joining an elite league of global players. The GHG intensity of these metals is significantly below global standards for low-carbon aluminium.

We became the first Indian aluminium manufacturer to make products using low-carbon aluminium under the "Restora" name. Restora, as its name suggests, is a part of our initiatives to restore the ecological balance and aid in the transition to a low-carbon future. Minerals and metals will be extremely important in this transformation.

Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard of 4 tCO<sub>2</sub>e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium.

Our Aluminum business used over 2 billion units of renewable energy in 2021 to create the first batch of Restora, making it India's largest industrial consumer of renewable energy.

With Restora, we have joined the exclusive global club of **low-carbon aluminium producers**

The introduction of Restora is indicative of the opportunities that exist as we decarbonize our processes. Restora gives our customers, who are now more aware than ever of the origins of the products they consume, a distinct competitive advantage through environmentally friendly aluminium products. We have teamed up with Runaya Refining, one of India's rapidly expanding manufacturing start-ups devoted to developing cutting-edge solutions for the resources sector, to manufacture Restora Ultra.

Global standard

**4 tCO<sub>2</sub>e/t**  
OF METAL

Restora

**2.36 tCO<sub>2</sub>e/t**  
OF METAL

Restora Ultra

**0.37 tCO<sub>2</sub>e/t**  
OF METAL



# Aim 4

## Switching to Green Power

In FY2022, Vedanta Aluminium became the largest consumer of green energy in India when it purchased 2 billion units of green power on Indian Energy Exchange Limited (IEX).

Further strengthening our commitment to decarbonize our energy mix, we have signed a Power Distribution Agreement to bring 580 MW of RE RTC (eq) online by FY2024.

**A break-up of this 580 MW is as follows:**

**200 MW**  
AT BALCO

**180 MW**  
AT VAL-JHARSUGUDA

**200 MW**  
AT HZL



## Vedanta is the largest industrial consumer of renewable energy

Our Aluminium business, India's largest producer of aluminium and value-added products, also became the largest procurer of RE on India's power exchanges – IEX and Power Exchange India Limited (PXIL). The ~2 billion units of RE was for the aluminium smelter at the Jharsuguda unit, which is now India's largest RE buyer on Green Term Ahead Market (G-TAM) platform at IEX. This purchase also helped reduce 1.5 million TCO<sub>2e</sub> of GHG emissions. Our subsidiary, Bharat Aluminium Company (BALCO), led the RE trading session, procuring around 59% of the traded RE certificates (RECs) in November 2021 alone, and a total of over 2,861,700 RECs during the year.

“We are committed to our vision of achieving Net Zero Carbon by 2050. To achieve this, we have stepped up our endeavours along three key pillars by continuously improving the energy efficiency of our operations, increasing the proportion of renewable energy in our energy mix and replacing fossil fuels with greener and cleaner alternatives. Being India's largest industrial consumer of renewable energy in FY2022 showcases our persistent endeavours to increase the share of green power in our energy mix and accelerate our transition into low-carbon operations.”

**Mr. Rahul Sharma**  
CEO – Aluminium Business, Vedanta Limited



## Fuel Switch Programmes

Fuel switch is another key lever of our decarbonization strategy. We have several programmes underway to reduce the carbon load of our processes.

### Biomass firing

We are committed to using 5% biomass in our thermal power plants. We are already using biomass in the following way:

**17 kt**  
OF BIOMASS USED IN HZL

Pilot programmes underway at BALCO, VAL-Jharsuguda, VAL-Lanjigarh

### Natural gas

We have initiated a partnership between VAL-Lanjigarh and GAIL to supply natural gas for calciner, substituting coal use, which will potentially decrease plant GHG intensity by 10%.

### Electric mobility

We are committed to decarbonize 100% of our LMV fleet by 2030 and 75% of the mining fleet by 2035. Our achievements so far:

**11 EVs**  
DEPLOYED AT HZL

**40 EVs**  
DEPLOYED AT ESL

HZL has also signed an MoU with Sandvik AB to introduce battery-powered loaders and trucks in underground mining. It is set to introduce Sandvik's battery-electric TH550B trucks and LH518B loaders in underground mines to reduce carbon emissions and make mine operations more environmentally friendly.

### Electric forklift fleets

Vedanta Aluminium business has signed an agreement with Gemini Equipment and Rentals Private Limited (GEAR) India, to deploy one of the largest fleets of lithium-ion battery-powered electric forklifts, becoming the first in Indian aluminium industry to undertake such an initiative. VAL has purchased 23 e-forklifts at its aluminium smelter in Jharsuguda, Odisha. Substituting diesel-fuelled forklifts with this green fleet will reduce diesel consumption by more than 2.5 lakh litres annually, thereby ensuring GHG (greenhouse gas) emission savings of nearly 690 tCO<sub>2e</sub>.

### Energy Efficiency Measures

Energy efficiency measures remain the predominant way to reduce GHG emissions across our business. More than 160 projects were implemented across all BUs, resulting in more than 3.8 million GJ of energy savings.

**The top 10 projects were responsible for more than 67% of our energy savings.**

Business Unit	Top 10 Energy/GHG Savings Initiatives	Energy Savings (GJ)	Avoided emissions
VAL- J Metal	Addition of 332 pots with 100% graphitized cathode	11,15,339	662,201 TCO <sub>2e</sub> for FY22
HZL	Chanderiya CPP Unit 2 Turbine Revamping	4,06,555	
BALCO Metal	Conversion of 120 pots with 100% graphitized cathode	303,581	
HZL	Chanderiya CPP Unit 3 Turbine Revamping	2,94,453	
VAL-J IPP	Unit 3 condenser cleaning & air ingress rectification	2,82,861	
TSPL	Improved Unit 3 HPT performance	2,41,953	
HZL	Chanderiya CPP Unit 1 Turbine Revamping	2,10,380	
HZL	Dariba CPP Unit-2 Turbine Revamping	79,610	
VAL- J Metal	Unit 6 CT fills replacement	66,848	
HZL	Dariba CPP Unit-1 Turbine Revamping	65,363	
<b>Total (all projects combined)</b>		<b>3,797,436</b>	

# Aim 4

## GHG Emissions and Energy Consumption

### Performance trends

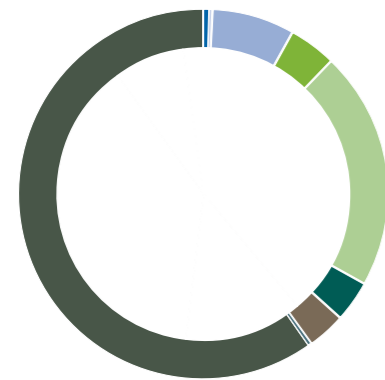
#### GHG emissions

In FY2022, the total Scope 1 and Scope 2 emissions from our operations was 62.83 million metric tonnes CO<sub>2</sub>e, a slight increase of 4.2% from the previous year.

GHG emissions (tCO <sub>2</sub> e)	FY2022	FY2021	FY2020	FY2019
Scope 1 (direct)	59,486,747	58,936,259	57,482,868	54,964,436
Scope 2 (indirect)	3,342,745	1,312,818	1,864,711	3,506,187
<b>Total</b>	<b>62,829,492</b>	<b>60,249,077</b>	<b>59,347,579</b>	<b>58,470,623</b>

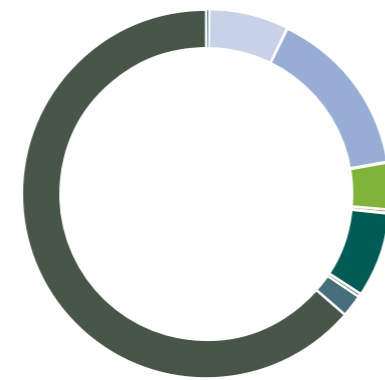
We calculate and report Greenhouse Gas (GHG) inventory i.e. Scope 1 (process emissions and other direct emissions) and Scope 2 (purchased electricity) as defined under the World Business Council for Sustainable Development (WBCSD) and World Resource Institute (WRI) GHG Protocol.

#### FY2022 BU-wise Scope 1 emissions



0.76%	FACOR
0.24%	Zinc International
7.26%	Zinc India
4.08%	Steel
20.94%	Power Business
0.003%	Port Business
3.49%	Oil and Gas Business
3.46%	Iron Ore Business
0.05%	Copper India & Australia
59.71%	Aluminium

#### FY2022 BU-wise Scope 2 emissions



0.32%	FACOR
7.03%	Zinc International
14.89%	Zinc India
4.29%	Steel
0.00%	Power Business
0.31%	Port Business
7.60%	Oil and Gas Business
0.02%	Iron Ore Business
2.19%	Copper India & Australia
63.35%	Aluminium

#### Scope 3 emissions

In FY2022, we completed our first assessment of our Scope 3 emissions. The Scope 3 accounting was prepared based on the GHG Protocol's Scope 3 Value-Chain Accounting and Reporting Standard. For Oil & Gas and Steel sectors, sector specific standards were used. To determine, which of the 15 upstream and downstream categories were relevant for our business, we conducted a materiality assessment that used the following criteria of significant - magnitude, influence, stakeholder interest, sector guidance and risks.

#### The following categories are applicable for Vedanta's Scope 3 emissions:

Category	Applicability	Remarks
Category 1 - Purchased Goods & Services	The Category 1 is material and emissions are estimated for all BUs	The category is applicable to all Business units and all major material consumption (raw material) is accounted
Category 3 - Fuel & Energy Related	The Category 3 is material and emissions are estimated for all the business units	-
Category 4 - Upstream Transport	The category 4 is material and emission are estimated for all the business units	-
Category 5 - Waste Generated in Operations	The category 5 is not material, but emissions are estimated for major waste processing. Also transport emission (which is optional to report in Category 5) associated with Waste transport is also estimated.	Across BUs - Waste such as fly ash, SPL, red mud, etc. are reprocessed and used as alternate raw material/fuel in other industries. The emissions related to transporting waste have been estimated, however as these wastes substitute the use of fossil fuels or other raw material, these emissions are not estimated for recycling/co-processing
Category 6 - Business Travel	The category is not material and emissions - plural are estimated for business units.	-
Category 7 - Employee Commute	The category is not material and emissions are estimated for business units	The emissions reporting under this category is not comprehensive as many of the BUs are not having the data in required format to estimate the emissions. However, data gaps will be addressed in subsequent inventory and comprehensive reporting will be targeted under the category. But the current gaps will not have significant impact on the inventory.
Category 9 - Downstream Transport	The category 9 is material and emissions - plural are estimated for all the business units	-
Category 10 - Processing of Sold Products	The category 10 is material for - Oil & Gas sector, steel sector and VZI which produces intermediate products (Crude Oil, Natural Gas, Copper and Zinc Concentrates and pig iron) which would require further processing downstream.	For Alumina business this category would be applicable, but as all alumina produced is consumed within same group companies the emissions for alumina to Aluminium conversion is not reported under this category. For other businesses - plural this category would not be applicable as the final products are either used directly with minimum or no further processing.
Category 11 - Use of Sold Products	The emissions are material and estimated for Oil & Gas business and Coke production Value Added Business	The category 11 is applicable to the Oil & Gas and Value-Added Business (VAB) of Vedanta Group. The emissions from processing of crude and further use of refined products are estimated for Oil & Gas business and Coke usage (as reducing agent) is estimated for VAB business.



# Aim 4

Scope 3 emissions account for ~35% of our overall GHG emissions in FY2022

## Scope 3 - Inventory Group

Total Scope 3 Emissions (million t CO <sub>2</sub> e)	FY2021	FY2022 <sup>^</sup>
<b>Categorization</b>		
Scope 3 - Upstream	7.23	7.71
Scope 3 - Downstream	28.98	26.49
<b>Total</b>	<b>36.20</b>	<b>34.19</b>
<b>Scope 3 - Inventory Group (Category wise)</b>		
Sources of Scope 3 Emissions (million t CO <sub>2</sub> e)	2020-21	2021-22
Category 1 - Purchased Goods & Services	4.16	4.98
Category 2 - Capital Goods	Not Applicable	Not applicable
Category 3 - Fuel & Energy Related	2.15	2.53
Category 4 - Upstream Transportation	0.46	0.19
Category 5 - Waste Generated in Operations	0.45	-
Category 6 - Business Travel	0	-
Category 7 - Employee Commute	0.01	-
Category 8 - Leased Assets	Not Applicable	Not Applicable
Category 9 - Downstream Transport	0.23	0.49
Category 10 - Processing of Sold Products	1.00	1.53
Category 11 - Use of Sold Products	25.16	24.47
Crude Oil	22.3	21.63
Natural Gas	2.63	2.47
Coke	0.23	0.26
Credit due to Slag Recycling/Reuse	(0.43)	(0.34)
Category 12 - End of Life Treatment of Sold Product	Not Applicable	Not applicable
Category 13 - Downstream Leased Assets	Not Applicable	Not applicable
Category 14- Franchises	Not Applicable	Not applicable
Category 15 - Investments	Not Applicable	Not applicable

<sup>^</sup> - FY2022 data is unassured.

## GHG emission intensity

Since 2012, we have reduced the GHG intensity of our operations by 21%, which has resulted in ~14 million TCO<sub>2</sub>e of avoided emissions. In FY2022, we revised our GHG emissions intensity targets. Our new goal is to reduce the GHG emissions intensity of our metals businesses by 20% by FY2025 from a FY2021 baseline.

Towards this goal, we have reduced the GHG emissions intensity by 4.8% in FY2022.

	FY2021			FY2022		
	Production (MMT)	Emissions intensity (TCO <sub>2</sub> e/T of Metal)	Absolute Emissions (MTCO <sub>2</sub> e)	Production (MMT)	Emissions intensity (TCO <sub>2</sub> e/T of Metal)	Absolute Emissions (MTCO <sub>2</sub> e)
Aluminium	3.817	9.440	36.034	4.238	8.881	37.636
Steel	1.286	2.296	2.952	1.370	1.878	2.573
Iron Ore Business	0.593	2.819	1.670	0.789	2.579	2.035
FACOR	0.068	6.403	0.438	0.075	6.164	0.464
Zinc International	0.315	0.693	0.218	0.223	1.078	0.240
Zinc India	0.978	5.002	4.890	0.968	4.980	4.819
Copper India	0.118	0.891	0.105	0.132	0.763	0.101
<b>Total</b>	<b>7.175</b>	<b>6.454</b>	<b>46.308</b>	<b>7.794</b>	<b>6.141</b>	<b>47.868</b>

Note: Scope1 and scope2 are considered for calculation

## GHG intensity for overall GHG intensity TCO<sub>2</sub>/INR Mn

GHG emission intensity (tCO <sub>2</sub> e/INR Mn)	FY2022	FY2021	FY2020	FY2019
Scope 1	45.39	60.61	69.13	60.64
Scope 2	2.55	1.35	2.24	3.86
<b>Total</b>	<b>47.94</b>	<b>61.95</b>	<b>71.37</b>	<b>64.50</b>

<sup>2</sup> The credit due to slag (applicable for Iron & Steel) has been highlighted in overall Scope 3 inventory but are considered as avoided emissions and thus not adjusted in overall inventory.

## Direct and indirect energy consumption

Our energy consumption increased marginally by 7.5% in FY2022.

Energy consumption (million GJ)	FY2022	FY2021	FY2020	FY2019
Direct	531.88	515.67	518.17	483.90
Indirect	32.09	8.75	7.80	62.76
<b>Total</b>	<b>563.68</b>	<b>524.51</b>	<b>525.97</b>	<b>546.67</b>

## Renewable and non-renewable energy consumption

In FY2022, we significantly increased the share of renewable energy in our energy mix from 67 MW in the previous fiscal to 465 MW in FY2022. The purchase of RE by the aluminium sector drove this rise in consumption.

Energy Consumption (million GJ)	FY2022	FY2021	FY2020	FY2019
Renewable	14.62	2.13	0.60	0.27
Non-renewable	549.35	522.39	525.37	546.40
<b>Total</b>	<b>563.98</b>	<b>524.51</b>	<b>525.97</b>	<b>546.67</b>

Energy Breakup	Direct		Indirect		Grand Total
	Renewable	Non-Renewable	Renewable	Non-Renewable	
FY2022					
Energy Consumption (million GJ)	1.12	530.76	13.51	18.58	563.98



# Aim 5

## Achieving net water positivity by 2030



Water has been identified as a societal risk, with access to clean water emerging as one of the most critical issues affecting economic activity across the world. With many of our operations in water-stressed areas, we maintain sustained focus on efficient water use, and giving back more water to the environment than we take. Not only are we exploring less water-intensive technologies and embedding circularity in our water management, but also ensuring water security in areas where we operate by replenishing water in watersheds and other community sources.

### Key material issues

Water security

### SDGs impacted



### Sub-goals

**6.3:** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

**6.4:** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

**6.5:** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

**6.6:** Support and strengthen the participation of local communities in improving water and sanitation management



### GOVERNANCE

The Water Community of Practice is tasked with the implementation of this aim.

Water is a shared resource on which both our host communities and our operations depend upon. At Vedanta, we ensure that water is kept as a central consideration across our operations through initiatives such as water screening assessment. We manage our water resources as per guidance by the Group water policy and management standards. We have consistently improved our water recycling rate in the past four years, with our Hindustan Zinc business turning fully water positive.

As part of our new ESG framework, we have taken our aim to be water positive by 2030. We will track our performance using specific indicators such as freshwater withdrawal, water consumption, water recycling and water recharge to keep track of this target.



### WATER RISK ASSESSMENT

In FY2022, we began the work to develop our water stewardship strategy, aligned to our goal of becoming a water positive organization. A first step in this journey was to understand the catchment/basin level and operational risks posed to our business and the communities who live around our operations. WRI Aqueduct and WRF Risk Filters were used to evaluate water risks. Findings from the assessment indicate that in FY2022, operational risk (physical, regulatory and reputation risk) is very low at four sites, low at 26 sites, medium at two site and higher at one site out of 33 sites. Basin level risk is high for 22 sites and medium for 11 sites.





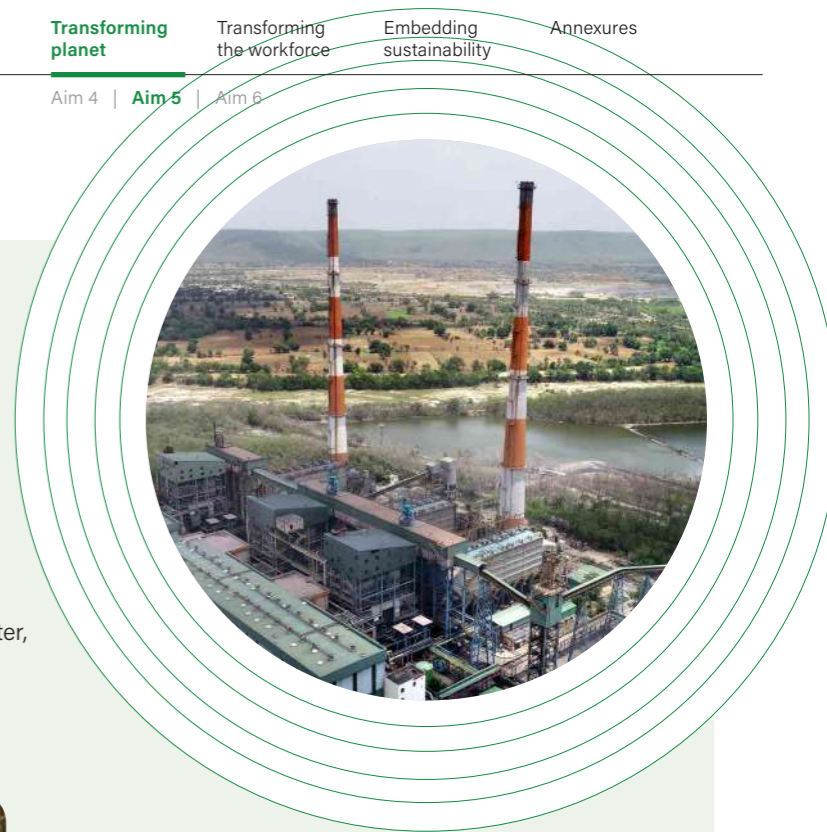
# Aim 5

Business Unit	Basin Risk					Operational Risk				
	Very Low Risk	Low Risk	Medium Risk	High Risk	Total Sites	Very Low	Low Risk	Medium Risk	High Risk	Total Sites
Oil and Gas	-	-	0	7	7	2	5	-	-	7
Aluminum	-	-	2	1	3	-	3	-	-	3
Iron and Steel	-	-	6	3	9	1	8	-	-	9
Power TSPL	-	-	-	1	1	-	1	-	-	1
Sterlite Copper	-	-	3	1	4	1	3	-	-	4
Zinc	-	-	0	9	9	-	6	2	1	9
<b>Total</b>	-	-	11	22	33	4	26	2	1	33

- Very Low Risk
- Low Risk
- Medium Risk
- High Risk

We have begun work on developing plans to improve the health of the high-risk freshwater basins. This plan involves restoring or building water recharge structures in order to improve water replenishment rates. We will also look at improving water efficiency and maximizing recycling/reuse of water in order to reduce freshwater demand.

As of FY2022, Hindustan Zinc is 2.41 times water positive.



## CASE STUDY

### Zero Liquid Discharge plant at Zinc Smelter at Debari: Circularity in action

During the year, the Debari zinc smelter successfully commissioned a 3,000 kilolitre per day (KLD) zero liquid discharge ZLD plant. The newly installed RO-ZLD plant recycles processed water, which is then reused in operations, enabling complete utilisation of the wastewater, thereby ensuring that there is no discharge. The salt generated can also be reused in the leaching process as a replacement for commercial sodium sulphate being used currently.



The initiative has led to substantial reduction in water need for water regeneration. With 91% RO efficiency, the ZLD plant has an overall efficiency of 96%.

HZL plans to commission ZLD plants at all units. Expansion of 3,200 KLD ZLD plant at Dariba Smelter is under progress and shall be commissioned by Q2 of FY2023. At Zawar Mines (ZM) and Rampura Agucha Mine (RAM) too,

ZLD projects of 4,000 KLD capacity each have been initiated to improve recycling and strengthen the zero discharge. A dry tailing plant at Rajpura Dariba Mine (RDM) is also in the final stage of commissioning. It will result in significant amount of water recovery from the tailing.

Our ZLD projects and dry tailing plants helped HZL increase its water recycling rate to 44% in FY2022 from 39% in the previous fiscal year.

Water consumption & recycling (million m <sup>3</sup> )	FY2022	FY2021	FY2020	FY2019
Total water consumption	280.22	270.4	251.1	278.7
Water recycled/reused	85.78	83.05	73.9	67.6
<b>% Water recycled</b>	<b>30.61%</b>	<b>30.71%</b>	<b>28.95%</b>	<b>24.25%</b>

Water Source	FY2022	FY2021	FY2020	FY2019
<b>Surface water (A)</b>	<b>152,411,149</b>	<b>152,751,636</b>	<b>150,631,744</b>	<b>129,995,496</b>
River, lake, pond, etc (i)	152,115,631	152,377,640	150,517,963	129,974,780
Rain Water (ii)	295,518	373,996	113,781	20,716
<b>Ground Water (B)</b>	<b>17,432,334</b>	<b>16,554,124</b>	<b>19,201,348</b>	<b>20,385,092</b>
<b>Third-party Water (C)</b>	<b>9,814,121</b>	<b>7,474,566</b>	<b>9,149,419</b>	<b>188,327</b>
STP Treated Water (iii)	9,590,120	7,180,873	7,036,647	48,343
Municipal Water/Water through Tanker (iv)	224,001	293,693	2,112,772	139,984
<b>Produced Water (D)</b>	<b>40,775,601</b>	<b>40,564,901</b>	<b>37,451,655</b>	<b>36,721,753</b>
<b>Seawater (E)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Water Withdrawn (F=A+B+C+D+E)</b>	<b>220,433,205</b>	<b>217,345,227</b>	<b>216,434,166</b>	<b>187,290,668</b>
<b>Discharged Water (G)</b>	<b>6,023,953</b>	<b>4,663,635</b>	<b>8,785,462</b>	<b>9,772,803</b>
<b>Total Net Freshwater Consumption (H=A(i) + B + C(iv) - G)</b>	<b>163,748,013</b>	<b>164,561,822</b>	<b>163,046,621</b>	<b>140,727,053</b>

## Aim 6

# Innovations for greener business model

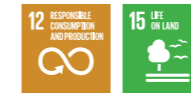


We believe that the metals & mining sector has a significant role to play in the transition to a low-carbon future and the emergence of a green economy. Constant innovation and adoption of technologies that improve our operational and energy efficiency and reduce our carbon footprint together with the embedding of circularity in our processes are helping us deliver on our commitment.

### Key material issues

Solid waste management  
Tailings management  
Air quality and emissions management  
Biodiversity

### SDGs impacted



### Sub-goals

**12.5:** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse  
**15.1:** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements  
**15.2:** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally  
**15.9:** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts



### GOVERNANCE

The Waste Community of Practice drives the agenda to minimise and responsibly handle our waste.

To ensure sustainable resource and energy use across our operations, waste management becomes a core priority for us. The bulk of the hazardous waste we generate comes from used/spent oil, waste refractories, spent pot lining and residual sludge from smelters. Non-hazardous wastes include fly-ash (from captive and merchant power plants), red mud (aluminium refinery waste), jarofix (from zinc smelting), slag, lime grit (process residues from smelters and aluminium refineries) and phosphogypsum (phosphoric acid plant). These non-hazardous wastes are termed High-Volume-Low-Toxicity (HVLT) wastes.

Management of our waste streams is governed by the Waste Management Standards and Guidance Notes, which have been developed in line with ICMM and IFC Performance Standard guidelines.

### Minimising Waste

We have taken stringent measures to manage our waste streams. As part of our refreshed ESG vision, we want to ensure that we become a “Zero Waste” organisation. To drive performance on this ambition, we have taken the following goals:

#### SUSTAIN FLY ASH UTILIZATION

100%

Zero legacy waste  
BY 2035

100%

HVLT GENERATED WASTE TO BE UTILISED BY 2025

To achieve these goals, we are deploying technologies to minimize waste/increase metal recovery, forming long-term collaborations with potential users of our HVLT wastes, and are partnering with academic & research institutes to find alternative uses for these wastes. Key programmes that were undertaken in FY2022 include:

- Forming long-term MoUs with the cement industry to sustainably handle fly-ash and red-mud
- Commencement of programmes to back-filling of mining areas with HVLT wastes
- Development of technology interventions such as Runaya to increase metal recovery from aluminium dross and fumer to treat Jarofix thereby eliminating complete waste streams

We are also very careful about managing hazardous wastes produced in our operations. 85% of these wastes are recycled while the rest are sent to secure land-fills.



# Aim 6

## Hazardous Waste

	Unit	Vedanta Ltd
Hazardous Waste Generation	MT	516,245
Waste recycled/reused	MT	455,808
<b>Total hazardous waste disposed</b>	<b>MT</b>	<b>69,246</b>
Waste landfilled	MT	68,522
Incinerated with energy recovery	MT	0
Incinerated w/o energy recovery	MT	675

**97.84%**  
HIGH-VOLUME-LOW-TOXICITY WASTES  
RECYCLED

**115%**  
FLY ASH UTILISED

## Non-Hazardous High-Volume-Low-Toxicity Waste

Non Hazardous HVLW Waste	FY2022			FY2021		
	Generated (Million MT)	Recycled/Reused (Million MT)	% recycled	Generated (Million MT)	Recycled/Reused (Million MT)	% recycled
<b>Fly ash</b>	14.47	16.63	115%	13.9	15.32	110%
<b>Bottom ash</b>	0.072	0.072	100%	0.079	0.081	102%
<b>Slag</b>	1.31	1.27	97%	1.01	1.15	114%
<b>Jarosite</b>	0.64	0.096	15%	0.6	0.15	25%
<b>Red mud</b>	2.51	0.52	21%	2.27	0.13	5.7%
<b>Lime Grit</b>	0.010	0.012	120%			
<b>Total HVLW</b>	<b>19.01</b>	<b>18.60</b>	<b>97.84%</b>	<b>17.85</b>	<b>16.83</b>	<b>94.28%</b>

Non Hazardous HVLW Waste	FY2022	FY2021	FY2020	FY2019
Waste Recycled/ Reused	18,594,629	16,843,075	13,325,785	13,101,546
Total Waste disposed	411,580	1,136,054	1,744,500	793,218
Waste disposed at Landfill	0	0	0	0
Waste incinerated with energy recovery	0	0	0	0
Waste incinerated without energy recovery	0	0	0	0
Waste disposed in dyke	411,580	1,136,054	1,744,500	793,218
Waste with unknown disposal method	0	0	0	0

Mineral Waste" before Generated	UoM	FY2022	FY2021	FY2020	FY2019
Overburden	MT	60,159,927	32,795,553	34,936,738	42,253,662
Tailings	MT	18,667,036	18,710,338	15,059,116	30,691,989
Waste Rocks	MT	100,921	2,251,677	14,135,872	27,730,316

### CASE STUDY

#### An innovative project increases the storage capacity of the bauxite residue disposal area

To improve the strength of the existing red mud slurry, an innovative ground improvement plan developed in collaboration with M/s Golder has been implemented. By accelerating the dissipation of excess pore water in the existing red mud slurry, the plan is to reduce instability risks so that dry red mud can be stacked safely.

Beginning with a pilot project on a 25,000 m<sup>2</sup> area in the East Cell, the program has been expanded to cover an additional 70,000 m<sup>2</sup> in the East Cell and an area of 150,000 m<sup>2</sup> in the West Cell.

An essential component in the project is the installation of a pre-fabricated, geo-synthetic wick drain, which is prepared

after analysing the permeability and pore water pressure of area being modified. Analytics helped determine the degree of consolidation by radial drainage. The base layer was prepared using fresh red-mud that had a moisture concentration of 23%. This was done without affecting the dyke integrity.

The project saw the use of advanced technology for ground improvement. With caustic recovery from the red mud, we have eliminated the potential for environmental incidents. Accelerated drainage has led to an increased rate of consolidation. The project has led to an increased storage capacity of the bauxite residual disposal areas by 20%.



# Aim 6

## CASE STUDY

### Prevention of waste generation by reprocessing in the system

“Slop Oil”, by definition, is considered crude oil, which is emulsified with water and solids rendering it into a waste stream. Slop Oil is found in evaporation ponds, sludge pits and storage tanks. In upstream Oil and Gas Industries, wastewater containing traces of oil is generated during routine operations, well intervention activities, pipeline pigging, hydro testing of vessels and cleaning. The wastewater generated at oil well-pads, and processing terminal is temporarily stored at open ponds/pits and further transported to ETP for a suitable treatment for reuse/recycling.

Gradually, layers of floating oil are accumulated over the surface of water stored in the open pits. Due to the potential toxicity of slop oil, it has been classified as hazardous waste and is required to be safely disposed. Slop oil can be disposed of in different ways, including sending to off-site registered recyclers, burning as a fuel in industrial furnaces among other. Recycling and reusing slop oil are preferred over disposal as they provide recovery of valuable energy sources and great environmental benefits. Recycled slop oil can be re-refined into new oil, processed into fuel oils, and used as raw materials for the petroleum industry.

The crude oil of RJON, Barmer is waxy and congeals quickly leading to a thickened layer of floating oil over the surface of the wastewater. Previously, these layers of oil were removed mechanically only on high ambient temperature days or else by adding hot water which resulted in a further increase in wastewater inventory at well-pads. The skimmed oil was finally disposed of off-site through registered recyclers.

In line with our commitment to the reduction of waste generation and gainful utilization of waste to reduce the environmental footprint of our operations, we have developed an inhouse facility for collection, storage (for sediment removal), heating, and pumping of skimmed oil back into the process through the off-spec tank at Mangala Processing Terminal. Parallely, we have initiated collecting slop oil in the form of cake during low ambient temperature days along with mechanized skimming as favored by ambient temperature.

Recycling/reprocessing slop oil makes it a part of crude oil, turning it into an energy resource. The regular skimming, treatment and recycling of floating oil reduced the waste generation and improved solar evaporation of wastewater, reducing wastewater inventory at well-pads and also preventing foul smell caused due to anaerobic conditions created by oily layer in open ponds/pits. The process has also prevented GHG emissions related to offsite transportation of skimmed oil to offsite recyclers.

With continuous efforts, 19,303 barrels of slop oil have been recovered in the last 18 months bringing us closer to our vision of zero waste to landfill.



## TAILINGS MANAGEMENT

### We aim to be fully compliant with the Global Industry Standards on Tailings Management (GISTM) by FY2025.

We are aware of the risks posed by tailings to the environment, the safety of communities, the workforce and our business at large. Managing tailings storage facilities safely and responsibly is integral to our mining activities. Our management ensures high standards of design, construction operation and closure stages across our mining operations.

Our tailing facility performance gets reviewed every month by the Executive Committee and twice a year by the ESG Board sub-committee. To implement global practices, we have appointed experts such as Golder and ATC Williams to provide their expertise in designing, constructing, and operating and monitoring our tailings facilities.

All our BUs have a Tailings Management Committee with defined roles and responsibilities. These committees help in the development, operation, monitoring and management of the tailings management facilities according to an agreed management plan. Each of our tailing facilities conducts periodic risk assessments and develops mitigation strategies to minimise public health, safety, social, environmental, and economic issues. They also have emergency response plans which get periodically updated and reviewed. All the tailing dams undergo audits as per the performance standard set under VSF.

We are also committed to improving the management of our tailings facilities continually by developing and incorporating best practices such as:

- Aligning our policies on tailing management with global standards such as Global Industry Standard on Tailings Management (GISTM), Mining Association of Canada-Towards Sustainable Mining (MAC-TSM) protocol among others
- Establishing a Tailings Storage Facilities (TSF) Committee with in-house experts to strengthen our compliance with our Tailing Management Facility (TMF) standards
- Conducting periodic TMF risk assessments and developing mitigation strategies to minimise the associated risks
- Utilising tailings in backfilling through paste fill/hydro fill techniques
- Replacing wet tailings disposal systems with dry tailing disposal systems (projects are underway), with supernatant water getting collected and recycled in the process
- Construction of garland drains around tailing dams to maintain Zero Liquid Discharge
- Digital monitoring of tailings



16

NUMBER OF ACTIVE TAILINGS FACILITIES MANAGED

8

NUMBER OF IN-ACTIVE TAILINGS FACILITIES MANAGED

1

NUMBER OF CLOSED TAILINGS FACILITIES



# Aim 6

## Surveillance of Tailing Management System

We consistently survey our tailing management system, which includes inspections and monitoring of operations in order to maintain the structural integrity and safety of the tailing facilities. This also helps us get the quantitative and qualitative comparison of actual to expected behaviour. Regular review of the surveillance information also gives us an early indication of performance trends.



### TMS survey includes



#### Visual monitoring and inspection

Weekly/monthly/annual monitoring of the impoundment, dam safety instrumentation monitoring, and environmental monitoring by TSF Committee



#### Geo-tech monitoring

- Pillar-prism-total station data for measurement of slope displacement
- Piezometer for measuring pore water pressure
- Inclinator for measuring sub-surface deformation
- Cameras placed for monitoring

## Digitalisation of Tailing Dams

We have commenced real-time monitoring of our tailing dams in Lanjigarh. Our monitoring system comprises of distributed acquisition systems with a cabling network, server for data processing & control system, data acquisition devices, consoles, workstations, portable computer data link modems, drivers and the hardware required for the Real-time Slope stability monitoring System.

The hardware-field devices are suitable to be operational in harsh conditions. They also have an inbuilt power supply that can function for more than five years of operations without requiring external AC/DC charging mechanisms.

The field devices are self-operatable and wireless in all aspects. They also have functionalities for remote configurations, remote troubleshooting, and remote firmware upgrades with minimum or no field manual interventions.

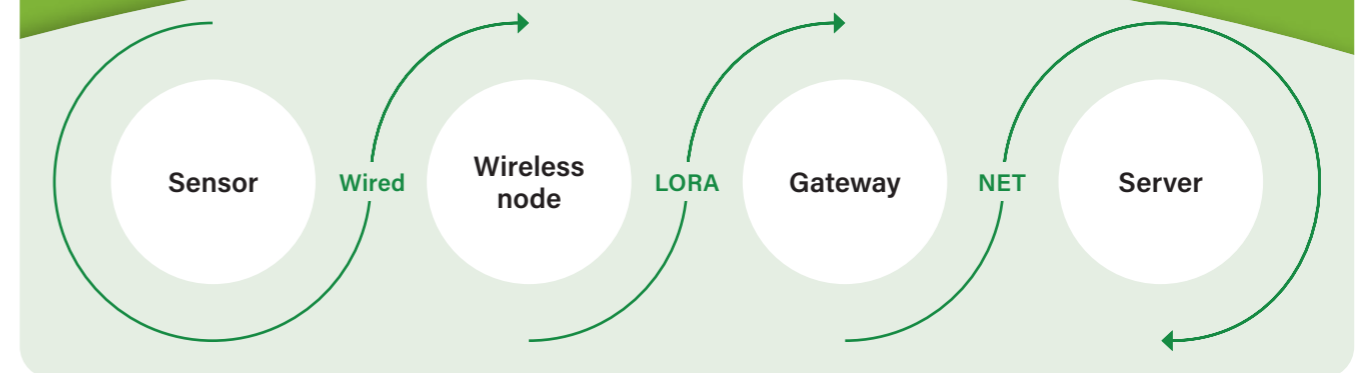


Remote monitoring systems including Survey monuments, Piezometers, Inclometers were set up with an aim to reduce risks attached with sudden breach in tailings or displacement:

1. Piezometer and Inclinator based data acquisition for pore pressure and displacement
2. Software to monitor deviation in real-time
3. Implementation of analytical and predictive tools to take proactive actions or measures.
4. Measuring the Factor of Safety of the tailing dams



### block diagram



### Benefits

- Automation of geotechnical Instruments
- Wireless monitoring system
- Online real time data representation
- Establishing stability through analytical study of BRDA
- Early warning system in place
- Reduced manual intervention via collecting piezometer and inclinometer data wirelessly and using it to perform various analytical operations.
- Predictive Analytics
- Remote Solution Support available 24x7
- Validating data through National Institutes



# Aim 6



## BIODIVERSITY

The Biodiversity Community of Practice drives the implementation of our biodiversity programme.

### Targets

## By 2025:

- **IMPLEMENT MANAGEMENT MEASURES AND DESIGN OFFSETS TO REPLENISH FOR BIODIVERSITY DAMAGE CONTROL**
- **DEVELOP ROADMAP TO ACHIEVE NO-NET-LOSS FOR OPERATIONS WITH HIGH BIODIVERSITY RISKS**

We are committed to respecting the biodiversity of the places where operate. We are cognizant of the fact that our processes impact biodiversity and we strive to take steps to minimize or eliminate this impact.

Our Biodiversity Policy and management standards ensure that we minimise and mitigate biodiversity risks throughout our operations and strive to avoid adverse impacts on the natural habitat. In critical habitats, we manage land use in a manner that allows for biodiversity conservation to be integrated throughout our projects' life cycle, including decommissioning, closure and rehabilitation

We are members of the India Business & Biodiversity Initiative. Additionally, HZL is part of IUCN's Leaders for Nature program. Zinc International has worked extensively with IUCN to ensure that we meet our No Net Loss principles at Gamsberg, which is located in the Karoo Biosphere Reserve.

In FY2022, we began the process to refresh our biodiversity risk assessments by undertaking an IBAT based desktop review. These reviews will help determine if our businesses need to update their Biodiversity Management Plans in alignment with our ambition to achieve No-Net-Loss.

We have updated our biodiversity policy to strengthen our biodiversity management approach towards our vision of being nature positive.

We are committed to achieving No-Net Loss at our project operations by implementing the mitigation hierarchy by avoiding, minimising, and restoring the direct impacts and offsetting the residual impacts.

We are also committed to including a nature-based solution approach in decision-making.

### CASE STUDY

#### Developing a green belt for ESL

We have developed a green belt for ESL in a 1.25-acre area that saw us use the Miyawaki forest development model. Altogether 35,000 saplings were planted in FY2022, which also saw us prepare a wildlife conservation plan for Schedule 1 species in the 10 km area surrounding the plant.

A technique introduced by Akira Miyawaki, a Japanese botanist, to build self-sustaining dense mini-forests comprising only native tree species, the Miyawaki method has revolutionised the concept of urban afforestation. The approach ensures 10x increase in growth rate and 30x increase in density than the standard model of plantation.

The Miyawaki model involves planting 2-4 trees per sqm, creating a dense grid that helps lower the temperature in concrete heat islands. After just three years of maintenance, including watering, de-weeding, and mulching, the forest becomes self-sustaining. The model has been proven to increase biodiversity, self-sufficiency within a defined time, and reduce air and noise pollution.

ESL intends to adopt this plantation technique for the whole of Bokaro and lead the journey towards a 'Behtar Jharkhand'. Green belt development will enhance our ability to meet Net Zero target and help India become carbon neutral country by 2070.



### CASE STUDY

#### Enriching Biodiversity Value with the flourishing water mammals Smooth-coated Otter (*Lutrogale Perspicillata*) population inside Ravva Mangroves

By far the most effective way to protect wildlife is to protect the habitats on which they depend. The mangroves at Ravva have become a perfect haven for a variety of fauna and flora. It supports various forms of wildlife such as fishes, turtles, snakes, cats, otters, birds, butterflies, insects and more.

Our attempt towards supporting sustainable conservation efforts began early in 2004 bringing our green belt concept into action. This was followed by a mangrove establishment project that took shape in the year 2009.

The man-made mangrove forest and green belt within the plant support 150 species of birds, 52 species of butterflies, 15+ types of reptiles, 100s of species of insects including bees, bugs, beetles, spiders, and many others that are supported through this complex interdependent ecosystem. Notable bird species include the migratory ducks Northern Pintail (*Anas acuta*), Northern Shoveler (*Spatula clypeata*), Garganey (*Spatula querquedula*), waders such as Lesser and Greater Sand Plovers (*Charadrius mongolus* & *Charadrius leschenaultii*), Pacific Golden Plover (*Pluvialis fulva*), Eurasian Curlew (*Numenius arquata*), Whimbrel (*Numenius phaeopus*), Wood Sandpiper (*Tringa glareola*), Common Redshank (*Tringa totanus*), Common Greenshank (*Tringa nebularia*). It is also home to the breeding population of the 'Near Threatened' Painted Stork (*Mycteria leucocephala*), Oriental Darter (*Anhinga melanogaster*) and other colonially nesting water birds such as Cormorants, Ibises, Openbills and Jacanas.

A family of smooth-coated otters were discovered in the man-made mangroves of Ravva onshore terminal located in Surasaniyanam, East Godavari district of Andhra Pradesh. Listed as "Vulnerable" on the IUCN Red List, this species is affected by pollution, encroachment and reclamation of water bodies and wetlands for developmental activities and agriculture, construction of dams.



The mangroves as well as the smaller water bodies within the area have provided a safe habitat for this family of otters. Minimal or no disturbances from human activities, especially no threat in the form of poaching or hunting help them thrive in this landscape. The mangrove forest is surrounded by aquaculture farms, which provide a secondary source of food for these predatory mammals. The presence of this predator in the mangrove ecosystem is a strong indicator of its blooming health. They play a significant role in maintaining the balance between the land and water continuum.

We are putting consistent efforts in terms of management to make sure that their presence here is permanent and their population sustains and increases over the year.





# Aim 6

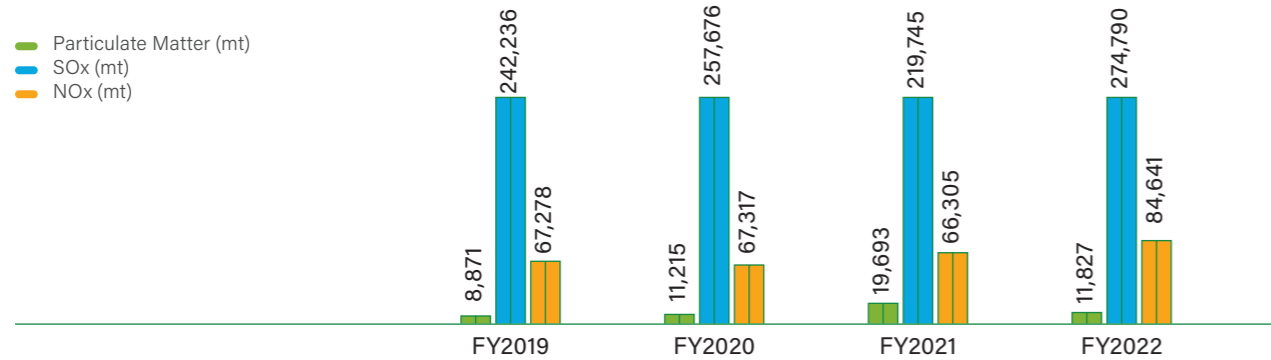


## AIR QUALITY AND EMISSIONS

Air pollution continues to be a primary health concern, affecting millions of lives every year. Processes along the mining supply chain such as drilling, processing and transporting can impact air quality. We consistently monitor the impacts of our operations on air quality and their effects on our communities, workforce and the overall environment.



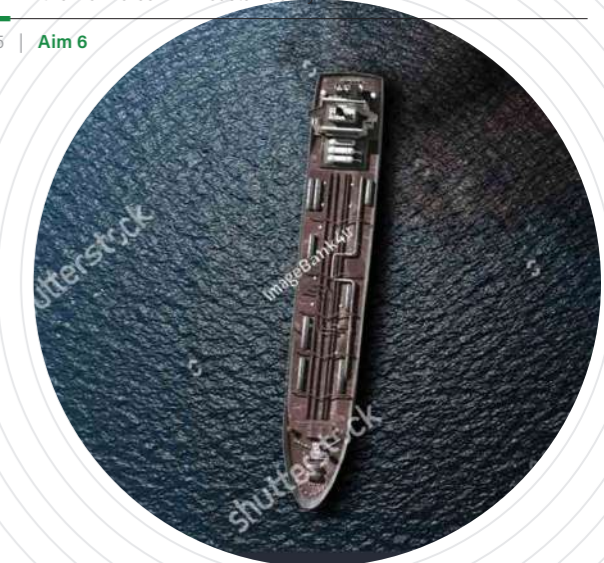
### Stack emissions



Suspended particulate matter (SPM), SOx and NOx are monitored as a part of our ambient air quality monitoring process. We also monitor lead emissions from our zinc operations, fluoride emissions from our copper and aluminum operations, and Polycyclic Aromatic Hydrocarbons (PAHs) from our aluminum operations to keep them in line with our Environmental Management Standard. Moving beyond a compliance-based approach, we are committed to using technologies and processes to minimise our emissions. Thus, reducing our overall footprint on the environment.

### Air quality improvements

Operations/Units	Activities (Policies/ Technological interventions etc.)
ESL	<b>HFTR Installation in Sinter</b> High Frequency rectifier transformer is installed in Sinter Plant to bring the emission below 100 mg/Nm3 by improving the frequency of Electrostatic Precipitator (ESP).
HZL	<b>Tail Gas Plant (TGT)</b> installed in smelter to further cut down SO2 emissions from stack.
VAL Jharsuguda	<b>Installation of Wheel Wash System:</b> Wheel Wash System improves the ambient air quality at Ash Handling Plant AHP & Coal Handling Plant CHP area during transportation has been improved and it meets NAAQS



### Environmental incidents

We have had zero Category 4 and Category 5 environmental incidents in the last two years. We had 17 category 3 environmental incidents in FY2022. All the Category 3 incidents have been investigated, and corrective actions taken. We have an incident identification and investigation standard to guide sites on the process to be followed once an incident occurs. These standards are part of the VSF.

No. of Incidents	FY2022	FY2021	FY2020	FY2019	FY2018
Category 1	12,611	10,198	6,256	4,602	5,315
Category 2	375	225	133	104	227
Category 3	17	11	2	6	23
Category 4	0	0	1	2	1
Category 5	0	0	0	0	0
<b>Total</b>	<b>13,003</b>	<b>10,434</b>	<b>6,392</b>	<b>4,714</b>	<b>5,566</b>



### ASSET CLOSURES

Historically, mine closure has been a significant challenge in the mining sector. We recognise the potential environmental and social risks attached with the closure of our assets and are committed to a ensure proper management. Site closure plans are developed at the very beginning of the project to identify, minimise, mitigate and manage the forthcoming risks associated with the site closure. Our site closure technical standard guides us in developing systems and processes related to asset closure.

Historically, Vedanta has only closed one site – our operations in Lisheen, Ireland. We have reported about this closure in our past Sustainability Reports. Current updates on site conditions can be found at: <https://vedanta-zincinternational.com/what-we-do/our-operations/lisheen-mine/>.





## Transforming the workforce

The dynamic business environment, which is being shaped by rapid advances in technology, unforeseen risks like the recent public health crisis, climate change, geopolitics, and the shifting talent pool, require business organisations to have bold strategies to manage their workforce. At Vedanta, we are finding new ways to onboard talent, creating for them opportunities for continuous self-learning and designing a compelling employee experience. We also remain committed to ensuring a safe workplace where all workers can return home safely to their families.



### Key highlights

300,000+  
Training hours

1,962 (11.6%)  
Women employees

Human Rights  
self-assessment  
conducted across all  
BUs

### In this section

- AIM 7      Prioritising safety and health of all employees
- AIM 8      Promote gender parity, diversity, and inclusivity
- AIM 9      Adhere to global business standards of corporate governance



## Aim 7

# Prioritising safety and health of all employees



Our approach to occupational health and safety centres around proactive strategies that back our vision of creating a Zero Harm work environment. Through constant monitoring, training, felt leadership and worker engagement, we promote a safety culture where everyone feels responsible for workplace safety. We have empowered our workers, whereby they can decline to perform any work they feel undermines their own safety and that of others.

### Key material issues

Workplace health, safety and well-being

### Sub-goals

**8.8:** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

### SDGs impacted



### SAFETY POLICY AND FRAMEWORK

A robust health and safety framework guides our safety culture that encompasses all our operations. We have a definitive structure for implementation of this framework and we constantly seek feedback to better our safety performance.

We have 17 safety performance standards and 20 health and safety technical and management standards in place. All our operational facilities and sites have been certified with ISO 45001, OHSAS 18001. We are aligned with ICMM guidelines as well as other applicable international systems of health and safety. Our commitment to ensuring a reliable and safe workplace along with our robust framework has made it possible for us to deal with setbacks and move ahead with confidence. We have expanded our safety standards portfolio, incorporating additional critical risks identified during our incident investigations.

The Safety Community of Practice drives implementation of Aim 7 across the Group.



# Aim 7



## OCCUPATIONAL HEALTH AND SAFETY

Safety Committees drive and review safety performance across the business. Repeated safety violations or fatalities result stringent consequence management for management teams. We undertake regular training in various areas of safety to improve the safety culture. Visible leadership is core to our operations and all leaders are expected to demonstrate highest level of safety discipline in their respective areas of operations, ensuring inclusivity of business partners as well. Our safety leadership regularly engages with the business partner site in-charges and their safety officers for their capability development and for strengthening the safety culture at our sites.



### Targets

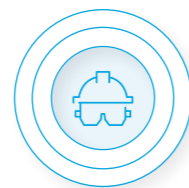
**Zero**  
FATALITIES

**30%**  
REDUCTION IN TRIFR FROM  
FY2021 BASELINE

**2030**  
NO EMPLOYEE EXPOSURE TO  
RED ZONES BY

### Critical risk management

We are in the process of implementing a Critical Risk Management programme across the business to identify critical risks and to measure, monitor and report control effectiveness so that we are able to prevent fatalities. Global experts have been onboarded to help us implement the program across the BUs Ownership of individual risks are taken up by our business CEOs, who are responsible for driving uniform practices related to that particular risk across Vedanta. Risk Owners are also responsible for implementing practices surrounding all the 13 risks in their respective BUs. Design workshops involving four risks have already been completed. External consultants often guide us in the capacity building of our Risk Owners and Risk Champions.



## SAFETY PERFORMANCE

We are continuously strengthening our safety management systems to achieve our goal of zero fatalities. Unfortunately, we experienced 12 fatalities during the reporting year. We have proper mechanisms in place to investigate all accidents. Each is looked into by the senior leadership team as nominated by the Group Executive Committee. The outcome of these investigations is immediately shared across all BUs to share the learnings horizontally.



### Details of fatalities

Type of operations	No. of fatalities	Vedanta employee/ Business partner	Risk category	Detail of the incident	Actions taken
<b>Zinc Business</b>					
<b>Mine, HZL (Hindustan Zinc Limited)</b>	2	Business partner	Fall of ground	During manual face charging activity in the underground mines, a loose rock got detached from the face at a height of 3 metres and fell on two (workmen) in the impact radius	Time bound action plan has been prepared to mechanise the activity
<b>Mine, HZL (Hindustan Zinc Limited)</b>	1	Business partner	Blasting	After two failed attempts of blasting from usual Firing Point, the individual –mine mate – went to check cable continuity and performed blasting from non-designated point in the line of fire. He was pushed by the air blast, resulting in a fatal head injury	Capacity building and training to ensure compliance with our SoPs (Standard Operating Procedures)
<b>Mine, VZI</b>	1	Business partner	Fall of ground	A miner entered the open stope to inspect the rock with an intension of secondary blasting, and during the process, was caught in an unexpected rock-slide	Mechanised secondary blasting (remote operated rock breaking) is being explored to avoid such incidents; simultaneously, ensuring strict compliance to SoP (Standard Operating Procedures) is being monitored
<b>Mine, HZL (Hindustan Zinc Limited)</b>	1	Business partner	Drowning	In an attempt to clear a choked borehole, the mine mate lost his balance due to the sudden release of a borehole choke and got trapped in the borehole, which led to drowning	Adequately designed barrier protection and signages are now ensured at all the boreholes
<b>Aluminium Business</b>					
<b>Smelter BALCO</b>	1	Business partner	Isolation	The individual who was inspecting the table guide roller, came in the line of fire of a running anode line and was trapped between the anode and stabiliser table.	Strengthening machine guarding and access control with implementing upgraded interlock
<b>Smelter VAL-L</b>	2	Business partner	Vehicle & driving	A truck loaded with bauxite toppled while taking a turn due to unguarded excavation at the side of the road, resulting in fatal injuries to two business partner employees	Segregated pedestrian path is provided for personnel movement; time bound action plan for road infrastructure improvement
<b>Power Plant VAL-J</b>	1	Business partner	Burn injury	Failure of 'T' joint, causing a sudden leakage of hot water and steam from high pressure line, resulting in fatal burn injuries to an engineer	Reviewed the high-pressure piping support infrastructure and provided crossovers for safe passage; material of construction of the 'T' joint, which failed due to erosion is being tested for quality assurance
<b>Iron &amp; Steel Business</b>					
<b>ESL Steel Ltd.</b>	3	Business partner	Lifts Safety	3 technicians standing on the roof of the lift while carrying out dismantling activity succumbed to injuries due to free fall of the cage from a height	Group-level Lifts Safety Standard has been developed on safe usage, operation and maintenance of lift and implemented at all locations

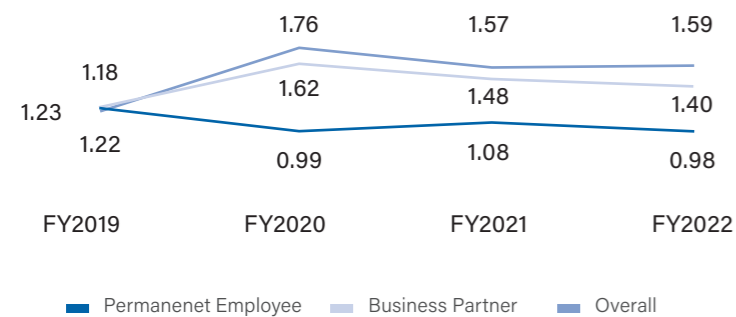


# Aim 7

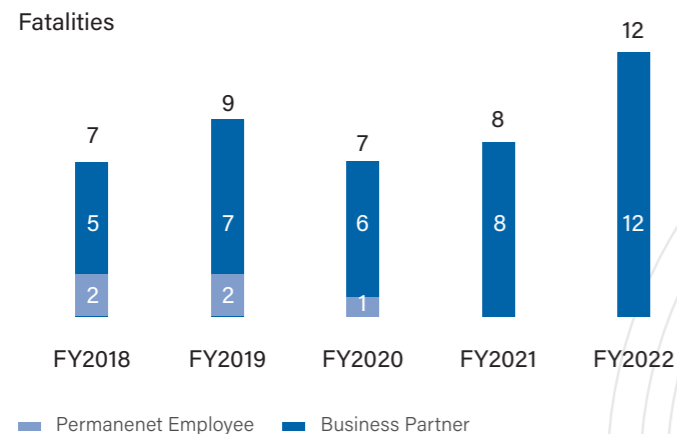
Lost Time Injury Frequency Rate (LTIFR) (per million man-hours)	FY2022	FY2021	FY2020	FY2019	FY2018
Permanent employee	0.53	0.59	0.45	0.50	0.27
Contractor employee	0.58	0.54	0.71	0.45	0.37
<b>Overall</b>	<b>0.58</b>	<b>0.56</b>	<b>0.67</b>	<b>0.46</b>	<b>0.35</b>

Total Recordable Injury Frequency Rate (TRIFR) (per million man-hours)	FY2022	FY2021	FY2020	FY2019
Permanent employee	0.98	1.08	0.99	1.22
Contractor employee	1.50	1.57	1.76	1.18
<b>Overall</b>	<b>1.40</b>	<b>1.48</b>	<b>1.62</b>	<b>1.23</b>

## TRIFR (PER MILLION MAN HOURS)



Fatalities	FY2022	FY2021	FY2020	FY2019	FY2018
Permanent employee	0	0	1	2	2
Contractor employee	12	8	6	7	5
<b>Overall</b>	<b>12</b>	<b>8</b>	<b>7</b>	<b>9</b>	<b>7</b>



## CASE STUDY

### Building industrial hygiene competency

Industrial Hygiene is the “science and art devoted to the anticipation, recognition, evaluation, and control of those environmental factors or stresses arising in or from the workplace, which may cause sickness, impaired health and well-being, or significant discomfort among workers or the citizens of the community.”

For addressing this issue, our sites embarked upon an industrial Hygiene improvement journey – a vision of zero employee exposure to red zone activities.

In FY2021, we started this initiative with HZL, now having extended it across the group.

We realised that a qualified team of industrial hygiene professionals are essential for us to commit to our vision of zero employee exposure to red zone activity.

To begin with, in FY2022, we undertook initiatives to build internal expertise on the subject through training of health professionals. We used BOHS (British Occupational Hygiene Society) Modules such as:

- W-201** Basic Principles in Occupational Hygiene
- W-501** Measurement of Hazardous Substance
- W-502** Thermal Environment
- W-503** Noise
- W-505** Control of Hazardous Substances
- W-507** Health Effects of Hazardous Substances

Through this initiative, we have successfully trained and certified 28 employees on industrial hygiene. These 28 individuals are from various departments and are driving industrial hygiene at their respective sites. We aim to build the competency and expertise of more such professionals and ensure the proper implementation of internal standards on industrial hygiene.

### Key Benefits

As a plan, Employees certified in these six modules will be prepared to attain ICERTO certification and enhance their Skills and Knowledge in Industrial Hygiene.

All the sites are in the process of developing an Industrial Hygiene program to identify exposure to red zone activities and mitigate the risks.



## PROGRAMMES TO IMPROVE SAFETY PERFORMANCE

### Cross Business Audit Programme

This programme has been launched across the organisation for improving the horizontal deployment of learnings while promoting an exchange of best practices. The British Safety Council has trained around 25 auditors from Vedanta sites, and the audit methodology and detailed check sheets have been prepared taking into consideration critical risks identified at the BU level.

A team of cross-functional subject matter experts has started auditing all units. They have been verifying ground-level implementation of all our safety standards, promoting cross-unit learnings and sharing best practices of specific

units across the Group. Eight sites including CAIRN-MPT, CARIN-RGT, TSPL, VAL-J, BALCO, VAL-L, VGCB and IOK have already been audited in FY2022. The audit reports have been shared with the respective teams, and their time-bound action plans have been received. These plans will be reviewed every month to gauge the status of their implementation. We are expecting to process the auditing of most of our sites in FY2023.

# Aim 7

## Safety Community of Practice

We also have a Safety Community of Practice forum, which emphasises on focused implementation of key safety projects/initiatives. It also facilitates sharing and learning from internal and external best practices and discussing and providing practical solutions to ground-level challenges.

## SMRITI

SMRITI initiative has been taken up by CEOs to revisit the learnings of incidents on the day of the Fatality Anniversary and ensuring on ground implementation of these learnings.

## Safety culture development through DuPont

We have collaborated with DuPont for the transformation of the safety culture at our BUs. DuPont has recently engaged with Aluminium & Power businesses, ESL and Cairn for improving their onsite line function responsibility, people engagement, contractor safety management through various capacity building programmes and behaviour-based safety improvements.

## Safety investigation by the incident cause analysis (ICAM) method

We have deployed ICAM to improve the quality of investigations across the organisation. ICAM-led training and technology is an advanced investigation process that focuses on finding the underlying factors behind a particular accident. This holistic approach helps identify weaknesses in the system and their resolutions, thus preventing accidents in the near future. We have developed multiple ICAM leaders across our sites this year through extensive training.



## Digital in safety

We have started several digital initiatives to improve control of the Safety and Management system. We have also launched digital safety e-learning modules across our BUs to promote better understanding of safety standards among our employees.

Camera-based surveillance through Detect technology helps us track safety violations on the ground. We are steadily deploying smart cameras across the Group after conducting a successful pilot study at HZL-Chanderiya. These comprehensive surveillance systems help us monitor and report unsafe acts and conditions round-the-clock.

We have also on-boarded Enablon for a seamless implementation of our safety standards. Enablon is a leading integrated software solutions company, which will help us in managing our safety performance, minimising risks and improving our data-based decisions, thus ensuring transparent reporting.

## Data based decision-making

Based on the data of the past 10 years, we have also formulated a measurable and discreet matrix of fatality recommendations related to infrastructure development and engineering controls. Sites will have to comply with this through a time-bound action plan. Third-party verification will be carried out once 100% compliance is reached.



## CASE STUDY

### Predicting lightning

In 2021, in a freak incident at VAL-Jharsuguda, a business partner lost his life when he was struck by lightning that preceded unseasonal showers. His life could have been saved had there been some warning about the impending lightning storm.

The site management, not wanting to witness a repeat incident, began the search for a technical solution that would allow the team to predict future instances of lightning and ensure that all workers were in areas with shelter.

The search resulted in the site team installing India's first Lightning Management & Alert System (LMAS) installed on an ash-dyke. The system is an active bipolar lightning detection system that can predict stormy or lightning conditions as far a 40 km away before they happen. If such conditions are detected hooters and alert lights are triggered warning those in the vicinity to take shelter. The lightning or storm conditions can be observed through a transceiver port and the system software also allows the team to visualize the storm activity.

Once an alarm is triggered, the system also pre-emptively pushes all sensitive and high-value electrical assets onto auxiliary power units till unsafe conditions exist.

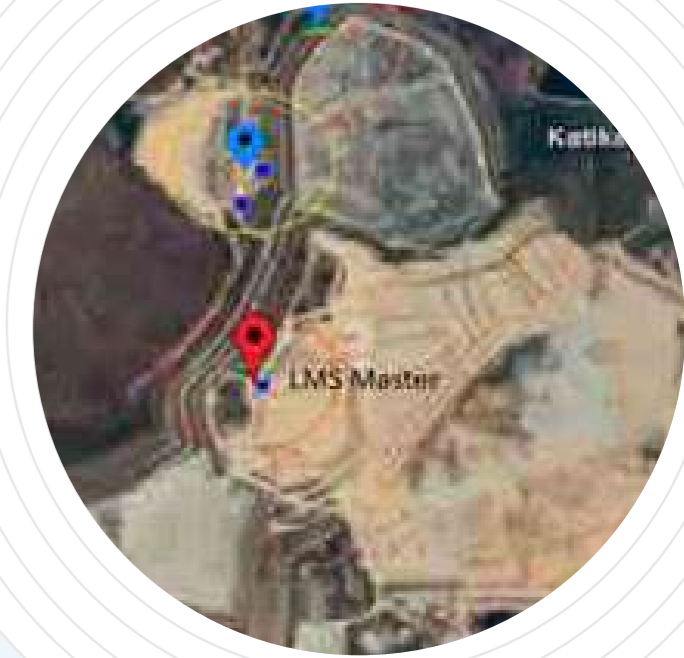
This is a tailor-made solution designed for Vedanta-Jharsuguda and we are confident that it will save future lives.



### Engineering controls to enhance safety

We are continuously working on ways to engineer a safe workplace. Through detailed analytics, we focus on improving areas that have the greatest risk.

Gaps in machine guarding have resulted in 1 fatality and 11 HiPos over the last three years. Across the organization there has been concerted action to ensure that there are no exposed moving parts in machinery



and conveyer systems. Despite this focus, gaps have remained, where installed machine-guards have been bypassed without adequate lock-out measures, resulting in injuries or deaths.

In order to make these controls fail-safe, the Jharsuguda unit has installed connector and guard sensing cables in a zig-zag pattern in its conveyers. Any time a machine guard is removed, the cables trip, resulting in a stoppage of the conveyor and sending a signal to the control room that the operating conditions have changed and need to be investigated. We anticipate that this measure will significantly reduce the risk to our workforce from moving machine parts.

### Vehicle and driving

related incidents have resulted in six fatalities and 389 HiPos over the last three years. At Black Mountain Mine, an alarm-based collision avoidance system has been installed in mining vehicles to prevent accidents with moving personnel, equipment or vehicles. Known as the BOOYCO function system, it is deployed for vehicles used in our underground mining operations.

Depending on the situation, the system sounds an alarm to pedestrians and the vehicle operators, so that potential collisions are avoided. This collision based system will result in lowering the risks from our this critical risk category.



# COVID preparedness



During the two successive surges of COVID-19 during FY2022, we reached out to communities across nine states. We arranged for around 1,680 beds in district/state hospitals and established makeshift hospitals. We also supplied medical equipment – 37 ventilators, 200+ flow meters, 502 oxygen concentrators, 177 oxygen regulators, 22 nebulisers and arranged for 30 ICU beds – across various locations covering around 343 villages. A total of 26,806 filled oxygen cylinders and 2,331.34 MT of liquid oxygen was supplied to medical institutions. We also provided 1 lakh+ empty oxygen cylinders.

We activated SHG network to cater the needs for masks and other supplies. Women of SHGs were involved in making masks in most of the locations across Vedanta, which enabled us to distribute 1,90,492 masks (3 ply/2 ply) in the community, thus addressing needs at both ends of the spectrum. Vedanta companies together bought in 11,250 N-95 masks and 15,000+ PPE kits for their communities. Group companies together provided 5,187 ration kits and 2,72,830+ sanitisers.

Given the highly infectious nature of COVID-19, creating awareness is an important part of preparedness. We organised awareness sessions on preventive measures across 312 villages in various locations. Awareness was also heightened through innovative modes such as wall paintings, campaigns through digital, audio and social media.

**5,187**  
RATION KITS

**1,90,492**  
MASKS DISTRIBUTED

**2,72,830+**  
SANITISERS

### Key activities of the Group companies include the following:

- To address the growing panic among communities regarding the lockdown and limited access to medical support, we provided for telemedicine in a few locations
- Makeshift hospital at Lanjigarh is accommodated with paediatric ward
- BALCO unit extended its support beyond the state's boundaries and provided an ambulance to the Lunglei district in Mizoram
- In a unique initiative, a survey of anganwadi workers (covering 24,500 samples) was conducted as a part of the Khushi programme at Rajasthan by HZL unit, in order to understand the COVID impact and vaccination status
- As a part of the 'Siksha sambal' education programme at HZL, more than 3,900 online classes and 2,500 home visits were conducted by professional teachers and this aided in staying connected with the parents of school children
- As a part of COVID relief practices, 'care packages' were provided to Care centres and old age homes for assistance during the perilous situation
- Oxera Oxygen respiratory devices were provided to COVID-affected people as part of COVID relief activities in VZI



### COVID relief spend

In FY2022 we have spent ₹ 137.74 crore in covid relief initiatives.

201,863 doses of vaccines were imposture so far to employees, contract workers, their families and communities

## Aim 8

# Promote gender parity, diversity, and inclusivity



At Vedanta, we are proud of our organisational culture that promotes inclusivity and diversity among the workforce. The diversity of experience, expertise and perspectives makes us more capable as a team and prepares us better to meet the challenges of tomorrow. Inclusivity makes each employee feel that they are a valued member of the team, thus encouraging them to bring their best to the table.

### Key material issues

Diversity and equal opportunity

### SDGs impacted



### Sub-goals

- 5.1:** End all forms of discrimination against all women and girls everywhere
- 5.5:** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- 5.c:** Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels



### GOVERNANCE

Our culture encourages innovation, creativity, and diversity, allowing our employees to advance both professionally and personally. We have always put people first, giving them equal opportunities, ensuring their well-being, and encouraging their growth.

Our goal is to achieve gender parity throughout the organisation, from senior leadership and decision-making bodies to the BUs and enabling functions. We have formed the Group Diversity, Equity, and Inclusion (DE&I) Council to advance our diversity agenda. The council's mandate is to ensure that our DE&I goals are integrated into the ESG framework in accordance with the organisation's broader business strategy. The DE&I council overseen by Group HR-ManCom is responsible for reviewing and revising policies, developing diversity dashboards, partnering with special colleges and search firms, forming employee resource groups, and so on.

The People Community of Practice drives implementation of Aim 8 across the Group.





# Aim 8



## DIVERSITY AND INCLUSION

We believe in creating a workplace representing people of all genders, ethnicities, regional affiliations, age, who bring a variety of perspectives and experiences. Irrespective of their backgrounds, we give equal opportunities to all and ensure there is no discrimination. Ensuring gender parity is also a key focus area.

With a goal to achieve gender parity by 2050, we are making conscious efforts to strengthen our women workforce and provide them with equal opportunities. We maintain a healthy diversity ratio across the organisation. To achieve our target of increasing women's participation in our workforce, we have revisited and renovated existing processes to make it more favourable for women leaders in the Company. We have realised that increasing women's presence on the shop floor is critical to this overall plan. Our overall women workforce has increased by 10% as compared to the pre-pandemic level, while percentage of women in the leadership/decision making positions have also increased significantly.



On the talent management front, we have dedicated initiatives for promoting a healthy diversity mix. V-Lead, our flagship mentoring programme for women, is working with 100 women leaders who are being groomed to take on greater responsibilities. They are being anchored by the senior leaders with an objective to catapult them to CXO positions across the Group.

In order to drive continual progress and increase the gender diversity across our businesses, the following KPIs have been incorporated in the ESG framework:

	In decision-making bodies**	Leadership roles	Enabling roles (HR, Finances, etc)	Technical / shopfloor	Overall
2030 target	30%	40%	50%	20%	20%
FY2022 status	29%	34%	29%	10%	11.64%

Governance Body Diversity	FY2022*				
	Male	Female	Total	Male%	% Female
ManCom	217	94	311	70%	30%
ExCom	355	110	465	76%	24%
<b>Total</b>	<b>572</b>	<b>204</b>	<b>776</b>	<b>74%</b>	<b>26%</b>

\*Number as on May 2022

Number of Transgender in workforce	FY2022
Business Partner Employees	4
Full-Time-Employees	0

#Balco hired 3 more transgender business partner employees in April2022, taking the count to 7.

## Strategy to achieve the targets

1

Our focus is to achieve gender parity (50% gender diversity) while inducting talents from premier campuses

2

In case of our lateral hires, we have made a mandate that 50% of our new hires will be women; in case of similar skillsets, higher preference is given to women

3

Through digital initiatives such as V-Lead, She-Lead, Pragati, Tarang among others we mentor, train, guide and elevate our in-house women talent



## Transgender hiring at our business

We do not discriminate on the basis of sexual orientation, gender identity, or gender expression. In fact, we ensure that people of diverse sexual orientation are welcomed and integrated into the workforce. To this end, Bharat Aluminium Company Limited (BALCO), India's iconic aluminium producer, has hired seven transgender employees. Gender-sensitisation workshops were held for the entire workforce prior to their induction in order to ensure that they did not face social and psychological challenges and were guided by our Code of Conduct towards the creation of a cohesive and encouraging work environment for all.



# Aim 8



## OTHER PROGRAMMES PROMOTING WORKPLACE DIVERSITY

### Making it easy for women to make career choices

Our human resource practices are guided by Vedanta's value of "Care". From flexi-hours to support for new-parents, we try to create a workplace that is accommodative of the various stages of our employees' lives. More than 92% of the women who take maternity leave choose to remain employed with the company 12 months after they return to work. They face no backlash, nor do they have diminished responsibilities. This helps working women balance their career and personal responsibilities. New mothers are mentored by a 'Buddy', usually a senior woman colleague, who has gone through the same phase and can guide the new mother in taking decisions at the workplace. We also put extra focus on fast-tracking women employees' career growth and are on our way to implementing a buddy programme dedicated to them.

There are also initiatives like Tarang, She-Leads, Pragati, Diversity Mentoring Programme and workshops with the Vice Chairman and Sector CEO Leadership to help women leaders get acquainted with leadership roles and fast-track their career after their return from a break owing to family choices. We have organised the best day-care centres for children and try to make things easier for women by delivering meals, groceries, and medications to their homes.

We have boosted the number of wellness programmes for our female workers, including webinars and virtual activities. These sessions have enabled many of them to deal with pandemic-related worry and anxiety. These sessions have also been extended to their families to assure their well-being.



**92%**  
RETURN TO WORK RATIO (12-MONTHS AFTER RETURNING FROM PARENTAL LEAVE)



### Parental leave distribution

	FY2020		FY2021	
	Male	Female	Male	Female
Number of employees who have taken parental leave	600	103	545	102
Number of employees who were in continuous service for the next 12 months after returning from parental leave	551	88	492	94
<b>Retention* %</b>	<b>92%</b>	<b>85%</b>	<b>90%</b>	<b>92%</b>

\*Numbers presented are for the preceding fiscal year, so that we can calculate number of employees who continue to work with us 12 months after taking parental leaves.

\*\*Parental leave distribution data has not been assured by Ernst and Young Associates LLP



### INTEGRATING THE SPECIALLY-ABLED

Premises/offices accessed by people with disabilities (PWDs) are equipped with enabling infrastructure such as ramp, walkways, braille-enabled elevators, text-to-speech software for the visually impaired, washrooms with special facilities as per requirements of Rights of Persons with Disabilities Act, 2016. As the next step, we are working on a roadmap in accordance with the legal guidelines and creating a barrier free environment for specially abled persons.

Employees with Disability		Business Partner Workforce with Disability	
Male	Female	Male	Female
20	1	18	0



## Aim 9

# Adhere to global business standards of corporate governance



We believe sound corporate governance is the bedrock of a sustainable and commercially successful business. It helps us meet our strategic goals responsibly and transparently, while being accountable to our stakeholders. A robust governance structure upholds global best practices, preserves the interests of stakeholders and ensures the integrity of the information that goes out to them.

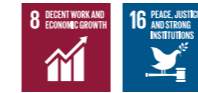
### Key material issues

Compliance to government regulations  
Ethical business practices  
Governance for sustainability  
Risk management

### Sub-goals

**8.7:** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms  
**16.7:** Develop effective, accountable and transparent institutions at all levels

### SDGs impacted



### Examining living wage

Minimum wage criteria is used by regulators to ensure that there is a floor-wage paid for unskilled, semi-skilled, and skilled workforce. The goal is to prevent exploitation of the workforce by under-paying them. Sites across Vedanta pay significantly higher than minimum wage levels.

However, while these pay slabs meet the basic living requirements, given the adversity faced by individuals as a result of the Covid pandemic and its associated economic impact, it was felt by Vedanta's management team that we needed to relook at how we factor minimum pay.

We turned to the living wage methodology as a model to evaluate the criteria and the wage requirements for families to afford adequate shelter, food, and other necessities.

This initial assessment has given us a baseline against which we can draft a living wage policy to be incorporated across our business. By FY2030, we commit to define the living wage across all our locations of operation and to assess the wage structure of full-time employees, contractors, business partners and suppliers. This assessment is to identify the strata of our workforce who are earning below the decided threshold and take necessary actions to ensure that no employees are devoid of decent living conditions and compensation.

As an indicator of our commitment to raise the living standards of our workforce, 6,000 junior employees were given a "Chairman Discretionary Award" to act as a one-time income supplement. This was to help tide-over some of the impacts of rising prices on family incomes.

We have referred to "The Asia Floor Wage" study for calculating a living wage threshold for India. The study has considered factors including:

- The number of family members to be supported
- Basic nutritional needs of a worker
- Housing, healthcare, education and savings.



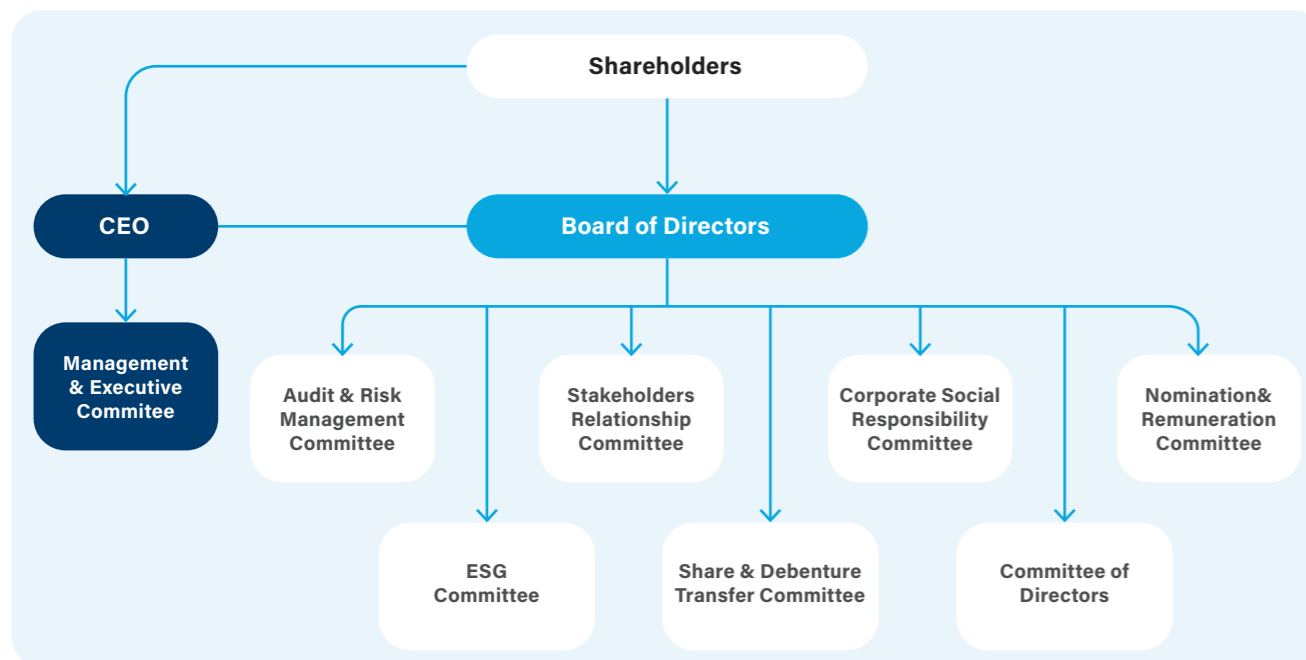
# Aim 9



## GOVERNANCE FRAMEWORK

The Company is equipped with a robust framework of corporate governance that considers the long-term interest of every stakeholder. The framework lays down procedures and mechanisms for smooth administration and productive collaboration across the value chain among employees, community, investors and the government. All our operational facilities are certified with EMS (Environmental Management System) certification (ISO 14001).

The Group's Corporate Governance framework consists of the Board, Board Committees, the Group Management Committee (ManCom), and the Group Executive Committee (ExCo.)



<b>Executive Committee</b>	<b>Chaired by the Chief Executive Officer, Mr. Sunil Duggal</b>	The Committee meets monthly and is responsible for implementing strategic plans formulated by the Board, allocating resources in line with delegated authorities and monitoring the operational and financial performance of the Group.
<b>Group Management committee</b>	Effective 1 April 2020, a Group Management Committee has been formed comprising the Chief Financial Officer, Chief Executive Officer, Chief Human Resource Officer Head and Chief Commercial Officer. The Committee is collectively responsible for all key decisions taken under the guidance of Chairman and Board. This Committee drives all important initiatives and is empowered by the Board.	

## ESG governance

As part of our continued commitment to ESG, we have expanded the scope of the erstwhile Sustainability Board Committee and implemented a uniform ESG governance structure across the organisation. The ESG Committee, together with our Group Sustainability and ESG function, will be responsible for activating, mainstreaming and monitoring initiatives under the 'Transforming for Good' agenda. We have also established dedicated forums for regular management oversight at all levels and ESG-themed communities at each BU and SBU to own projects and drive their timely implementation.

## Composition of the Board

At Vedanta, a diverse Board draws on the rich industry experience of its members who belong to various professional backgrounds. Made up of 50% Independent Directors and 25% women Directors, the Board composition ensures both independence and inclusivity, enabling it to uphold the long-term interests of the Company's stakeholders.

As on 31 March 2022, the Board comprised eight members as listed here:

Name	Designation	Gender	Age (as on 31 March 2022)
<b>Mr. Anil Agarwal</b>	Non-Executive Chairman	Male	69
<b>Mr. Navin Agarwal</b>	Executive Vice Chairman	Male	61
<b>Ms. Priya Agarwal</b>	Non-Executive Director	Female	32
<b>Mr. Upendra Kumar Sinha</b>	Non-Executive Independent Director	Male	70
<b>Ms. Padmini Sekhsaria</b>	Non-Executive Independent Director	Female	46
<b>Mr. Dindayal Jalan</b>	Non-Executive Independent Director	Male	65
<b>Mr. Akhilesh Joshi</b>	Non-Executive Independent Director	Male	68
<b>Mr. Sunil Duggal</b>	Whole-Time Director & Chief Executive Officer	Male	60

50% of the Board consists of independent, non-executive Directors.

Age Group	Between 30-50 years	Above 50 years
<b>Number of Directors</b>	<b>02</b>	<b>06</b>

Gender	Male	Female
<b>Number of Directors</b>	<b>06</b>	<b>02</b>

The Board ensures the implementation of the strategic objectives of the Company and guides the management to fulfil commitments made to various stakeholders while upholding the principles of ethical business conduct and responsible growth. In conducting its business, the Board is supported by:

*For additional details about our Board structure and our corporate governance, please refer to our FY2022 Annual Integrated Report.*

- Established committees
- Risk Management Framework
- Vedanta Sustainability Framework (VSF) and Vedanta Sustainability Assurance Process (VSAP)
- Code of Business Conduct & Ethics and various other policies and practices adopted by the Group



# Aim 9



## INTEGRATING ESG PERFORMANCE IN MANAGEMENT KPIS

Vedanta has always aspired to build a culture that demonstrates world-class standards in safety, environmental stewardship and sustainability. To further ingrain this culture, at the leadership level, ESG has been made a mandatory KPI to be considered for annual performance appraisal and increment cycle. Additionally, leaders responsible for driving this agenda for the Group have higher weightage.

We follow a formal scorecard-based performance management approach across the Group, providing a unified experience to all our full-time employees. Our compensation structure comprises the following elements: fixed pay, benefits, annual bonus, Long Term Incentive Plan (LTIP) and components that factor in holistic employee growth and well-being.



### Compensation structure - Factoring ESG in pay

#### Impact of ESG on employee remuneration:

Area	Where it will impact	Brief summary	Details
<b>Scorecard-based KPIs</b>	Annual performance rating and fixed pay increases	Emphasis on objective and transparent KPIs	<b>ESG is a mandatory KPI for senior leaders</b> - to foster a culture of safety/sustainability
<b>ESG component in annual performance bonus</b>	Annual bonus pay-out	Safety/sustainability scorecards have a <b>15% weightage</b> VSAP Audit has extensive factors in place - a total of 70 guidance factors	<b>A minimum score of 70% is needed in VSAP audit</b> as a threshold for pay-out under this component <b>Assurance Models</b> (Compliance, New Projects, Process Safety), <b>Safety Focus Works</b> (Work at Height, Confined Space).
<b>Integration of fatalities into annual bonus</b>		Fatalities work as a negative multiplier	<b>10% reduction on one fatality</b> - leading to <b>potential 25% reduction overall in case of multiple fatalities</b>
<b>Focus on long-term sustenance</b>		Integration of ESG into long-term strategic KPIs	1/3 weightage of ' <b>long term strategic sustainable</b> ' objectives
<b>Framework of ESG in LTIP plans</b>	Long-term incentive payout	Carbon footprint and fatalities integrated into various long-term incentive schemes	<b>Carbon footprint - 15% weightage</b> in Business Performance ( <b>40% of total weightage</b> ) in scheme <b>Fatalities - 10% additional pay-out kicker</b> in case of no fatalities during the vesting period



# Aim 9



## RISK MANAGEMENT

We identify risks at the individual business-level for existing operations as well as for ongoing projects through a well-crafted methodology. Business-level review meetings, undertaken at least once every quarter, formally discuss risk management. Every business division of the Group has evolved its own risk matrix, which is reviewed by the Business Management Committee. In addition, business divisions have developed their own risk registers.

Respective businesses review the risks, changes in the nature and extent of major risks since the last assessment, the existing control measures and decide on further action. Control measures stated in the risk matrix are also periodically reviewed by the business management teams to verify their effectiveness. These meetings are chaired by the CEOs of the respective businesses and attended by CXOs, senior management and functional heads concerned. The role of risk officers at each business-level and at the Group-level is to create awareness on the risks among the senior management, and to develop and nurture a risk-management culture within the businesses.

The Audit & Risk Management Committee aids the Board in the risk management process by identifying and assessing any changes in risk exposure, reviewing risk control measures and approving remedial actions wherever appropriate. The Committee is, in turn, supported by the Group Risk Management Committee (GRMC), which helps it evaluate the design and operating effectiveness of the risk mitigation programme and control systems. The Group Risk Management Committee meets at least four times annually to discuss risks and mitigation measures, review the robustness of our framework at the level of individual businesses and map the progress against actions planned for key risks.

➔ **READ MORE ON RISK MANAGEMENT SECTION OF IR 2021-22**



## BUSINESS ETHICS

Ethical business conduct is ingrained in our value system. It strengthens our brand equity, serves as a market differentiator, and helps us grow responsibly while safeguarding the interests of our stakeholders and the business.

Ethical conduct of business, prevention of corruption and unlawful disclosure or use of inside information, and observance of human rights are essential principles of operation and make up part of our risk management process. In the year under review, no corruption or bribery cases were reported to the Board Committee.

We strive to foster a healthy culture of feedback in which employees can feel free to voice any concerns they may have. Should employees become aware of irregularities or wrongdoings, they can report their concerns anonymously through our Whistle-blower mechanism. Our established vigil mechanism is implemented through the Whistle-blower Policy, which provides adequate safeguards against victimisation of persons who use such mechanism. It also gives the complainant direct access to the Chairperson of the Audit Committee. The policy communicates our commitment to a 'policy against retaliation', and commitment to maintaining confidentiality, in case of a Company employee.

The Management & Assurance Services (MAS) team is responsible for monitoring implementation of the Code of Conduct and Business Ethics. Through independent, third-party audits it seeks to ensure that businesses, departments, employees, and business partners remain aligned with the Company's ethical business conduct requirements.

From time-to-time, the MAS team along with the Company Secretary also reviews and benchmarks the Code of Business Conduct & Ethics, in order to remain aligned with global thinking on the subject and lessons learnt from the implementation of these policies.

The company also adheres to UKBA and FCRA regulations.

## Code of Business Conduct and Ethics (CBCE)

Our Code of Conduct serves as a guiding tool to align organisational culture with individual conduct and integrates our values into the day-to-day business conduct. The Code contains general guidelines for conducting the business of the Company, consistent with the highest standards of business ethics. This Code requires a higher standard than required by commercial practice or applicable laws, rules, or regulations.



### Implementation of CBCE

The implementation of CBCE is supported by the following additional policies and guidance notes:

- The Insider Trading Prohibition Policy
- The Whistle Blower Policy
- Anti-trust Guidance notes
- The Supplier code of conduct

All these policies, notes and codes are publicly available on our website and are incorporated into contracts, where relevant, in order to ensure transparent and easy access to our policies in the public domain. Annual affirmation and training on the code of conduct including bribery and corruption is taken from all the employees to keep them updated and to reiterate their commitment to ethical practices.

In FY2022, 100% of our new-hires undertook training on the code of conduct and 13,855 employees took a refresher course on the code. More than 46,000 hours of training was imparted on the code.



# Aim 9



## BREACHES OF CODE OF CONDUCT

For resolving the cases identified throughout the fiscal year, various set of actions were taken across all our BUs. These mitigation actions involved taking stringent steps towards errant vendors, vendor personnel and employees. Corrective actions range from judicial interrogations, fines, rotation, warnings, and separation from the company.



### Types of categories

	Cased that have been resolved	Open Cases
<b>Whistleblower Cases</b>		
Employee Misconduct	7	-
Business Integrity Breach	11	-
Workplace harassment and discrimination	2	-
HSE breach	0	-
Data and privacy breach	0	-
Financial misconduct	1	-
Others	1	-
<b>Total</b>	<b>22</b>	<b>6</b>
<b>Other Code of Conduct Breaches</b>		
Related to employee	11	-
Related to business partner employee	9	-
<b>Total</b>	<b>20</b>	<b>-</b>
<b>Grand Total</b>	<b>42</b>	<b>6</b>

\* Of the reported breaches of the code of conduct, 22 cases were received through whistleblowing channel and 20 cases were received through other mechanisms.



## OUR APPROACH TO PUBLIC POLICY AND ADVOCACY

We are members of several industry associations that share our common goals, and we routinely work together to advance public policies of interest to us and the natural resources industry.

In FY22, we have spent ₹ 53.44 million on membership fees to industry and trade associations, and sponsorships to the events organized by these associations. During the course of this year, we have purchased electoral bonds worth ₹ 1,230 million.

Industry Associations	Thinktanks & Subject-Matter Expert Organizations	Academic Institutions	NGOs and Civil Society Organizations	
<b>Aluminium Association of India</b>	Quality Circle Forum of India	IIT - Madras	Wockhardt Foundation	Charbhujia Filling Station
<b>Federation of Indian Mineral Industries (FIMI)</b>	National Safety Council	IIM – Sambalpur	Action for Food Production	MECC
<b>International Zinc Association</b>	TERI	IIT- Bombay		
<b>Confederation of Indian Industry (CII)</b>	UN Global Compact	ISB - Hyderabad	Drishtee Foundation.	Barmer Jan Sewa Samiti
<b>FICCI</b>	UN Women's Empowerment Principles	IISC – Bengaluru	Sarthak Jan Vikas Sansthan	IPE Global
<b>ASSOCHAM</b>	IUCN – Leaders for Nature	BITS-Pilani	Learnet Skills limited	Paralympic Committee of India
<b>Indian Steel Association</b>	British Safety Council	IIM-Raipur	BAIF Development Research Foundation	GT Healthcare Trust
<b>Federation of Indian Petroleum Industry</b>	Indian Green Building Council	National Forensic Sciences University	Sheghal Foundation	CHETNA Foundation
<b>The Federation of Indian Chambers of Commerce and Industry</b>	Mine Ventilation Society of South Africa (MVSSA)	(NFSU), Gandhinagar	Swajal Pvt. Ltd.	Navrachna Mahila Vikas Trust
<b>International Zinc Association</b>	Recycling and Environment Industry Association of India		Waterlife	CEDRA
<b>Minerals Council South Africa</b>			Fontus	BODH Siksha Samiti
<b>Mine Health &amp; Safety Council (MHSC)</b>			Rural Development Organisation (RDO)	HelpAge India
<b>Association of Mine Managers (AMMSA)</b>			Vodalife	
<b>Recycling and Environment Industry Association of India</b>			SEEDS	

We regularly engage with these associations to improve the competitiveness of the Indian metals & mining industry through cost competitiveness, raw material security, import substitution and enhancing domestic market share of the metals & minerals produced within the country.

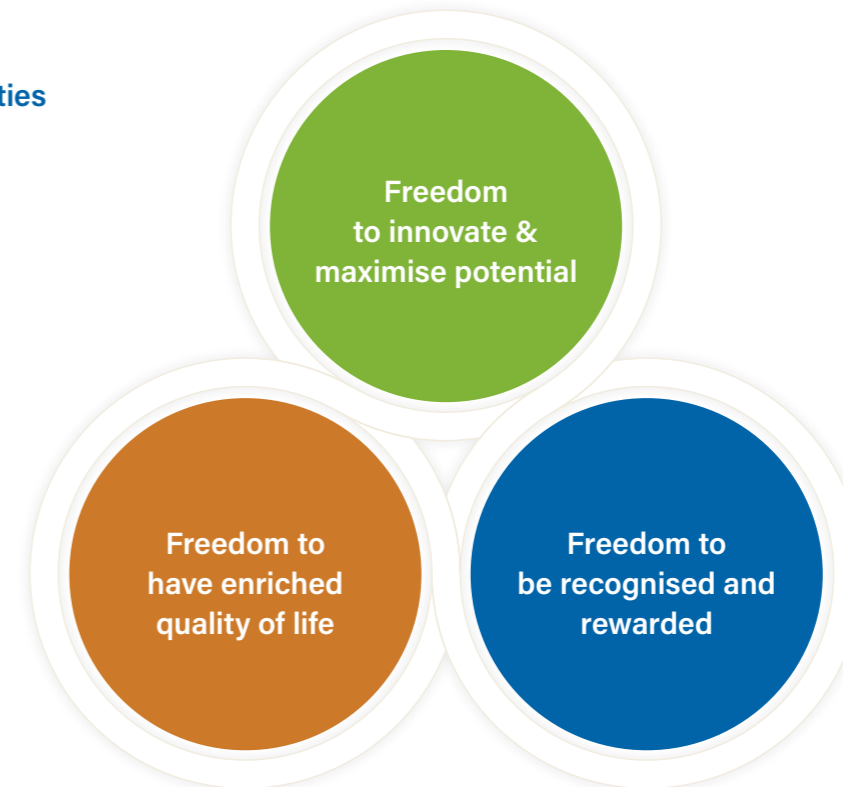
We are also members of the CII Climate Charter & the CEO Declaration on Climate Change where we are strong proponents of Indian industry taking strong climate commitments in alignment with the country's Net Zero goal.

# Fostering human capital



Our goal is to create a meritocratic organisation that empowers employees to take the right business decisions by providing an open, safe and motivating work environment. We commit to fostering an environment that encourages learning and growth and enables us to build a next-generation organisation with a focus on promoting innovation, delivering business value and driving thought leadership.

## Key HR priorities



### Freedom to have enriched quality of life

We prioritise employee care via introducing multiple initiatives that cater to the well-being and health of our employees and their families.

### Freedom to learn and grow and freedom to innovate and maximise potential

We ensure holistic development of our employees by providing them with opportunities to grow. As a part of our structured drive, we identify high calibre individuals and provide them with high impact roles and autonomy that challenges their potential. Through this we try to bring out the best in them, thereby fostering innovation and continuous learning.

### Freedom to be recognised and rewarded

We consistently recognise our employee efforts in business and those going beyond duty hours during the pandemic period for community development and care. Providing our people with wealth creation opportunities to grow along with the organisation has been a long-standing unique selling point of Vedanta. Targeted incentive schemes are launched to reward our superlative performers.

## FY2022 Workforce snapshot

Business	Location	Full-time employees		Contract employees		Retainers		Total workforce		Total
		Male	Female	Male	Female	Male	Female	Male	Female	
Aluminium	India	4,710	608	20,303	711	10	1	25,023	1,320	26,343
Copper	Australia	18	2	0	0	0	0	18	2	20
	UAE	49	6	24	0	0	0	73	6	79
	India	497	91	840	80	3	0	1,340	171	1,511
Iron ore & Steel (includes ports)	India	3,973	272	10,481	215	3	0	14,457	487	14,944
Facor	India	470	23	1,869	0	3	0	2,342	23	2,365
Oil & Gas	India	1,125	226	0	0	121	7	1,246	233	1,479
Power	India	46	21	1,340	34	0	0	1,386	55	1,441
HZL	India	3,139	425	19,060	93	5	1	22,204	519	22,723
VZI	Namibia	0	0	0	0	0	0	0	0	0
	South Africa	798	191	3,027	383	22	12	3,847	586	4,433
Corporate Offices	India	73	97	3	10	22	5	98	112	210
<b>Total</b>		<b>14,898</b>	<b>1,962</b>	<b>56,947</b>	<b>1,526</b>	<b>189</b>	<b>26</b>	<b>72,034</b>	<b>3,514</b>	<b>75,548</b>



# Fostering human capital

## NATIONALITY DATA

Nationality	Full-Time-Employees	%
Indian	15,787	93.6%
South Africa	1,014	6%
Australia	28	0.06%
Nepal	10	0.12%
Other	21	0.22%
<b>Total</b>	<b>16,860</b>	<b>100%</b>

% WOMEN IN WORKFORCE	FY2022
Total women workforce	11.64%
Women in all management positions	15.15%
Women in junior management positions	16.20%
Women in senior management	7.72%
Women in STEM related positions	10.14%

Proportion of senior management hired from the local community	FY2022
The number of senior management hired from the local community (FTE)	24
Full time employees of Senior Management	310
%	8%

Data breakdown of new hires	< 30 Yrs			30 - 50 Yrs			> 50 Yrs			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
New hires	738	405	1,143	246	43	289	27	6	33	1,011	454	1,465
Average hiring cost for FY22 - ₹ 94,918												
Open Positions												562
Open positions filled by internal candidates in FY2022												368
Positions filled by Internal Candidates												368
Percentage positions filled by internal candidates												65.48%

## Anti-harassment policy

We aim to create and maintain a work environment in which people are treated with dignity, decency and respect – an environment characterised by mutual trust and the absence of intimidation, oppression, and exploitation, free of discrimination or harassment of any kind. Through the implementation of this policy and by educating, mentoring and guiding our employees, we seek to prevent, correct, and discipline behaviour that violates this policy. All employees, regardless of their positions, are covered by and are expected to comply with this policy and to take appropriate measures to ensure that prohibited conduct does not occur.



## TALENT DEVELOPMENT

To maintain our competitive edge, we take a multi-dimensional approach to recruiting, retaining and training individuals. We are constantly upgrading our talent management cycle through the adoption of latest technologies and adoption of best-in-class people practices. We hire from top campuses and induct specialised talent from focused new-age programmes including digital, data science and analytics, sustainability, R&D among others.

More than 1,000 young professionals have been hired from top-tier academic institutions from around the world for entry-and-midlevel positions.

Along with hiring experts in senior positions, we also believe in creating leaders from within. Over the last year, nearly 70% of open positions have been filled by internal candidates through initiatives such as V-Reach, Internal Job Posting (IJP) and Act-up programmes among others. V-Reach, V-Aspire, V-Reach Tech, Chairman's Young Leaders Program, and Vice Chairman's SBU Engagement Workshops form a set of multi-dimensional programs to identify and give opportunity-to top-talent within the organization.



As a part of our drive towards building a strong talent pipeline and focusing on individuals who have significantly contributed to Vedanta's stellar growth over the years, we also have a strong re-hiring project in place. Through these initiatives, we ensure a robust pipeline of successors who will take the place of the leaders in key positions as per need.

We have multiple central and BU-level learning and development programmes in place for knowledge dissemination of these top talents. Gurukul is Vedanta's first-ever Group-wide digitally driven platform that promotes sharing of knowledge as well as the generation of innovative ideas.

**₹ 121.38 Million**  
EXPENDITURE ON TRAINING AND DEVELOPMENT OF EMPLOYEES

# Fostering human capital

## Launch of the ESG Academy

If Vedanta is to integrate ESG-thinking across all its employees and business-partners, there needs to be a way to enhance their understanding on the subject. The ESG Academy has been envisioned as a one-stop-learning-hub for all ESG/sustainability related learning. We plan to partner with leading academic institutes to develop this industry-leading learning hub for ESG.

In FY2022, we kick-started the capacity-building process by enrolling Vedanta's top 100 leaders in "Sustainability 101" sessions. This 8-hour workshop took the participants through all aspects of ESG through an inter-active training program. All participants who took this training are now "L1 Certified ESG Professionals".

In FY2023, we plan to roll this out to 100% of our employees and business partners via an online training module.



## Total training in person hrs/days

FY2022	Male	Female	Total
Total training hours - full time employees (FTE)	347,660.12	66,138.66	413,798.78
Average training hours for FTE	23.34	33.71	24.54
Average amount spent per FTE on training and development INR 7,319			

## EMPLOYEE TRAINING- HSE

	FY22
Total Training Hours - Full-time Employees (FTE)	91,284
Average Training Hours for FTEs	5.41

## Key Learning and Development programmes

- V-Excel initiative provides each of our new hires a single digitally driven platform; this platform enables them to perform by providing the right anchoring, continuous engagement and recognition of exceptional talents at an early stage of their career
- To enhance our millennial outreach and strengthen our campus engagement, we have launched XStrat, which is a comprehensive case study completion programme in top colleges across India. The first edition of this competition saw over 6,000 students participate from 30+ B-Schools



## Management ACT-UP

At Vedanta, we have a structured process to identify and nurture high performers and develop leaders of tomorrow. Through rigorous training and grooming, they absorb the necessary values and skills to take on responsibilities, keeping us future ready. Aligned with this practice, we have launched Management ACT-UP – an **industry-leading global leadership identification and development program.**

Launched in 2021, it engaged 1,800 senior leaders across the Group, from whom 400 were shortlisted after a detailed assessment. All 400 leaders were put through a rigorous online psychometric and leadership assessment that helped further shortlist 230 participants, who had the unprecedented opportunity to showcase to an exclusive panel their ideas on how they could contribute to the Group's critical business priorities including ESG, People

Development, Cost & Volume and Digital & Innovation, among others and promote their personal aspirations. The panel comprised of industry stalwarts, Board members of reputed organisations and key subject matter experts, who provided their own unique outside-in perspective.

Over four weeks of panel evaluations and discussions with the senior management, including Chairman, Vice Chairman, Group CEO, Business CEOs, Functional CXOs, around 100 leaders were identified to take up higher roles across Vedanta.

Management ACT-UP does not end here. The identified leaders will go through a high impactful learning and development journey at top global and Indian institutes, which will sharpen their skills and hone their leadership acumen.

## Of the 100 leaders identified through Management ACT-UP:

**40%**  
HAVE MOVED ACROSS BUSINESS AND LOCATIONS

**50%**  
HAVE BEEN PLACED IN SBU LEADERSHIP/DEPUTY AND SHADOW ROLES

**51%**  
HAVE BEEN IDENTIFIED WITH FUTURE CXO POTENTIAL

## The Graduate Engineer Trainee Development

The Graduate Engineer Trainee Development is a flagship programme helping the new employee shape into professionals and enable them to deliver high performance. This program follows the 70:20:10 learning principle. This one-year program consists of 5-6 weeks of classroom training on safety, behaviour, management, operation, and maintenance. The remaining period is for structured on-the-job training, action learning projects using the Six Sigma framework, and leadership programmes. This initiative focuses on modifying the working methodology and creating a culture of structured problems through data validation and root cause analysis. The training development program was developed in partnership with ASQ (American Society For Quality) to get the executives certified in Lean Six Sigma through structured assessments. 2 Six Sigma Projects completion were exclusively mentored by senior leaders & experts. Six Sigma initiative resulted in an annual savings of around ₹ 300 million.





# Fostering human capital



## EMPLOYEE ENGAGEMENT

To keep our people involved and motivated, we have been creating unique engagement programs for them. There are two well established major employee studies that help us gauge employee engagement – **Great Place to Work (GPTW)** and **Kin centric Best Employer Study**.

### Great Place to Work

GTWP follows a 'trust model' concept, where a great workplace is defined through the trust employees have for the people they work for, feel pride in what they do and enjoy the company of people they work with. Top research institutions and business leaders see the trust model as the definitive standard to assess the workplace.

Most of our subsidiaries scored well above the industry mean as per GPTW's 'Trust Index Grand Mean'. Culture wise, all our subsidiaries fall under 'Good' or the 'Best' culture according to the industry benchmark. About 57-84% of our employees are in the 'citizen' category as per the survey which reflects their active engagement in work and the organisation. We also score highly in 'Management Competencies' and 'Pride'. However, we have scope to improve in terms of 'work-life balance', 'job security' among others.



### GPTW Employee Engagement (% of actively engaged employees)

	FY2019	FY2020	FY2021	FY2022
Vedanta Group Avg Score *	75.32	73.8	77.75	79.5

\*The scope of assessment is below:

FY2019	FY2020	FY2021	FY2022
Cairn, VAL-J, HZL	Cairn, VAL, HZL	VAL, Cairn, HZL, TSPI, IOB, ESL,	VAL, Cairn, HZL, TSPI, IOB, ESL Sterlite Copper and FACOR
21.82% of FTE	62.76% of FTE	85.22% of FTE	93.13% of FTE

### Results of survey by Age for FY2022

Age Group	Average Score
< 25 years	76
26 to 34 years	75
35 to 44 years	80
45 to 54 years	87
> 55	84

### Results of survey by Management Position for FY2022

Age Group	Average Score
Senior Leadership	50.20
Managerial Level	71.75
Supervisory Level	67.55
Associates	67.13

Employee Turnover	FY2019	FY2020	FY2021	FY2022
Total Employee turnover	8.65%	11%	13.58%	15.22%
Total Attrition (voluntary)	5.19%	7.46%	6.53%	11.15%

FY2022	<30 years			30-50 years			>50 years		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total employee turnover	28.81%	32.42%	29.56%	7.12%	11.24%	7.47%	19.09%	5.03%	15.22%
Total attrition voluntary	23.62%	30.82%	25.12%	5.61%	9.79%	5.96%	4.42%	0%	11.15%

### Annual engagement survey with Kincentric

Kincentric 'Best Employers Global certification' recognises leading employers who capture the full potential of their people to drive results, creating a competitive advantage. This certification compares industry peers to identify those who strive towards inspiring their people, sparking change, and accelerating business success. Based on the principles of 'Intent-Design-Experience', the robust evaluation framework assesses the uniqueness and key differentiators of an organisation that makes it the 'Best Employer'. Diversity in the workplace is a special focus area that impacts the final results.

Through an annual engagement survey with Kincentric, we arrived at a cumulative engagement score of 73% across Vedanta. We also had to qualify for the People Practices Index & CEO Questionnaire, which are taken into consideration for the survey results.

Employee engagement was measured on the following grounds:

#### Agility

Adaptiveness, innovativeness, inclusiveness, and responsiveness to the dynamic needs of customers.

#### Engaging leadership

How deeply connected leaders are with employees to drive engagement, communicate a clear vision and exert strong personal values.

#### Talent focus

How focused an organisation is on attracting and retaining talent and creating an inspirational environment where people can thrive.

**73%**  
EMPLOYEE ENGAGEMENT SCORE



# Responsible supply chain management



Vedanta's procurement spend for FY2022 is ~₹ 700 billion. With such a large spend base responsible supply chain management is critical to our transformation mission. It helps mitigate financial risk, sustain our commitment to ethical business and compliance, and meet our commitments to our customers and other stakeholders. All our significant suppliers are required to have an adequate system in place to address the human rights concerns of their workforce. We regularly undertake inspections and audits of all our key suppliers and problematic issues are communicated to the contractor. We undertake sustainability screening on human rights and child labour, environment and labour aspects for all new suppliers and contractors. This is followed up with induction sessions to familiarise them with our sustainability policies, standards and systems.

**2,319**  
SUPPLIERS SCREENINGS  
CONDUCTED IN FY2022

Our Supplier Code of Conduct (SCOC) serves as the guiding document for all our interactions with suppliers and vendors. It is mandatory for all our suppliers to abide by the Code. The SCOC covers aspects related to labour and human rights apart from Health, Safety, Environment & Sustainability and so on. Our Supplier and Contractor Sustainability Management Policy helps us implement human rights practices across the supply chain. Through this code and policy, we ensure that our suppliers comply with all the relevant legislation including labour and

human rights laws. Periodic inspections are conducted at our remote mine locations to check proof of age for all our contract workers while radiological age identification process is used to access child labour violations, if any.

Suppliers are integral to our business and help us maintain efficiency and responsible conduct by creating reliable and sustainable supply chain. Our BUs have a supply chain strategy that sets clear priorities for the vendors they engage with.

Procurement Budget	FY2022	
	INR Million	% spend
Total procurement spent	769,572	
Total procurement spent on suppliers belonging to same country	635,227	82.54
Total procurement spent on suppliers belonging to same state	358,554	46.59
Total procurement spent on suppliers belonging to same district	95,385	12.39

### By 2025:

- Ensure that 100% of our new business partners have ISO 45001 or equivalent
- Ensure that 50% of our procurement comes from local vendor
- 100% long-term Tier 1 suppliers to submit their GHG reduction strategies

### Critical suppliers

Critical suppliers have a significant impact on our production, costs and/or revenues in the event of an interruption in our supply chain and are thus important to us. They are also critical due to the potential risk and impact of their products.

### Supplier Classification

#### ABC Supplier classification

Suppliers are classified as critical and non-critical based on five dimensions under ABC framework:

- Business outcome
- Spend (value/volume)
- Critical business operation
- Sensitivity
- Substitutability

**"A" category suppliers are critical suppliers for our business.**

**7,841**  
TOTAL SUPPLIERS

**749**  
CRITICAL TIER SUPPLIERS

**1,406**  
CRITICAL NON-TIER

**69%**  
SHARE OF TOTAL PROCUREMENT SPENT ON CRITICAL TIER-1 SUPPLIERS



# Responsible supply chain management

## Evaluation criteria for our business partners include:

- Historical financial performance
- Management capability, including the ability to meet regulatory requirements
- Stability and scale of their business operations
- Quality of the product/service offered
- Ability to adhere to our Supplier Code of Conduct - including HSE criteria, MSA (Modern Slavery Act) compliance, environmental compliance.
- Adherence to timelines and continuity of delivery
- Collaborating with new-age innovative start-ups
- Capacity building around best industrial practices

We are committed to conducting business only with those business partners who can align with the company's supply chain management strategy. It is mandatory for all our suppliers to sign our Supplier Code of Conduct, committing to a safe and healthy working environment for their employees and compliance with social and environmental regulations applicable in the respective regions. We ensure that while our suppliers help us meet our business objectives and targets, there is no compromise on quality or safety.

## Supply chain risk

We have a systematic approach to identify potential sustainability risks in our supply chain. Risks in health, safety and environment (HSE) area and human rights are considered significant risks, given their potential to impact business continuity. While screening potential suppliers, we consider their performance on HSE and human rights by assessing them against set criteria that includes their commitment to HSE, along with necessary policies to support the commitment. We also consider the standards, roles and responsibilities of critical role holders. We also require our suppliers to declare their compliance with Modern Slavery Act. We engage third-party to conduct risk assessment of our suppliers on various aspects related to regulatory compliance and compliance with MSA (Modern Slavery Act).

## Definition of Sustainability high-risk

At Vedanta, risk is a factor of likelihood of occurrence and its severity (Guidance note GN07 - Risk assessment). Using this definition, we have categorized our suppliers to reflect their risk potential for themselves and for us. Suppliers falling under the below categories:

- Suppliers from countries, which have the likelihood of incidence of slave labour/child labour.
- Suppliers not having adequate safety trainings in place for their workforce.
- Suppliers lacking a concrete policy on human rights, fair wages, proper working conditions,
- Suppliers having Environment, Social and Governance misconduct that have resulted in disruption to their business operations

are classified as high-risk suppliers for the business

**7,591**  
TOTAL SUPPLIERS

**1,372**  
SUPPLIERS ASSESSED IN THE LAST THREE YEARS FOR RISK EXPOSURE

**149**  
SUPPLIERS CLASSIFIED AS HIGH RISK



## ADDRESSING HUMAN RIGHTS CONCERNS IN THE SUPPLY CHAIN

Responsible supply chain management helps us avoid human rights-related risks in our supply chain. All our significant suppliers are required to have an adequate system in place to address the human rights concerns of their workforce. We regularly undertake inspections and audits of all our key suppliers and problematic issues are communicated to the contractor. We undertake sustainability screening on human rights and child labour, environment and labour aspects for all new suppliers and contractors. This is followed up with induction sessions to familiarise them with our sustainability policies, standards and systems.

**2,391**  
SUPPLIER SCREEN CONDUCTED IN FY2022

Our Supplier Code of Conduct (SCOC) serves as the guiding document for all our interactions with suppliers and vendors. It is mandatory for all our suppliers to abide by the Code. The SCOC covers aspects related to labour and human rights apart from Health, Safety, Environment & Sustainability and so on. Our Supplier and Contractor Sustainability Management Policy helps us implement human rights practices across the supply chain. Through this code and policy, we ensure that our suppliers comply with all the relevant legislation including labour and human rights laws. Periodic inspections are conducted at our remote mine locations to check proof of age for all our contract workers while radiological age identification process is used to access child labour violations, if any.



# Data Annexure

## Aim 1

### CSR Spent

Business	Community Investment	Charitable contributions	Total CSR
	FY22	FY22	FY22
Vedanta Ltd	1,598	2,397	3,996

#Community Investment includes spent on the long term development projects

#Charitable Contribution includes one time spent on community infrastructure projects

### Cash contributions and Management Overheads for CSR Spent for FY22

Business	Cash Contributions (Mn INR)	Management Overheads (Mn INR)
Vedanta Ltd	~3909	~90

### 410-1: Security personnel trained in human rights policies or procedures

Business	% of security personnel to whom training is imparted	
	FY22	FY21
Vedanta Ltd	93.50%	89.73%

### 411-1: Incidents of violations involving rights of indigenous peoples

Business	No. of violations reported	
	FY22	FY21
Vedanta Ltd	0	4

### Name of current production and development assets that have required community consultation

Business	Name of Project	EIA Application No	Date of Public Consultation
Cairn	Offshore Oil & Gas Exploration and Appraisal in KG-OSHP-2017/1 block in Bay of Bengal, East Godavari District, Andhra Pradesh	SIA/AP/IND2/198643/2021 dated 07 Apr 2021	
IOB	The up-gradation of blast furnaces, setting up of additional oxygen plant, installation of ductile iron pipe plant, additional met coke ovens, setting up of fe-si plant at amona and navelim villages, bicholim taluka, north goa district, goa	SIA-J-11011/946/2007-IA.II (I) dated 6thMarch, 2019	24 <sup>th</sup> Jan 2021

### Employee Volunteering for CSR

Business	FY22
	Employee Volunteering Hours
HZL	763
Cairn	1,556
IOB	458
TSPL	365
VAL-L	194
VAL-J	2,684
ESL	57
FACOR	37
BALCO	161
Vedanta Ltd	6,275

## Aim 4

### Direct Non Renewable Energy consumption within the organization

Business	Unit	FY22	FY21	FY20	FY19
Aluminium	GJ	323,024,910	330,774,567	317,975,459	300,013,213
Copper India & Australia	GJ	638,737	601,881	505,559	504,980
Iron Ore Business	GJ	331,158	291,876	257,899	192,795
Oil and Gas Business	GJ	22,576,373	24,739,239	23,489,258	23,170,123
Port Business	GJ	-	-	-	-
Power Business	GJ	129,394,511	108,913,938	122,843,288	110,561,494
Steel	GJ	6,385,091	5,868,781	7,123,193	-
Zinc India	GJ	43,380,672	43,882,174	44,647,286	46,164,562
Zinc International	GJ	1,513,385	686,753	1,323,808	3,293,833
FACOR	GJ	3,519,756	-	-	-
Vedanta Ltd	GJ	530,764,592	515,759,208	518,165,749	483,901,000
	MWH	147,446,404	143,277,908	143,946,445	134,427,698

### Indirect Non Renewable Energy consumption within the organization

Business	Unit	FY22	FY21	FY20	FY19
Aluminium	GJ	9,162,839	2,248,640	3,479,264	11,656,661
Copper India & Australia	GJ	293,877	287,074	208,618	213,283
Iron Ore Business	GJ	2,585	7,291	3,603	696,237
Oil and Gas Business	GJ	1,158,129	634,124	592,627	518,050
Port Business	GJ	46,655	-	46,494	42,132
Power Business	GJ	3	34,020	12,647	2,425
Steel	GJ	946,319	685,454	5,045	-
Zinc India	GJ	6,044,725	1,355,856	1,114,052	746,890
Zinc International	GJ	884,079	1,375,230	1,739,976	48,625,009
FACOR	GJ	48,947	-	-	-
Vedanta Ltd	GJ	18,588,158	6,627,688	7,202,325	62,500,687
	MWH	5,163,790	1,841,172	2,000,806	17,362,691

### Direct Renewable Energy consumption within the organization

Business	Unit	FY22	FY21	FY20	FY19
Aluminium	GJ	307	-	-	-
Copper India & Australia	GJ	-	-	-	-
Iron Ore Business	GJ	915,564	-	-	-
Oil and Gas Business	GJ	1,810	2,363	2,284	2,527
Port Business	GJ	-	-	-	-
Power Business	GJ	48	41	-	-
Steel	GJ	-	-	-	-
Zinc India	GJ	198,386	-	-	-
Zinc International	GJ	-	-	-	-
FACOR	GJ	-	-	-	-
Vedanta Ltd	GJ	1,116,115	2,404	2,284	2,527
	MWh	310,057	668	634	702



# Data Annexure

## Indirect Renewable Energy consumption within the organization

Business	Unit	FY22	FY21	FY20	FY19
Aluminium	GJ	10,850,720	2,432	-	-
Copper India & Australia	GJ	69,602	72,887	82,966	85,960
Iron Ore Business	GJ	-	-	-	-
Oil and Gas Business	GJ	-	-	-	-
Port Business	GJ	-	-	-	-
Power Business	GJ	-	-	-	-
Steel	GJ	-	-	-	-
Zinc India	GJ	2,586,586	2,049,468	519,049	179,568
Zinc International	GJ	-	-	-	-
FACOR	GJ	-	-	-	-
Vedanta Ltd	GJ	13,506,908	2,124,787	602,015	265,528
	MWh	3,752,219	590,266	167,240	73,764

Non-Renew (MWH)	FY22	FY21	FY20	FY19
Direct	147,446,404	143,277,908	143,946,445	134,427,698
Indirect	5,163,790	1,841,172	2,000,806	17,362,691
<b>Total</b>	<b>152,610,194</b>	<b>145,119,080</b>	<b>145,947,251</b>	<b>151,790,389</b>

Renew (MWH)	FY22	FY21	FY20	FY19
Direct	310,057	668	634	702
Indirect	3,752,219	590,266	167,240	73,764
<b>Total</b>	<b>4,062,276</b>	<b>590,934</b>	<b>167,874</b>	<b>74,466</b>

## Energy consumption within the organization

Business	Unit	FY22	FY21	FY20	FY19
Aluminium	GJ	343,038,776	333,025,639	321,454,723	311,669,874
Copper India & Australia	GJ	1,002,216	961,841	797,142	804,223
Iron Ore Business	GJ	1,249,307	299,167	261,502	889,032
Oil and Gas Business	GJ	23,736,312	25,375,726	24,084,168	23,690,700
Port Business	GJ	46,655	-	46,494	42,132
Power Business	GJ	129,394,562	108,947,999	122,855,935	110,563,919
Steel	GJ	7,331,410	6,554,235	7,128,238	-
Zinc India	GJ	52,210,369	47,287,498	46,280,387	47,091,020
Zinc International	GJ	2,397,464	2,061,983	3,063,784	51,918,842
FACOR	GJ	3,568,703	-	-	-
Vedanta Ltd	GJ	563,975,773	524,514,087	525,972,373	546,669,742
	MWh	156,672,470	145,710,013	146,115,125	151,864,854

## 305-1: GHG Scope 1 Emissions (TCO<sub>2</sub>e)

Business	FY22	FY21	FY20	FY19
Aluminium	35,518,717	41,364,189	34,664,758	33,166,782
Copper India & Australia	28,684	41,284	35,037	30,571
Iron Ore Business	2,058,130	1,689,317	1,750,789	1,951,258
Oil and Gas Business	2,075,802	1,970,766	1,841,600	1,658,183
Port Business	1,595	1,750	-	376
Power Business	12,456,858	6,376,205	11,804,420	-
Steel	2,429,510	2,856,311	2,719,295	13,342,185
Zinc India	4,321,317	4,582,808	4,480,887	4,668,533
Zinc International	142,825	53,629	186,082	146,548
FACOR	453,310	-	-	-
Vedanta Ltd	59,486,747	58,936,259	57,482,868	54,964,436

## 305-2: GHG Scope 2 Emissions (TCO<sub>2</sub>e)

Business	FY22	FY21	FY20	FY19
Aluminium	2,117,489	519,576	804,257	2,655,128
Copper India & Australia	73,079	65,227	48,314	48,600
Iron Ore Business	593	1,536	762	265
Oil and Gas Business	254,143	142,325	134,987	118,000
Port Business	10,237	8,318	10,601	6,248
Power Business	1	8,128	2,775	777
Steel	143,321	95,963	113,155	-
Zinc India	497,965	307,059	253,756	168,248
Zinc International	235,053	164,686	496,104	508,921
FACOR	10,864	-	-	-
Vedanta Ltd	3,342,745	1,312,818	1,864,711	3,506,187

## 305-3 GHG Scope 3 Emissions (TCO<sub>2</sub>e)

Business	Top 3 scope 3 emission sources FY21 (mt CO <sub>2</sub> e)		
	<1 <sup>st</sup> largest Source >	<2 <sup>nd</sup> largest Source >	<3 <sup>rd</sup> largest Source >
Aluminium	Purchased Goods and services 3,143,716	Fuel & Energy related 1,211,398	Upstream transportation 288,765
Copper India & Australia	Purchased Goods and services 453,535	Upstream Transportation 10,965	Fuel & Energy related 9,860
Iron Ore Business	Processing of sold products 358,453	Use of sold products 233,313	Downstream Transport 43,936
Oil and Gas Business	Use of sold products 24,949,853	Purchased Goods and services 167,556	Processing of sold products 39,421
Port Business	NA	NA	NA
Power Business	Fuel & Energy related 154,863	Upstream Transport 71,682	Employee Commute 1,151
Steel	Fuel & Energy related 151,126	Purchased Goods and services 453	Downstream Transport 33,968
Zinc India	Fuel & Energy related 510,536	Waste generated in operations 420,393	Purchased goods and services 314,837
Zinc International	Processing of sold products 298,417	Fuel & energy related 39,508	Purchased goods and services 33,397
FACOR	NA	NA	NA
Vedanta Ltd	Use of sold products 25,163,167	Purchased goods and services 4,161,727	Fuel and energy related 2,416,367

# Data Annexure

## 305-4: GHG Emissions Intensity (TCO<sub>2</sub>e/ INR Mn)

Business	FY22		
	GHG Emissions (Scope1 + Scope2)	Revenue (Mn INR)	GHG Intensity (TCO <sub>2</sub> e/ INR Mn)
Aluminium	37,636,206	508,810	73.97
Copper India & Australia	101,763	151,510	0.67
Iron Ore Business	2,058,722	63,500	32.42
Oil and Gas Business	2,329,945	124,300	18.74
Port Business	11,832	NA	NA
Power Business	12,456,859	58,260	213.81
Steel	2,572,831	64,740	39.74
Zinc India	4,819,282	286,240	16.84
Zinc International	377,878	44,840	8.43
FACOR	464,173	8,300	55.92
Vedanta Ltd	62,829,491	1,310,500	47.94

Business	FY21		
	GHG Emissions (Scope1 + Scope2)	Revenue (Mn INR)	GHG Intensity (TCO <sub>2</sub> e/ INR Mn)
Aluminium	41,883,765	286,440	146.22
Copper India & Australia	106,511	108,900	0.98
Iron Ore Business	1,690,853	45,280	37.34
Oil and Gas Business	2,113,091	184,750	11.44
Port Business	10,068	NA	NA
Power Business	6,384,333	53,750	118.78
Steel	2,952,274	46,680	63.24
Zinc India	4,889,866	219,320	22.30
Zinc International	218,315	27,290	8.00
FACOR	-	-	-
Vedanta Ltd	1,310,500	972,410	61.96

Business	FY20		
	GHG Emissions (Scope1 + Scope2)	Revenue (Mn INR)	GHG Intensity (TCO <sub>2</sub> e/ INR Mn)
Aluminium	35,469,015	265,770	133.46
Copper India & Australia	83,352	90,530	0.92
Iron Ore Business	1,751,552	34,360	50.98
Oil and Gas Business	1,976,587	126,610	15.61
Port Business	11	NA	NA
Power Business	11,807,195	58,600	201.49
Steel	2,832,450	42,830	66.13
Zinc India	4,734,643	181,590	26.07
Zinc International	682,186	31,280	21.81
FACOR	-	-	-
Vedanta Ltd	59,336,991	831,570	71.36

## 305-7: PM Emissions (MT)

Business	FY22	FY21	FY20	FY19
Aluminium	4,754	2,611	2,908	2,850
Copper India & Australia	-	-	-	19
Iron Ore Business	1,085	478	324	426
Oil and Gas Business	41	-	-	-
Port Business	-	-	-	-
Power Business	4,921	4,846	4,634	4,421
Steel	-	10,653	2,322	-
Zinc India	964	1,105	1,027	1,155
Zinc International	-	-	-	-
FACOR	62	-	-	-
Vedanta Ltd	11,827	19,693	11,215	8,871

## 305-7: SOx Emissions (MT)

Business	FY22	FY21	FY20	FY19
Aluminium	110,679	63,704	70,278	56,031
Copper India & Australia	-	-	-	6
Iron Ore Business	83	95	100	112
Oil and Gas Business	137	-	-	-
Port Business	-	-	-	-
Power Business	142,626	134,165	160,876	155,782
Steel	-	4,156	3,272	-
Zinc India	21,107	17,619	23,069	30,235
Zinc International	-	5	81	70
FACOR	125	-	-	-
Vedanta Ltd	274,790	219,745	257,676	242,236

## 305-7: NOx Emissions (MT)

Business	FY22	FY21	FY20	FY19
Aluminium	45,252	25,130	21,714	17,547
Copper India & Australia	-	-	-	2
Iron Ore Business	43	59	73	88
Oil and Gas Business	723	-	-	-
Port Business	-	-	-	-
Power Business	32,337	32,733	32,131	41,000
Steel	-	1,364	1,486	-
Zinc India	6,144	7,020	8,913	8,641
Zinc International	-	-	-	-
FACOR	143	-	-	-
Vedanta Ltd	84,641	66,305	67,317	67,278

>PM, SOx & NOx from Balco are not included in FY21, FY20 and FY19 data

>FACOR data on PM, Nox & SOx has been represented for the period : 1<sup>st</sup> Oct '21 to 31<sup>st</sup> March '22

>For Steel (ESL) business we are deploying robust emissions monitoring (PM, SOx, NOx) procedure and the disclosure will continue from next financial year.

>For VAL-Lanjigarh business we are deploying robust emissions monitoring procedure for NOx and the disclosure will continue from next financial year.



# Data Annexure

## Specific Energy Consumption

Business	BU	GJ/Unit of Production Output			
		FY22	FY21	FY20	FY19
Aluminum	BALCO	52	65	53	52
	Lanjigarh	7	7	7	8
	Jharsuguda	53	53	52	52
Copper Australia	CMT		-	-	-
Copper India	Sterlite Copper	7	7	16	-
	Sterlite IPP#		-	-	-
Iron Ore Business	VAB - Pig Iron	1	1	1	1
Oil and Gas	Cairn India	3	3	3	2
Port Business	VGCB	0	-	0	0
Power Business	MALCO		-	-	-
	TSPL	9	10	7	7
	Jhasuguda IPP	10	10	8	8
	BALCO IPP	11	9	10	10
	ESL	0	1	0	NA
	Zinc India	HZL - Mines	0	0	0
Zinc International	HZL - Smelter	17	15	16	17
	Skorpion		36	25	34
	Lisheen*		-	-	-
	BMM	0	0	0	0
FACOR	Gamsberg	0	0	0	79
	FACOR CCP	13	-	-	-
	FACOR FPL	12	-	-	-

## OG2 Amount invested in Solar energy

Business Unit	INR Mn
Cairn	21.62

## OG2 Amount invested in Solar energy

Business Unit	INR Mn	Wind Energy (KWh)
	FY22	FY21
Cairn	21.62	834

## Volume of flared and vented hydrocarbon

Business Unit	Hydrocarbon flared	Hydrocarbon vented
	Standard cubic meter of gas (SCM)	
	FY22	FY22
Cairn	230217244	723247

## Aim 5

### 306-1: Wastewater Discharge(m3)

Business	FY22	FY21	FY20	FY19
Aluminium	-	120,037	105,304	117,142
Copper India & Australia	3406440	2,581,167	2,994,846	4,073,032
Iron Ore Business	132,090	61,571	3,639,459	168,054
Oil and Gas Business	2,485,423	1,896,530	1,946,503	1,925,225
Port Business	-	-	-	-
Power Business	-	-	-	-
Steel	-	-	-	-
Zinc India	-	-	-	-
Zinc International	-	4,330	119,271	67,227
FACOR	-	NA	NA	NA
Vedanta Ltd	6,023,953	4,663,635	8,805,383	6,350,680

## OG5: Volume and disposal of formation or produced water (FY22)

Business	Total volume of produced water (KL)	Total Water Re-injected (KL)
CAIRN	40,775,600	39,196,551

## % Revenue contribution of sites in water stress area

Business	FY22		
	Total Sites Accessed for water risk	Sites accessed with high risk	% Revenue contribution to the group
Oil and Gas	7	7	9.47%
Aluminum	3	1	4.14%
Iron and Steel	9	3	2.00%
Power TSPL	1	1	4.44%
Sterlite Copper	4	1	0.00%
Zinc	9	9	21.82%

## Aim 6

### Number and status of tailings dams

Business	FY22		
	No. of active tailings dam	No. of inactive tailings dam	No. of closed tailings dam
Aluminium	10	6	0
Copper India & Australia	0	1	0
Iron Ore Business	0	0	0
Oil and Gas Business	0	0	0
Port Business	0	0	0
Power Business	1	0	0
Steel	0	0	0
Zinc India	3	1	0
Zinc International	3	0	1
FACOR	0	0	0
Vedanta Ltd	17	8	1

# Data Annexure

## 304-1: Areas located adjacent to areas of high biodiversity value

	FY22
Total sites accessed	52
Total area (Ha)	53,806

### Sites adjacent to areas of high biodiversity value

Business Unit	Site	Location	Area of Biodiversity Value	Area (Ha)
Aluminium	Vedanta Lanjigarh	Lanjigarh, India	Niyamgiri, Khambesi	833
ESL Steel Limited	Bokaro Plant	Near Bokaro, Chattisgarh	Notified forest adjacent to the plant	540
Zinc International	Skorpion Zinc	Rosh Pinah, Namibia	Sperrgebiet National Park	1,705
	Black Mountain Mines	Aggeneys, South Africa	Succulent Karoo Biodiversity Hotspot	23,997
	BMM - Gamsberg	Gamsberg, South Africa	Succulent Karoo Biodiversity Hotspot	15,205
<b>Total Area (Ha)</b>				<b>42,281</b>

## 304-1: Areas located adjacent to areas of high biodiversity value

Business Unit	Site	Location	Area of Biodiversity Value
Aluminium	Vedanta Lanjigarh	Lanjigarh, India	Niyamgiri, Khambesi
Zinc International	Skorpion Zinc	Rosh Pinah, Namibia	Sperrgebiet National Park
	Black Mountain Mines	Gamsberg, South Africa	Succulent Karoo Biodiversity Hotspot

## 304-4: IUCN red list species and national conservation list species

IUCN CLASSIFICATION	AFRICA	ASIA	AUSTRALIA
Critically Endangered		7	
Endangered	3	17	8
Vulnerable	10	41	7
Near Threatened	4	15	0
Least Concern	55	280	NA

	FY22		
OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal Drilling Waste (Drill mud and Cuttings)		
Business	SOBM Drill Cutting+SOBM (Hazardous Waste)	WBM Drill Cutting+ WBM (Non Haz Waste)	
Cairn	21860 Tonnes	2254 Tonnes	

## OG11: Number of sites that have been decommissioned and sites that are in the process of being decommissioned

Business Unit	Operational Site	Total Land Area (Ha)	Status (Active/Inactive)
Cairn Oil & Gas	MPT & other facilities	208.12	Active
	Mangala fields	85.67	Active
	Bhagyam Fields	74.04	Active
	Aishwarya fields	45.08	Active
	North Satellite fields	17.31	Active
	RGT & other facilities	21.00	Active
	South satellite fields	66.54	Active
	Suvali	33.14	Active
	Ravva	116.40	Active
	Viramgam Terminal	31.33	Active
	Radhanpur Terminal	0.40	Active
	Bhogat Terminal	149.43	Active
	Barmer Gujrat Pipeline (Mangala Development Pipeline)	~670 KM pipeline	Active

## MM3: Total amounts of overburden, rock, tailings

Business	FY22		
	Overburdened (MT)	Tailings (MT)	Waste Rocks (MT)
Aluminium	-	-	-
Copper India & Australia	-	-	7,929
Iron Ore Business	5,281,568	-	-
Oil and Gas Business	-	-	-
Port Business	-	-	-
Power Business	-	-	-
Steel	-	-	-
Zinc India	4,311,850	14,176,279	-
Zinc International	50,566,509	4,490,757	100,921
FACOR	-	-	-
Vedanta Ltd	60,159,927	18,667,036	108,850

## GRI 306: Hazardous Waste Generated, Recycled and disposed in MT

Business	FY22						
	Generation	Recycled/reused	Landfilled	Incinerated with energy recovery	Incinerated w/o energy recovery	Waste disposed	Otherwise disposed
Aluminium	374,216	368,624	8,698	-	301	9,000	-
Copper India & Australia	7,929	7,833	-	-	-	-	-
Iron Ore Business	75	67	-	-	0	0	-
Oil and Gas Business	25,803	20,668	5,041	-	-	5,041	-
Port Business	3	3	-	-	-	-	-
Power Business	40	34	-	-	4	4	-
Steel	253	265	-	-	-	-	-
Zinc India	107,815	58,025	54,783	-	369	55,152	-
Zinc International	107	286	48	-	-	48	-
FACOR	4	3	-	-	1	1	-
Vedanta Ltd	516,245	455,808	68,571	-	675	69,246	-

Business	FY21						
	Generation	Recycled/reused	Landfilled	Incinerated with energy recovery	Incinerated w/o energy recovery	Waste disposed	Otherwise disposed
Aluminium	363,372	326,539	6,803	-	274	7,077	-
Copper India & Australia	1,136	1,071	0	-	-	0	-
Iron Ore Business	50	51	-	-	-	-	-
Oil and Gas Business	1,382	94	-	-	566	2,523	1,957
Port Business	-	-	-	-	-	-	-*
Power Business	36	28	-	-	6	6	-
Steel	180	132	-	-	-	-	-
Zinc India	89,000	55,000	38,010	-	171	38,182	-
Zinc International	77	19	60	-	-	60	-
FACOR	-	-	-	-	-	-	-
Vedanta Ltd	455,233	382,934	44,873	-	1,017	47,847	1,957



# Data Annexure

Business	FY20						
	Generation	Recycled/reused	Landfilled	Incinerated with energy recovery	Incinerated w/o energy recovery	Waste disposed	Otherwise disposed
Aluminium	337,546	360,875.99	8,186	-	203	8,389	-
Copper India & Australia	658	624	11	-	-	11	-
Iron Ore Business	52	39	-	-	-	-	-
Oil and Gas Business	27,906	350	-	-	1,352	27,485	26,133
Port Business	3	3	-	-	-	-	-
Power Business	70	83	-	-	-	-	-
Steel	335	267	-	-	-	-	-
Zinc India	80,000	44,000	32,051	-	52	32,102	-
Zinc International	-	-	-	-	-	-	-
FACOR	-	-	-	-	-	-	-
Vedanta Ltd	446,570	406,242	40,247	-	1,607	67,987	26,133

Business	FY19						
	Generation	Recycled/reused	Landfilled	Incinerated with energy recovery	Incinerated w/o energy recovery	Waste disposed	Otherwise disposed
Aluminium	346,047	309,007	16,410	-	90	16,500	-
Copper India & Australia	73	66	7	-	-	7	-
Iron Ore Business	64	64	-	-	-	-	-
Oil and Gas Business	7,676	644	-	-	131	7,560	7,429
Port Business	1	10	-	-	-	-	-
Power Business	99	95	-	-	-	-	-
Steel	367	349	-	-	-	-	-
Zinc India	70,000	44,000	33,841	-	52	33,893	-
Zinc International	-	-	-	-	-	-	-
FACOR	-	-	-	-	-	-	-
Vedanta Ltd	424,326	354,235	50,259	-	273	57,961	7,429

## Environmental Investment and Savings in FY2022

Capital Expenditure on environment	Operating expenses on environment	Savings from water conservation programs	Savings from energy conservation programs	Total Savings
₹ 3,897,952,778	₹ 7,770,551,076	₹ 2,278,338,887	₹ 167,725,280	₹ 2,446,064,168

## Aim 7

### 403-2: Employees

Business	Total Injuries				Injury Rates (Total Recordable Injury FR)				Lost Day Rate				Work-Related Fatalities			
	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19
Vedanta Ltd	37.00	42.00	42.00	51.00	0.96	1.08	0.99	1.22	22.95	11.79	25.39	24.98	0.00	0.00	1.00	2.00

### 403-2: Employees Contract Workers + Third Party

Business	Total Injuries				Injury Rates (Total Recordable Injury FR)				Lost Day Rate				Work-Related Fatalities			
	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19
Vedanta Ltd	279.00	253.00	330.00	191.00	1.49	1.57	1.76	1.18	36.45	146.32	70.93	17.66	12.00	8.00	6.00	7.00

## OG-13: Number of Process Safety incidents

Business	Tire 1				Tire 2				Total			
	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19
Vedanta Ltd	1	2	2	0	2	5	5	3	3	7	7	3

OG-13	Process Safety Incidents				Man hours			
	Incidents per million man hours worked				Mn hours			
Business	FY22	FY21	FY20	FY19	FY22	FY21	FY20	FY19
CAIRN	0.03	0.05	0.04	-	34.34	36.79	49.97	36.62

## Aim 9

Name of organization, candidate or topic	Type of organization <sup>1</sup>	Total amount paid in FY22 INR
Federation of Indian Petroleum Industry (FIPI)	Industry Association	2,38,08,239
Confederation of Indian Industry (CII)	Industry Association	53,72,860
Federation of Indian Mineral Industries (FIMI)	Industry Association	40,84,000

## Human Capital

### Age wise classification of FTE

Gender	Age	Employee Count
Male	< 30 Yrs	3,832
	30 - 50 Yrs	8,393
	> 50 Yrs	2,671
Female	< 30 Yrs	1,009
	30 - 50 Yrs	756
	> 50 Yrs	199
Total	< 30 Yrs	4,841
	30 - 50 Yrs	9,149
	> 50 Yrs	2,870
<b>Total Employees</b>		<b>16,860</b>

### Remuneration ratio of Male to Female

	Executive Level	Management Level	Non-management level
	Male:Female		
Ratio of average Basic Salary	1.09	1.05	1.07
Ratio of average Renumeration	1.16	1.07	1.13

## Employee Training

	FY22		FY21	
	Male	Female	Male	Female
Total Training Hours - Full-time Employees (FTE)	252,468.39	48,383.39	351,610.20	66,632.80
Average Training Hours for FTEs	16.95	24.66	23.23	34.87

## Periodic assessment of all employee

Employee assessment and review	Percentage Coverage
Employee undergoing periodic assessment and review	100%
Employee undergoing multi assessment	10%

## Supply Chain

Type of Supplier	Absolute Number of Suppliers	Share of total procurement spent
Total tier 1 suppliers	7,841	100%
Critical Tier 1 suppliers	749	69%
Critical Non Tier 1 suppliers	1406	

# Independent Assurance Statement

## The Management and Board of Directors

Vedanta Limited  
Core-6, 3<sup>rd</sup> Floor, Scope Complex  
7, Lodhi Road, New Delhi  
Delhi - 110003

## Scope

We have been engaged by Vedanta Limited (hereafter "Vedanta") to perform a 'limited assurance engagement,' as defined by International Standards on Assurance Engagements, hereafter referred to as the engagement, to report on Vedanta's Sustainability Report FY2021-22 (the "Subject Matter") for the period 1st April 2021 to 31st March 2022 (with the exception of Scope 3 GHG emissions which is for 01st April 2020 to 31st March 2021).

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the Report, and accordingly, we do not express a conclusion on this information.

## Criteria applied by Vedanta

In preparing the Sustainability Report FY2021-22, Vedanta applied the Global Reporting Initiative (GRI) Standards, in accordance with Core Criteria. GRI Standards - Core Criteria were specifically designed for Sustainability Report FY2021-22; as a result, the subject matter information may not be suitable for another purpose.

## Vedanta's responsibilities

Vedanta's management is responsible for selecting the Criteria, and for presenting the Sustainability Report FY2021-22 in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records, and making estimates relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

## EY's responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the *International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* ('ISAE 3000'), and the terms of reference for this engagement as agreed with Vedanta on 22<sup>nd</sup> April 2022. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

## Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

## Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Sustainability Report FY2021-22 and related information and applying analytical and other appropriate procedures.

Our procedures included:

- Review of the standard disclosures regarding the company's material sustainability aspects contained in the report;
- Review of consistency of data / information within the report;
- Undertake assurance review physically and remotely including verification of the sample data and information reported at the following sites

S.No.	Entity	Geography
1	HZL Chanderia Smelter	Rajasthan, India
2	HZL Rampura Agucha Mines	Rajasthan, India
3	HZL Sindesar Khurd Mines	Rajasthan, India
4	HZL Pantnagar Refinery	Uttarakhand, India
5	Hindustan Zinc Limited (HZL), Corporate Office	Rajasthan, India
6	Vedanta Limited Lanjigarh refinery	Odisha, India
7	Vedanta Limited Jharsuguda smelter and power plant	Odisha, India
8	BALCO Korba smelters and power plants	Chhattisgarh, India
9	Vedanta Aluminium Business, Corporate	New Delhi, India



# Independent Assurance Statement

10	Cairn MBA Fields	Rajasthan, India
11	Cairn RJ Gas	Rajasthan, India
12	Cairn Ravva	Andhra Pradesh, India
13	Cairn Corporate Office	Haryana, India
14	Vedanta Zinc International Black Mountain Mines (BMM)	South Africa
15	Vedanta Zinc International Gamsbarg, South Africa	South Africa
16	Sesa Iron Ore Business (IOK)	Karnataka, India
17	Sesa Value Added Business (VAB)	Goa, India
18	FACOR, Odisha	Odisha, India
19	Talawandi Sabo Power Limited (TSPL)	Punjab, India
20	ESL Steel Limited (ESL)	Jharkhand, India
21	Vedanta Limited, Corporate Office	New Delhi, India

- Review and execution of an audit trail of claims and data streams, on a selective test basis, to determine the level of accuracy in collection, transcription and aggregation processes followed;
- Conduct interview of select representatives of Company's management to understand the current processes in place for capturing sustainability performance data as per GRI Standards, the Company's sustainability vision and the progress made during the reporting period;
- Review of the Company's plans, policies, and practices, pertaining to their social, environment and sustainable development, to be able to make comments on the completeness of the reporting and degree to which EY believes the report provides a fair and honest representation of the Company's activities.

We also performed such other procedures as we considered necessary in the circumstances.

## Emphasis of matter

The assurance scope excludes:

- Data and information outside the defined reporting period-1<sup>st</sup> April 2021 to 31<sup>st</sup> March 2022, (except Scope 3 GHG emissions which has been assured only for the period 1st April 2020 to 31st March 2021)
- Data and information on economic and financial performance of the Company;
- Data, statements and claims already available in the public domain through Annual Report, or other sources;
- The Company's statements that describe the expression of opinion, belief, inference, aspiration, expectation, aim or future intention;
- The Company's compliance with regulations, acts, guidelines with respect to various regulatory agencies and other legal matters.

## Conclusion

- Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the Sustainability Report FY2021-22 for the period of 1<sup>st</sup> April 2021 to 31<sup>st</sup> March 2022 (with the exception of Scope 3 GHG emissions which is for 01st April 2020 to 31st March 2021), in order for it to be in accordance with the Criteria.

## Restricted use

This report is intended solely for the information and use of Vedanta and is not intended to be and should not be used by anyone other than Vedanta.

For and on behalf of Ernst & Young Associates LLP.



**Chaitanya Kalia**  
Partner  
30 July 2022  
Mumbai, India

# GRI Content Index

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 1: Foundation 2021</b>			
<b>GRI 2: General Disclosures</b>			
GRI 2: General Disclosures 2021		<b>The organisation and its reporting practice</b>	
	2- 1	Organisational Details	
	2- 2	Entities included in the organization's sustainability reporting	
	2- 3	Reporting period, frequency and contact point	
	2- 4	Restatement of information	
	2- 5	External Assurance	
	<b>Activities and Workers</b>		
	2- 6	Activities, value chain and other business relationships	
	2- 7	Employees	
	2- 8	Workers who are not employees	
	<b>Governance</b>		
	2- 9	Governance structure and composition	
	2- 10	Nomination and selection of the highest governance body	
	2- 11	Chair of the highest governance body	
	2-12	Role of the highest governance body in overseeing the management of impacts	
	2-13	Delegation of responsibility for managing impacts	
	2-14	Role of the highest governance body in sustainability reporting	
	2-15	Conflicts of Interest	
	2-16	Communication of critical concerns	
	2-17	Collective knowledge of the highest governance body	
	2-18	Evaluation of the performance of the highest governance body	
	2-19	Remuneration Policies	
	2-20	Process to determine remuneration	
	2-21	Annual total compensation ratio	
	<b>Strategy, policies and practices</b>		
	2-22	Statement on sustainable development strategy	
	2-23	Policy commitments	
	2-24	Embedding policy commitments	
	2-25	Processes to remediate negative impacts	
	2-26	Mechanisms for seeking advice and raising concerns	
	2-27	Compliance with laws and regulations	
	2-28	Membership associations	
	<b>Stakeholder Engagement</b>		
	2-29	Approach to stakeholder engagement	
	2-30	Collective bargaining agreements	

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 3: Material Topics</b>			
GRI 3: Material Topics 2021	3-1	Process to determine material topics	
	3-2	List of Material Topics	
	3-3	Management of material topics	
<b>GRI 201: Economic Performance</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	
	201-3	Defined benefit plan obligations and other retirement plans	
	201-4	Financial assistance received from government	
<b>GRI 202: Market Presence</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 201: Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	
	202-2	Proportion of senior management hired from the local community	
<b>GRI 202: Indirect Economic Impacts</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 202: Indirect Economic Impacts	203-1	Infrastructure investments and services supported	
<b>GRI 205: Anti-corruption</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	
	205-2	Communication and training about anti-corruption policies and procedures	
	205-3	Confirmed incidents of corruption and actions taken	
<b>GRI 205: Anti-competitive Behavior</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 205: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	
<b>GRI 207: Tax</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 207: Tax 2019	207-1	Approach to tax	
	207-2	Tax governance, control, and risk management	
	207-3	Stakeholder engagement and management of concerns related to tax	
<b>GRI 302: Energy</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 302: Energy 2016	302-1	Energy Consumption within the organisation	
	302-2	Energy consumption outside of the organization	
	302-3	Energy Intensity	
	302-4	Reduction of energy Consumption	
<b>GRI 303: Water and Effluents</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	
	303-2	Management of water discharge-related impacts	
	303-3	Water Withdrawal	
	303-5	Water Consumption	



# GRI Content Index

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 304: Biodiversity</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	
	304-3	Habitats protected or restored	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	
<b>GRI 305: Emissions</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 304: Emissions 2016	305-1	Direct (Scope 1) GHG Emissions	
	305-2	Energy indirect (Scope 2) GHG Emissions	
	305-3	Other indirect ( Scope 3) GHG Emissions	
	305-4	GHG Emissions intensity	
	305-5	Reduction of GHG Emissions	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	
<b>GRI 306: Waste</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	
	306-2	Management of significant wasterelated impacts	
	306-3	Waste generated	
	306-4	Waste diverted from disposal/ recycled	
	306-5	Waste directed to disposal	
	MM3	Total amounts of overburden, rock, tailings, and sludge's and their associated risks.	
	OG5	Volume and disposal of formation or produced water.	
	OG6	Volume of flared and vented hydrocarbon	
	OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal.	
	G4- OG4	Benzene, lead and sulphur content in fuels.	
<b>GRI 308: Supplier Environmental Assessment</b>			
GRI 3: Material Topics 2021	3-3	Management of material topic	
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	
<b>GRI 401: Employment</b>			
GRI 3: Material Topics 2021	3-3	Management of material topic	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	
	401-2	Benefits provided to full-time employees that are not provided to temporary or parttime employees	
	401-3	Parental leave	

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 402: Labour/ Management Relations</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 402: Labour/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	
<b>GRI 403: Occupational Health and Safety</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	
	403-2	Hazard identification, risk assessment, and incident investigation	
	403-3	Occupational health services	
	403-5	Worker training on occupational health and safety	
	403-9	Work-related injuries	
<b>GRI 404: Training and Education</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	
	404-2	Programs for upgrading employee skills and transition assistance programs	
	404-3	Percentage of employees receiving regular performance and career development reviews	
<b>GRI 405: Diversity and Equal Opportunity</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	
	405-2	Ratio of basic salary and remuneration of women to men	
<b>GRI 406: Non-discrimination</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	
<b>GRI 407: Freedom of Association and Collective Bargaining</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	
<b>GRI 408: Child Labour</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 408: Child Labour 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	
<b>GRI 409: Forced or Compulsory Labour</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 409: Forced or Compulsory Labour 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	
<b>GRI 410: Security Practices</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 410: Security Practices 2016	410-1	Security personnel trained in human rights policies or procedures	

# GRI Content Index

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 411: Rights of Indigenous People</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 411: Rights of Indigenous People 2016	411-1	Incidents of violations involving rights of indigenous peoples	
	G4-MM5	Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities.	
	G4-OG9	Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place.	
	G4-MM6	Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous Peoples.	
	G4-MM7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes.	
	G4- OG10	Number and description of significant disputes with local communities and indigenous peoples.	
<b>GRI 412: Human Rights Assessment</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 412: Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	
	412-2	Employee training on human rights policies or procedures	
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
<b>GRI 413: Local communities</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 413: Local communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	

GRI Standards	Ref No.	Disclosure	Page No.
<b>GRI 414: Supplier Social Assessment</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	
<b>GRI 415: Public Policy</b>			
GRI 3: Material Topics 2021	3- 3	Management of material topic	
GRI 415: Public Policy 2016	415-1	Political Contributions	
	G4-MM8	Number (and percentage) of company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks.	
	G4-MM9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process.	
	G4-MM10	Number and percentage of operations with the closure plans.	
	G4 - OG11	Numbers of sites that have been decommissioned and sites those are in the process of being decommissioned.	
	G4- OG13	Number of process safety events, by business activity.	