



vedanta

transforming for good

TCFD

Climate Change Report FY2023

Task Force on Climate related Financial Disclosures



About this Report

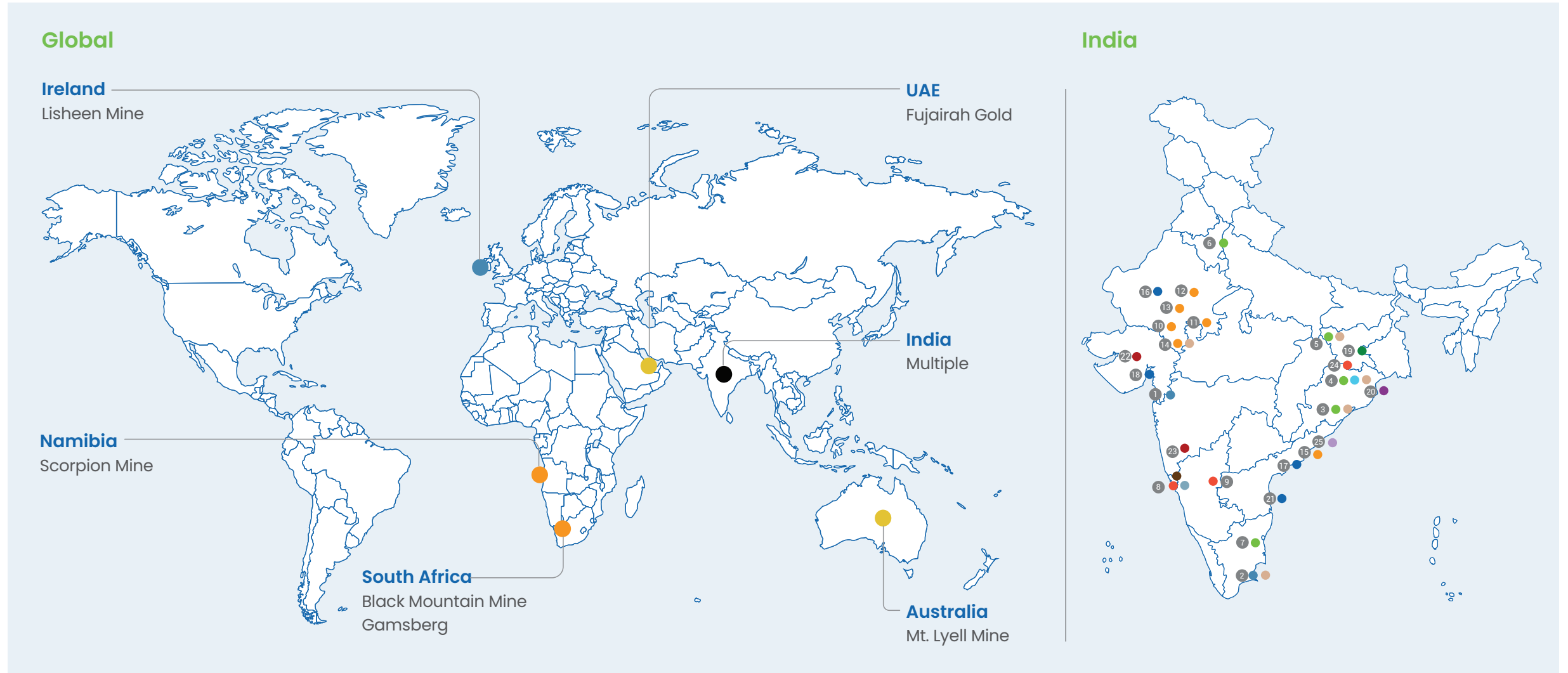
This Report is a special publication designed for a more detailed discussion of our approach to climate change, which align with our broader business strategy of "Transforming for Good." It outlines our story – our successes, our learnings and our plans for future initiatives. This report describes how we have used scenario analysis to evaluate the resilience of our business to both an orderly and a more rapid transition to a 1.5°C world.

It also provides insights into the climate-related performance of Vedanta and its subsidiaries, as determined through a materiality assessment exercise.

At the time of publication, Vedanta has made climate-related financial disclosures consistent with the TCFD recommendations and recommendations disclosures in this TCFD summary against:

- Governance (all recommended disclosures)
- Risk management (all recommended disclosures)
- Strategy (disclosures (a) and (b))
- Metrics and targets (disclosures (a) and (b))

For strategy disclosures (a) and (b), further work is underway to enhance the identification, impact and reporting for climate-related risks and opportunities, and



how these map over the short, medium and long term. This ongoing work will be reflected in future TCFD reports that Vedanta intends to publish.

Materiality Matters

We listen to our stakeholders in several different ways, which we set out in more detail within the Integrated Report and the

Sustainability Report. We use the information they provide us with to identify the issues that impact them the most and consequently also matter to our own business. Board ESG Committee and other relevant governance bodies regularly discuss the new and existing themes and issues that matter to our stakeholders.

The management team considers stakeholder input

alongside established frameworks like GRI, TCFD, UNGC, SASB, as well as applicable laws and regulations, to determine the specific metrics and disclosures that are measured and publicly reported in the TCFD Report.

In terms of materiality, the Sustainability Report FY2023 clarifies that Vedanta defines

it as the threshold at which ESG issues significantly impact the company's business operations, reputation, and stakeholders, necessitating public reporting. Vedanta also considers global stock exchange listing and disclosure requirements. Recognizing the evolving priorities of stakeholders,

Vedanta intends to continuously assess its reporting approach to ensure its relevance over time.

Coverage

The report covers our operations and businesses across India, South Africa, Namibia, UAE, and Australia.

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Acronyms and Abbreviations

BALCO	Bharat Aluminium Company Ltd.	NGOs	Non-Governmental Organizations
CBAM	Carbon Border Adjustment Mechanism	PDA	Power Delivery Agreements
COP	Conference of Parties	RCPs	Representative Concentration Pathways
ESL	ESL Steel Limited	RE	Renewable Energy
GDP	Gross Domestic Product	RTC	Round the Clock
GHG	Greenhouse Gas	SDGs	Sustainable Development Goal
HZL	Hindustan Zinc Limited	TCFD	Task Force on Climate-Related Financial Disclosures
HSE	Health, Safety and Environment	tCO ₂ e	Tonnes of carbon dioxide equivalent TOE Tonnes of Oil equivalent
ICP	Internal Carbon Pricing	UNFCCC	United Nations Framework Convention on Climate Change
INR	Indian Rupee	VAL	Vedanta Aluminium
IOB	Iron Ore Business	VZI	Vedanta Zinc International
IPCC	Intergovernmental Panel on Climate Change		
MMT	Million Metric Tonnes		
NDC	Nationally Determined Contributions		
NGFS	Network for Greening the Financial System		

Our Position on Climate Change

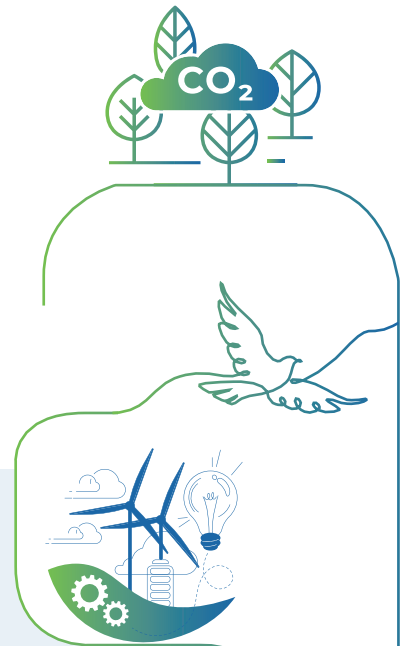


Miners can no longer rely on the yesterday's portfolios and practices to create value in the newly dynamic and fiercely competitive landscape. While miners are expected to increase the production

to meet the rising demand for critical metals & minerals that are required for energy transition, there is an urgent need to accompany this growth with a sharp reduction in carbon emissions.

Vedanta not only understands that there is a need for accelerated decarbonization of its businesses - by driving energy efficiency; by developing and deploying low emissions and negative emissions technologies; but also adapting to the impacts of climate change to make our business more resilient. We are dedicated to operating our

business in a financially, environmentally, and socially accountable manner. Climate change has extensive effects on all these aspects and presents a substantial hazard to human well-being and progress. By taking measures to reduce our environmental impact, we are not only engaging in long-term risk reduction but also fulfilling our corporate obligation.



The 10 commandments of our climate commitment

- 1 **Net Zero Carbon by 2050 or sooner**
- 2 **Use 2.5 GW of Round-The-Clock RE and reduce absolute emissions by 25% by 2030 from 2021 baseline**
- 3 **Aim to spend US\$ 5 Bn over the next 10 years to accelerate transition to Net-Zero**
- 4 **No additional coal-based thermal power and coal-based power only till end of power plants life**
- 5 **Decarbonize 100% of our Light Motor Vehicle (LMV) fleet by 2030 and 75% of our mining fleet by 2035**
- 6 **Accelerate adoption of hydrogen as fuel and seek to diversify into H2 fuel or related businesses**
- 7 **Ensure all our businesses account for their Scope 3 emissions by 2025**
- 8 **Work with our long-term, tier 1 suppliers to submit their GHG reduction strategies by 2025 and align with our commitments by 2023**
- 9 **Disclose our performance in alignment with TCFD requirements**
- 10 **Help communities adapt to the impacts of climate change through our social impact/CSR programs**

Key Highlights



788 MW

of renewable energy (RE) round-the-clock (RTC) Power Delivery Agreements (PDAs) signed till date (31.5% of our 2030 target)



US\$250 million Sustainability Linked Loan (SLL) granted to the Vedanta Aluminium business

2 billion units of RE power consumption

GHG Emissions:

Scope 1
57.17 million tCO₂e

Scope 2
8.18 million tCO₂e

Scope 3
38.19 million tCO₂e



4.02% increase in Scope 1 + Scope 2 GHG emissions vs FY 2022

233 MW RTC equivalent of renewable energy used (FY21: 67 MW)

Biodiesel trials with **30%** blend at Balco, VAL- J



4x increase in use of biomass in our operations (FY23: ~78,000 MT Vs FY22:18,000 MT)

Introduction of an Internal carbon pricing (ICP) across all businesses: **\$15/tCO₂e** (average price)



Introduction of **EV purchase** policy for our employees

CDP Climate Score: B



7 million trees to be planted by 2030 – aligned with World Economic Forum's 1 trillion trees movement

From The Chairman's Desk



As a company, we are uniquely positioned; we process 9 out of the 17 essential metals required for the transition towards a green economy.

Anil Agarwal

Non-Executive Chairman



Vedanta holds significant advantage in driving the global shift towards sustainable and environmentally friendly practices. As a company, we are uniquely positioned; we possess nine out of the 17 essential metals required for the transition towards a green economy. Access to these diverse range of metals allows us to actively participate in driving the transition by supporting the production and supply of renewable energy technologies, energy storage solutions, electric vehicles, and other sustainable infrastructure projects.

This strategic advantage positions our company as a valuable partner in global efforts to combat climate change and achieve sustainability goals. As the demand for these metals continues to grow our diverse portfolio will provide a strong foundation for long-term success. By effectively harnessing and using these metals, we can contribute significantly to the global transition towards a more sustainable future, while also driving innovation and economic growth.

We also recognise the need to align our operations with sustainability principles, including the responsible extraction and processing of metals. As leaders in our field, we are committed to leveraging our position to drive positive change and actively contribute to the global efforts aimed at achieving a net-zero future. We are determined to play a pivotal role in shaping a sustainable and carbon-neutral economy for generations to come by spearheading innovative initiatives, collaborating with stakeholders, and adopting cutting-edge technologies.

Our commitment to transition to a net-zero future goes beyond the rhetoric; it is deeply ingrained in our corporate DNA. As we forge ahead in charting our course towards achieving net-zero emissions by 2050, we draw upon our extensive track record of sustainability, spanning over two decades. Building upon this strong foundation, we have set ambitious goals and made steadfast commitments to expedite our transition to a more sustainable future. In alignment with our net-zero commitments, Vedanta is embarking on an ambitious investment plan that encompasses spending a substantial US\$5 billion over the next decade that underscores our unwavering dedication to driving sustainable practices and reducing our carbon

footprint. We also successfully secured our inaugural Sustainability Linked Loan (SLL) from prominent international banks. This milestone marks a significant step forward in our commitment to sustainable and responsible financial practices. By opting for an SLL, we reinforce our dedication to integrating sustainability into every aspect of our operations.

There is unanimous agreement among us that climate change has far-reaching consequences for our planet and its inhabitants. The need for urgent action to address this global challenge is evident. As part of our commitment to a sustainable future, we recognise the imperative to facilitate an energy transition that will pave the way for a net-zero carbon economy. To successfully achieve this energy transition, we must collectively embrace a holistic approach. While we make significant strides in advancing our investments in renewable energy sources, collaboration between governments, businesses, communities, and individuals is also paramount to such success. By aligning our efforts, sharing knowledge, and leveraging our respective resources, we can accelerate the transition to a net-zero economy and create a sustainable future for generations to come.

In line with our sustainability commitments, we are dedicated to helping our customers reduce their carbon footprint. An embodiment of our commitment to innovation and sustainability is reflected in our products Restora and Restora Ultra. Furthermore, we are delighted in the development we have made with our pilot project on Green Copper, an innovative offering that exemplifies our ongoing pursuit of providing sustainable solutions to our clients to reduce product carbon footprint.

With the release of our third TCFD report, we aim to highlight our climate commitments and showcase our enhanced climate management strategies. This report thus represents a significant milestone from our initial TCFD report in 2020, underscoring our growing understanding of the actions needed to combat climate change.

Over the past year, we have made progress in our climate performance while also identifying areas where further improvements are required. Together, we can harness our collective knowledge, expertise, and resources to drive meaningful change. We recognise that there is still work ahead, and we are fully dedicated to a journey of continuous improvement.

Note from the Group CEO



We are eager to transparently communicate our strategy and roadmap to our stakeholders, outlining our comprehensive approach to achieving our decarbonization targets in the short, medium, and long term.

Sunil Duggal

Group CEO &
Chief Safety Officer



I am delighted to present Vedanta's remarkable journey of value creation as we unveil our FY2023 climate change report, aligning with the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations. We have made substantial strides and achieved significant milestones since the release of our inaugural report in February 2020. We are resolutely committed to becoming a Net Zero carbon company by 2050 or earlier and eager to transparently communicate our strategy and roadmap to our stakeholders. This report outlines our comprehensive approach to achieving our decarbonisation targets in the short, medium, and long term. By sharing our plans, we aim to foster collaboration and engagement, ensuring that all relevant

parties are informed and involved in our journey towards a more sustainable and low-carbon future.

With a shared objective, both the Board and management are committed to leading the organisation in addressing the climate change challenge. This encompasses their comprehension of the changes necessary to transition towards a decarbonised economy and their active participation in driving the required improvements. By producing India's first line of low-carbon aluminium through our Restora and Restora Ultra product-lines proves our commitment to producing metals that can support the energy transition. To further drive the decarbonization of our business,

Vedanta has implemented an Internal Carbon Price (ICP) of US\$15/tCO₂e. This ICP is applied to projects with budgets exceeding INR 50 million, and Business Unit-specific ICPs have also been established to cater to the unique needs of each unit.

In pursuit of our renewable energy target of achieving a capacity of 2.5 GW of round-the-clock renewable energy (RE RTC) by 2030, we have made significant strides by securing power delivery agreements (PDAs) for a total capacity of 788 MW of renewable energy (RE). In total, the Board has approved 838 MW of RE RTC equivalent projects that should start to come online as early as FY2025. Additionally, we have witnessed a four-fold increase in the use of biomass in our operations since FY2023. This strategic shift has resulted in a 0.2% coal switch.

We have also made significant progress towards our goal of reducing greenhouse gas (GHG) intensity of our metals business by 20% by achieving a notable reduction of 3.3% in GHG intensity. We also made positive progress in reducing emissions from Light Motor Vehicle (LMV) and mining fleet through electrification and other measures. We have also successfully

implemented energy efficiency projects at multiple sites.

In addition to our responsibility to reduce carbon footprint, we acknowledge our pivotal role in supporting India's ambition of achieving net zero by 2070. By producing essential metals such as aluminium, zinc, and steel, we contribute to the energy transition. Our aim is to scale up the production of these materials to meet the growing demand and facilitate the transition to a low-carbon economy in our country. We firmly believe that the evolving policy landscape along with incentives for sectors like Renewable Energy, Green Hydrogen, and Green Metals, coupled with our ongoing efforts to digitalise and automate operations, will enable us to meet our energy targets and produce critical minerals.

At Vedanta, we recognise the critical importance of water as a valuable resource, as well as the potential risks posed by climate change-induced physical impacts, such as water stress. To address these challenges, we have undertaken significant initiatives to achieve water positivity. As a result of these efforts, we have achieved a notable 5% reduction in our overall water consumption over the past year.

Furthermore, we are actively focused on embracing the principles of a circular economy, with nearly 164% of our high-volume-low toxicity waste being effectively reused in FY2023.

In addition to our commitment to sustainable water management, we provide support to the communities surrounding our operations to help them address the effects of climate change. Our existing Corporate Social Responsibility (CSR) programmes encompass key climate adaptation strategies that are essential for the well-being of the communities in our Business Unit Locations.

Vedanta is committed to effectively managing climate risks and to capitalise on opportunities by adapting the latest advancements in climate science and conducting a comprehensive scenario analysis.

Our progress report aims to provide a transparent account of our journey towards achieving net-zero emissions by 2050. It highlights the concrete steps we are taking to implement initiatives that facilitate a climate transition.

As you go over the updates provided, I look forward to your feedback and suggestions on how we can accelerate this transition.

Vedanta at a glance

Vedanta Limited produces metals and energy that are central to the modern life. As one of the world’s leading natural resources conglomerates, Vedanta serves domestic and international demand for primary materials.



In FY2023, we produced

- Pig Iron
696 KT

- Aluminum
2.29 million tonnes

- Zinc
821 KT

- Lead
211 KT

- Crude oil
143 kboepd

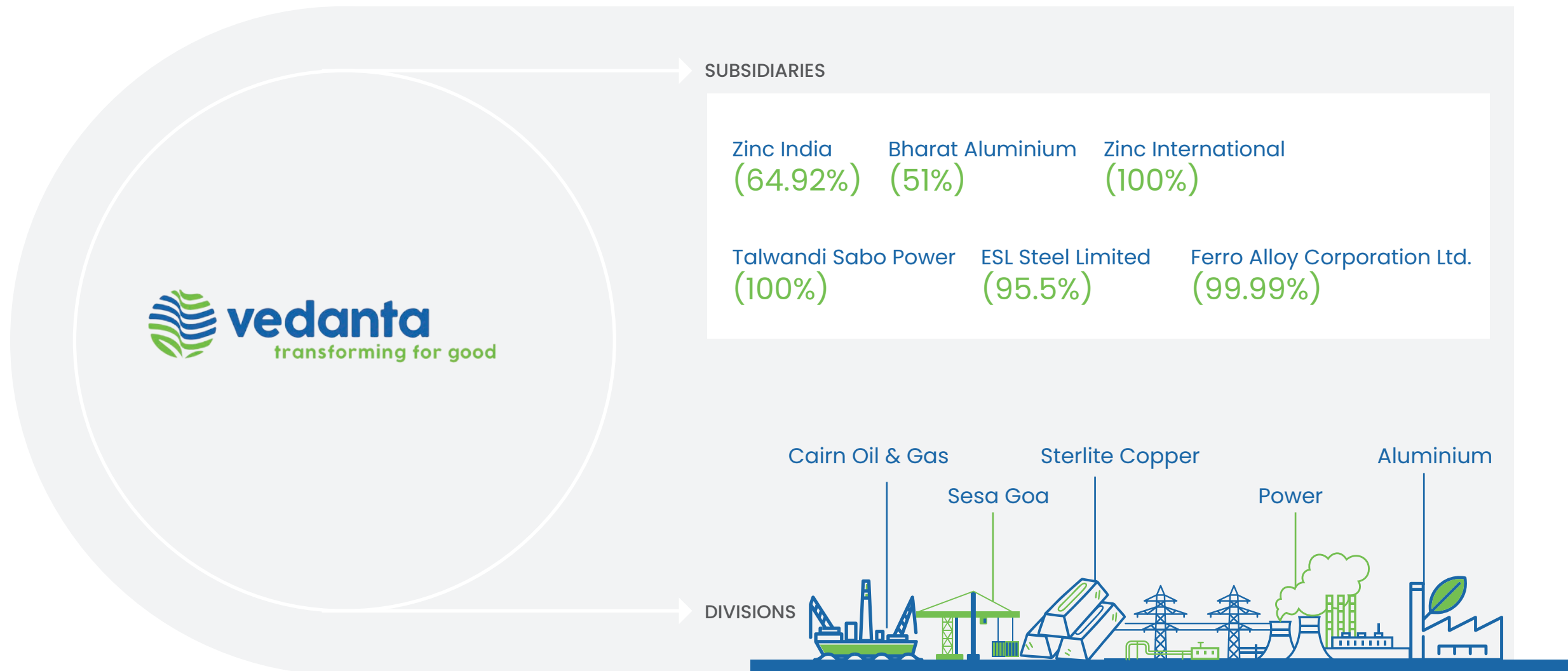
- Power
14,835 million units

- Iron ore
5.3 million tonnes

- Steel
1285 KT

- Chrome Ore
290 KT

- Copper(cathode)
148 KT



Governance



Board Roles & Responsibility

Climate change is considered a crucial governance issue at the board level, and it is regularly discussed in various contexts such as strategy discussions, business performance, investment decisions,

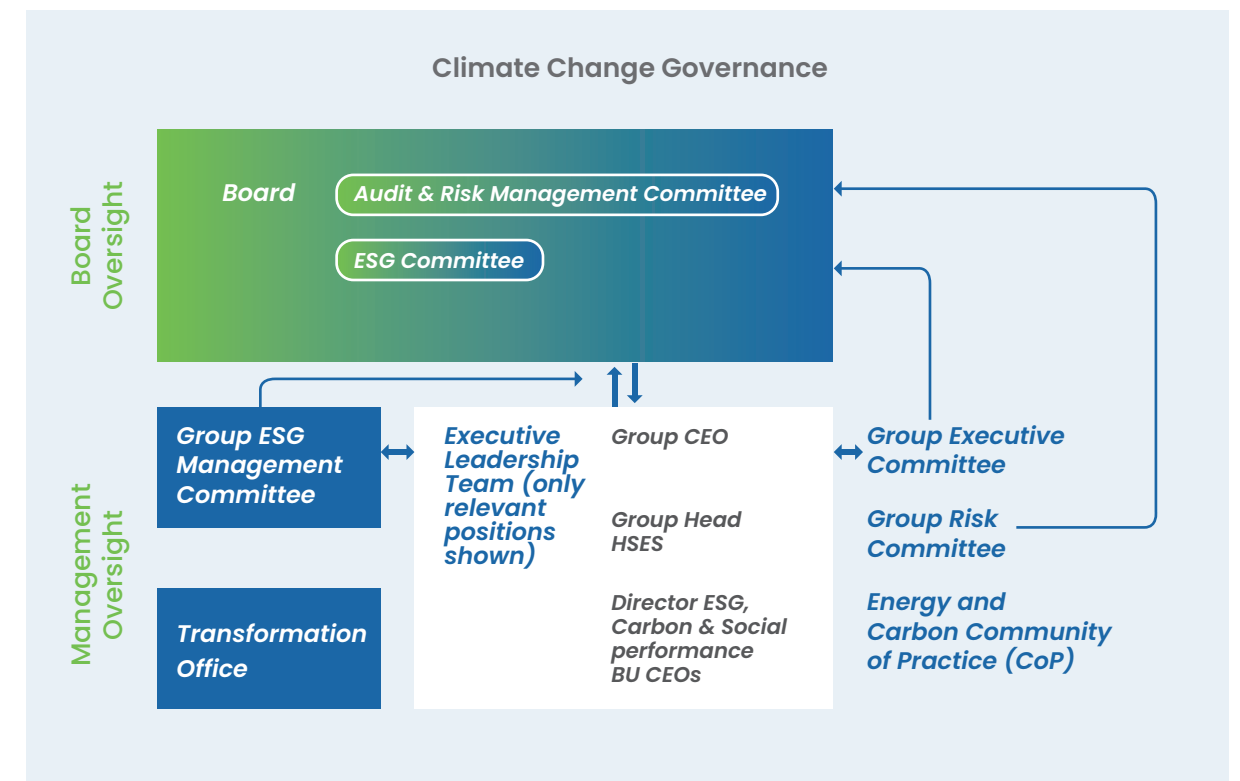
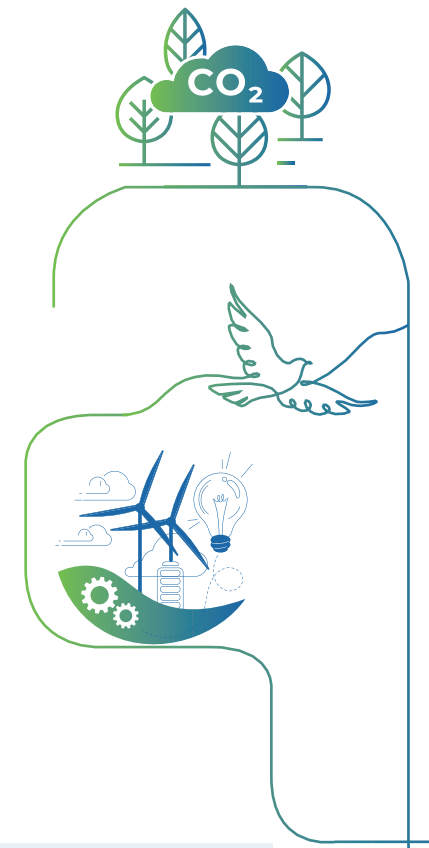
and the assessment of scenario triggers and signposts. The board members bring diverse expertise from sectors including resources, energy, finance, government, and public policy.



This breadth of experience enables them to assess the potential impacts of climate change on Vedanta and its operational capabilities, understand the evolving nature of the climate change debate, and comprehend the international policy responses as they unfold. The board possesses the necessary skills and collective knowledge to guide the optimal allocation of financial capital with a focus on creating long-term stakeholder value. They also recognize the importance of meeting stakeholders' expectations, including those related to environmental concerns. Furthermore, the

board demonstrates a deep understanding of systemic risks and the potential impacts on Vedanta's assets. To ensure informed decision-making, the board takes several measures to incorporate climate change science and expert advice.

At Vedanta, we have implemented a comprehensive governance framework to effectively integrate climate change considerations into our business operations and strategic planning. The Board assumes responsibility for overseeing all sustainability matters, which includes the climate change agenda.



Board & Executive Roles & Responsibilities

Vedanta Board

- Oversees the overall aspects of strategy, people, culture, ESG, and communities with ultimate responsibility of prioritizing the performance and governance of the business
- Ensures the group maintains the overall risk management framework, including climate related risks & opportunities
- Rigorous oversight on the the climate-related risk management process and reviews the climate-related corporate goals, incentives, targets, and key performance indicators (KPIs)

Board ESG Committee

- Consists of the Group CEO and two independent Directors, Meets twice a year
- Provides strategic guidance on climate-related matters, develop climate-related policies and management systems and reports to the full Board
- Advises the Board on changes in regulatory requirements related to climate, and sustainability topics in Indian and international geographies
- Provides oversight on the efficacy of short-medium-long-term targets from climate and other ESG topics
- Reviews and recommends improvements to established governance structures regarding carbon management
- Review the progress on the company's Net Zero and other ESG goals. Suggest changes and improvements where required
- Ensures effective implementation of governance, advocacy and public relation mechanisms and practices related to ESG & Climate Change
- Outlines initiatives required to institutionalize a sustainability and climate change culture through involvement of the employees at all levels
- Reviews the information presented in the ESG report and TCFD Report
- Evaluates emerging sustainability and climate risks and opportunities in terms of intensity and impact and guiding the management on reasonable avoidance of adversities likely to pose a threat to a sustained growth

Chief Executive Officer

- Responsible for implementation of ESG Strategy, including people, culture, climate change risks & opportunities

Group Executive Committee (ExCo)

- Pulls together the geographical business scopes led by our business CEOs and functional leadership at the Executive Board level
- Discuss the key KPIs that include GHG emissions, metals intensity, RE in operations, new product launches and R&D initiatives with the board. Along with the ESG Management Committee (Man-Com) advises the Board ESG committee
- Meets every month and reports progress to the full Executive Board monthly

ESG Management Committee (ESG ManCom)

- Provides governance, strategic leadership and execution support
- Drives implementation of Vedanta's sustainability strategy, including implementation of our 2050 net zero roadmap, ensuring focus and alignment on execution
- Chaired by the Chief Operating Officer (CEO) and the Non-executive, Non-independent Director. Membership includes: Director - ESG, Carbon, and Social Performance, Group Head - HSES, Group CHRO, Group Head - Communications, CEO - HZL, CFO - Aluminium Business, CoP Head - Supply Chain
- Meets fortnightly

Energy and Carbon Community of Practice

- Overall Operational responsibility for implementation of carbon and climate strategy including energy efficiency initiatives
- Responsible for developing, overseeing, and providing suggestions to ESG ManCom & Group ExCo on the implementation of Vedanta's carbon mitigation approach
- Chaired by Director - ESG, Carbon, and Social Performance. Membership includes: BU COOs or designated carbon champions
- Meets monthly

BU CEOs

- Responsible for implementation of climate mitigation and resilience measures at the local business level

BU COOs

- Oversee climate related issues, risks, and opportunities at respective business units
- Tasked with interpreting and implementing group-level targets, policies, and standards for their respective businesses
- Ensure implementation of carbon reduction strategies through oversight of operational matters including energy management

Operating Model

Vedanta has established a dedicated climate change team within the corporate ESG function, tasked with providing guidance to the leadership team on our approach to climate change. This team collaborates with Vedanta's functional teams, external partners, and industry stakeholders to develop practical solutions for climate change that aim to

preserve and unlock long-term value for the company. The team is led by Director ESG, Carbon & Social Performance, who regularly provides information and advice to the CEO, ESG Committee and the Executive ESG Committee, regarding climate-related strategy, risks, and performance on climate-related metrics. Some of the responsibilities include:

- Drive the implementation of the carbon agenda across the organisation.
- Liaising with BU teams, monitor implementation of decarbonisation initiatives, track and ensure progress towards emission reduction targets and report progress to the respective management committees.

- Oversee disclosures under Task Force for Climate Related Financial Disclosure (TCFD), CDP and Dow Jones Sustainability Index (DJSI)
- Develop specific plans to manage carbon footprint, recommending the adoption of carbon reduction technologies, aligning with investor

- Work with risk team on key risk indicators to assess performance in relation to Vedanta's tolerance for climate change-related risks.

expectations as well as government views on climate change issues.

3. Board approved EV purchase policy for all our full-time employees.

4. Secured Board approvals for 838 MW of renewable energy (RE) round-the-clock (RTC) power to be deployed across businesses as part of 2.5 GW RE target.

5. Approved Internal Carbon Price (ICP) of \$15/tCO₂e. This is a shadow price that will be deployed for any project that has a budget of INR 50 million or more.

attract and incentivise skilled executives, and foster long-term alignment between senior executives and the interests of our shareholders.

Annual performance bonus of the management is based on a balanced scorecard of financial, operational, sustainability and strategic metrics. The safety and sustainability scorecards under the Vedanta Sustainability Assurance Program form an integral variable pay component, aimed at strengthening the links between executive remuneration and ESG. The aligned ESG measures in the performance scorecard of the CEO will also be cascaded to other senior leaders and the broader workforce, specifically to individual employees who have direct accountability for the achievement of ESG outcomes as part of their roles.

Annual performance rating- ESG, which includes Carbon footprint is a mandatory KPI for senior leaders.

Annual bonus pay-out- For FY2023, the ESG component (including climate change) weighting that applies to the CEO, and all employees including the members of the Executive leadership, is 15%, of which 5% is attributed to Safety and 10% to performance on sustainability (linked to VSAP score). A part of the bonus pay-out is linked to

performance against sustainability targets, including climate KPIs.

Long-term Incentive Pay out (LTIP)- Sustainability parameters including climate change metrics are integrated into long-term incentive schemes. Vedanta's Employee stock options are linked to sustained business and individual performance against the pre-determined criterion. The ESOSs vest after a performance period of three years and are linked to performance against key sustainability goals. E.g., 20% reduction in GHG emissions.

Investor engagement

As part of Vedanta's dedication to excellent governance, the Board demonstrates its commitment to engaging and communicating with shareholders on climate change matters. Vedanta employs a variety of formal and informal communication channels to grasp and consider the perspectives of shareholders. Climate change-related feedback and commentary are becoming more prevalent in all of Vedanta's regular interactions with investors, including during results presentations by the Group CEO, as well as the Chair's meetings with investors. A summary of this feedback, along with input received through other investor engagements such as

Annual General Meetings, is provided to the Board.

Public Advocacy on Climate Change matters

Climate change presents a global challenge that necessitates collaboration, and the industry has a significant role to play in supporting policy development. We actively engage with industry bodies and other stakeholders to contribute to the establishment of an effective, long-term policy framework that can facilitate the transition to a low-carbon economy.

Furthermore, we conduct formal and informal engagements with industry associations, particularly concerning stance on sustainability matters including climate change. As a signatory to the CII's Climate Charter, we join forces with companies, governments to support the Paris Agreement. We believe that an effective policy framework should incorporate a range of

complementary measures, including support for low-emission technologies, and resilience-building measures.

Through the industry associations, we communicate our respective position on sustainability matters to the government, which then help shape the policy landscape of the country.

We have been prioritising our support to matters that require urgent action such as supporting climate action and long-term policy frameworks aligned with the goals of the Paris Agreement while providing business stability. We intend to work with others to enhance global policy and market responses and support the development of market mechanisms that reduce global greenhouse gas (GHG) emissions. We already work quite closely with some of the climate change influencers such as CDP, TCFD etc. in various capacities.

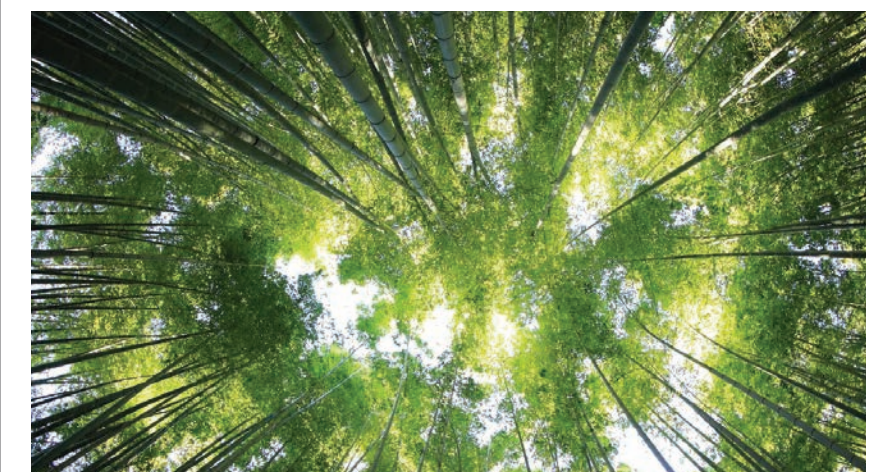
Board resolutions/ discussions during FY2023

1. Undertook a deep dive relating to climate change and strategy, including new climate change scenarios. Discussions included relative commodity attractiveness of green products.
2. Held discussions on a range of other climate-related topics including the role of industry associations in climate change advocacy; stakeholder attitudes in relation to climate change; direction and momentum of the evolution of these

Incentives for the Management of Climate-related Issues

The Executive Compensation Philosophy is well established and

benchmarked across relevant industry comparators. Vedanta's remuneration arrangements serve several objectives: to facilitate the implementation of the company's strategy,



Risk Management & Strategy



Risk management accountability and oversight is a fundamental part of Vedanta's governance and hence, is inextricably linked to Governance framework.. With efficiency at the core of its design, it hinges on simplicity, consistency, and clarity on managing and reporting risks (including climate change related issues) to the Board.

We conduct rigorous risk identification and assessments, monitoring, and reporting. The framework covers all facets of risks related to operations, financial, strategic, reputational Through this framework, we acknowledge climate change as a risk that requires mitigation on a priority basis.



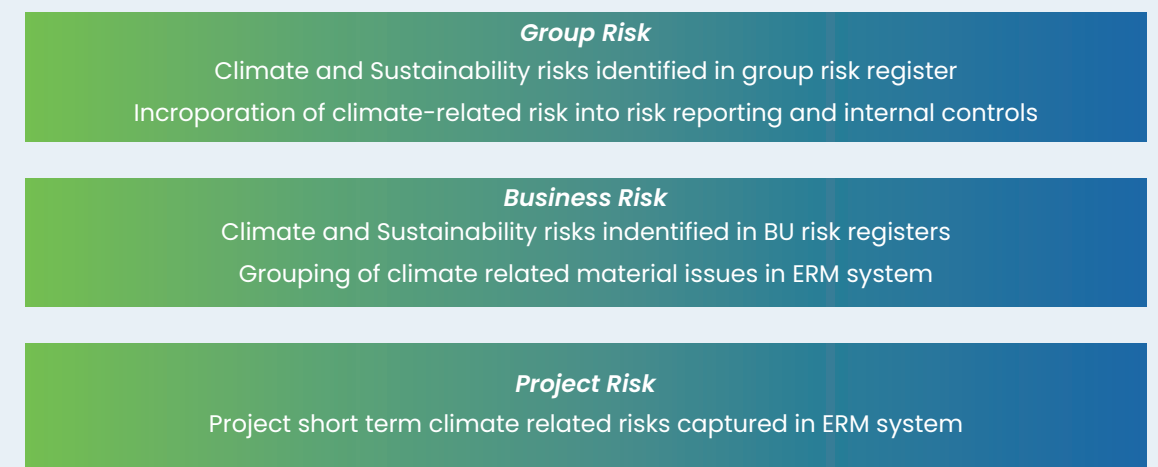
Board ESG Committee is the flagship body that is empowered to undertake management of climate related and ESG risks. The ESG Committee works alongside the Audit Committee, to address material ESG risks, and implementing the mitigation actions. Identified risks are addressed in due time, through the help of relevant controls, which are also reviewed at regular intervals. The Risk Management process follows a bottom-up approach, with decentralized internal controls, accounting for risk capture at a granular level for both-physical as well as transition risk. Under this approach, Risk officers are nominated at an operating business as well as at a group level. Director ESG, carbon &

social performance updates Exco/Mancom on management of climate related work management. The Energy & Carbon CoP members work alongside BU-level Energy & Carbon working groups to build and implement response measures on the risks and opportunities identified.

At the group level, Risk officers are tasked with aggregation of risk registers and accordingly, Group's material risks are identified based on three factors: frequency, potential magnitude, and impact of the risks in question. The resulting final Group risk register includes climate change risks which in turn includes both, physical risks as well as transition risks and opportunities .



The Audit & Risk Management Committee is, in turn, helped by the Group Risk Management Committee (GRMC), which helps overseeing the entire risk mitigation programme and control systems. The Group Risk Management Committee meets at least four times annually to discuss risks and mitigation measures. This additional layer of support helps in ensuring the robustness of our framework at the level of individual businesses and maps Integration of Climate-related Financial Risk into Enterprise Risk Management



Process for identifying and assessing climate-related risks

We deployed analytical tools that employ a bottom-up approach to generate climate change forecast ranges, explore divergent hypotheses, and consider various scenarios. These tools helped us assess the potential impact of policy changes, regulations, technological advancements, market dynamics, and societal shifts on our business. Furthermore, we continuously monitor a wide range of data sources to stay informed about climate-related developments. This enables us to identify significant changes that may require us to re-evaluate our business strategy and take appropriate action.



Vedanta developed planning cases to guide our strategic decisions and determine the appropriate timing for implementation, forming a solid foundation for our annual corporate planning process. These

cases encompass plausible forecast ranges for specific commodities, including moderate and high scenarios. They are meticulously crafted through detailed bottom-up analysis.

Assessing the Physical Risks

Vedanta evaluated both acute and chronic risks that are likely to impact all its business locations as a part of its physical risk assessment. To understand how our businesses will face risk under the RCP 4.5 and RCP 8.5 scenarios, we evaluated historical trends and generated future projections of five climate hazard including change in temperature, change in precipitation, floods, droughts, and cyclones .

Physical Risk

Moderate Climate Change Scenario (RCP 4.5): Strong mitigation actions to reduce emissions to half of current levels by 2080. This scenario is more likely than not to result in warming more than 2 degrees Celsius by 2100

High Risk Climate Change Scenario (RCP 8.5): Continuation of business as usual with emissions at current rates. This scenario is expected to result in warming more than 4 degrees Celsius by 2100.

Transition Risk

To understand the potential outcomes for each commodity, we begin by developing long-term perspectives on common assumptions that impact all our markets, such as population growth, carbon pricing, and economic and regional variables like

GDP, and inflation. These assumptions align with an overarching description of the international policy environment. Additionally, we utilize scenario analysis to establish long-term perspectives on key sectors, such as Metals & Mining and Energy.

Current Policies Scenario (CPS): Under this scenario pathway existing climate policies remain in place, but there is no strengthening of ambition level of these policies. Emissions continue to rise, and the global temperature exceeds the 1.5°C limit by a margin.

Below 2°C scenario keeps the 67th-percentile of warming below 2°C throughout the 21st century.

Nationally determined contributions (NDCs) Scenario: This scenario foresees that India's currently pledged unconditional NDCs is implemented fully, and respective targets on energy and emissions in 2025 and 2030 are reached.

Net Zero 2050 scenario: This scenario foresees global CO2 emissions to be at net-zero in 2050. It is the case that in 2050, net negative emissions in some countries offset the positive emissions in other countries.

Below 2°C scenario (B2DS): This scenario explicitly imposes temperature targets. The

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



A normalisation was conducted to build a risk index that ranged between 1 (low risk) and 100 (high risk)¹. The risks are aligned with timeline² of its occurrence.

At Vedanta, we understand that assessment of climate risk is an evolving science, and we will need to periodically update both physical and transition risks. This will help us align our strategy with the most accurate projections and build a responsive resilience framework for tackling the impact of climate change.

Physical Risks under RCP 4.5 and RCP 8.5

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
Bharat Aluminium Company Limited	Short	■	Drought	■	Drought	<p>Operations: Water shortages will impact CPPs and IPPs in the plant causing disruption of operations in the short and medium term. In the long run, rise in temperature can cause damage to BU infrastructure.</p> <p>Community: Water stress could cause increased conflict with the local community. In the long run, difficulty for staff to work in open spaces due to heat. Heat waves are the leading causes of weather-related morbidity and mortality and will directly impact the health of the staff/ community in the vicinity.</p> <p>Health and Safety: Poor water supplies at BU in the longer term will affect worker health, as they may not have access to sanitation services. High temperatures in the long run could result in harsh working conditions on site could affect the productivity of the employees working at site.</p> <p>Financial Planning: Increased cost of production due to external procurement of water or implementing large-scale solutions for water recycling, water storage and HVAC related requirements.</p>
	Medium	■	Drought	■	Drought	
	Long	■	High temperatures	■	High temperatures	

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
Cairn	Short	■	Drought	■	Drought	<p>Operations: Water shortages will impact local communities and increase their dependence on Cairn to supply potable water.</p> <p>Community: Water stress could cause increased conflict with the local community. In the long run, difficulty for staff to work in open spaces due to heat. Heat waves are the leading causes of weather-related morbidity and mortality and will directly impact the health of the staff/ community in the vicinity.</p> <p>Health and Safety: Poor water supplies at BU in the longer term will affect worker health, as they may not have access to sanitation services.</p>
	Medium	■	Drought	■	Drought	
	Long	■	High temperatures	■	High temperatures	
ESL Steel Limited	Short	■	Drought	■	Drought	<p>Operations: Water shortages will cause disruption of operations in the short and medium term. In the long run, floods due to large rainfall in short duration can lead to disconnection or disruption of internet and/or phone services, electricity leading to disruption in operations/ schedules, disruption of product transport and supply due to roads being impassable.</p> <p>Health and Safety: Poor water supplies at BU in the longer term will affect worker health, as they may not have access to sanitation services. In the long run, outbreak of diseases at the BU post-flooding due to water stagnation or through pollution of existing waterbodies.</p>
	Medium	■	Drought	■	Drought	
	Long	■	flood	■	Floods	

¹ Risk Score < 20- 'Very Low', 20-39.99- 'Low', 40-59.99-'Medium', 60-79.99-'High', > 80-'Very High'

² Short-term horizon (1 - 3 years) Medium Term (3 - 10 years), Long-term horizon (10 - 25 years)

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
						Financial Planning: Impact on furnaces, and other plant machinery leading operational dysfunction.
Hindustan Zinc Limited	Short	■	Drought	■	Drought	<p>Operations: Water shortages can impact mine cooling and ventilation. This could impact worker health as well as production.</p> <p>Community: Water stress could cause increased conflict with the local community. In the long run, difficulty for staff to work in open spaces due to heat. Heat waves are the leading causes of weather-related morbidity and mortality and will directly impact the health of the staff/ community in the vicinity.</p> <p>Health and Safety: Poor water supplies at BU in the longer term will affect worker health, as they may not have access to sanitation services.</p> <p>Financial Planning: Increased cost of production due to external procurement of water or large-scale solutions for water recycling; increased costs to improve asset integrity and creation of large scale infra for protecting workers against heat waves.</p>
	Medium	■	Drought	■	Drought	
	Long	■	High temperatures	■	High temperatures	
Iron Ore	Short	■	Floods	■	Floods	<p>Health and Safety: Flooding can inundate the mining area and can represent a risk to workplace safety; Outbreak of diseases at the BU post-flooding due to water stagnation or through pollution of existing waterbodies.</p> <p>Operations: Increased inundation of storage rooms, power back up facilities if adequate measures are not taken, could cause absenteeism for employees and disruption of work in cases of heavy rainfall and</p>
	Medium	■	Floods	■	Floods	
	Long	■	Drought	■	High temperatures	

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
						<p>waterlogging. In the long run, rise in temperature can cause damage to BU infrastructure</p> <p>Financial Planning: Temporary closure of mines due to water logging and additional resources to be deployed for dealing with large scale flooding and for creation of heat resistant infrastructure for working people could required significant resources.</p>
TSPL	Short	■	Drought	■	Drought	<p>Health and Safety: Difficulty for staff to work in open spaces due to heat, Heat waves are the leading causes of weather-related morbidity and mortality and will directly impact the health of the staff/ community in the vicinity.</p> <p>Community: In the long run, water stress could cause increased conflict with the local community particularly in the water intensive peak paddy season wherein water requirement is large</p> <p>Operations: Rise in temperature can cause damage to BU infrastructure through expansion of metal joints, substructure damage, asphalt deterioration, increased O&M costs including painting, cracks etc., water unavailability will make it vulnerable to power disruptions from drought</p> <p>Financial Planning: Increased cost of production due to external procurement of water or large-scale solutions for water recycling.</p>
	Medium	■	Drought	■	Drought	
	Long	■	High temperatures	■	High temperatures	
Vedanta Aluminium	Short	■	Drought	■	Drought	<p>Operations: Infrastructure failures due to cyclone/wind such as complete collapse of galvalume roofing system, roof steel trusses, breakage of windowpanes at the BU.</p>

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
	Medium	■	Drought	■	Drought	<p>Water shortages can impact CPPs and IPPs causing disruption of operations and reduced utilization. In the long-term, cyclones could impact road, railway lines, sewage systems, power transmission lines.</p> <p>Disconnection or disruption of internet and/or phone services, electricity leading to disruption in operations.</p> <p>Community: Water stress could cause increased conflict with the local community.</p> <p>Financial Planning: Increased cost of production due to external procurement of water or large-scale solutions for water recycling. Additional resources will have to be deployed in the long term to deal with high intensity cyclones.</p>
	Long	■	cyclones	■	cyclones	
Sterlite Copper*	Short	■	Drought	■	Drought	<p>Health and Safety: Water scarcity can affect workers health, as well as local community. Can cause HSE issues.</p>
	Medium	■	Drought	■	Drought	<p>Financial Planning: The most crucial factors that the rainfall change expected to affect are structural damage which leads to extra operation and maintenance costs; Increased cost of production, if external procurement of water or large-scale solutions for water recycling are required.</p>
	Long	■	Floods	■	High temperatures	<p>Community: Water stress could cause increased conflict with the local community in short to medium term.</p> <p>Operations: High rainfall and high temperatures are key risks in the long-term scenarios. Flooding as a result of high rainfall can inundate the operational area and can represent a risk to workplace safety; outbreak</p>

Business Units	Time Horizon	RCP 4.5	Risk Description	RCP 8.5	Risk Description	Impacts
						of diseases at the BU post-flooding due to water stagnation. Rise in temperature can cause damage to BU infrastructure.
Vedanta Zinc International	Short	■	High temperatures	■	High temperatures	<p>Health and Safety: Difficulty for staff to work in open spaces due to heat, Heat waves are the leading causes of weather-related morbidity and mortality and will directly impact the health of the staff/ community in the vicinity.</p> <p>Operations: Rise in temperature can cause damage to BU infrastructure through expansion of metal joints, substructure damage, asphalt deterioration, increased O&M costs including painting, cracks etc., water unavailability will make it vulnerable to power disruptions from drought.</p> <p>Financial Planning: Increased cost of production due to external procurement of water or large-scale solutions for water recycling.</p>
	Medium	■	High temperatures	■	High temperatures	
	Long	■	High temperatures	■	High temperatures	

■ Low ■ Medium ■ High

* silvassa

Results of Physical Risk Assessment

We have compiled an overview of the potential risks that our businesses could encounter in a high-risk scenario, contrasting them with the risks in a moderate-risk scenario. Specifically, we have examined the impacts of different climate change scenarios, namely RCP 4.5 and RCP 8.5, and the findings are as follows:

In the moderate-risk scenario corresponding to RCP 4.5, we understand that there is a high probability of following:

- Water scarcity at BALCO and Cairn Oil and Gas units
- Flooding at iron ore business (IOB) units over the next decade
- Cyclone risks, at Aluminium in Lanjigarh and Jharsuguda

In the high-risk scenario corresponding to RCP 8.5, we understand that there is a high probability of following:

- Water stress and scarcity at Sterlite Copper (Thoothukudi), TSPL, BALCO (Korba) and Cairn Oil and Gas.
- High temperatures at TSPL and at their units in South Africa



Assessing the Transition Risk

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
Bharat Aluminium Company Limited	Short	■	Cost of switching to cleaner energy sources Higher costs of raw materials	<p>Legal: Introduction of Indian carbon markets may have major effect in the short term for businesses as the company has already ahead of the curve. Regulatory implications may arise from international mechanisms such as CBAM; by increasing in local and national reporting requirements.</p> <p>Market: There is an increased demand for recycled aluminum globally. There is risk of coal prices going high due to various taxes and penalties on the fossil fuels, Loss of market share to competitors with greener products.</p> <p>Technology: Peers have started to move to low carbon energy sources including RE. Costs for shifting to clear energy sources; Loss of market share to competitors with greener processes and technologies,</p> <p>Reputation: No major reputational risk due to low carbon transition for aluminum; Investor pressure on reducing emissions, Consumers of aluminium, such as EV vehicle manufacturers and other end-users avoiding product due to high carbon footprint</p>
	Medium	■	CBAM costs	
	Long	■	Increased demand for greener products	

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
Cairn Oil & Gas	Short	■	Increasing costs of compliance and reputational risks considering climate-related environmental impacts	Legal: There is no indication for a carbon price on Oil & Gas in India in the short term, while there could be a national carbon price/taxation on oil and gas. Bans or moratoria on certain types of new projects such as offshore drilling due high environmental impact is a long-term risk.
	Medium	■	Reduced demand for Oil & Gas; costs of transition to low emission technologies and CCUS;	Market: No short-term impacts on domestic market demand. Risks identified in the long-term include low demand for Oil & Gas and high demand for cleaner and greener fuels. Fall in price of Oil & Gas could also impact revenues.
	Long	■	Reduced demand for Oil & Gas.	Technology: In the medium-long term there is a risk of Oil & Gas being replaced by biofuels, low carbon hydrogen, other RE sources. Costs to transition to lower emission technology, high costs for investing in CCUS and other emission reduction technologies are additional risks. Reputation: No major reputational risk anticipated in short term.
ESL Steel Limited	Short	■	Cost of switching to cleaner energy sources. Higher costs of raw materials	Legal: Government could introduce carbon pricing for steel sector in short to medium term. But Carbon Border Adjustment Mechanism (CBAM) can impose a cost on iron and steel imported into the European Union.

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
	Medium	■	CBAM costs	Market: Domestic market for demand for iron and steel will continue to grow. But there is an increasing demand for carbon-reduced/ neutral steel products to decarbonize their own value chain, in combination with a willingness to pay a price premium. This is also driven by recent discussions on Ecolabel approaches by the European Commission.[1] Technology: Increased costs to adopt/deploy new technology and practices such as green hydrogen introduction. Increased research and development (R&D) expenditures in new and alternative technologies such as EAF or for recycling technologies etc. Reputation: No major reputational risk due to low carbon transition for iron and steel. However, social license to operate the mines may be affected as climate change begins to impact host communities and local environments.
	Long	■	Increased demand for greener products	
TSPL	Short	■	Increased regulatory and compliance costs	Legal: India has no plans to pull out completely from coal and the transition to clean energy will take a couple of decades through “a phase down;” Increased regulations on complying with emerging climate and emission levels. Exposure to litigation including non-compliance with reporting, negative impacts to climate change/ environment. Phasing out of thermal power by 2050
	Medium	■	Phase down of coal; loss of market shares due to customers switching to RE options;	

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
	Long	■	Phase down of coal; loss of market shares due to customers switching to RE options; May no longer be a key electricity option by 2050 due increase in RE technologies	<p>Market: The existing coal tax with more ambitious climate targets could lead to increase in cost impacting overall profitability and financial viability; More RE providers in the grid, with better prices leading to loss of market share.</p> <p>Technology: No major short term technology implications; May no longer be a key electricity option by 2050 due increase in RE technologies</p> <p>Reputation: No short-term reputational risk to TSPL, investment and finance is still available; No investor or government support until paired with CCUS</p>
Vedanta Aluminium	Short	■	Cost of switching to cleaner energy sources Higher costs of raw materials	<p>Legal: There could be carbon price for aluminium, and power in short to medium term due to introduction of Indian Carbon Markets. This needs to be incorporated in the risk profile. Regulatory implications may arise from international mechanisms such as CBAM; No carbon price but increase in local and national reporting requirements.</p>
	Medium	■	CBAM costs	<p>Market: There is an increased demand for recycled aluminum globally. There is risk of coal prices going high and impacting financial viability, Loss of market share to competitors with greener products.</p>
	Long	■	Increased demand for greener products	<p>Technology: Peers have started to move to low carbon energy sources including RE. Costs for shifting to clear energy sources; Loss of market share to competitors with greener processes and technologies</p>

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
				<p>Reputation: No major reputational risk due to low carbon transition for aluminium; Investor pressure on reducing emissions, Consumers of aluminium, such as EV vehicle manufacturers and other end-users avoiding product due to high carbon footprint</p>
Sterlite Copper	Short	■	Cost of switching to cleaner energy sources; Higher costs of raw materials	<p>Legal: There is no indication carbon price on minerals (copper, zinc). Regulatory implications may arise from imposition of potential carbon fees and taxes on copper exports. Draft on Indian Carbon Market has been introduced which could lead to imposition of additional fees in the near term as a part of domestic emissions trading scheme.</p>
	Medium	■	Potential carbon tariffs linked to trade; Higher coal prices	<p>Market: Low carbon transition will increase mineral demand. Loss of market share to competitors producing cleaner products.</p>
	Long	■	Increased demand for greener products	<p>Technology: Costs to adopt/ deploy new practices and processes by changing the current processes such as phasing out Pyro metallurgical processes, copper from recycled electronic scrap etc.; Increased research and development (R&D) expenditures in new and alternative technologies as well shifting of energy sources</p> <p>Reputation: No major reputational risk due to low carbon transition.</p>

Business Units	Time Horizon	Risk Level	Risk Description	Impacts
Vedanta Zinc International	Short	■	Cost of switching to cleaner energy sources; Higher costs of raw materials	Legal: The domestic carbon tax in South Africa, would increase and this would impact overall revenue of the VZI. Regulatory implications may arise from international mechanisms such as CBAM.
	Medium	■	CBAM costs; higher coal prices	Market: Low carbon transition will increase mineral demand. There is risk of green power prices going high and impacting financial viability; Loss of market share to competitors producing cleaner products.
	Long	■	Increased demand for greener products	Technology: Costs to adopt/ deploy new practices and processes by changing the current processes such as phasing out Pyro metallurgical processes, copper from recycled electronic scrap etc.; Increased research and development (R&D) expenditures in new and alternative technologies as well shifting of energy sources Reputation: No major reputational risk due to low carbon transition. However, social license to operate the mines may be affected as climate change begins to impact host communities and local environments; Increased competition for natural resources and tensions between mine operators and local communities

■ Low ■ Medium ■ High

Results of Transition Risk Assessment

Policy and Legal Risks

For our aluminium, iron and steel, and oil and gas businesses, we perceive legal and regulatory risk as significant at the end of the first NDC reporting period, i.e., till 2030. However, depending on the pace of policy and regulatory evolution, this can change post-2030.

The zinc business is exposed to carbon prices in South Africa. Still, the exposure will remain limited, considering the allowances provided by the country, which are expected to persist till 2025. We do not perceive any policy or legal risk to the copper business from the low-carbon transition.

The thermal power business will witness policy and legal risks and could adversely impact the business post-2035.

Market Risks

Most of our businesses remain vital in a low-carbon transition. Aluminium, copper, zinc, iron and steel either witness an increase in their market across all the scenarios or show very little difference in demand. Hence, the risks remain low.

Oil and gas and thermal power businesses in the low carbon scenarios may risk losing business over the long term due to direct and indirect impacts on the demand and the costs.

Technology Risks

Aluminium and copper could face technological risks from increased research and development (R&D) expenditures in new and alternative technologies such as low-carbon or recycled aluminium and copper. Similarly, for iron and steel, from 2030, we may see a shift in the global economy away from relying on coal to produce steel. This shift away from coal would mean technologies in our iron and steel business must be upgraded to stay in line with the global trend.

Oil and gas, and thermal power face high technology risk of being replaced by cleaner and greener technologies over the long term.

However, under the low carbon scenarios, zinc demand would remain steady because of wind and geothermal growth, as it is the mineral predominantly used for protecting wind turbines from corrosion.

Reputational Risks

Broadly, we do foresee emissions and environmental impact of mining, refining and smelting having some effect on operations from local backlash. However, there could be a reputational risks due to local communities if adequate controls over waste, water and other pollutants are not maintained.

However, reputational risks will remain constant for the oil and gas and thermal power business.



Capitalising on climate opportunities for Vedanta

Opportunities	Business Units	Time Horizon to realize opportunity	Strategy to realize opportunity
Green Aluminium	Aluminium	Short	<ul style="list-style-type: none"> • Launch of Restora and Restora Ultra is catering to the sustainability conscious customers in Europe • Going forward, we see demand for green aluminium rising • Reducing risk of CBAM related penalty
Green Copper	Copper	Medium and Long	<ul style="list-style-type: none"> • Will launch green copper in next few quarters • Robust demand, use of renewable energy and increased use of scrap in production will drive this segment going forward
Electric Vehicles	All Business	Medium and Long	<ul style="list-style-type: none"> • Will reduce consumption of diesel • Will improve availability of our mining fleet due to less failure chances in general • Will reduce harmful emissions (fugitive emissions) from vehicle which will reduce air circulation requirement in underground mines
Renewable Power in operations	Aluminium, Zinc, Steel, Copper	Short and medium	<ul style="list-style-type: none"> • Reduced coal usage in operations • Reduced water usage assisting in aim of Net Water Positive (NWP) organization by 2030 • Leading to reduced waste generation and less compliance issues

Aligning our Strategy with the Analysis

We aim to devise and align our strategy based on the impact that climate-related risks and opportunities have on business operations and financial planning. The strategic measures that we have adopted to address the impact on our business can be broadly projected under the categories of products and services, supply chain, investment in R&D and Partnerships, and operations.

Product and Services

At Vedanta, we have identified the opportunities arising from a change in consumer preferences towards low-carbon metals. This identification has directed our efforts towards decarbonizing our product portfolio. In FY 2022, we launched our Green Aluminium Products “Restora” and “Restora Ultra”, with GHG intensity significantly below global standards for low-carbon aluminium. Renewable energy is used in the production of Restora, resulting in its **GHG emission intensity being half the global standard of 4 tCO₂e per tonne of aluminium produced**. Our green aluminium brand Restora Ultra made from aluminium that is reclaimed from dross, a by-product of the production process, has almost no carbon footprint. Approximately **\$150 million was generated in revenue from the sale of low-carbon aluminium in FY2023**.

During FY2023, we have launched a pilot project to produce copper from recycled copper, further reducing our carbon

footprint for this Sterlite Copper has secured 16MW renewable energy contract. **~US\$ 25 million in revenues were generated from the sale of green copper.**

As the economy moves toward a low-carbon future, we expect the climate risks and opportunities to impact the demand for our products. Some products like copper, silver and zinc are projected to increase in demand due to their requirement in electric motors, transmission lines, batteries, and solar panels. As lead-acid batteries become obsolete in electric vehicles, we expect a decrease in demand for our lead product.

Supply Chain

We are currently in the process of evaluating the impact of the identified climate related risk and opportunities on our supply chain. Having a diverse set of operations, we are working towards creating a synergy with our value chain elements on decarbonization. Vedanta has developed a supplier selection criterion that considers compliance with

the Supplier Code of Conduct which includes aspects related to environment, sustainability, and climate change. We expect to develop and implement plans on engaging with our value chain based on these criteria.

In FY 2022 we set the following targets to pave way for our ambitions:

- **FY 2025:** Work with our long-term, tier 1 suppliers to submit their GHG reduction strategies.
- **FY2030:** Align our GHG reduction strategies with our long-term tier 1 suppliers.

Some of our business units are progressing faster than the others on engagements with suppliers and customers on climate change issues and opportunities. Our Aluminium and Zinc businesses have taken a target for scope 3 emissions reduction in addition to scope 1 and 2 targets. 25% emissions reduction for Aluminum by 2030 over FY21 base. For HZL, its 20% reduction by 2027 over 2017 base.

Investment in R&D and Partnerships

At Vedanta, we recognize the significance of meeting current consumer demands for environmentally friendly products, particularly the growing interest in low-carbon aluminum or green aluminum. We understand that staying abreast of these evolving consumer preferences is essential for maintaining our market share. We have taken an aggressive approach to adopting new technologies and improving processes and standards. Among our peers in the aluminium value chain, we have emerged as a leader with one of the finest and best-in-class R&D setups. As explained in the Products and Services section, our low carbon aluminium products “Restora” and “Restora Ultra” were launched in FY 2022.

We are committed to decarbonizing 100% of our LMV fleet by 2030 and 75% of the mining fleet by 2035. We deployed 11 EVs at HZL and 40 EVs at ESL. HZL has also signed an MoU with Sandvik AB to introduce battery-powered loaders and trucks in underground mining. This agreement will assist in reducing carbon emissions and negative impacts of the mine operations on the environment through the introduction of Sandvik’s battery electric TH550B

trucks and LH518B loaders in underground mines.

Operations

Vedanta has deployed a four-lever strategy to decrease our carbon footprint and achieve net-zero emissions. We will (i) increase the proportion of renewable energy, (ii) switch to low-carbon/low-carbon fuels, (iii) improve the energy efficiency of our operations and processes, and (iv) for the hard-to-abate residual emissions, purchase carbon offsets.

Internal Carbon Price

Additionally, an internal carbon pricing has also been developed under which a shadow price for carbon for capital investment decisions has been implemented across our businesses.

One of the major examples of decarbonization of our energy mix is the signing of the Power Distribution Agreement of 788 MW of RE-RTC.

Objectives of Internal Carbon Pricing

- 1 **Navigate GHG regulations**
- 2 **Stakeholder expectations**
- 3 **Change internal behavior**
- 4 **Drive energy efficiency**
- 5 **Drive low-carbon investments**
- 6 **Identify and seize low-carbon opportunities**
- 7 **Stress test investments**
- 8 **Set a carbon offset budget**
- 9 **Reduce supply chain emissions**
- 10 **Supplier Engagement**

Impact of Identified Climate-related Issues on Vedanta’s Strategy and Financial Planning

We utilized the IPCC and NGFS scenarios to estimate financial impacts and prioritize risks for each of our business units that operate in various regions. At Vedanta, we have chosen EBITDA to be a key performance indicator to assess both the substantive financial impact and the management’s performance. We believe that an impact³ equal to 2.5% of EBITDA can significantly alter the economic outcomes or project decisions of our stakeholders.

We consider a variety of climate related issues that could have a potential impact on our strategy and financial planning. The following table summarizes these issues and the impact it can have on our business, finance, and strategy.

Table 1: Key Drivers and their Impact on Vedanta

Climate Attribute	Time Horizon	Business Impact	Financial Impact	Risk Mitigation Actions
<i>Use of lower-emission sources of energy</i>	Short	We have identified that utilising renewable energy and using lower sources of emission through process and technology change provides significant cost reduction opportunities for our businesses.	Reduced indirect (operating) costs	<p>We aim to reduce 25% of absolute GHG emissions by FY2030, against a 2021 baseline.</p> <p>To achieve this target, we have introduced many initiatives that aim to restructure our current energy generation portfolio. For example, we have installed solar power panels on rooftops at different locations in our different business units in India and elsewhere.</p> <p>We have undertaken a comprehensive transition by replacing our existing diesel vehicles with electric vehicles and introducing technologically advanced lithium-ion forklifts on a significant scale.</p>

³ Financial Impact - An impact that is equal to 2.5% of EBITDA to the current financial year; Significant effect on the demand for our products caused by regulation, change of customer preferences, innovation or similar. Significant effects on our stock prices caused by violation of regulation, litigation, local stakeholder conflicts or similar including reputational impact including notorious and prolonged diffusion in international media, very negative stakeholders’ opinion of the company. Significant effect on production plans caused by unexpected troubles such as the risk of sudden shutdown of BUs.

Climate Attribute	Time Horizon	Business Impact	Financial Impact	Risk Mitigation Actions
Emerging Regulation	Medium and Long	We have identified that emerging regulation like "National Carbon Market" and the Carbon Border Adjustment Mechanism (CBAM) is expected to impact our business.	Increased indirect (operating) costs	<p>Vedanta has taken bold commitments to reduce the GHG emissions - including but not limited to - 2.5 GW RE RTC by 2030 and reduction in absolute emissions by 25% from 2021 baseline.</p> <p>To achieve these commitments, we have introduced initiatives that include efficiency improvement in turbines and thermal operations, biomass cofiring in thermal power plants and procuring RE power at all our sites.</p>
Shift in consumer preferences	Medium and long	At Vedanta, we have been observing change in customer preferences towards low-carbon and green products. The demand for products like aluminium is expected to increase due its role in low carbon economy transition.	Increased revenues through access to new and emerging markets	<p>We have observed a change in consumer preferences towards low-carbon metals and we are exploring ways to decarbonize our products.</p> <p>To capitalize on this opportunity, we have purchased ~5 billion units of RE power over the last two years in our Aluminium business. This has been utilized for production of Restora and Restora Ultra (low-carbon aluminium products).</p>
Chronic physical	Long	We have identified changes in water availability, increased frequency and intensity of cyclones and rising temperatures to have an impact on our business.	Increased capital expenditures	<p>We have developed a physical impact map and a climate risk assessment to identify location specific operational risks related to climate change or to further evaluate other operational risks considering climate change impacts.</p> <p>We are developing a sector specific Climate Resilience Strategy for our business units based on scenario analysis.</p>

Climate Attribute	Time Horizon	Business Impact	Financial Impact	Risk Mitigation Actions
Exposure to litigation	Short, Medium, Long	Extreme weather events at our plant sites and environmental damage caused by our operations can expose us to legal obligations for restoration and rehabilitation.	Increased capital expenditures	A detailed evaluation of this risk factor is planned.



Impact on Financial Planning

Developing and aligning our strategy with the conclusions derived from the climate risk assessment will cause an impact on our financial planning. Vedanta identifies spending/revenue that is aligned with our transition to a 1.5° C world.

The following table summarizes the impacts on our capital expenditures and liabilities due to climate related issues identified during our assessments.

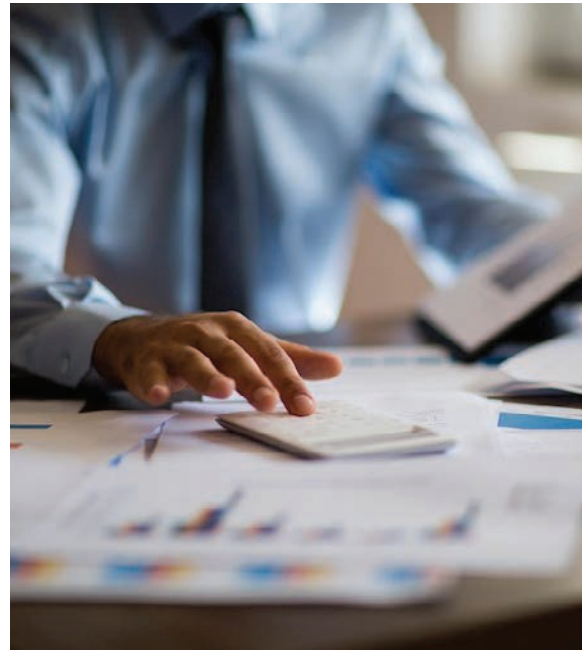


Table 2: Impact on Financial Planning

Financial Element	Impact
Capital expenditures	<ul style="list-style-type: none"> Investments in developing low-carbon solutions, piloting projects that enable reuse/ recycle of waste generated in operations and reclamation of flood-prone areas facing water risk. Capital expenditure required to achieve our GHG emission targets and increasing renewable energy mix in our energy consumption portfolio. Introduction of internal price on carbon into our capital expenditures approval process, with the aim to redirect investments towards clean technologies, lower-carbon solutions, and renewable energy projects across our operations and supply chain.
Liabilities	<ul style="list-style-type: none"> Provision for costs associated with restoration and rehabilitation of mining sites estimated annually based on mine closure plans, estimated discounted costs of dismantling, and removing these facilities and costs of restoration capitalized as and when the obligation to incur such costs arises. Provision for decommissioning oil and gas assets based on the current estimates of the costs for removing and decommissioning production facilities, the forecast timing and currency of settlement of decommissioning liabilities and the appropriate discount rate.

Responding to Risks & Opportunities: Mitigation and Adaptation Strategy

Despite the variation in risks, all of Vedanta's business locations are committed to reducing their carbon footprint and becoming more climate resilient. We are taking a variety of steps to reduce emissions, including investing in renewable energy, improving energy efficiency, developing low carbon products that could meet the emission intensity requirements of the EU and transforming operations to be more sustainable.

Objectives	Steps being undertaken
Short Term (1-3 Years)	
Policy and Governance	<ul style="list-style-type: none"> Draft Climate Resilience response strategy covering identified climate risks. Develop mandatory mitigation assessment guidelines for all new projects, mergers and acquisitions including mandate to increase RE share, mandating use of BAT etc. Integrate decarbonization goals with the annual Business Planning process. Embed climate KPIs into performance appraisal parameters for executives and managers. For example, ESOS eligibility of employees will be linked to their achievements on sustainability parameters. Similarly, the performance of those in the positions of Energy Manager, Environment/Sustainability Manager or those from the Corporate Executive team will be evaluated against climate KPIs. Develop a supplier engagement programme to drive strengthen climate action across the value chain. Engage with community members to build climate resilience programmes/ integrate climate adaptation into existing CSR programmes specific to the identified risks.
Risk Management	<ul style="list-style-type: none"> Adapt existing enterprise-level and other risk management processes to take account of loss and damages incurred/projected from cyclone events or heat waves. Plan to use the same quality assurance and compliance approaches for climate-related information as for finance, management, and governance disclosures. Embed Internal Carbon Pricing into the business decision-making process. Vedanta has set an Internal Shadow Carbon Price of \$15/tCO₂e. This ICP will be continually reviewed on an annual basis, factoring in the decarbonization roadmaps of business units.

Objectives	Steps being undertaken
Targets and Metrics	<ul style="list-style-type: none"> 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. Strengthen Scope 3 accounting and identification of emission hotspots within the value chain. Set up specific, annualized targets for use/deployment of renewable energy. Ensure 5% biomass usage on annual basis across our power plant operations
Medium Term (3–10 years)	
Policy and Governance	<ul style="list-style-type: none"> Identify & pilot green business opportunities involving RE storage technologies, electrolysers etc. 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.
Risk Management	<ul style="list-style-type: none"> Develop BU-level adaptation plans based on identified climate risks and the techno-feasibility assessments. Engage with external key stakeholders (along the supply chain) to manage risks. Identify/validate business-critical suppliers of goods and services who are exposed to high physical and transition risks. 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.
Targets and Metrics	<ul style="list-style-type: none"> Work on RE power procurement strategy to achieve target of 2500 MW RE RTC in operations. Set a target for Scope 3 emissions reduction for material categories. 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). Drive adoption of science-based emission reduction targets by suppliers and/or customers. 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.
Long Term (+10 years)	
Policy and Governance	<ul style="list-style-type: none"> Update the Net Zero plan taking into consideration newer regulatory, market requirements and achievements of short to medium term targets set by the Group. Develop and implement a Just Transition plan
Risk Management	<ul style="list-style-type: none"> Consider insurance or additional climate fund (enhanced ICP) for emergency purpose. Install measures to reduce exposure to physical climate risks identified

Objectives	Steps being undertaken
Targets and Metrics	<ul style="list-style-type: none"> Revise climate budget, ICP, GHG emission reduction targets according to the revised climate risk assessments. Set up specific targets on use of clean technologies – RE, CCUS, green hydrogen.

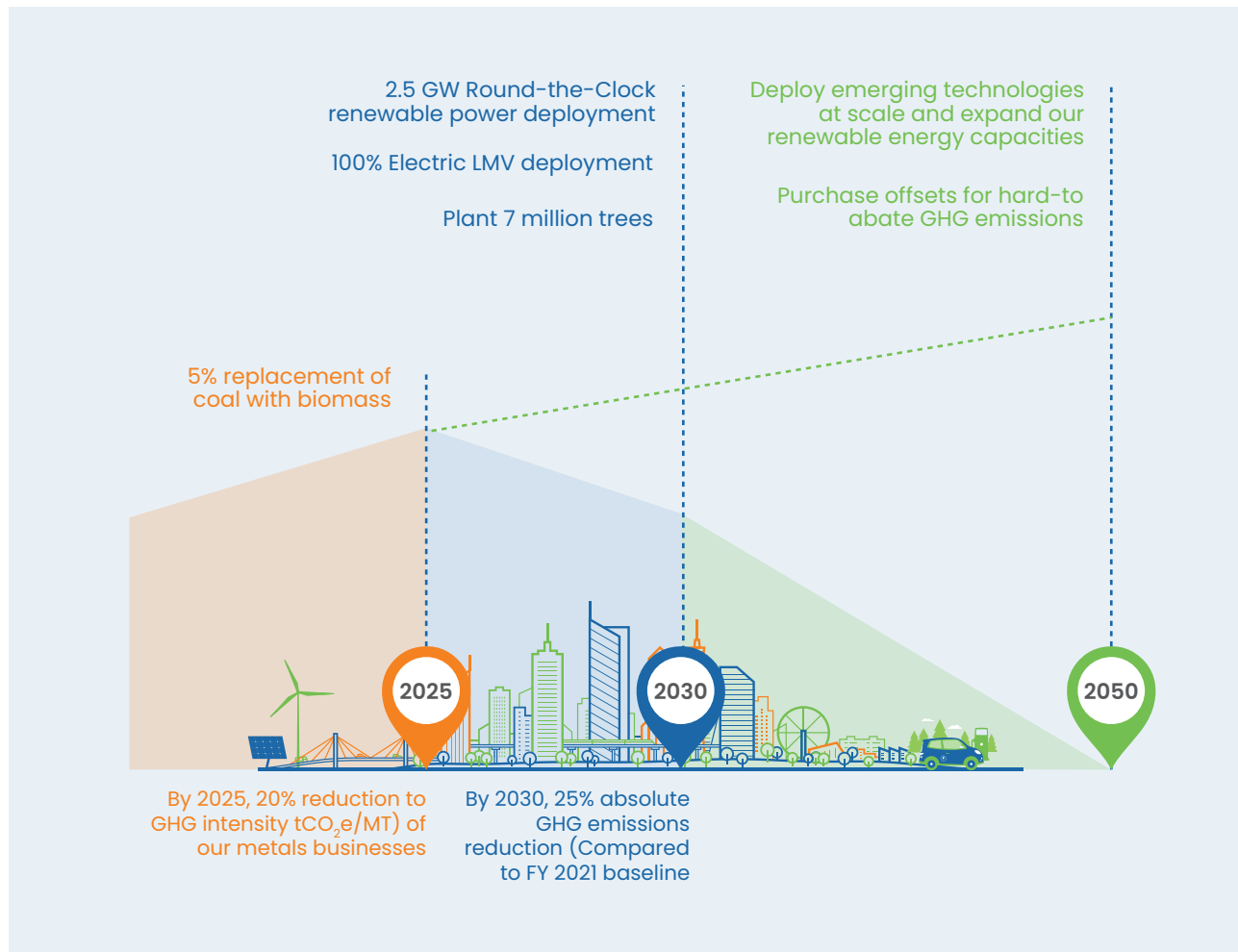
Trending towards Net-zero ambition

Our core purpose revolves around fostering collaboration and utilizing resources to contribute to the development of a better world. To achieve this, our strategy focuses on establishing commodities and assets that generate substantial long-term value and returns.

We recognize the significant role our materials play in fostering optimism and supporting global efforts to limit temperature increase to below 1.5 degrees Celsius. We only plan to purchase carbon offsets if we are unable to reduce our GHG emissions to target levels in 2030 and subsequently in 2050.



Our Net-Zero Roadmap

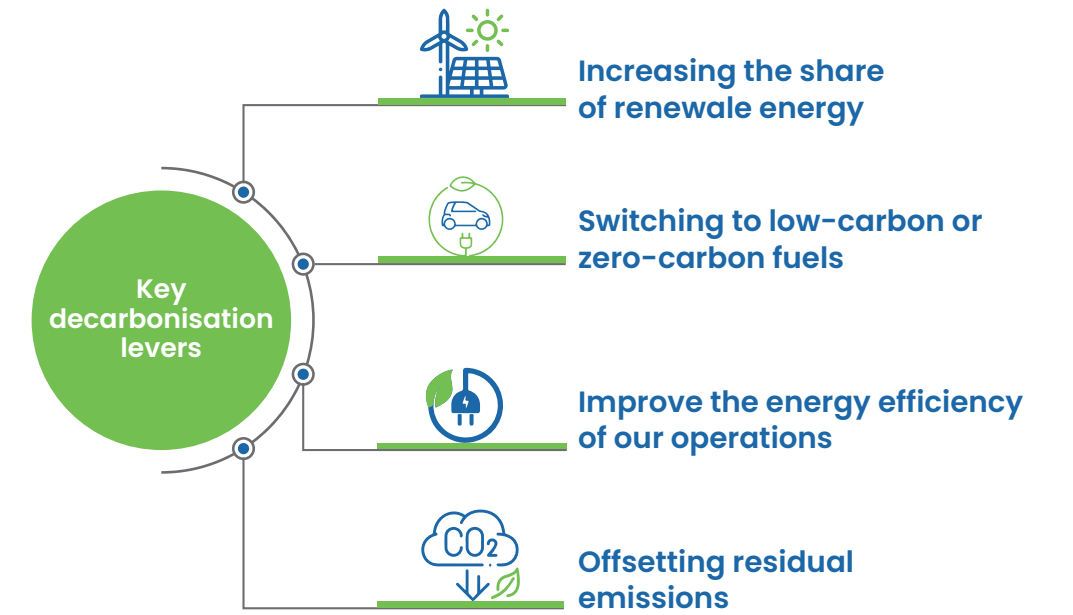


Within our climate strategy, we have formulated a comprehensive approach that encompasses our entire organization. This approach is aimed at achieving our net-zero goals and managing the risks posed by climate change, both in terms of physical impacts and transitional challenges.

Our climate strategy includes a well-defined plan that outlines the specific actions we will take to implement our strategy effectively. Moreover, it emphasizes the importance of aligning our financial capital allocation framework, social values with our overarching objective of

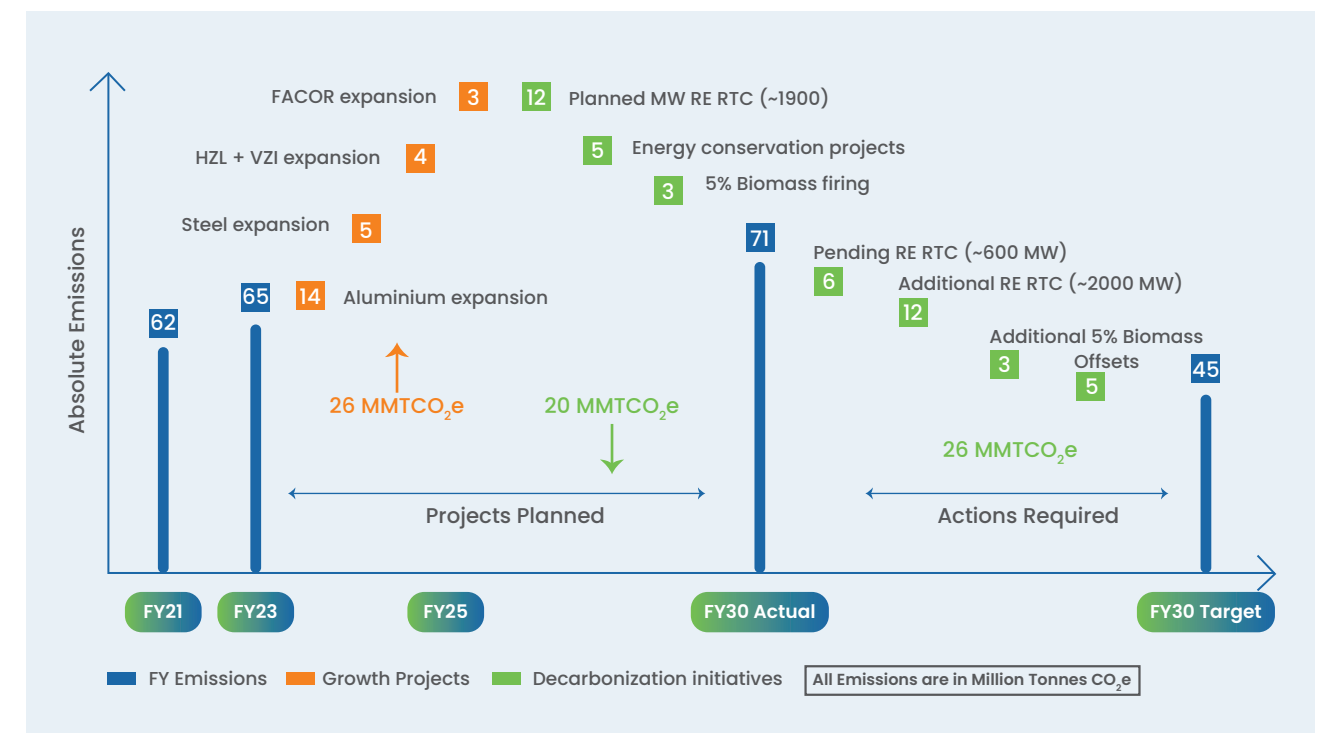
reaching net zero emissions, following a pathway consistent with limiting global temperature rise to 1.5 degrees Celsius. This includes addressing climate change and actively cultivating strong and genuine relationships with local, regional, and global stakeholders.

In FY 2022, Vedanta committed to decarbonise its operations and achieve net-carbon neutrality (net-zero carbon for Scope 1 & Scope 2 GHG emissions) by 2050 or sooner



Beyond our core decarbonisation levers, we are keeping an eye on breakthrough technologies that can take us closer to our net zero goal. Many such technology options are either technically or commercially not viable today, but we are working closely with industry bodies and technology providers so that we can support development of such technologies and ensure that we are ready to deploy them as soon as they become viable.

Our detailed decarbonization plan from FY 2021-2030



Vedanta has identified decarbonization levers suited to the nature of each of its business units. Notably, the degree and pace of decarbonization

vary from one business to the other depending on factors such as the status of the businesses, readiness, and viability of the technological option.

Nonetheless, each business is equally committed to the cause of improving its actions towards a low carbon path that is climate resilient and sustainable.

Table 3: Business-wise Key levers for Decarbonisation

Business Units	Decarbonization pillars	Key measures
Zinc	Avoid	<ul style="list-style-type: none"> 100% renewable energy by 2040 100% shut down of coal based CPP by 2040 100% shift to Battery Operated Vehicles/ hydrogen vehicles
	Minimize	<ul style="list-style-type: none"> Carbon capture and utilize – 50% concrete, 50% soil carbon enhancement by 2050
	Offset	<ul style="list-style-type: none"> Plantations – 5 million trees by 2050
Oil and Gas	Avoid	<ul style="list-style-type: none"> Up to 50 MW of renewable energy sourcing by 2030
	Minimize	<ul style="list-style-type: none"> Energy conservation and process optimization Reduced flaring wherever possible
	Offset	<ul style="list-style-type: none"> Plantations – 2 million trees by 2030
Thermal Power	Avoid	<ul style="list-style-type: none"> Up to 25 MW of renewable energy by 2025 Natural Gas to replace HFO/LDO by 2025 Up to 20% acquisition of biomass-based plants
Iron & Steel	Avoid	<ul style="list-style-type: none"> Gradual increase in use of Natural Gas in Blast Furnace 10 MW of solar power by 2030 Use of hydrogen in PCI pilots to start with and then gradual increase of hydrogen use in PCIs
	Minimize	<ul style="list-style-type: none"> Continuous process improvements such as coke dry quenching, sinter waste heat recovery, increased PCI, top recovery turbine etc. Gradual increase in carbon capture, starting with 50 TPD in the short term

Business Units	Decarbonization pillars	Key measures
Aluminium - smelters	Avoid	<ul style="list-style-type: none"> Phase-wise round- the-clock renewable energy capacity addition, 580 MW of which has already been committed and agreements signed Gradual increments in biomass cofiring in boilers 100% HFO replacement in processes, with Natural Gas by 2035, followed by replacements with Green Hydrogen by 2050
	Minimize	<ul style="list-style-type: none"> Incremental and continuous energy efficiency Starting to invest in Inert Anodes in the short term with an aim to shift to 100% Inert Anodes in the long term
Aluminium refinery	Avoid	<ul style="list-style-type: none"> 50% hydrogen in cogeneration during 2035-2050 Biomass cofiring in boilers 100% HFO replacement in processes with Natural Gas by 2030, followed by green hydrogen by 2050 Phase-wise capacity addition of renewable energy
	Minimize	<ul style="list-style-type: none"> Incremental and continuous energy efficiency



Metrics And Targets



We have deeply integrated climate-related risks and opportunities into our financial, operational, technological, and broader ESG (Environmental, Social, and Governance) performance. As a result, we employ a diverse range of metrics to assess both the present and future implications of these factors. Underpinning our net zero emissions target, we have established specific targets to mitigate the impact of our activities

that generate emissions. These targets form an integral part of our comprehensive approach to managing climate-related risks and opportunities. By actively reducing our emissions, we not only contribute to our broader sustainability goals but also strengthen our overall risk management strategies in response to the challenges posed by climate change.



The table below provides a brief disclosure of some metrics and targets that Vedanta uses to assess and manage relevant climate-related risks and opportunities. Kindly note that the information present in the table is not comprehensive. The reader is advised to look for detailed information in the discussion under this section.

Table 4: Summary of Vedanta's Metrics and Targets

Towards our net zero strategy	
↓	25% reduction in absolute emissions by 2030 (baseline: FY2021) by 2030
↓	20% reduction in GHG intensity of Metals business (baseline: FY2021) by 2025
↑	Achieve 2.5 GW of renewable energy for its operations by 2030 (baseline: FY2021) by 2025
	10% increase in the water recycling rate (Baseline: FY2021) by 2025
↓	15% reduction in freshwater consumption (Baseline: FY2021)
♻️	100% HVL generated Waste to be utilised by 2025

	2020	2021	2022	2023
Scope 1 (Million Mt CO ₂ e)	57.48	58.94	59.49	57.17
Scope 2 (Million Mt CO ₂ e)	1.86	1.31	3.34	8.18
Scope 3 (Million Mt CO ₂ e)	-	36.32	37.41	38.19
GHG emissions (Scope 1 & 2) intensity (TCO ₂ /INR Mn)	71.04	61.96	47.94	44.95
Total energy consumption (Million MWh)	146.11	145.70	156.66	158.71
Renewable energy consumption (Million MWh)	0.17	0.59	4.06	2.34
Non-renewable energy consumption (Million MWh)	145.94	145.11	152.61	156.37

GHG Emissions

We have already been collecting GHG data, conducting inventories, and reporting our Scope 1 and 2 and 3 emissions outlined by the GHG Protocol's Standard⁵.

⁵ We have used the following methodologies for collecting activity data and calculating emissions-

- American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies
- For the Oil and Natural Gas Industry, 2009
- IPCC Guidelines for National Greenhouse Gas Inventories, 2006
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- The Greenhouse Gas Protocol: Scope 2 Guidance
- World Steel Association CO₂ emissions data collection guidelines



Key Climate Metrics

FY2023 (TCO ₂ e)	Scope 1 emissions	Scope 2 emissions	Scope 1 + Scope 2 Total	Scope 3 emissions	Total GHG Emissions
Aluminium	31,992,077	5,994,336	37,986,413	6,294,069	44,280,481
Port Business	2,301	7,588	9,889	-	9,889
Zinc India	3,444,672	1,135,622	4,580,294	4,162,188	8,742,481
Zinc International	114,489	249,700	364,189	2,161,791	2,525,980
Power Business	14,791,782	-	14,791,782	412,794	15,204,576
Iron Ore Business	1,862,912	3,805	1,866,717	780,231	2,646,948
Steel (ESL)	2,858,733	249,986	3,108,719	364,359	3,473,078
FACOR	296,441	106,915	403,356	-	403,356
Copper India & Australia	34,822	89,937	124,759	729,990	854,749
Oil & Gas	1,777,161	344,655	2,121,816	23,282,129	25,403,944
Total	57,175,391	8,182,542	65,357,933	38,187,551	103,545,483

Note: We are in process of monitoring Scope 3 emissions data for FACOR and Port Business

In the FY2023, scope 1 and scope 2 emissions from our operations were 65.35 million metric tonnes CO₂ e. Our overall Scope 1 & Scope 2 emissions have increased by 4.02% from FY22. This is in line with our projections of

increasing GHG emissions till FY26 – when our emissions are expected to peak. The significant rise in Scope 2 emissions (and the corresponding drop in Scope 1 emissions) is due to the coal-supply crisis that we

faced this year, which resulted in the company procuring more energy from the grid and decreasing energy production from our captive power plants.

Scope 3 Emissions

Scope 3 emissions constitute 35% of our overall GHG emissions, with the oil & gas business accounting for 65% of this number.

Key Climate Metrics

	2021	2022	2023
Scope 3 (Million Mt CO₂e)	36.32	37.41	38.19
Upstream Scope 3 (Million Mt CO₂e)	7.23	7.71	8.58
Downstream Scope 3 (Million Mt CO₂e)	29.09	29.37	29.61

⁶ The Scope 3 accounting was prepared in accordance with the GHG Protocol's Scope 3 Value-Chain Accounting and Reporting Standard. For Oil & Gas and Steel sectors, sector specific standards were used.

At present, Vedanta does not have company-wide reduction targets specifically for Scope 3 greenhouse gas (GHG) emissions. However, we are actively working towards finalizing these targets by the end of FY 2024.

Among the different categories of Scope 3- the major impact is from Category 11 – Use of Sold Products and is 61% of the group Scope 3 emissions followed by Category 1 – Purchased Goods & Services at 15%.

Table 5: Scope 3 emissions at Group Level (Million Mt CO₂e)

	FY2021	FY2022	FY2023
Category 1- Purchased Goods and Services	4.16	4.98	5.44
Category 2- Capital Goods	-	0.02	0.03
Category 3- Fuel and Energy related	2.14	2.62	2.54
Category 4- Upstream Transformation	0.45	0.37	0.51
Category 5- Waste Generated in Operations	0.44	-	0.03
Category 6- Business Travel	0.001	0.0005	0.002
Category 7- Employee Commute	0.01	0.01	0.01
Category 8- Leased Assets	Not Applicable	Not Applicable	0.000006
Category 9- Downstream Transport	0.23	0.48	0.58
Category 10- Processing of sold products	1.00	1.63	4.08
Category 11- Use of sold products	25.16	24.35	21.89
Crude Oil	22.29	21.62	18.82
Natural Gas	2.63	2.46	2.86
Coke	0.23	0.26	0.21
Credits* due to Slag recycling/ Reuse	-0.43	-0.34	-0.52
Category 12- End of Life Treatment of Sold Products	2.69	2.88	3.04
Category 13-Downstream Leased Assets	Not Applicable	Not Applicable	Not Applicable
Category 14- Franchises	Not Applicable	Not Applicable	Not Applicable
Category 15- Investments	Not Applicable	Not Applicable	Not Applicable

*No credits claimed

GHG Emissions

Since 2012, we have reduced the GHG intensity of our operations by 21%, which has resulted in ~14 million TCO₂e of avoided emissions. Our goal is to reduce the GHG emissions intensity of our metal's businesses by 20% by FY2025 from a FY2021 baseline. Towards this goal, we have reduced the GHG emissions intensity by 3.56 % in FY2023 against the baseline year of FY 2021.

Table 6: BU Emissions Intensity (TCO₂e/MT of Metal)

	FY2021	FY2022	FY2023
<i>Aluminium</i>	9.44	8.88	9.17
<i>Steel</i>	2.30	1.90	2.27
<i>Iron Ore Business</i>	2.82	2.58	2.51
<i>FACOR</i>	6.40	6.17	5.97
<i>Zinc International</i>	1.07	1.02	0.92
<i>Zinc India</i>	5.00	4.98	4.49
<i>Copper India</i>	0.89	0.76	0.69
Total	6.45	6.14	6.25

Note: Metric was calculated from FY2021 (The above figures exclude BMM and Fujirah gold)

Table 7: GHG intensity (TCO₂/INR Mn)

GHG Emission intensity (TCO ₂ e/INR Mn)	FY2020	FY2021	FY2022	FY2023
<i>Scope 1</i>	69.13	60.61	45.39	39.32
<i>Scope 2</i>	2.24	1.35	2.55	5.63
Total	71.37	61.95	47.94	44.95

Other Metrics

This section consists of our performance metrics in areas other than GHG emissions. These metrics are associated with energy consumption, renewable energy, water as well as waste and TCFD

recommends including such metrics to enable tracking of overall climate performance. Vedanta has set non GHG related targets too which are essential to achieve greater sustainability in a more holistic sense. Such metrics

and targets allow Vedanta to identify risks and leverage opportunities. The following non-GHG related metrics and targets have been set:

Direct and Indirect Energy Consumption

Energy Consumption (million GJ)	FY2020	FY2021	FY2022	FY2023
<i>Direct</i>	518.17	515.76	531.88	525.32
<i>Indirect</i>	7.80	8.75	32.10	46.02
Total	525.97	524.51	563.98	571.34

Renewable and Non-Renewable Energy Consumption

Vedanta aims to use 2.5 GW of Round-The-Clock (equivalent) Renewable Energy and reduce absolute emissions by 25% by 2030

from a FY2021 baseline and we have secured contracts for 788 MW of round-the-clock renewable energy (RE), a significant

step towards our target of 2.5 GW of RE and a substantial reduction in our carbon footprint.

TCFD Reference Index

TCFD's Core Element	Recommended Disclosure	Vedanta's Disclosure Reference	Page Number
Governance	Describe the board's oversight of climate-related risks and opportunities.	Board Roles & Responsibility	09
	Describe management's role in assessing and managing climate-related risks and opportunities.	Board Roles & Responsibility	09
Strategy	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	Climate-related Physical Risks and Opportunities for Vedanta	13
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Impact of Climate Risk and Opportunities on Vedanta	22
	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Responding to Risks & Opportunities: Mitigation and Adaptation Strategy	24
Risk Management	Describe the organisation's processes for identifying and assessing climate-related risks.	Describe the organisation's processes for identifying and assessing climate-related risks.	12
	Describe the organisation's processes for managing climate-related risks.	Risk Management Process	12
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Integration of Climate-related Financial Risk into Enterprise Risk Management (ERM)	12
Metrics and Targets	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Metrics and Targets	28
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	Metrics and Targets	28
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Metrics and Targets	28

Annexure

Assumptions & Limitations

	Temperature	Policy Reaction	Regional Variation
Current Policy	+3°C	NA	■
NDC	~2.5-3°C	NDC	■
Delayed Transition	1.8°C	Delayed	■
Below 2°C	1.7°C	Immediate	■
Net Zero 2050	1.5°C	Immediate	■

■ Low ■ Medium ■ High

RCP 4.5 (2020-2050)

- Optimal Scenario where emissions peak around mid-century at about 50% higher than 2000 levels and then decline rapidly over 30 years and then stabilize at half of 2000 levels by 2100.
- CO2 concentration continues trend to about 520 ppm in 2070 and continues to increase over the next 30 years but more slowly.
- Population and economic growth are moderate.
- Total energy consumption is slightly higher, while oil consumption is constant through to 2100. Nuclear power and renewables play a greater role.
- Significantly, cropping and grassland area declines while reforestation increases the area of natural vegetation.

RCP 8.5 (2020-2050)

- BAU scenario in which emissions continue to increase rapidly through the early and mid-parts of the century.
- Concentrations of CO2 in the atmosphere accelerate and reach 950 ppm by 2100 and continue increasing for another 100 years.
- Population growth is high, reaching 12 billion by century's end.
- This scenario is highly energy intensive with total consumption continuing to grow throughout the century reaching well over 3 times current levels.
- Oil use grows rapidly until 2070 after which it drops even more quickly. Coal provides the bulk of the large increase in energy consumption.
- Land use continues current trends with crop and grass areas increasing and forest area decreasing.

Assurance Statement



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Independent Assurance Statement

The Management and Board of Directors

Vedanta Limited
Core-6, 3rd 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 climate related risks and opportunities (the "subject matter") contained in Vedanta's Task Force on Climate-related Financial Disclosures (TCFD) Report, as of 31 August 2023, for the period 1st April 2022 to 31st March 2023 (the "Report").

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 TCFD Report FY 2022-23, Vedanta applied the TCFD recommendations by Financial Stability Board (hereafter referred to as "the Criteria"). TCFD recommendations were specifically designed for TCFD Report; 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 TCFD Report FY 2022-23, 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 (Revised)'), and the terms of reference for this engagement as agreed with Vedanta Limited on 3rd January 2023. 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 management

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 Management 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements, which requires that we design, implement and operate a system of quality management including policies or 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 TCFD Report and related information and applying analytical and other appropriate procedures.

Our procedures included:

- Checking of the standard disclosures as per TCFD recommendations regarding the company's material sustainability aspects contained in the report;
- Testing on a sample basis, (physically and remotely), underlying source information to check the accuracy of the data for the following sites, through consultations with the site team and corporate sustainability team;

S.No.	Entity	Geography	Mode of assurance
1	HZL Debari Smelter	Rajasthan, India	Physical and Virtual
2	HZL Dariba Agucha Mines	Rajasthan, India	Physical and Virtual
3	HZL Zawar Mines	Rajasthan, India	Physical and Virtual
4	HZL Kayad Mines	Uttarakhand, India	Physical and Virtual
5	Hindustan Zinc Limited (HZL), Corporate Office	Rajasthan, India	Virtual
6	Vedanta Limited Lanjigarh refinery	Odisha, India	Physical and Virtual
7	Vedanta Limited Jharsuguda smelter and power plant	Odisha, India	Physical and Virtual
8	BALCO Korba smelters and power plants	Chhattisgarh, India	Physical and Virtual
10	Cairn RJ Oil	Rajasthan, India	Physical and Virtual
11	Cairn RJ Gas	Rajasthan, India	Physical and Virtual

12	Cairn Ravva	Andhra Pradesh, India	Physical and Virtual
13	Cairn Suvali	Gujarat, India	Virtual
14	Cairn Midstream Operations	Rajasthan, India	Virtual
13	Cairn Corporate Office	Haryana, India	Virtual
14	Vedanta Zinc International Black Mountain Mines (BMM)	South Africa	Virtual
15	Vedanta Zinc International Gamsberg, South Africa	South Africa	Virtual
16	Sesa IOK	Karnataka, India	Physical and Virtual
17	Sesa Value Added Business (VAB)	Goa, India	Physical and Virtual
18	FACOR, Odisha	Odisha, India	Physical and Virtual
19	Talawandi Sabo Power Limited (TSPL)	Punjab, India	Physical
20	ESL Steel Limited (ESL)	Jharkhand, India	Physical
21	Gujarat Met Coke	Gujarat, India	Virtual
22	Sterlite Copper, Silvassa Refinery	Silvassa, India	Physical and Virtual
23	Sterlite Copper, Fujairah Gold	Dubai, UAE	Virtual
24	Vedanta Limited, Corporate Office	New Delhi, India	Virtual

- Executing 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;
- Conducting interview of select representatives of Company's management to understand the reporting process, including management's processes to identify Vedanta's material climate-related risks and opportunities;
- Performing walkthroughs informed by analytical procedures to gain an understanding of the approach to Vedanta's scenario analysis, key assumptions, and consistency with the principles and documents specified in the Criteria.

We also performed such other procedures as we considered necessary in the circumstances.

The assurance scope excludes:

- Data and information outside the defined reporting period-1st April 2022 to 31st March 2023;
- Data and information on economic and financial performance of the Company;
- Data, statements and claims already available in the public domain through Annual Report, 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.

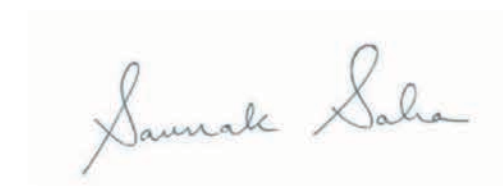
Conclusion

- Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the climate related risks and opportunities as part of the TCFD Report for the period of 1st April 2022 to 31st March 2023, 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.



Saunak Saha
Partner
31 August 2023
Kolkata, India



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