

# Welcome to your CDP Climate Change Questionnaire 2022

## C0. Introduction

### C0.1

#### **(C0.1) Give a general description and introduction to your organization.**

Vedanta Limited (Vedanta) is a diversified global natural resources company. The group's primary operations are the production of aluminium, copper, zinc, lead, silver, iron ore, oil & gas as well as commercial energy. Vedanta has operations in India, South Africa, Ireland and Australia. Headquartered in Mumbai, India, we are one of the largest producers and suppliers of these natural resources globally. We engaged over 75,556 employees and contractors and reported an all time consolidated revenue of INR 131,192 crore in FY2022, up by 51% year-on-year (YoY).

Vedanta's portfolio comprises of the following divisions:

1. Exploration: We have consistently added more to our Reserves and Resources (R&R) through brownfield and greenfield activities. This helps us to extend the lives of our existing mines and oilfields.
2. Asset Development: We have a strong track record of executing projects on time and within budget. We take special care to develop the resource base to optimize production and increase the life of the resource. We also strategically develop processing facilities.
3. Extraction: Our operations are focused on exploring and producing metals, extracting oil & gas and generating power. We extract minerals of zinc-lead-silver, steel, copper and aluminium. We have three operating blocks in India producing oil & gas.
4. Processing: We produce refined metals by processing and smelting extracted minerals at our zinc, lead, silver, copper, and aluminium smelters, and other processing facilities in India and Africa. For this purpose, we generate captive power as a best practice measure and sell any surplus power.
5. Value Addition: We meet market requirements by converting the primary metals produced into value added products such as sheets, rods, bars, rolled products, etc. at our zinc, aluminium, and copper businesses. We are among the top producers of Zinc-Lead-Silver, Oil & Gas, Iron Ore, Steel, Copper, Power and Aluminium.

Vedanta Limited is a publicly-listed company with the following divisions and subsidiaries:

- A. Divisions
- Sesa Iron Ore
  - Sterlite Copper

- Power (600 MW Jharsuguda)
- Aluminium (Odisha Aluminium and Power assets)
- Cairn Oil and Gas

#### B. Subsidiaries

- Hindustan Zinc (HZL)
- BALCO
- Zinc International
- ESL Steel Limited
- Talwandi Sabo Power

Our business model is based on growth, value creation and continuous improvement in all aspects of our operations including our safety, social and environmental programs, and practices. As one of the largest natural resources groups globally we remain continually committed to managing our business in a socially responsible manner. The management of environment, employees, health and safety and community issues, in respect of our operations is central to the success of our business. We embed aspects of sustainable development into all our business and support communities in and around our operations to improve their quality of life. We are in support of the Paris agreement and have put in place short- and long-term strategies covering climate change mitigation and resilience to combat climate change. We believe this will help us to manage risk, maintain our Social License to Operate and create value for our stakeholders.

## C0.2

**(C0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	April 1, 2021	March 31, 2022	Yes	3 years

## C0.3

**(C0.3) Select the countries/areas in which you operate.**

- Australia
- India
- Namibia
- South Africa

## C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

- INR

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Operational control

## C-MM0.7

**(C-MM0.7) Which part of the metals and mining value chain does your organization operate in?**

Row 1

### Mining

Bauxite  
Iron ore  
Zinc  
Lead

### Processing metals

Aluminum  
Alumina  
Copper  
Silver  
Zinc  
Lead  
Other ferrous metals, please specify  
Steel

## C0.8

**(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	INE205A01025

## C1. Governance

### C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

## C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board Chair	<p>The chairman of Vedanta has oversight of the encompassing sustainability agenda that includes climate change. He holds quarterly meetings with the Board-Level Committee to monitor and review progress of climate change related commitments of the Group . Under his leadership, in FY 22, Vedanta has made a commitment to become Net Zero by 2050 while continuing to play a significant role in the emerging green economy and also aims to invest USD 5 billion over the next 10 years to accelerate this commitment. Under his guidance, the company has also committed to reducing absolute emissions by 25% by 2030 (vis-à-vis 2020-21) in line with our Net Zero commitment.</p>
Board-level committee	<p>Vedanta has constituted a Board-level ESG Committee consisting of Group CEO and two independent Directors with oversight of climate and sustainability related aspects. The Board ESG committee is proactively involved in monitoring the overall progress of the Group to achieve set climate change targets and commitments.</p> <p>A detailed description of the committee's responsibilities are as provided below:</p> <ul style="list-style-type: none"> <li>• Reviewing and recommending improvements to governance structures in place around carbon management</li> <li>• Advising the Board on sustainability policies and management systems, including those related to climate and decarbonization</li> <li>• Overseeing the company's sustainability performance in relation to "Vedanta Sustainability Framework"</li> <li>• Ensuring effective implementation of governance, advocacy and public relation mechanisms and practices related to ESG &amp; Climate Change</li> <li>• Outlining initiatives required to institutionalize a sustainability culture through involvement of the employees at all levels</li> <li>• Evaluating emerging sustainability and climate risks in terms of intensity and impact, in turn, guiding the management on reasonable avoidance of adversities likely to pose a threat to a sustained growth</li> <li>• Advising the Board to enable it to discharge its responsibilities, having regard to the law and the expected international standards of sustainability, climate change and stakeholder governance.</li> </ul> <p>The Board-level ESG committee meets twice a year. In FY2020, the committee recommended that the company establish absolute GHG emissions reduction targets, in line with our sustainability policies. In FY22, after company-wide assessments, with the support of the committee, Vedanta has committed to 25% absolute reduction targets by</p>

	<p>2030 and established a Net Zero 2050 roadmap.</p> <p>The committee is advised by the Group ESG-Executive Committee (ESG-ExCo) and the ESG Management Committee (Man-Com).</p>
Chief Executive Officer (CEO)	<p>The Group CEO is responsible for developing and overseeing the implementation of climate change mitigation and resilience measures across the group companies. He oversees development of long term GHG reduction targets as well as implementation of high investment decarbonization projects. The Group CEO is part of the Board-level ESG Committee and is also the chair of the Group ESG-Executive Committee (ESG-ExCo). Under his guidance, the ESG-ExCo has ratified the following decisions proposed by the company's Carbon Forum in FY 2022: 1) setting the long-term Carbon Vision for the organization including Vedanta's Net Zero 2050 commitment; 2) setting absolute GHG emissions targets as per Science Based Target Initiative and 3) further assessments on understanding the impact of physical and transitional climate risks on the organization.</p>
Other, please specify Group Head - HSE & Sustainability (equivalent to Chief Sustainability Officer)	<p>The Group Head - HSE &amp; Sustainability (equivalent to the Chief Sustainability Officer) is responsible for identifying and monitoring compliance to evolving legal requirements and stakeholder expectations related to health and safety and environmental sustainability including climate change.</p> <p>For example, Vedanta's global presence exposes the company to a number of jurisdictions where there is an increase in regulations related to climate change mitigation, including the progressive introduction of carbon emissions trading mechanisms and tighter emission reduction targets that are likely to raise compliance costs and reduce demand growth.</p> <p>The Group Head – HSE&amp;S is part of the ESG-ExCo, Energy &amp; Carbon Communities of Practice (CoP) (formerly Carbon Forum) and is a Permanent invitee to the Board ESG Committee meetings.</p> <p>The HSE &amp; Sustainability head has been driving the development of an internal carbon pricing mechanism to mitigate these risks and in FY22, discussions around shadow pricing have been finalized and will come into force H2 FY 2023.</p>

## C1.1b

**(C1.1b) Provide further details on the board's oversight of climate-related issues.**

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain

<p>Scheduled – all meetings</p>	<p>Reviewing and guiding strategy                  Reviewing and guiding major plans of action                  Reviewing and guiding risk management policies                  Reviewing and guiding business plans                  Setting performance objectives                  Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>All climate-related issues are presented to the Board ESG Committee, and consequently to the Board. The Director ESG, Carbon Social Performance informs the Board Sustainability Committee on actions the company is taking towards management of the strategic long-term impacts of climate change on the organization. These deliberations include but are not limited to: long-term greenhouse gas (GHG) emissions (absolute &amp; intensity) reduction targets, specific plans to mitigate our carbon footprint, suggestions on deployment of carbon reduction technologies (Eg: Carbon Capture &amp; Storage, Carbon Capture and Utilization, usage of natural gas in place of coal etc), alignment with investor expectations, and understanding of emerging physical &amp; transition risks. In FY2022, key recommendations made during the Committee meetings include: 1. Establishing company-wide Net Zero 2050 commitment and Net Zero Roadmap 2. Aiming to spend USD 5 billion over the next 10 years to accelerate transition to Net Zero. 3. Exploring value chain approach to identify opportunities to reduce Vedanta's carbon footprint; 4. setting targets to increase share of renewable energy in the energy mix;</p>
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## C1.1d

**(C1.1d) Does your organization have at least one board member with competence on climate-related issues?**

	<b>Board member(s) have competence on climate-related issues</b>	<b>Criteria used to assess competence of board member(s) on climate-related issues</b>
<p>Row 1</p>	<p>Yes</p>	<ul style="list-style-type: none"> <li>• In line with Vedanta’s sustainability goals, an executive course called Sustainability 101 has been introduced in FY22. The course is aimed at knowledge and awareness-building for the top 100 executives in the organization, specifically in the climate change awareness and sustainability arenas. Conducted by the organizations’ Group Sustainability Team, the course consists of concepts such as:                             <ul style="list-style-type: none"> <li>- GHG Emissions (scope 1/2/3)</li> <li>- Net Zero Concepts</li> <li>- Physical and Transition Risks</li> <li>- Climate Change Scenario and Awareness (introduction)</li> </ul> </li> </ul> <p>The Group CEO, who is a member of the Board-level ESG Committee has undertaken this training to ensure that board-level decisions on climate-related issues are increasingly influenced by a knowledge-</p>

		<p>based foundation, even at the apex board level .</p> <ul style="list-style-type: none"> <li>• In FY2022, a special training on ESG and climate change was also organized for the Board in order to raise their awareness of the relevant topics.</li> </ul>
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## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Sustainability committee	Assessing climate-related risks and opportunities	Half-yearly
Other committee, please specify ESG-Executive Committee (ESG ExCo)	Both assessing and managing climate-related risks and opportunities	Quarterly
Other, please specify Director( ESG, Carbon & Social Performance)	Both assessing and managing climate-related risks and opportunities	Half-yearly
Other C-Suite Officer, please specify Group Head - HSE & Sustainability 🗨️ <sub>1</sub>	Both assessing and managing climate-related risks and opportunities 🗨️ <sub>2</sub>	Quarterly
Other committee, please specify Energy & Carbon Community of Practice (CoP) 🗨️ <sub>3</sub>	Both assessing and managing climate-related risks and opportunities	Not reported to the board
Other committee, please specify The Group ESG Management Committee (ESG ManCom) 🗨️ <sub>4</sub>	Both assessing and managing climate-related risks and opportunities	Quarterly

🗨️<sub>1</sub> Group Head - HSE&S is a member of the Energy & Carbon CoP (Communities of Practice) is the apex body in the organization to deliberate carbon and climate related matters, present at the site, BU, Sector and Group level.

2 The Group Head - HSE&S is a member of the Carbon Forum, which is the apex body in the organization to deliberate carbon and climate related matters. The Carbon Forum meets monthly.

He is also a permanent invitee to the Board Sustainability Committee

3 The Energy & Carbon Community of Practice is Vedanta's apex body to deliberate upon carbon and climate related matters is chaired by a CEO from one of our Group businesses, the committee is formed by the Chief Operating Officers of our businesses. The CoP is entrusted with the responsibility of developing , overseeing and providing suggestions to ESG ManCom & Group ExCo on the implementation of Vedanta's carbon mitigation approach.

4 The Group ESG Management Committee (ESG ManCom), headed by the Group CEO of Vedanta, is a high-level decision-making body of the company. Its primary responsibility is to execute the decisions made by the Board, allocate resources and report to the Board Committee on key climate-change and overall sustainability risks and the actions being taken.

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

Carbon management is embedded across all levels of the organization starting at the board level. The organizational hierarchy consists of three strategy committees, namely, Board ESG committee, Group ESG Executive Committee (Group ESG ExCo) (part of the ExCo) and ESG Management Committee (ESG ManCom) and additionally, the Energy and Carbon Community of Practice (CoP) (formerly Carbon Forum) in providing guidance and monitoring the performance of the company with respect to carbon management.

**Board ESG committee:** The Board ESG Committee meets 1/2-yearly to oversee the Company's Sustainability performance and ensure adequacy of Company's Sustainability Framework. The Sustainability Committee receives advisory inputs from the ESG ExCo and ESG ManCom. It also advises the Board on sustainability policies and management systems, including those related to climate and decarbonization. It ensures effective implementation of governance, advocacy and public relation mechanisms and practices related to Sustainability.

**Group ESG Management Committee (ESG ManCom):** Headed by the Group CEO of Vedanta, the ESG ManCom is a high-level decision-making body of the company. Its primary responsibility is to execute the decisions made by the Board, allocate resources and report to the Board Committee on key climate-change and overall sustainability risks and the actions being taken.

**Group ESG Executive Committee:** The Group ESG ExCO is a high-level decision-making body for the organization and operates in conjunction with the ESG ManCom. This committee is part of the Group ExCo meets monthly with the ExCo to update on overall ESG and climate progress.

**Energy and Carbon Community of Practice (CoP):** The Energy and Carbon CoP is Vedanta's apex body to deliberate upon carbon and climate related matters is chaired by a



CEO from one of our Group businesses, the committee is formed by the Chief Operating Officers of our businesses. The CoP is entrusted with the responsibility of developing , overseeing and providing suggestions to ESG ManCom & Group ExCo on the implementation of Vedanta's carbon mitigation approach. The committee also informs the Group ExCo, Risk Management Committee and the Board ESG Committee on ways to manage our carbon footprint. In FY22, key decisions include: 1. Establishing company-wide Net Zero 2050 commitment and Net Zero Roadmap 2. Aiming to spend USD 5 billion over the next 10 years to accelerate transition to Net Zero. 3. Setting an ICP Mechanism for H2 FY2023 onwards. Additionally, in FY22, with the aim of taking ESG and Climate Change to the shop-floor, 12 CoPs have been formed at the site, BU, Sector and Group Level under the Energy and Carbon CoP: Water Management, Carbon and Energy, Waste to Wealth, Biodiversity, Communities, People, Communications, Health, Safety, Supply Chain, Acquisition/Finance and Expansion.

**Group Chief Executive Officer (CEO):** The Group CEO is responsible for developing and overseeing implementation of climate mitigation, resilience measures, development of long term GHG reduction targets as well as implementation of high investment decarbonization projects The Group CEO is part of the Board-level ESG Committee and is also the chair of the Group ESG ManCom.

**CEOs of BU:** The CEOs of the individual business units are responsible for implementation of climate mitigation and resilience measures at the unit level. The CEO of the Power business chairs the Energy and Carbon CoP, which is entrusted with the responsibility of developing and overseeing the implementation of Vedanta's carbon mitigation and adaptation approach.

**Chief Operating Officer (COO):** At all the Business Units, climate-related issues are overseen by COOs of the respective businesses. COOs are tasked with interpreting and implementing group-level targets, policies, and standards for their respective businesses. Since COOs oversee operational matters including energy management, they are best positioned to ensure implementation of carbon reduction strategies. They are supported by the Environment/ Sustainability, energy, line operations managers of their businesses. Moreover, the COOs of the businesses are part of the Energy and Carbon CoP.

**Director, ESG, Carbon and Social Performance:** The Director is responsible for driving the implementation of the carbon agenda across the organization. He is also responsible for liaising with BU teams, monitoring implementation of decarbonization initiatives, tracking and ensuring progress towards emission reduction targets and reporting progress to the respective management committees described above. He is overseeing reporting under Task Force for Climate Related Financial Disclosure (TCFD), Carbon Disclosure Project (CDP) and Dow Jones Sustainability Index (DJSI). Under his supervision the company submitted their first TCFD disclosure for the year 2020 and is reporting Scope 3 emissions for the first time in FY22.

## C1.3

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	<p>At Vedanta, Executive Compensation is linked to performance against sustainability parameters that includes energy and climate related performance such as number of climate mitigation actions undertaken, energy savings achieved from adoption of more efficient technologies and process improvements.</p> <p>The variable component (~15% of variable pay) of the Executive Compensation is linked to an individual's performance on Vedanta Sustainability Assurance Process (VSAP) - a sustainability risk assurance tool developed by the company to evaluate compliance of businesses with Vedanta Sustainability Framework (VSF). Energy and Climate Change is a key component of the VSAP process (under the pillar of 'Responsible Stewardship').</p> <p>From FY2021 onwards, Employee Stock Options Program (ESOP) eligibility also depends on achievement of GHG emission reduction KPIs.</p>

## C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Corporate executive team	Monetary reward	Emissions reduction target Energy reduction target	<p>At Vedanta, Executive Compensation (~15% of variable pay) is linked to performance against sustainability parameters that includes energy and climate related KPIs.</p> <p>Vedanta Sustainability Assurance Process (VSAP) - a sustainability risk assurance tool developed in line with the IFC performance standards, the ICMM guidelines, GRI and other relevant sustainability frameworks is used by the company to assess the compliance of Vedanta's businesses with the Vedanta Sustainability Framework (VSF). Energy and Climate Change is a key component of the VSAP process (under the pillar of 'Responsible Stewardship'). Performance against this component such as</p>

			<p>number of initiatives undertaken for energy management and climate change mitigation, quantum of energy savings from adoption of new technologies and processes is used as the basis to provide management incentives and is linked to the performance bonus.</p> <p>From FY2021 onwards, Employee Stock Options Program (ESOP) eligibility also depends on achievement of GHG emission reduction KPIs.</p>
Energy manager	Monetary reward	<p>Emissions reduction project</p> <p>Emissions reduction target</p> <p>Energy reduction project</p> <p>Energy reduction target</p> <p>Behavior change related indicator</p>	<p>KPIs for energy managers are linked to the energy conservation efforts undertaken by their businesses. Additionally, outstanding contributions to achievement of the emissions reductions goals set by the company are recognized by the Chairman of the company.</p> <p>From FY2021 onwards, Employee Stock Options Program (ESOP) eligibility also depends on achievement of GHG emission reduction KPIs.</p>
Environment/Sustainability manager	Monetary reward	<p>Emissions reduction target</p> <p>Energy reduction target</p> <p>Behavior change related indicator</p>	<p>KPIs for Environment/Sustainability managers are linked to the GHG mitigation and energy conservation efforts undertaken by their businesses.</p> <p>From FY2021 onwards, Employee Stock Options Program (ESOP) eligibility also depends on achievement of GHG emission reduction KPIs.</p>
All employees	Monetary reward	<p>Emissions reduction target</p>	<p>From FY2021 onwards, Employee Stock Options Program (ESOP) eligibility also depends on achievement of GHG emission reduction KPIs.</p>

## C2. Risks and opportunities

### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

### C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

	From (years)	To (years)	Comment
Short-term	1	3	Short-term horizon is defined as 1 - 3 years as the company has set an internal target of GHG emissions intensity reduction by 20% by FY 2025 from a 2021 baseline in its metals and mining business.
Medium-term	4	10	Medium-term horizon is defined as 4-10 years to ensure alignment with the timeframe of India's first Nationally Determined Contribution that has set a target to reduce emissions intensity of the economy by 33-35% by 2030. Vedanta's absolute reduction targets of 25% by 2030 (vis-à-vis 2020-21) also conform to this timeframe.
Long-term	11	25	Net Zero Emissions by 2050 or sooner are targeted as per our public commitment made in Oct 2021 adding to the India's pledge of becoming Net Zero Emissions country by 2070. The Net Zero roadmap established by Vedanta also lays out decarbonization strategies such as RE-based and hydrogen-based decarbonization across all BUs between 2030-2050, in line with our long-term horizons.

### C2.1b

**(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

For substantive climate change impacts, Vedanta developed an IPCC-based scenario of potential climate impacts to help Business Units estimate financial impacts, prioritize risks, taking into account the uncertainty related to these impacts. The analysis included different regions of operations and evaluated the prospects for increasing average temperature, rainfall variability and probability of climate impacts. For climate change regulation/ market risk, Vedanta has finalized a carbon pricing model (to be implemented from H2 FY 2023) that foresees possible future impact on operational cost for each Business. This will consider direct costs due to possibly new carbon pricing mechanisms.

**(i) Definition of substantive Financial impact:**

The Group considers an impact equal to 2% of EBITDA as substantive financial impact. For FY2022, this number amounts to INR 9063.8 Million. EBITDA is a key performance indicator for the Group and is also a key metric used by the Group in assessing management's performance. We believe that at 2%, this number can significantly alter the economic outcomes/ project decisions of our stakeholders. (Vedanta Limited Tax Transparency Report 2021-2022)

**(ii) Definition of substantive Strategic impact:**

- 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.

Additionally, Vedanta has a comprehensive matrix-based assessment to determine climate-related risks with the potential to have a substantive financial or strategic impact on our business. The matrix is a multiplication of likelihood of exposure/ impact and its probable severity for each risk identified. The risk classification matrix classifies climate change risks into 5 levels in the descending order of severity – Catastrophic (Score: 5), Serious (Score: 4), Moderate (Score: 3), Minor (Score: 2) and Negligible (Score: 1). Each level has associated probable impacts qualitatively defined and anything above a Moderate score could be considered a significant impact.

## C2.2

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

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**Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

## Description of process

Vedanta's risk management framework serves to identify, assess and respond to the principal risks facing the Group's business and is designed to be simple and consistent and provide clarity on managing and reporting risks (include climate change related issues) to the Board. The effective management of risk is critical to support the delivery of the Group's strategic objectives.

The ESG board sub-committee has the ultimate responsibility for management of climate and ESG risks and for ensuring the effectiveness of internal control systems. The ESG board sub-committee's review includes the Audit Committee's report on the risk matrix, significant risks, and the mitigating actions we have put in place. Any weaknesses identified by the review are addressed by enhanced procedures to strengthen the relevant controls, and these are reviewed at regular intervals. Vedanta identifies its risks from the bottom-up. Risk officers have been formally nominated at each of the operating businesses (Communities of Practice) as well as at Group level. Risk officers at the group level aggregate these risk registers and the Group's principal risks are identified based on the frequency, and potential magnitude and impact of the risks identified. Climate change risks (which are included in the final Group risk register) include physical risks through resilience measures and regulatory risk related changes aimed at limiting of reducing GHG emissions (via taxes, levies, etc) at the group level.

Climate change risks (which are included in the final Group risk register) include physical risks through resilience measures and regulatory risk related changes aimed at limiting of reducing GHG emissions (via taxes, levies, etc) at the group level:

- Physical risks related to climate change are identified and will continue to be assessed on annual basis based on new climate hazard information if available. The following describes two examples of how the above mentioned process has been applied:  
Physical risk: All our assets have been analysed considering a RCP 4.5 and RCP 8.5 increase scenario to evaluate whether extreme weather conditions or natural disasters derived from climate change may damage our facilities (identification). Results of the analysis yielded that from RCP 4.5 to RCP 8.5 scenario there is an increase in temperature at all regions and sites. As per the ensemble model RCP 8.5 there is a severe drought likelihood for nearly all our Iron Ore business sites by 2040. Most of our mines were also estimated to be at physical risk due to high seasonal variability for precipitation and more intense and longer-lasting extreme rainfall events and increased cyclonic events.
- Transition risk: Our imports maybe at risk due to Carbon Border Adjustment Mechanism Tax by the EU. These pose as additional costs to our revenue and in response we have taken measures to increase our overall renewable energy mix by investing in captive power generation from renewables. We have also developed low carbon products that could meet the emission intensity requirements of the EU.

Responding to risks & opportunities:

The 'Energy & Carbon CoP', chaired by the CEO of our Value Added Business, is a committee of Chief Operating Officers of our businesses. It has been tasked with developing and overseeing the implementation of Vedanta's carbon mitigation approach. Included in the forum's work are discussions related to approving Vedanta's

carbon management strategy, long-term greenhouse gas (GHG) emissions intensity reduction targets, alignment with investor requirements, emerging physical and transition risks including regulatory, market, legal risks and carbon pricing.

The Energy & Carbon CoP also informs the Group ExCo, Risk Management Committee and the Board Sustainability Committee on ways to manage our carbon footprint.

The Energy & Carbon CoP members work with BU-level Energy & Carbon working groups to taken action on the risks and opportunities identified. Some examples of these actions include:

1. Finalized the long-term Carbon Vision.
2. Commissioned a study to understand impacts of physical and transition climate risks'
3. Conducted Scope 3 emission estimation.
4. Developed a Net-Zero roadmap for the organization: and
5. Finalized FY2025 GHG emissions intensity targets.

## C2.2a

### (C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>We regularly review the current regulations pertaining to metals &amp; mining industry and its impact in our financial and operational performance. Vedanta has prepared an internal carbon pricing strategy (shadow pricing to be implemented from H2 FY2023) to assess risks linked to climate change, by projecting possible impacts on the operating costs of each business unit. This strategy will take into account the impacts on operational costs.</p> <p>Some key climate-related regulatory risks that are considered for example are: regulations on the implementation of FGDs in coal-based thermal powerplants, and Renewable Power Obligations.</p> <p>Additionally, country-specific carbon pricing policies (such as carbon tax in South Africa and RECs in India) will affect margins for our businesses. Example: We are considering the imposition of carbon taxes in our climate risk evaluation. At our Zinc International business unit in South Africa we paid a carbon tax of USD 2.3 Million in FY22 (38.69 Million Rand)</p>
Emerging regulation	Relevant, always included	<p>We anticipate regulatory changes aimed at limiting or reducing GHG emissions and emerging regulation is one of the key climate related transition risks that we have identified. These changes could potentially impact the company's operations with increased costs for fossil fuels, levies for emissions in excess of certain permitted levels, and increased administrative costs for monitoring and reporting. For example: Carbon Border Adjustment Mechanism (CBAM) is a carbon-</p>

		<p>pricing system for imports into the European Union. It is aimed at adjusting the price of certain imported products to the amount of CO2 emissions incorporated in them, in order to equalize the cost of carbon between EU products and these imports. We estimate that in case a CBAM is applied to our aluminium products, that landed cost would increase substantially considering the current EUETS EUA price trends. The construction of climate-related scenarios (NDC and below 2°C scenario) allows Vedanta to identify the changes needed and accordingly plan its adaptation needs. In FY 2021-22, we established an internal target to achieve 25% absolute GHG emissions reduction target by FY2030 (vis-à-vis 2020-21). We are in the process of implementing an internal carbon pricing strategy aligned with the 2°C scenario, also taking into consideration the recommendations of the Carbon Pricing Leadership Coalition by H2 FY2023.</p> <p>Example: Given that nearly 90% of Vedanta’s energy is sourced from captive coal-based thermal power-plants, any regulation to reduce our GHG or other air emissions can significantly impact our operating expenses. Further, India has also committed to ensure that 40% of the country’s energy is generated from renewable energy sources by 2030.</p> <p>To meet these requirements in the future, we are diversifying our energy portfolio to include renewable energy consistently. Additionally, agreement for a 580 MW RTC PPA project (divided over 3 projects) has also been signed with Sterlite Power, to be implemented by FY2025. We have purchased 3 Billion units of RE power in FY22 thereby avoiding ~2.3-2.5 MTCO2e. We have also started using biomass in our operations at Hindustan Zinc.</p>
Technology	Relevant, sometimes included	<p>Technology risk has been identified as one of the important climate change related risks for Vedanta. Risks associated with changes in technology are from lower-carbon, energy-efficient systems.</p> <p>Carbon emissions reduction has taken centre stage for steel and aluminium producers over the past few years as countries around the world look to reduce their carbon footprints throughout the next two to three decades to combat climate change. Interest in low-carbon aluminium products or green aluminium have moved "beyond just general interest" and almost all major Aluminium producers has introduced green aluminium products. Vedanta , catering to their sustainability conscious customers, have launched 2 green aluminium products Restora and Restora Ultra having GHG intensity 2.37 &amp; 0.47 TCO2e respectively thereby becoming 1st company in Asia to launch green aluminium. Within the context of climate change, transition to lower emissions technology is inherent to our activities and is considered as part of our risk assessment. These are considered relevant and sometimes included in the risk assessment discussions in</p>



		<p>the Energy and Carbon CoP and COPs.</p> <p>Example: At Vedanta, We are engaging with technology partners through our Vedanta Spark 2.0 programme, to establish circular economy models in our metal and mining operations. We have also built a low carbon aluminium by recovering the metal component from the dross (by product/ waste) and utilizing the remaining non-metallic proportions in production of slag conditioner for steel processing. A pilot project is being implemented Hindustan Zinc’s Dariba plant to recover metal residues enabled recovery of nearly 95% of the metal residues from copper dross, purification waste cake, antimony dust/slag and raw zinc oxide. Lastly, we continuously upgrade our smelter efficiencies so that our overall energy consumption is reduced, resulting in lowered GHG emissions. Our BALCO unit in FY22, graphitized 100% of 120 pots leading to 33,505.59 tCO<sub>2</sub>e per annum reduction.</p>
<p>Legal</p>	<p>Relevant, always included</p>	<p>Any non-compliances with applicable laws and regulations such as non-adherence to Renewable Purchase Obligations (RPOs) and delayed implementation of FGD technologies are likely to impact our operating expenses significantly through stringent penalties, fines, etc.</p> <p>Example: We regularly assess the legal landscape and ensure all our business units are compliant with statutory requirements. In adherence to the local laws, we purchase Renewable Energy Certificates to bridge any shortages and have been stepping up our captive renewable power generation to remain compliant with Renewable Purchase Obligations India. In FY22, INR 1,723.48 Crore (INR 17,234.8 Million) was spent on fulfillment of our RPOs. Additionally, legal implications from India’s NDC have also been considered at Vedanta. The company has aligned itself with the Nationally Determined Commitments of the Government of India. In FY21-22, the company reviewed its climate goals, including new commitments to reduce greenhouse gas (GHG) emissions and committed to bolder goals than previously established; 25% absolute emissions reductions by 2030 (baseline 2021) and Net Zero by 2050. Our Aluminium business, India’s largest producer of aluminium and value-added products, assumed another leadership in CY 2021. It also became the largest procurer of RE on India’s power exchanges – IEX and Power Exchange India Limited (PXIL). The ~2 billion units of RE was purchased for the aluminium smelter at the Jharsuguda unit, which is now India’s largest RE buyer on Green Term Ahead Market (G-TAM) platform at IEX. This purchase also helped reduce 1.5 million TCO<sub>2</sub>e of GHG emissions. Our subsidiary, Bharat Aluminium Company (BALCO), led the RE trading session, procuring around 59% of the traded RE certificates (RECs) in November 2021 alone, and a</p>

		total of over 2,861,700 RECs during the year. (FY22 RE purchase- 3 Billion units).
Market	Relevant, sometimes included	<p>As a metals &amp; mining, oil and gas business there are risks from shifts in supply and demand of our commodities, products. These are relevant risks to our business and are always taken into consideration in our risk assessment process. There is also a risk also on our ability to supply raw metals and minerals to downstream customers. At Vedanta, we are cognizant of the changing landscape and consistently diversifying our portfolio reducing our carbon footprint.</p> <p>Example: In the European market, we have witnessed shift in consumer preferences towards low-carbon metals and we launched in FY22, Restora and Restora Ultra India's First 'green aluminium', which will cater to those market demands. Additionally, in FY 2021-22 we produced around 191 KT of Lead. We are the world's largest fully integrated zinc-lead producer. Demand for lead acid batteries are driving more than 80% demand for lead. Lead-acid batteries may be replaced in the future as the market transitions to low emission. The post-pandemic green energy transition and the push for EVs is likely to decrease demand for lead as they use different battery technology. This may impact the economics of our Rampura Agucha mine in India. This is a medium to long term risk.</p>
Reputation	Relevant, always included	<p>As investors and financial institutions look to decarbonize their portfolios, reputational risk from climate change has enhanced. Inability to meet investor expectations can result in a loss of reputation, easily observable in a decline in the company's ESG risk rating – impacting access to finance. We have been consistently reviewing investor expectations and the required response at various forums such as Group ExCo, Energy &amp; Carbon CoP, HSE ExCo and Risk Committee. Risks and opportunities related to reputation are also identified and reviewed by the ESG board sub-committee, Group ESG ExCo, Carbon Forum and CoPs.</p> <p>Example: Most ESG ratings classify the natural resources/ mining sector as high risk in terms of environmental and social impact. Investors expect companies in this sector to take adequate steps to mitigate or eliminate that impact – especially for topics considered material to this sector. Climate change is a material issue for this sector. Failure to do adequate action results in a downgrade of a company's ESG ratings and subsequent reputational loss leading to higher borrowing costs or inability to access certain institutional funds. To manage this risk, Vedanta actively communicates with institutional investors, including groups such as CA100+, to communicate the actions the company is taking to decarbonize its operations and value chain. We also ensure that we are transparent about our decarbonization plans and disclose these in our TCFD report, DJSI report, Sustainability Report, and Integrated Annual Report. Our long-standing participation in CDP (including Forestry and Water</p>

		disclosures from FY22) is also an indicator of our commitment to remain transparent about our climate impact, actions, and future plans.
Acute physical	Relevant, sometimes included	Rapid onset climate events, including increased severity of extreme weather events such as floods, cyclones are considered in our physical climate risk assessment process. We are aware that extreme weather events could potentially cause severe damage to our assets or disrupt our operations. Additionally, increasing number of rainy days have also led to reduction in working hours or shutdown of production of our mining units. Accordingly, we consider acute physical risks as important and are exploring ways to minimize disruption to our operations on any such occurrence. Example: We have conducted location specific acute physical risk assessment of all our Business units in India, Africa and UAE. Just to mention one, from our risk assessment we inferred that from RCP 4.5 to RCP 8.5 scenario there is an increase in temperature at all regions and sites. Most of our mines were also estimated to be at physical risk due to high seasonal variability for precipitation and more intense and longer-lasting extreme rainfall events.
Chronic physical	Relevant, always included	Based on IPCC studies, Vedanta reviewed, projected and mapped potential physical impacts that pose risks to the company's operation. For the chronic physical risk it was identified the possibility of drought risk/ water stress may affect the production and distribution of the both iron and aluminium, leading to losses. Increase drought risk may affect cooling systems and availability/use of water for cooling, cooling equipment capacity limits in our mines. In areas of operation, which are significantly water stressed the availability of water can become a challenge with changes in the mean precipitation and rising temperature poses a risk to our workforce. Example: As per the ensemble model RCP 8.5 there is a severe drought likelihood by 2040 for nearly all our Iron Ore business sites which are mostly located in Goa. To combat risks for rising temperature, we already have awareness campaigns for heat stress at our Zinc International Units and where we also stagger working hours during peak summer months, with complete stoppage during the hottest parts of the day. To manage water stress risk, we have set a target to have a sustainable sourcing model for water stressed areas by 2025. Vedanta Aluminium has also partnered with TÜV SÜD in an effort to turn net water positive by 2030.

### C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

### Identifier

Risk 1

### Where in the value chain does the risk driver occur?

Direct operations

### Risk type & Primary climate-related risk driver

Chronic physical

Changing precipitation patterns and types (rain, hail, snow/ice)

### Primary potential financial impact

Increased capital expenditures

### Company-specific description

We expect physical risks related to extreme weather events, including changes in the availability of water due to climate change. We have conducted a detailed physical risk assessment for all our Business Units. With operations in both water-stressed areas and areas prone to flooding, changes in water availability is a material risk for the business like Vedanta Iron Ore Business, BALCO and Cairn Oil and Gas. Additionally, our assets like VAL-J and VAL-L may be at risk due to the increased frequency and intensity of cyclones. The time frame before financial implications of these risks are realized is estimated to be in 2039 and 2059. Rising temperatures, particularly for those who have to work outdoors in our businesses like VZI and TSPL, will also pose a danger to our workforce. To mitigate these risks, all new infrastructure within the plant boundaries and surrounding communities will be built with climate-resilience as a key design factor.

### Time horizon

Long-term

### Likelihood

More likely than not

### Magnitude of impact

High

### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

### Potential financial impact figure (currency)

330,000,000,000

### Potential financial impact figure – minimum (currency)

## Potential financial impact figure – maximum (currency)

### Explanation of financial impact figure

The cost was calculated based on IPCC AR5 Risk Assessment formula (Risk=Hazard X Exposure X Vulnerability) that is also used in most hazard models within the insurance industry, where vulnerability is a factor of sensitivity and adaptive capacity of the business unit. This exposure was dependent on total value of non-current assets (including Property, Plant and Equipment, intangible assets etc.) of the Business Units. For 55 business Units of Vedanta location specific present climate data was obtained. A physical risk index for each location was calculated. World Bank Climate Change Knowledge portal (CCKP) which houses the University of East Anglia Climate Research Unit (CRU) data and "Aqueduct Water Risk Atlas and Floods" from the World Resources Institute (WRI) and NOAA IBTrACS were used to obtain data on the climate hazards. Additionally, the company's adaptive capacity and sensitivity were qualitatively determined based on the existing measures taken to address climate resilience. The financial figure could be understood the total assets value of Vedanta's subsidiaries that is potentially exposed to climate risk. This may be realized through potential capital expenditures necessary to replace a damaged asset or increase operational costs, maintenance costs, etc. in case of climate impacts. An initial estimate of this physical risk for the group is ~INR 330,000 Million.

### Cost of response to risk

2,690,000,000

### Description of response and explanation of cost calculation

Our operations may be subject to a number of circumstances not wholly within the Group's control. These include damage to or breakdown of equipment or infrastructure, due to extreme weather conditions and natural disasters – any of which could adversely affect production and/or costs. Vedanta has taken appropriate Group insurance cover to mitigate this risk and Insurance Council is in place that monitors adequacy of coverage and status of claims. We have incurred INR 2690 Million as insurance cover to protect our assets against any harm. Vedanta developed a physical impact map and a climate risk assessment regarding precipitation and temperature patterns change due to climate change. This assessment helps business units to identify location specific operational risks related to climate change or to further evaluate other operational risks considering climate change impacts. It is part of Vedanta's integrated Risk Management.

Additionally, in FY22 Vedanta has developed climate risk scenarios for assessing impacts from RCP 8.5 and RCP 4.5 until 2039 and 2059 as defined by the International Panel on Climate Change (IPCC) on its units. From these two scenarios, the Company is exploring financial impact of climate-related physical risks up to 2039 and 2059 to our operations and projects and developing a sector specific Climate Resilience Strategy for our business units. The cost of response to chronic Physical risk would be determined through the adaptation measures that will be shortlisted for building resilience in the strategy. At present we have a high-level list of adaptation strategies, the costs of implementation will be explored individually at each unit.

### Comment

The financial impact figure was calculated using the following assets of 55 units across the world from BALCO, HZL, Cairn Oil & Gas, ESL, Iron Ore Business, TSPL, VAL-L&J, Sterlite Copper, VZI. This value is estimated for RCP 4.5 for 2040-2059. The same incase the global temperature goes above 2 degrees as per RCP 8.5 for 2040-2059 would be INR 413,401 Million.

**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Upstream

**Risk type & Primary climate-related risk driver**

Emerging regulation

Mandates on and regulation of existing products and services

**Primary potential financial impact**

Increased indirect (operating) costs

**Company-specific description**

Introduction of the "National Carbon Market" is one of the major risk driven by changes in regulation for Vedanta. This market regulation imposes a financial risk in terms of monetary penalties linked to emissions profile for all our businesses. This market policy is expected to rollout in the next 5 years.

For combating the risks associated with it, 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. These commitments are backed by initiatives like efficiency improvement in turbines and thermal operations, biomass cofiring in thermal power plants and procuring RE power at all our sites.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

12,396,089,244.83

**Potential financial impact figure – minimum (currency)****Potential financial impact figure – maximum (currency)**

### Explanation of financial impact figure

Based on our current emissions figures, we estimated our emissions for FY30. Assuming an annual reduction factor of 3% set by the government, we formulated a worst-case scenario taking USD 26/TCO<sub>2</sub>e (INR 1,950/TCO<sub>2</sub>e) as the carbon price (currently our ICP calculated is USD 15 /TCO<sub>2</sub>e(INR 1,125/TCO<sub>2</sub>e), increasing by 3-3.5% per annum) till FY35.

### Cost of response to risk

9,559,351,644.36

### Description of response and explanation of cost calculation

In order to achieve the reduction targets set by the government, we calculated the cost of procuring coal for equivalent reduction in emissions. The cost of procuring renewable energy for the same amount of emissions reduction was calculated and both values were compared to assess the additional costs of installing RE.

### Comment

No additional comment

### Identifier

Risk 3

### Where in the value chain does the risk driver occur?

Upstream

### Risk type & Primary climate-related risk driver

Emerging regulation  
Mandates on and regulation of existing products and services

### Primary potential financial impact

Increased indirect (operating) costs

### Company-specific description

The Carbon Border Adjustment Mechanism (CBAM) is a carbon-pricing system for imports into the European Union. It is aimed at adjusting the price of certain imported products to the amount of CO<sub>2</sub> emissions incorporated in them, in order to equalize the cost of carbon between EU products and these imports. India is among the countries that are most likely to be impacted by CBAM. The CBAM, is proposed to be applicable as of January 1, 2023 on a non penalty basis and with full penalty from 1st Jan 2026 onwards. We export our Aluminium to the EU and with CBAM, it poses a market risk by increasing the landed cost of our end products.

### Time horizon

Medium-term

### Likelihood

More likely than not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)****Potential financial impact figure – minimum (currency)**

25,515,000,000

**Potential financial impact figure – maximum (currency)**

37,406,250,000

**Explanation of financial impact figure**

The price of CBAM tax potentially would be measured based on the price of ETS certificates (EUAs) calculated as per the weekly average auction price of ETS allowances expressed in EUR/ton of CO<sub>2</sub> emitted. In FY 22 we produced 2268 KT of Aluminium at 15.76 TCO<sub>2</sub>e/T of Al, and we exported ~29% to Europe and if we consider this range of 20-30% of exports to Europe then if we are considering an EUA price of 75 USD and considering the GHG intensity benchmark for Aluminium for Europe is ~5 TCO<sub>2</sub>e/T of Al, we would end up spending USD 366 million (INR 27,450 Million) as a minimum and up to USD 536 million (INR 40,240 Million) as CBAM tax as delta between GHG intensity of our aluminium is much higher than the EUETS benchmark (~15.75-5= 10.76TCO<sub>2</sub>/T of Al)

**Cost of response to risk**

80,000,000,000

**Description of response and explanation of cost calculation**

In FY22, we have bought 3 Billion units of RE power for INR 16,500 Million to manufacture 120 KT of green aluminium. If we increase this production to 600 KT to cover our entire European exports (~600 KT), we will need ~15 Billion units of RE power which will cost us INR 80,000 Million considering all other aspects unchanged.

**Comment**

No additional comment

**Identifier**

Risk 4

**Where in the value chain does the risk driver occur?**

Upstream

**Risk type & Primary climate-related risk driver**

Legal

Exposure to litigation



### Primary potential financial impact

Increased capital expenditures

### Company-specific description

Any loss of containment at oil and gas plants due to extreme weather events or environmental damaged caused due to operations is likely to result in legal obligations for restoration and rehabilitation. Additionally, within India, costs are expected to be incurred in restoring the site of production facilities at the end of the producing life of an oil field. Such costs, discounted to net present value, are provided for and a corresponding amount is capitalised at the start of each project, as soon as the obligation to incur such costs arises.

### Time horizon

Long-term

### Likelihood

More likely than not

### Magnitude of impact

Medium-high

### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

### Potential financial impact figure (currency)

11,690,000,000

### Potential financial impact figure – minimum (currency)

### Potential financial impact figure – maximum (currency)

### Explanation of financial impact figure

The provisions for restoration, rehabilitation and environmental liabilities represent the management's best estimate of the costs which will be incurred in the future to meet the Group's obligations under existing Indian, Australian, Namibian, South African and the terms of the Group's exploration and other licences and contractual arrangements. These amounts are calculated by considering discount rates within the range of 2% to 3% and become payable at the end of the producing life of an oil field and are expected to be incurred over a period of twenty one years.

### Cost of response to risk

12,700,000,000

### Description of response and explanation of cost calculation

In order to prepare ourselves for any event of loss in containment due to extreme weather events or damage to environment due to our operations, we have created a provision for restoration, rehabilitation and environmental liabilities. In FY2021-22, a total of INR 12,700 Million has been provisioned to account for obligation to incur

restoration, rehabilitation and environmental costs arises when loss in containment takes place.

### Comment

As we expand our operations, and at the similar time take measures to reduce our exposure to litigation on account of loss in containment (as a result of extreme weather events or ongoing operations) reduced. The Provision for Restoration, Rehabilitation and Environmental costs has been revised from INR 11,690 Million in FY21 to INR 12,700 Million in FY22.

## C2.4

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

### C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

---

#### Identifier

Opp1

#### Where in the value chain does the opportunity occur?

Downstream

#### Opportunity type

Products and services

#### Primary climate-related opportunity driver

Shift in consumer preferences

#### Primary potential financial impact

Increased revenues through access to new and emerging markets

#### Company-specific description

We are observing change in customer preferences towards low-carbon and RE products. Over the medium and long term, aluminium consumption across the world is likely to increase, driven by population growth, urbanisation, and demand for Electric Vehicles. Another driver of the increasing demand for aluminum is the role it will play in the sustainable economy. Aluminum is necessary for the construction of both conventional (coal, natural gas, nuclear) and renewable (solar, wind, energy storage) technologies. This is particularly true for solar photovoltaics (PV) – aluminum accounts for more than 85% of most solar PV components. We have also introduced Restora and Restora Ultra that are nearly zero carbon aluminium.

#### Time horizon

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

268,823,112.38

**Potential financial impact figure – maximum (currency)**

336,028,950.34

**Explanation of financial impact figure**

We have assumed the growth rate of our low carbon aluminium in line with NDC scenario and have assumed the premium of USD \$ 20 over LME for low carbon aluminium. The estimated financial impact is low carbon aluminium production X USD premium, which is a minimum of USD 33,68,373 and a maximum of USD 42,10,467 in 2030.

**Cost to realize opportunity**

165,000,000,000

**Strategy to realize opportunity and explanation of cost calculation**

We have purchased 3 billion units of RE power for production of Restora and Restora Ultra. The cost to manage this opportunity would be related to increase in our aluminium production costs specifically RE purchase i.e . INR 16500 Million in FY2022.

**Comment**

No additional comment

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**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of lower-emission sources of energy

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

With a view of reducing greenhouse gas emissions and harnessing clean energy, solar power panels were installed on rooftops at different locations in our different business units in India and elsewhere. In FY22, Vedanta modified its target to achieve 25% reduction of absolute GHG emissions by FY2030, against a 2021 baseline. To achieve this goal, the company, among other actions, has a list of initiatives, which involves restructuring the current energy generation portfolio to insert solar energy and other renewable energy sources. Additionally, a 580 MW RTC PPA project (divided over 3 projects) is also under development, to be implemented by FY2025.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

1,399,064,184

**Potential financial impact figure – minimum (currency)****Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

From renewable and solar power our energy generation has increased FY21 to FY22. The potential costs of energy savings from three of the top-most initiatives has been used to highlight the potential financial impact in the first year. Using lower sources of emission through process and technology change has led to reduction in operational costs. The 3 major GHG emission reduction projects completed in FY22 is Turbine revamping at HZL, 100% graphitized pots installation & Normalization in BALCO and Addition of pots with 100% graphitized cathode at Jharsuguda. These measures allow respectively allow cost savings of 87.46 crore, 24.21 crore and 28.23 crore respectively in the first year of implementation.

**Cost to realize opportunity**

9,760,900,000

**Strategy to realize opportunity and explanation of cost calculation**

Total Costs spent on implementation of the emission reduction measures in FY2020-21 for the three initiatives (Turbine revamping at HZL, 100% graphitized pots installation & Normalization in BALCO and Addition of pots with 100% graphitized cathode at Jharsuguda.) was used to highlight the cost of response. While the initial cost is higher as compared to the savings in the first year, overall, in the project lifetime, savings will be much higher than implementation costs.

### Comment

No additional comment

### Identifier

Opp3

### Where in the value chain does the opportunity occur?

Direct operations

### Opportunity type

Energy source

### Primary climate-related opportunity driver

Use of lower-emission sources of energy

### Primary potential financial impact

Reduced indirect (operating) costs

### Company-specific description

With a view of reducing our fuel usage and GHG emissions, electric vehicles were used to replace our existing diesel run vehicles. In FY 22, we have replaced fossil fueled heavy vehicles with technologically advanced lithium-ion forklifts at a large scale. 23 lithium-ion battery-powered electric forklifts will be deployed at our Aluminium Smelter in Jharsuguda. This opportunity allows for GHG emission savings of nearly 690 tonnes of CO<sub>2</sub>e and it also enables longer working cycles, thereby improving productivity, while being virtually maintenance-free. There is also a reduction in energy requirements due to decreased ventilation provisions for underground mines due to the eventual elimination of diesel fumes. While the switching to Electric vehicles will help in Reduction in GHG emissions, the fuel efficiency is much more in EVs as compared to the conventional mode of transportation run by petrol and diesel and will help in reducing operating costs.

### Time horizon

Short-term

### Likelihood

Virtually certain

### Magnitude of impact

Medium

### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

**Potential financial impact figure (currency)**

24,077,500

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

Vedanta Aluminium currently operates a large fleet of forklifts for finished goods handling, material movement, etc. The new lithium-ion forklifts will help maximise productivity of operations by enabling longer working cycles via rapid charging. What's unique about the lithium-ion batteries is that they avoid the hassles of frequent battery change and have a substantially longer life than conventional lead-acid batteries, while being virtually maintenance-free, as they are completely sealed. The potential impact figure is calculated through the diesel amount saved every year by replacing with electric forklifts. This amounts to about 250,000 litres of diesel saved every year, which is then multiplied by the average diesel price in Odisha (state where Jharsuguda is located) to give the potential impact figure.

**Cost to realize opportunity**

2,294,537

**Strategy to realize opportunity and explanation of cost calculation**

The cost to realize the opportunity is the estimated rental costs of 23 forklifts every year (unit price of forklift is USD 25,000, and rental is about 5% of the value, so the calculation would be  $23 \times 25,000 \times 0.05$  and then converted to INR).

**Comment**

No additional comment

**Identifier**

Opp4

**Where in the value chain does the opportunity occur?**

Downstream

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Resource substitutes/diversification

**Primary potential financial impact**

Increased value of fixed assets

### **Company-specific description**

The Gamsberg Nature Reserve is one of the main protected areas maintained by VedantaZinc International. This Reserve is located in the ecologically sensitive Succulent Karoo Biome, one of 35 biodiversity hotspots globally. The region contains more than 400 unique succulent plant species – the largest number in the world for a region of its size. Within the Gamsberg ecosystem itself, there are approximately 397 plant species, 16 of which are recognised as endemic. By ensuring, for the next generations, the conservation of an area so rich in biodiversity, integrating and raising awareness of neighboring communities, VedantaZI collaborates with the environmental improvement of the Succulent Karoo Biome. In addition, it stimulates development of a Local Economy, which improve people's lives, linked to Sustainable Development, through their activities.

### **Time horizon**

Long-term

### **Likelihood**

Likely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

No, we do not have this figure

### **Potential financial impact figure (currency)**

### **Potential financial impact figure – minimum (currency)**

### **Potential financial impact figure – maximum (currency)**

### **Explanation of financial impact figure**

Vedanta-Zinc International aims to conduct a total economic value (TEV) study, that will help identify the financial values associated with environmental resources. The study, will give us an estimate of the a total intangible value that the Gamsberg Nature Reserve has.

### **Cost to realize opportunity**

0

### **Strategy to realize opportunity and explanation of cost calculation**

At present we have already drafted the Gamsberg Nature Reserve Strategic Management Plan and submitted for public comments. The final Management Plan will be submitted to Member of the Executive Council, South Africa for approval. We are also in negotiations to secure additional farms to be included in the Gamsberg Nature Reserve to ensure compliance to the Biodiversity Offset Agreement. For Vedanta ZI,

biodiversity and ecosystem services – benefits that people receive from ecosystems, such as clean water, erosion control, etc. – are essential and intrinsic themes to our business. Biodiversity is considered material to our ESG issues.

**Comment**

No additional comment

## C3. Business Strategy

### C3.1

**(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?**

Row 1

**Transition plan**

Yes, we have a transition plan which aligns with a 1.5°C world

**Publicly available transition plan**

Yes

**Mechanism by which feedback is collected from shareholders on your transition plan**

We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

**Attach any relevant documents which detail your transition plan (optional)**

Net Zero Plan Vedanta

 Net Zero\_Report\_Vedanta.pptx

### C3.2

**(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?**

	Use of climate-related scenario analysis to inform strategy
Row 1	Yes, qualitative and quantitative

### C3.2a

**(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.**

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Company-wide	1.6°C – 2°C	NGFS Scenario The five scenarios used for Vedanta’s transition risk



<p>Customized publicly available transition scenario</p>			<p>analysis</p> <ul style="list-style-type: none"> <li>• Current Policies Scenario: Under this scenario, existing climate policies stays in place without strengthening the ambition level of these policies.</li> <li>• Nationally determined contributions (NDCs) Scenario: This scenario foresees that India’s currently pledged NDCs gets implemented fully, and respective targets on energy and emissions in 2025 and 2030 are achieved.</li> <li>• Below 2°C scenario: This scenario imposes strict temperature targets. The Below 2°C scenario keeps the 67th-percentile of warming below 2°C throughout the 21st century.</li> <li>• “Net Zero 2050” scenario: This scenario foresees global CO2 emissions to be at net-zero in 2050. Furthermore, countries committed to specific net-zero targets in 2020 (i.e., China, EU, Japan, and United States of America) are assumed to meet their targets.</li> <li>• Delayed Transition scenario: For the Delayed scenario, a 2°C temperature target was imposed for 2100 and allows for temporary overshoot.</li> </ul>
<p>Physical climate scenarios RCP 4.5</p>	<p>Company-wide</p>		<p>RCP 8.5 and RCP 4.5 as defined by the International Panel on Climate Change (IPCC) were used as the BAU and optimistic scenario to project the most extreme temperature and precipitation changes that would impact Vedanta’s Businesses. Change in temperature and rainfall from the present to future (till 2040) was estimated so that the business can better adapt to climate change and add climate resilience to our operations and future projects. World Bank Knowledge portal, which houses the University of East Anglia Climate Research Unit data was used this analysis. The model uses global circulation model (CMIP5) Ensemble data as input. The standard deviation method was used for temperature and precipitation to capture the changes from 2020 to 2040. RCP 8.5 was selected to represent the "BAU" scenario where physical climate risks dominate and RCP 4.5 was the optimistic scenario. Projected precipitation changes in frequency, drought risk, and flood likelihood were extracted for all our facilities for both scenarios.</p>
<p>Physical climate</p>	<p>Company-wide</p>		<p>RCP 8.5 and RCP 4.5 as defined by the International Panel on Climate Change (IPCC) were</p>

<p>scenarios RCP 8.5</p>			<p>used as the BAU and optimistic scenario to project the most extreme temperature and precipitation changes that would impact Vedanta’s Businesses. Change in temperature and rainfall from the present to future (till 2040) was estimated so that the business can better adapt to climate change and add climate resilience to our operations and future projects. World Bank Knowledge portal, which houses the University of East Anglia Climate Research Unit data was used this analysis. The model uses global circulation model (CMIP5) Ensemble data as input. The standard deviation method was used for temperature and precipitation to capture the changes from 2020 to 2040. RCP 8.5 was selected to represent the "BAU" scenario where physical climate risks dominate and RCP 4.5 was the optimistic scenario. Projected precipitation changes in frequency, drought risk, and flood likelihood were extracted for all our facilities for both scenarios.</p>
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### C3.2b

**(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.**

**Row 1**

**Focal questions**

- How does climate change pose risk to Vedanta under different physical climate and transition risk scenarios?
- What are the impacts under the two scenarios and the associated financial implications to businesses?
- How can the risks be managed or mitigated?

**Results of the climate-related scenario analysis with respect to the focal questions**

- Outcomes of physical risk assessment under RCP 4.5 and 8.5:
- BALCO will face increasing water shortages which will get severe in the long term and a medium risk of flooding.
  - Cairn onshore locations currently are at a high-water scarcity risk with increasing severity. The offshore sites are located in cyclone prone areas, and heavy winds will increase at the Andhra Coast.
  - ESL is at risk due to heavy rainfall in short periods of time.
  - Heavy rainfall will be a key risk factor for IOB. There will also be a rise in maximum temperature in the long term

- TSPL will face high temperatures and water stress in the short term that will only exacerbate in the future. The age of the TSPL plant increases its sensitivity.
- VAL Lanjigarh and Jharsuguda are at risk from high temperatures, water scarcity and cyclonic activity.
- Sterlite Copper would experience water shortages along with increase in rainfall variation.
- VZI will experience an increase in its temperature. VZI may also face water scarcity.

Outcomes of transition risk assessment:

Cairn Oil & Gas may face the below risks by 2050:

- Legal: 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.
- Market: Complete loss international market share. Reduced demand domestically. Fall in price of Oil and Gas impacting revenues
- Technology: Replaced by biofuels, low carbon hydrogen, other RE sources.
- Reputation: Domestic consumers move to EV. Shift in interest of the investors and decreased demand.

BALCO, VAL-J, ESL and IOB's risks include:

- Legal: No carbon price but increase in local and national reporting requirements
  - Market: Loss of market share to competitors with greener products specifically on recycled steel. High dependency on coal/ grid electricity could also impact international import and demand
  - Technology: Increased research and development (R&D) expenditures in new and alternative technologies such as EAF or for recycling technologies
  - Reputation: No major reputational risk due to low carbon transition for iron and steel. Increased competition for natural resources. Investor pressure on reducing emissions.
- Sterlite Copper and VZL-
- Legal: There is a possibility that the domestic carbon tax in South Africa would increase
  - Market: Loss of market share to competitors
  - Technology: Increased research and development (R&D) expenditures in new technologies as well shifting of energy sources
  - Reputation: Increased competition for natural resources

TSPL

- Legal: Increased regulations on complying with emerging climate and emission levels. Exposure to litigation including non-compliance with reporting, negative impacts to climate change/ environment.
- Market: More RE providers in the grid
- Technology: May no longer be a key electricity option by 2050 due increase in RE technologies
- Reputation: No investor or government support until paired with CCUS

### C3.3

**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>We have observed a change in consumer preferences towards low-carbon metals and we are exploring ways to decarbonize our products. Climate risks and opportunities will impact our cost of and demand for our products as we move to a lower GHG emission economy. Copper, silver and zinc are projected to increase in demand in a low carbon economy as they are required in electric motors, transmission lines, batteries and solar panels. Our Lead product will likely decrease in demand and price as lead-acid batteries become obsolete in electric vehicles.</p> <p>Case Study: We launched our Green Aluminium Products “Restora” and “Restora Ultra” in FY22. The GHG intensity of these metals is significantly below global standards for low-carbon aluminium. Restora’s GHG emission intensity, which is produced using renewable energy, is almost half the global standard of 4 tCO<sub>2</sub>e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium. Our Aluminum business used over 3 billion units of renewable energy in FY22 to create the first batch of Restora &amp; Restora Ultra (low Carbon Aluminium), making it India’s largest industrial consumer of renewable energy.</p>
Supply chain and/or value chain	Evaluation in progress	<p>Some of Vedanta’s business units (such as Zinc) are already engaging with the suppliers and customers on climate change issues and opportunities. The Zinc unit has undertaken detailed third-party supplier sustainability assessment and is working with the supply chain to lower emissions. Given the length and breadth of our operations, we are also exploring ways to create synergy with our value chain elements on decarbonization.</p> <p>We have developed selection criteria for supplier selection, factors taken into consideration include: Compliance with Supplier Code of Conduct including HSE assessments, Risk Assessments and Compliance with human rights policies. On the basis of our increasingly articulate criteria, we are expecting to develop and implement concrete plans on our value chain engagement in the long term.</p> <p>In FY22, We have also designed targets with regards to the same:</p> <p>FY 2025: Work with our long term, tier 1 suppliers to submit</p>

		<p>their GHG reduction strategies</p> <p>FY2030: Align our GHG reduction strategies with our long-term tier 1 suppliers</p>
Investment in R&D	Yes	<p>Interest in low-carbon aluminium products or green aluminium have moved "beyond just general interest" and are now actively being considered by select customers. Inability to keep up with these trends will result in loss in market share/not attracting value-added customers. Vedanta has been an aggressive leader in terms of adopting new technologies and improving processes and standards. Vedanta Aluminium has one of the finest and best-in-class R&amp;D setups among peers in the aluminium value chain. In FY22, we have launched low-carbon aluminium "Restora" and "Restora Ultra". Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium. We are already collaborating with customers in the auto industry to develop customised aluminium alloys and products, catering to their objective of achieving desired light weighting for Electric Vehicles and hybrids of the future. The currently ongoing transition risk analysis will assist in identifying additional market trends at least up to 2030.</p> <p>Case Study: We are committed to decarbonize 100% of our LMV fleet by 2030 and 75% of the mining fleet by 2035. Our achievements so far:</p> <ul style="list-style-type: none"> <li>• 11 EVs deployed at HZL</li> <li>• 40 EVs deployed at ESL</li> </ul> <p>HZL has also signed an MoU with Sandvik AB to introduce battery-powered loaders and trucks in underground mining. It is set to introduce Sandvik's battery electric TH550B trucks and LH518B loaders in underground mines to reduce carbon emissions and make mine operations more environmentally friendly.</p>
Operations	Yes	<p>Our operations at present and in the future are likely to be impacted by physical as well as transition climate risks. To address the physical climate and transition risks, we have developed a Net Zero strategy that aims to decarbonize our operations and a resilience strategy to climate proof our operations and value chains. We have started implementing several of the measures identified under our Net Zero strategy and Resilience strategy. We have also developed an internal carbon pricing strategy as part of which we are implementing a shadow price for carbon for capital investment decisions across our businesses.</p>

		<p>Case Study: In FY2022, Vedanta Aluminium became the largest consumer of green energy in India when it purchased 2 billion units of green power on Indian Energy Exchange Limited (IEX). Further strengthening our commitment to decarbonize our energy mix, we have signed a Power Distribution Agreement to bring 580 MW of RE RTC (eq) online by FY2024.</p> <p>A break-up of this 580 MW is as follows:</p> <ul style="list-style-type: none"> <li>• 200 MW at BALCO</li> <li>• 180 MW at VAL-Jharsuguda</li> <li>• 200 MW at HZL</li> </ul>
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### C3.4

**(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures Liabilities	<p>Climate Change risks are a part of the corporate risk register and we have been undertaking investments to mitigate our exposure to these risks.</p> <p>Capital Expenditures: We are investing in developing low-carbon solutions and piloting projects that enable reuse/ recycle of waste generated in operations. Further, we are also undertaking investments in reclamation of flood-prone areas facing water risk. Our financial planning takes into account capital expenditure required to achieve our GHG emission targets and we have a defined budget for increasing renewable energy mix in our energy consumption portfolio. We are also assessing the financial impact from climate change for the business in long term (5 - 10 years). In FY22, we have approved an ICP Mechanism and in H2 FY2023, we will be introducing an 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.</p> <p>Liabilities: Provision is made for costs associated with restoration and rehabilitation of mining sites as soon as the obligation to incur such costs arises (including loss of containment due to any extreme weather events such as oil spills, tailing dam breakage, etc.). The costs are estimated on an annual basis on the basis of mine closure plans and the estimated discounted costs of dismantling and removing these facilities and the costs of restoration are capitalized as soon as the obligation to incur such costs arises. The provision for decommissioning oil and gas assets is based on the current estimates of the costs for removing and</p>

		decommissioning production facilities, the forecast timing and currency of settlement of decommissioning liabilities and the appropriate discount rate. A corresponding provision is created on the liability side. The capitalized asset is charged to the statement of profit and loss through depreciation over the life of the operation and the provision is increased each period via unwinding the discount on the provision.
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### C3.5

**(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?**

No, but we plan to in the next two years

## C4. Targets and performance

### C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Absolute target

Intensity target

### C4.1a

**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

---

**Target reference number**

Abs 2

**Year target was set**

2021

**Target coverage**

Company-wide

**Scope(s)**

Scope 1

Scope 2

**Scope 2 accounting method**

Location-based

**Scope 3 category(ies)**

**Base year**

2021

**Base year Scope 1 emissions covered by target (metric tons CO<sub>2</sub>e)**

58,936,269

**Base year Scope 2 emissions covered by target (metric tons CO<sub>2</sub>e)**

1,314,932

**Base year Scope 3 emissions covered by target (metric tons CO<sub>2</sub>e)**

**Total base year emissions covered by target in all selected Scopes (metric tons CO<sub>2</sub>e)**

60,249,077

**Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**

100

**Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2**

100

**Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**

**Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**

100

**Target year**

2030

**Targeted reduction from base year (%)**

25

**Total emissions in target year covered by target in all selected Scopes (metric tons CO<sub>2</sub>e) [auto-calculated]**

45,186,807.75

**Scope 1 emissions in reporting year covered by target (metric tons CO<sub>2</sub>e)**

59,486,747

**Scope 2 emissions in reporting year covered by target (metric tons CO<sub>2</sub>e)**

3,342,745

**Scope 3 emissions in reporting year covered by target (metric tons CO<sub>2</sub>e)**

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO<sub>2</sub>e)**

62,829,491



**% of target achieved relative to base year [auto-calculated]**

-17.1316417013

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Target ambition**

2°C aligned

**Please explain target coverage and identify any exclusions**

Till FY21, Vedanta had absolute targets only across specific business divisions and a group-level intensity-based target with target year 2025. (Reference: Abs1 and Int 1 from FY21 response). However, in FY22, we have established our Net Zero 2050 commitment and roadmap, which has been followed by revision and improvement of previous targets. In line with India's commitments as a part of the Nationally Determined Contribution (NDC), under the Paris Agreement, of reducing the country's emissions intensity by 33 - 35% between 2005 and 2030, and its Net Zero ambition by 2070 and Vedanta's own 2050 Net Zero commitment, we have committed towards an intermediate target of 25% absolute emissions reductions by 2030 (vis-à-vis 2020-21). The target covers Scopes 1 and 2 (location-based).

**Plan for achieving target, and progress made to the end of the reporting year**

As per Vedanta's emissions trajectory, there is an increase in emissions projected till FY2025, after which emissions will see drastic decreases as our emissions reduction initiatives such as RE PPAs will begin to come into effect from FY2025 in line with our Net Zero commitment and intermediate absolute reduction targets. In addition to emissions trajectory calculations, we have also carried out Scope 3 analysis (reported in this response) as well as carried out climate risk assessments (physical risks and transition risks). Based on these studies, we have undertaken the following actions targeted towards absolute emissions reduction:

Short Term:

- We are undertaking measures that decarbonize and reduce potential transitions risks. This includes shifting our current fuel to more greener sources. Vedanta Aluminium has signed a term sheet with GAIL (India) for supply of natural gas/RLNG to Lanjigarh Alumina Refinery. With this arrangement, the refinery operations will switch to natural gas/ RLNG, replacing consumption of Heavy Furnace Oil (HFO)/Light Diesel Oil (LDO). As a result, SOx emissions will potentially reduce by -99.9%, NOx emissions by -83%, and CO2 emissions by 30% for the refinery operations
- On a group-level we have decided to use "2.5 GW of Round the Clock (RTC) Renewable Energy for our operations by 2030": 464 MW RTC equivalent have been used in FY22
- Vedanta Aluminium is India's largest industrial consumer of Renewable Energy in 2021, consuming 2 billion units of renewable power, leading to 1,540 KtCO2e reduction in GHG Emissions

- Emissions Reduction Initiatives: Over the last four years, the company has achieved 9.04 million GJ in energy savings. 162 such projects were undertaken in FY22, leading to achieving a reduction of 3.79 million GJ this year and 662,201 TCO2e savings.

Medium Term

- Decarbonise 100% of our Light Motor Vehicle (LMV) fleet by 2030 and 75% of our mining fleet by 2035 (New Target in FY22)

- We aim to spend US\$5 billion over the next 10 years to accelerate the transition to Net-Zero carbon

- Align our GHG reduction strategies with our long term tier 1 suppliers

Long Term

- Commitment to accelerate adoption of hydrogen as a fuel and seek to diversify into H2 fuel or related businesses

- Set up specific targets on use of clean technologies – RE, CCUS, green hydrogen

**List the emissions reduction initiatives which contributed most to achieving this target**

## C4.1b

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

---

**Target reference number**

Int 2

**Year target was set**

2022

**Target coverage**

Other, please specify

Business Division as a proxy for Company-wide (see comments box for explanation)

**Scope(s)**

Scope 1

Scope 2

**Scope 2 accounting method**

Location-based

**Scope 3 category(ies)**

**Intensity metric**

Metric tons CO2e per metric ton of aluminum

**Base year**

2021

**Intensity figure in base year for Scope 1 (metric tons CO<sub>2</sub>e per unit of activity)**

6.29

**Intensity figure in base year for Scope 2 (metric tons CO<sub>2</sub>e per unit of activity)**

0.16

**Intensity figure in base year for Scope 3 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity)**

6.45

**% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure**

76.6

**% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure**

88.52

**% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure**

**% of total base year emissions in all selected Scopes covered by this intensity figure**

76.86

**Target year**

2025

**Targeted reduction from base year (%)**

20

**Intensity figure in target year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

5.16

**% change anticipated in absolute Scope 1+2 emissions**

105

**% change anticipated in absolute Scope 3 emissions**

0

**Intensity figure in reporting year for Scope 1 (metric tons CO<sub>2</sub>e per unit of activity)**

5.76

**Intensity figure in reporting year for Scope 2 (metric tons CO<sub>2</sub>e per unit of activity)**

0.38

**Intensity figure in reporting year for Scope 3 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in reporting year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity)**

6.14

**% of target achieved relative to base year [auto-calculated]**

24.0310077519

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Target ambition**

2°C aligned

**Please explain target coverage and identify any exclusions**

Based on our Net Zero commitment, we have committed to an intermediate target of 20% reduction in GHG intensity of metals business (baseline: FY2021). The following units have been covered under this target: Aluminium, Alumina, Steel and Copper. Due to the diverse nature of our products, we do not have a product-based normalization factor. We calculate the reduction achieved based by calculating business specific absolute GHG emissions reduction achieved and dividing that number by the GHG emissions that would have been emitted, if we were operating at baseline year intensity levels. A cumulative number for the group is then calculated.

**Plan for achieving target, and progress made to the end of the reporting year**

Our performance shows that we have achieved 24% of our intensity reduction target in FY22.

For our metals units, the following plans have been undertaken to reduce emissions intensity:

Aluminium:

- In FY22 we have introduced Green Aluminium called "Restora" and " Restora Ultra", low-emissions aluminium products aimed towards our sustainability conscious consumers . Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard at 4 tCO<sub>2</sub>e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium.
- Vedanta Aluminium has signed a term sheet with GAIL (India) for supply of natural

gas/RLNG to Lanjigarh Alumina Refinery. With this arrangement, the refinery operations will switch to natural gas/ RLNG, replacing consumption of Heavy Furnace Oil (HFO)/Light Diesel Oil (LDO). As a result, SOx emissions will potentially reduce by - 99.9%, NOx emissions by -83%, and CO2 emissions by 30% for the refinery operations.

Copper: We aim to launch Green Copper in the upcoming quarters.

Metal Business Units (overall): Using our climate-scenario analysis for physical risk assessment (RCP 4.5 and RCP 8.5) and transition risk assessment through NGFS scenarios, we have developed key measures for our metal BUs such as renewable energy, bio-mass based plants for the short and medium terms.

**List the emissions reduction initiatives which contributed most to achieving this target**

## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

Net-zero target(s)

Other climate-related target(s)

## C4.2b

**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

---

**Target reference number**

Oth 2

**Year target was set**

2022

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Energy consumption or efficiency

GJ

**Target denominator (intensity targets only)**

**Base year**

2022

**Figure or percentage in base year**

0

**Target year**

2025

**Figure or percentage in target year**

10,000,000

**Figure or percentage in reporting year**

3,797,436

**% of target achieved relative to base year [auto-calculated]**

37.97436

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

This target is indirectly related to the emissions target.

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

**Please explain target coverage and identify any exclusions**

The targets covers 100% of our business operations. Since the energy consumption target to reduce 10 million GJ was committed to in FY22, we have taken the percentage in the base year as 0 to show our positive progress towards the target this year.

162 projects have been undertaken in FY22, leading to achieving a reduction of 3.79 million GJ. Several of these projects were in the area of energy efficiency measures such as switching to LED lights, use of energy efficient compressors, maintenance of pumps and compressors running in overload conditions, compressor optimization, reduction in specific power consumption among others.

**Plan for achieving target, and progress made to the end of the reporting year**

We have accomplished 37.97% of the target by achieving a reduction of 3.79 million GJ this year.

In order to accomplish our energy consumption reduction targets, in addition to our existing projects and technologies we are looking at further technological improvements or innovations that support the transition to a lower-carbon, energy efficient economic system- In FY22, Vedanta has signed an MoU with TERI to look at opportunities to work on common areas of interest until 2050. Additionally, we have about 104 projects in the pipeline in various planning stages that could have the potential to save up to 1,031,973 TCO<sub>2e</sub> in reduction savings.

**List the actions which contributed most to achieving this target**

## C4.2c

### (C4.2c) Provide details of your net-zero target(s).

#### Target reference number

NZ1

#### Target coverage

Company-wide

#### Absolute/intensity emission target(s) linked to this net-zero target

Abs2

Int2

#### Target year for achieving net zero

2050

#### Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

#### Please explain target coverage and identify any exclusions

The targets covers 100% of our business operations. To solidify our climate commitments, Vedanta has increased its ambition by setting a target of becoming net zero by 2050 or sooner. In this direction, we aim to spend 5 billion USD over the next 10 years to accelerate transition to net zero operations. Our targets are aligned with the national vision to decarbonize the Indian economy by 2070. They are also in line with our purpose of creating long-term value for our business and stakeholders and satisfies our vision to produce low-impact metals and minerals for Zero Harm, Zero Waste and Zero Discharge.

#### Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

#### Planned milestones and/or near-term investments for neutralization at target year

We have developed a Net Zero 2050 roadmap for our organization, and aim to spend USD 5 billion by 2030 to accelerate our Net Zero Transition. Additionally, we have set intermediate absolute and intensity-based reduction targets as follows:

- 25% reduction in absolute emissions by 2030 (baseline: FY2021)
- 20% reduction in GHG intensity of metals business by 2025 (baseline: FY2021)

We have also set renewables targets, which are as follows:

- 20% GHG intensity reduction in metals and mining business till FY25 against FY21
- 2.5 GW of RE RTC or equivalent by 2030

#### Planned actions to mitigate emissions beyond your value chain (optional)

## C4.3

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

### C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO<sub>2</sub>e savings.**

	Number of initiatives	Total estimated annual CO <sub>2</sub> e savings in metric tonnes CO <sub>2</sub> e (only for rows marked *)
Under investigation	86	
To be implemented*	15	180,983.86
Implementation commenced*	3	131,943.19
Implemented*	162	662,201
Not to be implemented		

### C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

#### Initiative category & Initiative type

Energy efficiency in production processes  
Motors and drives

#### Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)

106,655.7

#### Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

#### Investment required (unit currency – as specified in C0.4)

12,409,000

#### Payback period



<1 year

### Estimated lifetime of the initiative

#### Comment

In order to increase energy efficiency in our zinc operations, projects across 6 units were completed in FY22 for turbine revamping, leading to an increase in efficiency and 1,056,661 GJ in energy savings and 106,655.7 TCo2e of savings. These projects were one of the Top 3 GHG saving initiatives undertaken by the organization in FY22. This is also the first project in India increasing both efficiency and capacity of the plant by modifying the turbine internals. HZL has done an investment of 124.09 Cr for this project with a payback period of 0.91 Year considering present Coal cost.

Major achievements of this project are:

- 1) Carbon emission reduction potential of 2.4 Lakh TPA.
- 2) Reduction of Specific Coal Consumption by 25 grams which will be giving saving on Coal consumption.
- 3) Increase in Power Generation (75 MW) to meet out Power requirements
- 4) Auxiliary Power reduction by 0.3%

#### Initiative category & Initiative type

Low-carbon energy generation  
Solid biofuels

#### Estimated annual CO2e savings (metric tonnes CO2e)

17,732

#### Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

#### Voluntary/Mandatory

Voluntary

#### Annual monetary savings (unit currency – as specified in C0.4)

#### Investment required (unit currency – as specified in C0.4)

#### Payback period

### Estimated lifetime of the initiative

#### Comment

In line with our Net Zero 2050 target, our business units have been exploring alternatives for emissions reduction . In FY22, our team at Hindustan Zinc Limited (HZL) conducted a pilot test on the using of biomass blended with coal for energy generation.

After the success of the pilot, biomass was introduced into regular energy generation for business operations, leading to 5% consumption of biomass by March 2022. The initiative resulted in 15,000 MT reduction in coal consumptions as compared to normal operations and benefited with 17,732 tCO<sub>2</sub>e units reduction in FY22. Additionally, the project has the potential for reduction of 2.48 Lakhs tCO<sub>2</sub>e in FY23.

### C4.3c

#### (C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	Every year our businesses undertakes projects to improve energy efficiency and reduce GHG emissions. These projects are evaluated based on the energy saving and GHG reduction potential. Contribution to the cost optimization and production enhancement is also considered and this is evaluated using the payback period approach. All selected projects are part of the BU business plan and are budgeted accordingly.
Internal price on carbon	In FY22, Vedanta has finalized discussion on an internal carbon pricing mechanism and shadow pricing will be introduced in H2 FY2023 on carbon into capital expenditures approval processes, with the aim to redirect investments towards clean technologies, lower-carbon solutions, and renewable energy projects across our operations and supply chain. This will help us minimize our climate risks and at the same time explore opportunities to reduce our carbon footprint and associated transitional costs. The carbon price will be annually updated and used to monetize GHG emissions and included in business plans to optimize decision making.
Internal incentives/recognition programs	The variable component of the Executive Compensation (~15% of variable pay)) is linked to individual performance on Vedanta's Sustainability Assurance Process (VSAP) which ensures alignment with Vedanta's carbon footprint management strategy. From FY2021 onwards, ESOP eligibility will also depend on achievement of GHG emission reduction KPIs.
Compliance with regulatory requirements/standards	Climate-related regulatory risks that are considered are government regulations for climate change mitigation such as implementation of FGDs in coal-based thermal power-plants and Renewable Power Obligations. Additionally, country-specific carbon pricing policies (such as carbon tax in South Africa) can also affect margins for our businesses. In India, our operations fall under the purview of Renewable Power Obligations (RPOs). As of FY2021-22, all business units consuming more than 5 MW of energy need to source 19% of their energy from renewable sources. Those unable to purchase or install renewables of equivalent capacity, can buy Renewable Energy Certificates (RECs). To comply with the above regulatory requirements

	we are taking measures to diversify our energy portfolio to include renewable energy, invest in R&D activities for low-carbon products. In FY22, We have also set an absolute emission reduction target and committed to Net Zero by 2050.
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## C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?**

Yes

## C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.**

### Level of aggregation

Product or service

### Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

### Type of product(s) or service(s)

Aluminum

Other, please specify

Low Carbon Aluminium, two products: Restora (using renewable energy) and Restora Ultra (using dross, by-product of production of aluminium)

### Description of product(s) or service(s)

In FY22, our Aluminium business launched 'Restora' and 'Restora Ultra' – green product lines for the metal, and thus joining an elite league of global players. The GHG intensity of these metals is significantly below global standards for low-carbon aluminium.

Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard at 4 tCO<sub>2</sub>e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium. Our Aluminum business used over 2 billion units of renewable energy in 2021 to create the first batch of Restora, making it India's largest industrial consumer of renewable energy.

We have teamed up with Runaya Refining, one of India's rapidly expanding manufacturing start-ups devoted to developing cutting-edge solutions from waste to wealth for the resources sector, to manufacture Restora Ultra.

**Have you estimated the avoided emissions of this low-carbon product(s) or service(s)**

No

**Methodology used to calculate avoided emissions**

**Life cycle stage(s) covered for the low-carbon product(s) or services(s)**

**Functional unit used**

**Reference product/service or baseline scenario used**

**Life cycle stage(s) covered for the reference product/service or baseline scenario**

**Estimated avoided emissions (metric tons CO<sub>2</sub>e per functional unit) compared to reference product/service or baseline scenario**

**Explain your calculation of avoided emissions, including any assumptions**

**Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year**

## **C5. Emissions methodology**

### **C5.1**

**(C5.1) Is this your first year of reporting emissions data to CDP?**

No

### **C5.1a**

**(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?**

Row 1

---

**Has there been a structural change?**

No

### **C5.1b**

**(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?**

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in boundary	<ul style="list-style-type: none"> <li>• We have started reporting Scope 1 and 2 data for one of our Ferro-Alloy unit FACOR from FY22 onwards. This is included in the Scope 1 and 2 emissions in the reporting year.</li> <li>• We have stopped reporting Scope 1 and 2 data for BMM (part of Vedanta Zinc International, VZI) from FY22 onwards as this facility has been closed.</li> <li>• In line with our target to ensure that all our businesses account for their Scope 3 emissions by 2025, we have begun reporting our Scope 3 emissions. In FY22's response, we have the results of the GHG Inventorization that has been carried out across our Business Units for both for FY21 and FY22. The following categories have been covered under our Scope 3 GHG Inventory:           <ul style="list-style-type: none"> <li>Category 1: Purchased Goods and Services</li> <li>Category 3: Fuel and Energy Related</li> <li>Category 4: Upstream Transportation</li> <li>Category 5: Waste Generated in Operations</li> <li>Category 6: Business Travel</li> <li>Category 7: Employee Commute</li> <li>Category 9: Downstream Transportation</li> <li>Category 10: Processing of Sold Products</li> <li>Category 11: Use of Sold Products</li> </ul> </li> </ul> <p>The emissions data covers all our major business units covering aluminium, zinc, ferrous, copper, thermal power plant and oil and gas sectors. We aim to continue reporting our Scope 3 emissions and building a robust reporting process across our BUs and develop reduction plans in line with our overall Net Zero 2050 commitment.</p>

## C5.1c

**(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?**

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	<p>We have aligned the base year (i.e. FY21) for our new targets (both absolute and intensity-based) in FY22 to incorporate the additional FACOR emissions and Scope 3 emissions reporting that we have undertaken since FY21. Therefore, our base year emissions do not require recalculation, as the base</p>

		year for both targets is the same year as our changes in boundary (FACOR Scope 1 and 2 reporting and overall Scope 3 emissions reporting).
--	--	--

## C5.2

### (C5.2) Provide your base year and base year emissions.

#### Scope 1

##### Base year start

April 1, 2020

##### Base year end

March 31, 2021

##### Base year emissions (metric tons CO<sub>2</sub>e)

58,936,269

##### Comment

The base year for our absolute emissions reduction targets is FY21 and hence we are considering the same year as base year for our inventory.

#### Scope 2 (location-based)

##### Base year start

April 1, 2020

##### Base year end

March 31, 2021

##### Base year emissions (metric tons CO<sub>2</sub>e)

1,314,932

##### Comment

The base year for our absolute emissions reduction targets is FY21 and hence we are considering the same year as base year for our inventory.

#### Scope 2 (market-based)

##### Base year start

April 1, 2020

##### Base year end

March 31, 2021

##### Base year emissions (metric tons CO<sub>2</sub>e)

0

##### Comment

Location-based result has been used as a proxy since a market-based figure cannot be calculated.

**Scope 3 category 1: Purchased goods and services**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

4,161,727

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory. 5% of total emissions emissions from this category are taken directly from suppliers.

**Scope 3 category 2: Capital goods**

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**Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment****Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

2,146,367

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory. 1% of total emissions emissions from this category are taken directly from suppliers.

**Scope 3 category 4: Upstream transportation and distribution**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

458,512

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

**Scope 3 category 5: Waste generated in operations**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

445,290

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

**Scope 3 category 6: Business travel**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

1,406

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

**Scope 3 category 7: Employee commuting**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021



**Base year emissions (metric tons CO<sub>2</sub>e)**

12,101

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

**Scope 3 category 8: Upstream leased assets**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

**Scope 3 category 9: Downstream transportation and distribution**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

234,805

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

**Scope 3 category 10: Processing of sold products**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

1,001,617

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the

same year as base year for our inventory. 5% of total emissions emissions from this category are taken directly from suppliers.

### **Scope 3 category 11: Use of sold products**

---

**Base year start**

April 1, 2020

**Base year end**

March 31, 2021

**Base year emissions (metric tons CO2e)**

25,163,167

**Comment**

The base year for our emissions reduction targets is FY21 and on a group-level Vedanta has started reporting Scope 3 emissions since FY21, hence we are considering the same year as base year for our inventory.

### **Scope 3 category 12: End of life treatment of sold products**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

### **Scope 3 category 13: Downstream leased assets**

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**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

### **Scope 3 category 14: Franchises**

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**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

**Scope 3 category 15: Investments**

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**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

**Scope 3: Other (upstream)**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

**Scope 3: Other (downstream)**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

## C5.3

**(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate 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 CO<sub>2</sub> emissions data collection guidelines

## C6. Emissions data

### C6.1

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO<sub>2</sub>e?**

#### Reporting year

---

##### Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)

59,486,747

##### Start date

April 1, 2021

##### End date

March 31, 2022

##### Comment

The gross global Scope 1 emissions are obtained from 100% of our operations. The sectors included in the Scope 1 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY22, Scope 1 emissions accounted for 61.2 % of total emissions, where Scopes 1,2 and 3 have been considered and reported.

#### Past year 1

---

##### Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)

58,936,269

##### Start date

April 1, 2020

##### End date

March 31, 2021

##### Comment

The gross global Scope 1 emissions are obtained from 100% of our operations. The sectors included in the Scope 1 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY21, Scope 1 emissions accounted for 62.7% of total emissions, where Scopes 1,2 and 3 have been considered and reported.

### Past year 2

---

#### Gross global Scope 1 emissions (metric tons CO2e)

57,482,869

#### Start date

April 1, 2019

#### End date

March 31, 2020

#### Comment

The gross global Scope 1 emissions are obtained from 100% of our operations. The sectors included in the Scope 1 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY20, Scope 1 emissions accounted for 96.9% of total emissions, where Scopes 1 and 2 been considered and reported.

### Past year 3

---

#### Gross global Scope 1 emissions (metric tons CO2e)

54,964,436

#### Start date

April 1, 2018

#### End date

March 31, 2019

#### Comment

The gross global Scope 1 emissions are obtained from 100% of our operations. The sectors included in the Scope 1 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY19, Scope 1 emissions accounted for 94.0% of total emissions, where Scopes 1 and 2 been considered and reported.

## C6.2

### (C6.2) Describe your organization's approach to reporting Scope 2 emissions.

#### Row 1

---

#### Scope 2, location-based

We are reporting a Scope 2, location-based figure

#### Scope 2, market-based

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

**Comment**

NA

**C6.3**

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

**Reporting year**

---

**Scope 2, location-based**

3,342,745

**Start date**

April 1, 2021

**End date**

March 31, 2022

**Comment**

The gross global Scope 2 emissions are obtained from 100% of our operations. The sectors included in the Scope 2 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY22, Scope 2 emissions accounted for 3.43% of total emissions, where Scopes 1,2 and 3 have been considered and reported.

**Past year 1**

---

**Scope 2, location-based**

1,314,932

**Start date**

April 1, 2020

**End date**

March 31, 2021

**Comment**

The gross global Scope 2 emissions are obtained from 100% of our operations. The sectors included in the Scope 2 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY21, Scope 2 emissions accounted for 1.4 % of total emissions, where Scopes 1,2 and 3 have been considered and reported.

**Past year 2**

---

**Scope 2, location-based**

1,864,711

**Start date**

April 1, 2019

**End date**

March 31, 2020

**Comment**

The gross global Scope 2 emissions are obtained from 100% of our operations. The sectors included in the Scope 2 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY20, Scope 2 emissions accounted for 3.1% of total emissions, where Scopes 1 and 2 have been considered and reported.

**Past year 3**

---

**Scope 2, location-based**

3,506,187

**Start date**

April 1, 2018

**End date**

March 31, 2019

**Comment**

The gross global Scope 2 emissions are obtained from 100% of our operations. The sectors included in the Scope 2 data are aluminium, zinc, copper, iron, oil & gas and thermal power. In FY19, Scope 2 emissions accounted for 6.0% of total emissions, where Scopes 1 and 2 have been considered and reported.

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

No

## C6.5

**(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO<sub>2</sub>e)**

4,988,940

**Emissions calculation methodology**

Average data method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

5

**Please explain**

Category 1 is most relevant for metal processing companies, to account for the extraction of raw materials, manufacturing, electricity generation consumed by upstream activities, land use change, and transportation of goods between suppliers. As majority of Vedanta - metal business units are into metal smelting and processing, the emission associated with the purchased of raw material (ore, intermediate products, chemicals and feedstock such as calcined coke) are major contributor. Research also indicates that Scope 3 category 1 "Purchased goods and services" are also very relevant to our sector, representing over 50% of value chain emissions for some companies (Greene, 2017:5).

At Vedanta group scope 3 - Category 1 is second largest contributor to our scope 3 inventory with over 15% of our Scope 3 emissions.

Also as per CDP - Category 1 was reported as "Relevant, calculated" by 51% of Metals & Mining companies responding to CDP on behalf of investors in 2021 and comprised a significant proportion of emissions – 35% of total Scope 3 emissions and 32% of total Scope 1+2+3 emissions reported by the sector.

As per Scope 3 standard GHG emissions from the Purchased Goods and Services are to be estimated by either of supplier specific method, average data, spend data or hybrid.

For Vedanta mass based (average method) is referred where GHG emissions are derived by taking the quantity of material and multiplying with the average emission factors. The supplier specific emission factors are referred if available otherwise average emission factors are referred for the calculation

GHG emission estimation formula

GHG Emissions (t CO<sub>2</sub>) = Quantity of Material (t) \* Emission Factor (t CO<sub>2</sub>/t)

**Capital goods****Evaluation status**

Not relevant, explanation provided

**Please explain**

For the current Scope 3 Inventory, Capital Goods emissions are not estimated due to various challenges and the category is not applicable to all BUs.

**Fuel-and-energy-related activities (not included in Scope 1 or 2)****Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO<sub>2</sub>e)**

2,627,796



## Emissions calculation methodology

Fuel-based method

## Percentage of emissions calculated using data obtained from suppliers or value chain partners

1

### Please explain

GHG emissions related to the extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in Scope 1 or Scope 2.

As Vedanta procures large amount of fuel (Coal, coke, Natural Gas, LPG, HSD, HFO and electricity (grid)) -the category would be relevant for the business. At Vedanta we have estimated upstream emission from fuel based on our consumption and have estimated emission from T&D loss due to purchased electricity.

At Vedanta group scope 3 - Category 3 is the third largest contributor to our scope 3 inventory with over 7% of our Scope 3 emissions.

As per Scope 3 standard– supplier specific and average data approach are to be used for GHG estimation.

Fuel Upstream –

Under this approach – the quantity of fuel consumption is multiplied with the emission factor (upstream) to derive GHG emissions.

GHG Emissions = Quantity of Fuel consumed (t) \* Emission factor (t CO<sub>2</sub>/t)

Electricity T&D Loss

To estimate GHG emissions from T&D loss – the T&D loss for a company is estimated using the electricity consumption (metering point at company) and T&D loss for the power distribution company where the company is located.

Step 1 – Estimation of T&D Loss

T&D Loss (MWh) = (Electricity Consumption/(1-T&D Loss)) – Electricity Consumption

Step 2 – GHG Emissions Estimate

GHG Emissions = T&D Loss (MWh) \* Emission factor (t CO<sub>2</sub>/MWh)

For electricity based on the location of the unit, the DISCOM specific T&D loss has been applied for GHG estimation

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

**Emissions in reporting year (metric tons CO<sub>2</sub>e)**

373,841

**Emissions calculation methodology**

Fuel-based method

Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

The approach adopted for the estimation of upstream GHG emissions is based on fuel method under which based on quantity of raw material, distance, type of truck (loading) and mileage the fuel consumption is estimated.

Road Transport Emissions

Step 1: Segregate the quantity of material basis supplier and location

Step 2 – Estimate Number of Trip

No of Trips = Total Quantity (t) \* per trip loading (t)

Step 3 – Estimate total kms

Total kms = No of Trips x Distance of Supplier from facility

Step 4 – Estimate Diesel Consumption

Diesel Consumption = Total kms/ Vehicle mileage (KMPL)

Step 5 – Estimate GHG emissions

GHG Emissions = diesel consumption (kL) \* Emission Factor (t CO<sub>2</sub>/kl)

Rail Transport Emissions

Step 1 - Segregate the quantity of material basis supplier and location

Step 2 – Estimate tonnage – kilometer for material

Tonnage – kilometer = Total Quantity (t) x Distance (km)

Step 3 - Calculate GHG Emissions

GHG Emissions = Tonnes-kilometers x Emission factor (kg CO<sub>2</sub>/t-km)

### Sea Transport Emissions

Step 1 - Segregate the quantity of material basis supplier and location (Country and Port)

Step 2 – Estimate port to port distance (kilometers)

Step 3 – Estimate tonnage – kilometer for material

Tonnage – kilometer = Total Quantity (t) x Distance (km)

Step 4 - Calculate GHG Emissions

GHG Emissions = Tonnes-kilometers x Emission factor (kg CO<sub>2</sub>/t-km)

The activity data is collected from the logistics/Gate entry records maintained by each BU as part of their SAP/ERP system – where quantity of material, location of supplier, and transport details are available.

For the estimation of GHG emissions the following sources have been referred to:

- Vehicle mileage – The vehicle mileage is referred from ICCT – Publication on mileage of HDV Vehicles in India
- Distance: Distance between facility and supplier is measured/estimated by using Google Maps (not exact but from Supplier City location to Plant/manufacturing facility)
- Vehicle Loading – Vehicle loading from system (Gate Entry records) and in case it is not available average assumption of 25 T per trip is assumed for road transport
- Diesel Emission Factor – The emission factor for diesel consumption is referred from IPCC
- Sea Transport – The emission factor is referred from DEFRA and distance between port is estimated using Ports Distance Calculator

## Waste generated in operations

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### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

38,623

### Emissions calculation methodology

Waste-type-specific method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Please explain

The approach adopted for the estimation of emission associated with waste disposal are as follows:

- Depending on type of final disposal practices GHG emissions associated with processing are accounted (use of waste as alternate material in other industry is not accounted)
  - Depending on distance and loading GHG emissions associated with waste transport is accounted
- GHG Emissions = Waste Generation (t) \* Emission factor (t CO<sub>2</sub>/t)
- The activity data is collected from the waste generation and disposal records maintained by BU (Environment Status reporting records)

For the estimation of GHG emissions the following sources have been referred to:

- Vehicle mileage – The vehicle mileage is referred from ICCT – Publication on mileage of HDV Vehicles in India
- Distance: Distance between facility and supplier is measured/estimated by using Google Maps (not exact but from Supplier City location to Plant/manufacturing facility)
- Vehicle Loading – Vehicle loading from system (Gate Entry records) and in case it is not available average assumption of 25 T per trip is assumed for road transport
- Diesel Emission Factor – The emission factor for diesel consumption is referred from IPCC
- Waste processing emission factors referred from – LCI Datasets or DEFRA

## Business travel

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### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

591

### Emissions calculation methodology

Distance-based method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Please explain

The approach adopted for the estimation of emission associated with Business Commute is as follows:

- Based on the to and from information the distance is estimated using the google maps or flight radar.
- For each passenger depending on type of commute – the passenger km is derived
- The emission factors are referred for each type of commute (air and rail) and is multiplied with the activity data (passenger-km) to estimate GHG emissions

Step 1 – Collate booking information – From & To, Type of transport and distance

Step 2 - Calculate passenger-km

### Step 3 – Calculate GHG emissions

GHG emissions = Passenger-km \* emission factor (kg CO<sub>2</sub>/pax-km)

The activity data is collected from travel records maintained by individual business units. For the estimation of GHG emissions the following sources are referred to:

- Distance: Distance between embarking station/airport to destination station/airport by using Google Maps
- Emission Factors: Shakti Sustainable Energy Foundation Publication on India Specific Road, Rail and Air Transport Emission factors

## Employee commuting

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### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

11,804

### Emissions calculation methodology

Distance-based method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Please explain

The approach adopted for the estimation of emission associated with employee commuting are as follows:

- The BUs either maintain the kilometers or diesel consumption data in Bus or cabs (provided by company)
- If fuel consumption is directly available, the fuel consumption (activity data) is multiplied with emission factor to estimate GHG emissions
- And in case fuel consumption data is not available, the fuel consumption is estimated using the mileage assumption depending on type of vehicle and emission is subsequently estimated using the fuel emission factors

For the estimation of GHG emissions the following sources are referred to:

- Emission Factors: Shakti Sustainable Energy Foundation Publication on India Specific Road, Rail and Air Transport Emission factors
- Vehicle mileage – The vehicle mileage is referred from ICCT – Publication on mileage of HDV Vehicles in India or based on publicly available information from Automobile Manufacturers

## Upstream leased assets

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### Evaluation status

Not relevant, explanation provided

**Please explain**

This category is not relevant to Vedanta as it does not have any leased assets.

**Downstream transportation and distribution**

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**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

487,723

**Emissions calculation methodology**

Fuel-based method

Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

The approach adopted for the estimation of downstream GHG emissions is based on fuel method under which based on quantity of raw material, distance, type of truck (loading) and mileage the fuel consumption is estimated.

Road Transport Emissions

Step 1: Segregate the quantity of material basis supplier and location

Step 2 – Estimate Number of Trip

No of Trips = Total Quantity (t) \* per trip loading (t)

Step 3 – Estimate total kms

Total kms = No of Trips x Distance of Supplier from facility

Step 4 – Estimate Diesel Consumption

Diesel Consumption = Total kms/ Vehicle mileage (KMPL)

Step 5 – Estimate GHG emissions

GHG Emissions = diesel consumption (kL) \* Emission Factor (t CO2/kL)

Rail Transport Emissions

Step 1 - Segregate the quantity of material basis supplier and location

Step 2 – Estimate tonnage – kilometer for material

Tonnage – kilometer = Total Quantity (t) x Distance (km)

Step 3 - Calculate GHG Emissions

GHG Emissions = Tonnes-kilometers x Emission factor (kg CO<sub>2</sub>/t-km)

Sea Transport Emissions

Step 1 - Segregate the quantity of material basis supplier and location (Country and Port)

Step 2 – Estimate port to port distance (kilometers)

Step 3 – Estimate tonnage – kilometer for material

Tonnage – kilometer = Total Quantity (t) x Distance (km)

Step 4 - Calculate GHG Emissions

GHG Emissions = Tonnes-kilometers x Emission factor (kg CO<sub>2</sub>/t-km)

The activity data is collected from the logistics/Gate entry records maintained by each BU as part of their SAP/ERP system – where quantity of material, location of customers, and transport details are available.

For the estimation of GHG emissions the following sources are referred to:

- Vehicle mileage – The vehicle mileage is referred from ICCT – Publication on mileage of HDV Vehicles in India
- Distance: Distance between facility and customer is measured/estimated by using Google Maps (not exact but from customer city location to Plant/manufacturing facility)
- Vehicle Loading – Vehicle loading from system (Gate Entry records) and in case it is not available average assumption of 25 T per trip is assumed for road transport
- Diesel Emission Factor – The emission factor for diesel consumption is referred from IPCC
- Sea Transport – The emission factor is referred from DEFRA and distance between port is estimated using Ports Distance Calculator

## Processing of sold products

---

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

1,528,462

### Emissions calculation methodology

Average data method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

5

#### Please explain

The approach adopted for the estimation is Average-data method, which involves estimating emissions for processing of sold intermediate products based on average secondary data, such as average emissions per process or per product.

At present for Vedanta – the category is applicable for VAB, VZI and Cairn Oil and Gas as they produce intermediate products which are further processed into other products.

For the estimation of GHG emissions the following sources are referred to:

- Sustainability Reports of company -to collect information on Scope 1 and scope 2 emissions
- Research publication to refer the processing related emissions

### Use of sold products

---

#### Evaluation status

Relevant, calculated

#### Emissions in reporting year (metric tons CO<sub>2</sub>e)

24,468,876

#### Emissions calculation methodology

Average data method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

#### Please explain

Vedanta produces and sells crude oil and natural gas and coke, all of which release GHG emissions when consumed by end users. Emissions from the end use of these products by third parties are estimated for this category.

At Vedanta group scope 3 - Category 11 is the largest contributor to our scope 3 inventory with over 75% of our Scope 3 emissions.

As Vedanta is into upstream for Oil & Gas and sells crude oil/natural gas to midstream companies - further information on final usage is not accessible.

The method recommended in the Scope 3 Guidance for 'direct use-phase' emissions calculations for 'Fuels and feedstocks' is used to calculate these emissions, with industry-average emissions factors applied to production volumes for oil & gas and coke to calculate an overall emissions estimate for this category.

Similarly for Natural Gas sold to the customers (other than sold to fertilizers) is assumed to undergo combustion. Also for coke sold to the market - it is assumed that all coke will



be used for reduction purpose and will result in CO2 emissions

All crude oil are assumed to be refined and combusted as diesel as a more conservative assumption (which will give higher estimate). The energy content of the crude oil volumes is used to estimate the corresponding quantity of diesel which would be produced, assuming that no fuel is 'lost' during the refining process.

### End of life treatment of sold products

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

Vedanta's products includes metals with minimal emissions at end of life. Final products related to Vedanta's material value chains (such as steel, aluminium and copper) produce materials with established recycling industries.

### Downstream leased assets

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

This category is not relevant to Vedanta as it does not have any leased assets.

### Franchises

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

This category is not relevant as Vedanta does not have franchised operations.

### Investments

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

This category is not relevant as Vedanta does not have any investments.

### Other (upstream)

---

**Evaluation status**

Not evaluated

**Please explain**

NA

### Other (downstream)

---

**Evaluation status**

Not evaluated

**Please explain**

NA

## C6.5a

**(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.**

### Past year 1

---

**Start date**

April 30, 2020

**End date**

March 31, 2021

**Scope 3: Purchased goods and services (metric tons CO2e)**

4,161,727

**Scope 3: Capital goods (metric tons CO2e)**

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)  
(metric tons CO2e)**

2,146,367

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**

458,512

**Scope 3: Waste generated in operations (metric tons CO2e)**

445,290

**Scope 3: Business travel (metric tons CO2e)**

1,406

**Scope 3: Employee commuting (metric tons CO2e)**

12,101

**Scope 3: Upstream leased assets (metric tons CO2e)**

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**

234,805

**Scope 3: Processing of sold products (metric tons CO2e)**

1,001,617

**Scope 3: Use of sold products (metric tons CO2e)**

25,163,167

**Scope 3: End of life treatment of sold products (metric tons CO2e)**

**Scope 3: Downstream leased assets (metric tons CO2e)**

**Scope 3: Franchises (metric tons CO2e)**

**Scope 3: Investments (metric tons CO2e)**

**Scope 3: Other (upstream) (metric tons CO2e)**

**Scope 3: Other (downstream) (metric tons CO2e)**

**Comment**

In line with our group-level target to ensure that all our business units report their Scope 3 GHG Emissions by 2025, Vedanta began carrying out Scope 3 inventorization and reporting in FY21.

**Past year 2**

---

**Start date**

**End date**

**Scope 3: Purchased goods and services (metric tons CO2e)**

**Scope 3: Capital goods (metric tons CO2e)**

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**

**Scope 3: Waste generated in operations (metric tons CO2e)**

**Scope 3: Business travel (metric tons CO2e)**

**Scope 3: Employee commuting (metric tons CO2e)**

**Scope 3: Upstream leased assets (metric tons CO2e)**

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**

**Scope 3: Processing of sold products (metric tons CO2e)**

**Scope 3: Use of sold products (metric tons CO2e)**

**Scope 3: End of life treatment of sold products (metric tons CO2e)**

**Scope 3: Downstream leased assets (metric tons CO2e)**

**Scope 3: Franchises (metric tons CO2e)**

**Scope 3: Investments (metric tons CO2e)**

**Scope 3: Other (upstream) (metric tons CO2e)**

**Scope 3: Other (downstream) (metric tons CO2e)**

**Comment**

**Past year 3**

---

**Start date**

**End date**

**Scope 3: Purchased goods and services (metric tons CO2e)**

**Scope 3: Capital goods (metric tons CO2e)**

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)  
(metric tons CO2e)**

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**

**Scope 3: Waste generated in operations (metric tons CO2e)**

**Scope 3: Business travel (metric tons CO2e)**

**Scope 3: Employee commuting (metric tons CO2e)**

**Scope 3: Upstream leased assets (metric tons CO2e)**

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**

**Scope 3: Processing of sold products (metric tons CO2e)**

**Scope 3: Use of sold products (metric tons CO2e)**

**Scope 3: End of life treatment of sold products (metric tons CO2e)**

**Scope 3: Downstream leased assets (metric tons CO2e)**

**Scope 3: Franchises (metric tons CO2e)**

**Scope 3: Investments (metric tons CO2e)**

**Scope 3: Other (upstream) (metric tons CO2e)**

**Scope 3: Other (downstream) (metric tons CO2e)**

**Comment**

## **C6.7**

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

No

## C6.10

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

### Intensity figure

0.000047891

### Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)

62,829,491

### Metric denominator

unit total revenue

### Metric denominator: Unit total

1,311,920,000,000

### Scope 2 figure used

Location-based

### % change from previous year

30.95

### Direction of change

Decreased

### Reason for change

Decrease could be attributed to 51% increase in revenue with a 4.19% increase in emissions in FY22 in addition to other decarbonization measures taken by the company such as increase in RE consumption, energy saving initiatives.

## C7. Emissions breakdowns

### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

No

### C7.2

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

Country/Region	Scope 1 emissions (metric tons CO <sub>2</sub> e)
India	59,343,821

South Africa	142,825
Australia	101

### C7.3

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By business division

### C7.3a

**(C7.3a) Break down your total gross global Scope 1 emissions by business division.**

Business division	Scope 1 emissions (metric ton CO <sub>2</sub> e)
Aluminium	35,518,716.8
Copper (India/Australia)	28,683.92
Iron Ore	2,058,129.5
Oil & Gas	2,075,802
Port Business	1,595.15
Power Business	12,456,857.59
Steel	2,429,510.07
Zinc India	4,321,317
Zinc International	142,825
Ferro Alloys	453,309.54

### C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

**(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO<sub>2</sub>e.**

	Gross Scope 1 emissions, metric tons CO <sub>2</sub> e	Comment
Metals and mining production activities	49,356,423	Metal and mining activities include our Aluminium, Zinc, Copper, Iron ore and steel operations. In addition to this, our overall Scope 1 emissions include 2,075,802 metric tons CO <sub>2</sub> from Oil and Gas, 8,054,521 metric tons CO <sub>2</sub> from our Power Business.

### C7.5

**(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
India	3,106,723	
South Africa	235,053	
Australia	969	

## C7.6

**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By business division

### C7.6a

**(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Aluminium	2,117,489	
Copper (India/Australia)	73,079.31	
Iron Ore	592.9	
Oil & Gas	254,143	
Port Business	10,237	
Steel	143,320.74	
Zinc India	497,965	
Zinc International	235,053	
Ferro Alloys	10,863.8	
Power Business	1	

## C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

**(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Metals and mining	3,088,601		Metal and mining activities include our Aluminium, Zinc, Copper, Iron ore and steel



production activities			operations. In addition to this, our overall Scope 2 emissions include 254,143 metric tons CO2 from Oil and Gas and 1 metric ton CO2 from Power
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## C7.9

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Increased

### C7.9a

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	1,172,773	Decreased	1.87	In line with our vision to decarbonize operations by 2050 and becoming a net-zero carbon company we are also diversifying our energy portfolio to include renewable energy. We have deployed solar, wind and hydro RE technologies across our operations. In FY22, energy consumption from renewables was 14,623,023 GJ which was a 556.9% increase from RE energy consumption of 2,225,840 GJ in FY21. Avoided emissions from an equivalent amount of coal based energy consumption would have amounted in 1,383,337 metric tons of CO2 taking an emission factor of 0.0946 tons/GJ for coal as compared to 210,564 metric tons of CO2 in FY21. Emissions value is calculated as = $((1,383,337 - 210,564) / 62,829,491) * 100$ .
Other emissions reduction activities	444,850.94	Decreased	1.05	Energy savings from various energy-GHG saving projects across Vedanta's operations are added to calculate the total energy savings. For FY22, energy savings were 3.79 million GJ equivalent to 662,201 metric tons of CO2 as compared to 1.89 million GJ savings in FY21 (equivalent to

				217,350 metric tons CO <sub>2</sub> ). Emissions value is calculated as (662,201/62,829,491)*100 = 1.05
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology				
Change in boundary	340,011.38	Increased	0.54	<ul style="list-style-type: none"> <li>• We have started reporting Scope 1 and 2 data for one of our Ferro-Alloy unit FACOR from FY22 onwards. This is included in the Scope 1 and 2 emissions in the reporting year. This led to an additional emissions of 464,173.38 metric tons of CO<sub>2</sub>. (Scope 1 + Scope 2).</li> <li>• We have stopped reporting Scope 1 and 2 data for BMM (part of Vedanta Zinc International, VZI) from FY22 onwards as this facility has been closed. This led to removal of emissions by 124,162 metric tons CO<sub>2</sub>.</li> </ul> <p>The change in emissions was calculated as the additional emissions by addition of facility minus the removal of emissions due to closing of facility. (464,173.38-124,162= 340,011.38) Emissions value is calculated as (340,011.38/62,829,491)*100 = 0.54</p>
Change in physical operating conditions				
Unidentified				
Other				

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 20% but less than or equal to 25%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

### C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	147,434,609	147,434,609

Consumption of purchased or acquired electricity		3,751,918.8	5,160,137.83	8,912,056.63
Consumption of self-generated non-fuel renewable energy		310,032.06		310,032.06
Total energy consumption		4,061,950.86	152,594,746.83	156,656,697.69

## C-MM8.2a

**(C-MM8.2a) Report your organization's energy consumption totals (excluding feedstocks) for metals and mining production activities in MWh.**

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	105,220,475
Consumption of purchased or acquired electricity		8,327,487.85
Consumption of self-generated non-fuel renewable energy		309,515.91
Total energy consumption		113,857,478.76

## C8.2b

**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

## C8.2c

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Sustainable biomass**

---

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**Comment**

NA

**Other biomass**

---

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**Comment**

NA

**Other renewable fuels (e.g. renewable hydrogen)**

---

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**Comment**

NA

**Coal**

---

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

134,104,275.38

**MWh fuel consumed for self-generation of electricity**

134,104,275.38

**MWh fuel consumed for self-generation of heat**

0

**Comment**

Emission factor: 96.1

Unit: metric tons CO2 per GJ

Emissions factor source: IPCC Guidelines for National GHG Inventories

Comment: Total emissions are calculated after converting GJ to MWh with a conversion factor of 0.277.

**Oil**

---

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

1,004,038.53

**MWh fuel consumed for self-generation of electricity**

1,004,038.53

**MWh fuel consumed for self-generation of heat**

0

**Comment**

Emission factor: 77.4

Unit: metric tons CO2 per GJ

Emissions factor source: IPCC Guidelines for National GHG Inventories

Comment: Total emissions are calculated after converting GJ to MWh with a conversion factor of 0.277.

**Gas**

---

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

6,131,463.92

**MWh fuel consumed for self-generation of electricity**

6,131,463.92

**MWh fuel consumed for self-generation of heat**

0

**Comment**

Emission factor: 56.1

Unit: metric tons CO2 per GJ

Emissions factor source: IPCC Guidelines for National GHG Inventories

Comment: Total emissions are calculated after converting GJ to MWh with a conversion factor of 0.277.

**Other non-renewable fuels (e.g. non-renewable hydrogen)**

---

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

1,486,491.37

**MWh fuel consumed for self-generation of electricity**

1,486,491.37

**MWh fuel consumed for self-generation of heat**

0

**Comment**

Fuel: Diesel

Emission factor: 74.1

Unit: metric tons CO2 per GJ

Emissions factor source: IPCC Guidelines for National GHG Inventories

Comment: Total emissions are calculated after converting GJ to MWh with a conversion factor of 0.277.

**Total fuel**

---

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

142,726,269.2

**MWh fuel consumed for self-generation of electricity**

142,726,269.2

**MWh fuel consumed for self-generation of heat**

0

**Comment**

The total fuel consumption by the organization is the consumption of Subbituminous Coal, Residual Fuel Oil, Diesel and Natural Gas.

**C8.2d**

**(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	45,338,665	32,046,939	310,032.06	310,032.06
Heat	102,095,944	102,095,944	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

## C-MM8.2d

**(C-MM8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed for metals and mining production activities.**

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	32,046,939	32,046,939
Heat	73,173,535	73,173,535
Steam	0	0
Cooling	0	0

## C8.2g

**(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.**

---

### Country/area

India

### Consumption of electricity (MWh)

9,092,041.9

### Consumption of heat, steam, and cooling (MWh)

0

### Total non-fuel energy consumption (MWh) [Auto-calculated]

9,092,041.9

---

### Country/area

South Africa

### Consumption of electricity (MWh)



245,578

**Consumption of heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

245,578

**Country/area**

Australia

**Consumption of electricity (MWh)**

19,334

**Consumption of heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

19,334

## C9. Additional metrics

### C9.1

**(C9.1) Provide any additional climate-related metrics relevant to your business.**

**Description**

Waste

**Metric value**

19,006,210

**Metric numerator**

Metric Tonnes

**Metric denominator (intensity metric only)**

**% change from previous year**

5.71

**Direction of change**

Increased

**Please explain**

This represents High Volume Low Toxicity wastes such as Fly ash, Red mud, Jarosite, and slag. The percentage of waste recycled from the generated waste has gone up from 94% in FY21 to 98% in FY22. We have also achieved our fly ash utilization target of 100% or more in FY22 (115%).

---

**Description**

Energy usage

**Metric value**

531,880,708

**Metric numerator**

GJ

**Metric denominator (intensity metric only)**
**% change from previous year**

1.4

**Direction of change**

Increased

**Please explain**

There has been a small increase in the direct energy consumption, however overall Vedanta is working on improvements in energy efficiency. Examples of such improvements and projects are given below:

Hindustan Zinc: - Turbine Revamping (9 projects across Zinc units)

Cairn Oil and Gas: - Conversion of induction motor to Permanent Magnetic Motor (4 motors) (Savings of 3006.72 GJ/year) -Optimization of turbine operations to save gas fuel - Installation of gas compressor & pipeline from Raag Oil to RGT

BALCO: - Slurry Pump VFD installation (Savings of 262800 kWh/year) - VFD Installation in CEP (540MW) (Savings of 1,027,200 kWh)

ValJ: - Potline Voltage reduction (saving of 76,204 GJ/year) - HFO reduction in furnace (savings of 1,429 GJ/year) - HP cylinder efficiency improvement (6,871 GJ savings in FY22) - Optimising Compressor power consumption (42361 GJ savings in FY22) - Mill Loading improvement (80000 GJ savings in FY22)

ValL: Installation of HT capacitor bank at various substations of plant to improve power factor from 0.86 Average to 0.95 (1,223,262 kWh/annum savings)

## C-MM9.3a

**(C-MM9.3a) Provide details on the commodities relevant to the mining production activities of your organization.**

## C-MM9.3b

**(C-MM9.3b) Provide details on the commodities relevant to the metals production activities of your organization.**

---

**Output product**

Aluminum

**Capacity (metric tons)**

2,300,000

**Production (metric tons)**

2,268,544

**Annual production in copper-equivalent units (thousand tons)**

594,359

**Scope 1 emissions (metric tons CO2e)**

33,645,597

**Scope 2 emissions (metric tons CO2e)**

2,117,489

**Scope 2 emissions approach**

Location-based

**Pricing methodology for-copper equivalent figure**

Copper equivalent figure is calculated by multiplying Aluminium production by the price ratio

0.262 (Price per tonne of Aluminium /Price per tonne of Copper)

**Comment**

---

**Output product**

Zinc

**Capacity (metric tons)**

1,550,000

**Production (metric tons)**

967,733

**Annual production in copper-equivalent units (thousand tons)**

349,680

**Scope 1 emissions (metric tons CO2e)**

4,464,142

**Scope 2 emissions (metric tons CO<sub>2</sub>e)**

733,018

**Scope 2 emissions approach**

Location-based

**Pricing methodology for-copper equivalent figure**

Copper equivalent figure is calculated by multiplying Zinc production by the price ratio 0.35  
(Price per tonne of Zinc/Price per tonne of Copper)

**Comment**

---

**Output product**

Other ferrous metals (Please specify)  
Steel

**Capacity (metric tons)**

3,000,000

**Production (metric tons)**

1,169,652

**Annual production in copper-equivalent units (thousand tons)**

81,876

**Scope 1 emissions (metric tons CO<sub>2</sub>e)**

2,429,510.07

**Scope 2 emissions (metric tons CO<sub>2</sub>e)**

143,320.74

**Scope 2 emissions approach**

Location-based

**Pricing methodology for-copper equivalent figure**

Cu equivalent figure is calculated by multiplying Steel production by the price ratio 0.07  
(Price per tonne of Steel/Price per tonne of Cu)

**Comment**

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**Output product**

Alumina

**Capacity (metric tons)**

2,000,000

**Production (metric tons)**

1,967,910

**Annual production in copper-equivalent units (thousand tons)**

78,716

**Scope 1 emissions (metric tons CO2e)**

1,873,120

**Scope 2 emissions (metric tons CO2e)**

4,856

**Scope 2 emissions approach**

Location-based

**Pricing methodology for-copper equivalent figure**

Copper equivalent figure is calculated by multiplying Alumina production by the price ratio

0.04 (Price per tonne of Alumina /Price per tonne of Copper)

**Comment**

## C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

**(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?**

	Investment in low-carbon R&D	Comment
Row 1	Yes	<p>- Furthering our circular economy agenda, zero harm, zero waste, zero discharge, we are entering into a partnership with three research institutes namely CSIR-National Metallurgical Laboratory, Jamshedpur; Institute of Minerals and Materials Technology, Bhubaneswar; and Jawaharlal Nehru Aluminium Research, Development &amp; Design Centre, Nagpur for research and development of REE (Rare Earth Elements) extraction from red mud, the waste generated during bauxite to alumina conversion.</p> <p>- These green power units were towards the launch of our Green Aluminium Products "Restora" and "Restora Ultra" in FY22. The GHG intensity of these</p>

		metals is significantly below global standards for low-carbon aluminium. Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard at 4 tCO <sub>2</sub> e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium. Our Aluminum business used over 2 billion units of renewable energy in FY22 to create the first batch of Restora, making it India's largest industrial consumer of renewable energy.
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## C-MM9.6a

**(C-MM9.6a) Provide details of your organization's investments in low-carbon R&D for metals and mining production activities over the last three years.**

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Waste reprocessing	Pilot demonstration	≤20%		<p>At Vedanta, we are always looking for ways to optimize metal recovery and minimize waste in a sustainable manner. At our zinc business, hazardous waste (slag) was transported to third-party vendors who would help recover metal residues. The efficiency of this process was about 60%.</p> <p>We piloted an ancillary plant at the Dariba operations to recover these residues in-house. This model came with several advantages. It enabled the recovery of nearly 95% of the metal residues from copper dross, purification waste cake, antimony dust/slag and raw zinc oxide. The high recovery rates resulted in improved project economics and having the plant in-house eliminated safety hazards and pollution related to transportation. The success of the plant at</p>

				Dariba has encouraged us to commission another plant at our Chanderia operations, thereby taking one more step in our waste to wealth program.
Green metals D <sub>1</sub>	Small scale commercial deployment	≤20%		We launched our Green Aluminium Products “Restora” and “Restora Ultra” in FY22. The GHG intensity of these metals is significantly below global standards for low-carbon aluminium. Restora's GHG emission intensity, which is produced using renewable energy, is almost half the global standard of 4 tCO <sub>2</sub> e per tonne of aluminium produced. Restora Ultra has almost no carbon footprint since it is made from aluminium that is reclaimed from dross, a by-product of the production of aluminium.
Green metals D <sub>2</sub>	Basic academic/theoretical research	0%		We are currently exploring ways to develop 'green copper', which will cater shift in market demands as part of the low carbon economy transition

D<sub>1</sub> Green Aluminium

D<sub>2</sub> Green Copper

## C10. Verification

### C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

## C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

---

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Third party verification/assurance underway

**Attach the statement**

 EY\_Assurance Statement\_Vedanta Limited\_CDP Climate Report 2022.pdf

**Page/ section reference**

In line with CDP requirements , we are submitting our verification statements under C10 of the Climate Change questionnaire for Scope 1 FY22.

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

---

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Third party verification/assurance underway

**Attach the statement**



 EY\_Assurance Statement\_Vedanta Limited\_CDP Climate Report 2022.pdf

**Page/ section reference**

In line with CDP requirements , we are submitting our verification statements under C10 of the Climate Change questionnaire for Scope 2 FY22.

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

## C10.1c

**(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

---

**Scope 3 category**

- Scope 3: Purchased goods and services
- Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
- Scope 3: Upstream transportation and distribution
- Scope 3: Waste generated in operations
- Scope 3: Business travel
- Scope 3: Employee commuting
- Scope 3: Downstream transportation and distribution
- Scope 3: Processing of sold products
- Scope 3: Use of sold products

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Underway but not complete for reporting year – previous statement of process attached

**Type of verification or assurance**

Third party verification/ assurance underway

**Attach the statement**

 EY\_Assurance Statement\_Vedanta Limited\_CDP Climate Report 2022.pdf

**Page/section reference**

In line with CDP requirements , we are submitting our verification statements under C10 of the Climate Change questionnaire for Scope 3 FY21.

**Relevant standard**

ISAE 3410

### Proportion of reported emissions verified (%)

100

## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

## C10.2a

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	ISAE3410	At Vedanta, we undertake organisation wide external verification and assurance on Scope 1 and 2 emissions annually. Data from all our Business Units was reviewed during the assurance process. We have chosen CDP approved assurance standard ISAE3410 assurance standard which is also the leading methodology used by sustainability professionals worldwide for sustainability-related assurance engagements. Data from all our Business Units has been reviewed as part of the assurance process.
C7. Emissions breakdown	Year on year change in emissions (Scope 1 and 2)	ISAE3410	At Vedanta, we undertake organisation wide external verification and assurance on Scope 1 and 2 emissions annually. Therefore year on year changes in emissions are verified by a third party. We have chosen CDP approved assurance standard ISAE3410 assurance standard which is also the leading methodology used by sustainability professionals worldwide for sustainability related assurance engagements. Data from all our Business Units has been reviewed as part of the assurance process.
C8. Energy	Energy consumption	ISAE3000	At Vedanta, we undertake organisation wide external verification and assurance of our energy data across all our Business Units. We have chosen CDP approved assurance standard ISAE3000 assurance standard which is also the leading methodology used by sustainability

			professionals worldwide for sustainability-related assurance engagements. Data from all our Business Units has been reviewed as part of the assurance process.
C8. Energy	Emissions reduction activities	ISAE3410	At Vedanta, we undertake organisation wide external verification and assurance of our emission reductions through energy saving initiatives across all our Business Units. We have chosen CDP approved assurance standard ISAE3410 assurance standard which is also the leading methodology used by sustainability professionals worldwide for sustainability-related assurance engagements. Data from all our Business Units has been reviewed as part of the assurance process.

## C11. Carbon pricing

### C11.1

**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

Yes

#### C11.1a

**(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

South Africa carbon tax

#### C11.1c

**(C11.1c) Complete the following table for each of the tax systems you are regulated by.**

##### South Africa carbon tax

**Period start date**

April 1, 2021

**Period end date**

March 31, 2022

**% of total Scope 1 emissions covered by tax**

0.24

**Total cost of tax paid**

184,401,757.41

### Comment

Our Zinc International business units in South Africa (Gamsberg, BMM) are regulated by the South African Carbon Tax system. Our overall scope 1 emissions from BMM and Gamsberg are 8,464 metric tons of CO<sub>2</sub> and 134,361 tons of CO<sub>2</sub> respectively. This forms 0.24% of our total Scope 1 emissions 59,846,747 metric tons of CO<sub>2</sub>. The total cost of carbon tax paid in FY22, was USD 2,311,555 (38,687,107 Rand in SA currency).

## C11.1d

### (C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

#### Risk identification:

We anticipate regulatory changes aimed at limiting or reducing GHG emissions at national and sub-national levels such as carbon pricing policies (e. g. carbon tax in South Africa) could potentially impact our operations with increased costs for fossil fuels, levies for emissions in excess of certain permitted levels, and increased administrative costs for monitoring and reporting. We understand that country-specific carbon taxes can affect margins for our businesses. We regularly assess the legal landscape and ensure all our business units are compliant with statutory requirements. There are reports that suggest that the Indian Government, to achieve its NDC targets, may levy a Carbon tax priced at US \$10-35 / tCO<sub>2</sub>e (Govt of India, June 2020, Report of the SubCommittee for the Assessment of the Financial Requirements for Implementing India's Nationally Determined Contribution [NDC]; Shakti Sustainable Energy Foundation, 2018, Discussion Paper on Carbon Tax Structure for India). Given that nearly 90% of Vedanta's energy is sourced from captive coal-based thermal power-plants in India any regulation to reduce our GHG or other air emissions can significantly impact our operating expenses, such a carbon tax will lead to an increase in the cost of our products, in addition to indirect costs, including our value chain (energy supply). Further, climate change related physical risks can also cause significant business disruption either directly affecting our operations or indirectly through impacts on our value chain. In this regard, we have conducted a climate scenario analysis covering physical and transition risk associated with climate change. Through this analysis, we are assessing key risks and for the risks, identifying risk mitigation measures including strategies to reduce carbon footprint and enhance resilience of our operations and the value chain.

**Risk management:** To minimize the financial implications of current and emerging regulations, we have taken the following steps:

1. Setting emission reduction targets - In FY 22, we extended our internal target to achieve 25% GHG emissions absolute reduction (in Scopes 1 and 2) against a 2021 baseline to FY2030 as well as a Net Zero 2050 commitment.

2. Internal carbon pricing mechanisms - We have finalized the introduction of an internal price on carbon by in the second half of 2023 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. This will help us minimize our climate risks and at the same time explore opportunities to reduce our carbon footprint and associated transitional costs. The carbon price will be annually updated and used to monetize GHG

emissions and included in business plans to optimize decision making. Vedanta will adopt an Internal Carbon Price for our businesses from the second half of FY2023. Vedanta's BUs will be following a differentiated pricing mechanism based on their identified decarbonization projects. The estimated ICP for different business units falls in the range of 10-30 USD/tCO<sub>2</sub>. Businesses will review the pricing on an annual basis based on their decarbonization roadmaps.

3. Increase Renewable energy in our energy mix - We are diversifying our energy mix to include renewable energy consistently. In FY22, Vedanta Aluminium has purchased 3 billion units of RE from market to reduce emissions and intensity of production. We have also signed 580 MW of RE power procurement contract with Sterlite Power (SPTPL).

4. In South Africa, the only country currently impacted by a carbon tax regime, we are planning to install at least 20 MW of solar power on our route to completely decarbonize the Zinc International business.

## C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

## C11.3

**(C11.3) Does your organization use an internal price on carbon?**

Yes

## C11.3a

**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

---

### **Objective for implementing an internal carbon price**

- Stakeholder expectations
- Change internal behavior
- Drive low-carbon investment

### **GHG Scope**

- Scope 1
- Scope 2

### **Application**

ICP is being implemented across all of our business units

### **Actual price(s) used (Currency /metric ton)**

15

### **Variance of price(s) used**

Vedanta's BUs will be following a differentiated pricing mechanism ( a price that varies by region, business unit or type of decision) based on their identified decarbonization projects. The estimated ICP for different business units falls in the range of 10-30 USD/tCO<sub>2</sub>. Businesses will review the pricing on an annual basis based on their decarbonization roadmaps.

### **Type of internal carbon price**

Shadow price

### **Impact & implication**

In FY22, we have developed our Internal Carbon Pricing strategy that will be implemented from H2 of FY2023 onwards. We will implement Shadow price as part of 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. This will help us minimize our climate risks and at the same time explore opportunities to reduce our carbon footprint and associated transitional costs. The carbon price will be annually updated and used to monetize GHG emissions and included in business plans to optimize decision making.

## **C12. Engagement**

### **C12.1**

#### **(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, other partners in the value chain

### **C12.1a**

#### **(C12.1a) Provide details of your climate-related supplier engagement strategy.**

---

#### **Type of engagement**

Information collection (understanding supplier behavior)

#### **Details of engagement**

Collect climate change and carbon information at least annually from suppliers

#### **% of suppliers by number**

9.8

#### **% total procurement spend (direct and indirect)**

#### **% of supplier-related Scope 3 emissions as reported in C6.5**

0

#### **Rationale for the coverage of your engagement**

We believe that responsible supply chain management is critical to our larger mission of transformation. It helps mitigate financial risk, sustain our commitment to ethical business and compliance, and meet our commitments to our customers and other stakeholders.

We consider suppliers an integral part of our business and maintain our efficiency and responsible conduct by creating a reliable and sustainable supply chain. Our BUs have a supply chain strategy that sets clear priorities for the vendors they engage with. Suppliers are classified as critical and non-critical based on the business outcome, spend, critical business operation, sensitivity and non-substitutability. We have a clearly articulated strategy when it comes to selecting our supply chain partners.

Criteria on which our business partners are evaluated:

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

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

### **Impact of engagement, including measures of success**

We have designed targets with regards to the Supply Chain GHG transition:

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

### **Comment**

No additional comments

## **C12.1d**

### **(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.**

The vast business portfolio of Vedanta requires us to engage with diverse stakeholders across geographies, climatic zones, socio-cultural systems and regulatory mandates. We, at Vedanta, are conscious of the importance and urgency to create sustainable practices that are reflected in our value chain. Taking this momentum forward, few of our subsidiaries like Hindustan Zinc

Limited have already engaged with value chain elements such as suppliers and customers to reduce carbon footprint and taken targets for reduction in their Scope 3 emissions and setting.

**Transportation and Distribution services** – As part of Vedanta's Net zero strategy, we aim to adopt Electric Vehicles across the value chain. As part of our ongoing efforts, our steel business, ESL, has teamed up with Evez, an electric vehicle subscription platform. They have launched electric bicycles and electric scooters in the plant premises for their employees and plan to completely switch to electric vehicles by 2025. ESL has launched 40 E-cycles, 10 Escooters and 7 E-Cars under the "Ride Green" campaign. The EVs are currently being used by employees within the plant premises. During the next phase, ESL plans to have additional 28 ECars and convert buses to EVs while moving closer to its aim of completely shifting to EVs by 2025. Similarly, Hindustan Zinc is partnering with Epiroc for launching Battery Electric Vehicles (BEVs) in underground mining which will help reduce carbon emissions and help the mine operations become more environment friendly. HZL plans to transition from Diesel equipment to Electric Vehicles over the next 5 years in a phased manner.

**Collaboration with research organizations** - We have entered into a partnership with three research institutes namely CSIR-National Metallurgical Laboratory, Jamshedpur; Institute of Minerals and Materials Technology, Bhubaneswar; and Jawaharlal Nehru Aluminum Research, Development & Design Centre, Nagpur for research and development of REE (Rare Earth Elements) extraction from red mud, the waste generated during bauxite to alumina conversion. We have also signed a long term MoU with TERI is signed off for 10 years for working on entire ESG framework including Climate change and Energy transition.

**Collaboration with industry** - As India's largest producer of aluminum and value-added products, Vedanta Aluminum has developed a Centre of Excellence at its aluminum smelter in Jharsuguda to collaborate with the EV industry for developing new products like crash-resistant alloys. It is also evaluating partnerships with start-ups and third-party experts to develop cutting-edge aluminum applications specific to EVs and auto industry of the future, like aluminum air battery technology.

**Communities** - We benefited around 4.63 million people this year through our community development projects comprising community health, nutrition, education, water and sanitation, sustainable livelihood, women empowerment and bio-investment. This year our large-scale COVID19 outreach programme has further augmented the metric.

**Participation in national & international seminars & conference on Climate Change-** INDABA Mining Conference in South Africa attended by Group CEO and Director, Vedanta Sustainable Markets Initiative Rountable initiated by Sustainable Markets Initiative, Octopus Energy and Energy Institute

**Awards won by Vedanta-**

HZL:

- Hindustan Zinc ranked 1st in Asia – Pacific region, 2nd in the environment dimension and globally overall 7th in Metal and Mining Sector by the Dow Jones Sustainability Index 2020
- Hindustan Zinc recognized with the prestigious 'A' score for climate change and leadership in environment transparency by global environmental non-profit CDP



- Hindustan Zinc's Zawar Mines awarded 'Gold' in the 'Energy Efficiency' category at the flagship Apex India Green Leaf Awards

ESL and Sesa:

- IOB awarded in the field of HSE by Green Triangle Society.
- Sesa IOB, Goa received 'ICC Social Impact Award 2021' by Indian Chamber of Commerce under the category "Empowering the rural population"

Cairn Oil and Gas :

- Rajasthan Oil was awarded the 1st runner up of Jury special mention Award for the case study presented on "Recycling of Produced Water for injection purpose in RJON Block" by Frost & Sullivan and TERI.

- CII-ITC awarded Rajasthan Oil 'CII National Awards for Excellence in Water Management 2020',

TSPL:

- TSPL was awarded 20th Annual Greentech Environment Award 2020 under the category of Environment Protection by Greentech Foundation.

- TSPL was recognized as Efficient management of Fly ash  $\geq 500$  MW under the category of FLY Ash Utilisation by Mission Energy Foundation.

VAL and BALCO:

- BALCO received Energy Efficient Unit and most innovative project Award by CII Energy Efficiency awards.

- BALCO won Best Thermal power Plant award in Thermal Power O&M 2021 (Conference + Expo + Awards), by Mission Energy Foundation

## C12.2

**(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?**

No, but we plan to introduce climate-related requirements within the next two years

## C12.3

**(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?**

Row 1

**Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

**Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?**

No, and we do not plan to have one in the next two years

**Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy**

Vedanta and its subsidiaries actively engage in stakeholder discussions with industry bodies and trade associations. While doing so, we ensure that our opinions are in line with our climate change commitments (which are publicly available to all our group companies/ subsidiaries).

Additionally, the Group ExCo at Vedanta, an executive committee, which also acts as the apex body for all decision making in the organization (including on climate change), convenes monthly to ensure our business units and corresponding sustainability teams have a clear understanding of the Group's climate change and sustainability targets and our performing in line with the same. This ensures that our long-term strategy is well-communicated internally, and individual business units engage with trade associations and policy makers keeping in view our organizational standpoint.

Also, the COOs across multiple businesses are a part of the Energy & Carbon CoP, an exclusive climate change action forum at Vedanta where best practices, emerging climate change risks & opportunities as well as discussions on our alignment with evolving climate change scenario take place on periodic basis. This reinstates clear cascade of our strategy to our business units which may then form the basis of engagement with trade associations and policy makers.

## C12.3a

**(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?**

**Focus of policy, law, or regulation that may impact the climate**

Renewable energy generation

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

Energy and electricity related regulations in India

**Policy, law, or regulation geographic coverage**

National

**Country/region the policy, law, or regulation applies to**

India

**Your organization's position on the policy, law, or regulation**

Support with no exceptions

**Description of engagement with policy makers**

Vedanta is part of CII CEO Forum for climate change and Climate Action Charter  
We are engaging with regulators/policy makers for creating conducive environment for promotion of RE power through ease of framework for PPA signing.

**Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation**

**Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

---

**Focus of policy, law, or regulation that may impact the climate**

Energy attribute certificate systems  
Minimum energy efficiency requirements

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

Energy and electricity related regulations in India

**Policy, law, or regulation geographic coverage**

National

**Country/region the policy, law, or regulation applies to**

India

**Your organization's position on the policy, law, or regulation**

Support with no exceptions

**Description of engagement with policy makers**

Vedanta is part of CII CEO Forum for climate change and Climate Action Charter.

**Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation**

**Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

---

**Focus of policy, law, or regulation that may impact the climate**

Adaptation and/or resilience to climate change

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

Climate change adaptation

**Policy, law, or regulation geographic coverage**

National

**Country/region the policy, law, or regulation applies to**

India

**Your organization's position on the policy, law, or regulation**

Support with no exceptions

**Description of engagement with policy makers**

Vedanta is part of CII CEO Forum for climate change and Climate Action Charter. We have also signed a long term MoU with TERI for 10 years for working on entire ESG framework including Climate change and Energy transition.

**Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation**

**Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## C12.3b

**(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.**

---

**Trade association**

Federation of Indian Chambers of Commerce & Industry (FICCI)

**Is your organization's position on climate change consistent with theirs?**

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We are not attempting to influence their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

We are working with ministry of mines for new framework/policy encouraging exploration and mining of minerals that are deep seated to reduce ecological impact

**Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)**

**Describe the aim of your organization's funding**

**Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

---

**Trade association**

Confederation of Indian Industries (CII)

**Is your organization's position on climate change consistent with theirs?**

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We are not attempting to influence their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

We are working with regulators/policy makers for creating conducive environment for promotion of renewable energy through ease of contract framing of long term PPA's.

**Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)**

**Describe the aim of your organization's funding**

**Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## **C12.3c**

**(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.**

---

**Type of organization**

University or other educational institution

**State the organization to which you provided funding**

IIT Bombay

**Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)**

**Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate**

We funded a research project with IIT Bombay working towards H2 in steel plant, aiming to understand and do a pilot on hydrogen and the role it can play in operations efficiency.

**Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

**Page/Section reference**

Integrated Report Vedanta

The Link has been attached due to large file size:

<https://www.vedantalimited.com/InvestorReports/VedantaIR2022-Book-300-160722.pdf>

**Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

**Comment**

---

**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

 TCFD Report Vedanta 2022.pdf

 TCFD Report Vedanta 2022.pdf

**Page/Section reference**

TCFD Report Vedanta 2022

**Content elements**

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

**Comment**

## C15. Biodiversity

### C15.1

**(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?**

	<b>Board-level oversight and/or executive management-level responsibility for biodiversity-related issues</b>	<b>Description of oversight and objectives relating to biodiversity</b>
Row 1	Yes, both board-level oversight and executive management-level responsibility	<p>The Vedanta Board is at the apex of all decision making related to ESG and sustainability aspects across the Group. The Board has an oversight over biodiversity related policies, standards, and KPIs through ESG parameters. It through the ESG (earlier Sustainability) Sub-Committee and is proactively involved in monitoring the overall progress of the Group to achieve biodiversity related targets and commitments of the company.</p> <p>The Board ESG Committee formed by the Group CEO and two independent Directors and retains oversight on the implementation of our ESG vision which includes Biodiversity</p>

	<p>management. This critical body is delegated with the tasks of reviewing, evaluating, implementing all the decisions taken by the Vedanta Board on biodiversity matters. The committee is advised by the Group ESG-Executive Committee (ESG-ExCo), the ESG Management Committee (Man-Com).</p> <p>The ESG-ExCo is a high-level decision-making body of the company with the primary responsibility to execute the decisions made by the Board, allocate resources and report to the Board Committee on key biodiversity and overall sustainability risks and the actions being taken.</p>
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## C15.2

**(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?**

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Commitment to No Net Loss Adoption of the mitigation hierarchy approach	SDG

## C15.3

**(C15.3) Does your organization assess the impact of its value chain on biodiversity?**

	Does your organization assess the impact of its value chain on biodiversity?
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years

## C15.4

**(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?**

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity-related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness Law & policy Livelihood, economic & other incentives





## C15.5


**(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?**


	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Pressure indicators Response indicators

## C15.6

**(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Biodiversity strategy	Vedanta has published information related to its Biodiversity commitments, strategy and governance in the TCFD disclosures.  <sup>1</sup>
In mainstream financial reports	Content of biodiversity-related policies or commitments Governance Biodiversity strategy	Vedanta has published information related to its Biodiversity commitments, strategy and governance in the Sustainability Report. FY21 report attached, FY22 report is under preparation  <sup>2</sup>

 <sup>1</sup>TCFD Report Vedanta 2022.pdf

 <sup>2</sup>Vedanta\_SDR\_2021.pdf

## C16. Signoff

### C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

## C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Director- ESG and Social performance, Vedanta Limited	Environment/Sustainability manager

## SC. Supply chain module

### SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

### SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

### SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

### SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

### SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
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### SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

## SC2.1

**(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.**

## SC2.2

**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**

## SC4.1

**(SC4.1) Are you providing product level data for your organization's goods or services?**

## Submit your response

**In which language are you submitting your response?**

**Please confirm how your response should be handled by CDP**

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options		Public

**Please confirm below**