vedanta
transforming for good | aluminium

Accelerating to Net 0

Sustainable Development Report

F Y 2021 - 2022

The UN Sustainable Development Goals provide a shared blueprint for peace and prosperity for people and the planet, now and into the future. Vedanta Aluminium is committed to these global calls for action.

ABOUT US

As one of the world’s leading aluminium producers, we take great pride and a strong sense of responsibility towards aligning our operations to the Triple Bottom Line principle of sustainable development.

About the report

Vedanta Aluminium (hereafter referred to as 'the Aluminium Sector') presents its third annual Sustainable Development Report to highlight our endeavours to operate a sustainable business that, we hope, exceeds our stakeholders' expectations. This report presents our sustainability performance for the financial year 2021-22. It encompasses material topics relevant to our business and key areas of interest for our stakeholders. Aluminium Business mentioned in the report is a subset of the Sector and refers to our Aluminium Smelters in BALCO (Chhattisgarh) and Jharsuguda (Odisha), our Alumina Refinery in Lanjigarh (Odisha) and the Captive Power Plants at each of these three locations.

The internationally accepted GRI (Global Reporting Initiative) Standards - Core have been referred in the preparation of this report. It is in line with the United Nations Global Compact (UNGC) Principles and maps the United Nations Sustainable Development Goals (UN-SDGs). This year, we have also aligned our report with the TCFD (Task Force on Climate-Related Financial Disclosures) framework.

Vedanta Limited (hereafter referred to as 'the Company') is one of the world's leading natural resource companies with operations in metal, minerals, mining, oil and gas, and energy. Vedanta Aluminium is a division/business of Vedanta Limited. The Company's aluminium brands are listed on London Metal Exchange (LME) and our products are sought-after in both Indian and overseas markets.

This report is aimed at providing updates on, and thereby assure our stakeholders regarding, our commitment of creating sustainable value for the world at large through continuous improvement on material Environmental, Social and Governance matters pertaining to our business.

As one of the world's leading aluminium producers, we take great pride and a strong sense of responsibility towards aligning our operations to the Triple Bottom Line principle of sustainable development. Our business performance over the past two decades stands testimony to our ethos of purposeful and responsible growth with aluminium, the metal of the future.

Our Aluminium Smelter at dusk

With the principles of sustainable development at the heart of everything we do, we continue to explore the limitless potential of aluminium as the ‘metal of the future’ for a greener tomorrow.

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About us

Vedanta Limited, the Company, is one of the world's leading natural resources companies, headquartered in Mumbai, India. The Company operates a diverse portfolio of businesses, including Aluminium, Copper, Zinc, Lead, Silver, Iron Ore, Oil & Gas, and Commercial Power. Each of these businesses operates as an independent vertical.

Vedanta Aluminium manages the Aluminium Business of the Company. Vedanta Aluminium is amongst the world's leading aluminium producers, and India's largest producer of aluminium, with an installed annual capacity of 2.3 million metric tonnes (MTPA). We ended FY 2021-22 with an all-time record production of 2.27 million MT of aluminium, an increase of 15% from the previous year, despite headwinds caused by pandemic, geopolitics and market fluctuations. This stands testimony to the resilience of our operations, fortitude of our employees, and strong partnership with our service providers and customers.

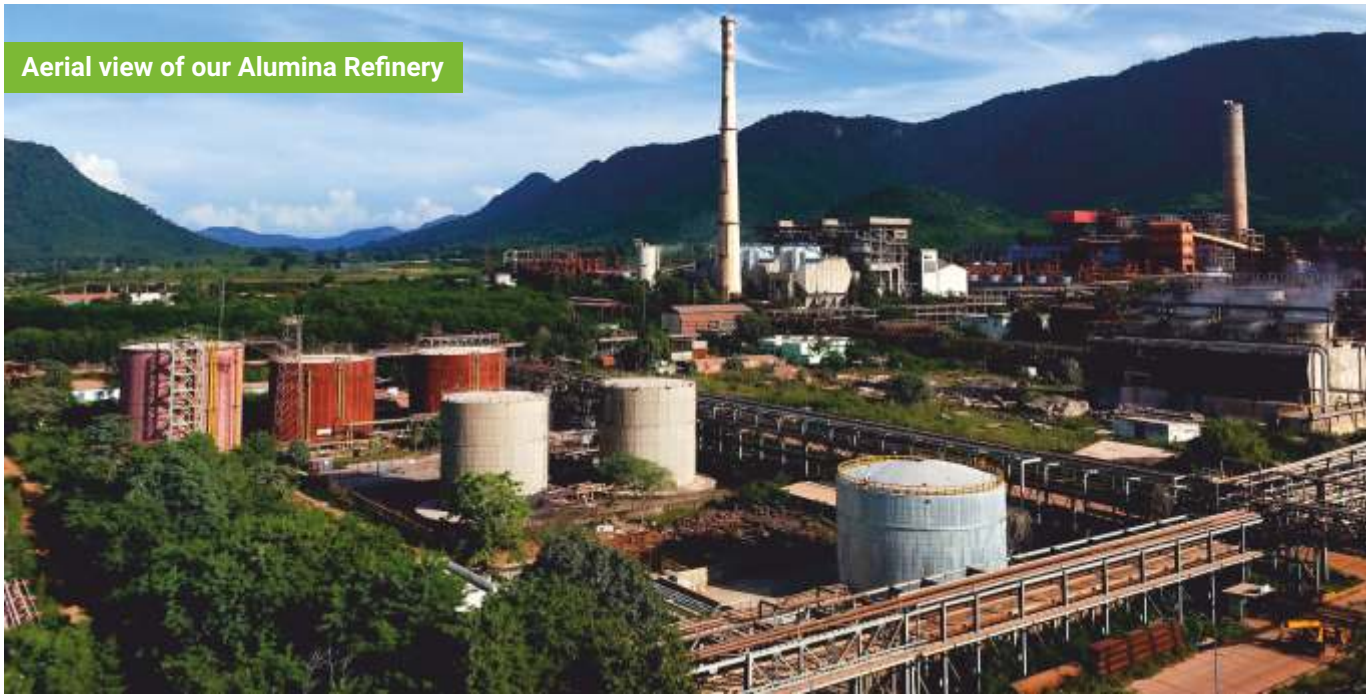
Vedanta Aluminium (or Aluminium Sector) includes refinery, smelters and power plants (both captive power plant and integrated power plant), of all three business units i.e., Vedanta Aluminium (Jharsuguda), BALCO, and Vedanta Aluminium (Lanjigarh).

Vedanta Aluminium Business (or Aluminium Business) consists of Smelters and only Captive Power Plants of Vedanta Aluminium (Jharsuguda), BALCO, and Vedanta Aluminium (Lanjigarh).

Vedanta Aluminium Limited (VAL) includes 100% owned BUs of Vedanta Limited i.e., Vedanta Aluminium (Jharsuguda) and Vedanta Aluminium (Lanjigarh), and does not include BALCO.

With state-of-the-art assets in India, we produce one of the largest ranges of premium grade aluminium products that find applications across a vast spectrum of industries, including aerospace, aviation, automobile and electric vehicles, building & construction, renewable energy, consumer goods, electrical, packaging and many more. Beyond aluminium, our assets have linked remote and underserved regions to the economic mainstream, ushering development in these areas through deep interventions in the realms of skill development, sustainable livelihood, women & child development, healthcare, quality education, sports and culture.

With the principles of sustainable development at the heart of everything we do, we continue to explore the limitless potential of aluminium as the 'metal of the future' for a greener tomorrow.



Aerial view of our Alumina Refinery

From Chairman's desk

The world has reached a point where economic growth and sustainable development can no longer be mutually exclusive. At Vedanta, our sustainable business practices and responsible approach are fundamental to who we are and what we do. Our sustainable development objectives and targets are aligned to the UN Sustainable Development Goals and strive to ensure manufacturing excellence while reducing our environmental footprint and enabling holistic development of our neighbouring communities.

Anil Agarwal
Chairman, Vedanta Resources

Sustaining a ZERO HARM workplace culture is of paramount importance to us. We deeply regret to inform you of the deaths of four of our business partner employees through workplace accidents. We offer our sincere condolences to the bereaved family, friends, and co-workers. To mitigate such incidents Vedanta Aluminium has embarked on a safety transformation programme. The initiative, 'Sankalp', reflects our promise of a safe and healthy workplace for all who work with us, and their families.

This year, Vedanta has embarked on an aspirational journey, transitioning from 'Transforming Elements' to 'Transforming for Good'. This transformation underscores our commitment to adopt best practices and policies for the greater good of our planet, and everything and everyone that lives on it. This commitment is founded on 3 pillars – Transforming the Planet, Transforming Communities, and Transforming the Workplace.

Transforming Communities	**Aim 1: Keeping communities at the core of business decisions** **Aim 2: Empowering over 2.5 million families with enhanced skillsets** **Aim 3: Uplifting over 100 million women and children through education, nutrition, healthcare and welfare**
Transforming the Planet	**Aim 4: Aiming net zero carbon by 2050 or sooner** **Aim 5: Achieving net water positivity by 2030** **Aim 6: Innovating for a greener business model**
Transforming the Workplace	**Aim 7: Prioritising health & safety of all employees** **Aim 8: Promoting gender parity, diversity & inclusivity** **Aim 9: Adhering to global business standards of corporate governance**

With climate change impacting communities, ecology, and economies around the world, we have taken upon us the ambitious target to become Net Zero Carbon by 2050 and Net Water Positive by 2030. In FY 2022, Vedanta Aluminium became India's largest industrial consumer of renewable energy. We have achieved 24% GHG intensity reduction target of FY 2025, over 2012 baseline, this year itself. Our net zero carbon commitment also includes plans to work with neighbouring communities on integrated watershed management and climate-smart agricultural practices to help them stay resilient in the face of climate change-related impacts.

Transforming the planet also saw us augment our product portfolio with green products. Looking at the increasing demand for green products, this year, we launched our own low carbon product branded 'Restora'. The name Restora symbolises our endeavours to restore the green balance through low carbon products. With this, Vedanta Aluminium sets the precedent for the Company's vision of producing green metals for a greener world.

Giving back to the community by enabling their development and self-empowerment is something I care about deeply, both personally and in my capacity as the Chairman of Vedanta. Community development through sustainable social impact and shared value creation is fundamental to the way we operate, and it goes beyond just CSR efforts. Our mammoth aluminium smelters and alumina refinery are national assets that have connected remote and underserved regions to the socio-economic mainstream. Nand Ghar, our flagship program for women & child development, brings together primary education, quality healthcare, nutrition, and skill development to transform the lives of millions of children and increase rural women's participation in economic activities. To that end, we have built around 500 Nand Ghars in Odisha and Chhattisgarh, and plan to reach 875 Nandghars by FY 2023.

Transforming the workplace will ensure that we nurture a diverse and inclusive workforce at Vedanta, who feel empowered, inspired, and have a strong sense of belongingness with us. We aim to have 30 percent women in workforce by FY 2030. We are also working towards making our workforce more inclusive by attracting talent from various nationalities and from LGBTQIA+ communities. Vedanta Aluminium has again set the precedent by welcoming to its workforce our first transgender partners.

I am happy to share that Vedanta Aluminium has ranked 4th in the Dow Jones Sustainability Indices (DJSI) world rankings for the aluminium industry. This goes to show that we are on the right path and encourages us to do better with each passing day.

In our journey of ESG excellence, we look forward to participative action from our employees, suppliers, business partners, customers, and other stakeholders. I hope the progress we have made so far motivates us to go the extra mile in reaching our goals sooner. On that note, I thank all of you for you continued faith and trust in our company. May our aluminium, the metal of the future, lay the foundation of a brighter, greener future for all.

From CEO's corner

We are collectively living through a crucial phase in the life on our planet, as the impacts of climate change unfold with greater frequency and severity. The global transition to a low carbon economy will be metals intensive, with metals like aluminium ubiquitous to a net zero future. This will see us, one of the world's top and India's largest aluminium producers, maximise our production potential through growth & expansion, and do so sustainably. And therefore, this year's report focuses on climate action, and how we, at Vedanta Aluminium, are walking the path to net zero along with our stakeholders and local communities.

Mr. Rahul Sharma
Dy. CEO, Vedanta Limited - Aluminium Business

Aluminium, the metal of the future, will play a pivotal role in all current and emerging clean technologies, including electric mobility, renewable energy, green buildings, sustainable packaging, battery technology and more. We are, therefore, strategically evolving our product portfolio to both cater to these emerging demands and capitalize on them for business growth. It delights me to share that in FY 2022, we launched the first low carbon aluminium from India, branded 'Restora'. Under Restora, we are offering Restora (low carbon aluminium) and Restora Ultra (ultra-low carbon aluminium) for addressing the fast-growing global demand for low carbon aluminium. This puts us amongst the top few aluminium producers worldwide who produce green aluminium.

At Vedanta Aluminium, our endeavours in safety and sustainability are supported by robust institutional frameworks and policies that enable us to monitor our progress and cultivate meaningful relationships with stakeholders. We regret to inform you of the deaths of four of our business partner employees in this year. We send our deepest condolences to their families and stand by them in their hour of grief. We have also taken decisive action to prevent a recurrence of such incidents. With an emphasis on leadership, people, technology, innovation, and risk management, we have initiated a safety transformation program. As part of strengthening our safety strategy, in accordance with the ICMM's handbook on Health and Safety Critical Control Management, we ran a pilot operation in managing Critical Safety Risks more effectively and in coming year we will roll out the program across our business.

Our vision of sustainable growth is manifested through efficient resource management, high levels of asset and process efficiency, and a targeted strategy for carbon reduction. With greater focus on climate action, we have undertaken several key projects across all our business units. With this intent, we have aligned our report with the Task Force on Climate-related Financial Disclosures (TCFD).

Following our commitment to Net Zero Carbon by 2050, we have revised our Scope 1 and Scope 2 GHG intensity reduction targets for our aluminium business, i.e., 14 percent and 28 percent reduction by FY 2025 and FY 2030, over FY 2021 as baseline year. Compared to the baseline emission in 2012, this year, we reduced GHG emission intensity by 28% for our aluminium business. We also achieved our target of 24% GHG intensity reduction by FY 2025 over 2012 baseline in this year itself. From this year we have also started reporting our Scope 3 emissions. We have also signed an agreement to commission India's largest Li-ion electric forklift fleet at our aluminium smelter in Jharsuguda, and further aim to shift to 100% electric LMVs by FY 2030.

We are also directing resources to meet an increasing quantum of our energy requirements through renewable sources. This year we have purchased 3.1 billion units of renewable power, becoming India's largest industrial consumer of renewables. To further align investments and business operations to this goal, the Vedanta group after careful evaluation has adopted shadow carbon price of 15USD/t CO2 towards long term, sustainable business planning. Being a part of the Vedanta group, we follow the same carbon pricing. However, we are currently in the process of deriving the same for the Aluminium Sector.

Vedanta Aluminium has also bagged top spots at Perform, Achieve and Trade (PAT) Cycle-II scheme by the Ministry of Power, Government of India, among the Indian aluminium industries. The PAT scheme aims to reduce specific energy consumption in energy intensive industries with an associated market-based mechanism to enhance cost effectiveness through certification of excess energy savings, which can be traded.

Our commitment towards circular economy commands efforts towards converting our by-products into raw materials for us, or other industries. We have partnered with Runaya, an emerging manufacturing start-up offering circular economy solutions, to improve aluminium recovery from dross up to 90%, and convert the residue into raw material for the steel industry.

We have explored industrial partnerships with several cement producers and are establishing supply chains for continuous supply of fly ash to their plants. Parallelly, we are also supplying fly ash to the National Highways Authority of India for construction of green roads and highways. We are also providing fly ash to rural brick manufacturers, for manufacturing ash bricks instead of mud bricks, thus preventing fertile topsoil from being used for brick manufacturing. Multi-faceted efforts such as these demonstrate our relentless commitment to fostering a circular economy.

In a landmark moment in our journey of diversity and inclusion within the organization, we have welcomed transgender professionals into our workforce. Strategic talent development programs such as V-Lead and Diversity Growth Workshop, which are tailored to identify high-performing women leaders and grooming them into taking up decision-making positions, continue to bear fruit for the organization.

At Vedanta Aluminium, we evolve our business aspirations on the bedrock of ESG excellence, with focus on community development and environment management. Our community development endeavours are centred around creating shared value, promoting access to quality education, healthcare and sustainable livelihoods, and protecting human rights of our neighbouring communities. In FY 2022, our social interventions have benefited the lives of 0.38 million women and children, amongst others. We leverage local employment and local procurement to include the local public in our growth journey. Nearly 76.25% of our employees are from local communities and 45% of our total procurement is from local suppliers.

Our exceptional performance, in the face of market uncertainties, is owing to the dedicated efforts of our employees and business partners. I also take this opportunity to thank our stakeholders for their unrelenting support. With this report, we present to you the highlights of our endeavours in Governance, Economic, Environmental and Social parameters, and the ambitious targets we have set for ourselves for 2025 and 2030. On that note, I invite you to read 'Accelerating to Net 0', the Sustainable Development Report of Vedanta Aluminium for FY 2022.

Operations and assets

Vedanta Aluminium's operational portfolio comprises independent Business Units (BU), which include two aluminium smelters, one alumina refinery, power plants, coal and bauxite mines in the Indian states of Odisha and Chhattisgarh. With an annual aluminium production capacity of over 2.3 million MT, Vedanta Aluminium is the largest primary aluminium manufacturer in India. In FY22, we delivered our highest ever production at 2.27 million MT of aluminium. The Aluminium Sector manages two bauxite mines with an estimated capacity of 1.25 MTPA and 0.75 MTPA respectively at Kawardha and Mainpat regions in Chhattisgarh. The Sector also administers the operations of a world-class alumina refinery at Lanjigarh, in Odisha, the state with the largest bauxite reserves in India. Our alumina refinery is under expansion to increase its capacity from 2 MTPA of hydrated alumina to 5 MTPA over the next few years.

Our aluminium smelter at Jharsuguda, in Odisha, is the world's largest single-location aluminium smelter, outside China, with an installed capacity of 1.75 MTPA. The Bharat Aluminium Company (BALCO) is the Sector's other independent smelting unit located at Korba, Chhattisgarh, with an annual production capacity of 0.575 MTPA. This smelter is also undergoing capacity expansion to 1.00 MTPA. BALCO is a subsidiary of the Company, owned 51% by Vedanta Limited and 49% by the Government of India. It is widely acclaimed as one of India's greatest disinvestment and privatisation success stories, clocking unprecedented quantum growth from 100 KTPA (kilo tons per annum) in FY 01 to 575 KTPA in FY20.

Both smelting complexes have 100% coal-based Captive Power Plants (CPP) to ensure energy security of the aluminium smelters. They also have one Independent Power Plant (IPP) each, which supply power to the respective state grids. The Company owns the Chotia coal block in the state of Chhattisgarh, which has an annual extraction capacity of 1 million MT but it is currently under care and maintenance. Over the past few years, we have secured new coal mines viz. Jamkhani (2.6 MTPA), Radhikapur (West) (6 MTPA) and Kuraloi (A) North (8 MTPA) through competitive bidding process by the Government of India. All three coal blocks are located in Odisha. We intend to operationalize Jamkhani and Radhikapur (West) in the upcoming years. On the account of their abundant reserves and proximity to our Jharsuguda smelter, these coal blocks will bolster our fuel security and contribute to our efforts of reducing inbound logistical GHG emissions.

Assets	Location	Capacity (million MT/annum)
Bauxite Mines	Kawardha, Mainpat	1.25, 0.75
Coal Block	Chotia, Jamkhani, Radhikapur West, Kuraloi (A) North	01, 2.6, 06, 08
Alumina Refinery	Lanjigarh	02
Aluminium Smelter	Jharsuguda, Korba (BALCO)	1.75, 0.575


Alumina Refinery, Lanjigarh (Odisha)


Aluminium Smelter, BALCO (Chhattisgarh)


Aluminium Smelter, Jharsuguda (Odisha)

Markets and products

Net Zero commitments by countries and the rapidly growing global consciousness towards sustainable production & consumption will have a direct bearing on the metals and minerals industry. The journey to net zero is going to be metals intensive. Sustainable metals like aluminium will play a pivotal role in all current and emerging clean technologies in energy and storage solutions, electric mobility, renewable energy, low carbon or green products, green buildings, sustainable packaging, and more. Vedanta Aluminium is poised to accelerate this journey through its expansive product portfolio, expertly manufactured to cater to the evolving needs of aluminium consumers worldwide. Today, we are the supplier of choice for an illustrious clientele in India and more than 40 countries in Americas, Europe, Asia and Africa.

Customer obsession is at the heart of our products, production and innovation. We offer our customers the choicest products as well as a bundle of advantages through 360-degree holistic solutions that support them at various stages of their business aspirations. We continue to invest in innovation, ESG excellence, cutting-edge technology and exceptional product and service quality. We are also working with our customers to co-create product solutions through our deep R&D capabilities, ecosystem of technical experts and the Centre of Excellence. Aluminium, being a dynamic and rapidly evolving industry with potential for greater applications in a sustainability-conscious world, our Centre of Excellence brings together R&D, Technical, Operations and Marketing expertise to invent the next big thing in aluminium.

Our state-of-the-art facilities at Jharsuguda and BALCO integrate our engineering prowess with leading-edge automation and sustainability-focused operating procedures to create value for our customers. Our product portfolio includes Aluminium Billets, Primary Foundry Alloys, Wire Rods, Slabs, Rolled Products (Hot & Cold), Flip Coils, T-Ingots, P1020 Ingots, Sow Ingots and Hot/Liquid Metal. Tapping into Aluminium's phenomenal intrinsic properties, we are increasingly focused on expanding our value-added portfolio with specialized products such as High-Speed Billets, Cylinder-head Alloys, etc.

As the demand for sustainable products gathers momentum, we are well positioned to cater this growing market. In FY22, Vedanta Aluminium launched 'Restora', our low carbon (meaning aluminium which has a low carbon footprint) aluminium brand, becoming India's first aluminium company to do so. Under the brand, we are offering two product lines. Restora (Low-Carbon Aluminium) is produced using renewable energy and has a carbon footprint that is almost half of the global threshold for green aluminium. Restora Ultra (Ultra Low-Carbon Aluminium) that is manufactured with aluminium recovered from dross (a by-product of the aluminium smelting process), has a near-zero carbon footprint, which is amongst the lowest in the world. Both can be tailor-made into a wide array of products like Ingots, Billets, Primary Foundry Alloys and more, for any industry sector, customized to customer needs. Both products have been verified as low-carbon aluminium post assessment by an independent, global verification & assurance firm. With consumers becoming increasingly conscious of the provenance of the products they use, Vedanta Aluminium's Restora will provide them the assurance that the aluminium they purchase has amongst the lowest carbon footprints in the world.

The global aluminium industry is the fastest growing metal industry, owing to the metal's ever increasing applications in vital industries like aerospace, space exploration, defense, building and construction, transportation, automobiles and electric vehicles, electrical distribution, renewable energy, pharma, consumer durables, packaging, battery technology and many others. Aluminium, currently the second-most significant metal in the world, has the potential to become the most important commercial metal in the near future. And hence, at Vedanta Aluminium, we are relentlessly exploring aluminium's seemingly endless potential as the metal that will be the foundation of a sustainable tomorrow.

Passionate employees, delivering excellence

Our economic performance

Alongside fulfilling the raw material needs of critical industries, Vedanta Aluminium strives to create a lasting positive impact on the environment, our communities, business partners and customers. It gives us immense pride to enable the socio-economic growth and development of India and countries all over the world with our products, operations, and expansive value chain. We sustainably harness natural resources and transform them into metals of prosperity and, in the process, aim to enrich the lives of millions of people associated with our operations.

Our world-class operations ensure efficient utilization of capital assets for sustainable transformation of natural resources into value-added products and generate surplus revenue streams for future growth. We appropriate a significant part of the wealth generated towards tax payment, expenditures in engagements with suppliers and business partners, salaries and other employee benefits, community investments, sustainability initiatives and others. As per a study by the IFC (Institute for Competitiveness), Vedanta directly contributes 0.40% to India's GDP through its operations. The report also states that the Company's indirect contribution to the nation's GDP through its large supply chain network and employment generation is estimated to be as high as one percent. The Company also contributes to the national economy through remuneration to its employees which further leads to consumption of goods and services, thus creating a series of economic opportunities and benefits. This impact, known as the induced impact, is as large as 2.20% of India's GDP for which Vedanta Aluminium's contribution is around 0.9% - Vedanta Aluminium (Jharsuguda): 0.64 and BALCO: 0.26. The below table shows the economic value generated and distributed by Vedanta Aluminium through its operations over the last two years.

TABLE 1: ECONOMIC VALUE GENERATION OF VEDANTA ALUMINIUM SECTOR

ECONOMIC VALUE GENERATED AND DISTRIBUTED (INR MILLION)	FY 2021-22	FY 2020-21
Economic Value Generated (Revenues)	5,36,767	310,926
Economic Value Distributed	3,96,428	263,113
a) Operating costs	3,30,117	203,388
b) Employee wages and benefits	8,310	9,846
c) Payment to providers of capital	50,954	49,140
d) Payment to government	6,280	82
e) Community investments (including donation)	767	657
Economic Value Retained (calculated as Economic Value Generated less Economic Value Distributed)	1,40,339	47,813

Tax strategy

Tax strategy and governance:
The Company annually publishes a company-wide tax transparency report, which outlines our tax strategy. This tax strategy commits to operate in conformance with the letter and spirit of the tax laws and regulations in the countries in which the Company operates. Vedanta Limited's Tax Transparency Report can be referred using the given link:
https://www.vedantalimited.com/InvestorReports/Vedanta%20Limited%20-%20TTR%20-%20FY%202021-22.pdf
Tax rate: Page 396, Annual Report
Balance sheet: Page 319, Annual Report

Tax reporting:
Tax reporting for the Aluminium Sector covers our operations at Jharsuguda and BALCO. These operations are involved in the manufacturing of aluminium products from alumina, while our refinery at Lanjigarh is involved in production of alumina from bauxite.

Effective tax rate:
Our standalone (which refers to the entities of Vedanta Limited) effective tax rate in FY21 was 23.13% and in FY22 was 12.09% with weighted average of 16.62% and industry average of 24.5%. Our effective tax rate of 16.62% is lesser than the industry average effective tax rate of 24.5% on account of tax holiday, 80M benefits and other permanent differences. Our consolidated (which means entities of Vedanta Limited, Cairn Oil & Gas, Hindustan Zinc and BALCO) cash tax rate in FY21 was 0.48% and in FY22 was 13.69% with weighted average of 7.08% and industry average of 20.82%. Cash tax rate of 7.08% is lesser than the industry average effective tax rate of 20.82% on account of utilization of losses, tax holiday, 80M benefits and other permanent differences.

It gives us immense pride to enable the socio-economic growth and development of India and countries all over the world with our products, operations, and expansive value chain.

GOVERNANCE

Good governance and sustainable development are at the heart of how we run our operations.

Management approach

Good corporate governance serves to effectively underpin and uphold an organization's value system, integrity, and efficiency. At Vedanta Aluminium, we uphold the principles of transparency and ethical business conduct, as we aspire to brace the interests of our stakeholders through a process-oriented approach led by world-class research and development, discovery, acquisition, sustainable development and responsible utilization of diversified natural resources. Our robust governance structure helps enhance the transparency and accountability of our business, enabling us to grow responsibly and nurture fruitful and lasting relationships with our stakeholders.

The Aluminium Sector's operation and management is governed by the Board of the Company and its governance practices. It is managed by the Dy. CEO of the Sector and CEOs of each Business Unit. For further details, refer to our annual report: https://www.vedantalimited.com/InvestorReports/VedantaIR2022-Book-300-160722.pdf

VEDANTA ALUMINUM SECTOR LEADERSHIP TEAM

Sunil Duggal
CEO - Vedanta Limited

Rahul Sharma
Dy. CEO - Vedanta Aluminium

G G Pal
Dy. CEO - Vedanta Aluminium (Lanjigarh)

Abhijit Pati
CEO - BALCO

Sunil Gupta
CEO - Vedanta Aluminium (Jharsuguda)

CORE VALUES

Trust
We strive to foster a culture of transparency and open dialogue to gain trust and respect.

Integrity
We endeavour to demonstrate ethical behaviour commensurate with local and international practices.

Care
We are committed to 'zero-harm' to the environment and neighbouring communities.

Respect
We respect the voice, opinions, and concerns of our stakeholders.

Innovation
Innovation is central to our vision of ensuring zero harm, zero waste and zero discharge operations.

Excellence
Delivering productivity improvement and cost reduction through benchmarking and best practices is the hallmark of who we are.

Entrepreneurship
We nurture an encouraging environment that enables our employees to pursue personal and professional excellence.

Code of business conduct and ethics

Metal manufacturing, being an industry that operates in various jurisdictions, places a premium on the highest standards of business ethics and anti-corruption. Maintaining honest and forthright interactions with governments and regulatory authorities is critical for managing risk and adapting to future regulatory changes, as well as developing positive relationships with government bodies. Being part of the Vedanta Limited, Vedanta Aluminium is also a signatory of the United Nations Global Compact (UNGC) and maps United Nations Sustainable Development Goals (UN-SDGs) which act as our guiding principles for sustainable business development.

The Company publishes a tax transparency report annually, which includes business-specific statistics, to provide details of revenue generation and economic benefits distribution to our stakeholders.

The Foreign Corrupt Practices Act (the "FCPA") prohibits the Company, its employees and service providers from offering or giving money or any other item of value to win or retain business or to influence any act or decision of any public official, political party, candidate for political office or official of a public international organization. FCPA prohibits the payment of bribes, kickback, or other inducements to foreign officials. Our policy clearly states that our employees should be mindful that charitable contributions might be, in some circumstances, used to disguise bribery/corruption. We ensure that charitable contributions are not misused as a bribe. Employees may provide charitable contributions in their personal capacity. However, these personal contributions are not made as representatives of the Company or are reimbursed by the Company. The Company may sponsor sporting or cultural events, where sponsorships do not constitute any kind of bribe.

Philanthropic Contributions

The underlying philosophy of our business is to give back to the society and partner in their progress. We are committed to ensuring the well-being of the local communities and to enable it through our community development endeavours. These initiatives also see involvement of our employees through volunteerism to amplify the CSR efforts of the Company and build stronger relationships with the community. During the year, we garnered 3039 employee hours towards community development.

The details of the contributions in cash, employee volunteerism and kind are highlighted in the below given table:

TABLE 2: PHILANTHROPIC CONTRIBUTION

	BALCO	Vedanta Aluminium (Jharsuguda)	Vedanta Aluminium (Lanjigarh	Aluminium Sector
Cash Contributions (million INR)	400	201	167	767
Time: Employee volunteerism during paid working hours (in hours)	161	2684	194	3039
In-kind giving: Product or service donations, projects/partnerships similar (million INR)	0	0	0	0
Management overheads of CSR department (costs associated with having in place a community affairs function and costs related to research and communications) (million INR)	5.5	6.6	7	19.1
Total (million INR)	406	208	174	786

Our Code of Conduct defines the principles of meaningful engagement with different stakeholders across our value chain. We are committed towards upholding the spirit of business ethics, which forms the foundation of our multi-faceted approach towards sustainable development. And we observe a **zero tolerance policy** towards any violations of these corporate ethical values. These business ethics adhere to the relevant laws of the land and are revised as per the industry trends.

Employees volunteering to plant rice saplings

Our Code of Business Conduct and Ethics Policy states that no funds or assets of the Company may be contributed to any political party or organization or to any individual except where such a contribution is permitted by applicable law and has been authorized by the Chairman or the Board of Directors. These principles outline how we should do business and provide guideline on ethical business conduct such as pertaining to bribery and corruption, sponsorships and contributions, conflicts of interest, confidentiality, data protection, and third-party due diligence. The purview of this code covers all directors, management personnel, employees, business partners, and suppliers of the Company. Vedanta Limited's Code of Business Conduct is available at https://www.vedantalimited.com/CorporateGovernance/vedanta_limited_code_of_conduct_and_business_ethics.pdf

Execution of the Code of Business Conduct and Ethics is supported by the following policies, internal standards and guidance notes:

Insider Trading Prohibition Policy

Whistle Blower Policy

Anti-trust Guidance Notes

Supplier Code of Conduct

Our Code of Business Conduct and Ethics and other standards are available on the website of Vedanta Limited and are incorporated into our contracts to ensure awareness and compliance of our business partners. *For further details, refer to: https://vedantaaluminium.com/about-us/company-policies/*

Our Whistle-blower Policy provides the formal mechanism for addressal of matters involving unscrupulous business conduct. The policy affirms to the confidentiality of the whistle-blower, consistent with the requirement of internal investigation.

Our Code of Business Conduct discourages acts of corruption and prohibits undue monetary payments or other benefits to business partners, government officials, political outfits and campaigns, employees or any other person concerned, with the objective of securing un-disclosed business interests. We have an active hotline and a dedicated e-mail ID '**sgl.whistleblower@vedanta.co.in**', which can be used by our stakeholders to raise matters concerning violation of our Code of Business Conduct and Ethics.

All complaints through the whistle-blower channel are thoroughly investigated by the Company's independent Management Assurance Service (MAS) team and the outcomes are presented to the Audit Committee. The Company strives for transparency and openness in its reporting as well as practice. To ensure a high degree of awareness on our zero-tolerance policy for unethical practices, all employees across the Company are regularly sensitized on our policies and governance practices through various tools.

All operations and commercial activities are evaluated for bribery and corruption concerns, and internal audits are performed regularly to ensure compliance with our Code of Business Conduct and Ethics. Our Internal Audit department reports quarterly to the Audit Committee on any incidences of fraud, in addition to those reported through the whistle-blower hotline. We ensure that employees in potentially high-risk roles acknowledge that they have read and understood these rules and standards and that non-compliance will result in disciplinary action. They also receive anti-corruption training annually. We have standards in place to identify which staff should undergo anti-corruption training based on geography, government participation, and various other considerations.

To encourage appreciation of and adherence to our business ethics by our workforce, we ensure thorough understanding of the elements of our Code of Business Conduct by them through mandatory training of new employees, and annual refresher sessions with the existing employees. We also have a dedicated e-learning program on our Code of Business Conduct and Ethics.

TABLE 3: WHISTLE BLOWER CASES

Number of Open Complaints on April 1st 2021	3
Number of Whistle Blower Cases opened in FY 2021-22	23
Number of Whistle Blower Cases upheld and found correct in FY 2021-22	8
Number of Whistle Blower Cases closed in FY 2021-22	21
Open complaints on 31st March, 2022	5

The whistle-blower cases involve cases of corruption and bribery, harassment, among others. We did not incur any fines or settlements related to anti-competitive practices in the past four fiscal years.

TABLE 4: TRAINING ON ANTI-CORRUPTION

Number of Employees/ExCo who Have received training in anti-corruption during the 2021/22 training cycle

	BALCO	Vedanta Aluminium (Lanjigarh)	Vedanta Aluminium (Jharsuguda)	Total
BU's Governance Bodies (ExCo) members	20	33	37	90
FTEs	799	717	2,851	4,367
BP Employees	0	5,008	9,362	14,370
Retainer Employees	0	5	5	10
Total	819	5,763	12,255	18,837

Risk management

Being a global player in the metals and mining industry, we face several business risks such as price volatility, regulatory changes, natural resource availability, sustainability, community and other stakeholder expectations. We have a multi-layered risk management system and robust governance framework that align the Aluminium Sector's operating controls with the Company's overarching vision and mission for delivering on strategic objectives.

Risk governance framework

Our risk governance framework ensures the resilience of our operational portfolio against the potential risks across our value chain. Our Business Units are reviewed for current and emerging risks by the respective management teams. These teams are chaired by the CEOs of the respective business and attended by CXOs, including the Risk Officer. The role of the Risk Officer at the Business Units, Aluminium Sector and Company is to sensitize the senior management about business risks for proactive mitigation and/or adaptive action. The 6 Non-Executive Directors (NED) on the Company Board have expertise in Enterprise Risk Management. Regular trainings on risk management principles and best practices are conducted for NEDs, as well as all organizational members. The Company's HR monitors and reviews employees' evaluation based on the criteria of risk management. The Risk Management function is structurally independent of the business verticals. The Audit Committee is led by an Independent Director who ensures that robust risk management systems are in place to mitigate business risks.

TABLE 5: RISK GOVERNANCE

Highest ranking person with dedicated risk management responsibility on an operational level (not CEO)	Mr. Anup Agarwal, Chief Financial Officer – Vedanta Aluminium, shoulders the responsibility of risk management for Aluminium Sector. Mr. Ajay Goel, Chief Financial Officer – Vedanta Limited, is responsible for managing risk at the Company level.	Mr. Anup Agarwal reports to the Mr. Rahul Sharma, Dy. CEO – Vedanta Aluminium. Mr Ajay Goel reports to Mr. Sunil Duggal, CEO – Vedanta Limited.
Highest ranking person with responsibility for monitoring and auditing risk management performance on an operational level (not CEO)	Mr. Dilip Golani, President – MAS, shoulders the responsibility of monitoring and auditing risk management performance on an operational level.	The scope of work, authority and resources of MAS are regularly reviewed by the Company's Audit Committee.

ExCo meeting in progress

Enterprise risk management

We have a structured mechanism in place to involve employees and business partners in proactively identifying and reporting possible risks across the organization. Our programs encourage employees to express business concerns without fear of reprisal. There is a continual feedback system in place through workshops and Risk Champions. This facilitates flow of input from stakeholders on effectiveness of our risk management strategies and creates greater awareness on strengthening them. Criteria for risk management are introduced into our operations management and product development process. This comprises a rigorous exercise to map common and hidden risks, analyse their influence on project timelines, costs, labour, and resource needs, and create risk prevention and mitigation techniques. For further details about the governance framework, please refer:
Vedanta Limited Integrated Report & Annual Accounts
Vedanta Limited_IR_FY2022.pdf Risk Management section.

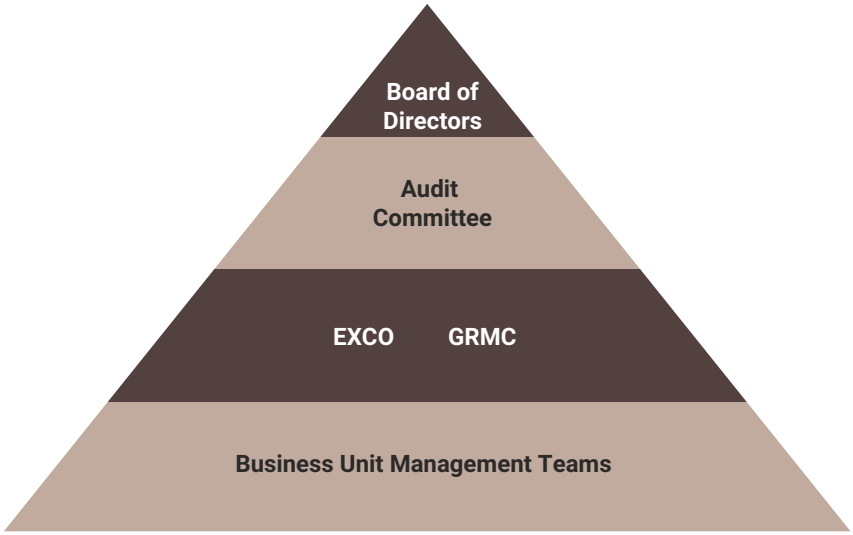


Figure 1: Governance Framework

Enterprise risk and control management is also an integral part of business processes such as annual goal setting and performance appraisal. Goals/Key Performance Indicators (KPI) of senior management include risk management measures, with appropriate weightage to ensure effective implementation of adequate risk controls. For line managers, the Company encourages their participation in risk management activities to ensure that defined risk management principles are integrated in all business activities and decision making. Our financial incentives, compensation and performance appraisal system incorporates risk management metrics to positively reinforce effective risk management culture within the organization. For example, Employee Stock Ownership Plan (ESOP) schemes of the company, both tenure and performance-based, also promote a risk-sensitive culture and business outcome.

Frontline workers and line managers are crucial to our risk governance

TABLE 6: BUSINESS RISKS & RISK MANAGEMENT AT VEDANTA ALUMINIUM

Key Risk Area	Mitigation Measures	Strategic Priorities & Execution
Spread of COVID-19	COVID-19 still poses a significant business risk. Mitigation tools are in place and all standard operating procedures issued by government and the Company management are diligently implemented across our sites.	Availability of COVID test facilities Availability of Isolation Wards Ensure COVID appropriate behaviour is followed by all employees Monitor COVID handling preparedness across Business Units
Occupational Health and Safety Management	This year, we onboarded a globally reputed safety consultant for strengthening our 'Culture of Care' and implementing Critical Health & Safety Risk Management. CEOs are now directly supervising critical risks by increasing leadership engagement on field through Visible Felt Leadership (Refer to 'Safety and Occupational Health' section for more details)	Safety transformation through Visible Felt Leadership Implementation of Critical Controls Program Business partner safety management Greater digitalisation, automation and technology adoption in safety management
Management of Fly Ash Generated at Coal-based Power Plants	Appointment of business partner for end-to-end ash management. We have utilized a higher quantum of fly ash than we produced in this financial year. Our goal is to ensure 100% utilization of legacy fly ash. We have locked-in business partners for utilizing fly ash in cement and brick manufacturing, infrastructure development (such as roads), and backfilling of spent mines and quarries for rehabilitation. We are also increasing fly ash off-take through rail to reduce logistics emissions.	Collaboration with end-to-end solution providers for ash management Expedite legacy ash utilization Promotion rail transport for ash evacuation Develop green belts Collaboration with fly ash end users such as brick manufacturers
Cyber-Security and Innovation & Technology	We train and educate our personnel about the dangers associated with poor cybersecurity. We have a comprehensive risk assessment and mitigation plan for cybersecurity, which we review annually. We also undertake a cybersecurity audit every year to detect new threats linked to information security. If a risk is detected during the audit, we take necessary steps to resolve it within the specified timeframe. Our IT professionals also conduct IT security audits to enhance our IT security standards and bolster our IT infrastructure. (Refer to 'IT and Cybersecurity' section for more information.)	Continue with third party audits and certification Cyber-security awareness and training for all employees
Bauxite Residual Disposal Area	The construction of Gabion Wall is now complete. After a successful pilot, we are now implementing the Wick Drain project. Alongside that, we are also carrying out heap consolidation to create additional space for bauxite residue storage. The new RMP (Red Mud Pond) Cell 1 provides storage space of 2 MTPA. RMP Cells 2 and 3 are planned for completion by Nov'22.	Scaling of wick drain project Digital monitoring of ash dykes
Water Management	As water is a shared resource, we have implemented many water stewardship initiatives across our locations. We had also performed various scenario analyses to evaluate the potential impact on our business from various water related concerns. To ensure sustainable water supply, we ensure pre-summer planning, collaboration with the states' Water Resource Department (WRD), and development of adequate water supply and storage infrastructure. (Refer to Water Management section for more details)	Working at watershed level with stakeholders on water stewardship, sustainable water and agriculture management projects Deployment of water recycling technologies like RO (Reverse Osmosis) at BUs
Infrastructure and Logistics	Electrification of railway track has been completed for improved traffic management. We have also constructed a Y (loop line) connection of railway lines for efficient management of raw material movement and doubling of railway line at all required points. Wagon tipplers have been installed at sites.	Electrification of all rail tracks Expeditious construction of all ongoing projects Installation of wagon tippler

At the asset level, risks are evaluated for both existing operational and future business risks, In addition to the above identified top business risks as part of the BU and Sector risk register, we have also identified three important emerging risks - Climate Change, Talent Management and Tailings Management, that have potential to impact our business in the medium to long term, if not managed well.

Climate Change: Climate change is a significant risk for the world as we know it. In response, we are now witnessing countries and companies transition towards a low carbon economy/operation. At Vedanta Aluminium, we also constantly evaluate the exposure of our assets to climate change related impacts. Reducing GHG emissions in line with the Paris Agreement to limit global warming to 1.5 degrees Celsius is a priority in the global sustainable development agenda. Since our operations are reliant on coal-based thermal power plants for continuous & reliable energy supply, this transition could pose business risks if not managed well. Replacing carbon-intensive fuels with cleaner and greener fuels requires transitioning periods and significant investments, which can potentially impact our revenues and/or profits.

We were India's largest renewable energy consumer in FY 2022

Keeping this in mind, we have initiated several measures to decarbonize our business, which include increasing the quantum of renewables in our energy mix, promoting circular utilization of industrial by-products, establishing governance frameworks and committees to monitor the progress and more. The Company's R&D and Carbon Forums have been re-constituted with updated terms of reference and representation from all businesses to address this risk. The forums work on the mandate to develop and recommend to the ExCo (Executive Committee) short term, medium term and long-term action plans to manage climate-related business risks. Similarly, we have carried out sensitivity and scenario analyses to evaluate the financial impact to our business on account of potential reduction in water availability to our business and neighbouring communities under various stress test scenarios. Accordingly, we have developed mitigation plans. (Refer the Water Management section for further details)

Talent Management: The COVID-19 pandemic has fundamentally altered the employment market. Over these two years, more and more working professionals are choosing to/given the option of working out of their preferred locations, with remote working becoming a norm across many organizations. Vedanta Aluminium, being in the metal and mining business, operates large-scale physical assets in remote regions which demand physical presence of employees to run our smelters, refinery and power plants. Such locations are generally not preferred location by the incoming generations of young professionals, and the past two years have exacerbated the talent risk.

We strive to give our employees a fulfilling professional experience

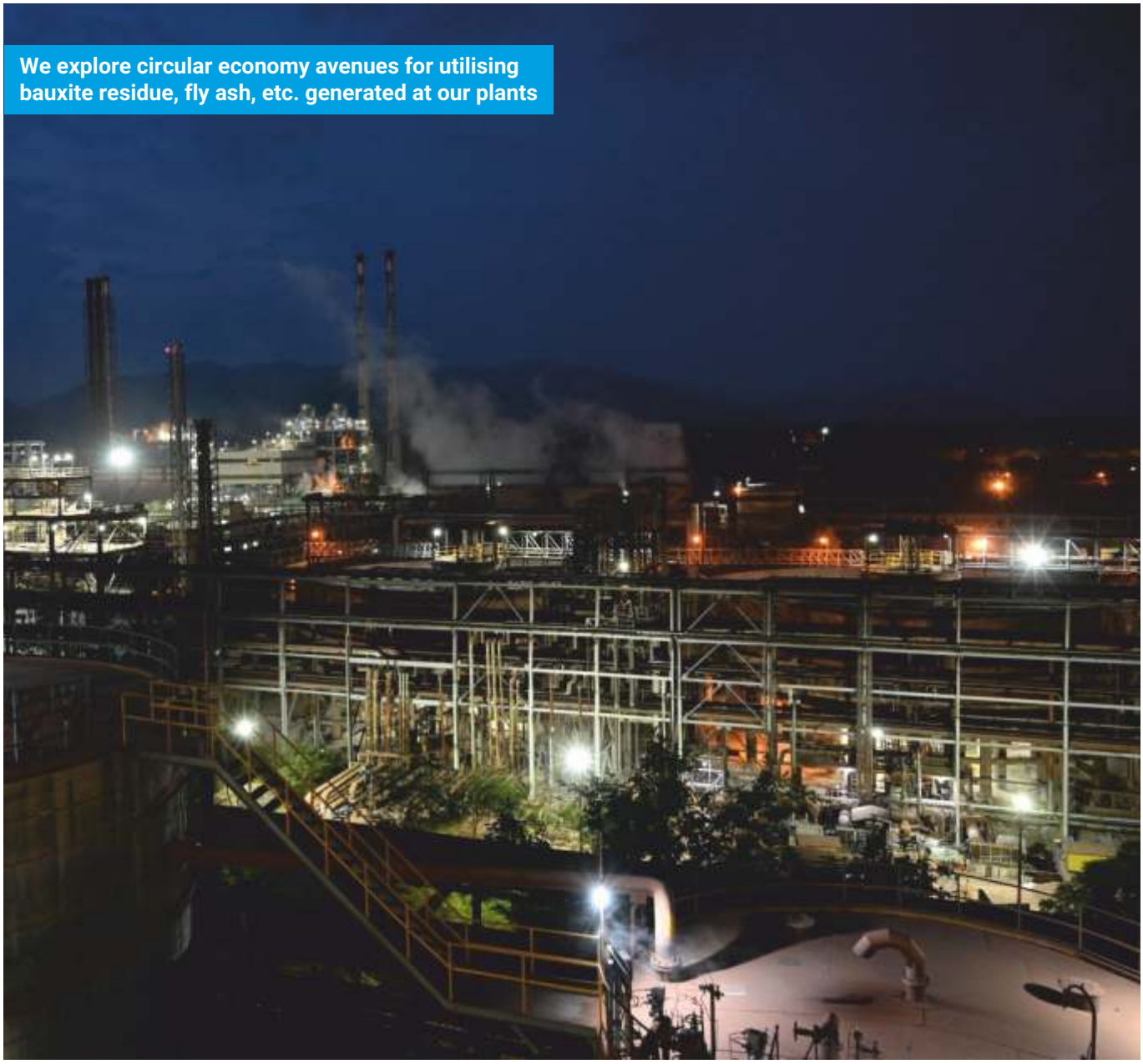
Our attrition rate at the Sector was 11.32% in FY 22. In response, we have taken a re-look at our HR policies and are developing lucrative schemes and employment packages for attracting and retaining high-quality talent. We provide ESOP options to high-potential employees. We have also instituted Spouse Recruitment Policy through which spouses of our employees can explore appropriate and meaningful career opportunities with us, which helps us deepen our talent pool and enables families to stay together. We take a great sense of responsibility in being an Equal Opportunity Employer, and our talent acquisition strategy encompasses talent from diverse geographies, minorities, ethnicities, cultures, abilities and genders. To retain such a diverse talent pool, we have conceived several robust talent development programs to identify high-potential talent early on in their careers and groom them into taking up leadership positions. For example, since manufacturing industries like ours have traditionally had less women in leadership positions, we have developed programs like V-LEAD, Diversity Growth Workshop, etc. through which capable women candidates undergo holistic

personal & professional grooming to take up elevated roles & responsibilities. To ensure Zero Undesirable Talent Loss, we have also kept Above Market Pay position and Pay to Perform policy to retain high performing talent.

Tailings Management: Tailings / ash dyke management is another critical issue for the industry and has increasingly been at the centre of Socially Responsible Investors (SRIs). Uncontrolled release of waste, including water stored in the tailings / ash dyke, could lead to loss of life, injuries, environmental damage, reputational damage, financial implications, and production impacts.

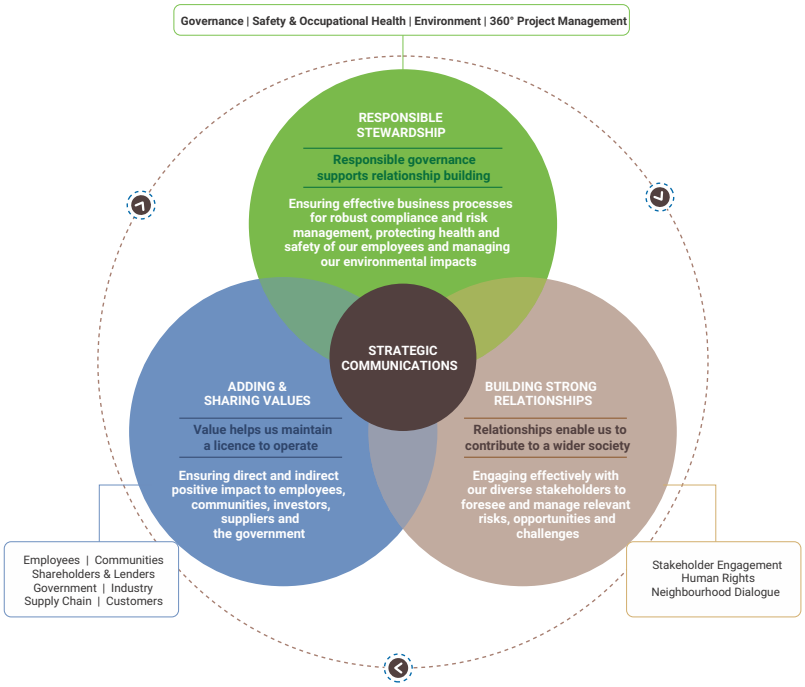
Our Risk Management Committee has included tailings dams on the Company's risk register with a mandate for annual internal review and a three-yearly external review. We have engaged a third-party expert firm to review tailings dam / ash dyke operations, and propose improvements required in Operational Maintenance and Surveillance (OMS) systems at each operation.

The Vedanta Tailings Management Standard and Guidance Note have been reviewed, augmented, and reissued to include UNEP/ICMM Global Tailings Standard requirements in FY21. The Standard requires an annual and independent review of every dam on every half-year with sign-offs by respective BU CEOs that their dams continue to be managed within the design parameters and in accordance with the company standards. BUs are expected to manage all tailings / ash dyke facilities with ExCo oversight, and with independent third-party assessment on year-on-year implementation of corrective action plans. We are digitalising all tailings monitoring facilities and all our standards are updated to include the latest best practices in tailings management. Parallelly, we have also initiated work on installation of dry tailings facilities.



Vedanta Sustainability Framework (VSF)

Our Sustainability Framework is developed on 4 pillars covering various sustainability policies and standards to drive our sustainability commitments. This framework reflects our core values and embraces the principles and requirements of ICMM (International Council on Mining and Metals) and UNGC (United Nations Global Compact).



9
POLICIES
Biodiversity, Energy & Carbon, HIV-AIDS, Human Rights, Social, Supplier & Contractor Sustainability Management, Water, Indigenous People

92
STANDARDS & GUIDANCE NOTES
Covering all the policy subject areas in line with ICMM, IFC Performance Standards, Global Reporting Initiative (GRI)

Figure 2: Vedanta Sustainability Framework

Vedanta Sustainability Assurance Process (VSAP)

VSAP is our sustainability assurance tool, carried out as an annual third-party audit process, used to assesses compliance of our operations with policies, standards and guidance notes laid down in the Vedanta Sustainability Framework by all our business units. It has several modules covering environment, health, safety, stakeholder management and human rights dimensions.

Our Sustainability Committee and ExCo examine the outcomes of VSAP and present the key findings, action plan and outcome to the Board of Directors. In response to the gaps identified through VSAP, respective BUs prepare management plans and initiate actions to correct the identified gaps.

Sustainability governance

The Company administers its sustainability agenda through efforts across the organisational hierarchy. For the Aluminium Sector, we have a clear structure for implementing policies, standards and programs to achieve defined sustainability objectives and targets. The Company's Sustainability Committee comprises of an Independent Director, the Company CEO, and BUs CEOs who supervise the sustainability performance of all business divisions.

The Sector's ExCo and Sustainability Committee examine the HSE & Sustainability related business risks and performance, discuss them at periodic intervals and report the latest developments to the Board of Directors.

Vedanta Sustainability Framework and the various supporting committees which oversee and implement the sustainability agenda at the Company level are depicted below:

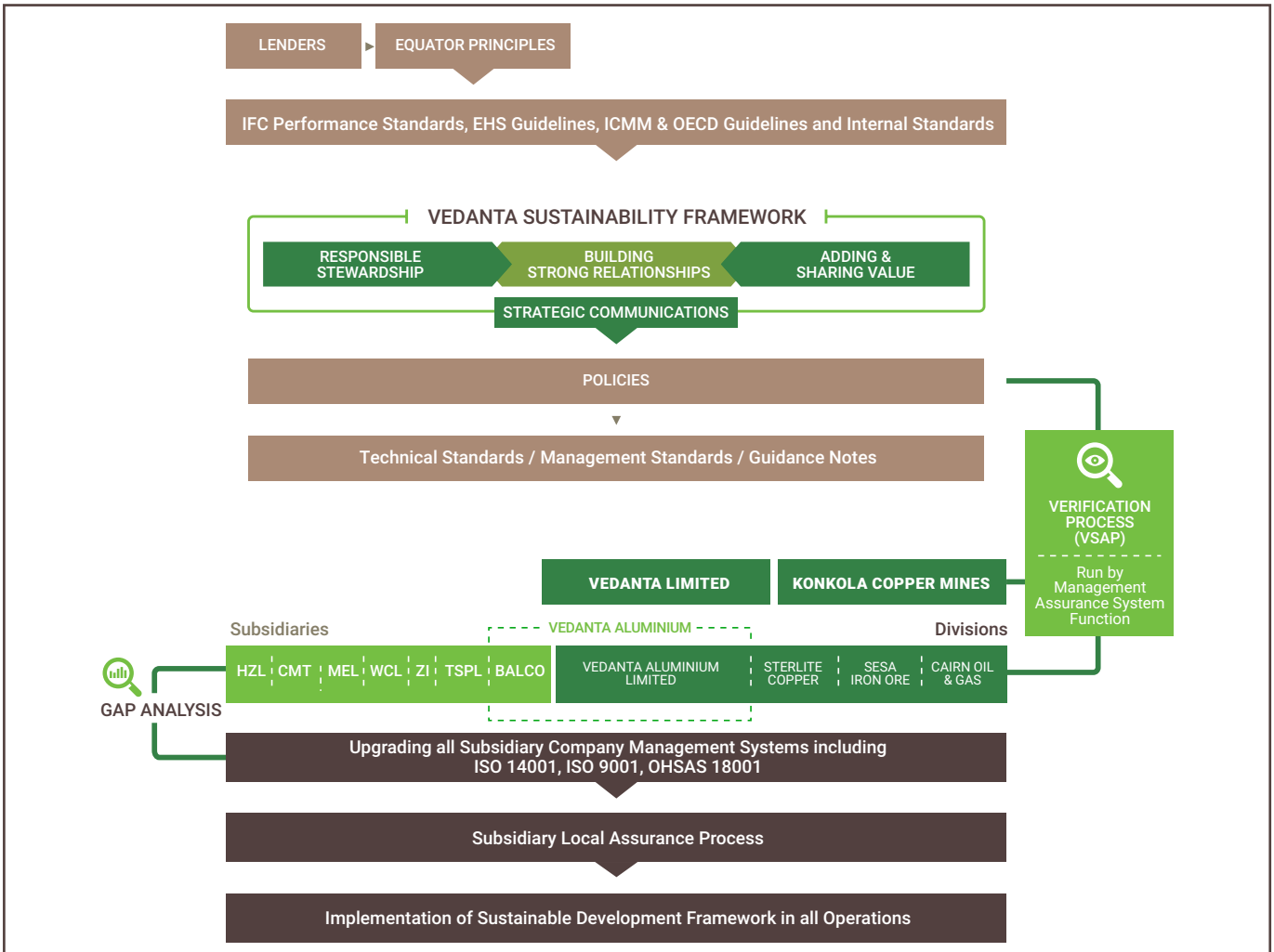


Figure 3: Sustainability governance structure

- **Sustainability Committee:** This committee oversees the Company's management of sustainability matters. It also monitors HSE related risks and campaigns, targets and performance, engagement with host communities, and other related matters.
- **Audit Committee:** This committee oversees the Company's financial reporting, effectiveness of risk management framework, and analyses the findings of the internal and external auditors to ensure the resilience of internal financial controls.
- **Remuneration Committee:** This Committee reviews and recommends to the Board on the executive remuneration policy and determines the remuneration packages of each of the Executive Directors. It periodically reviews the annual variable pay structure, including stock incentives (performance linked incentive) that are rewarded based on the achievement of the Company and individual performance goals.
- **Nomination Committee:** This committee reviews the size, and structure of the Board of Directors, Key Management Personnel and Senior Management, ensuring the appropriate balance of skills, experience, diversity, and independence in the Board, and Senior Management.
- **Executive Committee:** This committee administers the execution of strategic plans formulated by the Board, allocation of requisite resources to the designated authorities, and tracks the operational and financial performance of the Company.

Materiality assessment

According to GRI Standards, material topics are the ones that represent an organization's most significant impacts on the economy, environment, and people, and influence decision of the company's management and stakeholders. Sustainability related material topics for our business are determined through materiality assessment through an external expert agency and with the involvement of all our stakeholders (internal and external). Our materiality assessment also includes industry specific material topics considered in various sustainability standards like GRI, SASB (Sustainability Accounting Standards Board), etc.

Vedanta Aluminium Business undertakes materiality assessment once in a three-year cycle with a third-party expert agency. Our stakeholders are consulted using processes such as interviews, focussed group discussions, surveys, etc. to arrive at material issues. This year, we reviewed and built upon the materiality assessment conducted for the Sector in FY 19 in consultation with our stakeholders.

During the process, 27 sustainability topics were analysed to identify 10 high priority material topics for the business, which were important to the Sector as well as our stakeholders. For the identified material sustainability topics, the BU teams have developed strategy, action plans and targets along with responsibility and timelines as controls to achieve desired outcome, in consultation with our stakeholders. We review and manage these material sustainability risks alongside our business-related risks as part of our enterprise risk management.

TABLE 7: SUSTAINABILITY TOPICS CONSIDERED FOR MATERIALITY ASSESSMENT

	HIGH	MEDIUM	LOW
ENVIRONMENT	Energy and climate change	Tailings / ash dyke management	Use of recycled material
	Solid waste management	Noise and vibration	
	Water management	Resource efficiency	
	Biodiversity	Materials management	
	Air emissions		
SOCIAL	Community development	Diversity and equal opportunity	Upholding rights of indigenous people
	Occupational health and safety	Land acquisition and rehabilitation	Local employment
	Human rights	Local sourcing	
	Talent management		
GOVERNANCE	Supply chain sustainability	Grievance management	Transparent disclosure
		Ethical business practices	Innovation
		Compliance to government regulations	Governance for sustainability
		Brand image	

Amongst these 27 topics under the three thematic areas of Environment, Social and Governance, 10 topics are identified as most material, as listed in the table below.

TABLE 8: MATERIAL TOPICS FOR ALUMINIUM SECTOR

ENVIRONMENT	SOCIAL	GOVERNANCE
Energy and climate change	Community development	Supply chain sustainability
Solid waste management	Occupational health and safety	
Water management	Human rights	
Biodiversity	Talent management	
Air emissions		

The material issues detected for our operations also align with the UN SDGs listed below:

Figure 4: Alignment to Sustainable Development Goals

Stakeholder engagement

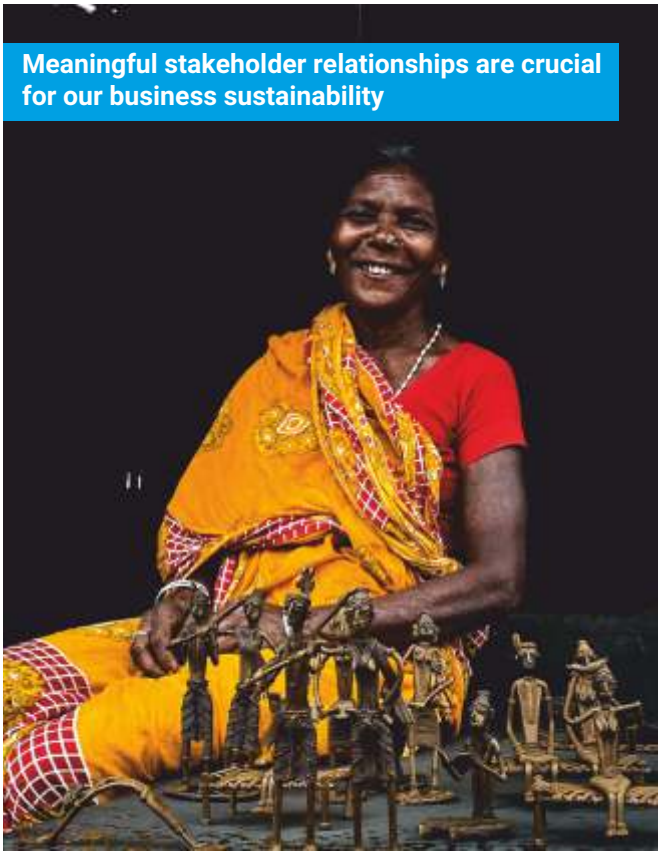
At Vedanta Aluminium, we strongly believe that stakeholder engagement is the best conduit for us to stay informed about the evolving needs, concerns, and aspirations of our stakeholders, and offers the best avenue to strengthen our relationships with them. Our approach to stakeholder engagement involves identifying and engaging stakeholders on key topics and sustainability strategies of mutual concern / interest. We then strive to develop innovative solutions that cater to the interests of the Aluminium Sector and our stakeholders simultaneously.

Management approach

We strive to capitalize on opportunities that create long-term value for our stakeholders. Trust-driven relationships with our stakeholders provide a conducive environment for identifying unknown risks across our value chain and help in the development of mitigation strategies driven by cooperation and collaboration with these stakeholders.
Vedanta Aluminium conducts stakeholder engagement through four stages:

1. Stakeholder Identification
2. Stakeholder Mapping and Analysis
3. Stakeholder Engagement Plan
4. Execution of Plan

Stakeholder identification helps us analyse the groups who have been either been impacted by or are interested in our operations. Our stakeholder groups include senior management, employees, civil societies, local communities, government, customers and suppliers. This is followed by mapping of stakeholders based on the degree of our impact on them and their influence on our business. Periodic consultations are then conducted to ascertain their needs and concerns related to our operations, and appropriate engagement plans are rolled out for advancement of mutual interests.



Meaningful stakeholder relationships are crucial for our business sustainability

Policy and advocacy

The Indian subcontinent is rich in a plethora of natural resources. When responsibly harnessed, they can aid in the socio-economic development of the people of India and the world at large, through a wide array of products and services that India exports overseas. The Company, therefore, operates with the firm belief that sustainable and equitable development of India's natural resources sector is in the best interest of the nation. Our Policy Advocacy revolves around these core values and materialises through participative and collaborative efforts with industry associations, think tanks, academia, and media. Our Company participates in stakeholder consultations on economic reforms, raw material and energy security, cost of doing business, business continuity, ease of doing business, sustainable business practices and other policy and regulatory matters which impact our business.

Aluminium is a metal of strategic importance for all key growth sectors of India. Linked to this industry are thousands of suppliers, service providers, MSMEs (Micro, Small and Medium Industries), and employment opportunities for millions of the country's youth. And hence, according due importance to the Indian Aluminium Industry as a strategic sector / core industry, encouraging domestic minerals & metals sector to boost raw material production like bauxite, encouraging greater usage of aluminium in the country, and making the industry globally competitive, are central to our policy advocacy endeavours. We work with several reputed trade and industrial bodies in India. Some of the associations and purpose are given below:

TABLE 9: INDUSTRY COLLABORATION & ADVOCACY

Sr. No	Industry Association / Trade Chamber	Advocacy Initiative
1	The Aluminium Association of India (AAI)	Establishing importance of the Indian Aluminium Industry as a strategic sector / core industry Creating self-sufficiency for aluminium in the country in line with the Indian Government's vision of a self-reliant India Encouraging domestic mineral & metal sector to increase mineral production and boost domestic value addition, thus creating employment opportunities and growth of MSMEs Raw material security to encourage domestic manufacturing
2	The Federation of Indian Mineral Industries (FIMI)	
3	The Federation of Indian Chambers of Commerce & Industry (FICCI)	
4	The Associated Chambers of Commerce and Industry (ASSOCHAM)	
5	Confederation of Indian Industry (CII)	Setting up BIS (Bureau of Indian Standards) Quality Standards for aluminium scrap and finished products to promote manufacturing of high-quality products
6	Coal Consumers Association of India (CCAI)	Promoting circular economy through gainful utilization of fly ash and bauxite residue

During FY22, we contributed INR 2.85 million in the form of membership fees to trade associations such as these. We have also made political contribution of INR 1.23 billion through Electoral Bonds as per the process authorized by the Election Commission of India. Our advocacy spends and other contributions are given below:

TABLE 10: ADVOCACY SPENDS AND OTHER CONTRIBUTIONS (ALL VALUES IN INR MILLION)

Groups	FY 2019	FY 2020	FY 2021	FY 2022
Lobbying, interest representation or similar	0	0	0	0
Local, regional or national political campaigns/ candidates	0	0	0	0
Trade associations or tax exempted groups such as industry bodies, think tanks	2.86 APP (2.5), FIMI (0.18) CCAI (0.15) AAI (0.03)	2.86 APP (2.5), FIMI (0.18) CCAI (0.15) AAI (0.03)	2.86 APP (2.5), FIMI (0.18) CCAI (0.15) AAI (0.03)	2.86 APP (2.5), FIMI (0.18) CCAI (0.15) AAI (0.03)
Other (Electoral Bonds, etc.)	0	0	0	1,230

Supply chain management

In recent decades, value chains have grown in complexity as companies expanded around the world in pursuit of growth. A 2020 report by McKinsey on Risk, Resilience and Rebalancing in global value chain highlights that in just two decades, the value of intermediate goods traded globally has tripled to more than USD 10 trillion annually. Vedanta Aluminium, being one the largest aluminium producers in the world, has a global supply chain. And hence, it is extremely important for us to ensure that our suppliers follow ethical practices and operate in a sustainable manner, minimising their impact on the people and the environment. We have, therefore, developed and implemented several strategies to minimize our supply chain risks.

Supply chain risk exposure and management approach:

Complex supply chains bring along with them their own sustainability related business risks. Our Supplier Code of Conduct sets forth the basic requirements, that we ask our suppliers to respect and adhere to, when conducting business with Vedanta. This Code embodies the Company's commitment to internationally recognized sustainability frameworks and ESG standards including the core conventions of the International Labour Organization and the United Nations' Universal Declaration of Human Rights, among others.

Vedanta Aluminium has developed a supply chain policy in line with the model policy prescribed in Annexure – II of the OECD (Organization for Economic Co-operation and Development) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict Affected and High-Risk Areas (OECD Due Diligence Guidance). This policy is currently in the process of being approved by the leadership. Once approved, we will work with business partners across our supply chain to operationalize the policy in the coming years.

Vedanta Aluminium, being a division of the Vedanta Limited, has adopted the Company's Supplier Code of Conduct and the Supplier & Business Partner Management Standard, which affirms our commitment towards health, safety, welfare and ethical business engagements in the company's supply chain. We encourage our suppliers to integrate these principles and practices within their management systems.

All suppliers are mandated to follow the statutory requirements based on Labour and Human Rights, Health, Safety & Environmental Sustainability, Anti-Bribery and Fair Trade Practices. To ensure that all our suppliers have sustainability management systems and procedures in place, we have ESG-based screening criteria towards supplier selection and classification. Suppliers scoring below certain threshold scores get rejected while others get qualified and classified as critical and non-critical suppliers based on the trade practices and importance of the supplier to our business. Critical suppliers are audited periodically by our cross functional teams for their ESG practices in-line with our Supplier Code of Conduct. We have also adopted a defined checklist for the Modern Slavery Act (MSA). On account of COVID, audit of the identified critical suppliers was suspended for the past two years. We intend to commence them again upon normalization of the COVID situation.

TABLE 11: SUPPLIER SCREENING CRITERIA

ENVIRONMENT	SOCIAL	GOVERNANCE
Environmental objectives and targets	Employment practices	ISO 9001, ISO 14001, ISO 45001, SA8000 and other certifications
Statutory environmental requirements	Labour management practices	Ethics policy & code of conduct practices
Energy consumption and GHG emission management	Occupation health and safety practices	Corruption and bribery
Water management	Training and education practices	Turnover
Waste management and minimizing packaging material	Diversity and equal opportunity	Raw material sourcing
Proper handling of hazardous chemicals and wastes	Non-discriminatory practices	Previous clients
Air emissions and pollution control equipment	Freedom of association and collective bargaining	Risk management
	Child labour	Incident management
	Forced or compulsory labour	HSE policies, objectives and trainings
	Security practices	Leadership commitment to sustainability culture
	Rights of indigenous peoples	Sub-business partner management process
	Human rights criteria	Skilled and unskilled labour

TABLE 12: SUPPLY CHAIN KPIs & PERFORMANCE FOR VEDANTA ALUMINIUM LIMITED			
Key Performance Indicators	FY 2022 performance	FY 2025	FY 2030
Procurement from local suppliers	47% procurement from local suppliers	50% procurement from local suppliers	55% procurement from local suppliers
Decarbonization of the direct supply chain	Evaluate GHG intensity for our supply chain	10% reduction in GHG intensity of our supply chain	25% reduction in GHG intensity of our supply chain

Supply chain risk management performance

A supplier assessment system has been developed for all our identified Tier-1 Critical Suppliers, which is conducted at least once in 3 years. In the past three years, a total of 11 suppliers were assessed at the Aluminium Sector level (8 at Jharsuguda and 3 at BALCO) which is equivalent to 2% of the total Tier-I Critical Suppliers respectively.

0.7% of Tier-I suppliers and 0.55% of total suppliers were identified with high sustainability risks at our Jharsuguda and Lanjigarh sites. While COVID disrupted the audit process, leading to less than required number of supplier assessments, we strive to reduce the risks through the screening process and achieved 100% compliance with it. We have a grievance redressal mechanism for our suppliers to address any unethical or discriminatory practices in our supply chain. We have also set targets for local procurement and continue to monitor our performance against the same.

We further monitor performance of our supply chain practices with regards to cost, service, quality and customer satisfaction in addition to ESG performance criteria, as part of the ESG screening process for onboarding new vendors. This covers, but is not limited to, ESG parameters like business ethics, prevention of modern slavery, conformance to environment policy, and occupational health and safety systems.

TABLE 13: SUPPLY CHAIN EFFECTIVENESS CRITERIA	
Supply chain evaluation criteria	**Approach for integration**
Quality & continuity in supply	Development of reliable and quality vendor base with vendor evaluation
Time	On time availability of the material and service with optimum inventory
Quality	Procurement as per quality specification and based on energy efficiency measurement; Implementation of best practices with a transparent system
Cost	Procurement at the best price in the industry

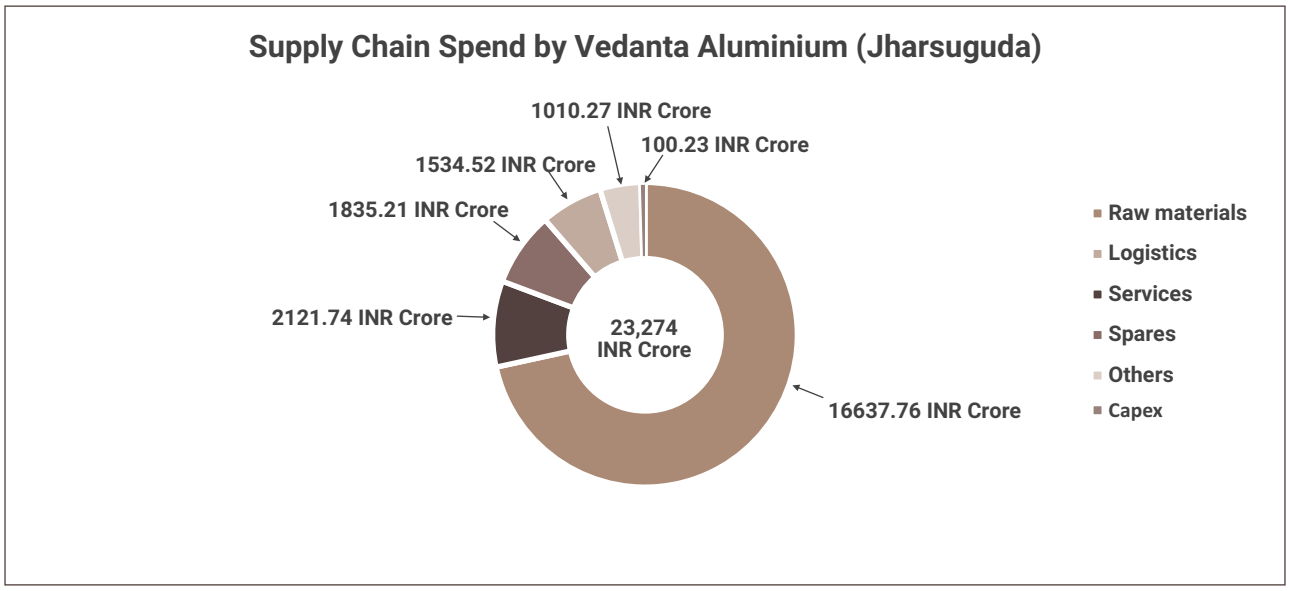
Suppliers and spend analysis

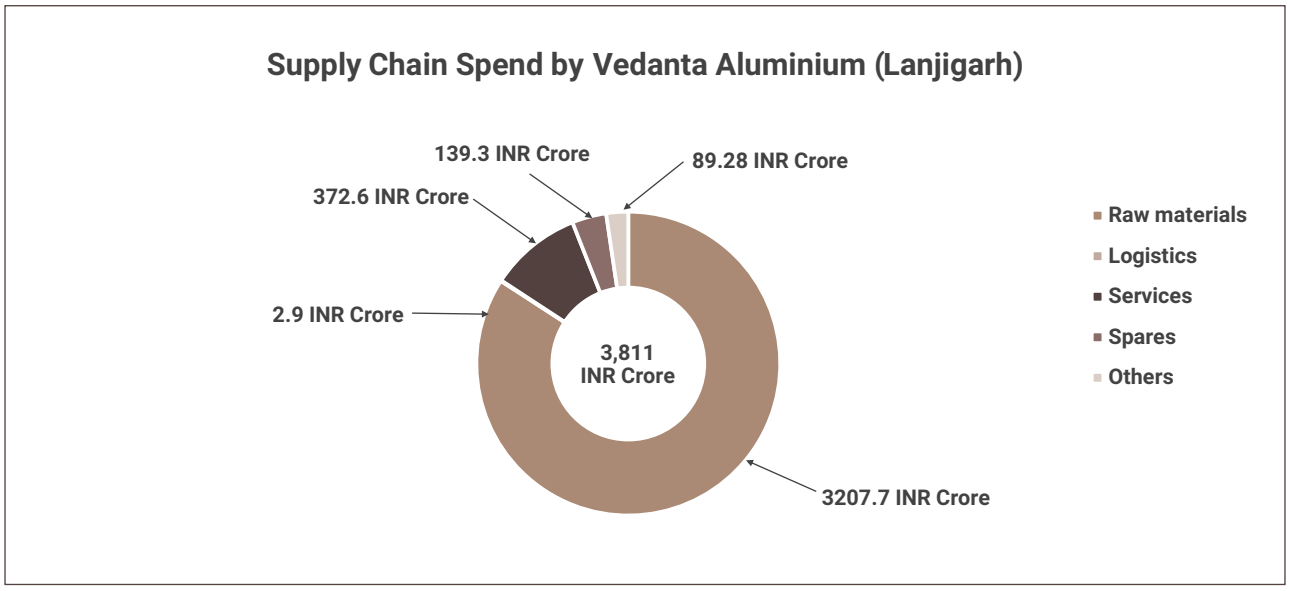
Tier-1 suppliers are direct suppliers of goods and services and constitute the active supplier base of the company. Critical suppliers include suppliers with highest linkage to business outcome, limited alternate vendors, highly critical functions or suppliers of critical components, high sensitivity, high volume suppliers and those contributing to significant supply chain spends. We have identified 2060 Tier-I suppliers for the Sector who are significantly important for the business, out of whom 665 are Critical Tier-I Suppliers. In FY 22, we purchased goods and services from 3271 suppliers at the Aluminium Sector level, with a global spend of approximately INR 36,167 Crores.

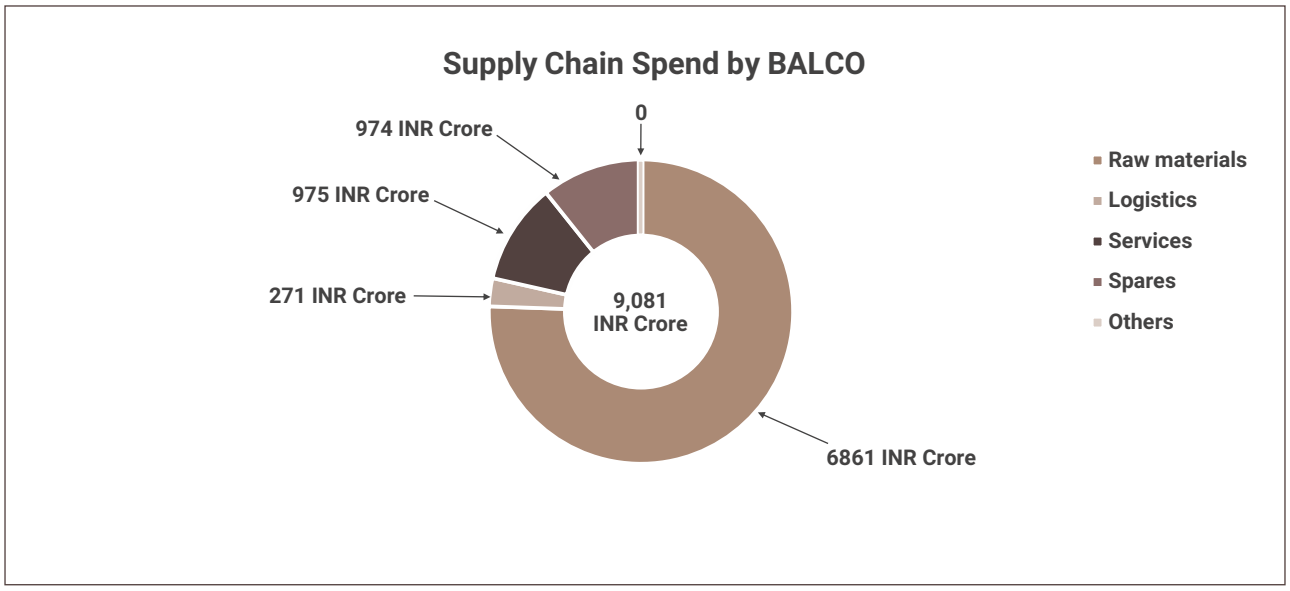
Our suppliers on ESG criteria before onboarding

TABLE 14: SUPPLIER CATEGORIES				
Type of supplier	**Vedanta Aluminium (Jharsuguda)**	**Vedanta Aluminium (Lanjigarh)**	**BALCO**	**Vedanta Aluminium**
Tier-I Suppliers	1174	117	769	2060
Critical Tier-I Suppliers	315	108	242	665

The global spends of our Business Units have been summarised below:







Customer relationship management

Our customers are at the centre of all that we do, and we strive to ensure unparalleled customer fulfilment through the best quality of products and services, perfectly tailored to their needs. We have developed an online mechanism for faster redressal of customer queries and complaints and improve end–to–end customer experience. To measure our progress, and build on better customer relationship management strategies, we conduct customer satisfaction surveys every three years through external partners. We strive to improve our customer relationship by setting clear targets and action plans in consultation with customers.

TABLE 15: CUSTOMER SATISFACTION MEASUREMENT

	FY 2018		FY 2021	
	Vedanta Aluminium (Jharsuguda)	BALCO	Vedanta Aluminium (Jharsuguda)	BALCO
% of satisfied respondents out of total number of respondents to the survey	45%	42%	59%	63%
% of customers / consumers surveyed	63.5		79.9	

TABLE 16: CUSTOMER SATISFACTION PERFORMANCE

Goal	Target FY 2021	Target FY 2024
Customer Satisfaction	80%	90%

Committed to quality & excellence

Information technology management

Increasing digitalisation has also increased the risk of cybersecurity-related threats. The world's top businesses might lose between USD 93 Billion to USD 223 Billion because of data breach as per the study 'Invisible Tech, Real Impact' conducted by Interbrand and Infosys.

Robust data management boosts our operational excellence

Cybersecurity related business risk and management approach

We have an Information Security Policy that support us in the development and implementation of a robust data management strategy. The policy helps us in protecting our information from various risks such as any external attack, hackers, third party outsourcing risk of our IT assets, natural calamity and industrial espionage. The policy is publicly available to all employees.

An enhanced framework has also been developed for risk management in alignment with international standards such as ISO 27001:2013 across our BUs with regards to cybersecurity. A detailed risk assessment is conducted every year, which includes simulated hacker attacks by a third party to gauge employee awareness levels. Each risk is categorized under various domains – information, service, software, physical asset, etc. Based on the type and severity of risk, the experts in our IT team are assigned the responsibility to mitigate them.

Cybersecurity related risks are managed through monitoring and review at the Board as well as the executive management level. We have two established committees to strengthen the security structure and integrate cybersecurity in our business operations. Vedanta Limited Information Security Committee (VLISC) maintains the information security and strategy for the entire Sector and the Business Information Security Committee (BISC)/the location management committee manages the information security at individual business units.

IT and information systems management

Our IT Policy mandates that we sign a formal contract with a third-party business partner stating our requirements regarding the security control, service delivery measures and timelines, and ensure implementation of the same. Building on the Company-wide policy for cybersecurity, we have also launched Information Security and Awareness Programme for all our employees and business partners.

In FY 2022, ISMS & Data Governance Training Programme was attended by 2,959 employees from various departments. Our Business Continuity Management Plan includes a comprehensive Disaster Recovery Plan to maintain or restore any critical business operation with support of IT systems, in unprecedented scenarios.

Mr. Sunil Duggal, CEO of the Company, is responsible for driving the digital initiatives, including cybersecurity, with support of VLISC. The Chief Digital and IT Officer (CDIO) of the Sector reports to the executive management team and is responsible for overseeing cybersecurity across our business. The Management also conducts a risk assessment to consider various risks inclusive of the threats posed to our assets due to outsourcing our requirements to a Third Party.


ENVIRONMENT

The quality of life we live is contingent on our environment. We strive to align incentives for the business with imperatives for the planet through innovative science, robust engineering and effective management of assets, processes and resources.

Environmental stewardship

We understand that this is a crucial time in the history of Earth, and everything that lives on it, from animals to organizations. The quality of life we live is contingent on our environment. But our climate is at a tipping point. And this is the decade of action. We strive to align incentives for the business with imperatives for the planet through innovative science, robust engineering and effective management of assets, processes and resources. All of our growth plans are conceived on the bedrock of ESG excellence. Being one of the world's major aluminium producers, and India's largest, we see our role as climate action stewards, leading the way through our endeavours. We believe these actions that we take today, will create positive feedback loops. Investments of energy, ideas and funds in building a net-zero climate-resilient economy will create virtuous circles of sustainable growth, jobs and opportunities – for our employees, families, stakeholders and shareholders.

Management approach

The Company's environmental policy, adopted by the Aluminium Sector, defines our commitment to environmental protection, its scope, objectives and targets, management structure, roles and responsibility for implementation and providing oversight on execution of the policy. The policy is applicable to company owned operations and business facilities, products and services over its life cycles, and business partners, extended supply chain, and merger and acquisition with / of any new facility. It is publicly available. The Dy. CEO of the Sector and CEO of each Business Unit are responsible for providing resources and the oversight on the implementation of this policy.

We are committed towards reducing the environmental impact of our operating portfolio through a structured approach that includes adoption of best-in- industry practices, consistent improvements in efficiency of resource-intensive processes, deployment of state-of-the-art technological solutions, exploring circular initiatives and incorporation of 'Design for Sustainability' principles. Our Sustainable Development Framework encompasses policies and standards that direct our efforts towards managing our environmental footprint. The coverage of our environmental reporting extends to 100% of our business operations.

Our leadership and stakeholders have identified climate change and energy management, waste management, water management, air emissions, bauxite residue storage area / ash dyke management and biodiversity management as the material environmental issues for the business. Our Sustainability / ESG Committee is headed by Dy. CEO of Aluminium Sector at business level and Independent Director Mr. U K Sinha at the Company level. We benchmark our environmental performance against company peers and engage independent experts to guide us on improving the eco-efficiency and environment management performance of our operations. Our mitigation plans advance our efforts towards the achievement of UN SDGs.

Tree plantation drive during Van Mahotsav, India's 'forest festival'

Our performance

Given the nature of our business, our operations are undertaken in strict adherence to established Standard Operating Procedures. All our operational sites are in compliance with nationally and internationally accepted standards and regulations. All 3 business units have Environment Management Systems (EMS) which are verified w.r.t the international standard ISO 14001:2015 and certified by a third-party expert agency. As per the industry norms, environmental incidents can be classified into 5 categories depending upon the severity of the impacts. While category 1, 2 and 3 incidents have insignificant to moderate short-term impacts of reversible in nature on a limited area / people, category 4 and 5 environmental incidents are serious events that may have a medium to long term impact on vast areas / large number of people and may take moderate to long time for recovery. Like the previous year, there were no category 4 or 5 environmental incidents across our operating portfolio in this reporting period.

TABLE 17: ENVIRONMENTAL INCIDENTS IN THE LAST 4 YEARS

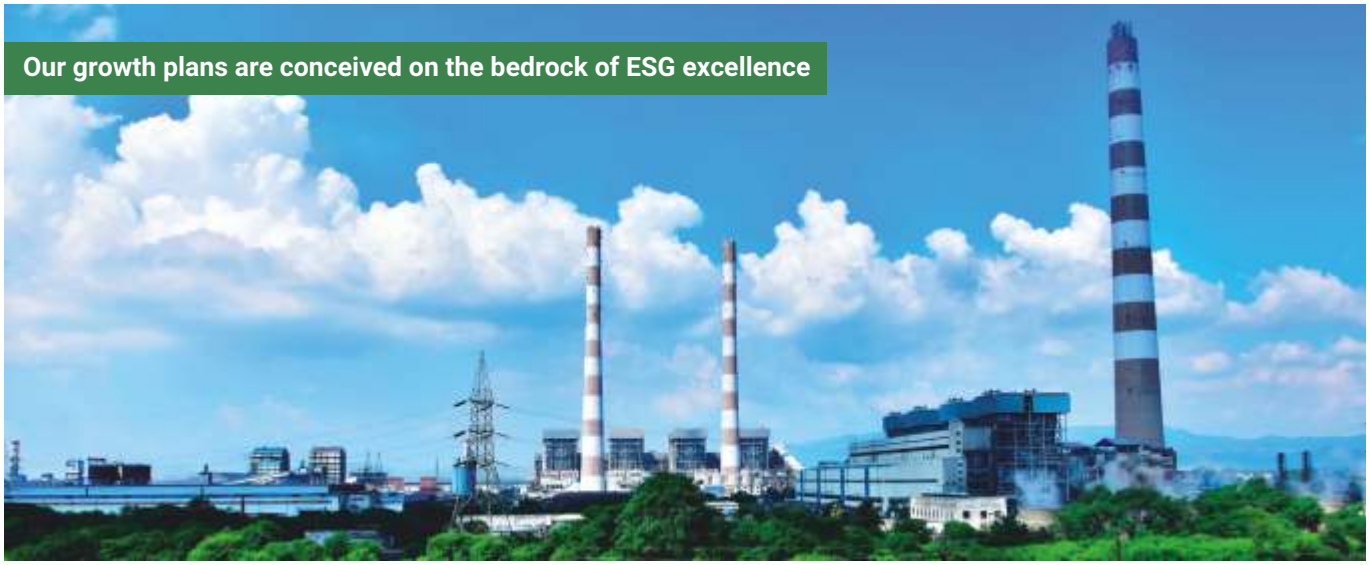
Reporting Period	Category 3 Incident	Category 4 Incident	Category 5 Incident
2018-19	5	1	0
2019-20	1	0	0
2020-21	5	0	0
2021-22	1	0	0

Apart from this, during these years, there were no material environmental violations at any of our operations exceeding 10,000 USD and we have not paid any significant fines related to environmental or ecological issues for our operations. Our EMS tracks capital investments, operational expenses and cost savings and / or avoidance from environmental investments for all aspects of our business. Table below shows the expenditure made on environment management:

TABLE 18: RETURN ON ENVIRONMENTAL INVESTMENT

Million INR	FY 2019	FY2020	FY 2021	FY 2022
Capital Investments*	875	39	350	443
Operating Expenses	3251	4477	4872	5460
Total Expenses	4126	4515	5222	5903
Cost Savings (million INR)	-	860	1450	1380

*100% coverage of operations



Climate change and energy management

The World Economic Forum, in its FY 2022 Global Risk Report, has reported climate action failure as one of the most significant long-term dangers confronted by the world. The Intergovernmental Panel on Climate Change (IPCC) has proclaimed that warming of the earth by 1.5 degrees Celsius above the pre-industrial level would inflict around USD 54 Trillion in damage on the global economy by the year 2100. Climate change has already started impacting economies around the world.

Calls for urgent climate action and decarbonisation of the world economy have grown over the years since the Paris Agreement. Traditionally, the aluminium industry has been a capital-driven and energy intensive industry, and has high GHG emissions when reliant on coal-based thermal power plants for energy. All our climate action initiatives and endeavours are aligned to one aspirational goal. **Vedanta Aluminium is committed to become a Net Zero Carbon organization by 2050.**

Management approach

Climate change is considered as one of the top business risks by our SRI investors and is included in the business risk register. We have conducted scenario analyses to assess physical and transition risks and opportunities to the business due to climate change. Based on the results, we have developed several strategies, short term and long-term targets and action plan to manage climate related risks and opportunities for us and our neighbouring communities.

Our Energy and Carbon Management Policy and Performance Standard guide our efforts towards the adoption of best-in-class industry practices and implementation of clean technologies in order to reduce our direct and indirect greenhouse gas (GHG) emissions. And hence, our approach to carbon reduction rests on the twin pillars of reducing energy intensity of our smelter operations and transitioning to a low-carbon energy mix. Our GHG reduction targets and initiatives are in complete alignment with the goals of Paris Agreement. We consistently track and manage our carbon footprint with respect to these commitments.

Our climate reporting and disclosure are aligned to the requirements of Climate-Related Financial Disclosure Framework (TCFD). Accordingly, we have developed business specific metrics and targets to evaluate our performance against the set climate goals, which have been collated in table below. We have also developed risk management strategies as per the requirement of TCFD. The Board-level Management plays significant role in reviewing and guiding our climate strategy.

Climate strategy

- **Achieve Net Zero Carbon by 2050**
- **Improving energy efficiency at our operations**
- **Transitioning to low-carbon energy mix by increasing share of renewable energy, gas and biomass**
- **Institutionalizing Carbon Pricing to drive decarbonisation across the business**
- **Helping neighbouring communities adapt through promotion of climate-smart infrastructure and agricultural practices**
- **Increasing expanse of carbon sink to offset residual GHG emission**

Climate related performance against target

In FY 22, the total GHG emissions of Aluminium Sector was around 37.64 million tCO2e, of which 35.51 million tCO2e was from direct GHG emissions (Scope 1) and 2.12 million tCO2e was from indirect GHG emissions (Scope 2). Out of these, smelting process emissions i.e. perfluorocarbon (CF4 and C2F6) emissions were estimated at 1.03 million tCO2e (0.89 million tCO2e at Jharsuguda plant and 0.14 million tCO2e at BALCO).

While our aluminium production increased from 1.97 million MT to 2.27 million MT in the past fiscal, our GHG emission intensity reduced from 19.3 tCO2e/MT to 17.6 tCO2e/MT over the same time (Scope 1 + Scope 2 GHG emission intensity).

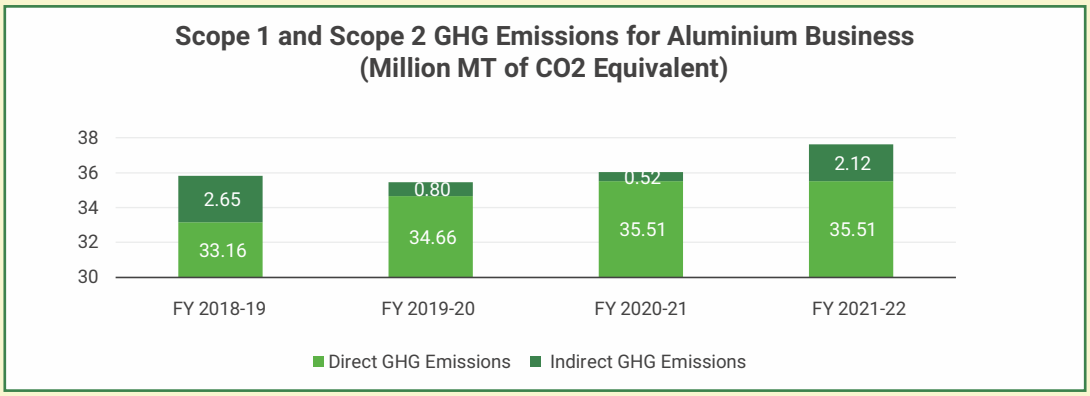
Our GHG emissions intensity reduction target for the business was 24% reduction in GHG emission intensity by 2025 over 2012 baseline. We are pleased to inform our stakeholders that we have achieved the same this year itself. Encouraged by this, we have now revised our GHG intensity reduction target for the decade. We aim to achieve 14% GHG intensity reduction by FY 25 and 28% by FY 30 over FY 21 as the baseline year. In addition, we have taken targets for increasing renewable energy mix at our operations, reducing Scope 3 emission intensity in our supply chain and implementing climate adaptation measure for our operations and neighbouring communities.

Committed to become Net Zero Carbon by 2050

TABLE 19: CLIMATE-RELATED KPIs, PERFORMANCE & TARGETS

Net Zero Carbon by 2050	Summary of progress in 2022	Target 2022	Target 2025	Target 2030
Scope 1+ Scope 2 GHG intensity	From 19.3 tCO2e/T in FY 2021 to 17.6 tCO2e/T in FY 2022 which is a reduction of 8.8% from previous year for our Aluminium Business. We have achieved our target of 24% reduction in GHG intensity from FY 2012 baseline for the Aluminium Business against the target year of 2025. The GHG intensity of our power business (IPPs) is 1.0 tCO2e/MWH. We are now taking new targets based on FY 2021 baseline.	18.2 tCO2e/T from FY 2021 baseline of 19.3 tCO2e/T for our Aluminium Business	16.6 tCO2e/T from FY 2021 baseline of 19.3 tCO2e/T, thus leading to GHG intensity reduction of around 14% at our Aluminium Business	13.8 tCO2e/T from FY 2021 baseline of 19.3 tCO2e/T, thus leading to GHG intensity reduction of around 28% for our Aluminium Business
Scope 1 + Scope 2 Absolute Emission	VAL's absolute GHG emission was 29.7 million tCO2e BALCO's absolute GHG emission was 12.28 million tCO2e The absolute emission for power business (IPPs) is 4.42 million tCO2e	VAL's target was 31 million tCO2e BALCO's target was 12.05 million tCO2e	VAL's target is 38 million tCO2e	VAL's target is 31 million tCO2e
Scope 3 emission	Absolute Emission: VAL: 5.5 million tCO2e BALCO: 1.2 million tCO2e Emission Intensity: VAL: 3.49 tCO2e/tonne of Aluminium BALCO: 2.12 tCO2e/tonne of Aluminium	Estimation of Scope 3 emission for the Aluminium Business.	10% reduction in Scope 3 emission intensity from FY 2021 baseline for Aluminium Sector	25% reduction in Scope 3 emission intensity from the FY 2021 baseline for Aluminium Sector
100% Renewable Energy by 2050	3% of total energy procured across all BUs was renewable energy 3 billion units of renewable energy consumed in FY 2022	2.5% of power requirement of the Aluminium Sector to be met through renewable energy	7% of power requirement of the Aluminium Sector to be met through renewable energy Enter into PDA and use of 400 MW of renewable energy	30% of power requirement of the Aluminium Sector to be met through renewable energy Enter into PDA and use of 1500 MW of renewable energy
Achieve climate resilience and adaptation for business operations and communities	Completed debottlenecking of drains and plant infrastructure at BALCO based on flood analysis and hydraulic modelling done in previous years	Initiate debottlenecking of drains and plant infrastructure at Jharsuguda site based on studies	Work with community in 25 villages supporting integrated watershed management projects across the Aluminium Sector	Work with community in 50 villages supporting integrated watershed management projects across the Aluminium Sector

Figure 6: Scope 1 & 2 emissions for Aluminium Business



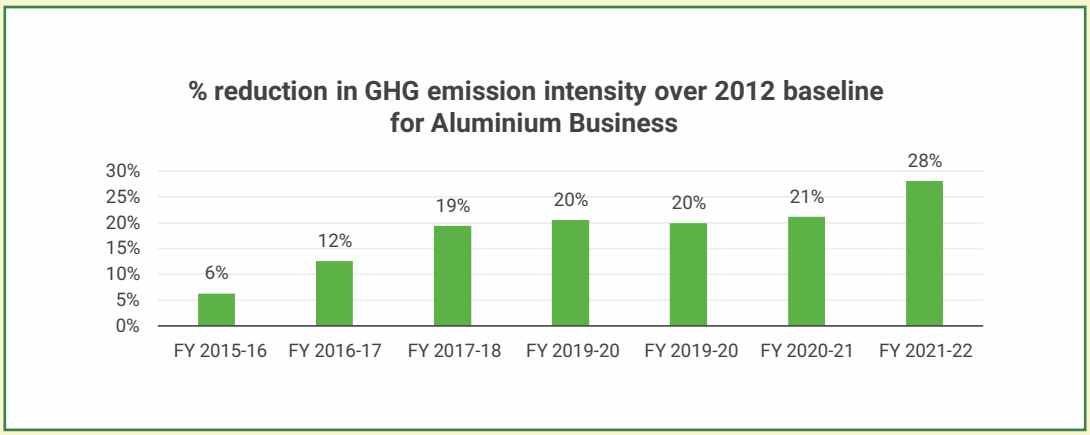
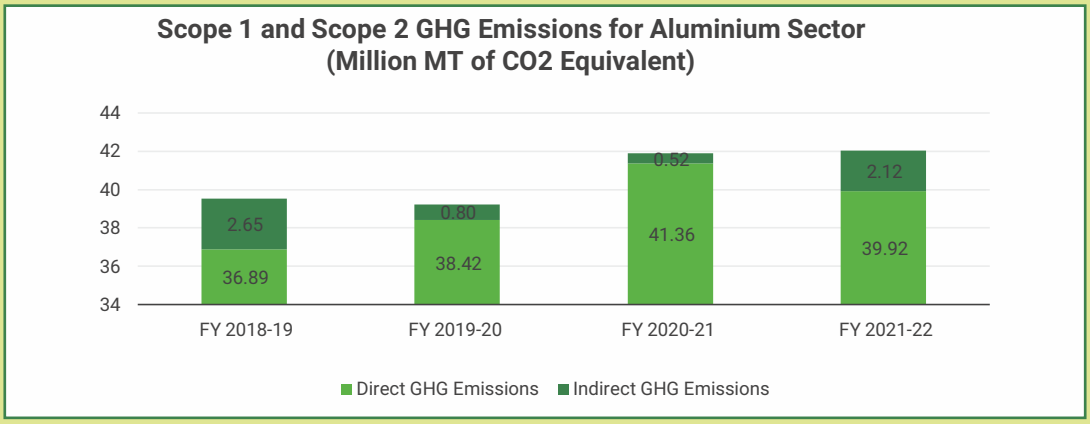
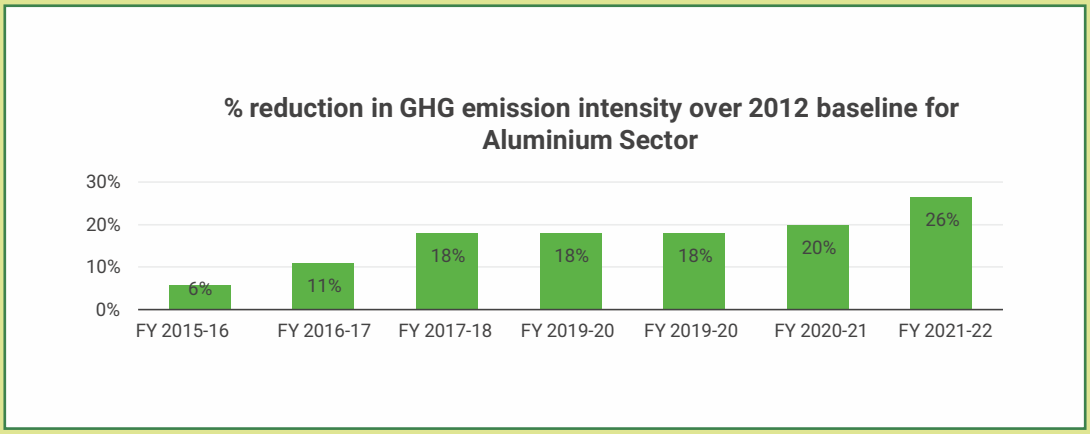


Figure 7: Scope 1 & 2 emissions for Aluminium Sector





Aim to reduce our GHG intensity by 14% by FY25, over FY21 baseline

Scenario analysis, qualitative & quantitative risk assessment

Physical risks

The climate change is expected to pose acute physical risks in terms of extreme weather events such as drought, flood, cyclones as well chronic physical events such as rise in temperature and sea level, changes in precipitation level, etc.

Vedanta Aluminium has conducted scenario analysis using location specific data and tools such as World Bank Climate Change Knowledge Portal, World Resources Institute (WRI), and International Best Track Archive for Climate Stewardship or IBTrACS developed by the National Oceanic and Atmospheric Administration (NOAA), to study historical trends and project future scenarios in climate related business risks. We have analysed various scenarios i.e. representative concentration pathways or RCP 4.5 and RCP 8.5, to understand the potential impacts of climate change on temperature and rainfall pattern at our operational units. We are, hence, cognizant of the fact that our operations will be subjected to acute and chronic physical risks arising from climate change, which include exposure to cyclones, drought, and rise in mean temperature levels, flood, and rainfall. The degree to which each risk will have an influence on our business is dependent on our geographical locations, and the pace with which the world transitions to a net zero economy.

Transition risks

As the momentum of decarbonization picks up around the world, companies with high GHG emissions are likely to face several transition risks with regard to policy and regulatory, technology, market, and even reputational.

We have carried out transition risk scenario analysis using the NGFS (Network for Greening the Financial System) reference scenarios which cover three aspects of the matrix - orderly, disorderly, and hot house world. The analysis was done in-line with IEA B2DS and Net Zero 2050 scenarios to develop appropriate strategies to proactively adapt to the changing market structures and policies. For the transition towards low carbon economy, we used NGFS-based on five scenarios: Current Policies Scenario, Nationally Determined Contributions (NDCs) Scenario, Below 2°C Scenario, Net Zero 2050 Scenario and Delayed Transition Scenario.

The transition pathways for the NGFS scenarios used in our study have been generated with a well-established integrated assessment model. These transition pathways are differentiated by several key design choices relating to long-term temperature targets, net-zero targets, short-term policy, overall policy coordination and technology availability.

Apart from this, we have also performed sensitivity analysis to understand the impact of climate change on our business' profitability due to potential decrease in water availability. The sensitivity analysis also took into account increase in water tariffs and needs of local population. As our Lanjigarh site is located in a water stressed area, these scenarios were primarily evaluated keeping Lanjigarh site in mind, in addition to identifying potential risks for our other units. Refer the Water Management section for more details.

Over the past few years, we have worked intensively to integrate scenario analyses and implementation of adaptation measures into our operations. These measures are aimed at significantly reducing the residual impacts of extreme climate events on our business. They have also helped us understand the potential long-term financial impacts on and opportunities arising for our business on account of potential capital expenditures necessary to replace a damaged asset or increase operational costs, maintenance costs, etc.

We have estimated the investment and cost saving potential for implementation of adaptation measures with the help of a third-party expert and can see potential to reduce these risks and the associated potential financial impact.

TABLE 20: CLIMATE-RELATED BUSINESS RISKS WITH QUALITATIVE AND QUANTITATIVE IMPACTS ON BUSINESS OPERATIONS

Risk Element	Potential impacts	Measures	Action items
Cyclones	Typical failures in the infrastructure Increased injuries and/or fatalities due to flying debris / objects amidst a cyclone.	Cyclone resistant construction / cyclone shelters	Installation of cyclone resistant infrastructure and shelters with dynamic design as per approved building code
Drought / Temperature Rise	Water crisis during drought situation for plant operation, drinking water etc. Failure of cooling systems during dry periods	Water recycling and reuse, water harvesting, conservation and ground recharge structures	Installation of water efficient equipment / processes Development of greywater recycling unit and rainwater harvesting units Creation of community water storage and rainwater harvesting infrastructure Promotion of climate-smart agriculture
Temperature Fluctuations and / Heat Waves	Temperature variability can impact our plants and staff productivity Extreme weather events can destroy transmission lines and consequently lead to power outage	Heating, ventilation and air conditioning, Power Storage	Providing heating, cooling, ventilation, and air conditioning Power storage system
All Risks	Employees and business partners	Provision of shelter and resilient assembly places for staff in case of climate or industrial disasters	Climate-resilient infrastructure Awareness on climate related risk and training to mitigate and adapt to those risk

Creating community water infrastructures for a sustainable water footprint

TABLE 21: TRANSITION RISKS WITH IMPACTS ON BUSINESS OPERATIONS ANALYSED THROUGH SCENARIO ANALYSIS

Type of risk	Climate-related risks	Potential impacts
Policy and Legal	Emerging Regulations: Increasing regulation around greenhouse gas emissions such as Perform, Achieve, Trade (PAT) scheme and Renewable Purchase Obligations (short-term) Carbon Pricing: Introduction of carbon emissions trading mechanisms (long-term) Reporting Obligations: Enhanced emission-reporting obligations in accordance with the Paris Agreement, will push for higher accountability for the Private Sector Litigation: Exposure to litigation can be for numerous reasons, such as non-compliance with reporting, negative impacts to climate change/environment, etc.	Increased operational costs (higher compliance costs, increased insurance premium, etc.) In case of a domestic carbon tax or Emission Trading System (ETS) in India, the more a Business Unit emits, it will be subjected to greater levels of carbon taxation Impact through increased costs and/or reduced demand for aluminium products, resulting from environmental fines and judgments Increase in local and national reporting requirements
Technology	Low Carbon Product Substitution: The London Metal Exchange (LME) has proposed to introduce LME Passport which specifies carbon footprint of produced aluminium. The market demand for low carbon or 'green' aluminium is witnessing an increasing trend, as consumers look to source responsibly Costs to transition to lower emission technology	Increased research and development (R&D) expenditures in new and alternative technologies such as low carbon aluminium or for recycling technologies, greater adoption of electric vehicles, and utilisation of renewable sources for electricity etc. Costs to adopt/deploy new practices and processes on account of change in current ways of working of the company
Market	Changing consumer behaviour due to the Paris Agreement and the European Green Deal Carbon Border Adjustment Mechanism (CBAM) can lead to higher taxes on aluminium goods exported into the European Union Increased cost of raw materials	Reduced demand for high carbon aluminium due to shift in consumer preferences Increased production costs due to changing input prices (energy, water) and output requirements (waste treatment)
Reputation	Stigmatization of sectors such as those with higher share of GHG emissions Shift in interest of the investors	Reduced revenue from decreased demand for goods with higher carbon footprint Reduced revenue from decreased production capacity (supply chain interruptions) Fines and non-compliance, which might ultimately affect the reputation of the company, which will impact access to financing and insurance policies

Opportunities

The metals and mining industry stands to gain immensely with acceleration in transition to low carbon economy. Increasing demand for renewable energy, electric mobility, battery (energy storage) technology, green buildings, sustainable packaging, light weight and fuel-efficient vehicles, etc. will increase the demand for metals such as aluminium. The industry is already preparing itself for the future by decarbonizing its operation and launching low carbon aluminium products.

In FY 2022, Vedanta Aluminium became the first in India to launch 'Restora', our flagship low carbon 'green' aluminium brand. The name Restora symbolises our endeavours to restore the green balance through low carbon products. Under Restora, we are offering Restora (Low Carbon Aluminium) and Restora Ultra (Ultra-low Carbon Aluminium) to customers worldwide.

Restora is produced using renewable energy. Restora Ultra is produced with aluminium recovered from dross (a by-product of aluminium smelting) through our partnership with Runaya Refining.

In FY 2021-2022, we have also initiated the reporting of material Scope 3 emissions from our value chain. This has given us the opportunity to review and update our supply chain practices and engage with our suppliers to reduce GHG emissions in their value chain. As part of our commitment to go Net Zero Carbon by 2050, we plan to decarbonize our supply chain to the extent possible and offset the remaining carbon emissions. Our Scope 3 emission is about 13.9% of the overall emission. Although we are not required to set Scope 3 emission reduction targets immediately, we have adopted measures such as working with our suppliers and customers to reduce GHG emission across our supply chain, localising sourcing of raw material, shifting to rail transport instead of road transport, and so on. We have taken a target of reducing our Scope 3 emission by 10% by FY 2025 and 25% by FY 2030 over FY 2021 as the baseline.

Governance mechanism

The ultimate responsibility and accountability for implementing our climate strategy rests with Vedanta's Board of Directors. Our Company's Risk Management Committee, Audit Committee, and Sustainability Committee support the Board in regular assessment of the effectiveness of our programs and control measures for climate change risks and opportunity management. The Sustainability Committee is tasked with identifying emerging climate change issues relevant to our business, setting emission reduction targets that align with Vedanta's pledge of achieving carbon neutrality, and periodically reviewing them.

At management level, the Chief Sustainability Officer of the Aluminium Sector is responsible for driving the implementation of our climate action plans and reporting the progress to the Sector ExCo and Company Sustainability Committee. We have also initiated public reporting of Scope 3 emissions and set Scope 3 reduction targets.

Apart from regular reviews of progress against our decarbonization plans, we have institutionalized linkage of management remunerations with climate-related business performance and Internal Carbon Pricing to expedite our decarbonization journey.

Linking climate-related business performance with management remuneration

Towards achieving the mentioned short-term and medium-term goals for GHG emission reduction, each of our BUs has developed their annual GHG intensity reduction target and plans to achieve the same. The annual GHG intensity reduction target forms part of several ESG targets we want to achieve at the Sector. These ESG targets comprise 10% of the senior management's KRA at the Aluminium Sector. Their performance is monitored monthly through an ESG dashboard and reviewed during annual performance appraisal.

Further, the Company has institutionalized several awards, including monthly Sector & BU CEO Awards, monthly Chairman Awards and quarterly Chairman Sustainability Awards for individuals and BUs, to recognize their contribution towards ESG improvement across their businesses. These may include GHG emission reduction, supply chain management, energy reduction, and other business related ESG issues. Besides recognizing top performers for their endeavours, these awards also serve to inspire other employees and business partners to step up their efforts towards our ESG vision.

Internal carbon pricing

Internal Carbon Pricing helps us internalize the cost of emissions and analyse any risks or opportunities associated with climate change. The Vedanta Group, after careful evaluation, will implement a shadow carbon price of 15 USD/tCO2 of emissions, in order to accelerate transition towards net zero carbon operations. Being a part of the Vedanta Group, we follow the same carbon pricing. However, we are currently in the process of deriving the same for the Aluminium Sector. This shadow carbon price will encourage our decision makers to prioritize low carbon investments and capital budgeting on green and sustainable projects, in the long term. Further, we also plan to include Carbon Price while estimating return on investment of projects, which will help us in accelerate our investments in energy efficiency, renewable energy and other low carbon transition opportunities.

Greenifying our operations

Climate resilience

The physical impacts of climate change are emerging at an unprecedented rate around the world, threatening to unravel decades of hard-won sustainable development gains. And the economic losses from these disasters continue to rise. We periodically assess the exposure of our assets to extreme climate events and consistently improve the resilience of our climate adaptation measures against these natural disasters. We are cognizant of the potential impacts of extreme climate events on our infrastructure and have been deploying measures to minimize the impact of climate change-related extreme events on our operations.

Natural calamities such as floods, droughts, cyclones, fires, heavy rains and rising seas not only increase the risk of operational disruptions, they also pose significant threat to life and property of local communities, hitting the poor and most vulnerable, the hardest. The efforts to prepare for and manage these risks have to be both innovative and effective. It is imperative for developing countries like India to focus on adaptive measures to strengthen climate-resilient infrastructure to minimize climate impacts on the community and the economy. Our BUs are therefore working with neighbouring communities and governments to promote climate resilient practices such as climate resilient agriculture, rainwater harvesting, disaster and emergency response plans, etc.

In view of the increasingly unpredictable climate conditions and frequency of incessant rains in various parts of India, we have also conducted Flood Risk Assessment studies through hydrological analysis and hydraulic modelling at our operations. The assessment helped us understand all possible risks associated with potential extreme rainfall events, check adequacy of existing plant drains and expand drainage network as required, and develop emergency measures to manage extreme rainfall events. We have since then been able to de-bottleneck the drainage system to minimize consequences of heavy rainfall events on our operations, in the future.

Voluminous water reservoirs built for exigencies

Energy consumption

Vedanta Aluminium meets the majority of its energy requirements from its coal-fired captive power plants. Energy conservation is, hence, a crucial pillar in our endeavours to reduce our carbon footprint. In this reporting period, we have undertaken several energy conservation initiatives, which include cathode upgradation, Specific Coal Consumption reduction in our power plants, Specific Auxiliary Power reduction, and process optimisation in smelting operations. In the current financial year, we have increased consumption of renewable energy for transitioning to a low carbon energy mix. This year, at Aluminium Sector level, we have procured more than 3 billion units of renewable energy for our operations, which amounts of 3% of the total energy consumption for the year. The below table gives our energy distribution in FY22 and the last 3 years.

TABLE 22: ENERGY CONSUMPTION FROM RENEWABLE AND NON-RENEWABLE SOURCES

Vedanta Aluminium Ltd.	UoM	FY 2019	FY 2020	FY 2021	FY 2022
Total non- Renewable Energy Consumption	MWh	6,11,27,087	6,37,55,066	6,74,08,346	6,70,24,268
Total Renewable Energy	MWh	21	180	141	29,76,635

Figure 8: Energy consumption (million GJ) for Aluminium Business

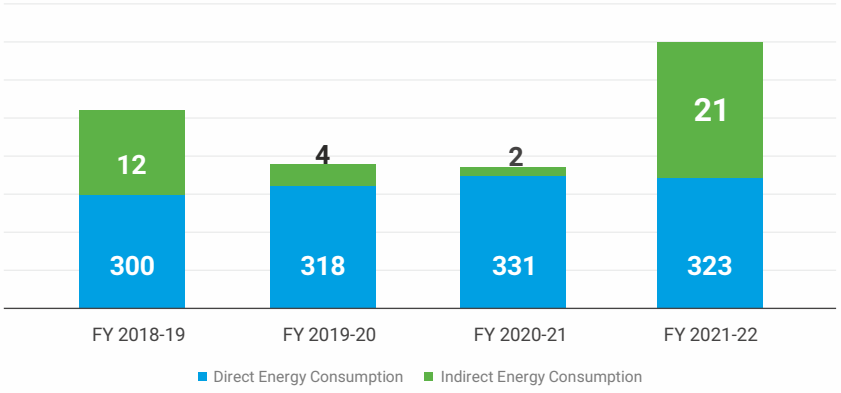


Figure 9: Energy consumption (million GJ) for Aluminium Sector

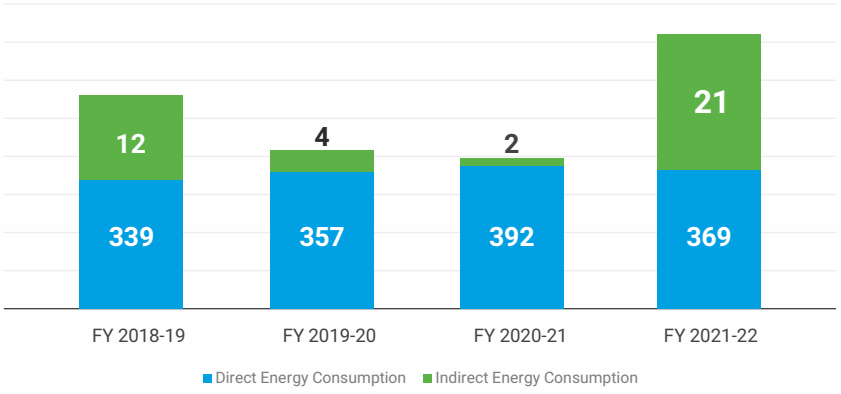
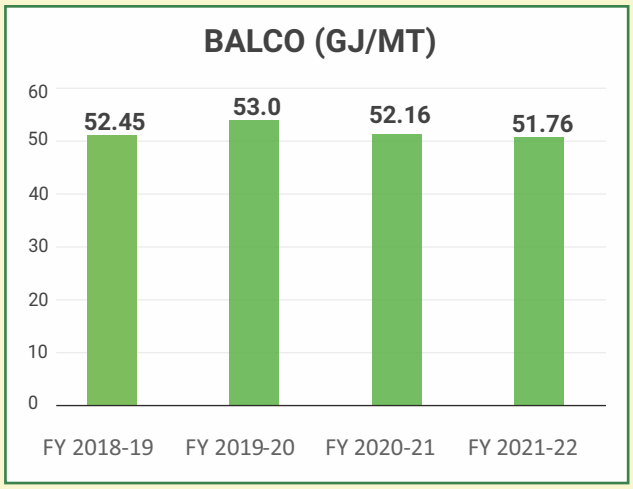
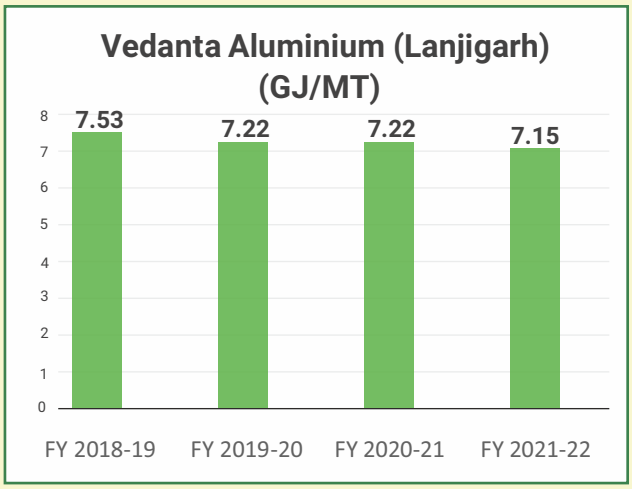


Figure 10: Specific Energy Consumption across our Business Units





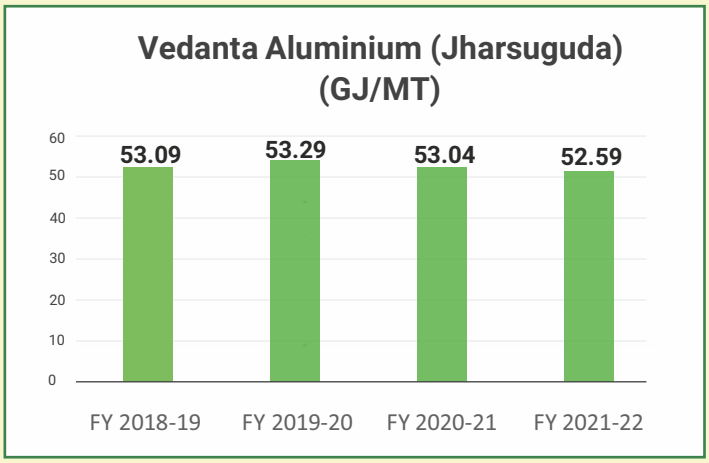
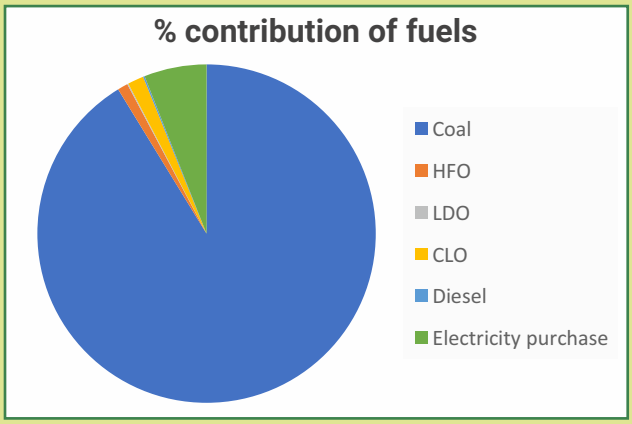


Figure 11: Percentage contribution of fuels

TABLE 21: FUEL MIX AT VEDANTA ALUMINIUM

Fuel	UoM	% contribution of fuels
Coal	GJ	91.2%
HFO	GJ	1.0%
LDO	GJ	0.1%
CLO	GJ	1.5%
Diesel	GJ	0.2%
Electricity purchase	GJ	6.0%



The combined effect of our energy conservation projects is annual energy savings of around 2.18 million GJ, resulting in total GHG emission savings of 4,29,029 tCO2e and cost saving of INR 1.380 billion. Few of our energy conservation initiatives are mentioned below:

TABLE 24: KEY ENERGY SAVING INITIATIVES

Sr No.	Business Unit/ Location	Asset	Initiative	Energy Savings (GJ)
1	Jharsuguda	Potline	Addition of pots with 100% graphitized cathode (332 nos.)	11,15,339
2	Jharsuguda	IPP	Unit 3 condenser cleaning and air ingress rectification	2,82,861
3	BALCO	PR	(Potline 1: 43 pots and Potline 2: 77 pots) 100% graphitized pots installation and normalization	3,03,581
4	Jharsuguda	CPP	Unit 6 CT fills replacement	66,848
5	Jharsuguda	CPP	Unit 6 APH Basket replacement	62,735
6	Jharsuguda	Potline	Potline voltage reduction • Bolt drop reduction • Operational reduction	57,240
7	Jharsuguda	IPP	Unit 3 APH, duct, ESP & FF leakage arresting work to be done to reduce ID fan loading	40,635
8	Jharsuguda	CPP	Unit 8 HP cylinder efficiency improvement	36,150
9	Jharsuguda	IPP	Optimising compressor power consumption	33,086
10	BALCO	Power	Unit 2 annual overhauling in June 2021: • Duct leakage arresting • ESP bag filter bag replacement • Condensor cleaning	6,321

Our plants are some of India's most energy efficient assets

Air quality and emissions control

Access to good quality air is a basic right of all human beings. According to the World Health Organization's air quality database update for 2022, a majority of the world's population breaths air that is polluted exceeding acceptable standards, thus facing its adverse impacts on their health. Vedanta Aluminium is committed to improving air quality in its airshed. We continue to identify opportunities to collaborate with our neighbouring communities since air quality challenges necessitate collaborative action with local stakeholders.

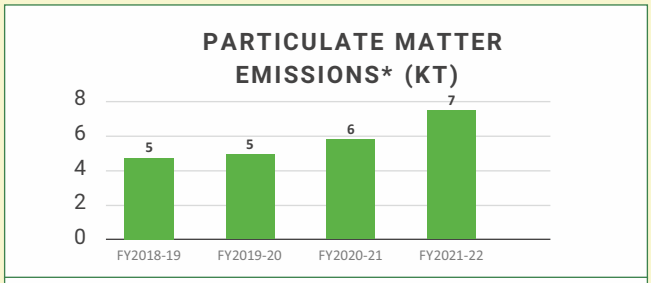
Management approach

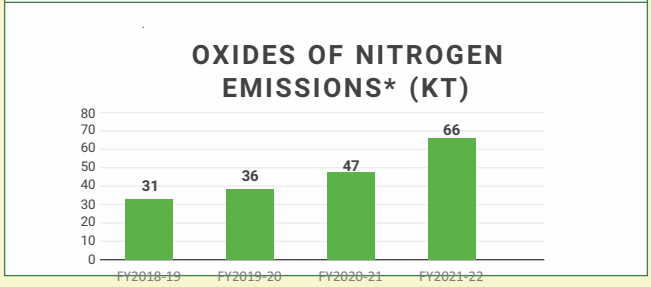
We administer a variety of initiatives to minimise emissions resulting from our business activities, which include optimisation of our processes and deployment of cleaner technologies. The stacks of our thermal power plants are fitted with hybrid electrostatic precipitator and bag filters to minimize particulate matter emissions. Our aluminium smelters are fitted with high-capacity fume treatment plants to mitigate fluoride emissions. To mitigate fugitive emissions, we have undertaken several interventions at their sources of origin.

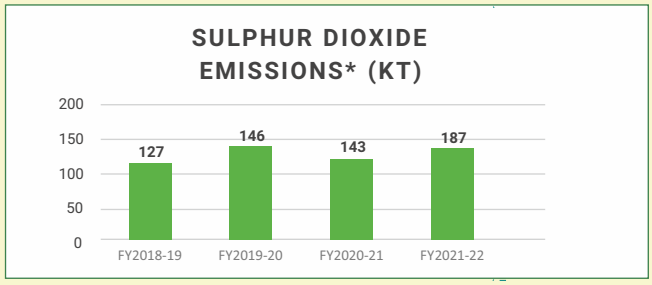
Our air quality control programs ensure abidance with the pollutant dispersion standards and norms laid down by both local and national regulatory agencies. As per the Government of India's revised emission norms for coal based thermal power plants, our power plants are required to install Flue-Gas Desulphurization (FGD) systems to curb the SO2 emissions in the coming years. We have undertaken ambient air quality modelling studies at our operations, which show that our power plant operations have insignificant impact on the ambient SOx concentration. With these results, we have been engaging with the regulatory authorities to extend the timeline for compliance or withdraw the proposed regulation all together for our operations.

As part of our ambient air quality surveillance process, we monitor Suspended Particulate Matter (SPM), SO2 and NOx at all our Business Units. Fluoride emissions and Polyaromatic Hydrocarbons (PAHs) emissions are monitored for our aluminium processing operations, while Particulate Matter (PM), Sulphur Dioxide (SO2) and Oxides of Nitrogen (NOx) emissions are examined for our thermal power plants. The air emissions for this reporting period are depicted below.

Figure 12: SOx, NOx and PM Emissions







**For FY 2021-2022, PM, SOx and NOx emissions of BALCO are also added, unlike in the previous years. This has led to an increase in the absolute value of these emissions for the Aluminium Sector. SOx emissions for BALCO are from fuel (coal and HFO) combustion and have been calculated based on sulphur content present in the fuel. Please refer to GRI content index for more details regarding the breakup of these emissions across our business units.*

TABLE 25: PERFLUOROCARBON EMISSIONS					
Location	**UoM**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
VAL	kg/tonne	0.107	0.102	0.068	0.082
BALCO	kg/tonne	0.044	0.059	0.036	0.024
SECTOR	kg/tonne	0.151	0.16	0.103	0.106

Target was less than 0.1 kg/metric tonne.

Fugitive dust management

Poor management of ash, both fly and bottom, can create favourable grounds for environmental and health problems. If disposed as is, ash dries and becomes loose, leading to the development of fugitive dust, which can travel to nearby regions and degrade the air quality in our host communities. To avoid such scenarios, we have implemented several measures at our ash management facilities, including the establishment of soil and plant cover and frequent water sprinkling, following our internal standards and local legislation.

Our ash conditioner, with in-built water sprinkling system and coal yard water sprinkling systems, has rotating nozzles which help minimize the concentration of these contaminants in the ambient air.

Access to good quality air is a basic right for all

Waste management

As the world moves toward a low-carbon economy, the global aluminium market, which was USD 164.23 Billion in 2019, is predicted to grow to USD 242.44 Billion by 2027. The natural outcome of metal, mining and coal based thermal power plant operations is the generation of large volumes of wastes. Efficient waste management is, therefore, of material significance to us because of its potential value and the associated health and environmental impact. The VSF guides our approach towards the management of waste generated from our mining and smelting operations in an ecologically sustainable manner.

Management approach

The Resource Use and Waste Management Standard, documented in the Vedanta Sustainability Framework, defines our approach towards safe and efficient handling of our wastes. This standard prescribes the hierarchy of waste management - exploring opportunities for waste avoidance, reduction, recovery, and recycling of the waste (either within our own premises or sold to authorized third parties), with the last resort of disposal in authorised landfills or by incineration.

Our wastes are divided into two categories: hazardous and non-hazardous. We follow hazardous and non-hazardous waste definitions established by the Company and relevant regulatory authorities. Cathode residue, dross, shot blast dust, laddle cleaning residue, spent pot lining, and biological wastes are some of the wastes classified as industrial hazardous wastes for our industry. We collect and store these hazardous wastes in a responsible and regulatory-compliant way and dispose to authorized third parties for recycling or safe disposal. Our strategic goal is to eliminate landfilling and incineration of these waste through reuse and recycling by FY 30.

Our high volume and low-toxic by-products include mine overburden, mineral slag, bauxite residue, lime grit and ash from thermal power plants. The management of these high-volume and low-toxic waste streams is a material issue for us considering their potential environmental and safety risks to our host communities. We store these wastes in authorized and specifically engineered storage areas prior to their usage in circular initiatives.

Figure 13: Hierarchy of waste management

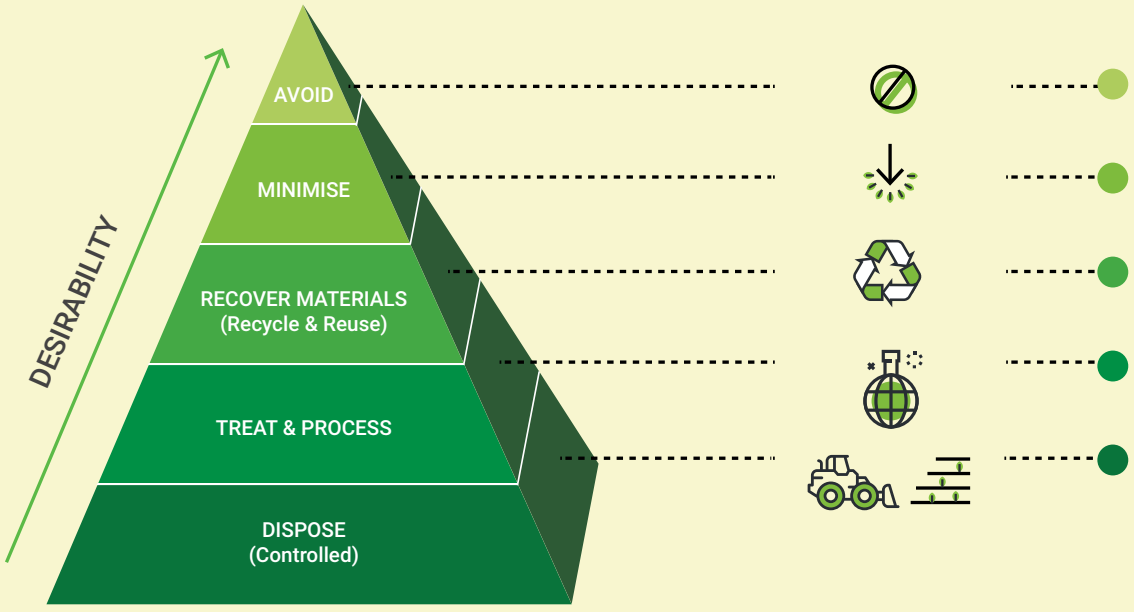


TABLE 26: WASTE MANAGEMENT KPIs & PERFORMANCE				
Sustainability Strategy Goals	Summary of progress in 2022	Target 2022	Target 2025	Target 2030
Zero legacy waste and 100% waste utilization by 2030	99% of our hazardous and non-hazardous was utilized	Our target was 100% utilization of our annually generated hazardous and non-hazardous wastes	149% utilization of ash across the Aluminium Sector 34% utilization of bauxite residue from the alumina refinery	100% utilization of all generated waste and zero legacy ash

The table below shows the aggregate performance of waste recycled or reused and waste disposed:

TABLE 27: WASTE RECYCLED AND DISPOSED FOR VEDANTA ALUMINIUM (JHARSUGUDA & LANJIGARH)				
Parameter (in metric tonne)	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Waste recycled/ reused	70,42,126	68,69,834	1,03,61,102	1,06,12,095
Waste landfilled	6,976	6,698	8,363	8,719
Waste incinerated with energy or heat recovery	9,328	14,173	6,783	0
Waste incinerated without energy recovery	11,530	24,828	154	211
Waste stored at site	21,487	65,227	15,494	0

Figure 14: Hazardous waste generation (KT) for the Aluminium Sector

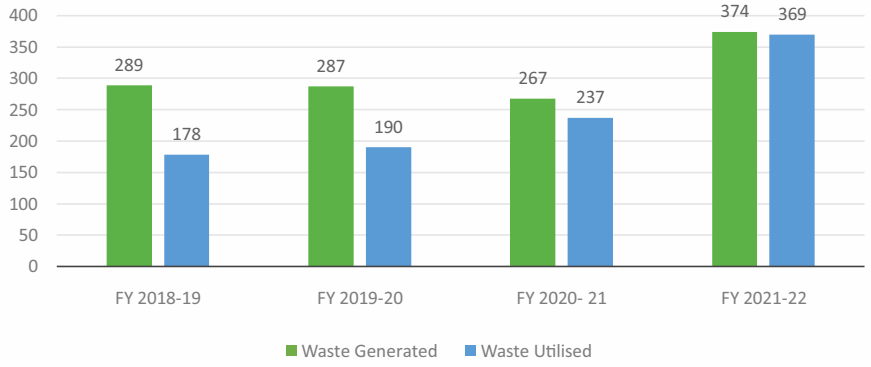
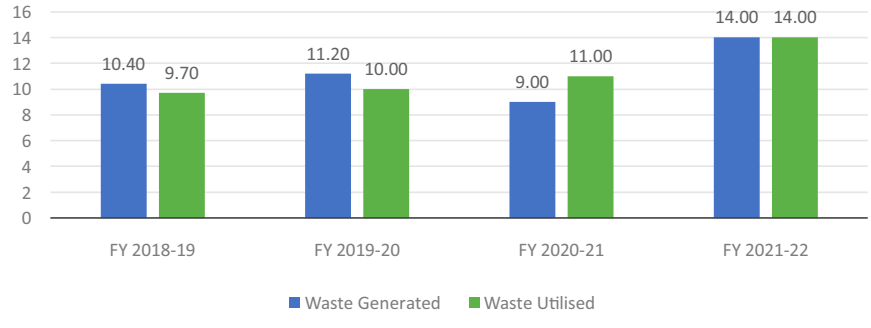


Figure 15: Non-hazardous waste generation (million MT) for the Aluminium Sector



For FY 22, our net hazardous waste was around 374 KT out of which around 99% has been recycled by us. Our operations also produced 14 million MT of high-volume low toxicity wastes and 100% of the same was recycled. The reason our waste utilisation is greater than waste generated for some of the financial years is on account of utilization of previously stored legacy waste.

Bauxite residue

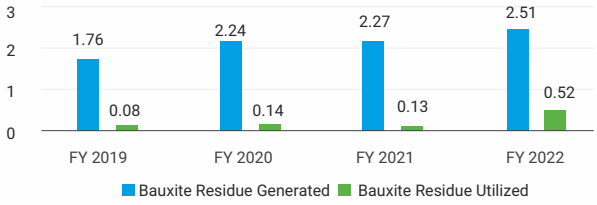
Bauxite residue (commonly known as red mud) is a low-toxic and high-volume mineral waste. Its handling is a safety critical task because of its high alkalinity. For this reporting period, our operations resulted in the production of 2.51 million metric tonnes of bauxite residue out of which 20.7% was utilized.

Bauxite residue from alumina refineries, if not handled well, could pose significant risks if there is a breach in the storage area. Such a breach can result in deterioration of the environment and pose threat to the life and property of nearby human settlements. We recognize our responsibility towards implementation of robust control systems in the safe administration of our Bauxite Residue Disposal Area (BRDA) and ash dykes.

To ensure adequate resilience of these impoundments against catastrophic events, we have employed technology for dry stacking of filtered tailings at our alumina refinery in Lanjigarh. In addition, each of our BRDA and ash dyke facilities have associated Emergency Response Preparedness Plan that identifies the measures to be implemented in the event of operational failure of these dams.

All of our tailing storage facilities are lined. Hence, the risk of seepage of bottom ash, and consequential pollution of local aquifers, tends to be low. We conduct frequent maintenance and inspections to ensure safety of these tailing storage facilities, compliance with the company's Tailing Management Standards and other legal requirements. Further, we deploy the services of independent industry experts to evaluate the performance of our tailing dams and guide us on the improvements in the design and operations of these impoundments.

Figure 16: Bauxite residue generation & utilization (million MT)



We have undertaken various practices for safe management of our tailing dams including, but not limited to:

- Tailing and ash dyke analysis
- Training of our employees
- Internal and external audit of the storage facility's performance
- Daily/weekly checks

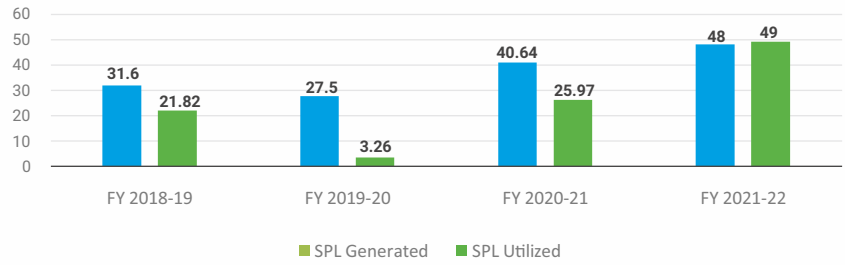
As part of our innovative waste management systems, we have collaborated with academia and industrial bodies for R&D and technical recommendations on augmenting our waste management systems. We work with some of India's best technical institutes such as IIT Kharagpur, IIT Bhubaneswar, advisory bodies like NITI Aayog, and industrial organizations both in India and abroad on value creation projects like extraction of iron oxide, rare earth metals and alumina from bauxite residue, and similar projects to minimize waste. We are also exploring every possible option to transform bauxite residue into value-added products such as subsoil for road construction, brick manufacturing, geo polymer and more.

Exploring circular economy avenues for utilising bauxite residue

Spent Pot Lining (SPL)

Spent Pot Lining is a hazardous waste because of its high concentration of cyanide and fluorides. In this reporting period, we have generated 48 KT of SPL and dispatched 49 KT to government authorized recyclers for material and energy recovery. This year we were able to improve SPL recovery to 102% as compared to last year's 64%.

Figure 17: SPL generation & utilization (KT)



To manage SPL generated at our aluminium smelters in BALCO and Jharsuguda, we have identified authorized recyclers for performing detoxification of SPL's carbon portion, followed by supplying it to cement plants for energy recovery as per the Standard Operating Procedures laid down by the Government of India. In a period of two years, this model has become successful, allowing the plants to supply more than fifteen thousand metric tonnes of carbon portion of SPL generated/stored in the plant premises.

Ash management

Ash is one of the major low-toxicity high-volume wastes for Vedanta Aluminium. It is due to this large volume, that management of ash has traditionally been a big challenge for the industry. This year 11.45 million MT of ash was generated. However, we were able to utilize 13.84 million MT of ash. Our ash utilization for FY 22 is 121%; more than generation due to utilization of legacy ash.

Figure 18: Ash generation & utilization (million MT)

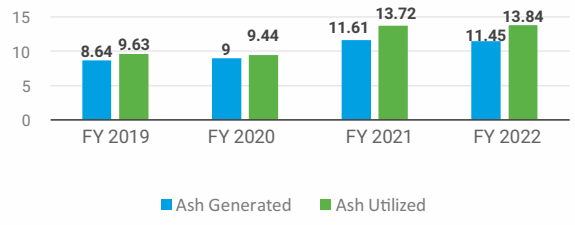
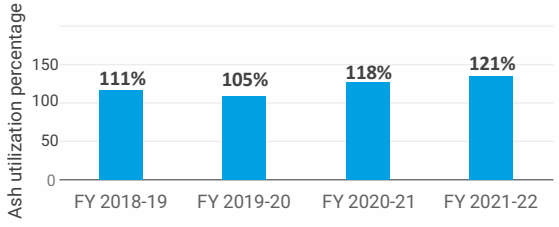


Figure 19: Percentage of ash utilized



Path to circular economy: waste-to-wealth campaigns

Over the years, Vedanta Aluminium has significantly bolstered its material consumption loop. Our commitment towards circular economy commands efforts towards minimising waste-to-landfill, resulting from our production portfolio. In addition, we have undertaken numerous campaigns that recover and redirect these wastes for producing value-added products in other industries, reducing their primary material consumption.

We have partnered with Runaya, an emerging circular economy start-up, to improve aluminium recovery from dross up to 90%. Leading-edge patented technologies and international collaborations have strengthened Runaya's expertise to recover non-metallic portions of residual dross and process it to produce briquettes that can be used as slag conditioner in the steel industry, thus resulting in zero landfill of the waste from the process.

Our alumina refinery plant at Lanjigarh has been promoting usage of bauxite residue in cement manufacturing industries. On account of high concentration of iron oxide and alumina, bauxite residue has great potential to be used as a laterite substitute in clinkers manufacturing process in cement industries. Moreover, the residual caustic in red mud helps in controlling the emission of sulphur when used directly, making it a better fit for the purpose.

Runaya Refining plant

Inside Runaya Refining

Employees of Runaya

Water management

Water is a precious natural resource. Natural resource crises, including water, are amongst the top ten global risks identified by the World Economic Forum's 2022 Global Risks Report. Furthermore, according to the Intergovernmental Panel on Climate Change, climate change would cause substantial changes in the water cycle, exacerbating extreme weather events and water scarcity. The availability of clean and adequate water is a prerequisite for the survival of our host communities and ecological integrity of the surrounding areas. Since our smelting and mining operations demand unconstrained supply of water, we recognize the necessity of a robust water management system that secures our business stakes and the interests of our stakeholders.

Management Approach

Our Water Management Policy guides on the efficient use of water and encourages increased water reuse / recycling and zero liquid discharge from our operations. The Policy channelises our water stewardship campaigns in line-with our commitment towards UN SDG-6: Clean Water and Sanitation. Availability of required quantity of good quality water is a material consideration in our decision-making process and influences investments in our existing and future projects.

Committed to a Net Water Positive future

Water related business risk management

Each one of our Business Units has undertaken water-screening assessment to identify water-critical regions and sensitive aquatic habitats and has further evaluated the degree of water availability and business' dependence on shared water sources.

We perform water risk assessments regularly to understand water-related business risks at all our operations. These analyses help us anticipate the magnitude of potential environmental and social risks associated with water. Following this, we create and implement a customized water risk management plan for each of our facilities. We used the World Resource Institute's (WRI) Aqueduct Global Water Tool for our assessment. Insights from this assessment have made it evident that our alumina refinery facility at Lanjigarh is located in a high water-stress area as per WRI's Water Risk Atlas. This may pose environmental and social risks driven by declining water availability in the medium-term.

We have also performed the future analysis of water stress, i.e., the ratio of demand for water by human society to available water if business runs as usual for all our businesses, with the help of WRI Aqueduct Global Water Tool. The results show that by 2030 our current water-stressed site, i.e., alumina refinery facility will move to the Medium-High zone (20-40%) as compared to High (40-80%) in water stress today.

TABLE 28: WATER STRESS AND RISK ANALYSIS

Business Unit	Major Basin	Minor Basin	Degree of Water Stress	Degree of Future Water Stress (2030)	Riverine Flood Risk
Vedanta Aluminium (Jharsuguda)	Mahanadi	Hirakud Dam, Mahanadi	Low (<10%)	Low-Medium (10-20%)	Low-Medium (1 in 1000 to 2 in 1000)
BALCO	Mahanadi	Hasdeo River	Medium-High (20-40%)	Low-Medium (10-20%)	Medium – High (2 in 1000 to 6in 1000)
Vedanta Aluminium (Lanjigarh)	Mahanadi	Tel River, Kesinga	High (40-80%)	Medium-High (20-40%)	High (6 in 1000 to 1 in 100)

In response, we have undertaken several mitigation measures at the plant, mainly focused towards improving water efficiency at our operations, and maximum recycling of all surface water runoff in the monsoon season. We have constructed large water storage/process water reservoirs at the site. These voluminous reservoirs are serving as the points for collection of effluent as well as large surface run off during monsoons. Only limited water is allowed to enter into the operation system during the rainy season for make-up purpose. This helps in conservation of water resources, arresting environmental discharge of stormwater and controlling the intake of fresh water. The resultant water-related cost saving is about INR 4 Million per annum.

Water reservoir at our Alumina Refinery

Climate change and water management

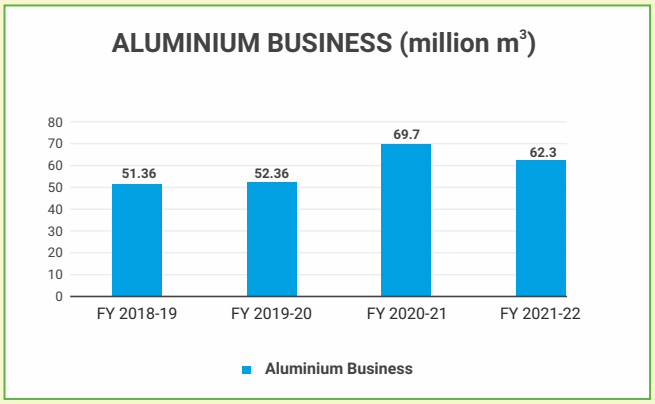
Climate change is already affecting water access for people around the world, causing severe droughts and floods. Owing to this, over the last few years, our facilities have also been increasingly exposed to heavy rainfall and cyclones. We have conducted comprehensive flood studies for our BALCO and Jharsuguda sites and developed mitigation and emergency response plans to counter any future extreme rainfall and flash flood events.

Since water is critical to the communities in the watersheds where we operate, besides enhancing the efficiency of our operational water use, we also collaborate with stakeholders such as local district administrations, towards providing our communities access to safe drinking water. Responsible water management is also critical to preserving the local communities' trust in us. We conduct regular programs for capability development of our team and communities in managing water at watershed level. We have planned and developed Integrated Watershed Management Program for our operational areas in public consultation with communities, panchayat, NGOs and government bodies. This will not only ensure water availability but also support the community in staying resilient in the face of excess rainfall and drought situations.

Water related business performance & target

We withdraw water from local licensed surface water sources. We cherish our legacy of zero water discharge i.e., entire wastewater is recycled within the plant and no wastewater is discharged outside the plant boundary and are determined for the status quo to be maintained. The following graphs depict the freshwater consumption and share of recycled/reutilised water of the operating portfolio of our Aluminium Business and Aluminium Sector.

Figure 20: Freshwater withdrawal across our Business Units



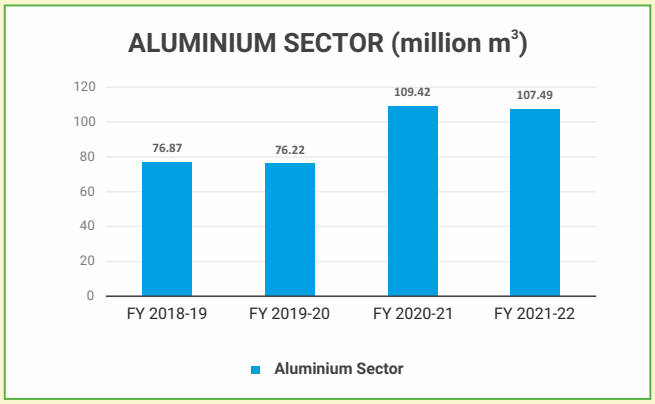


Figure 21: Percentage of water recycled

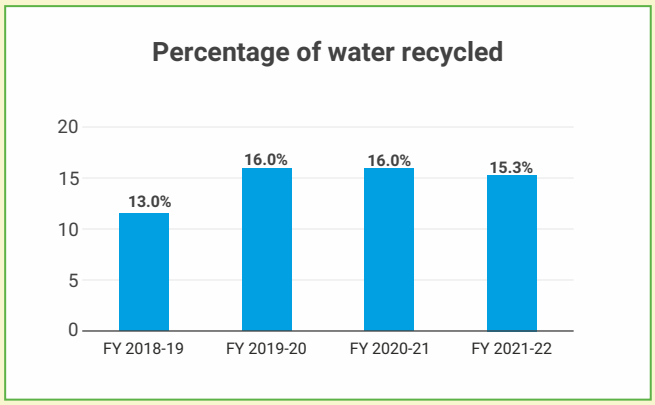


TABLE 29: KEY WATER CONSERVATION INITIATIVES IN THE YEAR 2021-22

Business Unit	Initiative	Water Conservation (m^3)
Vedanta Aluminium (Jharsuguda)	Commissioning and operation of new zero effluent discharge water treatment plant	3,02,485
Vedanta Aluminium (Jharsuguda)	Storage and utilization of rainwater	1,06,871
Vedanta Aluminium (Jharsuguda)	Efficiency improvement of effluent treatment and water recovery	1,47,723
Vedanta Aluminium (Jharsuguda)	Fire water and service water lines brought above ground to curb underground water leakages	1,52,675
Vedanta Aluminium (Jharsuguda)	Operational efficiency improvement of cooling tower in Utility area	80,178
BALCO	Replacement of underground service water line with overhead lines	9,832
Vedanta Aluminium (Lanjigarh)	Replacement of float valves in the cooling tower of Ball Mill & PDS	4,368
Total		8,04,138

The above water conservation initiatives have led to savings of 8,04,138 m^3. The total water saving from all the conservation initiatives this year is 8,27,914 m^3.

TABLE 30: WATER KPIs & PERFORMANCE

Sustainability strategy goals	Summary of progress	Target in 2022	Target in 2030
Goal: Water positive by 2030	Freshwater withdrawal is 107.48 million m^3 compared to 109.41 million m^3 last year for Aluminium sector. At VAL, the freshwater withdrawal is 40.22 million m^3.	VAL's target of freshwater withdrawal is 36.58 million m^3	The Company's goal is to become water positive by 2030. We are aligned to the vision and intend to support in the materialisation of the goal by growing our business but not the water footprint over FY 21 baseline.
Goal: Zero water related incidents	We have had zero water related incidents in the reporting period	Our goal was to have zero water related incidents	Our goal is to have zero water related incidents

Zero water-related incidents

15% water recycled

New Reverse Osmosis (RO) Plant inaugurated at Thermal Power Plant, Jharsuguda

In line with our policy of zero effluent discharge and effective use of water at our operation, we have commissioned a new RO plant of 500 m^3/hr capacity at our Thermal Power Plant in Jharsuguda. This wastewater handling plant will help in effective utilization of effluents from the power plant, by collecting wastewater from various units of the power plant, like the boiler and cooling tower blow down, and treating it for reuse in multiple operations across the plant.

Managing water at watershed level

At Vedanta Aluminium, we recognise the social, economic, environmental, and cultural value of water and the increasing global concern of water scarcity. We comply with applicable national, regional and local regulations on water (refer water policy for details). Our water conservation initiatives are directed towards optimising water consumption across our operations and increasing the share of recycled and reused water. Our Water Management Standard, that imbibes the spirit of International Council on Mining and Metals (ICMM) statement on water stewardship, commands structured tracking and monitoring of local water availability along with estimation of future changes. We regularly check water levels in water reservoir from which we source water for our operations using Central and State Water Resources Information System, and estimate the water availability for current and future demand by estimating the change in water levels.

We monitor existing and future regulatory changes at both national and local levels. We have conducted sensitivity analysis to evaluate impacts of change in water tariff on the profitability of all our operations. In addition, we have carried out scenario analysis to check the potential impact of change in water availability from the source and resulting stakeholders' conflicts with our operation. Here we have created these scenarios to evaluate potential impact on business profitability by varying the parameters of available water quantity, increase in tariffs and community population resulting in potential stakeholder conflicts

Water being a shared resource, we collaborate closely with our stakeholders, mainly local communities, government and regulatory bodies to ascertain their expectations and anticipate future water-related issues, if any, and their associated business implications. We leverage these opportunities to assure them of our commitment towards upholding their interests and securing their participation in company-sponsored integrated watershed management initiatives. Towards this direction, we have deployed several community development initiatives as part of our shared vision towards sustainable development. Vedanta Aluminium focuses on integrating the interests of water users, communities, and other stakeholders who are involved in water resource management by making well-rounded decisions, which is why we do not have any water-related conflicts with our stakeholders.

We communicate with all our stakeholders on the progress and performance of water conservation and management efforts. We have been actively supporting the local administration in providing safe drinking water and sanitation facilities in villages around our Jharsuguda and Lanjigarh plants covering about 45,000 people across 11,000 households.

Further, we promote and provide necessary implementation and support towards adoption of sustainable agricultural practices in the neighbouring communities, which includes effective water management, drip irrigation technology, rainwater harvesting, climate-resilient seeds and crops, etc. These programs nurture our relationships with our stakeholders, build our knowledge of their water-related concerns and help them gain access to improved agricultural practices for better yield.

Integrated watershed management helps us ensure a sustainable water footprint

Grievance management

We have a grievance management system where we collect and monitor grievances related to various issues such as stakeholder conflict and water availability, and pass on to the same to designated Grievance Officer. These grievances are collected through various modes like at our plant gates, anonymous calls or emails, etc. An assigned designated committee is formed based on the type of grievance, which helps in providing timely and effective resolution to the conflict.

Biodiversity management

In its 2021 research report titled 'The Biodiversity Crisis is a Business Crisis', BCG states that biodiversity creates significant economic value in the form of food provisioning, carbon capture and storage, etc which are worth more than 150 trillion USD annually. As the global understanding of biodiversity value and ecosystem services increases, it has become clear that biodiversity and businesses have an inextricable bond between them. Recognising this, the Taskforce on Nature-related Financial Disclosures (TNFD) has launched the TNFD framework, designed to help businesses understand their biodiversity risks and opportunities.

Management approach

The mining and metal industry has a higher material impact on biodiversity and ecosystem services compared to other industries, due to the nature, scale and location of its operations, which are usually near or in the ecologically diverse areas. Conservation of biodiversity is a material issue for our industry. As a part of our vision of Zero Harm, we are committed to protecting biodiversity of the areas in which we operate, and minimize or rehabilitate the negative impacts, if any, caused by our operations.

Through our Biodiversity Policy, Vedanta Aluminium has committed to not explore or mine in World Heritage sites and respect all legally designated protected areas, including International Union for Conservation of Nature (IUCN) category Ia, Ib, II, III or IV protected areas. We have a Company-wide Guidance Note on Biodiversity Management which reinforces the Vedanta Biodiversity Management Technical Standard. The Technical Standard aims to facilitate the integration of biodiversity and ecosystem service management into the decision-making processes for new and existing projects and/or operations.

We are committed to restoring biodiversity and habitat as per the principle of NO NET LOSS (NNL) of significant biodiversity value, in consultation with our stakeholders as part of closure plans for our operations, if any. Unlike mining, our smelter operations are designed to run perpetually with no intention of closure. The Aluminium Sector targets to complete implementation of NNL by FY 2050 or earlier as per the business plan. Our Biodiversity Policy also extends to our value chain, the principles of which are reviewed during onboarding of new suppliers.

We believe that we can achieve our goal of No Deforestation through better transparency and traceability. Therefore, over the years we have developed a better framework to critically analyse all our supply chain partners and our own operations, to align with the various environment and forest policies. We work in accordance with the forest laws and policies, and also commit to restore the lost value through reforestation, leading to no deforestation. Our commitment of Zero Harm to people and the environment motivates us in achieving our goals of No Net Deforestation and our belief that this commitment is also integral to biodiversity management.

We are committed to rehabilitate any affected / disturbed area due to our operation and conserve biodiversity value. In 2021, we developed two hectares of community land with medicinal plantation towards enhancing local biodiversity, in consultation with community through our CSR programs.

Our target metrics

The following table summarizes our performance against our goals for biodiversity conservation and reclamation.

TABLE 31: BIODIVERSITY KPIs & PERFORMANCE

ESG KPIs	Summary of progress in 2022	Target 2025	Target 2030
BMP recommendation closure rate	38% of the BMP actions have been closed	69% of the BMP actions to be closed	100% of our BMP to be closed
Habitat restoration	1028 hectares	1274 hectares	1315 hectares

To secure our goal, each of our operations have a developed a Biodiversity Management Plan with the help of recognized expert agencies in the field of biodiversity management, in consultation with stakeholders. We regularly review compliance to Biodiversity Management Plans for all our sites and work towards the implementation of the same by 2030.

All our operations have conducted biodiversity assessment to understand the baseline value and potential impact of our operation on biodiversity at our area of operation, in terms of species, habitat, biodiversity & ecosystem services, etc. Our aluminium smelter operations at Jharsuguda and BALCO are located in modified habitats and do not have significant impact on the biodiversity value. Our alumina refinery in Lanjigarh was developed as a greenfield project and is not located in proximity to any critically biodiverse area. IUCN listed species identified around our operations are enlisted in table below.

Orchard development in partnership with community

Table 32: IUCN species around our business operations

Total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk

Critically endangered (#, list)	Endangered (#, list)	Vulnerable (#, list)	Near threatened (#, list)	Least concern (#, list)
NIL	Golden-yellow Eulophia (Eulophia ochreata); Soft Bollygum (Litsea glutinosa); Indian Elephant; Indian Pangolin (Manis crassicaudata); Bengal Tiger; Chitra indica; Elephas maximus	Hill Turmeric (Curcuma pseudomontana); East Indian Kino (Pterocarpus marsupium); Indian Wild Dog (Cuon alpinus); Indian Sloth Bear; Smooth-coated Indian Otter (Lutrogale perspicillata); Gaur (Bos gaurus); Four-horned antelope; Nilssonia gangeticus; Chloroxylon Swietenia	Pied Hornbill (Anthracoceros coronatus); Indian Leopard (Panthera pardus fusca); Striped Hyena (Hyena hyena); Panthera pardus	Cyathocline purpurea; Nymphaea rubra; Zingiber cernuum; Madras Tree Shrew; Indian Rhesus Monkey; Varanus flavescens; Varanus bengalensis and many more

Land rehabilitation and reclamation

Vedanta Aluminium has three mining operations under care and maintenance. The mined-out areas of our Chotia coal mine have been backfilled with the ash generated at our operations, while that of our bauxite mines at Mainpat and Kawardha are undergoing concurrent backfilling with overburden. This approach helps us in utilizing the high-volume low toxicity waste generated at our operations for spent mine management. We have planted more than 2.5 million saplings of native species as a part of the progressive rehabilitation of the mined-out areas of our bauxite mines (see table below). We have also developed water storage and ground recharging structures for protection and conservation of biodiversity at the mined-out areas, supporting aquatic and avian biodiversity. As a result, several local and migratory bird species, mammals, reptiles, amphibians and even butterflies are being seen at our mining areas. To avoid the risk of surface run-off, especially in the monsoon season, we have built garland drains and check-dams along the periphery of the mines, as well as diversion drains ahead of the mine face. For all such activities relating to biodiversity conservation, be it tree plantation, construction of water ponds / reservoirs / check-dams and their maintenance, we conduct them in consultation with our local stakeholders. We conduct the process of rehabilitation in alignment with our mine closure plan. Currently, we manage 3 of our non-operational mines and monitor the increase in biodiversity values in those areas.

TABLE 33: PROGRESS ON MINE REHABILITATION

S. No	Parameter	Chotia-I	Chotia-II	Kawardha Mines	Mainpat Mines	Cumulative
1	Total Mining Area	271.69	41.13	387.41	393.63	1093.86
2	Total land reclaimed including rehabilitated	258.97	29.82	371.4	367.84	1028.03

We have rehabilitated 94% of the total land disturbed due to our mining operations and will rehabilitate 100% of the disturbed land at the end of our operations.

Development of flower gardens towards conservation of endemic species

Our alumina refinery is located in the Vamsadhara River Basin, at a distance of about 2 kilometers from the Niyamgiri Hills, which makes our surroundings rich in biodiversity. Towards conserving the biodiversity of the area, we have developed gardens with several vulnerable and endemic species of plants like Pterocarpus marsupium, Rauvolfia serpentina, Exacum pumilum, Barleria gibsoni, etc. along with numerous native species of rose, jasmine, hibiscus, oleander, thevetia, etc. on more than 10 acres of land. These grounds not only house floral species but are also home to several species of butterflies, insects, bees, birds, etc. Presence of such a diverse flora and fauna in these gardens creates a sustainable ecosystem, which is integral to the food web recognized in the region.

Sunflower cultivation

Biodiversity around our plant operations









SOCIAL

Our robust culture of care sees us relentlessly work towards ensuring that every employee and business partner working at our operations returns home safely.

Safety

Safety is one of the most important material topics for us, decided by our internal and external stakeholders, and we are determined to reduce occupational hazards and risks for our workforce. Our vision of Zero Harm manifests itself through a culture of care which sees us relentlessly work towards ensuring that every employee and business partner working at our operations returns home safely.

Management approach

To continuously improve our safety performance, we work towards identifying and addressing any safety related risks stemming from our operations or human error. The VSF guides our actions towards achieving the vision of Zero Harm and includes policies that help us manage health and safety risks. It is crucial that we build a strong collaborative safety culture throughout our business to prevent any further fatalities or injuries. Towards that end, we drive greater sensitisation regarding behavioural safety through continuous training of our people in safe working practices. Our senior management lead on-ground engagement with our business partners' employees under the Visible Felt Leadership programme to bolster behaviour-based safety at workplace. Each member of our workforce is empowered with the right to say no to unsafe work. We further encourage them to proactively identify unsafe working conditions or unsafe activities at our operations and report these to our Health, Safety & Environment (HSE) leadership.

Safety of workforce is our foremost priority

Our safety performance

In this reporting year, we have lost 4 precious lives from amongst our business partner employees, two at our refinery operations in Lanjigarh and one each at our smelter operations at Jharsuguda and BALCO. We are deeply saddened by the loss of these lives and have conducted thorough root cause analysis of the incidents to avoid any future recurrence. Based on these findings, corrective actions have been developed along with responsibilities, which have been reviewed by our senior management. These learnings and the results of incident investigation were further shared to all businesses in the Company for needful preventive action, if any applies, at their end. They were also communicated to relevant stakeholders for learning and their feedbacks were incorporated into our action plan for further improvement.

All our operational sites are ISO 45001 (2018) certified. We have a proactive approach towards identifying high potential incidents i.e., incidents which may cause a serious injury or even fatality. We thoroughly investigate these high potential incidents through formation of cross-functional teams. Our senior management reviews the Corrective and Preventive Actions (CAPA) of all serious and HIPO incidents and consequence management required, if any, on a monthly basis and ensures that all action items are implemented on ground as per the targets set.

During FY 2021-22, our high potential incidents stood at 114 against 103 recorded in the previous year. Our LTIFR and TRIFR stood at 0.41 and 0.72 respectively in the year. The increase in our LTIFR and HIPO number were attributed to a large number of new and relatively untrained manpower at the site, owing to workforce churn during COVID. In view of this, our leaders continue to personally engage with the entire workforce through various platforms such as safety townhalls, Safety Stand Down meetings, toolbox talk, safety interactions etc to improve the culture of safety.

Figure 22: TRIFR, LTIFR and HIPO performance of Aluminium Sector

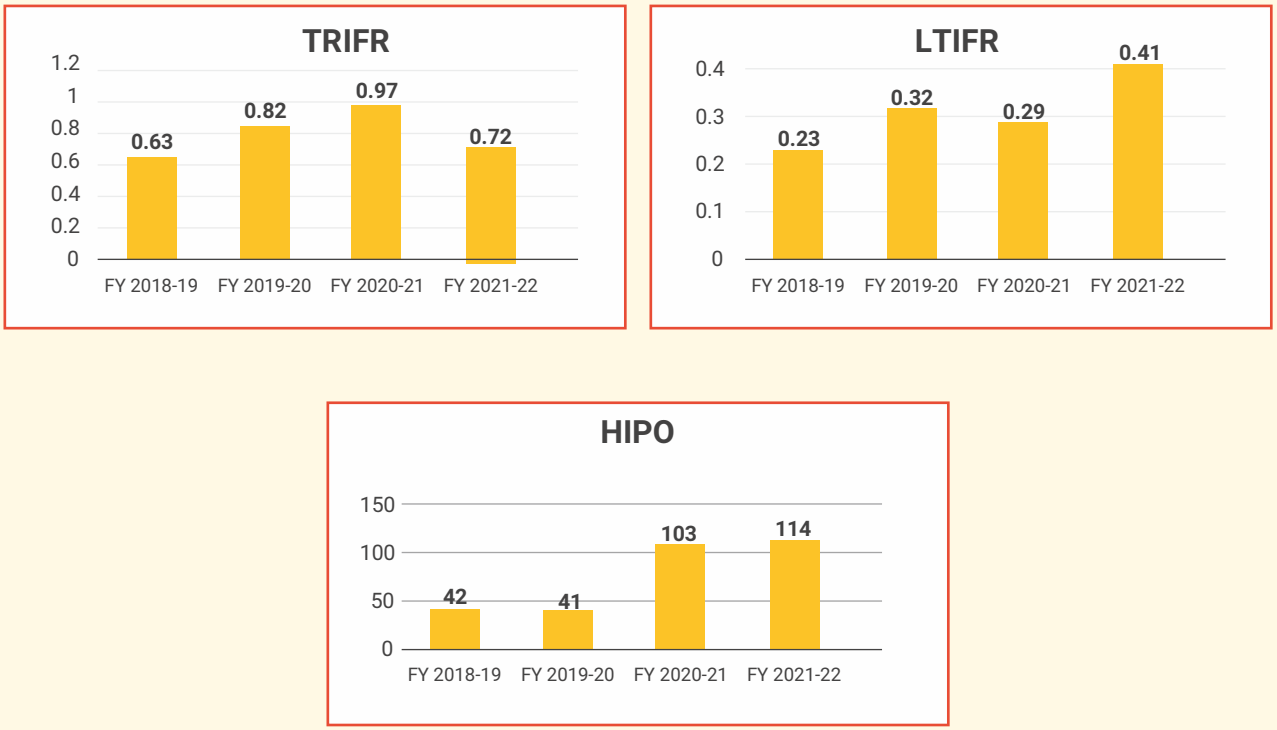


TABLE 34: SAFETY KPIs & PERFORMANCE

Goal	Summary of progress in 2022	Target in 2025	Target in 2030
Zero Fatalities	4	0	0
Zero LTIFR	0.41	0	0

Partnership with DuPont Sustainable Solutions for safety transformation:

To bring about a transformation in our safety performance, Vedanta Aluminium has partnered with DuPont Sustainable Solutions (DSS). DSS has appointed a dedicated team of experienced safety consultants to support our BU leadership teams in the safety transformation journey. As a baseline, DSS has conducted safety maturity survey and safety systems effectiveness assessment at each site. Accordingly, site-specific safety transformation programs have been developed in consultation with the BU leadership and safety teams. The program includes, but is not limited to, review of hazards and risk management practices, controls management, incident investigation and CAPA review, business partner safety, training and capability development, and strengthening safety review and governance mechanism across the Aluminium Sector. These safety solutions will be implemented across our BUs over a span of 30 months.

Each of our sites has developed Safety Sub-committees and Safety Implementation Committees to drive safety interactions, implementation of high-risk activities and effective controls, contractor safety, incident investigations and CAPA compliance to prevent repeat incidents.

DSS consultants also invest quality time every month towards coaching the Vedanta Aluminium leadership in safety management, training the company and business partner employees, participating in safety reviews, and incident investigation & CAPA reviews at each site. As a result of this intensive approach, our and our business partner employees' engagement in safety management has increased significantly. Each site's safety performance and system implementation is evaluated at the site's apex safety committee meeting chaired by the BU CEO, who is supported by DSS safety consultants. The overall safety performance review takes place with the apex committee at Aluminium Sector level with Dy. CEO.

Safety team at our Jharsuguda site

Critical Control Management Pilot

For a robust safety culture to prevail, it is imperative that the right engineering controls are in place to manage the risks. Ensuring on-ground effectiveness of these engineering and other controls are as important as implementing them to achieve our vision of Zero Harm. Under the Critical Control Management programme, we have revisited the 13 Material Unwanted Events (MUE) at our operations and finalised top 7 MUE in the first phase for critical control verification and management program. These 7 MUEs were responsible for more than 80% of the fatal incident occurrences in the past ten years.

TABLE 35: RISKS IDENTIFIED ACROSS OUR BUSINESS OPERATIONS

Risk 1	Vehicle Pedestrian Interaction
Risk 2	Fall of Persons and Objects from Height
Risk 3	Uncontrolled Release of Energy
Risk 4	Uncontrolled Load During Lifting
Risk 5	Loss of Containment of Molten Material
Risk 6	Contact with Electricity
Risk 7	Entanglement in Moving and Rotating Equipment.

Conveyor guarding interlocking

Entanglement in moving equipment has been identified as a critical risk for us. We have undertaken an Aluminium Sector-wide initiative to interlock the conveyors and control the same through a centralized control system. In an interlocked system, all material handling conveyors send a signal to PLC control panel upon opening of the circuit connector, which in turn disconnects the conveyor power via a pull cord switch. On identification of non-closure of the conveyor guard, an inbuilt panel hooter sounds the alarm until conveyor guard is closed again. Simultaneously, an email and SMS notification are also sent to the manager of the site for immediate action. We expect to eliminate entanglement risk altogether upon 100% completion of this initiative across our operations.

AR/VR safety training

At Vedanta Aluminium, we believe in truly leveraging the power of digitalisation. Our Safety, Digital, IT, Analytics and Innovation teams have collaboratively launched an Extended Reality (XR) experience zone. The XR Zone offers avenues for engaging, intuitive and virtual safety trainings through AR, VR and MR technologies. In the first phase, an Interactive Learning Zone on high risk activities was launched. The system helps us stimulate real life environment so employees can get trained on various safety protocols and standard operating procedures before stepping into the field.

Our vision of Zero Harm is manifested through a 'Culture of Care'

Health & wellbeing

The nature of our operations may pose hazards to human health. We strive to eliminate our workforce's exposure to any such health hazard.

Management approach

To minimize occupational health-related risks posed to our people, we have implemented robust health management systems at all our operations. We have adopted the hierarchy of controls in mitigating the impacts of these risks to our people. We have invested in technologically advanced processes to reduce their exposure levels to as low as practically possible, such as through installation of pollution control equipment, proper storage of hazardous material and wastes, etc. We also carry out regular monitoring of the controls to ensure their effectiveness. Along with this, we have provided Personal Protective Equipment (PPE) to each of our employees and contract workers. To spread awareness on these health risks and sensitize the workforce, we conduct various programmes, workshops, trainings and site visits clearly highlighting occupational health related issues and the importance of managing the same.

Reduction of health risk level exposure

The Aluminium Industry has traditionally been prone to respiratory disorders due to the workforce's exposure to particulate matters. In 2017, we had commenced the project to reduce red zone areas, i.e. areas with exposure beyond threshold limit, across our operations. Exposure monitoring is required to be conducted once in every 2 years or with change in operational process or technology, whichever is earlier. The first phase of monitoring included assessment of personal exposure level towards air borne contaminants such as total dust, respirable dust, coal dust and many more, in addition to noise, vibration and heat stress monitoring.

Personal exposure is controlled across all areas as per the hierarchy of controls, primarily through use of engineering controls, and when the same is unavailable, through administrative controls. Since inception, we have reduced exposure to red zone areas from 170 in 2018 (baseline year) to108 in FY 2022. We target ZERO exposure to red zone area by FY 2030.

TABLE 36: HEALTH KPIs & PERFORMANCE

Goal	Summary of progress in 2022	Target 2022	Target 2025	Target 2030
Elimination of exposure to red zone to ZERO for company and business partner employees by 2030	Exposure areas in Vedanta Aluminium (Jharsuguda & Lanjigarh) is 108, having reduced from 170 (from 2018 baseline)	Reduce red zone exposure area < 110	Reduce red zone exposure to 64 (from 2018 baseline)	Reduce red zone exposure to 0 (from 2018 baseline)

V-Care initiatives

The physical and mental health of our entire workforce is of paramount importance to us at Vedanta Aluminium. In 2022, Vedanta Aluminium developed Wellness Centres under its 'V-Care' initiative. These Wellness Centres promote physical and mental health of the workforce through yoga and other activities and provide consultation on various health related topics such as work-life balance, lifestyle disease management and diet management, covering 8 dimensions of wellness - physical, intellectual, social, emotional, occupational, environment, spiritual and financial. About 5000 employees and their family members are being benefited through this initiative.

Human rights

The fundamental idea of human rights is that everyone has the right to live with dignity irrespective of their nationality, place of residence, sex, national or ethnic origin, colour, religion, language. At the Company and Sector, we are guided by the Universal Declaration of Human Rights (UDHR) global roadmap to protect the rights of every individual, and uphold the same through a culture of respect and care at our workplaces.

Management approach

Vedanta Aluminium is committed to respecting the rights of our employees, business partners, neighbouring communities and others impacted by our activities, including our value chain operations. In this direction, our Human Rights Policy completely supports the requirements of United Nations Guiding Principles on Business and Human Rights (UNGP), Core Conventions of the International Labour Organization, Universal Declaration of Human Rights and other relevant statutory regulations. The policy also commits to prevent inadmissible practices like human trafficking, forced labour, child labour and discrimination, and respect freedom of association and right to collective bargaining across our entire value chain. Administration of our human rights commitments continues to be the subject of importance for our stakeholders as well.

Our HSE policy underlines our commitment to the health & safety of our people, environment, and the surrounding communities through minimizing our business impacts in accordance with internationally and nationally accepted standards. It also guides us on inculcating the best practices in our operations and strengthen our relationship with our stakeholders.

Our sites undertake HSE and Social Risk assessment to evaluate exposure to human rights related risks. Our approach to human rights due diligence enables us to identify the degree of potential and actual risks related to human rights violations across our value chain. Our Human Rights Policy requires mandatory due diligence before undertaking a new project, or supplier engagement.

TABLE 37: HUMAN RIGHTS KPIs & PERFORMANCE OVER THE LAST 2 YEARS

Key Performance Indicators	FY 2021	FY 2022
Harassment and discrimination cases received	02 (both resolved)	02 (both resolved)
Workforce covered under Collective Bargaining Agreement	29%	25%
Human rights training	73% of our regular employee trained	87% of our regular employee trained

Our operations monitor risk of child labour, sexual and other forms of harassment, discrimination on the grounds of gender, race and ethnicity, and we take necessary measures to prevent the same throughout the value chain. Verbal or physical intimidation or threatening actions, derogatory remarks or jokes, disrespecting others based on race, ethnicity, gender, religion, homophobia, or age, sexual harassment, corruption and bribery are violation of the Vedanta Code of Business Conduct and Vedanta Supplier Code of Conduct. We strongly encourage reporting of such incidents through established channels. These complaints are subjected to internal investigations, and if found correct, we take appropriate disciplinary actions to prevent recurrences in the future. Our Health & Safety policy depicts our commitment of making workplaces safer for all our company and business partners employees.

In the FY 2022, Vedanta Aluminium took a Human Rights Self-Assessment developed by the Danish Institute for Human Rights for all of our Business Units. The toolbox developed by the institute aids in identifying, understanding, assessing and addressing the Human Rights impact over the lifecycle of the company operation and products. This assessment was successfully conducted across all our business units to check our adherence to Human Rights Practices in three key areas of business practices - Employment Management, Supply Chain Management and Community Impacts Management through a questionnaire comprising 63 parameters. The outcome of the assessment indicates the conformance of our practices and procedures with the human rights requirements. We also conduct due diligence before entering into new business relations through processes like mergers, acquisitions and onboarding of suppliers. The risk assessment provides us with further opportunities to develop risk strategies, mitigation plans and strengthen our Human Rights practices across the value chain.

TABLE 38: HUMAN RIGHTS ASSESSMENT & RISK MANAGEMENT OVER THE LAST 3 YEARS			
Category	% of operation assessed last year	% of total assessed where risks have been identified	% of risk with mitigation actions taken
Own Operations	100	0	0
Business partners and Tier - I suppliers	2	0	0

Data pertains to Jharsuguda only

Labour relations

At Vedanta Aluminium, we are serious about unfailingly upholding the human rights of our direct and our indirect workforce. We have implemented measures such as grievance redressal mechanism and labour management cells at all our facilities for welfare and redressal of the complaints / issues flagged by the workforce.

Under our Human Rights program we provide regular trainings on harassment and discrimination at the workplace to all our employees and inform them about the business norms associated with human rights. The trainings are provided to all the regular and transferred employees from other locations and new employees while onboarding. This year we provided training to 84% of our employees compared to 73% last year.

We practice ZERO tolerance towards sexual harassment and all types of discrimination. We have a clear escalation process for harassment related complaints registered through Internal Complaints Committee (ICC) or received by e-mail to sexualharrassment@vedanta.co.in. ICC initiates the inquiry in all such cases under the principles of natural justice, and as prescribed under the POSH (Prevention of Sexual Harassment) Act. and rules framed thereunder. ICC completes the entire investigation process and provides its findings within a maximum period of 30 days.

If an investigation confirms the sexual harassment case, appropriate punitive action is initiated, including immediate termination of employment. However, if an investigation of a complaint shows that the complaint was false, the individual who registered the false case is also subjected to disciplinary action, up to and including termination . This year we have registered two harassment and discrimination cases, one each from our Jharsuguda and Lanjigarh BUs, and both been resolved in the same reporting year.

We uphold the right to freedom of association enforced by collective bargaining agreements. These contracts comprise mutually agreed terms between the management and the union representatives on remuneration, allowance and incentives, working conditions, health and safety and other matters of material significance to the workforce. By the end of this reporting period, 25% of our Aluminium Sector employees, including business partner employees (0% from our Jharsuguda and Lanjigarh sites), were covered under the collective bargaining agreements.

25% of total Aluminium Sector employees covered under collective bargaining

TABLE 39: EMPLOYEE TRAINING ON HUMAN RIGHTS				
Business Unit	Number of new hires who have received training	Number of employees who have received refresher training	Total number of hours of training imparted	Share of regular employees trained
BALCO	65	799	3196	49%
Vedanta Aluminium (Jharsuguda)	185	3071	24753	100%
Vedanta Aluminium (Lanjigarh)	170	547	1434	100%
Sector	420	4417	29383	87 %

Supplier diligence

With a large supply chain there could be potential for violation of human rights in our extended supply chain. We insist our suppliers and vendors on the adoption of adequate controls to safeguard their operations against the identified human rights related risks and vulnerabilities. Our Supplier Code of Conduct is an integral part of our supplier contracts. We endeavour to improve adherence to these internal and external principles through rigorous inductions, screenings, inspections and audits.

Local communities

Given the nature of our industry, we operate in geographically and culturally diverse locations. Our core values guide our approach towards the management of our operations in a manner that secures our social license to operate. This requires regular stakeholder engagement and consultation, through implementation of a well-rounded stakeholder management plan.

In FY 2022, we continued the community consultation process for our operations as well as for our community development (CSR) projects to ensure we record and address all community concerns w.r.t our operations and community investment projects. Our approach to community consultation starts with identification of the local communities and stakeholders who might be impacted by our projects. Post that, we develop a stakeholder engagement plan. As per the plan, we interact with these stakeholders with the objective of disclosure of project-related information and identification of their areas of interest. We encourage them to express their perceived risks and opportunities related to these projects and provide feedback on value-adds that could make the projects more impactful for them. We then augment the projects with due consideration of the feedback. We have established a robust grievance mechanism to receive any project or operation related complaints, so we may resolve the same in a timely manner.

In FY 2022, we had 33 community development projects under implementation, each of which was put into effect after proper stakeholder consultation with representatives of local governments, Panchayati Raj Institutions, educational institutes, SHGs, farming community, Community Based Organizations (CBOs), etc. These stakeholders were consulted with the help of expert agencies during both planning and implementation phases, through needs assessment and social impact assessment of these projects.

Our BALCO unit is undergoing capacity expansion from 0.575 million MT/annum to 1 million MT/annum. The expansion project required conducting of the ESIA (Environmental Social Impact Assessment) of the project in line with the applicable national and international standards. Public consultation and hearing were duly conducted and all recommendations received from the stakeholders during the consultation process were included in the Environmental and Social Management Plan (ESMP). The ESMP is now being implemented to minimize environmental impact and maximize social impact from our project activities. We have undertaken 100 percent community consultation for all our expansion and CSR projects.

We strive for sustainable development of our local communities

Land acquisition and resettlement

Our ESIA screening process thoroughly evaluates the impacts of our land acquisition and rehabilitation on potentially affected people. We are sensitive of the fact that in the process of displacement, people are bound to lose their access to common property and resources such as forest, grazing land, burial land, groundwater resources, etc. These assets tend to have significant socio-cultural and economic value for them.

Vedanta's Land Acquisition and Resettlement Standard stresses on avoiding, minimizing acquisition of human inhabited land or provide better resettlement facility in case of physical and / or economic displacement of people. It requires consultations to evaluate socio-economic impact of the land acquisition on the affected people and develop mitigation plans in line with applicable national laws and the Company's Land Acquisition and Resettlement Standard.

We undertake social impact assessment and develop resettlement plan in consultation with the impacted stakeholders. Our standard requires us to carry out of a third-party conformance audit of the land acquisition and resettlement process to ensure implementation in line with the proposed plan.

Grievance management

We have well established grievance redressal mechanism for addressing grievances of internal and external stakeholders. For internal stakeholders, we have a dedicated online SBU HR Helpdesk that is used for receiving grievances related to Operations, HR, Admin, Finance and IT functions. The portal is managed by the SBU HR of the respective SBU. For external stakeholders, our Community Liaison Officer (CLO) acts as the Grievance Officer who is responsible for collating all grievances from external stakeholders, received through various means. Our HR department and CLO are responsible for responding to the aggrieved party(s) in a time-bound manner along with functional heads, as required.

The people whom our community development endeavours serve

People excellence

Our employees are our greatest assets. We proudly acknowledge the fact that it has been the endeavours of our Vedanta Aluminium family that have brought us consistently strong business growth, along with the gratification of cherishing the decades-long legacy of positively contributing to the development of the society.

Management approach

Our markets, customers and businesses are diverse and complex. To maintain a competitive edge, our business strategies need to be well-rounded. And hence, at Vedanta Aluminium, diversity and inclusion form the pillars of both belief and business. We believe it is our primary responsibility to nurture a culture of inclusivity that instils a sense of belongingness amongst our workforce. The other equally important priority of our people management system is to build a conducive and empowering environment that offers immense opportunities of professional and personal growth to our employees and encourages them to explore the best of their potential. Underlying our people practices is the belief that that wellness of the organisation lies in the well-being and enriching engagement of our workforce.

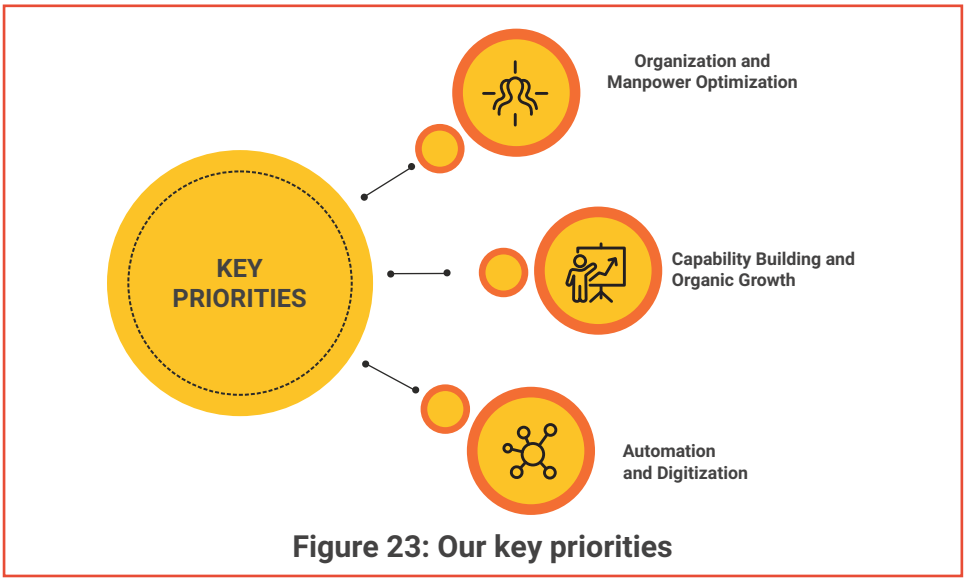


Figure 23: Our key priorities

Human resource planning and talent management

We have a strategic framework that enables our HR team to identify talent requirements mapped to the business's current and future goals and develop a strategy to achieve these objectives with the right mix of personnel, technology, and fair working conditions.

Strategic Workforce Planning for the business begins with the setting of productivity target to deliver the business plan, before the start of every new fiscal year. Key priorities in each HR process such as recruitment, training & development, compensation benefits, etc. are identified to support the Aluminium Sector's goals & objectives. Manpower planning and budget are developed using data on current manpower inventory across all the departments, requirement of the business, external industry-wide trends to forecast the manpower requirement and costs for the business.

The exercise is done every year to identify key HR strategies, priorities, manpower and strategic business resources in various business units required to meet our business plans. As our business is expanding, our people management endeavour is to provide the right manpower for business requirements. Accordingly, HR processes like recruitment and training programs, etc. are designed in line with workforce planning. This also helps us ensure that our HR-related costs do not go beyond the budget set in workforce planning. Our Manpower Productivity has been increasing every year with better planning.

Talent development and retention

Our People Strategy is focused on hiring the right talent, developing them through structured programs and elevating them to enhanced leadership roles to achieve our business vision of becoming the world's top aluminium producer. Key focus of the Company has always been on grooming high potential talent from within the organization through various initiatives and providing them with the right support and guidance to prepare them for elevated roles. Over the years, we have devised several customised programmes for holistically nurturing our talent pool. We periodically monitor the success of these programmes and augment them as per the evolving business requirements.

Talent development: leadership from within

As the world and our markets grow increasingly complex, we are building an agile workforce that has the right skillsets and attitude to navigate such complexities. To imbibe this quality, we encourage job rotation for incumbents who have been occupying a particular role for more than 3 years in sensitive positions and 5 years in technical positions. This helps them to get a 360-degree perspective of the business, and the challenges and opportunities that come with it. We aim to create a strong leadership pipeline for future technical and managerial roles through customized talent development programs. Some of the successful programs include:

Vedanta Leadership Development Program (VLDP)

VLDP is our flagship programme that aims to build organisational capability through developing talent from premier management and technology institutes. It is tailored to nurture some of India's best talent to become catalysts for steering our business to the next levels of growth through transformative ideas and unparalled skills. The programme includes induction sessions, cross-functional projects, significant roles, job rotation, development opportunities, and the right mentoring to ensure these individuals get an in-depth knowledge of our operations and recognise their areas of interest for a suitable role. 33 employees were part of our VLDP program in 2022.

V-Reach: Graduate Development Program

We have a huge talent pool of graduates who form the backbone of our business. This initiative, anchored by the Company's Vice Chairman, was implemented to identify, recognize and elevate the top talent from amongst our graduates. Around 120 such leaders were identified across our Business Units and given elevated roles and opportunities for fast-track career growth within the business.

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ACT-UP (An Accelerated Competency Tracking & Up-gradation Process)

ACT-UP is a program conducted in partnership with an external expert agency to identify and nurture high performers and develop the leaders for tomorrow for the entire Aluminium Sector. This assessment centre, held for a day, includes various assessment tools like case study analysis, group assignments, personal interviews, and psychometric profiling, etc. Further, each participant is given a personalized developmental feedback and IDAP (Individual Development Action Plan) based on the inputs received from their assessments. The employees who are identified as high potential (HiPo) at the end of the process are declared as Stars of the Business.

V-Reach Tech

To identify talented engineers and elevate them to significantly higher roles, V-Reach Tech 1.0 was launched. Over 41 leaders, including 13 women, have been identified in this initiative across the Aluminium Sector. These leaders are now driving high-impact projects and innovations, having taken up leadership roles across the organization. They are leveraging their true potential and have become brand ambassadors of Vedanta Aluminium's engineering prowess.

Our employees are our greatest assets

TABLE 40: TRAINING AND DEVELOPMENT		
Key Performance Indicator	**FY 2021**	**FY 2022**
Average hours/FTE of training and development*	38.6	34.55
Average amount spent on training and development is INR 1600 / employee		

** Data for Lanjigarh and Jharsuguda*

TQM Initiatives: Lean Transformation Program

For better understanding of interdepartmental issues and initiatives, we have created cross-functional teams that undertake 5S Audit of various SBUs on a monthly basis and also circulate our scorecard by the auditors, as well as 5S Certification. Our Lean Transformation program helps our future leaders to grow and get equipped with modern technologies, which helps us improve the efficiency, and hence, productivity of the system.

Each of our strategic business units has set a target for QC, Kaizen and Six Sigma projects for in-house transformation of the business. In FY 2022 we successfully completed 23 Lean Six Sigma Projects where 28 participants (18 Black Belt and 10 Green Belt) got upskilled. The projects themselves resulted in a financial benefit of approx. INR 180 Million for our Jharsuguda operations.

Talent Development – Business Imperative

Our technical and managerial talent development programs support the development of employee skills and facilitate improvement of the company's productivity and operational cost reduction measures. Some of the programs and their resultant contribution to the business performance is given below:

- **420 new employees hired: 65 at BALCO, 170 at Vedanta Aluminium (Lanjigarh), 185 at Vedanta Aluminium (Jharsuguda)**
- **24% of open positions at our Lanjigarh and Jharsuguda sites are filled by internal candidates**
- **Average hiring cost/FTE saved = INR 1.5 million**

TABLE 41: TALENT DEVELOPMENT PROGRAMS			
Program Name	**ACT- UP (Accelerated Competency Tracking & Up-gradation Process)**	**V-Reach: Graduate Development Program**	**Lean Transformation Program**
Objective	ACT- UP is a structured process to identify and nurture high performers and groom them into leaders for tomorrow.	We have huge talent pool who joined us as graduates and form the backbone of our businesses. This initiative anchored by our Vice Chairman was developed to identify, recognize and elevate the top talents from graduate talent pool. Around 120 such leaders were identified across aluminium business units and given elevated roles and opportunities for fast-track career growth within the business.	Our Lean Transformation Program helps our future leaders to grow and get equipped with the modern technologies which helps to improve the efficiency, and hence, increase productivity of the system.
Quantitative Impact	Productivity has increased to 426 tonnes of aluminium per FTE in FY 2022 compared to 328 tonnes of aluminium per FTE in the previous year. This has resulted in revenue increase of about INR 23 million per FTE.		We have garnered financial benefit of about INR 180 million has been through this program
% of FTE participating	90%	2.2%	01 %

Talent management and succession planning

One of the fundamental responsibilities of our Human Resource function is to maintain a strong talent pipeline and succession pipeline within the company. This requires extensive training of our employees through deliberate exposure to newer challenges, with the ultimate objective of preparing them for taking up higher roles.

Developmental initiatives for middle management

We have put several programmes in place for professional development of our middle management personnel and to groom them into taking up senior management roles in the organization. These initiatives include management development training, coaching and mentoring with leadership, and opportunities of participation in leadership meetings, to name a few. Some of our key initiatives in this direction are:

MDP (Management Development Programs)/Trainings:
This program provides opportunities for our middle management employees to be trained by the faculty of some of India's top management institutes such as the IIMs.

ExCo Coaching and Mentoring:
Under this initiative, leaders gets opportunity to train under an ExCo member as their coach. These interactions take place at least once in a quarter and the record of these valuable interactions is maintained to track the progress of individual trainees and the overall success of the program.

V-Connect for Middle Management:
Mentoring program is one of our highly acclaimed programs. As part of this project, every senior leader is assigned a group of 10 mentees. The mentors and their mentees have monthly interactions on various facets of personal and professional growth. This also provides the mentors with the opportunity to know and interact with employees from diverse functions in the organization.

TABLE 42: TALENT MANAGEMENT		
Key Performance Indicator	FY 2021	FY 2022
Position filled by internal candidates	39%	24%
Turnover rate	14.35%	12.60%
New employee hire	79	420
Long term incentives for employees (ESOP)*	39.80% employee covered	43.83% employee covered

** Data for Vedanta Aluminium Limited*

TABLE 43: WORKFORCE BREAKDOWN					
Particulars	Vedanta Aluminium (Jharsuguda)	BALCO	Vedanta Aluminium (Lanjigarh)	Total	Vedanta Aluminium (Jharsuguda + Lanjigarh)
Executive Workforce	2,851	1,750	717	5,318	3,568
Business Partner Workforce	12,001	5,352	2,405	19,758	14,406
Total Workforce	14,852	7,102	3,122	25,076	17,974
Diversity in Executive Workforce	12%	9%	15%	11%	12%
Average Age (Yrs)	30.6	36	31.8	32	30.8

Learning & development

One of our key focus areas has been to create a strong talent and succession pipeline within the Aluminium Sector. Leadership development is the key to enhancing the skills and competencies of our employees and our programs are also geared towards unleashing the full potential of the employees. We provide opportunities to all our employees to develop themselves through various classroom trainings, on-the-job trainings, Individual Development Programs, high impact projects, and mentoring & feedback to develop themselves and improve their career prospects.

In FY 2021-22, V-Excel Program, a one-of-its-kind customized digital platform for new hires was developed to track their performance and developmental needs across the 4 basic pillars: Leadership Shadowing, Anchors for Development, Goal Setting & Delivery, and Dipstick Feedback and Action.

Personalised mentoring for employees

Performance management process

Our Performance Management process is completely digitalized and consolidated into a single platform across the Company covering 100% of our employees. It starts with the goal setting process where employees identify key objectives that they need to accomplish for the year. These goals are reviewed by their managers to ensure that they are SMART (Specific, Measurable, Achievable, Reasonable and Timebound) and in line with the organizational objectives. Performance assessment against these goals happens periodically with quarterly reviews for senior leadership and those in critical positions, and half-yearly for everyone else. Employees with considerably lower ratings are assisted by initiatives such as skill mapping, training and Individual Development Plans (IDP) where their performance and improvement is tracked from time to time. For the senior management, we have a 360-degree performance appraisal system so they can get holistic feedback on various facets of their functional and managerial responsibilities.

V-Perform: One Performance System for One Vedanta

We are aggressively increasing the scope of digitalisation across our operational portfolio. V-Perform is a pan-Vedanta initiative to digitalize and unify our Performance Management System (PMS) and associated processes across all the business verticals of Vedanta. This enables our employees to track their progress on periodic intervals and evaluate their performance against set objectives.

Employee engagement

We conduct formal engagement sessions with our employees and business partners regularly on subjects material to them. The agenda of these interactions include annual performance target setting, performance evaluation and feedback, career progression, sensitization on organizational growth & plans, motivation and encouragement, learning & development, and team bonding, among others.

Communication and feedback

We believe that effective communication and regular feedbacks are the prerequisites for professional development and growth of employees and strengthening of organisational productivity. The various internal channels of communication include Chairman's Workshops, townhall meetings, leadership update forums, HSE leadership and Sustainability Steering Committee meetings, site-level risk sub-committees, employee engagement surveys, and many other forums at site.

Surveys and employee feedback

In order to monitor the effectiveness of our human capital management processes and gauge the perception of our employees towards the Company's work culture, we conduct internal and external surveys. These assessments allow us to evaluate the degree of success of our HR policies and systems, along with the degree of professional satisfaction and trust quotient of the majority of our workforce. Every year we participate in the Great Place to Work (GPTW) survey, that evaluates us on 5 parameters as per their model - Credibility, Respect, Fairness, Pride and Camaraderie amongst our employees. This year also we were adjudged as a 'Great Place to Work' in India. Our employee engagement score in GPTW survey over the last 3 years is given below:

TABLE 44: EMPLOYEE ENGAGEMENT

Employee engaged	FY 2021	FY 2022	Target FY 2022
Actively engaged employees (%) in Sector	76	81	90
Total employees covered (%) in Sector	10	14	50
Actively engaged employees (%) in VAL	71.5	76.5	90
Total employees covered (%) in VAL	21	22	50

81% score in employee engagement at Vedanta Aluminium

Diversity and equal opportunity

Workplace justice is about providing equal opportunities to everybody in the company without any discrimination on the grounds of gender, ethnicity, nationality, or any other factor. We continue to focus on building a diverse workforce across our operations, with inclusion of more women, foreign nationals, and members of the LGBTQIA+ community, especially in leadership roles. The details of our diverse workforce are provided below:

TABLE 45: WORKFORCE BREAKDOWN IN TERMS OF NATIONALITY

Nationality	Share in Total Workforce (in %)	Share in all management positions including junior, middle and senior
Indian	99.94	99.94
South African	0.03	0.03
Nepali	0.03	0.03

Nurturing a healthy gender diversity ratio

Vedanta Aluminium is committed to promoting diversity and inclusion within the organization. While we are committed to providing equal opportunities to all our employees irrespective of their gender, race, religion, nationality, or age, achieving gender parity remains a key priority for us. The manufacturing industry, especially the mining and metals sector, has been traditionally male dominated. With significant efforts to attract and retain high calibre women professionals over the years, the Company is among the few global natural resources companies that enjoys a healthy gender diversity ratio across all levels.

We have introduced several interventions focused on developing women leaders in the past few years. Programs like V-Lead and Diversity Growth Workshop are aimed at identifying Hi-Po women in middle management levels and grooming them to be in decision-making bodies. These interventions have resulted in significant representation of women leaders in Executive and Management Committees across our Business Units.

Currently, Vedanta Aluminium employs 11 percent women professionals, as part of our total regular workforce. Gender diversity at our unit levels is as follows:
Vedanta Aluminium (Lanjigarh):15 percent
Vedanta Aluminium (Jharsuguda):12 percent.
BALCO: 9 percent

TABLE 46: DIVERSITY INCLUSION

Gender Diversity in Vedanta Aluminium (Jharsuguda & Lanjigarh)			FY 2030 target
Attribute	Vedanta Aluminium (Jharsuguda & Lanjigarh)	Sector	Vedanta Aluminium (Jharsuguda & Lanjigarh)
Share of women in the workforce	12%	11% (Lanjigarh:15%, Jharsuguda: 12%, BALCO: 9%)	30%
Share of women in management positions	13%	13%	25%
Share of women in top management positions i.e. up to 2 levels away from CEO	2%	1%	6%
Share of women in junior management positions	11%	11%	30%
Share of women in revenue-generating management positions	8%	8%	30%
Share of women in STEM-related roles (STEM: Science, Technology, Engineering, Mathematics)	10%	10%	30%

Diversity growth workshop

In line with our vision of growing leadership from within, we have conducted a Diversity Growth Workshop at Vedanta Aluminium and identified 15 women leaders who have been given significantly elevated roles. These leaders, identified through a structured process with focus on business acumen, technology and digitalization, are being groomed to bring in fresh thoughts and ideas to unlock greater value for the organization.

Human capital analytics

We employ business analytics to track the performance of our talent management systems and return on Human Capital Investment. This not only assists scientific evaluation of our employee development programmes, but also identifies the scopes of improvement in our HR policies and work culture. Currently, we are using HR analytics for monitoring performance of employees working in different functions of our organization and assisting them in improving their professional competence. Besides, we are leveraging advanced analytics to enable accurate and informed decision making in our recruitment processes. Since its adoption, we have observed gradual year-on-year improvement in the retention rate of our new employees .

Turnover and attrition rates

Given the remote locations of our plants, retention of employees has been a challenge we have been working on. We track employee turnover, which includes voluntary resignations, involuntary layoffs, and retirements, to gain a better knowledge of workforce dynamics and changes. Total turnover has dropped from 14.35 percent in FY 2021 to 12.60 percent this year due to intensive employee engagement programs.

Disruptive industry practices and the increasing trend of flexible work arrangements have made the labour market highly competitive. We have pivoted our approach to salary, benefits, development, and work conditions in response to these altering expectations in order to attract, engage and retain high-quality talent. In FY 2021-22, our BU-level attrition was as follows: Vedanta Aluminium (Lanjigarh): 16%, Vedanta Aluminium (Jharsuguda): 11.11%, and BALCO: 9.71%, which amounts to an overall employee turnover of 11.32%.

To control attrition amongst the Graduate Engineer Trainees (GETs), retention bonus is awarded after 18 months of engagement with the company. A rigorous induction process for GETs helps us ensure their allocation to the right departments to control attrition.

We aim for excellence in people practices

Security and human rights related training

We regularly conduct Security related risk assessment for risk identification, risk evaluation and risk mitigation. The outcome of these risk assessments lead to further strengthening of our security controls for safeguarding our assets and preventing our people from any kind of harm.

Security operations are designed to prevent and mitigate existing and evolving threats using people, processes and technology. All our critical assets / plant processing areas are secured using layers of security and multiple controls. Access controls restrict people and material to assets and areas on need basis. In any adverse event, dedicated resources such as the Quick Response Teams (QRT) and patrolling officers are mobilized along with suitable technologies like drones and surveillance cameras, and alarms are coordinated from the security control rooms. Every security professional undergoes rigorous induction training / refresher training for undertaking security functions / operations. The program covers class-room training, online courses, peer studies, case study discussions, learning from incidents, including important topics such as Security and Human Rights.

TABLE 47: SECURITY PERSONNEL TRAINED IN HUMAN RIGHTS

Business Unit	Percentage
BALCO	94
Vedanta Aluminium (Jharsuguda)	75
Vedanta Aluminium (Lanjigarh)	82
Aluminium Sector	83

No strike or lockout exceeding 1 week in duration

Local employment

The recruitment policy of Vedanta Aluminium emphasises engagement of services of local population to the extent possible. We strive to find and train potential candidates from our neighbouring communities to drive our business growth. Our CSR projects are tailored for training the locals in various trades making them employable at our facilities. 76.25% of our total employees, which includes direct employees and business partner employees (76.27% in Jharsuguda, 76.54% in BALCO, 75.5% in Lanjigarh), are locally employed. We also engage apprentices from local communities and provide them trainings to improve their employable skills. We categorize people from neighbouring communities of our operation site or from the same state as local people.

- **18% of senior management personnel are local employees.**
- **76.25% of our total employees are local employees**

Local employment is priority in our recruitment process

Employee wellbeing and support program

We have several policies and programs for promoting employee wellbeing. These include performance pay, production incentives, Employee Stock Options, maternity & paternity benefits, retention bonus, health insurance, medical facilities, world class townships and many other benefits.

One of our innovative recruitment policies is providing career opportunities for the spouses of our employees. At Vedanta Aluminium, we understand that families are an irreplaceable support system, and for our employees' wellbeing, it is very important that families stay together. Our Spouse Recruitment policy aims to provide the spouses of our employees the avenues to find appropriate and meaningful career opportunities, thereby deepening our talent pool and helping families stay together. It also strives to address gender bias by encouraging working wives to explore a career in the manufacturing industry, and in the process, stay together as a family. Equally, it gives working women the opportunity to freely opt for a career in manufacturing as their husbands can also find appropriate career options in the same organisation.

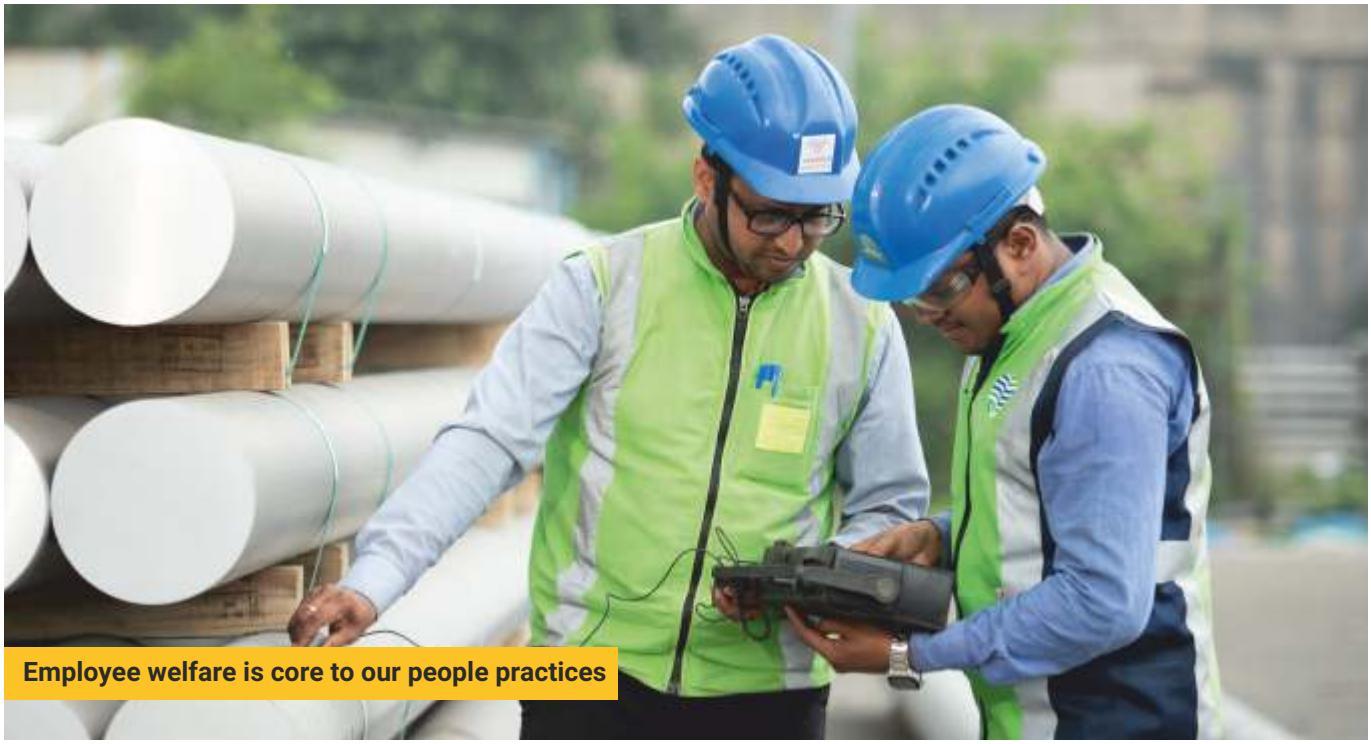
We consider spouse recruitment applications depending upon skillset requirement of available roles/vacancies that match the competencies of the candidate, i.e. purely on merit. This initiative has enabled lateral hiring of some of the best professionals, deepened the talent pool and helped us in retaining our high potential employees. We have at present around 100 couples working with us across our business units.

We have childcare facility initiatives such as Creche and Vaatsalya Sneh Kutir (VSK) at our onsite locations where employees' children are taken care of by qualified caregivers, while they are at work. VSK is a preschool which focuses on holistic development of the children. This is in collaboration with Kidzee which is a pioneer in ECCE (Early Childhood Care and Education) with one of the largest preschool networks in Asia, and more than 15 years of experience.

During the pandemic, we also provided our employees with the option of working from home, so they may stay close to their families.

Employee Stock Option Scheme (ESOS)

Employee Stock Option Scheme is the main component of our long-term incentive plan. It is a conditional reward scheme linked to performance for our executives at the management level. Although the scheme remains directly linked with Relative-Total Shareholder Return, it also considers the internal parameters of volume, cost, EBITDA and important ESG criteria like safety performance, VSAP score, etc. in order to encourage the workforce to contribute comprehensively to ESG parameters, along with business growth.



Employee welfare is core to our people practices

Community welfare

Fostering cordial relations with our neighbouring communities is central to our agenda of sustainable business growth. We acknowledge the fact that the cooperation of these communities is a prerequisite for our business continuity and unhindered operations. It is our fundamental duty to secure and promote the socio-economic interests of these remotely located sections of the society, alongside our aspirations of economic growth.

Management approach

Our operations are situated in remote regions of the Indian states of Odisha and Chhattisgarh. On account of their geographical isolation, these areas had lagged in catching up to the fast-paced development of the country. Manifesting the value-sharing vision of Vedanta, we direct our community development campaigns to promote social and financial inclusiveness of these human settlements covering the theme of sustainable livelihoods, skill development, quality education, healthcare, women & child development, infrastructure development, sports & culture and more. Our vision of "give back" follows a systematic impact-based approach that delivers much beyond regulatory requirements, upholding the true spirit of a people centric-approach to development. The coverage of our social reporting is for 100% of our business operations.

We work in a Public Private Partnership model with the local governments and intended beneficiaries for the formulation of our community development strategies and collective execution of the programmes. We ascertain the needs of our host communities through participatory needs assessment programmes and work with them towards jointly preparing the developmental roadmap. After obtaining management and bureaucratic approvals, we allocate our resources towards collaborative implementation of the community development projects, and regularly monitor their progress towards desired objectives.

We analyse the socio-economic and demographic statuses of our neighbouring communities through the baseline and need assessment studies. We promote sustainable development of the community through a "rights-based approach" that strives for inclusive socio-economic growth of the society. Our publicly available CSR policy underlines our intent of integrating sustainable community development into our business operations. We also communicate the results of our community development programs to our stakeholders on a regular basis. At the end of FY 2021-22, our projects have positively impacted 0.38 million women and children.

We also have grievance redressal mechanism in place for the local communities and stakeholders to provide their feedback / critique our processes and programs. This mechanism helped us better understand their needs and expectations. Of the concerns raised last year, this mechanism has helped us resolve 69 percent of grievances. 96 percent of the registered incidents have also been successfully resolved by us.

In FY 2022, we focused on maximizing the benefits and support to our communities through our deep interventions in various developmental dimensions.

Preserving tribal arts for sustainable livelihoods

TABLE 48: SUMMARY OF SOCIAL PERFORMANCE			
Goal	Summary of Progress in 2022	Target 2025	Target 2030
Local procurement	45%	48%	50%
100 % of social incident to be investigated and closed by 2025	94%	100%	100%
100% of grievances to be resolved by 2025	21%	100%	100%

TABLE 49: OUR CSR IMPACT			
Goal	Summary of Progress in 2022	Target 2025	Target 2030
Positively impacting families, woman, and children			
Families impacted*	19,000+ (baseline 2016)**	40,000+ (baseline 2016)	80,000+ (baseline 2016)
Woman and children impacted*	0.38 million (baseline 2016)**	0.48 million (baseline 2016)	0.50 million (baseline 2016)

**The above values are cumulative figures, year on year*

***There are chances of double accounting of data as a beneficiary can be a part of more than one CSR programs, or two or more beneficiaries may be from the same family*

Community development projects

Our projects are developed and implemented in consultation with the neighbouring communities and other stakeholders. Our community investment projects are designed on the principle of shared value creation. These programmes are in alignment with the UN Sustainable Development Goals (SDGs) and uphold the spirit of Principle 9 of ICMM, i.e., to pursue continual improvement in social performance and contribute to the social, economic and institutional development of host communities. In FY 2021-22, we have spent around INR 767.4 million in our community development projects, benefiting around 0.47 million people across 269 operational villages, comprising of 95 core villages, 147 peripheral and outer peripheral villages and 27 outreach villages. The table below outlines our performance and targets for further enhancing relationships with communities.

TABLE 50: CSR KPIs & PERFORMANCE	
Key Performance Indicators	FY 2022
Total villages covered	269 villages
Number of beneficiaries	0.47 million people impacted
Total spends on community welfare per year	INR 767.4 million

BALCO

Vedanta Skill School-creating livelihood opportunities

About the project:

The Vedanta Skill School program focuses on imparting vocational training to rural youth, dropouts, and unemployed population of Chhattisgarh, with a special focus on our operational areas, and linking them with gainful employment opportunities. The skill schools impart free residential training in six trades, including food & beverage, welding, sewing machine operation, solar PV technician, etc. through a 45-65 days training programme designed as per the National Skill Development Corporation (NSDC) guidelines of the Government of India. The first skill school was established in 2010 at Korba, and its resounding success led to the established of two more centres at Mainpat and Kawardha in year 2017 and 2018 respectively. Till date, more than 10,000 youth from Chhattisgarh have been trained at the three skill schools and have found employment in various industries across the country The project is aligned with 1st and 8th goal of sustainable development, i.e., No Poverty and Decent Work and Economic Growth.

Success Story:

Laxmi Suryawanshi is a resident of village Hathnewra in Chhattisgarh. She was born in a poor family and faced significant financial constraints in her early life. Looking at her family's condition, Laxmi always wanted to help her father with household responsibilities and finances but felt helpless because of lack of employment opportunities. Finding out about Vedanta's Skill School at Korba, she got herself enrolled in the Food & Beverages service training program. Through the program, she developed an understanding of the food and beverages industry and hospitality services. She further enhanced her communication skills and basic computer knowledge by registering in other value-added courses offered by the school. Today, Laxmi works at Babylon International Hotel with a starting salary of INR 14,000. She is not only an immense support to her family's financial conditions, but also an inspiration to many other young men & women in the vicinity who have gone on to enrol themselves at our skill schools and script a bright future for themselves.

Vedanta Limited, Lanjigarh

Nand Ghar

About the project:

Nand Ghar is the flagship programme launched by Vedanta Limited in partnership with the Ministry of Women and Child Development, that aims to transform the lives of millions of women & children from socially disadvantaged sections of the society. Nand Ghars are modernised anganwadis, working in the areas of eradicating child malnutrition, ensuring primary education of children, making quality healthcare accessible, and enabling women through skill development programmes.

In Lanjigarh, the first Nand Ghar was established in November 2018 and in this reporting period, we have crossed the milestone of 218 Nand Ghars in Kalahandi, Rayagada, Ganjam and Dhenkanal districts of Odisha.

Impact of the project:

These Nand Ghars are positively impacting 7,883 children and 2,176 women from local communities. Three of our Nand Ghars are also ISO 9001:2015 certified. The ISO certification has been provided to the centres for offering quality facilities for healthy nutrition, immunization, health check-ups, pre-school education and skilling for women, after a comprehensive evaluation by UK accredited Forum Limited.

We have a target of establishing 264 Nand Ghars by FY 2023 and 300 by FY 2025. We have also aimed to increase the reach of Nand Ghars to communities around our Jharsuguda and BALCO plants by FY 2023.

Vedanta Limited, Jharsuguda

Project Jeevika Samriddhi

About the project:

At Jharsuguda, we launched Jeevika Samridhhi, a farm-based livelihood program, in 2017, with the objective of securing economic prosperity of farming communities with improved land & water management and sustainable agriculture practices. The program aims to introduce small and marginal farmers to better, more efficient, and sustainable methods of farming, thereby increasing quantum of yield and sustained return on agricultural investment. This project also augments irrigation infrastructure, promotes advanced agricultural practices and application of bio-fertiliser and pesticides, with an objective to make farming a remunerative profession.

Impact of the project:

Through this project, we have mobilised and impacted 330 farming households enrolled in 13 Farmers' Producer Groups (25 farmers in each) in 5 villages of Jharusguda, namely Siriapali, Keldamal, Gudigaon, Katikela and Kurebaga. In FY 2022, more than 20 impactful trainings (4,400 training hours) were imparted to these farmers on topics such as crop planning & management, post-harvest management, package of practices, etc.

The impact of the project is evident in the increase in income levels of these farming households, by 50% (from INR 25,000 to INR 40,000). 71 percent of the farmers are engaged in cultivation round the year due to better irrigation facilities, which was earlier 45 percent as they could only farm for about 180 days (6 months). Around 77 percent of farmers have adopted cash crop cultivation, from 39 percent. More than 89 percent of the farmers have responded to an impact assessment survey stating that the trainings given to them are beneficial.

BALCO Medical Centre (Cancer Hospital)

About the project:

While cancer treatment capabilities in India have increased over the past few decades, most facilities are concentrated around urban pockets. Looking at the rising incidence of cancer as a health threat and lack of quality cancer care centres in tier 2 and 3 cities, Vedanta established BMC to provide affordable comprehensive cancer care to all the sections of the society.

The BALCO Medical Centre (BMC) is a state-of-the-art 170-bed ultra-modern, multi-modality diagnostic and therapeutic facility hospital in Raipur, Chhattisgarh. The hospital is sought-after for its advanced medical care facilities and renowned oncologists. It provides affordable, world-class, comprehensive cancer care to patients from all strata of the society and treats them under various corporate and government schemes including the Government of India's Ayushman Bharat and the Government of Odisha's Biju Swasthya Kalyan Yojana (BSKY).

BALCO Medical Centre has already made a difference to the lives of lakhs of people, dedicating itself to the three important pillars of prevention, screening and treatment. It is one of the most preferred facilities in the country for advanced radiation therapy, brachytherapy, nuclear medicine, surgeries, chemotherapy, immunotherapy, targeted therapy, blood-related disorders, plastic and reconstructive surgery, and pain & palliative care. The hospital offers many latest technologies in cancer diagnostics and treatment like PSMA & DOTA scan, virtual planning and 3D modelling in head & neck cancer surgeries, CRS & HIPEC, advanced microvascular surgeries, lutetium therapy and allogeneic bone marrow transplant. The hospital has one of the most modern linear accelerators, the largest day-care unit for chemotherapy, five modern operation theatres and a full-fledged nuclear medical department equipped with the only SPECT CT machine in Chhattisgarh, enabling it to provide precise diagnostics and the best treatment.

Impact of the project

Till date, the hospital has treated 98,913 patients from across the country. With its substantial and impactful work, the hospital is on a mission to help create a cancer-free society, dedicating its expertise and resources to address the country's massive demand-supply gap in cancer treatment, low awareness, lack of infrastructure and shortage of oncologists.

ANNEXURES

The journey to net zero is going to be metals intensive. Sustainable metals like aluminium will play a pivotal role in all current and emerging clean technologies.

Assurance statement

Ernst & Young Associates LLP
5th Floor, Block- B2,
Nirlon Knowledge Park
Off. Western Express Highway
Goregaon (E), Mumbai – 400063, India

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ey.com

Independent Assurance Statement

The Management and Board of Directors
Vedanta Limited, Aluminium Sector
Village Bhurkamunda, P.O. Kalimandir, District Jharsuguda
Odisha – 768202, India

Scope

We have been engaged by Vedanta Limited, Aluminium Sector (hereafter "VAL" or "the Entity") to perform a 'limited assurance engagement,' as defined by International Standards on Assurance Engagements, hereafter referred to as the engagement, to report on the Entity's Sustainable Development Report FY2021-22 (the "Subject Matter") for the period 1st April 2021 to 31st March 2022.

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

Criteria applied by VAL

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

VAL's responsibilities

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

EY's responsibilities

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

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than

Audits or Reviews of Historical Financial Information ('ISAE 3000'), and the terms of reference for this engagement as agreed with the Entity on 22nd April 2022. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.
We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Our Independence and Quality Control

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

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

Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.
Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

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

Our procedures included:

- Review of the standard disclosures as per GRI Standards regarding the Entity's material sustainability aspects contained in the report;
- Review of consistency of data / information within the report;
- Undertake assurance review of the data and information reported in the subject matter physically for the following sites and indicators

S. No.	Sites	Geography
1	Bharat Aluminium Company (BALCO)	Chattisgarh, India
2	Lanjigarh Alumina Refinery	Odisha, India
3	Jharsuguda Aluminium Smelter	Odisha, India

Indicators	
Universal	Organizational Profile (102-1 to 102-11), Strategy (102-14), Ethics and Integrity (102-16, 102-17), Governance (102-18), Stakeholder Engagement (102-40 to 102-44), Reporting Practice (102-46 to 102-56), Disclosure on Management Approach (103-1,103-2 and 103-3)
Topic Specific	• Market Presence (202-1 and 202-2) • Anti-corruption (205-1 to 205-3) • Energy (302-1,302-3, 302-4, 302-5) • Water (303-1, 303-2, 303-3) • Emissions (305-1, 305-2, 305-4, 305-5, 305-7) • Effluents and Waste (306-1, 306-2, MM3) • Biodiversity (304-1, 304-2, 304-3, 304-4, MM1, MM2) • Suppler Environmental Assessment (308-1, 308-2) • Employment (401-1, 401-2, 401-3) • Labor/Management Relations (402-1, MM4) • Occupational Health and Safety (403-1, 403-2, 403-3) • Training and Education (404-1, 404-2, 404-3) • Diversity and Equal Opportunity (405-1, 405-2) • Non-Discrimination (406-1) • Freedom of Association and Collective Bargaining (407-1) • Child Labour (408-1) • Forced or Compulsory Labour (409-1) • Security Practices (410-1) • Rights of Indigenous People (411-1, MM5, MM6, MM7) • Human Rights Assessment (412-1 to 412-3) • Local Communities (413-1) • Supplier Social Assessment (414-1 to 414-2) • Artisanal and Small-Scale Mining (MM8) • Resettlement (MM9) • Closure Planning (MM10)

- Review and execution of an audit trail of claims and data streams, on a selective test basis, to determine the level of accuracy in collection, transcription and aggregation processes followed;
- Conduct interview of select representatives of Entity's management to understand the current processes in place for capturing sustainability performance data as per GRI Standards, the Entity's sustainability vision and the progress made during the reporting period;
- Review of the Entity's plans, policies, and practices, pertaining to their social, environment and sustainable development, to be able to make comments on the completeness of the reporting.
- We also performed such other procedures as we considered necessary in the circumstances.

The assurance scope excludes:

- Data and information outside the defined reporting period-1st April 2021 to 31st March 2022
- Data and information on economic and financial performance of the Entity;
- Data, statements and claims already available in the public domain through Annual Report, or other sources;
- The Entity's statements that describe the expression of opinion, belief, inference, aspiration, expectation, aim or future intention;
- The Entity's compliance with regulations, acts, guidelines with respect to various regulatory agencies and other legal matters.

Conclusion

- Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the Sustainable Development Report FY2021-22 for the period of 1st April 2021 to 31st March 2022 in order for it to be in accordance with the Criteria.

Restricted use

This report is intended solely for the information and use of Vedanta Limited, Aluminium Sector and is not intended to be and should not be used by anyone other than Vedanta Limited, Aluminium Sector.

For and on behalf of Ernst & Young Associates LLP.

Chaitanya Kalia
Partner
xx October 2022
Mumbai, India

GRI Content Index

GRI STANDARD	DISCLOSURE	RESPONSE
GRI 101: Foundation 2016 [GRI 101 does not include any disclosures]		
General Disclosures		
Organizational Profile		
GRI 102: General Disclosures 2016	102-1: Name of the Organization	Aluminium, Vedanta Resources Limited
	102-2: Activities, brands, products, and services	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 2,7,8 (Overview)
	102-3: Location of headquarters	**Aluminium, Vedanta Sustainability Report 2021-22:** Back Cover
		Floor 3, Scope Complex, Core 6, Lodhi Road, New Delhi, Delhi 110003
	102-4: Location of operations	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 7 (Our operations and assets)
	102-5: Ownership and legal form	**Vedanta Annual Report 2021-22:** Pages 286-287 (Shareholding distribution)
	102-6: Markets served	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 8 (Markets and products)
	102-7: Scale of the organization	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 2 (Overview), Page 8 (Markets and products), Page 9 (Our economic performance)
	102-8: Information on employees and other workers	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 79-88 (Our people)
	102-9: Supply chain	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 8 (Our business), Pages 28-30 (Supply chain management)
	102-10: Significant changes to the organization and its supply chain	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 7 (Our operations and assets)
		Vedanta has acquired Jamkhani coal block in Sundargarh district, Odisha. It has an approved mining capacity of 2.6 million tonnes with the total extractable reserves of 114
	102-11: Precautionary principle or approach	Vedanta seeks to ensure that all of our operations follow a stringent application of environmental and social principles. All of our businesses undergo an Environmental and Social Impact Assessment before beginning operations. Any findings from the ESIA are considered and a mitigation plan developed. We are also committed to ensuring that we follow the principles of Free, Prior, Informed Consent (FPIC) in communities that consist of populations of indigenous peoples.
	102-12: External initiatives	Vedanta, Aluminium aligns itself with the following external charters & principles:
		UN Global Compact, UN Sustainable Development Goals, ICMM, IFC Performance Standards, GHG Greenhouse Gas Protocol
	102-13: Memberships of associations	Vedanta, Aluminium is a member of various industry associations in the countries where it operates (Eg: Indian Aluminium Association, India Power Association, FICCI, CII).
Strategy		
GRI 102: General Disclosures 2016	102-14: Statement from senior decision-maker	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 3-4 (From the Chairman's desk), Page 5-6 (CEO's corner)
Ethics & Integrity		
GRI 102: General Disclosures 2016	102-16: Values, principles, standards, and norms of behaviour	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 22-23 (Vedanta Sustainability Framework)
	102-17: Mechanisms for advice and concerns about ethics	Vedanta Code of Conduct & Business Ethics Policy: Seeking Help and Information - If the supervisor cannot answer your question or if you do not feel comfortable contacting your supervisor, contact the Secretarial/Legal Department. One may also seek help from or submit information to the Company by writing to the Company at the email address sgl.whistleblower@vedanta.co.in. You may remain anonymous and will not be required to reveal your identity in your communication to the Company. **Vedanta Annual Report 2021-22:** Pages 201-203 (Vigil mechanism/Whistle-Blower Policy)

General Disclosures		
GRI STANDARD	**DISCLOSURE**	**RESPONSE**
Governance		
GRI 102: General Disclosures 2016	102-18: Governance Structure	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 23 (Sustainability Governance)
	Delegating authority	In line with upholding our core commitment to Environmental, Social and Governance (ESG) priorities, the Board of Directors of the Company has approved the enhancement of the scope of the existing Board Sustainability Committee and upgraded it to Board ESG Committee with effect from July 26, 2021, to strengthen Board level rigor and advice into all aspects of ESG. The board of ESG committee like the erstwhile sustainability committee will report to highest governance body.
	Executive-level responsibility for economic, environmental, and social topics	As per updated Terms of Reference of the Board level ESG Committee, the Group HSE Head and ESG Director are permanent invitees to the Committee meetings. The Committee comprises of Mr. Upendra Kumar Sinha as the Chairperson; Mr. Dindayal Jalan, Mr. Akhilesh Joshi and Mr. Sunil Duggal as the Members.
	Consulting stakeholders on economic, environmental, and social topics	
	Composition of the highest governance body and its committees	
	Chair of the highest governance body	The Chairperson of the Board of Directors is a Non-Executive Director. Vedanta Annual Report 2021-22, Page: (Separate role of Chairman & CEO) There is clear demarcation of the roles and responsibilities of the Chairman of the Board and the CEO as the positions are held by separate individuals
	Nominating and selecting the highest governance body	**Vedanta Annual Report 2021-22,** Pages 204-205 (Process for Board and Senior Management Appointments) **Vedanta Annual Report 2021-22,** Pages 206-207 (Policy on Directors' Appointment & Remuneration)
	Conflicts of interest	**Vedanta Annual Report 2021-22,** Page 268 (Directors'/ KMPs/ SMPs conflicts of interest) **Vedanta Annual Report 2021-22,** Pages 268-269 (Nomination & Remuneration Committee) The Committee fulfils the composition requirement as required under the provisions of the Companies Act, 2013 and Listing Regulations. In the event of a conflict of interest, the Chairman of the Board abstains from the discussions and other members of the NRC participate and vote. Other Directors, members of the senior management team, representatives from Human Resource department and external advisers may attend meetings at the invitation of the Committee, as appropriate. In respect of each of its meetings, the Chairman of the NRC provides an update to the Board.
	Role of highest governance body in setting purpose, values, and strategy	**Vedanta Annual Report 2021-22,** Pages 204-205 (Directorate, Key Managerial Personnel and Senior Management Personnel) The Board of Directors of the Company provide entrepreneurial leadership and plays a crucial role in providing strategic supervision, overseeing the management performance, and long-term success of the Company while ensuring sustainable shareholder value. Driven by its guiding principles of Corporate Governance, the Board's actions endeavour to work in best interest of the Company. The Directors hold a fiduciary position, exercises independent judgement, and plays a vital role in the oversight of the Company's affairs. Our Board represents a tapestry of complementary skills, attributes, perspectives and includes individuals with financial experience and a diverse background.
	Collective knowledge of highest governance body	**Vedanta Annual Report 2021-22,** Pages 252-255 (Corporate Governance Framework of which ESG forms an integral part) Vedanta Annual report, Page:, Process of providing ESG training by third party to highest executives is underway. The Company assesses the key qualifications, skills and attributes of Directors which are taken into consideration while nominating them to serve on the Board. Familiarity with ESG issues associated with workplace health and safety, asset integrity, environment and social responsibility, and communities forms a part of the assessment criteria in the skill matrix.
	Evaluating the highest governance body's performance	**Vedanta Annual Report,** Pages 259-260 (Performance Evaluation)
	Identifying and managing economic, environmental, and social impacts	In line with upholding our core commitment to Environmental, Social and Governance (ESG) priorities, the Board of Directors of the Company has approved the enhancement of the scope of the existing Board Sustainability Committee and upgraded it to Board ESG Committee with effect from to strengthen Board level rigor and advice into all aspects of ESG. https://vedantalimited.com/InvestorReports/VEDLOutcomeofBoardMeeting26July2021.pdf
	Effectiveness of risk management processes	**Vedanta Annual Report,** Pages 51-52 (Risk Management Framework) The Board, with the assistance of the management, conducts periodic and robust assessments of principal risks and uncertainties of the Group, and tests the financial plans for each risk and uncertainty

General Disclosures		
GRI STANDARD	**DISCLOSURE**	**RESPONSE**
GRI 102: General Disclosures 2016	Review of economic, environmental, and social topics	As per updated Terms of Reference of the Board level ESG Committee, the Committee shall meet twice every year for discussions and deliberations.
	Highest governance body's role in sustainability reporting	There is an internal approval system in the Company for appointment of external assurance provider for the sustainability report.
	Communicating critical concerns	**Vedanta Annual Report,** Page 73 (VSAP) VSAP is our sustainability risk assurance tool, which is used to assess the compliance of all our businesses with the Vedanta Sustainability Framework. This meticulously developed assurance process helps embed sustainable development into every activity that we undertake. VSAP is an annual process with clear tracking of results by the Board level Committee, and the Executive Committee, which in turn reports to the Board. The Board level Committee keeps the Board informed about the developments arising from the HSE & Sustainability aspects of the Business. **Vedanta Annual Report,** Pages 249, 273-275 (Sustainability committee)
	Nature and total number of critical concerns	
	Remuneration policies	**Vedanta Annual Report,** Page 196 (Compensation Governance Practices at Vedanta) **Vedanta Annual Report,** Page 195 (Managerial Remuneration, Employee Information and Related Disclosures) **Vedanta Annual Report,** Pages 206-207 (Policy on Directors' Appointment & Remuneration) **Vedanta Annual Report,** Page 262 (Board & Executive Leadership Remuneration Policy)
	Process for determining remuneration	**Vedanta Annual Report,** Page 196 (Compensation Governance Practices at Vedanta) **Vedanta Annual Report,** Page 195 (Managerial Remuneration, Employee Information and Related Disclosures)
	Stakeholders' involvement in remuneration	
	Annual total compensation ratio	
	Percentage increase in annual total compensation ratio	
Stakeholder Engagement		
GRI 102: General Disclosures 2016	102-40: List of stakeholder groups	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 26-27 (Stakeholder engagement)
	102-41: Collective bargaining agreements	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 75 (Human rights)
	102-42: Identifying and selecting stakeholders	**Vedanta Resources Limited Annual Report 2021-22:** Pages 26-27, 73 (Stakeholder engagement)
	102-43: Approach to stakeholder engagement	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 26-27 (Stakeholder engagement)
	102-44: Key topics & concerns raised	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 24-25 (Material issues for aluminium and power)
Reporting Practice		
GRI 102: General Disclosures 2016	102-45: Entities included in the consolidated financial statements	**Vedanta Resources Limited Annual Report 2021-22:** Pages 209, 432-433, 531-534 (Consolidated financials) https://www.vedantalimited.com/vedanta/vedanta_ir_2021-22.pdf
	102-46: Defining report content and topic boundaries	**Aluminium, Vedanta Sustainability Report 2021-22:** Beginning of report (About this report)
	102-47: List of material topics	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 24-25 (Materiality assessment)
	102-48: Restatements of information	Long term vision of zero harm, zero waste and zero discharge continues to form the basis of our ESG practices.
	102-49: Changes in reporting	This year we are not considering TSPL in our Aluminium Sustainability Report as it is now under power vertical.
	102-50: Reporting period	The reporting period for this report is FY2021-22.
	102-51: Date of most recent report	Vedanta's previous sustainability report was released in FY 2020-21
	102-52: Reporting cycle	Annual
	102-53: Contact point for questions regarding the report	Questions can be directed to: aluminiumsustainability@vedanta.co.in
	102-54: Claims of reporting in accordance with the GRI Standards	**Aluminium, Vedanta Sustainability Report 2021-22:** Beginning of report (About this report)
	102-55: GRI Content Index	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 101-116 (GRI Content Index)
	102-56: External Assurance	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 97-100 (Assurance Statement)

Economic Performance

GRI STANDARD	DISCLOSURE	RESPONSE
GRI 103: Management Approach 2016		Boundary: Aluminium Sector, Vedanta **Aluminium, Vedanta Sustainability Report 2021-22:** Page 9 (Our economic performance)
GRI 201: Economic Performance 2016	201-1: Direct economic value generated and distributed	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 9 (Our economic performance)

Economic Value Generated and Distributed (in Rs)	FY 2021-22	FY 2020-21	FY 2019-20
Economic Value Generated (Revenues)	5,36,767	3,10,926	2,86,815
Economic Value Distributed	3,96,295	2,63,113	2,80,195
a) Operating costs	3,30,117	2,03,388	2,35,079
b) Employee wages and benefits	8,310	9,846	8,300
c) Payment to providers of capital	50,954	49,140	35,597
d) Payment to government	6,280	82	276
e) Community investments (including donation)	634	657	944
Economic Value Retained (calculated as economic value generated less economic value distributed)	1,40,472	47,813	6,621

* Values for FY 2019-20 are revised since the methodology for calculation has been aligned with that of Vedanta Limited

Market Presence		
GRI 103: Management Approach 2016		Vedanta strives to create long term value for its shareholders.
GRI 202: Market Presence 2016	202-1: Ratios of standard entry level wage by gender compared to local minimum wage	At all our significant locations, we ensure that the ratios of entry level wages meet or exceed the legal requirements and complies with all applicable laws. With regards to gender, the ratio is 1:1 and we don't discriminate in any way in terms of standard entry level wages
	202-2: Proportion of senior management hired from local community	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 87 (People Excellence)
Indirect Economic Impacts		
GRI 103: Management Approach 2016		Our operations are situated in remote regions of India. On account of their geographical aloofness, these areas have traditionally lagged in catching up to the fast-paced development elsewhere in the country. Manifesting our vision of value-sharing, we direct our community development initiatives to increase social inclusiveness of these human settlements. These campaigns follow our mission to become the industry leader in social sustainability as well. Our vision of societal upliftment follows a systematic approach that delivers beyond regulatory equirements. We have devised a 4Ps Model (Public-Private-People-Partnership) that emphasizes partnership with local governments and intended beneficiaries for the formulation of long-term strategies and collective execution of programmes. **Aluminium, Vedanta Sustainability Report 2021-22:** Pages 89-90 (Community Welfare)
GRI 203: Indirect Economic Impacts 2016	203-1: Infrastructure investments and services supported	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 89-90 (Community Welfare)
	203-2: Significant indirect economic impacts	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 89-90 (Community Welfare)
Procurement Practices		
	204-1: Proportion of spending on local suppliers	For the FY 2021-22, we have spent 16,284 INR Crores on local procurement which comprises 45% of the total procurement in Aluminium Sector. **Aluminium, Vedanta Sustainability Report 2021-22:** Pages 29, 90
Anti-corruption		
GRI 103: Management Approach 2016		The Company's code of conduct defines the fundamentals of engagement with different stakeholders across our value chain. We are committed to upholding the spirit of these business ethics as they lay the foundation of our multi-faceted approach towards sustainable development. We have a zero-tolerance policy towards any violation of these codes of conduct and ethical values. The business ethics adhere to the relevant laws of the land and are updated as per industry trends. The purview of this code covers all directors, management personnel, employees, contractors, and suppliers of the Company. The Company's Code of Business Conduct is available at https://www.vedantalimited.com/CorporateGovernance/ vedanta_limited_code_of_conduct_and_business_ethics.pdf

Economic Performance

<table>
<tr><th>GRI STANDARD</th><th>DISCLOSURE</th><th>RESPONSE</th></tr>
<tr><td rowspan="3">GRI 205: Anti-Corruption 2016</td><td>205-1: Operations assessed for risks related to corruption</td><td rowspan="2">100% of our operations are assessed for risks related to corruption. The assessments are conducted by the Management Assurance Services (MAS) team. More details can be found at:
Aluminium, Vedanta Sustainability Report 2021-22: Pages 15-16 (Code of business conduct and Ethics)</td></tr>
<tr><td>205-2: Communication and training about anti-corruption policies and procedures</td></tr>
<tr><td>205-3: Confirmed incidents of corruption and action taken</td><td>
<table>
<tr><th></th><th>FY 2021-22</th></tr>
<tr><td>Number of open complaints on April 1st 2021</td><td>3</td></tr>
<tr><td>Number of whistle blower cases opened in FY 2021-22</td><td>23</td></tr>
<tr><td>Number of whistle blower cases upheld and found correct in FY 2021-22</td><td>8</td></tr>
<tr><td>Number of incidents in which employees were dismissed or disciplined for corruption</td><td></td></tr>
<tr><td>Number of incidents where contracts with business partners were terminated or not renewed due to violation related to corruption</td><td></td></tr>
<tr><td>Number of public legal whistle blower cases brought against company, or employees</td><td></td></tr>
<tr><td>Number of whistle blower cases closed in FY 2021-22</td><td>21</td></tr>
<tr><td>Open complaints on 31st March, 2022</td><td>5</td></tr>
</table>
</td></tr>
<tr><td colspan="2">Anti-competitive Behaviour</td><td></td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>From of Code of Business Conduct and Ethics:

"Vedanta Aluminium is committed to free and open competition in the marketplace. Employees should avoid actions that would be contrary to laws governing competitive practices in the marketplace, including federal and state anti-trust laws. Such actions include misappropriation and/or misuse of a competitor's confidential information or making false statements about the competitor's business and business practices. The Company and its employees shall under no circumstances engage in any anti-competitive practices such as illegal fixing of prices, sharing of markets or other actions which prevent, restrict or distort competition in violation of applicable anti-trust laws."</td></tr>
<tr><td>GRI 206: Anti-Competitive Behaviour 2016</td><td>206-1: Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices</td><td>No legal action.</td></tr>
<tr><td colspan="3">Tax</td></tr>
<tr><td rowspan="3">GRI 207: Tax 2019</td><td>207-1: Approach to tax</td><td>We have a long-standing commitment to transparency.</td></tr>
<tr><td>207-2: Tax governance, control, and risk management</td><td>Substance, Transparency and Arm Length Principle, Tax Risk Management Framework, Controls</td></tr>
<tr><td>207-3: Stakeholder engagement and management of concerns related to tax</td><td>We maintain an open, honest, transparent and constructive relationship in all our dealings with the tax authorities in the jurisdictions in which we operate. Our dealings are based on mutual trust in line with Vedanta's Code of Business Conduct and Ethics.

Vedanta has also formed an internal 'Tax Council' which acts as an overarching governing body to the tax function as a whole.</td></tr>
</table>

Employment

GRI STANDARD	DISCLOSURE	RESPONSE
GRI 103: Management Approach 2016		We believe that the actions of our people, working across different corporate functions, determine the degree of success of our business goals. As such, it is our primary responsibility to nurture an organisation-wide positive and encouraging culture that fuels their sense of belongingness to the organization, its goals, and commitments. The other equally important priority of our people management system is to build a conducive environment that offers our employees immense opportunities for holistic professional and personal growth. This inherently supports our business strategy that requires our employees to perform their day-to-day activities in complete alignment with our public commitments and core values.

	Percentage of total full-time employees			
	2021-22	2020-21	2019-20	2018-19
Employee turnover including retirements and including VRS	12.60%	14.35%	12.60%	12.60%
Voluntary employee turnover (Refers to employee initiated separation)	11.32%	7.19%	10.16%	6.48%

		Employee Turnover & Attrition by Region (FY2021-22)				
		BALCO	Jharsuguda	Lanjigarh	VLJ+VLL	Total
Employee turnover including retirements and including VRS	Number	213	335	122	457	670
	Rate	12.17%	11.75%	17.01%	12.81%	12.60%
Voluntary employee turnover (Refers to employee initiated separation)	Male	138	234	82	316	454
	Female	32	83	33	116	148
Voluntary Employee Turnover Rate					12.11%	11.32%

Total Employee Exit Breakdown

Gender	Age	BALCO	Lanjigarh	Jharsuguda	Total
		India			
Male	Below 30 Yrs	78	63	160	301
	31-50 Yrs	73	22	78	173
	Above 50	27	4	12	43
Female	Below 30 Yrs	27	28	74	129
	31-50 Yrs	6	5	11	22
	Above 50	2	0	0	2

Voluntary Employee Exit Breakdown

Gender	Age	BALCO	Lanjigarh	Jharsuguda	Total
		India			
Male	Below 30 Yrs	74	61	156	291
	31-50 Yrs	64	18	70	152
	Above 50	0	3	8	11
Female	Below 30 Yrs	26	28	73	127
	31-50 Yrs	6	5	10	21
	Above 50	0	0	0	0

Total New Employees Hire (FY 2021-22)

Gender	Age	BALCO	Lanjigarh	Jharsuguda	VLL+VLJ	Total
		India				
Male	Below 30 Yrs	29	109	64	173	202
	31-50 Yrs	9	25	67	92	101
	Above 50	1	1	7	8	9
Female	Below 30 Yrs	23	31	39	70	93
	31-50 Yrs	3	4	8	12	15
	Above 50	0	0	0	0	0
	Total	65	170	185	355	420

	401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees	We provide an array of benefits to our employees that are not provided to temporary or part time employees. The benefits include: life-insurance scheme, health-insurance scheme, disability coverage, parental leave, retirement benefits and management grades are covered under stock options scheme of Vedanta.
	401-3: Parental leave	In our policy of parental leave, maternity leave is for 26 weeks, adoption leave for 12 weeks and paternity leave for 1 week. For managing both personal and professional priorities for returning mothers, we provide the option to continue in the same role or move to another job profile.

Employment

GRI STANDARD	DISCLOSURE	RESPONSE
Labor/management relations		
GRI 103: Management Approach 2016		We are committed to the protection of natural entitlements of our host communities, employees and contract workers, and other people in our circle of influence. We follow a structured and comprehensive approach to human rights due diligence that facilitates the identification and scientific estimation of the degree of potential risks related to human rights violations across our operational portfolio. The scope of these assessments covers the activities of our employees, contractual workforce, suppliers, business partners, host communities, and other stakeholders across our value chain. Our Human Rights Policy requires mandatory due diligence before undertaking new projects, or supplier engagements. At Vedanta, we pay equal respect towards the human rights of our regular employees and our indirect workforce. We uphold the right to freedom of association enforced by collective bargaining agreements. We also conduct regular assessments through questionnaire to identify risks and mitigate them. **Aluminium, Vedanta Sustainability Report 2021-22:** Page 76 (Human Rights)
GRI 402: Labor/ Management Changes 2016	402-1: Minimum notice periods regarding operational changes	Mechanism to bring awareness to all employees on any significant operational change like restructuring, mergers, acquisitions, expansions etc. is in place. Notice period(s) regarding significant operational changes is indicated in collective bargaining agreements and certified standing order of respective entities. For our operations it is minimum 21 days.
	G4-MM4: Number of strikes and lock-outs exceeding one week's duration, by country	No strike or lockout exceeding 1 week in duration
Safety		
GRI 103: Management Approach 2016		We continue to strengthen the 'Visible Felt Leadership' through the on-ground presence of senior management, improvement in reporting across all risk and verification of on-ground critical controls. We have also implemented and Dupont safety programme to attain the goal of Zero Harm. https://vedantaaluminium.com/sustainability/sustainability-policies-standards-guidance-notes/sustainability-standards/ **Aluminium, Vedanta Sustainability Report 2021-22:** Pages 69-72 (Safety and Occupational Health)
GRI 403: Occupational Health & Safety	403-1: Workers representation in formal joint management-worker health and safety committees	100% of total workforce represented in formal joint management – worker health and safety committee. All units are having safety committee, having representation from the management and unionized workers, which covers entire workforce working at site. The total workforce varies significantly based on the operations and are generally specified in collective contractual agreements. The committee meets on regular basis to advice on occupational health and safety improvement. In case of operations without a worker union, the principle contractor along with sub-contractors is invited to the monthly meetings to discuss specific HSE issues.
	403-2: Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities	

		FY 21-22	FY 20-21	FY 19-20	FY 18-19
Jharsuguda					
Employees	Manhour worked	71,86,352	78,01,152	84,14,752	86,94,968
	Lost Time Injuries	1	1	1	1
	Injury Rates (LTIFR)	0.14	0.13	0.12	0.12
	Total Recordable Injuries	1	4	2	5
	TRIFR	0.14	0.51	0.24	0.58
	Lost Day Rate	13.08	3.72	30.19	33.12
	Work-Related Fatalities	0	0	0	0
Business Partners	Manhour worked	3,20,78,993	2,60,38,040	2,56,27,723	2,45,85,005
	Lost Time Injuries	17	10	3	6
	Injury Rates (LTIFR)	0.53	0.38	0.12	0.24
	Total Recordable Injuries	21	33	17	11
	TRIFR	0.65	1.27	0.66	0.45
	Lost Day Rate	36.13	27.58	3.63	26.6
	Work-Related Fatalities	1	0	1	0

Employment						
GRI STANDARD	**DISCLOSURE**	**RESPONSE**				
Labor/management relations						
GRI 403: Occupational Health & Safety	403-2: Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities			**FY 21-22**	**FY 20-21**	**FY 19-20**	**FY 18-19**
		Lanjigarh					
		Employees	Manhour worked	13,44,812	12,87,896	13,39,688	17,89,400
			Lost Time Injuries	2	0	0	0
			Injury Rates (LTIFR)	1.49	0	0	0
			Total Recordable Injuries	2	0	0	0
			TRIFR	1.49	0	0	0
			Lost Day Rate	19.33	0	0	0
			Work-Related Fatalities	0	0	0	0
		Business Partners	Manhour worked	1,25,10,950	86,13,794	89,44,530	99,55,160
			Lost Time Injuries	5	2	2	0
			Injury Rates (LTIFR)	0.40	0.23	0.22	0
			Total Recordable Injuries	13	6	10	10
			TRIFR	1.04	0.7	1.12	1
			Lost Day Rate	32.61	2.9	12.63	0
			Work-Related Fatalities	2	1	0	0
		BALCO					
		Employees	Manhour worked	46,03,512	54,75,648	63,78,092	66,67,632
			Lost Time Injuries	0	2	2	2
			Injury Rates (LTIFR)	0	0.37	0.31	0.3
			Total Recordable Injuries	1	3	5	5
			TRIFR	0.22	0.55	0.78	0.75
			Lost Day Rate	0	12.6	3.76	44.84
			Work-Related Fatalities	0	0	0	0
		Business Partners	Manhour worked	1,60,76,198	1,56,44,185	1,42,75,443	1,49,50,480
			Lost Time Injuries	5	4	13	6
			Injury Rates (LTIFR)	0.31	0.26	0.91	0.4
			Total Recordable Injuries	15	17	19	11
			TRIFR	0.93	1.09	1.33	0.74
			Lost Day Rate	9.83	410.63	81.54	21.87
			Work-Related Fatalities	1	1	1	1
		SECTOR					
		Employees	Manhour worked	1,31,34,676	1,45,64,696	1,61,32,532	1,71,52,000
			Lost Time Injuries	3	3	3	3
			Injury Rates (LTIFR)	0.23	0.5	0.43	0.42
			Total Recordable Injuries	4	7	7	10
			TRIFR	0.30	1.06	1.02	1.33
			Lost Day Rate	9.14	16.32	33.95	77.96
			Work-Related Fatalities	0	0	0	0
		Business Partners	Manhour worked	6,06,66,141	5,02,96,019	4,88,47,696	4,94,90,645
			Lost Time Injuries	27	16	18	12
			Injury Rates (LTIFR)	0.45	0.87	1.25	0.64
			Total Recordable Injuries	49	56	46	32
			TRIFR	0.81	3.06	3.11	2.19
			Lost Day Rate	28.43	441.11	97.8	48.47
			Work-Related Fatalities	4	2	2	1

Employment

GRI STANDARD	DISCLOSURE	RESPONSE

Labor/management relations

403-2: Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities

		FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Business Units (Jharsuguda + Lanjigarh)					
Employees	Manhour worked	85,31,164	90,89,048	97,54,440	1,04,84,368
	Lost Time Injuries	3	1	1	1
	Injury Rates (LTIFR)	0.35	0.13	0.12	0.12
	Total Recordable Injuries	3	4	2	5
	TRIFR	0.35	0.51	0.24	0.58
	Lost Day Rate	9.14	3.72	30.19	33.12
	Work-Related Fatalities	0	0	0	0
Business Partners	Manhour worked	4,45,89,943	3,46,51,834	3,45,72,253	3,45,40,165
	Lost Time Injuries	22	12	5	6
	Injury Rates (LTIFR)	0.49	0.61	0.34	0.24
	Total Recordable Injuries	34	39	27	21
	TRIFR	0.76	1.97	1.78	1.45
	Lost Day Rate	35.14	30.48	16.26	26.6
	Work-Related Fatalities	3	1	1	0

403-3: Health and safety topics covered in formal agreements with trade unions

Health and safety topics are covered in the formal agreements with trade union. It is clearly stated in the agreement that the workmen / Recognized Union / Federation will support in all the measures / initiatives to be taken by the Company for improving production / productivity, work culture, quality & safety.

Beside this, certified Standing Orders of units also cover these topics.

Training and education

GRI 103: Management Approach 2016

At Vedanta, we nurture and groom talent through a gamut of development programmes that include training, job rotations, additional projects and responsibilities, and mentoring programmes.

Aluminium, Vedanta Sustainability Report 2021-22: Pages 80-84 (Talent management and succession planning)

GRI 404: Training and Education 2016

404-1: Average hours of training per year per employee

Aluminium, Vedanta Sustainability Report 2021-22: Page 81(Talent management and succession planning)

Total number of Full Time Employees (FTE)	Age (years)	BALCO		Lanjigarh		Jharsuguda		Vedanta Aluminium	Total
		Male	Female	Male	Female	Male	Female		
	Below 30	240	68	293	79	1,337	226	1,935	2,243
	30-50	1,195	79	303	28	1,146	111	1,588	2,862
	Above 50	152	16	14	0	30	1	45	213
Total		1,587	163	610	107	2,513	338	3,568	5,318

Total Hours of Training for FTE in 2021 -22	Age (years)	Lanjigarh		Jharsuguda		Vedanta Aluminium	BALCO	
		Male	Female	Male	Female		Male	Female
	Below 30	10,647	3,999	42,238	7,044	63,928	8,466	3,939
	30-50	11,011	1,418	40,982	4,046	57,456	42,153	4,576
	Above 50	509	0	1,349	32	1,889	5,362	927
Total		22,167	5417	84,568	11,122	1,23,274	55,981	9,441
Average hours		38.47		33.56		34.55	37.38	
Average amount spent on training and development	INR	4303		920.10		1599.90		

404-2: Programs for upgrading employee skills and transition assistance programs

In line with our philosophy, continuous learning & capability building is imperative for an organization to grow. To cater to this need, our business entities provide training on technical skill building. We also conduct structured programs to assist employees for smooth transitioning from work to retirement. Some of the programs are on Computer Literacy programs, wealth management, tradesman skill building programs, certificates and diploma courses, retirement workshops & employee assistance programs.

404-3: Percentage of employees receiving regular performance and career development reviews

100% of our employees receive regular performance reviews.

Employment

<table>
<tr><th>GRI STANDARD</th><th>DISCLOSURE</th><th>RESPONSE</th></tr>
<tr><td colspan="3">Diversity and equal opportunity</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta is an equal opportunity employer and promotes diversity. Diversity in Vedanta is gender based.

Aluminium, Vedanta Sustainability Report 2021-22: Page 85 (Diversity and Equal Opportunity)</td></tr>
<tr><td rowspan="2">GRI 405: Diversity and Equal Opportunity 2016</td><td>405-1: Diversity of governance bodies and employees</td><td>
<table>
<tr><th rowspan="2">List different type of Board</th><th colspan="3">Age group</th><th colspan="2">Gender</th></tr>
<tr><th>Less than 30 years</th><th>Between 30-50 years</th><th>Above 50 Years</th><th>Male</th><th>Female</th></tr>
<tr><td>Board of Directors</td><td>0</td><td>2</td><td>6</td><td>6</td><td>2</td></tr>
<tr><td>Employees</td><td>2243</td><td>2862</td><td>213</td><td>4,710</td><td>608</td></tr>
</table>
</td></tr>
<tr><td>405-2: Ratio of basic salary and remuneration of women to men</td><td>We are an equal opportunity employer. Across Vedanta Group we recruit both men & women on equal salary ratio. Our remuneration is linked to performance of the individual, business entity and overall group.</td></tr>
<tr><td colspan="3">Non-discrimination</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta strives for work environment that is free from discrimination. This includes discrimination on any basis, including gender, as well as any form of sexual harassment.</td></tr>
<tr><td>GRI 406: Non-discrimination</td><td>406-1: Incidents of discrimination and corrective actions taken</td><td>We see sexual harassment at the workplace as one form of discriminatory behaviour. We have formal procedures for mediating cases of sexual harassment brought to the committee. The committee includes external members on the panel to ensure independence and provide balance.
<table>
<tr><th colspan="6">Discrimination and sexual harassment cases FY21-22</th></tr>
<tr><th></th><th>BALCO</th><th>Jharsuguda</th><th>Lanjigarh</th><th>VLJ+VLL</th><th>Total</th></tr>
<tr><td>Number of sexual harassment cases opened</td><td>0</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
<tr><td>Number of sexual harassment cases upheld and found correct</td><td>0</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
<tr><td>Number of sexual harassment cases closed</td><td>0</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Freedom of association and collective bargaining</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta's Human Rights Policy recognizes the right to associate freely and to collective bargaining.</td></tr>
<tr><td>GRI 407: Freedom of Association and Collective Bargaining 2016</td><td>407-1: Operations and suppliers in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk</td><td>Aluminium, Vedanta Sustainability Report 2021-22: Pages 75-76 (Human Rights)

Similarly, our significant suppliers are generally the big & well reputed industry organizations like Coal India, SAIL and L&T etc. with whom we engage directly for the bulk of material for further processing or as raw material. All these organizations have the collective bargaining and other labour union mechanisms.</td></tr>
<tr><td colspan="3">Child labour</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta's Human Rights Policy states that the company has zero tolerance for child labour – directly or through contracted labour.</td></tr>
<tr><td>GRI 408: Child Labour 2016</td><td>408-1: Operations and suppliers at significant risk for incidents of child labor</td><td>Aluminium, Vedanta Sustainability Report 2021-22: Pages 75-76 (Human Rights)</td></tr>
<tr><td colspan="3">Forced or compulsory labour</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta's Human Rights Policy states that the company has zero tolerance for forced or compulsory labour – directly or through contracted labour.</td></tr>
<tr><td>GRI 409: Forced or Compulsory Labour 2016</td><td>410-1: Security personnel trained in human rights policies or procedures</td><td>Aluminium, Vedanta Sustainability Report 2021-22: Page 87 (Security Training)</td></tr>
<tr><td colspan="3">Rights of indigenous peoples</td></tr>
<tr><td>GRI 103: Management Approach 2016</td><td></td><td>Vedanta has developed Cultural Heritage, Land & Resettlement Management, and Indigenous People & Vulnerable Tribal Groups Standards, based on various international conventions, including ICMM and IFC standards. The Indigenous People & Vulnerable Tribal Groups Technical Standard emphasises peaceful engagements in vernacular languages, between our project teams and these groups, informing them of our commitment to undertake operations in a manner that does not disturb their lifestyles.

Aluminium, Vedanta Sustainability Report 2021-22: Pages 22, 24, 28</td></tr>
</table>

Employment		
GRI STANDARD	**DISCLOSURE**	**RESPONSE**
GRI 411: Rights of Indigenous Peoples	411-1: Incidents of violations involving rights of indigenous peoples	There were no violations involving the rights of indigenous peoples during the reporting year.
	G4-MM5: Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities	None of our operating mines are operating in or adjacent to indigenous people territory.
	G4-MM6: Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous Peoples	No significant disputes relating to land use, customary rights of local communities and indigenous peoples were brought to our notice during the reporting year.
	G4-MM7: The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes	No significant disputes relating to land use, customary rights of local communities and indigenous peoples were brought to our notice during the reporting year.
Human rights assessment		
GRI 103: Management Approach 2016		Vedanta's Human Rights policy is the guiding document for our human rights practices. **Aluminium, Vedanta Sustainability Report 2021-22:** Pages 75-78 (Human Rights)
GRI 412: Human Rights Assessment 2016	412-1: Operations that have been subject to human rights reviews or impact assessments.	Each year, all of our operational sites undergo the Vedanta Sustainability Assurance Program (VSAP) audit. This audit is conducted by an external 3rd party overseen by our Management Assurance Services (MAS) team. As part of the audit, sites are evaluated on their human rights management related to supplier and vendor management.
	412-2: Employee training on human rights policies or procedures	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 75-76 (Human rights)
	412-3: Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Through our Human Rights policy – which has been implemented across all businesses of the Sector - Vedanta is committed to ensuring that the processes that it has in place, and continues to develop, follow the UN Guiding Principles. By conducting ESIAs in compliance with applicable legal requirements and Vedanta Sustainability Framework, human rights considerations are taken into account for all new projects, including the obligation to undertake a human rights screening process in all merger and acquisition activities.
Local communities		
GRI 103: Management Approach 2016		Our operations are situated in remote regions of India. On the account of their geographical aloofness, these areas have traditionally lagged in catching up to the fast-paced development elsewhere in the country. Manifesting our vision of value-sharing, we direct our community development initiatives to increase social inclusiveness of these human settlements. These campaigns follow our mission to become the industry leader in social sustainability as well. Our vision of societal upliftment follows a systematic approach that delivers beyond regulatory requirements. We have devised a 4Ps Model (Public-Private-People-Partnership) that emphasizes partnership with local governments and intended beneficiaries for the formulation of long-term strategies and collective execution of programmes. We work with our host communities to ascertain their needs on a priority basis through participatory needs assessment programmes, followed by joint discussions on the roadmap of the proposed welfare campaigns. After obtaining management and bureaucratic approvals, we allocate our resources towards collaborative implementation of the community development projects, and regularly monitor their progress towards the desired objectives. **Aluminium, Vedanta Sustainability Report 2021-22:** Pages 89-94 (Community Welfare)
GRI 413: Local Communities 2016	413-1: Operations with local community engagement, impact assessments, and development programs	All of our operations have on-going local community engagements. These engagements are driving by a structured stakeholder engagement plan for all of the mapped stakeholders. In this fiscal year, we completed the process of conducting a needs and impact assessment for all of our CSR projects. Prior to starting operations, all of our sites conduct an Environmental Impact Assessment and Social Impact Assessment. These assessments are updated in case the sites undergo significant expansion programs. Public disclosure is a mandated part of the EIAs and SIAs.

Employment		
GRI STANDARD	**DISCLOSURE**	**RESPONSE**
Supplier social assessment		
GRI 103: Management Approach 2016		Vedanta's Supplier Code of Conduct (SCOC) serves at the guiding document for all our interactions with suppliers and vendors. It is mandatory for all our suppliers to abide by the Code. The SCOC covers aspects related to: Labour & human rights, Health, Safety, Environment & Sustainability, Ethics & business integrity, Intellectual property, and Prohibition on insider trading.
GRI 414: Supplier Social Assessment	414-1: New suppliers that were screened using social criteria.	We have a standard ESG criteria for which all our suppliers are screened while onboarding.
GRI 414: Supplier Social Assessment	414-2: Negative social impacts in the supply chain and actions taken	During screening 1% of our suppliers have been found with high sustainability risks in Jharsuguda. We are taking mitigating steps for the same.
Public policy		
GRI 103: Management Approach 2016		Vedanta's Code of Business Conduct and Ethics is the guiding document on our interactions with the government and political parties.
GRI 415: Public Policy 2016	415-1: Political Contributions	It is the Board's policy that Vedanta will not, under any circumstances, make donations or contributions to political organisations. Subsidiaries in India may make political donations or contributions as this is customary in India and permitted under local legislation. Any political donations made by the four unit of Aluminium Sector, will be disclosed in the Sector's Annual Report and Accounts.
Customer health and safety		
GRI 416: Customer health and safety	416-1: Assessment of the health and safety impacts of product and service categories	
Artisanal and small-scale mining		
G4 – MM8	Number (and percentage) of company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	No such reported case
Resettlement		
G4 – MM9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	Vedanta has developed Cultural Heritage, Land & Resettlement Management, and Indigenous People & Vulnerable Tribal Groups Standards, based on various international conventions, including ICMM and IFC standards. The Indigenous People & Vulnerable Tribal Groups Technical Standard emphasises peaceful engagements in vernacular languages, between our project teams and these groups, informing them of our commitment to undertake operations in a manner that does not disturb their lifestyles.We have periodic audits of project impacts, resettlement and impact management activities, and compliance with the terms of agreement with the communities. **Aluminium, Vedanta Sustainability Report 2021-22:** Page 78 (Land Acquisition and Resettlement)
Material aspect: closure planning		
G4 – MM10	Number and percentage of operations with the closure plans	As a part of statutory clearance all our mines operations have a closure plan.

Environment

GRI STANDARD	DISCLOSURE	RESPONSE
Energy		
GRI 103: Management Approach 2016		There is global consensus that climate change is one of the biggest threats to humankind. Exposure to one or more impacts of climate change is gradually increasing across all the corners of the world. Since aluminium production is a capital-driven and energy-intensive industry, we continually strive towards exploring and adopting commercially feasible opportunities to minimise the carbon footprint across our operations. Our climate impact reduction targets and initiatives are in complete alignment with the Nationally Determined Contributions (NDC) submitted by the Government of India.
GRI 302: Energy 2016	302-1: Energy consumption within the organization	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 48-50 (Climate Change and Energy Management)

Unit wise breakup of total energy consumption (GJ)

Business		Total Energy (GJ)			
		FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Aluminium Business	BALCO	9,15,21,996	9,03,78,188	9,19,88,245	9,14,92,473
	Lanjigarh	2,07,03,507	1,99,48,377	1,96,45,071	1,60,37,816
	Jharsuguda	23,13,01,851	22,04,50,018	20,63,42,221	19,24,82,924
Power Business	BALCO IPP	2,46,91,924	3,24,86,150	3,12,93,487	2,82,87,757
	Jharsuguda IPP	2,11,28,510	2,83,92,936	78,28,452	1,04,64,646
Lanjigarh + Jharsuguda		27,31,33,868	26,87,91,331	23,38,15,745	21,89,85,385
Total		38,93,47,788	39,16,55,668	35,70,97,478	33,87,65,615

GRI 302: Energy 2016	302-3: Energy Intensity

Specific Energy Consumption (GJ/Production Output)

		FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Aluminium Business	BALCO	51.76	52.16	53.0	52.45
	Lanjigarh	7.15	7.22	7.22	7.53
	Jharsuguda	52.59	53.04	53.29	53.09
Power Business	BALCO IPP	10.82	10.30	9.56	10.22
	Jharsuguda IPP	10.00	9.99	9.98	8.14

GRI 302: Energy 2016	302-4: Reduction of energy consumption	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 48 (Climate Change and Energy Management)
GRI 302: Energy 2016	302-5: Reductions in energy requirements of products and services	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 48-50 (Material Efficiency)
Water		
GRI 103: Management Approach 2016		Our water management policy guides our efforts towards exploration of opportunities for reducing water consumption across our operational portfolio and encourages increased water reutilization and zero liquid discharge from our operations.The policy channelises our water stewardship campaigns in line-with our commitment towards UN SDG-6: Clean Water and Sanitation. We are committed to optimise water utilisation at our facilities, while supporting the local communities for addressal of water-related issues

GRI 303: Water 2016	303-1: Water withdrawal by source

Unit (m^3)	FY 2021-22		FY 2020-21		FY 2019-20		FY 2018-19	
	Ground Water (m^3)	Surface Water (m^3)	Ground Water (m^3)	Surface Water (m^3)	Ground Water (m^3)	Surface Water (m^3)	Ground Water (m^3)	Surface Water (m^3)
BALCO	0	3,00,31,250	0	2,91,85,025	0	2,85,89,920	59,940	2,85,81,100
Lanjigarh	0	54,48,365	0	48,15,951	0	42,38,925	0	45,05,208
Jharsuguda	0	7,20,05,617	0	75416297	0	4,33,96,753	0	4,37,79,803
Lanjigarh+ Jharsuguda (not including IPP)	0	4,02,21,326	0	4,05,16,700	0	3,58,10,256	0	2,27,78,892
Total	0	10,74,85,232	0	10,94,17,273	0	7,62,25,598	59,940	7,68,66,111

*BALCO IPP and Jharsuguda IPP water consumption is included in the above matrix

GRI 303: Water 2016	303-2: Water sources significantly affected by withdrawal of water	At all of our locations, we carefully monitor our water withdrawals and usage and where feasible, make efforts to recharge the water sources.
GRI 303: Water 2016	303-3: Water recycled and reused	**Aluminium, Vedanta Sustainability Report 2021-22:** Page 60 (Water Management) Vedanta Aluminium has recycled 15% of water in FY 2021-22.

Business	FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Aluminium Business	15%	16%	16%	13%

Environment

Biodiversity

GRI 103: Management Approach 2016

We are committed to minimizing the potential risks to biodiversity which may arise in the areas of our operations. We have a robust Biodiversity Policy and Management Standard in line with international standards and guidelines of the IFC. The policy and management standard guide our actions on avoiding and minimizing any disruption to biodiversity not only during design and operational phase, but also site closure and beyond. To identify the biodiversity related business risks and their management, our businesses seek consultation from experts in this domain.

Aluminium, Vedanta Sustainability Report 2021-22: Pages 63-65 (Biodiversity Management)

GRI 304: Biodiversity 2016

304-1: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

The following sites are located adjacent to areas of high biodiversity value or protected areas:

Business Unit	Site	Location	Area of Biodiversity Value
Aluminium	Vedanta Lanjigarh	Lanjigarh, India	Khambesi, Batarilima reserve forest and thirteen other reserve forest areas

304-3: Habitats protected or restored

We have reclaimed 1028.03 hectares of land and rehabilitated 1001.14 hectares of land.
The plantation density has also increased across our Business Units.

304-4: IUCN Red List species and national conservation list species with habitats in areas affected by operations

	Sector	BALCO	Jharsuguda	Lanjigarh
Critically Endangered	0	0	0	0
Endangered	8	1	2	5
Vulnerable	11	2	2	7
Near Threatened	5	1	1	3
Least Concern	115	71	10	34

MM1: Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated

1001.14 hectares of land rehabilitated at the mines: Kawardha, Mainpat and Chotia.
The mines have been closed for operations.
Aluminium, Vedanta Sustainability Report 2021-22: Page 65 (Biodiversity Management)

304-4: IUCN Red List species and national conservation list species with habitats in areas affected by operations

Parameter	Chotia-I (In Hectare)	Chotia-II (In Hectare)	Kawardha Mines (In Hectare)	Mainpat Mines (In Hectare)
Total mining lease area	863	316.826		
Total Mining Area	271.69	41.13	387.41	393.63
Total Land reclaimed	258.97	29.82	371.4	367.84
Total land rehabilitated	258.97	20.27	371.4	350.5
Total area covered by water charge	12.72	8.4	5.2	2.15

MM2: The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place

All our operations have developed Biodiversity Management Plan with 100% coverage.

Emissions

GRI 103: Management Approach 2016

There is global consensus that climate change is one of the biggest threats to humankind. Exposure to one or more impacts of climate change is gradually increasing across all the corners of the world. Since aluminium production is a capital-driven and energy-intensive industry, we continually strive towards exploring and adopting commercially feasible opportunities to minimise the carbon footprint across our operations. Our climate impact reduction targets and initiatives are in complete alignment with the Nationally Determined Contributions (NDC) submitted by the Government of India. We consistently track and manage our carbon footprint with respect to achievement of these commitments.

We nurture the culture of management decision-making to incorporate considerations of potential environmental impacts, in order to further our objective of significantly minimising the carbon footprint of our aluminium operations. Our Energy and Carbon Management Policy and Performance Standard guides our efforts towards adoption of best in the industry practises and deployment of sophisticated technologies to consistently reduce our greenhouse gas (GHG) emissions. We are cognizant of the fact that reducing our energy consumption and shifting to low carbon energy mix is central to Vedanta's pledge of moving towards carbon neutrality.

Environment

GRI STANDARD	DISCLOSURE	RESPONSE

Emissions

GRI 305: Emissions 2016

305-1: Direct (Scope 1) GHG emissions

Aluminium, Vedanta Sustainability Report 2021-22: Pages 39-40 (GHG Emissions Performance)

Business		Scope 1 Emission (metric tonnes CO2 equivalent)			
		FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Aluminium Business	BALCO	97,50,329	98,00,513	99,88,944	99,24,011
	Jharsuguda	2,38,95,267	2,39,26,260	2,28,89,717	2,18,01,821
	Lanjigarh	18,73,120	17,87,966	17,86,097	14,40,950
Power Business	BALCO IPP	23,72,262	31,21,348	30,06,835	27,17,357
	Jharsuguda IPP	20,30,074	27,28,097	7,52,210	10,05,508
Lanjigarh + Jharsuguda		2,77,98,461	2,84,42,323	2,54,28,024	2,42,48,279
Total		3,99,21,052	4,13,64,184	3,84,23,803	3,68,89,647

305-2: Energy Indirect (Scope 2) GHG emissions

Vedanta Sustainability Report 2021-22: Pages 39-40 (GHG Emissions Performance)

Business		Scope 2 Emission (metric tonnes CO2 equivalents)			
		FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Aluminium Business	BALCO	1,55,715	2,143	0	27,308
	Jharsuguda	19,56,916	5,10,837	8,02,664	26,24,891
	Lanjigarh	4,856	6,595	1,593	2,929
Power Business	BALCO IPP	0	0	0	0
	Jharsuguda IPP	0	0	0	0
Lanjigarh + Jharsuguda		19,61,772	5,17,432	8,04,257	26,27,820
Total		21,17,487	5,19,576	8,04,257	26,55,128

305-3: Other indirect (Scope 3) GHG emissions

	FY 2021-22		
Business Unit	**Jharsuguda**	**BALCO**	**Lanjigarh**
Aluminium	50,05,928.32	12,37,119.17	5,40,241.49
Total			

305-4: GHG emissions intensity

tCO2e/MT	FY 2021-22			FY 2020-21			FY 2019-20			FY 2018-19		
Aluminium	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	
Balco	99,06,044	5,81,847	17.03	98,02,656	5,69,645	17.21	99,88,944	5,61,338	17.79	99,51,319	5,71,301	17.42
Lanjigarh	18,77,976	19,69,212	0.95	17,94,561	18,47,778	0.97	17,87,690	18,25,325	0.98	14,43,879	15,24,214	0.95
Jharsuguda	2,58,52,183	1686697.13	15.33	2,44,37,097	1399876	17.46	2,36,92,381	1342646	17.65	2,44,26,712	1385865	17.63

tCO2e/US$ mn	FY 2021-22			FY 2020-21			FY 2019-20			FY 2018-19		
Business	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)	Scope 1 + Scope 2 GHG Emissions (tCO2e)	Producton (MT)	GHG Intensity (tCO2e/ MT)
Aluminium	3,76,36,203			3,60,34,315			3,54,69,015			3,58,21,910		
Power	44,02,336			58,49,445			37,59,045			37,22,865		
Total	4,20,38,539	5081	8,274	4,18,83,760	4,196	9,982	3,92,28,060	4,048	9,691	3,95,44,775	4,627	8,547

305-5: Reduction of GHG emissions

Aluminium, Vedanta Sustainability Report 2021-22: Pages 38-40 (Energy and Carbon Management)

305-6: Emissions of ozone-depleting substances (ODS)

305-7: NOx, SOx, and other significant air emissions

Aluminium, Vedanta Sustainability Report 2021-22: Page 51(Air Quality and Emissions Control)

tCO2e/MT	FY 2021-22 (in MT)			FY 2020-21 (in MT)			FY 2019-20 (in MT)			FY 2018-19 (in MT)		
Business	PM Emissions	SOx Emissions	NOx Emissions	PM Emissions	SOx Emissions	NOx Emissions	PM Emissions	SOx Emissions	NOx Emissions	PM Emissions	SOx Emissions	NOx Emissions
BALCO*	2,125	48,437	22,245	0	0	0	0	0	0	0	0	0
Jharsuguda	5,082	1,26,842	40,276	5,578	1,29,957	43,318	4,581	1,35,908	33,241	4,270	1,20,293	28,408
Lanjigarh	240	11,269	3,057	182	13,210	3,946	337	9,751	3,163	431	6,773	2,829
Total	7,447	1,86,548	65,578	5,760	1,43,167	47,264	4,918	1,45,659	36,403	4,700	1,27,066	31,237

* Emission from BALCO are included in FY 21-22 which are from fuel (coal and HFO) combustion, calculated based on sulphur content present in the fuel.

Effluents and waste

GRI 103: Management Approach 2016

306-1: Water discharge by quality and destination

Aluminium, Vedanta Sustainability Report 2021-22: Page 60 (Waste Management)

GRI 306: Effluents and Waste 2016

306-1: Water discharge by quality and destination

	FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
BALCO	0	0	0	0
Jharsuguda	0	1,20,037	1,05,304	1,17,142
Lanjigarh	0	0	0	0
Total	0	1,20,037	1,05,304	1,17,142

Environment

GRI STANDARD	DISCLOSURE	RESPONSE
GRI 306: Effluents and Waste 2016	306-2: Waste by type and disposal method	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 53-57 (Waste Management)

Hazardous Waste (MT)

Business	FY 2021-22		FY 2020-21		FY 2019-20		FY 2018-19	
	Generated	Recycled	Generated	Recycled	Generated	Recycled	Generated	Recycled
BALCO*	94,685	98,260	2,022	4,258	11,777	9,731	7,004	2,628
Jharsuguda	2,79,465	2,70,216	2,64,903	2,32,641	2,74,639	1,79,511	2,81,327	1,74,749
Lanjigarh	66	148	6	66	76	429	362	20
Lanjigarh+ Jharsuguda	2,79,531	2,70,364	2,64,909	2,32,707	2,74,715	1,79,940	2,81,689	1,74,769
Total	3,74,216	3,68,623	2,66,931	2,36,966	2,86,492	1,89,671	2,88,693	1,77,397

Non-Hazardous Waste (MT)

Business	FY 2021-22		FY 2020-21		FY 2019-20		FY 2018-19	
	Generated	Recycled	Generated	Recycled	Generated	Recycled	Generated	Recycled
BALCO	31,34,176	40,34,278	5,63,236	7,46,882	28,70,128	28,93,120	27,98,031	28,45,440
Jharsuguda	79,04,805	94,96,357	81,23,554	1,00,10,736	58,28,529	62,28,232	55,51,421	64,91,023
Lanjigarh	29,37,458	8,45,374	4,83,135	1,17,659	25,46,014	4,61,662	20,54,507	3,76,334
Lanjigarh+ Jharsuguda	1,08,42,263	1,03,41,731	86,06,689	1,01,28,395	83,74,543	66,89,894	76,05,928	68,67,357
Total	1,39,76,439	1,43,76,009	91,69,925	1,08,75,277	1,12,44,671	95,83,014	1,04,03,959	97,12,797

All hazardous waste from BALCO are included for FY 2021-22. For FY 2020-21, FY 2019-20 and FY 2018-19, 5 significant hazardous waste have been reported for BALCO namely Spent Pot Lining, aluminium Dross, Lab Solvent, Biomedical Waste and used Lead Acid Batteries.

	306-3: Significant spills	

	MM3: Total amounts of overburden, rock, tailings, and sludge's and their associated risks	

	UoM	FY 2021-22	FY 2020-21	FY 2019-20	FY 2018-19
Overburden	MT	0	2,00,583	1,44,22,341	35,85,046
Tailings	MT	0	90,01,835	1,31,05,801	1,26,89,301

No mines were operational during the reporting period FY 2021-22.

Aluminium, Vedanta Sustainability Report 2021-22: Pages 55-56 (Waste Management, Bauxite Residue and Ash Management)

For more details please refer to: Vedanta's commitments to Sustainable Tailings management at https://ataglance.vedantaresources.com/news/fact-sheets

Environmental compliance		
	307-1: Non-compliance with environmental laws and regulations	We continuosly monitor non compliance with environmental laws and regulations and take proactive steps to be 100% compliant.
Supplier environmental assessment		
GRI 103: Management Approach 2016		At each of our businesses, the vendor on-boarding process requires vendor disclosure of their HSE & Sustainability systems. In addition, project specific requirement may require additional screening of vendors for the environmental management systems. The screening mandates a score of minimum 40 for onboarding. Aluminium, Vedanta Sustainability Report 2021-22: Pages (Supply Chain Management)
GRI 308: Supplier Environmental Assessment 2016	308-1: New suppliers that were screen using environmental criteria	**Aluminium, Vedanta Sustainability Report 2021-22:** Pages 28-29 (Supply Chain Management) All new suppliers undergo Sustainability screening checklist and scoring system before getting registered with us.
	308-2: Negative environmental impacts in the supply chain and actions taken	In case a supplier is categorized as sustainability high risk, appropriate measures are taken to remediate the same or the supplier is not onboarded

At Vedanta, our sustainable business practices and responsible approach are fundamental to who we are and what we do.

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