# OUR EARTH OUR GROWTH

THE SUSTAINABLE WAY

VEDANTA LIMITED INTEGRATED REPORT AND ANNUAL ACCOUNTS 2019-2020

vedanta
transforming elements

Desh Ki Zarooraton Ke Liye

Resources That Grow Nations

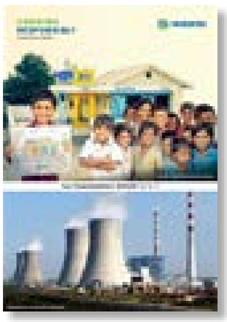
## ABOUT VEDANTA LIMITED

Vedanta Limited (Vedanta, VEDL), a subsidiary of Vedanta Resources Limited, is one of the world's leading natural resources companies with significant operations in oil & gas, zinc, lead, silver, copper, iron Ore, steel, and aluminium & power, across India, South Africa, Namibia, and Australia.

## OUR REPORTING SUITE

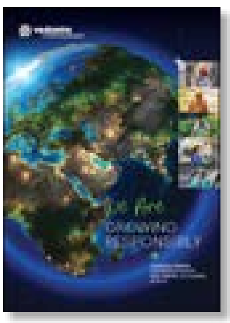
**Vedanta Resources Limited Sustainability Report (SR) 2018-19**
Information coverage: Disclosures on triple bottom line performance

Standards/guidelines used: Global Reporting Initiative (GRI) Standards



**Vedanta Limited Tax Transparency Report (TTR) 2018-19**
Information coverage: Voluntary disclosure of profits made and taxes paid (only Indian Company to publish a TTR)

Standards/guidelines used: Indian Accounting Standards (Ind AS)



**Vedanta Limited Integrated Report (IR) and Annual Accounts 2018-19**
Information coverage: Holistic disclosure of performance and strategy

Standards/guidelines used: International Integrated Reporting <IR> Framework, Indian Accounting Standards (Ind AS), Indian Secretarial Standards

# ABOUT THE REPORT

Inspired by our values, we remain committed to disclosing relevant information pertaining to our material issues, with highest standards of transparency and integrity. It is towards this end that we continue to communicate our annual performance and future strategy through Integrated Reporting <IR>. This is our third such report, prepared in accordance with the International Integrated Reporting <IR> Framework, outlined by the International Integrated Reporting Council (IIRC).

Our <IR> journey commenced in FY 2018 and we were one of the very first natural resources companies in India to publish an integrated report. These reports are prepared to assist our stakeholders, primarily the providers of financial capital, to make an informed assessment of our ability to create value over the short, medium and long term. They strive to demonstrate our confidence, capacity to grow and our ability to deliver on set strategies that can drive significant financial and non-financial value for everyone.

**SCOPE AND BOUNDARY**

This report covers the reporting period from 1 April 2019 to 31 March 2020 and provides 360° information on Vedanta Limited (Vedanta, VEDL), a subsidiary of Vedanta Resources limited.

It provides an overview of operations across our business units, namely, Zinc-Lead-Silver, Oil & Gas, Aluminium, Power, Iron Ore, Steel and Copper. Our assets are spread across India, South Africa and Namibia, and across the value chain comprising exploration, asset development, extraction, processing and value accretion activities.

This report aims to provide a concise explanation of VEDL's performance, strategy, operating model, business outputs and outcomes using a multi-capital approach. It includes measures of engagement with identified material stakeholder groups and outlines the organisation's governance framework, together with our risk-mitigation strategy.

**APPROACH TO MATERIALITY**

This report contains information that we believe is of interest to our stakeholders and presents a discussion around matters that can impact our ability to create value over the short, medium and long terms.

**APPROACH TO STAKEHOLDER ENGAGEMENT**

Our stakeholders are those individuals or organisations who have an interest in, and/or whose actions impact our ability to execute our strategy. We periodically engage with different stakeholder groups and actively respond to their concerns and issues.

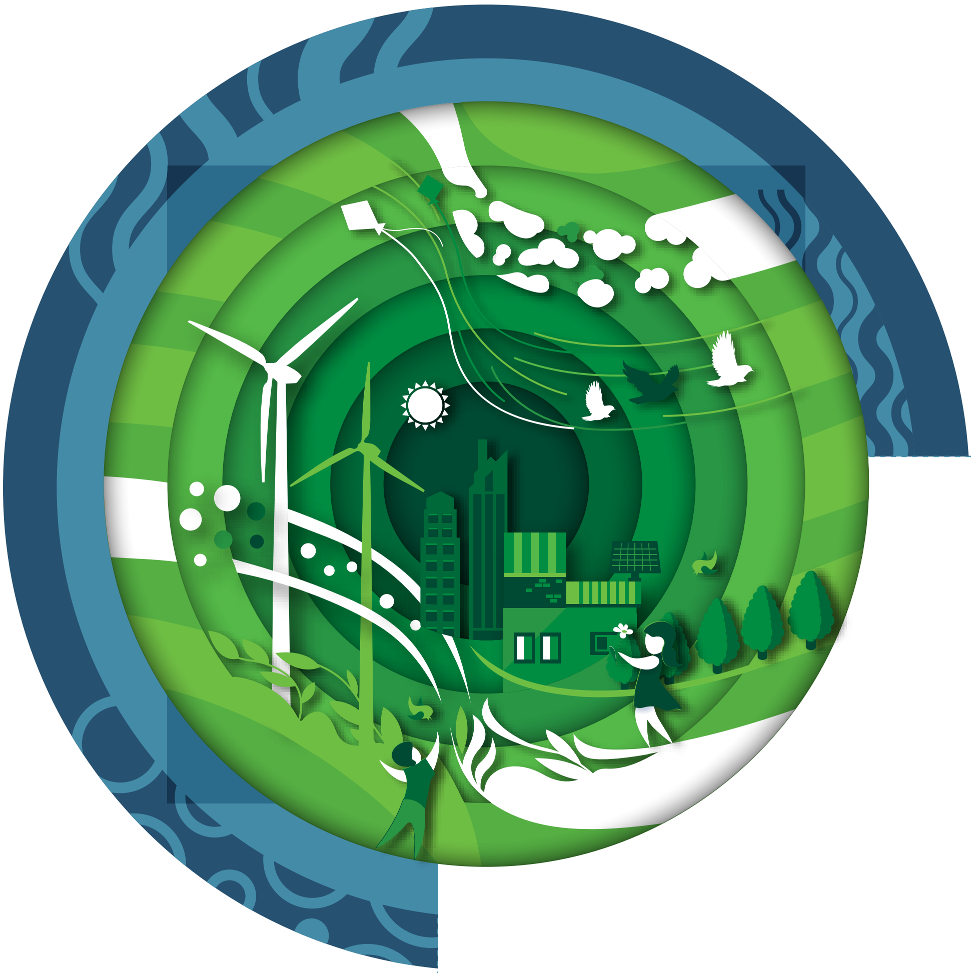
**ANNUAL ACCOUNTS**

This report should be read in conjunction with the annual accounts $\boxed{\text{(page [XX] to [XX])}}$ to gain a complete picture of VEDL's financial performance.

The consolidated and standalone financial statements in our printed report have been prepared in accordance with the Indian Accounting Standards (Ind AS) notified under the Companies (Indian Accounting Standards) Rules, 2015 (as amended from time to time) and have been independently audited $\boxed{\text{by [XXXXXXX].}}$ The Independent Auditor's Report for both consolidated and standalone financials can be found on $\boxed{\text{page [XX]}}$ and $\boxed{\text{[XX]}}$ respectively.

**BOARD AND MANAGEMENT ASSURANCE**

The Board of Directors and the Company's management acknowledge their responsibility to ensure the integrity of information covered in this report. They believe, to the best of their knowledge, that this report addresses all material issues and presents the integrated performance of VEDL and its impact in a fair and accurate manner. The report has therefore been authorised for release on $\boxed{\text{[XXth XXXX]}}$ 2020.



## OUR EARTH, OUR GROWTH.
THE SUSTAINABLE WAY.

At Vedanta, we unearth and harness the infinite potential of natural resources in the most sustainable manner to enable a better world for all.

Our brand promise is built on the premise that everything we enjoy on Earth comes from beneath it. It's these resources that help us live, grow and sustain. We are in the business of exploring and transforming natural resources sustainably with a long-term growth focus. We follow sustainable & responsible exploration and mining practices, to fulfil India's natural resource requirements and contribute to the nation's resource sufficiency.

Our strategy is to focus on all-round operational excellence, allocate capital judiciously, maintain a resilient balance sheet, augment our Reserves and Resources (R&R) base, identify and deliver on growth opportunities. In doing so, we create lasting value, led by state-of-the-art technology, a zeal for innovation, an expert workforce and an unflinching commitment to sustainability.

Women conducting maintenance work in the Rajpura Dariba Mine

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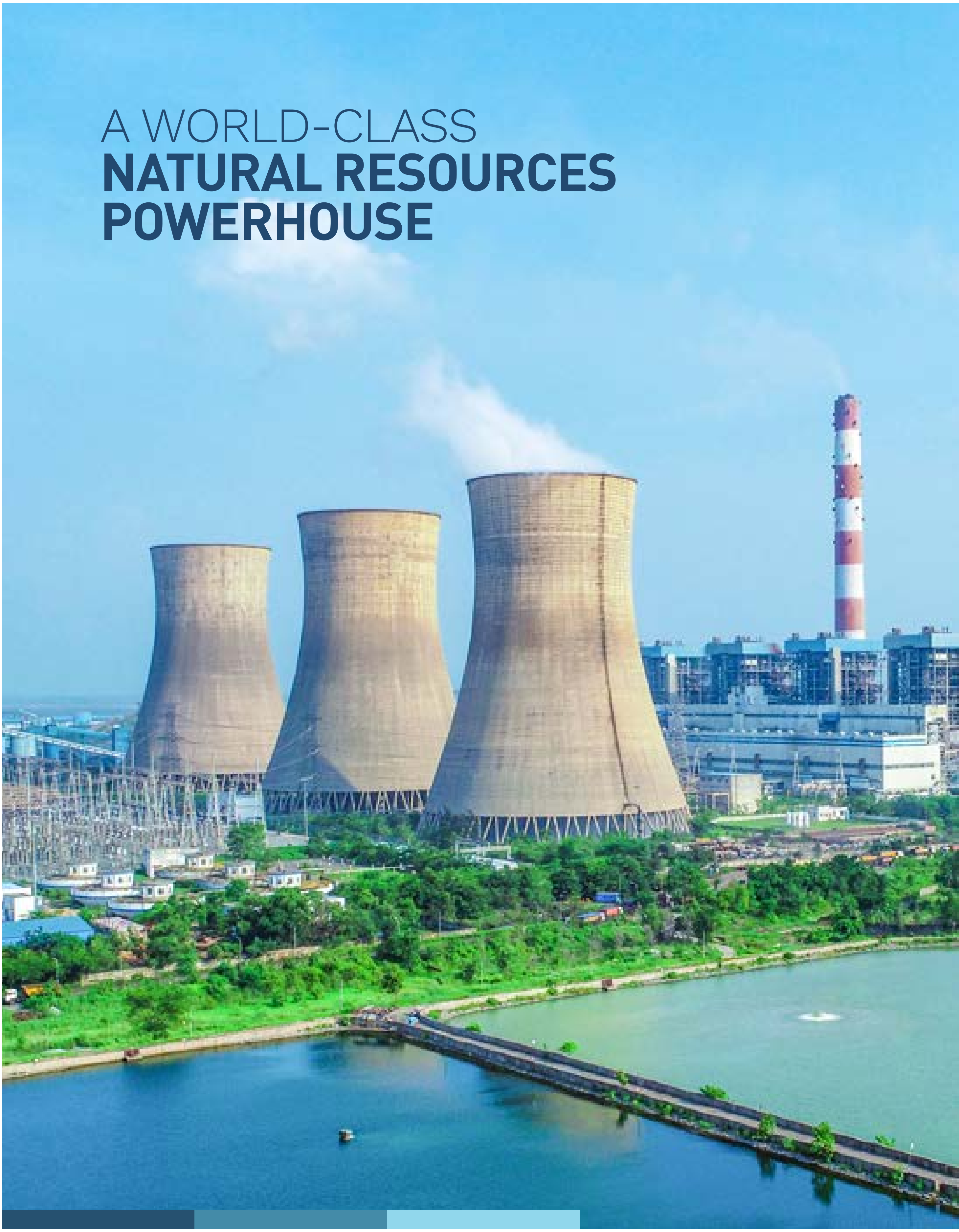
# A WORLD-CLASS **NATURAL RESOURCES POWERHOUSE**



Vedanta Limited is one of the world's largest suppliers of natural resources, with primary operations in zinc-lead-silver, iron ore, steel, copper, aluminium, power, oil & gas. Our strategic capabilities and alliances are singularly focused on creating and preserving value for our esteemed clients and the wider stakeholder fraternity. Together, we help the world grow in a responsible manner.

Our portfolio of world-class, low-cost, scalable assets consistently generate strong profitability and deliver robust cash flows. Our core divisions have industry-leading market shares, and we continuously strive to raise the bar across our wide canvas of operations.

**~80,000**
People engaged creating **9,62,824** man-years of employment

**₹83,545 crore**
Revenue

**₹6,122 crore**
Net profit after tax before exceptional items

**3.26 million**
CSR programme beneficiaries

**₹21,061 crore**
EBITDA

**₹7,130 crore**
Free cash flow (post-capex)

**~₹32,400 crore**
Total contribution to the national exchequer

**Largest**
Natural resources Company in India

**9 million + $tCO_2e$**
in avoided emissions, over the last eight years, as a result of our Greenhouse Gas (GHG) reduction programme

# WHAT WE DO
# OUR VALUE CHAIN

**EXPLORATION**
We have consistently added more to our Reserves and Resources (R&R) through brownfield and greenfield activities. This helps us to extend the lives of our existing mines and oilfields.

**ASSET DEVELOPMENT**
We have a strong track record of executing projects on time and within budget. We take special care to develop the resource base to optimise production and increase the life of the resource. We also strategically develop processing facilities.

**EXTRACTION**
Our operations are focused on exploring and producing metals, extracting oil & gas and generating power. We extract zinc-lead-silver, iron ore, steel, copper and aluminium. We have three operating blocks in India producing oil & gas.

**PROCESSING**
We produce refined metals by processing and smelting extracted minerals at our zinc, lead, silver, copper, and aluminium smelters, and other processing facilities in India and Africa. For this purpose, we generate captive power as a best practice measure and sell any surplus power.

**VALUE ADDITION**
We meet market requirements by converting the primary metals produced into value added products such as sheets, rods, bars, rolled products, etc. at our zinc, aluminium and copper businesses.

## WELL-RESOURCED TO CREATE LONG-TERM VALUE

**255.1 million tonnes**
Zinc ore reserves

**7th** largest in the world

**73.07 billion tonnes**
Iron ore reserves

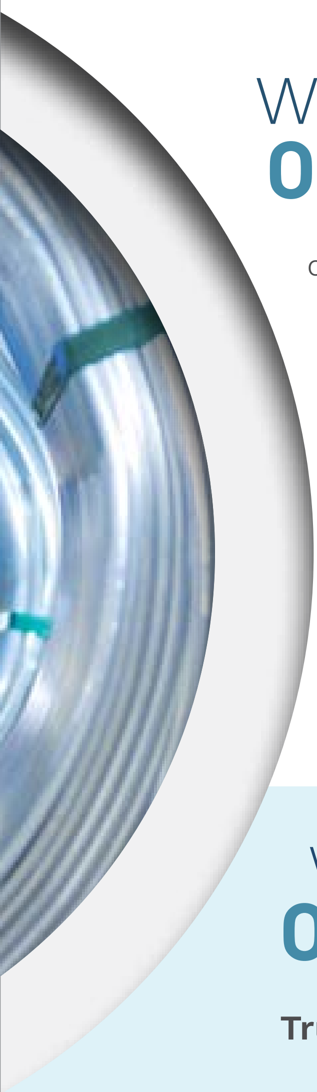
**7th** largest in the world

**1,194 mmboe**
Oil & gas reserves & resources

Largest private sector acreage holder in India

**6.5 million tonnes**
Bauxite reserves

**8th** largest in the world



# WHAT DRIVES US
# OUR PURPOSE

Our values nurture our culture and underpin our growth and success for the long term. Our ~80,000 strong workforce knows what is critical, how we work together as a team and the way in which growth and sustainable development are at the centre of what we do.

These are universal values, which guide us as we expand into unexplored markets and countries. Our people are our best brand ambassadors, who are empowered to drive excellence and innovation and we demonstrate world-class standards of governance, safety, sustainability and social responsibility.

Our business was built with a simple mission envisioned by the Group's Chairman, Anil Agarwal: To create a leading global natural resource Company. We also make significant contributions to society as we continue to create jobs, thus supporting our host communities through our various social programmes in the areas of childcare, health, education and women empowerment. As one of the largest contributors to the national exchequer, we create and distribute significant value along our entire supply chain.

# WHAT UNDERPINS US
# OUR CORE VALUES

**Trust** | **Care** | **Integrity** | **Entrepreneurship**

**Innovation** | **Respect** | **Excellence**

Refer to People & Culture Section on Page XX

## A SIGNIFICANT CONTRIBUTOR TO INDIA'S LARGE ECONOMY

### Vedanta's GDP Contribution

**2.2%**
**INDUCED IMPACT**

Vedanta influences consumption patterns of employees and suppliers by generating jobs and creating induced impact on India's economy, equivalent to **2.20% of the country's GDP**

**0.40%**
**DIRECT IMPACT**

Vedanta **directly contributes 0.40% to India's GDP** through it's operations

**1%**
**INDIRECT IMPACT**

The indirect impact of Vedanta through it's supplier network is as large as **1% of India's GDP**

# WELL-STRUCTURED TO DELIVER VALUE-ACCRETIVE GROWTH

**Vedanta Resources Ltd.**

**Konkola Copper Mines (KCM)** — **79.4%**

**Vedanta Ltd.** — **50.1%**

**Division of Vedanta Limited**

- Sesa Iron Ore
- Sterlite Copper
- Power (600 MW Jharsuguda)
- Aluminium (Odisha Aluminium and Power assets)
- Cairn Oil and Gas*

Subsidiaries of Vedanta Ltd

| Zinc India (HZL) | Bharat Aluminium (BALCO) | Zinc International (Skorpion: 100% and Black Mountain Mine: 74%) | Talwadi Sabo Power (TSPL) (1,980 MW) | Electrosteels Steel Limited (ESL) |
|---|---|---|---|---|
| **64.9%** | **51%** | **100%** | **100%** | **96%** |

Listed entities    Unlisted entities

**Note:** Shareholding as on 31 December 2019
*50% of the share in the RJ Block is held by a subsidiary of Vedanta

Mangala Processing Terminal, Barmer

# VEDANTA AT A GLANCE

## DELIVERING VALUE ACROSS BUSINESSES

We operate across seven key verticals and assume market-leading positions with our scale, innovation and commitment to responsible value creation.

### ZINC-LEAD-SILVER

**79%** market share in India's primary zinc market

**BUSINESS**
Zinc India
(Hindustan Zinc Limited - HZL)
Zinc International

**PRODUCTION VOLUME**
Zinc India (HZL)
• Zinc: **870 kt**
• Silver: **610 t**
Zinc International: **240 kt**

**EBITDA (In ₹ crore)**
• Zinc India (HZL): **8,714**
• Zinc International: **380**

**ASSET HIGHLIGHTS**
- World's largest fully integrated zinc-lead producer
- World's second largest zinc mine at Rampura Agucha, India
- 9th largest silver producer in the world
- Developing the largest undeveloped zinc deposit in the world at Gamsberg, South Africa
- Zinc India has R&R of 403 million tonnes with mine life of ~25 years
- Zinc International has R&R of 509 million tonnes, supporting mine life in excess of 30 years
- HZL is a low-cost zinc producer, which lies in the first decile of the global zinc cost curve

**APPLICATION AREAS**
- Galvanising for infrastructure and construction sectors
- Die-casting alloys, brass, oxides and chemicals

### OIL & GAS

Operates **26%** of India's crude oil production

**BUSINESS**
Cairn India

**PRODUCTION VOLUME**
**174 kboepd**
(Average Daily Gross Operated Production)

**EBITDA (In ₹ crore):**
**7,271**

**ASSET HIGHLIGHTS**
- World's longest continuously heated pipeline from Barmer to Gujarat Coast (~670 kms)
- 136 wells drilled, 41 wells hooked up in FY2020 growth phase
- Early gas production facility ramped up to designed capacity of 90 mmscfd
- Largest private sector oil & gas producer in India
- Executing one of the largest polymer EOR projects in the world
- Footprint over a total acreage of ~65,000 sq km
- Gross proved and probable reserves and resources of 1,194 mmboe

**APPLICATION AREAS**
- Crude oil is used by hydrocarbon refineries
- Natural gas is mainly used by the fertiliser sector

### ALUMINIUM

**37%** market share in primary Indian aluminium market

**BUSINESS**
Aluminium smelters at Jharsuguda and Korba (BALCO), Lanjigarh Alumina Refinery

**PRODUCTION VOLUME**
Aluminium: **1,904 kt**
Alumina: **1,811 kt**

**EBITDA (In ₹ crore)**
**1,998**

**ASSET HIGHLIGHTS**
- Largest installed aluminium capacity in India: 2.3 million tonnes per annum (mtpa)
- Strategically located large-scale assets with integrated power and an alumina refinery
- 37% market share among domestic primary aluminium producers
- Emerged as the highest bidder for Jamkhani coal block, strategically located near Jharsuguda alumina smelter

**APPLICATION AREAS**
- Used primarily in automotive, building & construction, transportation and electrical industries
- Product portfolio includes ingots, wire rods, billets, primary foundry alloys, slabs and rolled products

## POWER

**9 GW** diversified power portfolio

**BUSINESS**

Power plants at Talwandi Sabo, Jharsuguda and Korba

**SALES VOLUME**

**~11 billion kWh**

**EBITDA (In ₹ crore)**

**1,649**

**ASSET HIGHLIGHTS**

- One of India's largest power generators with 9GW diversified power portfolio
- TSPL is the largest thermal power producer in of Punjab India
- 3.3 GW of commercial power generation capacity, with balance for captive usage
- Leading producers of wind power in India: 96% thermal power and 4% from renewable energy sources

**APPLICATION AREAS**

- 63% is for captive use while 37% is used for commercial purposes; of which c.95% is backed by long-term Power Purchase Agreements with local Indian distribution companies

## COPPER

One of India's largest copper producers

**BUSINESS**

Copper India

**PRODUCTION VOLUME**

**77 kt**

**EBITDA (In ₹ crore)**

Tuticorin smelter and refinery currently not operational

**ASSET HIGHLIGHTS**

- One of the largest copper producers in India
  Note: The copper plant at Tuticorin has not been operational since March 2018.

**APPLICATION AREAS**

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

## IRON ORE & STEEL

One of the largest iron ore miners in India

**BUSINESS**

Iron Ore India
Electrosteel India

**PRODUCTION VOLUME**

- Pig Iron: **681 kt**
- Steel: **1,231 kt**

**EBITDA (In ₹ crore)**

Iron: **878**
Steel: **588**

**ASSET HIGHLIGHTS**

**Iron Ore**

- Karnataka iron ore mine with R&R of 73 million tonnes, and life of 17 years
- Value added business: 3 blast furnaces (0.8mtpa), 2 coke oven batteries (0.5mtpa) and 2 power plants (60MW)

**Steel**

- Design capacity of 2.5 mtpa;
- Largely long steel product

**APPLICATION AREAS**

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

# A YEAR OF CONSISTENT PERFORMANCE

## FINANCIAL HIGHLIGHTS

- Revenue at ₹83,545 crore, 8% lower y-o-y (FY2019: ₹90,901 crore) mainly driven by subdued commodity prices, lower volume at Zinc India, lower volume at Oil & Gas business and lower power sales at TSPL, partially offset by additional volumes from Gamsberg operations, higher sales volume at Aluminium business, Iron Ore Karnataka & Steel business and rupee depreciation.
- EBITDA at ₹21,061 crore, 12% lower y-o-y (FY2019: ₹24,012 crore)
- Robust adjusted EBITDA margin of 29% (FY2019: 30%)
- ROCE at c.11% in FY2020 (FY2019: 13%)
- Impairment relating to property, plant and equipment, exploration assets and claims & receivables of ₹17,636 crore (net of tax ₹11,037 crore) which mainly includes impairment at Oil & Gas Business of ₹15,907 crore, Copper Business of ₹721 crore, Iron Ore Business of ₹349 crore, Avanstrate Inc (ASI) of ₹504 crore and Fujairah Gold (FG) of ₹151 crore
- Profit Attributable to equity holders (before exceptional items) at ₹3,995 crore (FY2019: ₹6,857 crore)
- Free cash flow (FCF) post-capex of ₹7,130 crore (FY2019: ₹11,553 crore), driven by lower EBITDA and working capital blockage due to COVID-19 impact partially offset by cost savings, lower capex outflow and lower tax outflow
- Gross debt at ₹59,187 crore (FY2019: ₹66,225 crore), driven by repayment of debt at Vedanta Standalone, TSPL and temporary borrowing at Zinc India, partially offset by increase in borrowing at Oil & Gas Business
- Net debt at ₹21,273 crore (FY2019: ₹26,956 crore), primarily due to the repayment of debt, partially offset by working capital blockage due to COVID-19 and dividend payment during the year
- Strong financial position with cash, liquid and structured investments of ₹37,914 crore (FY2019: ₹39,269 crore)
- Crisil changed the outlook on Company's rating (CFR) from 'AA/Positive' to 'AA/Negative' driven by subdued commodity prices.
- India ratings changed the outlook on Company's rating (CFR) from 'AA/Positive' to 'AA/Negative' driven by delay in deleveraging on account of fall in commodity prices and delay in volume ramp-up in zinc and oil business in March 2020. In May 2020, India Ratings downgraded the company's rating from AA to AA-, while maintaining the outlook as negative on account of higher expected balance sheet leverage due to substantial decline in economic activity due to COVID-19 related lockdown. The negative outlook reflects prolonged subdued commodity prices in wake of COVID-19 outbreak and elevated refinancing risk.
- Contribution to the exchequer of ~₹32,400 crore in FY2020 (FY2019: ₹42,400 crore)
- Realised power debtors of ~₹900 crore at TSPL, as per the Supreme Court Order.
- Vedanta is implementing the approved resolution plan of acquisition of Ferro Alloys Corporation Limited (FACOR) as per NCLT approval dated January 30, 2020. FACOR is in the business of producing Ferro Alloys and owns a Ferro Chrome plant with capacity of 72,000 TPA, two operational Chrome mines and 100 MW of Captive Power Plant through its subsidiary, FACOR Power Limited (FPL). The consideration payable for the acquisition of FACOR on a cash free and debt free basis is ₹10 crore as well as an equivalent of cash balance in FACOR's subsidiary, FPL as upfront consideration and zero coupon, secured and unlisted Non-Convertible Debentures of aggregate face value of ₹270 Crores to the Financial Creditors payable equally over 4 years commencing March 2021

## BUSINESS HIGHLIGHTS FY2020

**Zinc India**

- Record ore production of 14.5 million tonnes, despite disruptions on account of COVID-19
- Mined metal production of 917 kt, down 2% y-o-y
- Refined zinc-lead production of 870 kt, down 3% y-o-y

**Zinc International**

- **Cost of production at US$1,665 per tonne, down 13% y-o-y**
- **Increase in Gamsberg production volume from 17 kt in FY2019 to 108 kt in FY2020**

Employees at Cairn Oil & Gas

**Oil & Gas**

- Average gross production of 174 kboepd for FY2020
- Early gas production facility fully commissioned to design capacity of 90 mmscfd
- Construction of new gas processing terminal in progress to add another 90 mmscfd
- Liquid handing capacity upgradation by 30% in progress
- Production Sharing Contracts (PSC) signed for Ravva block extended for 10 years
- FTG survey completed in Assam and Kutch basins; seismic survey ongoing in OALP Blocks
- **Capex growth projects update**
    - Nine rigs are currently deployed; 136 wells drilled during FY2020
    - Seven appraisal wells drilled in Vijay & Vandana, DP & MBH
    - Two new wells hooked up in Ravva adding ~10kboepd of incremental volumes

**Aluminium**

- India's highest aluminium production at 1,904 kt
- Record alumina production from Lanjigarh refinery at 1,811 kt, up 21% y-o-y
- FY2020 hot metal cost of production lower at US$1,690 per tonne, 14% lower y-o-y
- Q4FY2020 hot metal cost of production significantly better at US$1,451 per tonne, 20% lower y-o-y

**Power**

- Record Plant Availability Factor (PAF) of 91% at the 1,980 MW TSPL plant in FY2020

**Iron Ore**

- Goa operations remains suspended during the year due to state-wide directive from the Hon'ble Supreme Court; engagement continues with the government for the resumption of mining operations
- Production of saleable ore at Karnataka at 4.4 million tonnes, up 6% y-o-y
- Iron Ore sales at Karnataka at 5.8 million tonnes, up 125% y-o-y

**Steel**

- Record annual steel production at 1.23 million tonnes for FY2020, up 3% y-o-y
- Robust margin of US$127 per tonne during the last quarter (~26% EBITDA margin)

**Copper India**

- Due legal process being followed to achieve a sustainable restart of the operations

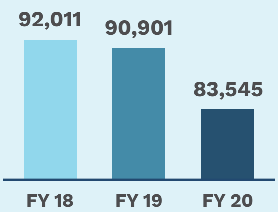
## CONSOLIDATED GROUP RESULTS

(₹crore, unless stated)

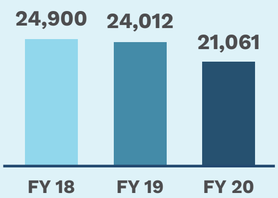
| Particulars | FY2020 | FY2019 | % Change |
|---|---|---|---|
| Net Sales/Income from Operations | 83,545 | 90,901 | (8) |
| EBITDA | 21,061 | 24,012 | (12) |
| EBITDA margin[a] (%) | 29% | 30% | - |
| Profit before Depreciation and Taxes | 18,220 | 21,432 | (15) |
| Profit before Exceptional items | 9,127 | 13,240 | (31) |
| Profit after taxes | (4,743) | 9,698 | - |
| Profit after taxes (before Exceptional Items) | 6,122 | 9,490 | (36) |
| Attributable PAT after exceptional items | (6,664) | 7,065 | - |
| Attributable PAT (before exceptional items) | 3,995 | 6,857 | (42) |
| Basic earnings per share (₹/share) | (18.00) | 19.07 | - |
| Basic EPS before exceptional items (₹/share) | 10.79 | 18.50 | (42) |
| ROCE (%) | 11.2% | 12.8% | |
| Total Dividend (₹/share) | 3.9 | 18.85 | |

a. Excludes custom smelting at Copper India and Zinc India operations
b. Exceptional Items gross of tax
c. Tax includes tax gain on exceptional items of ₹6,521 crore on special items in FY 2020 (FY 2019: charge of ₹112 crore); DDT included in Tax Expense in FY 2020 is Nil (FY 2019: credit was NIL
d. Previous period figures have been regrouped/rearranged wherever necessary to conform to current period presentation

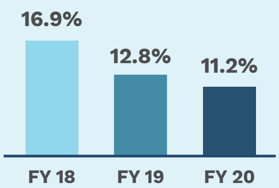
**REVENUE** (₹ cr)



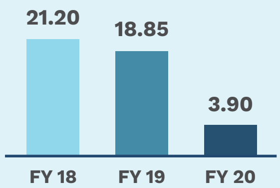

**EBITDA** (₹ cr)




**RETURN ON CAPITAL EMPLOYED (ROCE)** (%)




**DIVIDEND** (₹ per Share)



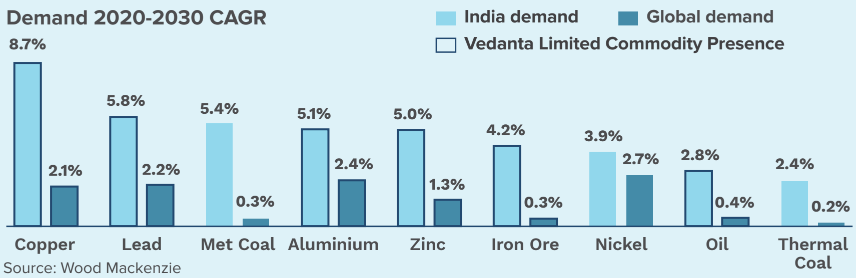
# WELL-POSITIONED FOR THE FUTURE

Natural resources represent a critical growth engine for the economy. As India's only diversified natural resources Company, we are very well positioned to make a significant contribution to the nation's prosperity. Our investment case is focused on delivering sustainable, long-term returns to our shareholders and creating value for our larger stakeholder fraternity.

## LARGE, LOW-COST AND DIVERSIFIED ASSET BASE WITH AN ATTRACTIVE COMMODITY MIX

Vedanta's large-scale, diversified asset portfolio, with an attractive cost position in many of its core businesses, positions us to deliver strong margins and free cash flows through the commodity cycle. We have an attractive commodity mix, with strong fundamentals and leading demand growth and focus on base metals and oil. The commodity markets strengthened in the second half of this financial year, driven by improved demand factors and continuing supply-side constraints, benefiting global commodity prices, particularly Vedanta's core commodities, including zinc, aluminium and oil & gas.

**Demand 2020-2030 CAGR**




Source: Wood Mackenzie

## IDEALLY POSITIONED TO CAPITALISE ON INDIA'S GROWTH POTENTIAL

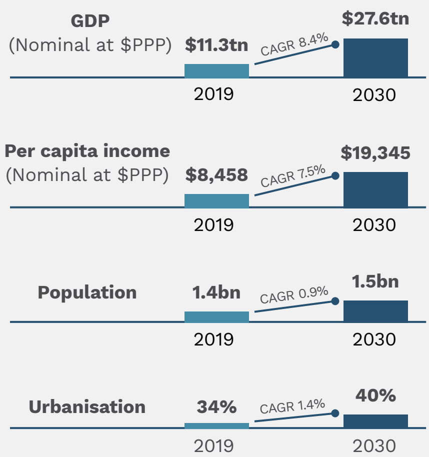
India is our core market and it has a huge growth potential, given that the current per capita metal consumption is significantly lower than the global average. The COVID-19 pandemic is inflicting significant human costs in India and the world. Protecting lives and allowing healthcare systems to cope have required isolation, lockdowns, and widespread closures to flatten the curve in India as in other parts of the world. Against this bleak backdrop, IMF predicts that the Indian economy is estimated to have grown by 1.9% in the financial year. However, the economy's long-term potential remains robust, as it is likely to rebound to 7.4% in FY2021, provided the outbreak is contained and there is no recurrence. Once the economy reboots and the crisis blows over, strong liquidity in the economy and government impetus in infrastructure building, housing and industrialisation will generate demand for natural resources. The country's high resource import bill offers significant opportunities for a diversified player like us.

The government has lately announced various policy measures to support the commodity sector, which augurs well for our operations.

**We are uniquely positioned to benefit from India's growth due to:**

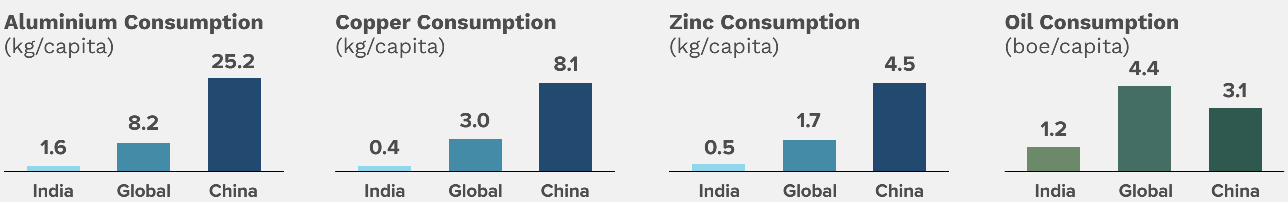
- A diversified portfolio of established operations in India;
- A strong market position as India's largest base metals producer and largest private sector oil producer
- An operating team with an extensive track record of executing projects and achieving growth

**India's Growth Potential**




Source: IHS Markit

**Commodity Demand Potential 2020**

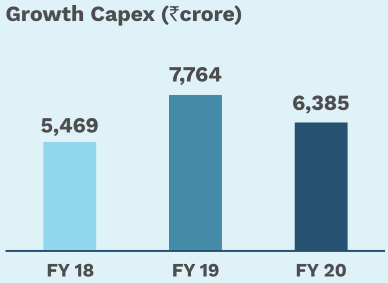



Source: Wood Mackenzie, IMF, IHS Markit, BMI, BP Energy Outlook 2019

Note: All commodities demand corresponds to primary demand

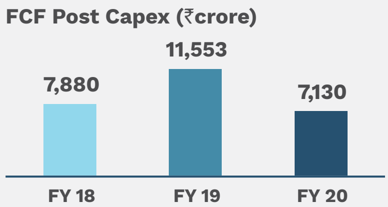
## WELL-INVESTED ASSETS DRIVING FREE CASH FLOW GROWTH

A significant proportion of our capital investment programme has been completed, and we are now ramping up production to take advantage of our expanded capacity. We have already started seeing the results of our investments, with Zinc India and Aluminium delivering robust production in the past year, and we expect our Zinc International, particularly the Gamsberg project, to provide further impetus to our Zinc business, going forward. In the Oil & Gas business, we have begun to implement our growth projects with a gross capex of over US$3.2 billion, and this will enable us to increase volumes in the near and medium term. These increases in production will lead to strong cash flow generation through the cycle.




## OPERATIONAL EXCELLENCE AND TECHNOLOGY DRIVING EFFICIENCY AND SUSTAINABILITY

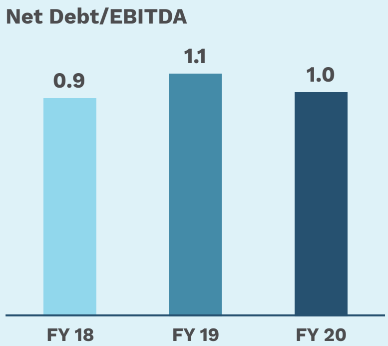
We consistently strive to improve our operations, integrate our businesses through the value chain and optimise our performance through operational efficiencies and innovative technological solutions. We also employ these tools to ensure sustainable operations and focus on delivering a positive impact for all our stakeholders and, more broadly, the society as a whole.




## STRONG FINANCIAL PROFILE

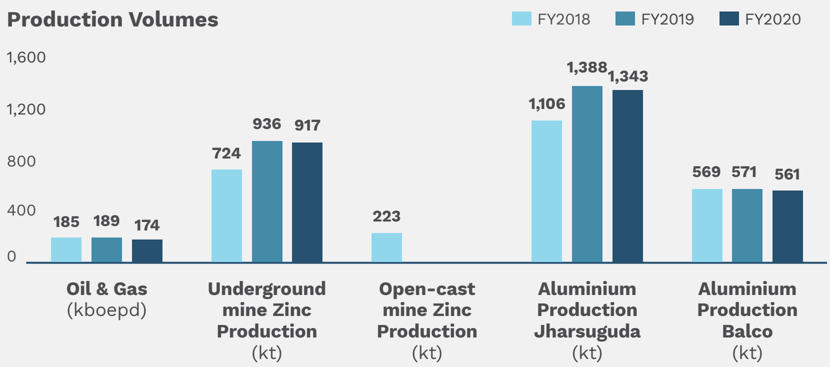
Our operational performance, coupled with a strong focus on optimisation of capital allocation, has helped maintain our financial resilience. During FY2020, when it was still seen as a subdued environment for commodity prices, our focus on capital discipline and profitability allowed us to deliver:

- Revenues of ₹83,545 crore and EBITDA of ₹21,061 crore
- Strong ROCE of ~11.2%
- Deleveraging and extension of our debt maturities through proactive liability management exercises
- Strong and robust FCF of ₹7,130 crore
- Cash and liquid investments of ₹37,914 crore
- A strong balance sheet, with respect to ND/EBITDA and gearing, compared to our global diversified peers
- Interim dividend of ~₹1,450 crores paid in FY2020




## PROVEN TRACK RECORD

Our management team has a diverse and extensive range of sector and global experience, which ensures that operations are run efficiently and responsibly, with key insights. We have taken a disciplined approach to development, growing our production steadily across our operations with an ongoing focus on operational efficiency and cost savings. Since our listing in 2003, our assets have delivered an average of 15% CAGR production growth.



# ENABLING A WELL-RESOURCED FUTURE

**"With ample natural, human and technological resources and strong reform-focused democratic governance, India holds out hope that in the post-COVID era global businesses and investors look at reducing dependency on China. This will mean more jobs, more investments, rapid development and a great boost to the government's 'Make in India' initiative."**

**Anil Agarwal**
**Chairman**

**Dear Stakeholders,**

It is a great honour for me to share my thoughts with you as your Company's Chairman. This year, the Board welcomed and appointed me as the Non-Executive Chairman of Vedanta Limited. It is with great pride that I say, your Company has always been on a continuous journey of growth and expansion with best-in-class safety, benchmarked technology, and cost efficiency. We continuously ensure that we have the right management in place to drive our business and take the organisation to the next level. In line with this vision, we are pleased to announce that your Company will now be run by a guided Management Committee comprising of your Group Chief Executive Officer (CEO), Chief Financial Officer (CFO),Chief Human Resources Officer (CHRO) and Chief Commercial Officer (CCO).

I sincerely wish and pray that you all are safe at your homes. Your safety matters to us, as the world is currently grappling with an unprecedented health crisis that we all are fighting together. These are undoubtedly testing times, but it also brings to the fore the undaunted and ingenious human spirit that prevails against all challenges. We, at Vedanta, salute this human spirit and solidarity of citizens and nations across the world, and reaffirm our commitment to work towards a self-reliant and sustainable future for all.

India's COVID response continues to be undoubtedly exemplary by global standards, and the Government of India, along with all state governments are coordinating effectively to flatten the curve. We, at Vedanta, are doing our bit in a modest way to help save lives and livelihoods. You will be happy to know that your Company has contributed ₹101 crore to the Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM-CARES) Fund. Your Company will also fund up to ₹200 crore in providing relief measures to communities across India. The contribution to PM-CARES Fund will complement Vedanta's earlier commitment of creating a ₹100-crore corpus to cater to three specific areas - livelihood of the daily wage workers across the nation, preventive healthcare, support to its employees and contract partners across its plant locations.

**Vedanta Contributed 101 crore to the PM-CARES Fund. The Company will also fund up to ₹200 crores in providing relief measures to communities across India.**

## PERFORMANCE DURING THE YEAR

As we have seen, the year was challenging, which tested our organisational mettle amidst a turbulent macro environment. However, our Company emerged stronger at the end of it, paving pathways for accelerated future growth.

The year saw us accomplishing robust production volumes in multiple segments and continued building our asset base, while improving asset integrity. We have further strengthened the Company with strong operational and productivity focus, enhanced our capital allocation framework to create long-term shareholder value and delivered a sound set of financial outcomes. It is gratifying to note that we remained cashflow positive, while maintaining a resilient balance sheet. Our work continued in an uninterrupted manner across all key result areas. As a testimony to our efforts, we also received well-accredited recognitions across governance, safety and environmental parameters, including moving up in the rankings of in the Dow Jones Sustainability Index (DJSI).


Harnessing wind power at Hindustan Zinc

To summarise, it was a year where we could yet again validate the confidence vested in us by everyone.

## A GRADUAL ECONOMIC RECOVERY

In CY2019, the global economy seemed to be on a path to recovery. This was primarily led by the bottoming out of manufacturing activity and global trade and monetary policy easing by central banks the world over. This sentiment was further bolstered at the start of CY2020, in light of the progress in US-China trade talks and Brexit deal.

In what was expected to be a year of continued recovery, CY2020 now has a fresh challenge to combat in the form of the COVID-19 pandemic. Although it is early to ascertain its impact on global supply chains, consumer behaviour, overall business sentiment and supply-demand equations in the short term, we will have more clarity only over the medium term.

## A PRO-GROWTH, PRO-BUSINESS ENVIRONMENT IN INDIA

For India, FY2020 was characterised by several developments, including the re-election of the ruling party with an even larger mandate; the systemic identification, restructuring and tidying up of prevailing issues in the financial services sector; and the announcement of a slew of policy measures by the government.

While the clean-up applied temporary brakes on growth owing to a credit crunch, the fiscal and monetary policy announcements acted as a counterbalance, along with focus on keeping inflation under permissible limits. At the juncture that we are in, India faces its own unique opportunities and the priorities that come with it.

As we stand today, we have the reasons to believe that we are better positioned than any other nation with a visionary government, young working population, a conducive business environment and rising public expenditure.

The government's announcements made through the year and as part of the Union Budget 2020-21 are directed at setting the stage for India's future growth. Among these, the National Infrastructure Pipeline with a projected total investment of ₹102 lakh crore (US$1.44 trillion) during the period FY 2020-2025 deserves a special mention. It reinforces the government's commitment to build an India of the future with better connectivity and better resilience. It also has a direct and positive impact on heavy industries such as ours, with expected short- to medium-term buoyancy in demand. Other measures, such as a corporate tax cut, 100% FDI in coal mining, and merger of public sector banks are also noteworthy, which are directed at boosting the business climate in the country.

### METALS AND MINING – PROPELLING INDIA'S GROWTH

With large-scale infrastructure spend on the horizon, the metals and mining sector is expected to receive a boost in demand both over the short as well as longer term. This growth will be further facilitated by the National Mineral Policy 2019, launched to ensure transparency, better regulation and enforcement, and to ensure a balance between social and economic growth. The Policy touches upon contemporary issues and guides on the adoption of scientific mining, technology and innovation, and environmental and social priorities. As Vedanta, we are well aligned to these guidelines and continue to set new benchmarks in good mining practices.

### VEDANTA - READY TO SERVICE THE NATION'S NEEDS

As India grows, so will its needs and aspirations. At Vedanta, we are focused on providing vital commodities that facilitate the everyday lives of Indians and service their needs. Vedanta as India's only diversified natural resources group is presented with a unique opportunity to provide the vital commodities the country needs for infrastructure development, asset creation, mobility, housing, consumer goods and general consumption. Together with everyone, we can harness the potential of natural resources in the most sustainable manner to fuel the nation's progress. It is with this objective that we have reinforced our positioning as 'Vedanta, Desh ki Zarooraton ke liye.'

### CONTRIBUTING TO NATION-BUILDING

At Vedanta, our business performance contributes directly to the nation's economy. With over 40% of revenue being contributed to the national exchequer, we continue to deliver on our commitments, in the most transparent and ethical manner. We also employ closer to 80,000 on-roll and contractual personnel, thus creating a multiplier effect on the economy. According to a recent report by Institute for Competitiveness, a subsidiary of IFC (part of the World Bank Group), Vedanta's operations contribute around ~1% to India's GDP.

As we grow further, we continue to play a pivotal role in India's social development stage, and maintain a strong social engagement through our corporate responsibility initiatives. During FY2020, we spent ~US$41 million, to touch the lives of over 3.26 million people.

Our core impact areas are education, health, sustainable livelihoods, women empowerment, sports and culture, environment and community development. Each of our Group companies have their own CSR agenda and they undertake associated interventions in one or more of the above impact areas. For example, BALCO actively supports the fight against cancer through its 170-bed Medical Centre in Chhattisgarh, under the aegis of Vedanta Medical Research Foundation. Our flagship CSR programme, Nand Ghar, is aimed at building modern community resource centres through the length and breadth of the nation. Conceived in association with the Ministry of Women and Child Development (MoWCD), the Nand Ghar initiative targets the empowerment of 8.5 crore children and 2 crore women across 13.7 lakh Anganwadis in India. 2019 was a milestone year for this initiative, as we witnessed the inauguration of our 1,000th Nand Ghar. By FY2021, we are planning to quadruple the number of these centres, with an unwavering commitment to giving back to the society.

### A FIRM FOCUS ON SUSTAINABILITY

Our sustainability approach is strongly driven by the need to address the expectations of our stakeholders while delivering strong business performance. As a Company we are attuned to global expectations and endeavour to contribute to the fulfilment of the United Nations Sustainable Development Goals (UN SDGs).

Our sustainable development agenda straddles four major pillars of Responsible Stewardship, Building Strong Relationships, Adding and Sharing Value, and Strategic Communications. These are developed in line with our core values, internal and external sustainability imperatives and global relevant frameworks. Our Environmental, Social and Governance (ESG) priorities are well aligned to our enterprise goals and towards this end,

Vedanta employees participating in awareness building team activities we are working with a target-based approach to foster an inclusive and sustainable future for all. We ensure the safety of our workforce with its associated programmes on Visible Felt Leadership, deeper engagement on safety with our business partners, and managing critical safety tasks.

We are also managing our environmental impact through associated programmes on GHG emissions intensity reduction, tailings dam management, and recycling of our high-volume-low-effect wastes such as fly ash. We have defined a social performance framework for the organisation to secure our social licence to operate assessing the maturity of our business in the context, and driving community development activities across multiple spheres such as child education, women's empowerment, medical infrastructure development, and sports, among others.

## EMPLOYEE SAFETY, HEALTH AND WELLBEING

The safety, health and wellbeing of our employees continue to be a highly critical focus area for us. However, I regret to inform that even with a razor-sharp focus on occupational health and safety, we witnessed seven fatalities this year. One life lost is too many for us, and we have redoubled our efforts to effectively enforce a safety culture and avoid any untoward incident, going forward.

## TOGETHER WE WIN

Ever since we began our journey, our culture has always been people-centric, because we believe we are only as resourceful, resilient and future ready as our people. We are committed to provide our people a safer, sustainable, inspiring and inclusive culture.

Our culture enshrines our core values and nurtures innovation, creativity and diversity. We align our business goals with individual goals and enable our employees to grow on the personal as well as the professional front. Being an equal opportunity employer, and a meritocracy – all our decisions regarding employees are based on their contribution, attitude and potential.

Teamwork at Barmer, Cairn Oil & Gas.

## CHANGES IN LEADERSHIP

With a heavy heart, I would like to announce that Srinivasan Venkatakrishnan (Venkat) stepped down as the CEO and Director of the Company with effect from 5 April 2020, for personal reasons and will be re-joining his family in South Africa. Over the last two years, I have enjoyed working with Venkat to drive our vision for the Company and the country at large.

I admire Venkat for his passion, dedication, ability to connect with people and his grasp of business. Venkat is a committed leader and will be remembered for his passion for sustainability, asset integrity, development and positioning Vedanta in global markets. We would like to acknowledge and express our deep appreciation and gratitude to Venkat for his immense contribution to the Company. This year, we also had to bid adieu to Ajay Kumar Dixit, our Cairn Oil & Gas business CEO and Deshnee Naidoo, our Zinc International business CEO. Ajay superannuated from the Company at the end of his five-year term this May, while Deshnee had to leave us for personal reasons. Both led respective businesses with great zeal and passion.

We wish them the best for all their upcoming endeavours. It is my pleasure to welcome Sunil Duggal - our interim CEO, a mature and proven leader who has held key leadership positions across the Group in the last 10 years. Sunil is an industry veteran and an active member of several industry and advocacy forums. He is passionate about safety, environment and ESG. We look forward to Sunil taking the Company to greater heights. I also want to place on record my thanks to the 80,000+

**Wokkforce of c.77,000, US$41 million CSR programme spend, 3.1 million CSR beneficiaries, 2019 was a milestone year for our flagship Nandghar initiative, as we witnessed the inauguration Teamwork at Barmer, Cairn Oil & Gas. of our 1,302nd Nand Ghar.**

people who make up the Vedanta family and who, during this year, have innovated, broken records, and driven up our output with ever-increasing efficiency.

## WAY FORWARD

I sincerely believe that the post-COVID world will bring huge opportunities for India to secure a better place in the emerging global economic order. I also believe the ultimate 'Make in India' moment for our country is soon to arrive. With ample natural, human and technological resources and strong reform-focused democratic governance, India holds out hope in the post-COVID era global businesses and investors look at reducing dependency on China. This will mean more jobs, more investments, rapid development and a great boost to our 'Make in India' initiative.

As I look back at Vedanta's journey so far, I can say with reasonable confidence that we have steadily grown and evolved to be an organisation creating disproportionate value for citizens of India. Even amidst a short-term environment of uncertainty, I have well-founded belief in our fundamentals, our strategy and our people, which taken together, is a powerful force to reckon with. My outlook remains positive for the country and for the Company and we are equipped to fulfil every commitment we have towards our stakeholders.

On behalf of the Board and the entire leadership team, I solicit your continued cooperation for all our present and future endeavours.

Best regards,
**Anil Agarwal**

# PURSUING SUSTAINABLE GROWTH TO EMERGE STRONGER

**"Vedanta has a rich legacy as India's only diversified natural resources group. We will continue to further strengthen it in the years to come. It is a Company with a strong purpose of giving back for the greater good, a track record of achievement with an equally compelling sense of selflessness. The COVID pandemic has hit the world and us in the last quarter of the year. We have taken a pro-active approach to keep our assets and people safe while ensuring optimum operations during these difficult times. During these difficult times, our efforts are aligned to the singular vision of making our communities, the state and nation self-reliant and selfsufficient."**

**Sunil Duggal**
**Chief Executive Officer**

**Dear Stakeholders,**

This is my first integrated report since assuming the role as Interim Group CEO of Vedanta Limited and I am honoured and humbled to be leading our great Company which I have proudly been a part of for last ten years. I must begin by acknowledging Mr. Srinivasan Venkatakrishnan for his leadership in our Company over the last two years. Under his guidance, we built an exceptionally strong foundation that will benefit our organization long after his departure. We are grateful for his service.

Vedanta has a rich legacy as India's only diversified natural resources group. We will continue to further strengthen it in the years to come. It is a Company with a strong purpose of giving back for the greater good, a track record of achievement with an equally compelling sense of selflessness. We strive for a positive impact on the communities we operate in. The Company has been contributing significantly to India's growth story. We are among the top private sector contributors to the exchequer with the contribution of ₹32,400 Crore in FY 2020. Vedanta's operations contribute 1 per cent to India's GDP as per the IFC report. Operating responsibly and ethically is an integral part of Vedanta's core values. We deliver on our commitments to all internal and external stakeholders by demonstrating these values through our people, actions, processes and systems.

The Company is uniquely poised to grow in commodities that have rising demand especially in India, with an enviable growth pipeline which is being brought to fruition in a disciplined manner. At the core of this growth are long life, structurally low cost and diverse assets with excellent potential, as we are market leaders in most of the commodities we produce. The Company has the finest resources that the world and country have to offer - in the form of some of the world-class deposits on one hand and importantly people with entrepreneurship, capability, drive, energy and commitment to get the most out of these deposits, on the other. There is a strong technical expertise in the group with a keen focus on exploration. This is also evident by the fact that Vedanta is one of the largest employers of engineers and geologists in India. Our operating mantra remains – safety, environment, volume growth and lowest cost of production.

## THE YEAR GONE BY

To describe 2020 as a dynamic year is an understatement. The macro environment has been extremely challenging with the impact of the COVID-19 pandemic. The virus outbreak which saw lockout across geographies has become one of the biggest threats to the global economy, disrupting businesses and supply chains world over. During these testing times our priority was to ensure the health and safety of our employees, contractors and stakeholders, while ensuring the business continuity to all extents possible. The full impact of this pandemic has to be further accessed in the longer term. The Company has set up a dedicated ₹100 crore fund as part of its endeavour to join ranks with the Government of India to combat the widespread outbreak of COVID-19 which will cater to three specific areas – Livelihood of the daily wage worker, employees & contract workers, preventive healthcare and will provide timely help to communities in and around various plant locations of the Company.

Upon evaluating the year, I would like to draw your attention to the following key operational highlights, which I'm particularly proud of:

- Our Aluminium business continues to benefit from improved integration, currently witnessing cost of US$1,690/t even after the macro environment impact. Lanjigarh refinery recorded the highest-ever production volumes from our Alumina refinery in Lanjigarh at 1,811 kt, up 21% y-o-y at a cost of US$275/t, down 15%
- In our Zinc business, we remain on track to become the world's largest integrated zinc-lead-silver producer in two years while maintaining our cost leadership with record ore production of ~15 million tonnes in Zinc India, despite disruptions on account of COVID-19. At Zinc International, the Gamsberg production for the year stood at 108 kt
- Oil & Gas average gross production was at 174 kboepd
- Our steel business at ESL saw record annual steel production at 1.23 million tonnes for FY2020, up 3% y-o-y at an industry-leading margin of ~US$127/t during the last quarter
- In Iron Ore, our sales from Karnataka were up 125% y-o-y at 5.8 million tonnes
- Our balance sheet continues to be strong, and with a healthy cash-flow generation, we maintain our industry-leading Net Debt-to-EBITDA ratio of 1.00, which is lowest among Indian peers
- Nand Ghar, our flagship CSR initiative, has crossed the 1,000 Anganwadi mark and is currently standing at a count of 1,250
- Continuous improvements as per Golder recommendations are under implementation across all tailing dams

**Operating responsibly and ethically is an integral part of Vedanta's core values. We deliver on our commitments to all internal and external stakeholders by demonstrating these values through our people, actions, processes and systems.**

Aluminium Smelter at Balco

## OUR SAFETY RECORDS

- We began this financial year with a strong commitment to improve our safety performance. While there have been significant gains made across our businesses, I am deeply saddened by the loss of seven lives this year. Our LTIFR stands at 0.67 in FY2020.
  We have completed the incident investigations for the accidents and are taking measures to ensure repeats do not occur. The learnings from the incidents are being implemented across the business. Occupational health and safety is a non-negotiable factor for us and we are determined to achieve absolute 'Zero Harm' in our operations.
  In light of our safety incidents, there is a renewed focus by the leadership team to improve our safety performance. Three safety KPIs were taken to help us improve our journey to Zero Harm. We are making steady progress in all three areas.
  - **In the area of Visible Felt Leadership**
    Where leaders & support personnel are mandated to spend quality time in the field performing safety interactions
  - **In the area of Managing Safety Critical Tasks**
    That could cause a fatal or a permanent injury like Fall of Ground, Working at Heights, Confined Spaces etc
  - **In the area of Business Partner engagement**
    We have established a committee that has the mandate to help improve the Business Partner safety performance. The committee is currently completing work on pre-qualification requirements, and on special terms and conditions that highlight Vedanta's safety expectations for Business Partners, especially those that do heavy maintenance and construction activities at our facilities

We are confident that these measures will help stabilise our safety performance in the short term and help us move closer towards our objective of Zero Harm and Zero Fatality. As discussed above, the last quarter of FY2020 has been a time of global crisis as a result of the COVID-19 spread. We are fully committed to the safety of our employees.

Our strategy has been threefold: practice physical distancing for all essential workstreams, rely on early diagnosis for our workforce to prevent an outbreak and share knowledge and best practices across our business entities to ensure safe workplaces.

While the average footfall at our plants has been reduced significantly, our employees are actively involved in building homegrown solutions to the challenges created by COVID-19. For example, we now have non-touch based hand washing system which was built by our employees. Additional safety measures in terms of sanitiser fogging, social distancing measures through on ground marking are also in place to ensure minimum contact. We have also launched an healthcare helpline for our employees in partnership with Apollo Hospitals, through which they can tele-consult with a general physician or a psychologist.

## SUSTAINABILITY, A BUSINESS AND SOCIAL IMPERATIVE

Our unwavering focus on operating a sustainable and responsible business continued to deliver results in FY2020 which was well affirmed by third-party experts. Work on improving the stability and the management of our tailings dam facilities continues. Business Units are implementing the recommendations from the audit conducted by Golder Associates in the previous year. In addition, we have updated the Tailings Dam Performance Standard and have added a detailed set of Guidance Notes that all our BUs must adhere to when managing their tailings facilities. With a view to de-risk our tailings dam facilities, we have embarked on a programme to de-water our tailings and store the dry tailings moving forward. Our Lanjigarh red mud pond has led the way early on this and HZL's Zawar location has commenced operations with this approach during the year. We are exploring to adapt this to our Dariba and Rampura Agucha locations.

Employees at Cairn Oil & Gas

2020 also is the end-of-cycle for our GHG emissions intensity reduction target. We have managed to reduce our GHG emissions intensity by 13.83%. This is slightly below our targeted 16% reduction from a 2012 baseline and indicative of the stretch target we had taken. This reduction in equivalent to ~9 million tonnes in avoided GHG emissions. We have begun work on setting our next set of long-term GHG reduction targets and will be disclosing those numbers in the next fiscal cycle.

Read a detailed account of our ESG strategy, initiatives and performance on (Page XX)

## BUSINESS REVIEW AND OUTLOOK

**Zinc**

We are on track to become the world's largest long-life, low-cost zinc-lead-silver producer in the coming two years. This is being made possible with both our Zinc India operations through HZL and our Zinc International business. At HZL, where we have fully integrated operations with matching mining and smelting capacities, we are witnessing solid output, across both zinc and silver while maintaining our cost leadership. The ramp-up of our mines is in its final phases and will significantly de-risk our future growth potential for the next few years. HZL is

**2020 marks the end-of-cycle for our GHG emissions intensity reduction target. We have managed to reduce our GHG emissions intensity by 13.51%. This reduction in equivalent to ~8 million tons in avoided GHG emissions.**

currently targeting an expansion of up to 1.35 MTPA and then further to 1.5 MTPA.With respect to Zinc International, the Gamsberg plant, inaugurated in 2019, is beginning to stabilize and ramp up. An expanded Gamsberg will see ore mined increase to 8 MTPA, with zinc-in-concentrate rising to 600,000 tpa. This will make Gamsberg the largest open-cast mine in South Africa, and its first fully integrated zinc manufacturing facility.

Read more on Zinc India and Zinc International on (Page XX)

**Oil & Gas**
In Oil & Gas, we are monetising our existing portfolio and driving growth to the next level. We currently have 136 drilled and 41 hooked up wells. The gas production facility has also been ramped up to a design capacity of 90 mmscfd. We had a planned shut down at the Mangala processing terminal in February and have been ramping up our production since then.

Our current portfolio for exploration consists of XX offshore and XX onshore Open Acreage Licensing Policy (OALP) blocks, with a combined acreage of ~65,000 sq km. The full potential production expectation from this portfolio is 500 kboepd and we have committed a capex of US$800 million for the exploration phase, with 192 exploratory wells to be drilled. For Production Sharing Contract (PSC) blocks, we have a committed investment of US$135 million (Rajasthan Tight Oil Appraisal and KG-Offshore). For Rajasthan exploration, we have released an EOI for an integrated exploration and appraisal work programme.

Read more Oil & Gas on (Page XX)

**Aluminium**
In what can be termed as the outcome of collective and conscious efforts, we have maintained the cost of production of Aluminium business at US$1,690/t, despite the macro environment. With respect to alumina, our Lanjigarh refinery achieved a record production of 1,811 tonnes up 21% y-o-y with costs down 15% y-o-y, with the local bauxite meeting more than 50% of our requirement. A key highlight for the year was also emerging as winners of the Jamkhani Coal Block auction, which will add to the energy security for the business. For aluminium, we continue to progress on set strategic levers that comprise coal initiatives, alumina ramp up, bauxite sourcing and others. Together, these levers have brought down our per tonne cost below US$1,500.

Read more on Aluminium on (Page XX)

**Steel**
Electrosteel Steels Limited (ESL) has exhibited continued volume growth since its acquisition with the financial year production up 3% at 1,231 kt with industry leading margins at US$127/t during the last quarter of financial year.

During the year, we also acquired Ferro Alloys Corporation Limited (FACOR), which will complement and strengthen our existing steel vertical with its production of ferro alloys. Up to 20% of FACOR's production will be used for our steel operations, which will drive significant efficiencies for us. In the near future, we are expecting a doubling of output from the steel vertical.

Read more on Steel on (Page XX)

**Iron Ore**
In our Iron Ore business the production of saleable ore at Karnataka at 4.4 million tonnes, up 6% y-o-y while sales at Karnataka was at 5.8 million tonnes, up 125% y-o-y. Goa operations remain suspended due to state-wide directive from the Hon'ble Supreme Court; engagement continues with the government for a resumption of mining operations.

Read more on Iron Ore on (Page XX)

**Copper**
In Tuticorin, a legal process being pursued to achieve a sustainable restart of the operations at our copper smelter.

Read more on Copper on (Page XX)

## RESOURCES AND RESERVES

As a natural resources Company, our available reserves define our value proposition and market success. As introduced at the start of this report, in our Zinc, Iron Ore and Bauxite reserves, we fall in the top decile globally for largest reserves. Further, in our Oil & Gas business, we are the largest private sector acreage holder in India.

Refer to the detailed table on (Page 09)

## DIVIDENDS

During the year, the Board declared dividends aggregating ~₹1,500 crore crore at ₹3.9 per equity share.

## PEOPLE

During my time within the Vedanta Group, I've been fortunate to interact with a lot of our people, who have the talent and the passion to make a difference. It is them who give me the conviction that we are going to continue our winning streak, without losing focus on our core values and the larger purpose. Our ~80,000-strong workforce leads the way forward for us, and I thank them for all their efforts.

Read more on our people practices on (Page XX)

## OUTLOOK

As I look ahead, I can say with confidence that we are positioned to grow in our key markets and service the needs of the people. Notwithstanding the current uncertainties around COVID-19 and the ensuing impacts, we will continue to invest forward and deliver superior returns to our stakeholders.

Over the next three to five years we plan to invest ~US$9 billion across our businesses, and are expecting to grow our revenues by 30% to 40%. Once the industrial and economic scenario has found a new normal, our enviable project pipeline across all our key businesses will benefit from strong signals of resumption of the accelerated growth in India, owing to pro-growth and pro-business government policy decisions. I thank the Board and the Chairman, our people and partners, and all other stakeholders for the support you have extended to help me execute my role well. Going forward, we will continue to raise the bar with everyone and deliver results as we always have. I seek your continued guidance and support in achieving the same.

Best regards,

**Sunil Duggal**
Chief Executive Officer

# UNLEASHING LANJIGARH: **LINEARITY OF PERFORMANCE & INTEGRATED PLANNING**

Vedanta's aluminium assets have been envisioned to be fully integrated operations with secured bauxite and coal sources, in-house alumina refinery and captive power plants.

Lanjigarh is a small town located in the eastern part of India in Odisha. Situated here is our state-of-the-art alumina refinery, led by a diverse team of global and local talent. It forms a crucial link in our value chain, as it feeds our aluminium smelters at Jharsuguda and BALCO.

In the past two years, the refinery has had an exemplary run, with alumina production volumes growing at 22% CAGR, while the cost of production has declined by 8% CAGR to sub-300 $/T levels. The refinery delivered its highest-ever production of 1.8 million tonnes of alumina in FY2020, 21% higher than FY2019.

Since its inception, the refinery has been fed by several bauxite sources globally. As a result, achieving consistent plant productivity was challenging. To mitigate this long-standing challenge, a comprehensive operational excellence programme was run at the refinery from quarry to lorry (from bauxite sources to alumina dispatch), supported by an aggressive war-room approach that examined each step in the process for revamping and optimising.

### INTRODUCING LINEARITY OF PERFORMANCE

As a result of the operational excellence initiative, the multitude of bauxite sources were cut down to three to four sustainable sources, chosen based on geological similarities.

This directly enhanced plant productivity and improved alumina recovery. A second challenge was the prevalence of high atmospheric moisture levels aggravated by Indian monsoons. This adversely affected the bauxite quality and impacted our production levels.

To contain this risk, we undertook extensive sampling across the supply chain to identify points of moisture ingress and went on to mitigate the issue. This risk identification and mitigation model was replicated throughout the plant, helping us improve and evolve our operating processes.

### INTEGRATED PLANNING ACROSS PROCESSES AND STAKEHOLDERS

Committed to continuous improvement, we conducted a production loss mapping exercise across various stages of the refinery, along with a relentless focus on plant maintenance. With the introduction of robust production planning across sourcing, logistics, handling, operations & maintenance, equipment availability and turnaround time improved dramatically. Detailed logistics planning and ensuing debottlenecking projects helped enable the production teams to operate with higher versatility across parameters.

### HEALTH, SAFETY AND ENVIRONMENT (HSE)

Best-in-class HSE performance has always been at the core of the process execution at Lanjigarh. To reaffirm this, several concerted and award-winning efforts were undertaken at the unit to further enhance the overall sustainability of our operations.

**The refinery delivered its highest-ever production of 1.8 million tonnes of alumina in FY 2019-20, 21% higher than FY 2018-19.**

Mine Cutting Machine at our plant site

## LEVERAGING TECHNOLOGY TO DRIVE EFFICIENCY

The Aluminium & Power Sector and General Electric (GE) signed an agreement to implement GE's Digital Smelter solutions at its largest smelter in India at Jharsuguda to significantly increase its operational efficiency and productivity. A first-of-its-kind deployment in any aluminium plant in India, the digital twin technology is part of Vedanta's long-term commitment to digital transformation. Together with advanced analytics, this technology is expected to substantially reduce specific power consumption at the smelter. Typically, a one-percent reduction in specific power consumption effected by digital smelter solutions can save about US$4-5 million annually in the smelter potlines alone, for every one million tonne of aluminium produced annually. In addition, this digital solution is expected to improve raw material utilisation, increase smelter pot life, enhance operational efficiency, maximise safety and reduce wastage, thereby delivering best-in-class performance outcomes and significant cost savings.

# HINDUSTAN ZINC:
# DRIVING DIGITAL DISRUPTION IN THE MINING SECTOR

HZL remains at the forefront of transformation in the mining sector, implementing best-in-class technological solutions to strengthen its competitive edge. Its journey towards digitalisation and technological excellence has led to the emergence of several consequent opportunities in 2020 and beyond.

### DATA IS THE NEW GOLD, AND IN MINING IT IS A PRIORITY

This year, HZL launched a collaboration centre, which can be easily termed as one of the world's best Internet of things (IoT) setups in the mining industry. This Centre has infused data-driven decision-making across our operations. For us, this step goes a long way in nurturing an ecosystem where our operations team, Original Equipment Manufacturers (OEMs), Subject Matter Experts (SMEs), data scientists and senior management collaborate seamlessly towards meaningful outcomes. Relevant data from our mines, mills, smelters and power plants are integrated into a single platform, providing a holistic view and strengthening the foundation for a digital enterprise, while offering several other possibilities.


Employees at Operational site, Hindustan Zinc Captive Power Plant

The Centre is working on advanced analytical modelling to allow accurate predictions to prevent major equipment failures and production losses, thereby optimising our assets and operations. This strategy will lead to an increase in metal recovery by ~2%, while cost optimisation in our underground operations and in the smelting process is already visible.

**e-Volve: a first-inthe-Zinc industry B2B online commerce platform. It enables customers to place orders in just 3-clicks on real time INR prices with minimum order quantity of as low as one tonne and offers delivery from our extensive network of warehouses.**

## DRISHTI - AN EYE FOR DETAIL, EVEN A MILE UNDERGROUND

HZL launched a project called 'Drishti' to make the underground mining process more predictable, reliable and sustainable with maximum safety using state-of-the-art technology. Under 'Drishti', we target to improve the overall underground equipment effectiveness by over 10% this year. To achieve this, we established a high bandwidth Wi-Fi network to facilitate two-way communication with underground equipment and personnel. This enables us to track man, machine and material movement, examine progress of tasks on real-time basis and manage data centrally. In essence, it helps us provide the right information at the right time, in the right format to the right person.

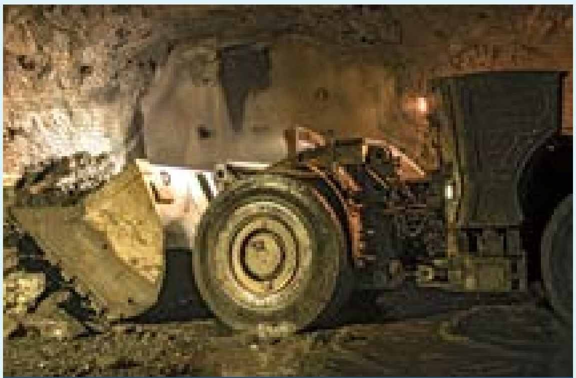
Under 'Drishti', we are now vested with a unique ability to monitor and predict the health of equipment, which operate as deep as a kilometre below ground. This helps us shift from the current practice of preventive to condition-based predictive maintenance. Additionally, this will also empower us with a unique functionality of traffic management on ramp, which has the potential to significantly reduce the idling time and ensure better safety.


Underground operations at Sindesar Khurd Mine

## EVOLVING METAL SALES CHANNEL AT HZL

During FY2020, HZL's marketing team completed the Phase I development milestone for e-Volve, a first-in-the-Zinc industry, B2B online commerce platform. e-Volve is set to go-live in Q1FY21 and will transform the way metals are purchased in India – and enable 'Buy in three clicks'.

e-Volve aims to be the digital marketplace of choice for zinc, lead and silver consumers within the country. It enables them to place orders in just three-clicks on real-time, INR prices with minimum order quantity of as low as one tonne and offers delivery from our extensive network of warehouses. This digital marketplace is expected to enable HZL reach out to over 2,000 customers of zinc, lead and silver and will reduce transaction and inventory costs for the industry.


Underground Operations at Sindesar Khurd Mine

CAIRN OIL & GAS:

# EXPANDING FOOTPRINT FOR INDIA'S SELF SUFFICIENCY

At Cairn, Vedanta's Oil & Gas arm, we are passionate believers of India's hydrocarbon potential and of our demonstrated capability to unlock oil & gas resources across India.

As our overarching objective is to contribute 50% of India's crude oil production, we focus on driving volume growth on two fronts:

1. **Producing blocks under Production Sharing Contract (PSC)**
2. **Exploring the 51 blocks we were awarded as per Open Acreage Licensing Policy (OALP) and the two blocks in Discovered Small Fields (DSF)**

### PSC BLOCKS

In the PSC blocks, we are investing a gross capex of US$3.2 billion across the portfolio of projects, comprising enhanced oil recovery, tight oil, tight gas, infrastructure upgrade, exploration and appraisal. Execution of these projects through an integrated partnership model with global oil field service companies is underway. These projects shall contribute to the near-term growth in volumes.

Furthermore acquisition of 51 OALP blocks across basins in India has led to a tenfold jump in our acreage from the existing/producing blocks of ~6,000 sq km. in August 2018 to current levels of ~65,000 sq km. This has established us as one of the largest private sector acreage holders in the country. The blocks are contiguous to some of the highest oil-producing fields in Barmer, Assam, and the Krishna Godavari (KG) basin. They also possess a good mix of unconventional and conventional play, along with existing infrastructure and data capabilities to jumpstart activities on an immediate basis. The acquired blocks have a work programme commitment of ~10,620 km of 2D seismic, ~22,882 sq km of 3D seismic and over 192 exploratory wells.

Employee at Cairn Oil & Gas

**Satellite-based Sub-Terrain prospecting (STeP®) applied in the OLAP blocks is the first application in oil & gas exploration in India to provide information to optimise & prioritise areas for exploration focus.**

### OALP BLOCKS

In OALP blocks, our objective is to reduce cycle time from exploration to production through innovative technology adaption. We have implemented an innovative technology, Full Tensor Gravity Gradiometry™ (FTG) airborne survey, to prioritise area for hydrocarbon prospectivity. This is the largest onshore FTG survey programme in India covering an area of 1,200 LKM in Assam blocks and 8,000 LKM in Kutch blocks.

The seismic acquisition programme has commenced in Assam, Kutch and mobilisation of the crew is underway in Rajasthan, Cambay and Offshore blocks. We have applied satellite-based Sub-Terrain Prospecting (STeP®), which includes eight remote sensing and computational technologies within a six-month time frame covering an area of 3,650 sq km. This is the first application in oil & gas exploration in India to provide information to optimise and prioritise areas for exploration focus. Adaption of technology will enable us to commence exploratory drilling in the early part of FY2021 and drive early monetisation. Together, our approach towards PSC and OALP blocks will enable us to progress towards our vision for oil & gas, and in turn, contribute to India's hydrocarbon security.

**Largest onshore FTG survey program in India covering an area of 1200 LKM in Assam blocks and 8000 LKM in Kutch blocks.**

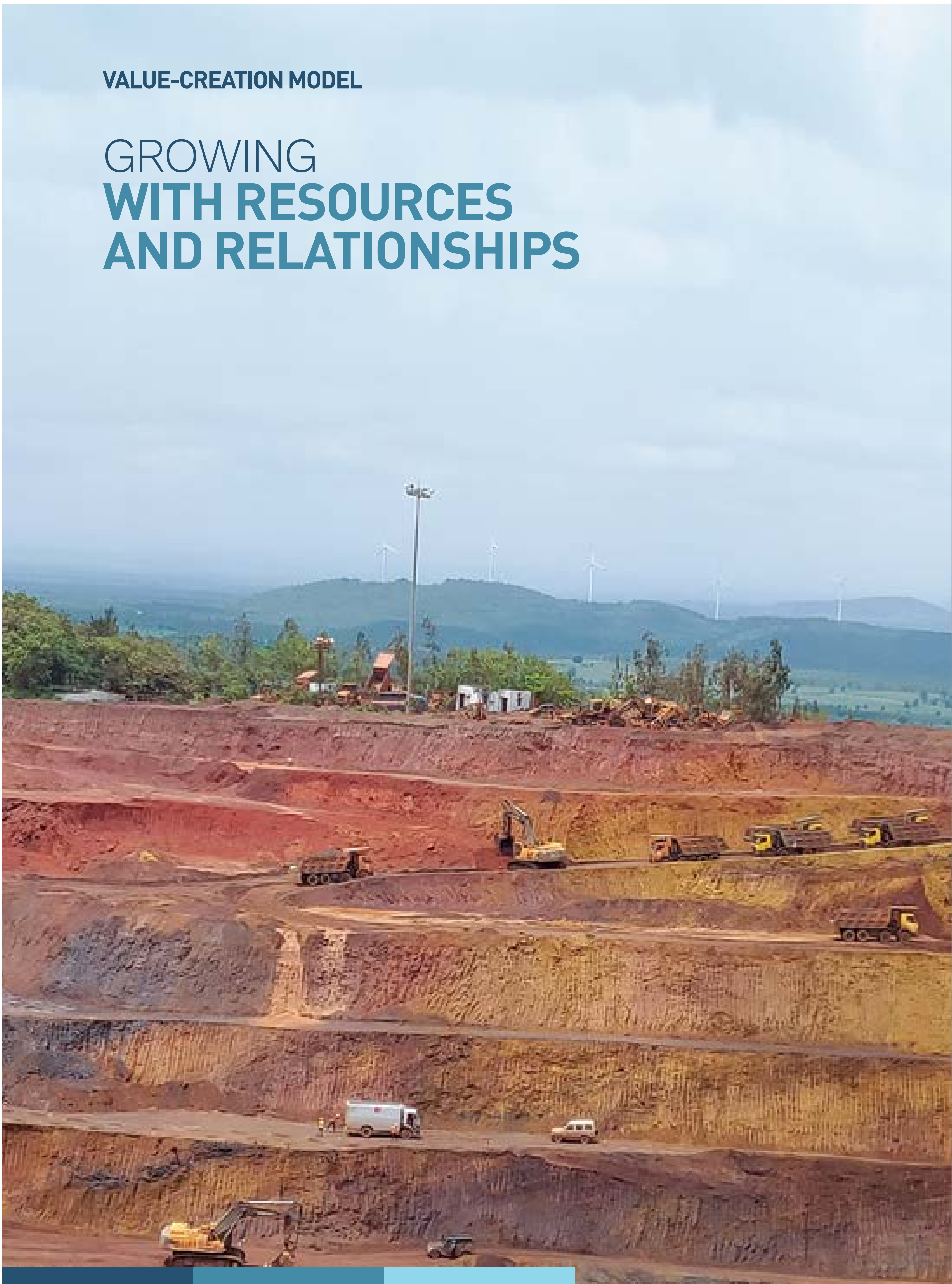
## OFFSHORE DIGITAL OILFIELD OF THE FUTURE

As a part of digital journey, Cambay Basin Offshore at Suvali (CB/OS-2) is now integrated with corporate Historian i.e. replicating the performance of the oilfield on a computer. The implementation of digital oilfield has assisted Oil & Gas business in increasing operational efficiency, production optimisation, collaboration, data integration, decision support, and workflow automation. Additionally, it enabled us in achieving productivity gains through improved reservoir understanding and remote monitoring of drilling and completion operations.

Employee at Cairn Oil & Gas

VALUE-CREATION MODEL

# GROWING WITH RESOURCES AND RELATIONSHIPS



## FINANCIAL CAPITAL

We are focused on optimising capital allocation and maintaining a strong balance sheet while generating strong free cash flows. We also review all investments, taking into account the Group's financial resources with a view to maximising returns to shareholders.

## MANUFACTURED CAPITAL

We invest in best-in-class equipment and machinery to ensure we operate as efficiently and safely as possible, both at our current operations and in our expansion projects. This also supports our strong and sustainable cash flow generation.

## INTELLECTUAL CAPITAL

As a relatively young Company, we are keen to embrace technological developments and encourage innovation. We encourage our people to nurture and implement innovative ideas, which will lead to operational improvements across our operations.

## HUMAN CAPITAL

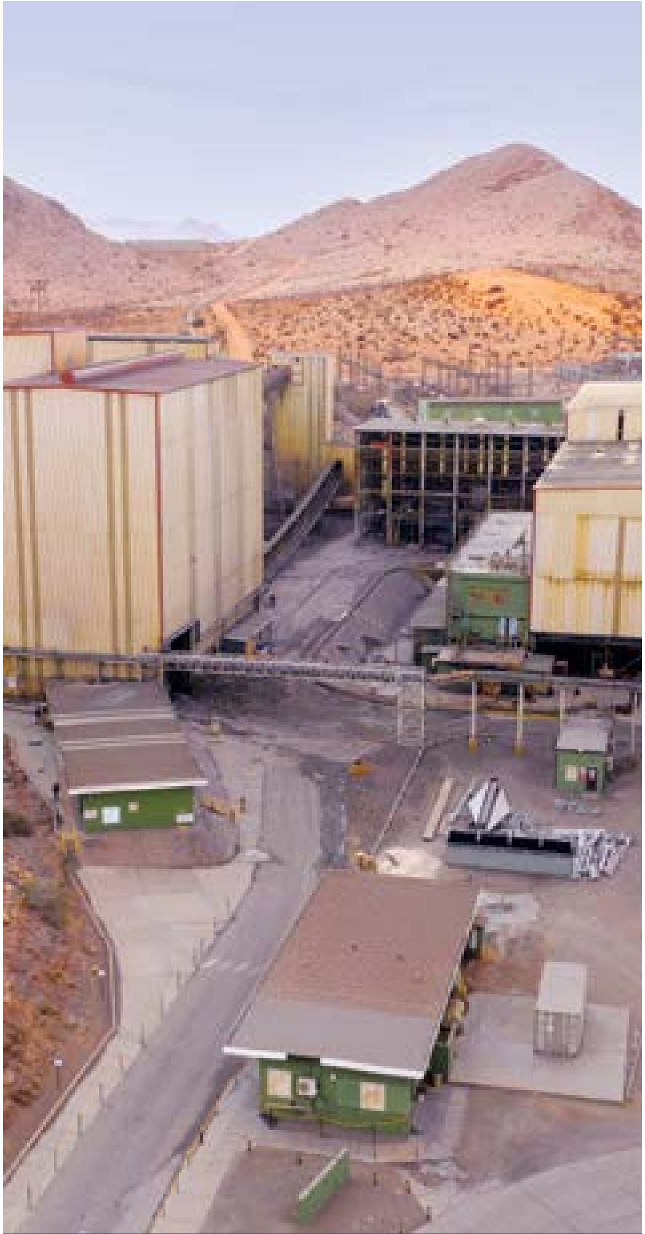
We have employees drawn from across the world, and their diverse skills and experience contribute to our operations. The mining and plant operations require specialised skills for which we employ qualified technical, engineering and geology experts. In addition, we create a culture which nurtures safety, innovation, creativity and diversity, which helps us to meet our business goals while also enabling our employees to grow personally and professionally.

## SOCIAL & RELATIONSHIP CAPITAL

We aim to forge strong partnerships by engaging with our key stakeholders, including shareholders and lenders, suppliers and contractors, employees, governments, communities and civil societies. These relationships help maintain and strengthen our licence to operate.

## NATURAL CAPITAL

India and Africa have favourable geology and mineral potential. These regions provide us with world-class mining assets and extensive R&R. Additionally, operating our mines requires a range of resources including water and energy which we aim to use prudently and sustainably.


Plant at Deeps - Black Mountain Mine

## CREATING VALUE FOR OUR STAKEHOLDERS:

**Shareholders**
A return on investment

**Employees**
A safe and inclusive working environment

**Governments**
Generating economic value for the society and delivering sustainable growth

**Communities**
Investment in health, education and local businesses

**Suppliers, customers and service providers**
Building long-term partnerships

# VALUE-CREATION MODEL CONTINUED...

Our value-creation model is aimed at delivering the optimum value for all our stakeholders, in various means and forms.

## INPUTS

### FINANCIAL CAPITAL

**Equity**
₹**372** crore

**Gross debt**
₹**59,187** crore

**Net worth**
₹**71,748** crore

**Retained earnings**
₹**54,263** crore

**Cash and cash equivalents**
₹**37,914** crore

**Capex**
₹**6,385** crore

### MANUFACTURED CAPITAL

**Plant and equipment** (in value terms)
₹**107,489** crore

**Capital Work in Progress (CWIP)**
₹**16,837** crore

### HUMAN AND INTELLECTUAL CAPITAL

**Employees including contractors**
**77,668**

**Geologists including contractors**
**386**

**HSE employees including contractors**
**1,709**

**Number of hours of training**
**~54,8952**

**Safety training hours**
**1.4** million

**Best-in-class corporate governance practices**

**Highest quality safety practices**

**Technology updates**

**O&G**
- World's largest Enhanced Oil Recovery (EOR) polymer flood project in Mangala field
- New-age technology of High Density Multi Stage Fracturing in horizontal transverse wells - first in India

**Zinc International**
- Smart Ore is a digital concept providing end-to-end solutions for mine performance and mine condition

**Zinc India**
- Autonomous machines for 24x7 mining at SK mine and remote controlled LHD (Load, Haul, Dump) for ore hauling

**Aluminium**
- Parameters defined for Category A pots based on power consumption, Fe content

### SOCIAL & RELATIONSHIP CAPITAL

**Community investment**
₹**288** crore

**Rated by two domestic rating agencies**
**CRISIL and India Ratings**

**Strong network of global and domestic relationship banks**
**25**

**Independent Directors**
**5**

### NATURAL CAPITAL

**R&R - Zinc India**
**403** million tonnes, containing **31.8** million tonnes of zinc-lead metal and **898** million ounces of silver

**R&R – O&G**
**1,194** mmboe gross proved and probable reserves and resources

**Water consumed**
**253** million $m^3$

**R&R - Zinc International**
**509.4** million tonnes, containing **26.6** million tonnes of metal

**Energy consumption**
**526** million GJ

**Coal used**
**25** million tonnes

## ACTIVITIES

**We operate across the mining value chain focusing on long-term and low-cost assets in India and Africa**

### EXPLORE
We invest selectively in exploration and appraisal to extend mine and reservoir life.

### DEVELOP
We develop world-class assets, using the latest technology to optimise productivity.

### EXTRACT
We operate low-cost mines and oil fields, with a clear focus on safety and efficiency.

### PROCESS
We focus on operational excellence and high asset utilisation to deliver top quartile cost performance and strong cash flow.

### MARKET
We supply our commodities to customers in a wide range of industry sectors, from automotive to construction, from energy to consumer goods.

### RESTORE
We manage our long-life assets as effectively as possible and return them to a natural state at the end of their useful life.

## OUTCOMES

### FINANCIAL CAPITAL

**Turnover**
**₹83,545** crore

**Attributable PAT** (before exceptional items): **₹3,995** crore

**FCF post-capex**
**₹7,130** crore

**EBITDA**
**₹21,061** crore

**Earnings per share (EPS)** (before exceptional items): **₹10.79** /share

**RoCE**
**~11.2%**

**Total exchequer contribution**
**₹32,400** crore

**Dividends paid**
**₹3.9** per share

**Net Debt to EBITDA**
**1.0x**

### MANUFACTURING CAPITAL

**Production across various businesses**

**Zinc India:**
Zinc: **~1.2** mtpa
Silver: **610** tonnes

**Zinc International:**
Scorpion and BMM: **> 133** kt
Gamsberg: **108** kt

**Oil & Gas:**
Gross volume: **174** kboepd

**Aluminium:**
Alumina: **1.8** mtpa
Aluminium: **1.9** mtpa

**Copper:**
**77** kt

**Power**
**11.2** billion kWh

**Pig Iron**
**681** kt

**Steel**
**1.2** MnT

### HUMAN AND INTELLECTUAL CAPITAL

**Lost Time Injury Frequency Rate (LTIFR) 0.67**

**Attrition rate**
**7.4%**

**Diversity ratio**
**10.9%**

### SOCIAL & RELATIONSHIP CAPITAL

**CSR Programme Beneficiaries**
**C.3.26 million**

**Contribution to the exchequer**
**₹32,400** crore

**Operational Nand Ghars**
**502**

**Youth benefited from Employment based skills training 3,600+**

**Interim dividends paid**
**₹1,450** crore

**Nand Ghars built**
**1,302**

### NATURAL CAPITAL

**Water recycled**
**29%**

**Fly ash utilisation rate**
**105%**

**Water savings**
**1.87 million m³**

**GHG emitted**
**59 Mn tCO2e**

**High Volume, Low Effect Waste Recycled: 88%**

Refer to (Page XX)


An evening at Cairn Oil & Gas, Barmer

# PROGRESSING ON OUR GROWTH PATH

## STRATEGIC PRIORITY

### COMMITMENT TO THE LARGER PURPOSE WITH FOCUS ON WORLD-CLASS ESG PERFORMANCE

### DESCRIPTION

We operate as a responsible business, focusing on achieving 'zero harm, zero discharge and zero wastage', and thus minimising our environmental impact. We promote social inclusion across our operations to promote inclusive growth. We establish management systems and processes in place to ensure our operations create sustainable value for all our stakeholders.

### KPIs

- LTIFR
- CSR footprint
- Carbon Footprint
- Gender diversity

### RISKS

- Health, Safety and Environment (HSE)
- Tailings dam stability
- Managing relationship with stakeholders
- Regulatory and legal risk

## STRATEGIC PRIORITY

### AUGMENT OUR RESERVES & RESOURCES (R&R) BASE

### DESCRIPTION

We look at ways to expand our R&R base through targeted and disciplined exploration programmes. Our exploration teams aim to discover mineral and oil deposits in a safe and responsible way, to replenish the resources that support our future growth.

### KPIs

- Total 2P+2C R&R in O&G
- Total R&R in Zinc India and Zinc International

### RISKS

- HSE
- Discovery risk
- Regulatory and legal risk

## STRATEGIC PRIORITY

### DELIVERING ON GROWTH OPPORTUNITIES

### DESCRIPTION

We are focused on growing our operations organically by developing brownfield opportunities in our existing portfolio. Our large, well-diversified, low-cost and long-life asset portfolio offers us attractive expansion opportunities, which are evaluated based on our return criteria for long-term value creation for all stakeholders.

### KPIs

- Revenue
- ROCE
- FCF post-capex
- Growth capex

### RISKS

- Major project delivery
- Cairn related challenges
- Regulatory and legal risk

Aerial shot of the alumina refinery at Lanjigarh

## FY2020 UPDATE

- Seven fatalities occurred in the financial year; consequent commitment to increase oversight from Group Executive Committee (ExCo) to prevent future occurrences
- Average Score of 65% achieved in ten safety performance standards
- LTIFR reported at 0.67
- Achieved water savings of 3.16 million cubic metres (Target: 2.5 million cubic meters)
- c.13.83% reduction in GHG intensity over baseline of 2012
- Achieved energy saving of 2.4 million GJ
- Third-party review of tailings/ash dyke management system and development of specific improvement plan (India operations)
- c.105% of generated fly ash is being utilised.
- Baseline surveys conducted across Group, BU plans aligned with findings/recommendation
- 1,302 Nand Ghars constructed
- 'Passion to serve' - employee volunteering online platform launched in August 2019.
- A standard online community grievance record/ redressal software (NIVARAN) established across the group.
- 100% new hires trained on Code of Conduct
- 20% female representation on the Comapny FY2020 Board
- 8.7% improvement in our campus female hiring programme
- Sustainability Committee constituted

## FY2020 UPDATE

**Zinc India**

- During the year, gross additions of 14.6 million tonnes were made to R&R, prior to depletion of 14.5 million tonnes
- Combined R&R were estimated to be 403 million tonnes, containing 31.8 million tonnes of zinc-lead metal and 898 million ounces of silver
- Overall mine life continues to be more than 20 years

**Zinc International**

- During the year, gross additions of 75.4 million tonnes of ore and 4 million tonnes of metal were made to reserves and resources (R&R), after depletion
- Combined mineral resources and ore reserves estimated at 509.4 million tonnes, containing 26.6 million tonnes of metal
- The R&R support a mine life of more than three decades

**Oil & Gas**

- Upside potential of ~5.5 billion boe of resource across a total of 51 blocks with the addition of 10 new blocks in OLAP II & III

## FY2020 UPDATE

**Oil & Gas**

- Early gas production facility fully commissioned with ramped up volumes to ~127 mmscfd
- Won 10 exploratory blocks in OALP II & III
- To deliver the capex project, 235 wells have been drilled and 75 wells hooked up till FY2020
- The addition of 10 blocks catapults us to become one of the largest private acreage holders in India, with a tenfold jump in acreage from its existing/ producing blocks of ~6,000 sq km to ~65,000 sq km across its total 58 blocks

## STRATEGIC PRIORITY

### OPTIMISE CAPITAL ALLOCATION AND MAINTAIN STRONG BALANCE SHEET

## DESCRIPTION

Our focus is on generating strong business cash flows and maintaining strict capital discipline in investing in profitable high IRR projects. Our aim is to maintain a strong balance sheet through proactive liability management. We also review all investments (organic and acquisitions) based on our strict capital allocation framework, with a view to maximising returns for shareholders.

### KPIs

- FCF post-capex
- Net Debt/EBITDA (Consol)
- EPS (before exceptional items)
- Interest cover ratio
- Dividend

### RISKS

- Access to capital
- Fluctuation in commodity prices (including oil) and currency exchange rates
- Regulatory and legal risk
- Tax related matters

## STRATEGIC PRIORITY

### OPERATIONAL EXCELLENCE

## DESCRIPTION

We strive for all-round operational excellence to achieve benchmark performance across our business, by debottlenecking our assets to enhance production, supported by improved digital and technology solutions. Our efforts are focused on enhancing profitability by optimising our cost and improving realisation through the right marketing strategies.

### KPIs

- EBITDA
- Adj. EBITDA margin
- FCF post-capex
- ROCE

### RISKS

- Fluctuation in commodity prices (including oil) and currency exchange rates
- HSE
- Tailings dam stability
- Loss of assets or profit due to natural calamities

Employee at Aluminum plant

## FY2020 UPDATE

- FCF reduced from 11,553 INR crore to 7,130 INR crore, down 38% y-o-y
- Net debt decreased from ₹26,956 crore to ₹21,273 crore
- Net Debt/EBITDA at 1.0x on a consolidated basis.
- Dividend worth c.₹1,450 crore, ₹3.90/share distributed in VEDL

## FY2020 UPDATE

**Zinc India**
- Record ore production of 14.5 million tonnes despite disruptions on account of COVID-19
- Mined metal production of 917 kt and refined zinc-lead production of 870 kt

**Zinc International**
- Cost of production at US$1,665/t, down 13% y-o-y
- Increase in Gamsberg production volume from 17 kt in FY2019 to 108 kt in FY2020
- During FY2020, total production stood at 240 kt, 63% higher y-o-y. This was primarily due to ramp up of first phase of Gamsberg expansion plan

**Oil & Gas**
- Development rigs as on March 2020, with 136 wells drilled and 41 wells hooked up during the year.
- Two new wells hooked up in Ravva block adding ~10 kboepd of incremental volumes
- Gas production for Rajasthan block increased by 122% to 79 mmscfd as early production facility fully commissioned with ramped up volumes to ~127 mmscfd
- Implemented largest Full Tensor Gravity Gradiometry™ (FTG) airborne survey in India covering an area of 1,200 LKM in Assam blocks and 8000 LKM in Kutch blocks.
- Satellite-based Sub-Terrain prospecting (STeP®) applied in Assam, which includes eight remote sensing and computational technologies covering an area of 3,650 sq km
- Seismic acquisition programme commenced in Assam and Kutch; 1,100 sq km in Kutch and 120 sq km, 265 LKM completed in Assam.
- Production Sharing Contracts (PSC) signed for Ravva block extended for 10 years

**Aluminium & Power**
- India's highest aluminium production at 1,904 kt
- Record alumina production from Lanjigarh refinery at 1,811 kt, up 21% y-o-y, through continued debottlenecking
- Q4FY20 Lanjigarh cost of production lowest quarterly ever at 258 $/T
- Q4FY20 hot metal cost of production significantly lower at US$ 1,451 per tonne, 20% lower y-o-y
- CoP of alumina improved to US$ 275 per tonne, due to benefits from increase in locally sourced bauxite, continued debottlenecking, improved plant operating parameters and rupee depreciation
- Record PAF of 91% at the 1,980MW TSPL plant in FY2020

**Steel**
- Cost decreased by 9% y-o-y from 457 $/T to 418 $/T in FY2020
- Healthy margin of ~127 $/T during the last quarter

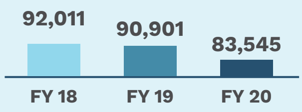
**Copper and Iron Ore**
- Production of saleable ore at Karnataka at 4.4 million tonnes, up 6% y-o-y
- Iron Ore sales at Karnataka at 5.8 million tonnes, up 125% higher y-o-y due to an increase in production and stock liquidation at Karnataka by 1.4 MT.
- Production of pig iron decreased by 1% to 681,000 tonnes in FY2020, mainly due to improved coke availability during the year and other operational efficiencies.
- Continued engagement with the government and local communities to restart operations at Goa and Tuticorin

## KEY PERFORMANCE INDICATORS

# PERFORMING TO DELIVER **ATTRACTIVE RETURNS**

## GROWTH METRICS

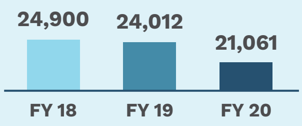
### REVENUE (₹cr)




**Description:** Revenue represents the value of goods sold and services provided to third parties during the year.

**Commentary:** FY2020, consolidated revenue was at ₹83,545 crore compared with ₹90,901 crore in FY2019. This was driven by subdued commodity prices, lower volume at Zinc India and Oil & Gas businesses and lower power sales at TSPL, partially by higher volume at the Aluminum business, additional volumes from Gamsberg operations, higher sales at Iron Ore Karnataka & Electrosteel and rupee depreciation.

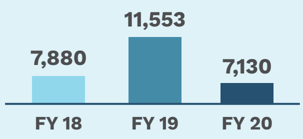
### EBITDA (₹cr)




**Description:** Earnings before interest, tax, depreciation and amortisation (EBITDA) is a factor of volume, prices and cost of production. This measure is calculated by adjusting operating profit for special items and adding depreciation and amortisation.

**Commentary:** EBITDA for FY2020 was at ₹21,061 crore, 12% lower y-o-y. This was mainly on account of subdued commodity prices, lower volume and higher cost at Zinc India and Oil & Gas business partially offset by higher volume at Aluminium business, additional volumes from Gamsberg operations, higher sales at Iron Ore Karnataka & Electrosteel, easing out of input commodity inflation, improved cost of production at Aluminium business, past exploration cost recovery at Oil & Gas business and rupee depreciation.

### FCF POST-CAPEX (₹cr)

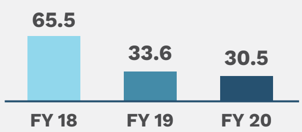



**Description:** This represents net cash flow from operations after investing in growth projects. This measure ensures that profit generated by our assets is reflected by cash flow, in order to de-lever or maintain future growth and shareholder returns.

**Commentary:** We generated FCF of ₹7,130 crore in FY 2020 (FY2019: ₹11,553 crore) driven by lower EBITDA primarily on account of lower commodity prices and working capital blockage due to COVID-19 impact partially offset by continued focus on cost savings, disciplined capex outflow and lower tax outflow.

## OTHER KEY FINANCIAL RATIOS

### DEBTORS TURNOVER RATIO

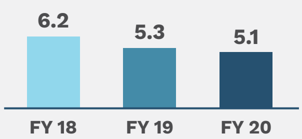



**Description:** The debtors' turnover ratio is an accounting measure used to quantify a company's effectiveness in collecting its receivables. This is calculated as a ratio of revenue from operation to average trade receivables.

**Commentary:** The reduction in debtors' turnover is mainly on account of decrease in revenue due to subdued commodity prices, lower volume at Oil & Gas business partially offset by rupee depreciation and past exploration cost recovery at Oil & Gas business.

*Excluding power business

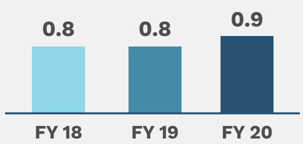
### INVENTORY TURNOVER RATIO




**Description:** The inventory turnover ratio is an efficiency ratio that shows how effectively inventory is managed. This is calculated as a ratio of cost of goods sold to average inventory.

**Commentary:** The inventory turnover ratio for the Company was at 5.1 times in FY2020 as compared to 5.3 times in FY2019.

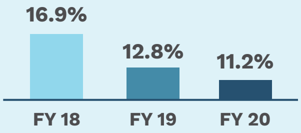
### CURRENT RATIO




**Description:** The current ratio is a liquidity ratio that measures a Company's ability to pay short-term obligations or those due within one year. This is calculated as a ratio of Current Assets to Current Liabilities.

**Commentary:** The current ratio of the Company increased to 0.9 times in FY2020 in comparison to 0.8 in FY2019.

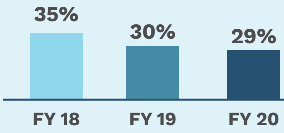
### RETURN ON CAPITAL EMPLOYED (ROCE) (%)




**Description:** This is calculated on the basis of operating profit, before special items and net of tax outflow, as a ratio of average capital employed.
The objective is to earn a post-tax return consistently above the weighted average cost of capital.

**Commentary:** ROCE down by 1.6% offset by lower tax outflow.

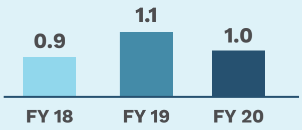
### ADJUSTED EBITDA MARGIN (%)




**Description:** Calculated as EBITDA margin excluding EBITDA and turnover from custom smelting of Copper India and Zinc India businesses.

**Commentary:** Adjusted EBITDA margin for FY2020 was 29% (FY2019: 30%).

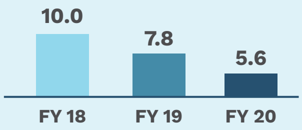
### NET DEBT/EBITDA (consolidated)




**Description:** This ratio represents the level of leverage of the Company. It represents the strength of the balance sheet of Vedanta Limited. Net debt is calculated in the manner as defined in Note 19(d) of the consolidated financial statements.

**Commentary:** Net debt/ EBITDA ratio as on 31 March 2020 was at 1.0x, compared to 1.1x as on 31 2019, primarily due to the repayment of debt partially offset by working capital blockage due to COVID-19 and dividend payment during the year.

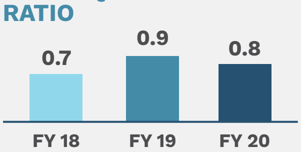
### INTEREST COVER




**Description:** The ratio is a representation of the ability of the Company to service its debt. It is computed as a ratio of EBITDA divided by gross finance costs (including capitalised interest) less investment revenue, excluding grant income and other non-operating income.

**Commentary:** The interest cover for the Company was at ~5.6 times, lower y-o-y on account of lower EBITDA and higher net finance costs due to decrease in interest income partially offset by reduction in finance cost on account of decrease in average borrowing due to repayment of debt and lower borrowing cost.

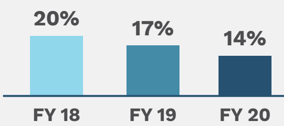
### DEBT EQUITY RATIO




**Description:** It is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a Company's assets. This is calculated as a ratio of total external borrowing to total equity (share capital + reserves + minority).

**Commentary:** The ratio has decreased to 0.8 times in FY2020 primarily because of decrease in gross debt due to the repayment of debt at Vedanta Standalone, TSPL and temporary borrowing at Zinc India partially offset by increase in borrowing at Oil & Gas business.

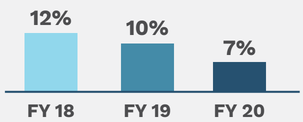
### OPERATING PROFIT MARGIN




**Description:** Operating profit margin is a profitability or performance ratio used to calculate the percentage of profit a Company produces from its operations. This is calculated as a ratio of operating profit (EBITDA less depreciation) to revenue from operations.

**Commentary:** The operating profit margin was lower by 3% in FY2020 as compared to FY2019, primarily due to lower EBITDA on account of subdued commodity prices and increase in depreciation in the current year.

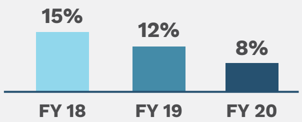
### NET PROFIT MARGIN




**Description:** It is a measure of the profitability of the Company. This is calculated as a ratio of net profit (before exceptional items) to revenue from operations.

**Commentary:** The net profit margin was lower in FY2020 as compared to FY2019 primarily due to lower EBITDA, higher net interest and increase in depreciation expense during the year partially offset by lower tax outflow during the year

### RETURN ON NET WORTH (RONW)

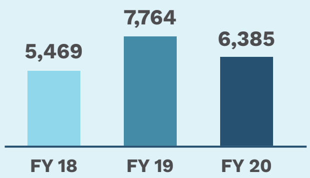



**Description:** It is a measure of the profitability of the Company. This is calculated as a ratio of net profit (before exceptional items) to average net worth (share capital + reserves + minority).

**Commentary:** The return on net worth has decreased during the year. This was mainly on account of lower EBITDA, higher net interest and increase in depreciation expense during the year partially offset by lower tax outflow during the year.

## LONG-TERM VALUE

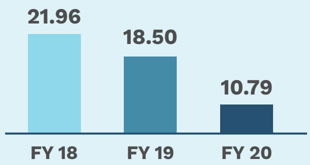
### GROWTH CAPEX




**Description:** This represents the amount invested in our organic growth programme during the year.

**Commentary:** Our stated strategy is of disciplined capital allocation on high-return, low-risk projects. Expansion capital expenditure during the year stood at ₹6,385 crore, with the majority invested in projects at Zinc India, growth projects at Oil & Gas and ramping up our aluminium capacities.

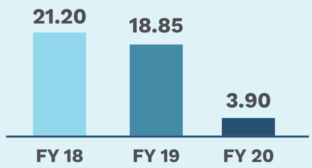
### EPS (before exceptional items and DDT)




**Description:** This represents the net profit attributable to equity shareholders and is stated before exceptional items and dividend distribution tax (net of tax and minority interest impacts).

**Commentary:** In FY2020, EPS before exceptional items was at ₹10.79 per share. This was mainly on account of lower attributable PAT.

### DIVIDEND (₹ per Share)

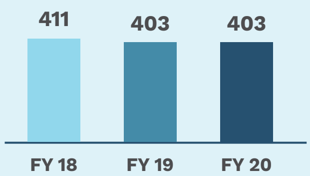



**Description:** Dividend per share is the total of the final dividend recommended by the Board in relation to the year, and the interim dividend paid out during the year.

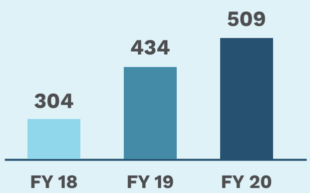
**Commentary:** The Board has recommended a total interim dividend of ₹3.90 per share this year compared with ₹18.85 per share in the previous year.

### RESERVES AND RESOURCES (R&R)

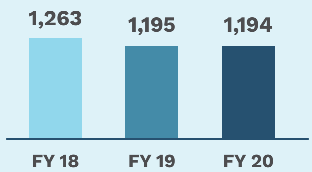
**Zinc India** (million mt)




**Zinc International** (million mt)




**Oil & Gas** (mmboe)




**Description:** Reserves and resources are based on specified guidelines for each commodity and region.

**Commentary:**

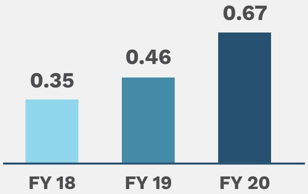
**Zinc India:**
During the year, gross additions of 14.6 million tonnes were made to R&R prior to depletion of 14.5 million tonnes. At current mining rates, the R&R underpins metal production for more than 20 year.

**Zinc International:**
During the year, gross additions of 75.40 million tonnes were made to R&R after depletion. The R&R support a mine life of more than 30 years.

**Oil & Gas:**
During FY2020, the gross proven and probable R&R were depleted by 1 mmboe primarily due to production during the year.

## SUSTAINABLE DEVELOPMENT

### LTIFR

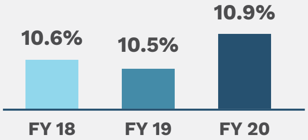



**Description:** The lost time injury frequency rate (LTIFR) is the number of lost-time injuries per million man-hours worked. This includes our employees and contractors working in our operations and projects.

**Commentary:** This year the LTIFR was 0.67. The increase is due to improved reporting of LTIs across the organisation. Safety remains the key focus across businesses.

### GENDER DIVERSITY

(%)

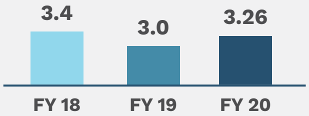



**Description:** The percentage of women in the total permanent workforce.

**Commentary:** : We provide equal opportunities to men and women. During the year, the proportion of female employees was 10.9% of total employees.

### CSR FOOTPRINT

(million beneficiaries)




**Description:** The total number of beneficiaries through our community development programmes across all our operations.

**Commentary:** We benefited c.3.26 million people this year through our community development projects comprising community health, nutrition, education, water and sanitation, sustainable livelihood, women empowerment and bio-investment.

Encouraging diversity talent

# BUSINESS RISKS

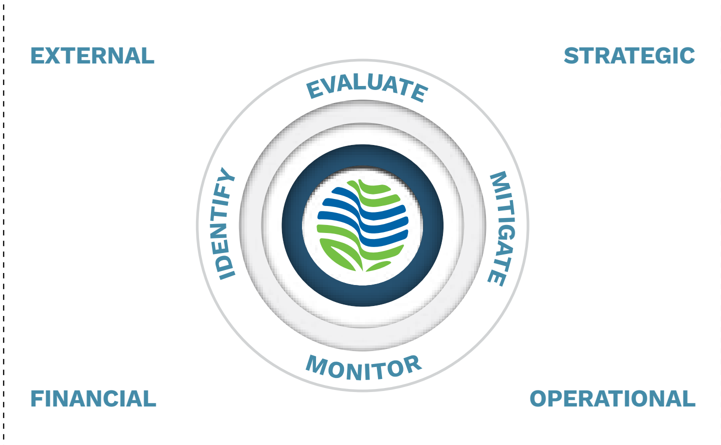
**We proactively work to minimise our risks by accepting and eliminating them while identifying and taking advantage of opportunities. Our strategic priorities and strong opportunity management culture give us a competitive edge in spotting opportunities and making the best of them.**

## ENTERPRISE RISK MANAGEMENT

As a global natural resources company, our businesses are exposed to a variety of risks. It is therefore essential to have in place the necessary systems and a robust governance framework to manage risk, while balancing the risk-reward equation expected by stakeholders.

### RISK GOVERNANCE FRAMEWORK


### GROUP RISK MANAGEMENT FRAMEWORK




Our risk management framework is designed to be simple and consistent and provide clarity on managing and reporting risks to our Board. Together, our management systems, organisational structures, processes, standards and code of conduct and ethics form the system of internal control that governs how the Group conducts its business and manages the associated risks.

The Board has the ultimate responsibility for the management of risks and for ensuring the effectiveness of internal control systems. The Board's review includes the Audit Committee's report on the risk matrix, significant risks, and the mitigating actions we have put in place. Any weaknesses identified by the review are addressed by enhanced procedures to strengthen the relevant controls, and these are reviewed at regular intervals.

The Audit Committee is in turn assisted by the Group-level Risk Management Committee in evaluating the design and effectiveness of the risk mitigation programme and control systems.

The Group Risk Management Committee (GRMC) meets every quarter and comprises the Group Chief Executive Officer, Group Chief Financial Officer, Non-Executive Director and Director-Management Assurance. The Group Head-Health, Safety, Environment & Sustainability is invited to attend these meetings. GRMC discusses key events impacting the risk profile, key risks and uncertainties, emerging risks and progress against planned actions.

In addition to the above structure, other key risk governance and oversight committees in the Group include the following:

- Finance Standing Committee (FSC) comprises Group CEO, Group CFO and Non-Executive Director and it supports the Board by considering and approving matters related to finance, investment, banking, treasury, etc. Invitees to these committee meetings are the business CFOs, Group Head Treasury and BU Treasury Heads. In addition to this, the Investment Committee reviews the investment related risks
- Sustainability Committee reviews sustainability related risks
- Group Project/Capex Council evaluates risks while reviewing any capital investment decisions as well as works on instituting risk management framework in projects

In addition to the above, there are various group-level councils such as Procurement Council, Tax Council, HSE Council, Insurance Council, CSR Committee, etc. that work on identifying risks in those specific areas and mitigating them. The Group has a consistently applied methodology for identifying risks at the individual business level for existing operations and for ongoing projects.

At a business level, formal discussions on risk management occur at review meetings at least once a quarter. The respective businesses review their major risks, and changes in their nature and extent since the last assessment and discuss the control measures which are in place and further action plans. The control measures stated in the risk matrix are also periodically reviewed by the business management teams to verify their continued effectiveness. These meetings are chaired by the respective business CEOs and attended by CXOs, senior management and appropriate functional heads.

Risk officers have been formally nominated at each of the operating businesses as well as at Group level, whose role is to create awareness of risks at senior management level and to develop and nurture a risk management culture. Risk mitigation plans form an integral part of the performance management process. Structured discussions on risk management also happen at business level with regard to their respective risk matrix and mitigation plans. The leadership teams of the businesses are accountable for governance of the risk management framework and they provide regular updates to the GRMC.

Each of our businesses have developed their own respective risk matrix, which is reviewed by their respective management committee/ executive committee, chaired by their CEOs. In addition, each business has developed its own risk register depending on the size of its operations and number of Strategic Business Units locations. Risks across these risk registers are aggregated and evaluated and the Group's principal risks are identified based on the frequency, and potential magnitude and impact of the risks identified.

This element is an important component of the overall internal control process, from which the Board obtains assurance. The scope of work, authority and resources of Management Assurance Services (MAS) are regularly reviewed by the Audit Committee. The responsibilities of MAS include recommending improvements in the control environment and reviewing compliance with our philosophy, policies and procedures.

The planning of internal audits is approached from a risk perspective. In preparing the internal audit plan, reference is made to the risk matrix, and inputs are sought from senior management, business teams and members of the Audit Committee. In addition, we make reference to past audit experience, financial analysis and the current economic and business environment.

The year 2020 has seen the outbreak of COVID-19 (coronavirus) pandemic. As a result of COVID-19, we have seen macro-economic uncertainty with regards to prices and demand for commodities and oil & gas. Furthermore, recent global developments and uncertainty in oil supply in March have caused further volatility in commodity markets. The scale and duration of these developments remain uncertain but could impact earnings and cash flow of resource companies.

The order in which these risks appear in the section below does not necessarily reflect the likelihood of their occurrence or the relative magnitude of their impact on our business. The risk direction of each risk has been reviewed based on events, economic conditions, changes in business environment and regulatory changes during the year. While Vedanta's risk management framework is designed to help the organisation meet its objectives, there can be no guarantee that the Group's risk management activities will mitigate or prevent these or other risks from occurring.

BUSINESS RISKS CONTINUED...

The Board, with the assistance of management, carries out periodic and robust assessments of the principal risks and uncertainties of the Group and tests the financial plans for each of risks and uncertainties mentioned below.

## SUSTAINABILITY RISKS

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Health, safety and environment (HSE)**<br>The resources sector is subject to extensive health, safety and environmental laws, regulations and standards. Evolving requirements and stakeholder expectations could result in increased cost or litigation or threaten the viability of operations in extreme cases.<br><br>**Emissions and climate change**<br>Our global presence exposes us to a number of jurisdictions in which regulations or laws have been, or are being, considered to limit or reduce emissions. The likely effect of these changes could be to increase the cost for fossil fuels, impose levies for emissions in excess of certain permitted levels, and increase administrative costs for monitoring and reporting. Increasing regulation of greenhouse gas (GHG) emissions, including the progressive introduction of carbon emissions trading mechanisms and tighter emission reduction targets, is likely to raise costs and reduce demand growth. | ▪ HSE is a high priority area for Vedanta. Compliance with international and local regulations and standards, protecting our people, communities and the environment from harm and our operations from business interruptions are key focus areas<br>▪ Policies and standards are in place to mitigate and minimise any HSE-related occurrences. Safety standards issued/continue to be issued to reduce risk level in high risk areas. Structured monitoring and a review mechanism and system of positive compliance reporting are in place<br>▪ BU Leadership continues to emphasise on three focus areas i.e. Visible Felt Leadership, safety critical tasks and managing business partners<br>▪ The process to improve learning from incidents is currently being improved with the aim of reducing re-occurrence of similar incidents<br>▪ A Vedanta Critical Risk Management programme will be launched to identify critical risk controls and to measure, monitor and report the control effectiveness<br>▪ The Company has implemented a set of standards to align its sustainability framework with international practice. A structured sustainability assurance programme continues to operate in the business divisions covering environment, health, safety, community relations and human rights aspects, and is designed to embed our commitment at operational level<br>▪ All businesses have appropriate policies in place for occupational health-related matters, supported by structured processes, controls and technology<br>▪ To provide incentives for safe behaviour and effective risk management, safety KPIs have been built into performance management of all employees<br>▪ Carbon forum has been re-constituted with updated Terms of Reference and representation from all businesses. It has a mandate to develop and recommend to the ExCo and Board the carbon agenda for the Group<br>▪ The Group Companies are actively working on reducing the GHG Emissions Intensity of our operations<br>▪ A task force team is formulated to assess end-to-end operational requirement for FGD plant. We continue to engage with various stakeholders on the matter | ◀▶ |

Community involvement programme

## SUSTAINABILITY RISKS

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Managing relationship with stakeholders**<br>The continued success of our existing operations and future projects are in part dependent on broad support and a healthy relationship with our respective local communities. Failure to identify and manage local concerns and expectations can have a negative impact on relations and therefore affect the organisation's reputation and social licence to operate and grow. | ▪ CSR approach to community programmes is governed by the following key considerations: the needs of the local people and the development plan in line with the new Companies Act in India; CSR guidelines; CSR National Voluntary Guidelines of theMinistry of Corporate Affairs, Government of India; and the UN's sustainable development goals<br>▪ Our BU teams are proactively engaging with communities and stakeholders through a proper and structured engagement plan, with the objective of working with them as partners<br>▪ Business ExCos factor in these inputs, and then decide upon focus areas of CSR and budgets while also aligning with strategic business priorities<br>▪ All BUs follow well-laid processes for recording and resolving all community grievances<br>▪ Every business has a dedicated Community Development Manager, who is a part of the BU ExCos. They are supported with dedicated teams of community professionals<br>▪ Our business leadership teams have periodic engagements with the local communities to build relations based on trust and mutual benefit. Our businesses seek to identify and minimise any potentially negative operational impacts and risks through responsible behaviour - acting transparently and ethically, promoting dialogue and complying with commitments to stakeholders<br>▪ Stakeholder engagement is driven basis stakeholder engagement plan at each BUs by CSR and cross functional teams. Regular social and environment risk assessment discussions are happening at BU level<br>▪ Strategic CSR communication is being worked upon for visibility. Efforts continue to meet with key stakeholders, showcase our state-of-the-art technology, increase the organic followers and enhance engagement through social media<br>▪ CSR communication and engagement with all stakeholders – within and outside communities | |
| **Tailings dam stability**<br>A release of waste material leading to loss of life, injuries, environmental damage, reputational damage, financial costs and production impacts. A tailings dam failure is considered to be a catastrophic risk – i.e. a very high severity but very low frequency event that must be given the highest priority. | ▪ The Risk Management Committee included tailings dams on the Group Risk Register with a requirement for annual internal review and three-yearly external review<br>▪ Operation of tailings dams is executed by suitably experienced personnel within the businesses<br>▪ Third party has been engaged to review tailings dam operations, including improvement opportunities/remedial works required and the application of Operational Maintenance and Surveillance (OMS) manuals in all operations. This is an oversight role in addition to technical design and guidance arranged by respective business units. Technical guidelines are also being developed<br>▪ Vedanta Tailings Management Standard has been reviewed, augmented and reissued including an annual, independent review of every dam and half-yearly CEO sign-off that dams continue to be managed within design parameters and in accordance with the last surveillance audit. Move towards dry tailings facilities has commenced<br>▪ Those responsible for dam management received training from third party and will receive ongoing support and coaching from international consultants<br>▪ Management standard implemented with business involvement<br>▪ BU's are expected to ensure ongoing management of all tailings facilities with ExCo oversight with independent third-partyassessment on Golder recommendations implementation status y-o-y<br>▪ Tailing management standard is updated to include latest best practices in tailing management. United Nations Environment Programme (UNEP)/ International Council on Mining & Metals (ICMM) Global Tailings Standard to be incorporated into Vedanta Standard during FY2021 | |

## OPERATIONAL RISKS

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Challenges in Aluminium and Power business**<br>Our projects have been completed and may be subject to a number of challenges during operationalisation phase. These may also include challenges around sourcing raw materials and infrastructure-related aspects and concerns around ash utilisation/ evacuation. | ▪ One of the impacts of the COVID-19 slowdown has been falling Aluminium London Metal Exchange (LME) prices, partly offset by lower alumina and carbon prices<br>▪ Continue to pursue new coal linkages to ensure coal security. Operations at Chotia coal mines also started. We have received the vesting orders for Jamkhani coal block for Jharsuguda and look forward to operationalising in FY2021<br>▪ Local sourcing of Bauxite and Alumina from Odisha<br>▪ Jharsuguda facilities have ramped up satisfactorily<br>▪ Project teams in place for Ash pond, Red mud, railway infrastructure and FGD<br>▪ Dedicated teams working towards addressing the issue of new emission norms for power plants<br>▪ Global technical experts have been inducted to strengthen operational excellence<br>▪ Continuous focus on plant operating efficiency improvement programme to achieve design parameters, manpower rationalisation, logistics and cost reduction initiatives<br>▪ Continuous augmentation of power security and infrastructure<br>▪ Strong management team continues to work towards sustainable low-cost of production, operational excellence and securing key raw material linkages<br>▪ Force majeure notice dated 29 March 2020 issued by Punjab State Power Corporation Limited to over 100 plants from which it buys electricity due to lower demand on account of COVID stating (a) not to declare capacity (b) delay in payments. Ministry of Power in its direction to Central Electricity Regulatory Commission have clearly mentioned that obligation to pay for the capacity charges as per the Power purchase agreement would continue Talwandi Saboo (TSPL) power plant matters are being addressed structurally by a competent team | ◀▶ |
| **Discovery risk**<br>Increased production rates from our growth-oriented operations place demand on exploration and prospecting initiatives to replace R&R at a pace faster than depletion. A failure in our ability to discover new reserves, enhance existing reserves or develop new operations in sufficient quantities to maintain or grow the current level of our reserves could negatively affect our prospects. There are numerous uncertainties inherent in estimating ore and oil & gas reserves, and geological, technical, and economic assumptions that are valid at the time of estimation. These may change significantly when new information becomes available. | ▪ Dedicated exploration cell with continuous focus on enhancing exploration capabilities<br>▪ Appropriate organisation and adequate financial allocation in place for exploration<br>▪ Strategic priority is to add to our R&R by extending resources at a faster rate than we deplete them, through continuous focus on drilling and exploration programme<br>▪ Exploration Executive Committee (Exco) has been established to develop and implement strategy and review projects group wide<br>▪ Continue to make applications for new exploration tenements in countries in which we operate under their respective legislative regimes.<br>▪ Exploration-related systems being strengthened, and standardised group wide and new technologies being utilised wherever appropriate<br>▪ International technical experts and agencies are working closely with our exploration teams to enhance our capabilities | ◀▶ |

## OPERATIONAL RISKS CONTINUED

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Breaches in IT / cybersecurity**<br>Like many global organisations, our reliance on computers and network technology is increasing. These systems could be subject to security breaches resulting in theft, disclosure, or corruption of key/strategic information. Security breaches could also result in misappropriation of funds or disruptions to our business operations. A cybersecurity breach could have an impact on business operations. | ▪ Group-level focus on formulating necessary frameworks, policies, and procedures in line with best practices and international standards<br>▪ Implementation and adoption of various best-in-class tools and technologies for information security to create a robust security posture<br>▪ Special focus to strengthen the security landscape of Plant Technical Systems (PTS) through various initiatives<br>▪ Adoption of various international standards relating to Information Security, Disaster Recovery & Business Continuity Management, IT Risk Management and setting up internal IT processes and practices in line with these standards<br>▪ Work towards ensuring strict adherence to the IT related SOPs so as to improve operating effectiveness and continuous focus for employees to go through mandatory cybersecurity awareness training<br>▪ Periodic assessment of entire IT systems landscapes and governance framework from vulnerability and penetration perspective through reputed expert agencies and addressing the identified observations in a time-bound manner | ◀▶ |
| **Loss of assets or profit due to natural calamities**<br>Our operations may be subject to a number of circumstances not wholly within the Group's control. These include damage to or breakdown of equipment or infrastructure, unexpected geological variations or technical issues, extreme weather conditions and natural disasters – any of which could adversely affect production and/or costs. | ▪ Vedanta has taken appropriate group insurance cover to mitigate this risk<br>▪ An external agency reviews the risk portfolio and adequacy of this cover and assists us in our insurance portfolio<br>▪ Our underwriters are reputed institutions and have capacity to underwrite our risk<br>▪ Established mechanism of periodic insurance review in place at all entities. However, any occurrence not fully covered by insurance could have an adverse effect on the Group's business<br>▪ Continuous monitoring and periodic review of security function<br>▪ Continue to focus on capability building within the Group | ◀▶ |
| **Cairn related challenges**<br>Cairn India has 70% participating interest in Rajasthan Block. The production sharing contract (PSC) of Rajasthan Block runs till 2020. The Government of India has granted its approval for ten-year extension at less favourable terms, pursuant to its policy for extension of Pre-NELP Exploration Blocks, subject to certain conditions. Ramp up of production versus envisaged may have impact on profitability. | ▪ RJ PSC 2020 extension was issued by DGH subject to certain conditions. Ongoing dialogue and communication with the government and relevant stakeholders to address the conditions<br>▪ The applicability of the Pre-NELP Extension Policy to the RJ Block is currently sub judice<br>▪ Drop in crude price due to COVID-19 slowdown coupled with refusal by key global producers to reduce their output. Gas prices have also halved in recent months due to fall in LNG prices globally. However, in the month of May, the crude prices have started improving<br>▪ Discussions within teams as well as with partners have been initiated with an objective to optimise cost across all spheres of operations<br>▪ Constant engagement with vendors/partners to ensure minimal project delay based on the current situation and plan to ramp-up<br>▪ Government has extended the PSC for the Ravva block in Andhra Pradesh by 10 years. The growth projects are being implemented through an Integrated Contracting approach. Contracts have built in mechanism for risk and reward<br>▪ Project management committee and project operating committee have been set to provide support to the outsourcing partner and address issues on time to enable better quality control as well as timely execution for growth projects | ▲ |

## COMPLIANCE RISKS

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Regulatory and legal risk**<br>We have operations in many countries around the globe. These may be impacted because of legal and regulatory changes in the countries in which we operate resulting in higher operating costs, and restrictions such as the imposition or increase in royalties or taxation rates, export duty, impacts on mining rights/bans, and change in legislation. | ▪ The Group and its business divisions monitor regulatory developments on an ongoing basis<br>▪ Business-level teams identify and meet regulatory obligations and respond to emerging requirements<br>▪ Focus has been to communicate our responsible mining credentials through representations to government and industry associations<br>▪ Continue to demonstrate the Group's commitment to sustainability by proactive environmental, safety and CSR practices. Ongoing engagement with local community/media/NGOs<br>▪ SOx compliant subsidiaries<br>▪ Common compliance monitoring system being implemented in group companies. Legal requirements and a responsible person for compliance have been mapped in the system<br>▪ Legal counsels within the Group continues to work on strengthening the compliance and governance framework and the resolution of legal disputes<br>▪ Competent in-house legal organisation is in place at all the businesses and the legal teams have been strengthened with induction of senior legal professionals across all group companies<br>▪ Standard Operating Procedures (SOPs) have been implemented across our businesses for compliance monitoring<br>▪ Greater focus for timely closure of key non-compliances<br>▪ Contract management framework has been strengthened with the issue of boiler plate clauses across the Group which will form part of all contracts. All key contract types have also been standardised<br>▪ Framework for monitoring performance against anti-bribery and corruption guidelines is also in place | ◀▶ |
| **Tax related matters**<br>Our businesses are in a tax regime and changes in any tax structure or any tax-related litigation may impact our profitability. | ▪ Tax Council reviews all key tax litigations and provides advice to the Group<br>▪ Continue to engage with concerned authorities on tax matters<br>▪ Robust organisation in place at business and group-level to handle tax-related matters<br>▪ Continue to consult and obtain opinion from reputable tax consulting firms on major tax matters to mitigate the tax risks on the group and its subsidiaries | ◀▶ |

Leveraging technology for growth

## FINANCIAL RISKS

| Impact | Mitigation | Risk Direction |
|---|---|---|
| **Fluctuation in commodity prices (including oil) and currency exchange rates**<br>Prices and demand for the Group's products may remain volatile/uncertain and could be influenced by global economic conditions, natural disasters, weather, pandemics, such as the COVID-19 (coronavirus) outbreak, political instability, etc. Volatility in commodity prices and demand may adversely affect our earnings, cash flow and reserves.<br>Our assets, earnings and cash flows are influenced by a variety of currencies due to the diversity of the countries in which we operate. Fluctuations in exchange rates of those currencies may have an impact on our financials. | ▪ The Group has a well-diversified portfolio which acts as a hedge against fluctuations in commodities and delivers cash flows through the cycle<br>▪ Pursue low-cost production, allowing profitable supply throughout the commodity price cycle<br>▪ Vedanta considers exposure to commodity price fluctuations to be an integral part of the Group's business and its usual policy is to sell its products at prevailing market prices and not to enter into price hedging arrangements other than for businesses of custom smelting and purchased alumina, where back-to-back hedging is used to mitigate pricing risks. Strategic hedge, if any, is taken after appropriate deliberations and due approval from ExCo<br>▪ Our forex policy prohibits forex speculation<br>▪ Robust controls in forex management to hedge currency risk liabilities on a back-to-back basis<br>▪ Finance standing committee reviews all forex and commodity-related risks and suggests necessary courses of action as needed by business divisions<br>▪ Seek to mitigate the impact of short-term movements in currency on the businesses by hedging short-term exposures progressively, based on their maturity. However, large, or prolonged movements in exchange rates may have a material adverse effect on the Group's businesses, operating results, financial condition and/or prospects<br>▪ Notes to the financial statements in the Annual Report give details of the accounting policy followed in calculating the impact of currency translation | ◀▶ |
| **Major project delivery**<br>Shortfall in achievement of expansion projects stated objectives leading to challenges in achieving stated business milestones – existing and new growth projects. | ▪ Empowered organisation structure has been put in place to drive growth projects. Project Management systems streamlined to ensure full accountability and value stream mapping<br>▪ Strong focus on safety aspects in the project<br>▪ Geo-technical audits are being carried out by independent agencies<br>▪ Engaged Global engineering partner to do complete Life of Mine Planning and Capital Efficiency analysis to ensure that the project objectives are in sync with the BP and Growth targets<br>▪ Standard specifications and SOPs for all operation to avoid variability. Reputable contractors are engaged to ensure completion of the project on indicated timelines<br>▪ Mines being developed using best in class technology and equipment and ensuring the highest level of productivity and safety. Digitalisation and Analytics to improve productivity and recovery<br>▪ Stage gate process to review risks & remedy at multiple stages on the way<br>▪ Robust quality control procedures have also been implemented to check safety and quality of services/design/actual physical work | ◀▶ |
| **Access to capital**<br>The Group may not be able to meet its payment obligations when due or may be unable to borrow funds in the market at an acceptable price to fund actual or proposed commitments. A sustained adverse economic downturn and/or suspension of its operation in any business, affecting revenue and free cash flow generation, may cause stress on the Company's ability to raise financing at competitive terms. | ▪ A focused team continues to work on proactive refinancing initiatives with an objective to contain cost and extend tenor<br>▪ The team is actively building the pipeline for long-term funds for near- to medium-term requirements both for refinancing and growth capex<br>▪ Track record of good relations with banks, and of raising borrowings in last few years<br>▪ Regular discussions with rating agencies to build confidence in operating performance<br>▪ Business teams ensure continued compliance with the Group's treasury policies that govern our financial risk management practices<br>▪ CRISIL and India Ratings affirmed the rating for VEDL of 'AA' however changed the outlook to negative due to sharp reduction in commodity prices in wake of COVID-19 pandemic<br>▪ Credit matrix trending weaker due to challenging refinancing environment and volatility in commodity prices (COVID-19) | ▲ |

# BOARD OF DIRECTORS**

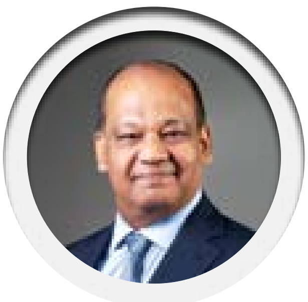
**Our Board comprises eminent personalities bringing different insights from diverse walks of life, and they collectively take onus of Vedanta's approach to creating value. Five out of our ten Directors are independent, thereby helping us strike the right balance between outside-in and inside-out perspectives.**

**ANIL AGARWAL,**
**Non Executive Chairman**

Mr Agarwal is the Founder and Chairman of Vedanta Resources Limited, a Company which has grown its annual revenues from $1 Million to over $15 Billion in the past decade. Vedanta group has invested over $30 Billion in India and South Africa on organic growth projects. He has over four decades of entrepreneurial and business experience. He shaped the Group's strategic vision and now plays the role of chief mentor to a talent pool of over 100,000 direct and indirect employees. Under his leadership the Vedanta Group has achieved tremendous success, the Group got its first big break in 1986, and over the years, it has achieved tremendous growth both organically and through value-generating mergers and acquisitions, creating a world-class diversified portfolio of large, structurally low-cost assets in oil & gas, zinc, silver, copper, iron ore, aluminium and steel. It is the only major natural resources Company in the entire Indian subcontinent. In the last nine years, Vedanta has contributed more than US$41.7 billion to the exchequer and currently contributes 1% to India's GDP.

Mr Agarwal's vision for the Company and the country is deeply interlinked, he is a strong advocate of reducing import dependency by increasing domestic production of resources that are abundantly available in our ecosystem, while maintaining the best environmental standards. The underlying fact behind his conviction is that domestic production will create millions of jobs, save precious foreign exchange, build technological capital and push India towards mass development.

Mr Agarwal places considerable focus on safety and sustainable development for the benefit of the surrounding communities. He created the philanthropic arm of the Group - The Vedanta Foundation, with a deep-seated belief that businesses must give back to the society and help them prosper. He has generously pledged 75% of his wealth for social good. He initiated the Nand Ghar project which will transform the lives of over 100 million women and children by providing them holistic development opportunities. Similarly, there are many initiatives pertaining to medical care, sports, agriculture, nature conservation and more which are being undertaken under his guidance and direction.



**NAVIN AGARWAL,**
**Executive Vice Chairman**

Mr Navin Agarwal has been with the Group since its inception and has four decades of strategic executive experience. Under his stewardship, Vedanta has enjoyed leadership position in all the major sectors in which it operates. Over the years, he has been instrumental in building a highly successful meritocratic organisation, anchored by an extraordinary force of 100,000 employees. He spearheads our strategy through a mix of organic growth and value-generating acquisitions leading to Vedanta's transformation into a globally diversified natural resources Company.

He is passionate about developing leadership talent and has been responsible for creating a culture of excellence at Vedanta through the application of advanced technologies and global best practices. He drives Vedanta's unwavering commitment to the highest standards of corporate governance and engagement with key stakeholders. His vision is to gradually unlock the enormous potential of the natural resources sector and make it an engine of growth for India. The overarching vision of empowering the nation by achieving self-sufficiency in the resource sector remains close to his heart.

In recognition of his exceptional distinction in the fields of business and entrepreneurship and contribution to the natural resources sector, he was conferred with the 'Industrialist of the Year' award by the Bombay Management Association for 2018. He is a fervent advocate of sustainable development and is committed to the empowerment of women and promotion of culture and sports.



** As on 2 June 2020

**LALITA D GUPTE,**
**Non-Executive Independent Director**

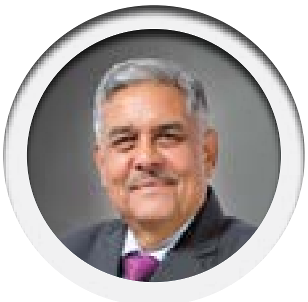
Ms Gupte has more than three decades of experience in the financial sector and has held various leadership positions in diverse areas. She is the former Joint Managing Director of ICICI Bank and was the Chairperson of ICICI Venture Funds Management Company Limited till October 2016. She is currently Chairperson of ICICI Lombard General Insurance Co. Ltd. and India Infradebt Ltd. and sits on other Boards. She holds a bachelor's degree in Economics (Honours) and a master's degree in Management Studies. She did her advanced management programme from INSEAD.

**UPENDRA KUMAR SINHA,**
**Non-Executive Independent Director**

Mr Sinha has served as the Chairman of Securities and Exchange Board of India (SEBI) from February 2011 to March 2017. He was instrumental in bringing about key capital market reforms. Under his leadership, SEBI introduced significant regulatory amendments to the various acts enhancing corporate governance and disclosure norms. Prior to SEBI, he was the Chairman & MD of UTI Asset Management Company Pvt. Ltd. and has also worked for the Department of Economic Affairs under the Ministry of Finance.

**K VENKATARAMANAN,**
**Non-Executive Independent Director**

Mr Venkataramanan brings with him over four decades of experience and has also been CEO & Managing Director, Larsen & Toubro Limited (L&T) from April 2012. Further, he has also served on the L&T Board from May 1999 until his retirement in September 2015. He has spearheaded L&T in the world of Engineering & Construction, strengthened every aspect of Engineering Procurement Construction value chain and transformed L&T to one of the respected names in the global EPC fraternity. He is a Graduate in Chemical Engineering from Indian Institute of Technology, Delhi. He is also a distinguished alumni awardee from IIT Delhi.



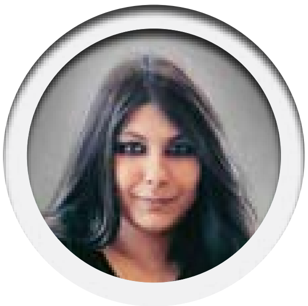
**MAHENDRA KUMAR SHARMA,**
**Non-Executive Independent Director**

Mr Sharma retired in May 2007 as the Vice-Chairman of Hindustan Unilever Limited. As Vice Chairman he had responsibility for H.R, Legal & Secretarial, Corporate Affairs, Corporate Communications, Corporate Real Estate functions and New Ventures, Plantations & Export businesses of the company.

He displays passion for ensuring highest standards of Corporate Governance and adherence to responsible and ethical conduct in all aspects of business operations. He holds bachelor's degree in Arts and Bachelors of Law Degree from Canning College, University of Lucknow, completed Post Graduate Diploma in Personnel Management from Department of Business Management, University of Delhi and Diploma in Labour Laws from Indian Law Institute, Delhi. In 1999 he was nominated to attend Advanced Management Program at Harvard Business School. He served on the seven member Committee constituted by the Government of India for redrafting the Companies Act and was also a member of the Naresh Chandra Committee constituted by the Government of India which formulated norms for corporate governance in India.

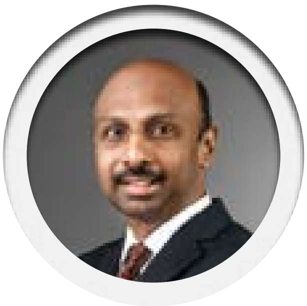
Mangala Processing Terminal, Barmer

** As on 2 June 2020



**PRIYA AGARWAL,**
**Non-Executive Non-Independent Director**

Ms Agarwal brings with her experience in Public Relations with Ogilvy & Mather and in Human Resources with Korn Ferry International. She has done B.Sc. Psychology with Business Management from the University of Warwick in the UK. She anchors CSR, PR & Communications for the Group.



**GR ARUN KUMAR,**
**Whole-time Director & Chief Financial Officer**

Mr Arun Kumar has over 24 years of experience at global multinationals like Hindustan Unilever and General Electric. Prior to his joining Vedanta, he was the CFO for General Electric's Asia-Pacific Lighting & Appliances businesses based out of Shanghai. He is responsible for overall health of the balance sheet, driving performance in profit and cash, treasury, investor relations, credit ratings, tax, secretarial, controllership, recording and reporting and other key strategic matters from time to time. He is a Fellow Member of the Institute of Chartered Accountants of India.

** As on 2 June 2020

Women conducting maintenance work in the Rajpura Dariba Mine

Brokenhill shaft at Black Mountain

# MANAGEMENT COMMITTEE**

**Vedanta is on the continuous journey of growth and expansion with best-in-class safety, benchmark technology, and cost efficiency. We continuously ensure that we have the right management in place to drive our business and take the organisation to the next level.**

**In line with this vision, a Group Management Committee has been formed which will collectively be responsible for all key decisions taken for the growth of organisation.**

## MEMBERS OF THE MANAGEMENT COMMITTEE:

### SUNIL DUGGAL

**Chief Executive Officer (Interim)- Vedanta Limited and CEO- Hindustan Zinc Limited**

Mr Sunil Duggal was appointed as the CEO & Whole-time Director of Hindustan Zinc Limited (HZL), a subsidiary of the Company in 2015. He had been associated with HZL since 2010 as Executive Director and thereafter became the Chief Operating Officer in the year 2012 and Dy. CEO in 2014. He has been appointed as the Interim CEO of Vedanta Limited with effect from 6 April 2020.

He is a result oriented professional with over 36 years of experience of leading high-performance teams and more than 20+ years in leadership positions. He is known for his ability to calmly navigate through tough and challenging times, nurture and grow a business, evaluate opportunities and risks and successfully drive efficiency and productivity whilst reducing costs and inefficiencies and deliver innovative solutions to challenges. His thrust on adopting best-in-class mining and smelting techniques, state-of-the-art, environment-friendly technologies and mechanisation, automation & digitalisation of operational activities has added great value.

He has an Electrical Engineering degree from Thapar Institute of Engineering & Technology, Patiala. He is an Alumni of IMD, Lausanne - Switzerland and IIM, Kolkata.

He is serving as Vice Chairman – International Zinc Association, President – Federation of Indian Mineral Industries, President – Indian Lead Zinc Development Association. Recently, he has been appointed as the Chair – Confederation of Indian Industry (CII) National Committee on Mining.

### MADHU SRIVASTAVA

**Chief Human Resources Officer**

Ms Srivastava was appointed as the Chief Human Resources Officer for Vedanta Group in December 2018. She has been associated with the Group for more than seven years and in her earlier role, she was the CHRO for Cairn Oil & Gas business and led the Talent Acquisition and Diversity & Inclusion functions for the Group. Under her leadership, the Group has put in place the right HR policies, progressive people practices and frameworks for talent acquisition and talent management across Vedanta. She has 20 years of experience across HR as well as Sales, Marketing and Operations, spanning the FMCG, telecom, ITES, BFSI and natural resources industries.

She started her professional journey in 1999 with Godrej where she handled sales in Gujarat and Maharashtra and later moved to the Corporate Sales & Marketing role. Post working with companies like GE Capital and Reliance in Operations & Marketing profiles, she started her Human Resources journey in 2006 by joining Genpact as Assistant Vice President, Talent Acquisition where she led middle management hiring. She then went on to lead the recruitments for Citibank's India operations as Vice President, HR before joining Vedanta in 2012. She has completed her PGDM in Marketing and Sales, from the IIM, Ahmedabad.

** As on 2 June 2020

Electrosteel Plant, Bokaro

**SHARAD GARGIYA**

**Chief Commercial Officer- Vedanta Limited and CCO- Hindustan Zinc Limited**

Mr Gargiya has been appointed as Chief Commercial Officer of Vedanta with effect from 5 April 2020. He was appointed as Chief Commercial Officer of Hindustan Zinc Limited (HZL), a subsidiary of the Company in February 2019. He has been associated with Vedanta Group since October 1998 and has held key senior leadership roles in both finance and commercial functions across the Group companies. He has been an integral part of Group Ethics Committee since 2016 and an active member of Group insurance council for over five years.

He is a versatile leader and has over 21 years of experience in leading high-performance teams, developing and executing strategic initiatives, driving business excellence, and cultural transformation. He has contributed significantly in unlocking the business value through his leadership and strategic roles at Telecom cable, Copper, Aluminum and Power business and Zinc. He is a result oriented professional and is extremely passionate about sustainability and resource productivity. He has a proven track record of adopting best-in-class technologies and processes to increase efficiencies and optimise cost with a focus on building automation and digitalisation of operational activities. He believes defining 'personal success' as his ability to make 'others successful'.

He is a qualified Chartered Accountant and Bachelor of Commerce. He has attended General Management Program from Harvard Business School in 2011.

**GR ARUN KUMAR**

**Chief Financial Officer**

Mr Arun Kumar has over 24 years of experience at global multinationals like Hindustan Unilever and General Electric. Prior to his joining Vedanta, he was the CFO for General Electric's Asia-Pacific Lighting & Appliances businesses based out of Shanghai.

He is responsible for overall health of the balance sheet, driving performance in profit and cash, treasury, investor relations, credit ratings, tax, secretarial, controllership, recording & reporting and other key strategic matters from time to time. He is a Fellow Member of the Institute of Chartered Accountants of India.

** As on 2 June 2020

# EXECUTIVE COMMITTEE**

The Executive Committee (ExCo) supports in the day-to-day running of the Company and meets on a monthly basis. It comprises leaders from different businesses and key verticals across the Company. It is entrusted with executing the strategy adopted by the Board, allocating resources in line with delegated authorities, managing risk and monitoring the operational and financial performance of the Company.

The authority is delegated by the Executive Committee to the respective Chief Executive Officer of each of the businesses. The Group Chief Executive Officer keeps the Board informed of the ExCos activities through his standing reports to the Board.

**DILIP GOLANI**
**Director - Management Assurance**

Mr Golani currently heads the Group's Management Assurance Services function. He previously headed the Sales and Marketing Division for HZL and the Group's performance management function. Prior to joining the Group in April 2000, he was a member of the Unilever corporate audit team responsible for auditing the Unilever group companies in Central Asia, the Middle East and Africa region. Prior to that, he was responsible for managing operations and marketing functions for one of the exports businesses of Unilever India. He has over 30 years of experience and has previously worked with organisations such as Union Carbide India Limited and Ranbaxy Laboratories Limited. He holds a bachelor's degree in Mechanical Engineering and has completed his Post Graduate studies in Industrial Engineering and Management from the National Institute of Industrial Engineering, Mumbai, India.

**ANDREW LEWIN**
**Group Health, Safety, Environment & Sustainability Head**

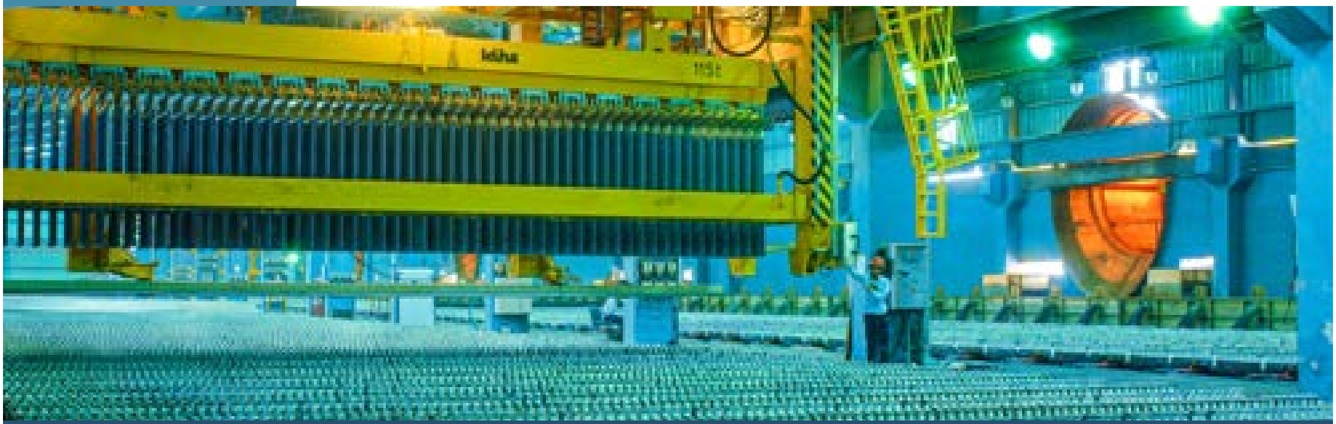
Mr Lewin joined us as Group Health, Safety, Environment & Sustainability Head with effect from February 2020. He has over 32 years of experience within mining and oil & gas industries. He was previously Managing Director at Spectrum Risk Consulting, Australia. He has also held a number of senior roles at BHP Billiton, Newmont Mining Corporation and other companies across USA, Australia and the UK with responsibility for health, safety, environment and sustainability assurance. He has a PhD in Chemistry from University of Waterloo and Post Graduate Diploma in Health and Safety from Aston University. He also holds a MSc in Physics from The University of Manchester, and a BSc (Honours) in Chemistry from University of Bristol.

**JAMES CARTWRIGHT**
**Head - Investor Relations**

Mr Cartwright was appointed Head of Investor Relations for Vedanta Group in October 2019. He is working towards enhancing the quality, depth and diversity of our shareholder base and investors to ensure optimum valuation for the Company. He has 25 years of rich leadership experience in capital markets, specifically across natural resources including oil & gas, utilities and handling of the ESG community. Prior to joining Vedanta, he was Managing Director of the Institutional Equities Division of Morgan Stanley. He also has worked with UBS Investment Bank & Merrill Lynch Europe. He holds bachelor's degree with Honours in Geology from Bristol University, England.



** As on 2 June 2020



Zinc Smelter, Chanderiya, HZL

**AJAY KAPUR**
**Chief Executive Officer-
Aluminium & Power Business**

Mr Kapur was appointed as Chief Executive Officer, Aluminium & Power in March 2019. He leads the Aluminium & Power business for Vedanta comprising 2.3 mtpa installed smelter capacity, 8 GW of power and 2 mtpa of alumina refinery. Prior to his appointment at Vedanta Limited, he was the Managing Director & Chief Executive Officer for Ambuja Cements. He started his career as an Executive Assistant to the founder & Managing Director of Ambuja Cements Ltd. He went on to handle various strategic positions at Ambuja Cements with his last position as Managing Director & Chief Executive Officer. He holds a Graduate degree in Economics from St. Xavier's College, Mumbai, an MBA from KJ Somaiya Institute, Mumbai and is an alumnus of Wharton's Advanced Management Program.

**PANKAJ KUMAR**
**Chief Executive Officer- Sterlite
Copper, MEL and Fujairah Gold**

Mr Kumar was appointed the Chief Executive Officer of our copper operations in Tuticorin, Silvassa and Fujairah Gold FZC and Director of Malco Energy in March 2019. In his career of over 29 years, he has worked with large conglomerates like TATA Steel, Mittal Steel, Adani Ports, Gujrat Guardian Limited and United Breweries Limited. Prior to joining us at Sterlite Copper as Chief Executive Officer, he was the Chief Operating Officer at Hindustan Zinc Limited. He holds a bachelor's degree of Technology (Honours) in Mechanical Engineering from Indian Institute of Technology Kharagpur and Post Graduate Diploma in Business Management with specialisation in Operations Management and Information Technology from XLRI, Jamshedpur, India.

**ARUN MISRA**
**Deputy Chief Executive Officer-
Hindustan Zinc Limited**

Mr Misra was appointed as Dy. CEO, HZL on 20 November 2019. In his previous role, he was associated with TATA Steel as Vice President- Raw Materials. He has 31 years of rich and diverse experience in leading various strategic positions within TATA Steel. He has a bachelor's degree in Electrical Engineering from IIT Kharagpur, a Diploma in Mining and Beneficiation from University of New South Wales Sydney and a diploma in general management from CEDEP, France.

** As on 2 June 2020

## EXECUTIVE COMMITTEE CONTINUED...

**RAHUL TRIVEDI SHARMA**
**Chief Executive Officer (Acting)- VAL- Lanjigarh**

Mr Sharma joined the Vedanta Group in 1998, and is currently Chief Executive Officer of Alumina Business, effective April 2019, prior to which he was working as Director - Corporate Strategy (Aluminium and Power). He has varied experience of over 25 years and has held leadership positions at Vedanta Limited and Sterlite Technologies Ltd. Prior to joining Vedanta he was Chief Marketing Officer (Domestic and International) and Business Head - Integrated Management System at Sterlite Technologies Ltd. He has played a significant role in driving various policies and creating a strategic framework for various government reforms for development of exploration, mining and non-ferrous metal sector in the country in the most sustainable manner and is also the Co-Chairman of the Federation of Indian Chambers of Commerce & Industry (FICCI) Mining Committee. He is an alumnus of IIM–Ahmedabad Executive General Management program, has an MBA in Marketing and a BE in Electronics and Communication.

**PANKAJ MALHAN**
**Chief Executive Officer- Electrosteel Steels Limited**

Mr Malhan is the Chief Executive Officer of ESL and joined ESL in October 2018. He holds a Bachelor in Technology in Instrumentation & Control from National Institute of Technology, Jalandhar, India, and also has done Post Graduate Diploma in Business Management from XLRI, Jamshedpur, India. He joined ESL from TATA Steel, where he was the Head – Engineering and Project. He was responsible for leading TATA Steel's capital expansion programmes. He was associated with TATA Group since 2000 and has held various senior management positions at TATA Steel, TATA Blue Scope Steel Limited and TATA power Limited. Prior to joining TATA group, he has worked with Indian Acrylics Limited and Fisher Rosemount Limited.

**ABHIJIT PATI**
**Chief Executive Officer- BALCO**

Mr Pati was appointed as Chief Executive Officer of BALCO on 25th July 2019. Prior to this, he was CEO of our Aluminium business, Jharsuguda from March 2015. Earlier he was the president and Chief Operating Officer of our aluminium and power business at Odisha since April 2012. He has over 31 years of experience in aluminium industry. Prior to joining us, he was the Vice President with Hindalco Industries Limited. He started his career as a budding engineer with Indian Aluminium Company in the year 1989. He was awarded with the 'Exceptional Contributor Award' from the Aditya Birla Group Chairman, Mr Kumar Mangalam Birla for significant contribution to turn around Hirakud Aluminium Smelter in 2006 and won the prestigious British Sword of Honor for the Hirakud Smelter in the year 1999. He is a member of the Bureau of Energy Efficiency under Ministry of Power, Government of India. He is also holding the position of Vice President in Aluminium Association of India and member of the governing body. He is two times gold medalist from prestigious institutes like Calcutta University and International Management Institute, New Delhi. He has a first class honours bachelor's degree in Chemical Engineering from Calcutta University and a master's in Business Administration from International Management Institute, New Delhi.



** As on 2 June 2020

**VIKAS SHARMA**
**Chief Executive Officer-TSPL**

Mr Sharma was appointed the Chief Executive Officer of our power business TSPL on 25 July 2019, prior to which he was appointed CEO of BALCO in March 2017. He has experience of over 31 years in various national and multi-national companies. He served HMT Watches Limited, Su-Raj Diamonds India Private Limited, AMP India Private Limited (now Tyco), Praxair India Private Limited, Jindal Praxair Oxygen Company Limited and JSW Steel Limited in various key positions. He joined as Location Head of Chanderiya Smelter of HZL in 2012 and was gradually elevated to the Chief Operating Officer of smelters division of HZL in June 2014. During his tenure at HZL, he played integral role in the growth of the Company and made significant contribution in smelter production. He holds bachelor's degree with Honours in Mechanical Engineering from Engineering College Kota, University of Rajasthan and a master's in Business Administration in Marketing from Sikkim Manipal University, Gangtok, India.

**VINEET BOSE**
**SPOC Group - Legal**

Mr Bose was appointed as Corporate Counsel for legal matters across the group, with effect from 11 October, 2019. In addition to the current responsibilities, he also continues to hold the charge as the Head – Legal, Hindustan Zinc Limited (A Vedanta Limited subsidiary). He joined our Company in February 2016 as Deputy Legal Head of Hindustan Zinc Limited. He has almost 20 years of experience in complex litigations, contract negotiations, regulatory issues, compliance assurance, advocacy and taxation matters. Prior to joining our Company, he has experience working with organisation like DuPont, Bharti group, Vaish Associates (Law Firm), BSNL and Ministry of Corporate Affairs. He is a Law Graduate from Delhi University and holds a master's degree in business laws from National Law University (NLU) Bangalore. He is also a qualified Company Secretary and Cost and Management Accountant.

**DHIRAJ NAYYAR**
**Director, Economics & Policy**

Mr Nayyar was appointed as Director, Economics & Policy with effect from 11 October, 2019. Prior to this, he was Chief Economist of Vedanta Ltd. since October 2018. Before joining Vedanta, he was Officer on Special Duty and Head, Economics, Finance and Commerce at NITI Aayog, Government of India between October 2015 and October 2018. In this role, functionally equivalent to Joint Secretary, Government of India, he was responsible for all policy matters related to the Departments of Economic Affairs, Revenue, Financial Services, Investment and Public Asset Management and Commerce. He was Secretary of the Inter-Ministerial Committee on Sick and Loss-Making Public-Sector Enterprises, Member-Secretary of NITI Aayog's Committee on Strategic Disinvestment and Member, Spices Board. Prior to joining Government, he spent several years in the media in senior positions. He was India Columnist, Bloomberg View, Managing Editor, The Quint, Editor-at-large, Firstpost.com, Deputy Editor, India Today and Opinion Editor, Financial Express. He holds a BA Honours in Economics from St. Stephen's College, M.A. in Philosophy, Politics and Economics from Merton College, Oxford and M. Phil in Development Economics from Trinity College, Cambridge where he also pursued doctoral research in Economics and taught development economics.

** As on 2 June 2020

## EXECUTIVE COMMITTEE CONTINUED...

**LEENA VERENKAR**
**Group Head – CSR**

Ms Verenkar was appointed as Group Head – CSR, with effect from October 11, 2019. In addition to the current responsibilities, she also holds the charge as the Chief Advocacy & PR and Head – CSR for Sesa Iron Ore Business since 2015. Prior to this, she was Head – CSR of Iron Ore Goa, since 2010. She started her career with our Company in 1996, in the field of environment management & compliance and led the environment team for 12 years. She has more than 25 years of experience in environment management, community relations, advocacy & PR. She holds master's degree in Microbiology from Goa University and in ecology & environment from Bhopal University. She has Fulbright Scholarship by US foundation in India and LEAD fellowship by Lead India. She is also recognised as Women Leader of the year by Economic Times and 100 most impactful CSR leaders (a global listing) by World CSR in 2017.

**ROMA BALWANI**
**Director - Communications & Brand**

Ms Balwani was appointed Director-Communications & Brand with effect from 11 October 2019. Earlier she was Sr. Advisor since April 2019. Her prior stint with Vedanta was as President-Group Communications, Sustainability and Corporate Social Responsibility from April 2014 to August 2017. Prior to joining our Company, she was Chief Communications Officer at Mahindra & Mahindra Limited. With over three decades of experience, she has won several Indian and International awards and accolades and she speaks at several summits on Sustainable Development & Communications in India and overseas. She has the distinction of being included for three consecutive years in the Holmes Global Report, USA, a recognition in the Global Influence 100 listing of In-house Communicators. She is a Director of CMI FPE, and the Indian subsidiary of the Belgian Company CMI. She also chairs the CSR Committee as a Board member. She is an Economics Graduate from Mumbai University and a Post Graduate Diploma in Marketing Management and has completed Executive Management Program at Harvard Business School, Massachusetts, USA.

** As on 2 June 2020

TSPL Plant

**SAUVICK MAZUMDAR**
**Chief Executive Officer - Iron Ore Business**

Mr Mazumdar was appointed as Interim CEO of our Iron Ore Business in July 2019. Prior to this role he was the Deputy Chief Executive Officer of Iron Ore Business and Vice President since 1 October 2016. He has been associated with Vedanta for over 24 years and has held various strategic and leadership roles. He has a bachelor's degree in Mining Engineering from NIT Surathkal.

**CHHAVI NATH SINGH**
**Chief Executive Officer- VAL- Jharsuguda**

Mr Singh is the CEO of our Aluminium business- Jharsuguda since 25 July 2019. Prior to this role he was COO of TSPL. He has a rich experience of 38 years in power industry and played a pivotal role in stabilisation of TSPL operations. He has also worked for companies like National Thermal Power Corporation Ltd., Essar Power and JSW Energy Ltd. He has a Post Graduate degree PGDBM from MDI, Gurgaon and bachelor's degree in Mechanical Engineering from MLN Regional Engineering College.

** As on 2 June 2020

Photograph at Vizag General Cargo Berth

# MANAGING OUR **BUSINESS SUSTAINABILITY**

Our sustainability strategy is driven by the need to address the expectations of our stakeholders through mutual dialogue and need-based intervention, while at the same time addressing the priorities of business performance. As a large Company creating measurable economic and other impacts, we are mindful of our commitments to society, our people and our environment. We are also well attuned to global expectations and standards regarding sustainability, such as the United Nations Sustainable Development Goals (UN SDGs).

## KEY STATISTICS

**3.26 million**
community beneficiaries of Vedanta's social activities (FY2019: 3.1 million)

**59 million mt**
Carbon footprint (FY2019: 58 million mt)

**2.40 million GJ**
of energy conserved (target: 1.75 million GJ)

**0.67**
LTIFR (FY2019: 0.49)

**2.99 million m³**
of water saved (target: 2.5 million m³)

**29%**
Water recycling rate (FY2019: 28%)

**₹288 crore**
Community investment: (FY2019: ₹291 crore)

**7**
Fatalities (FY2019: 9)

# FIRM FOUNDATION FOR **LASTING VALUE**

**Good corporate governance, which is a pre-requisite for protecting shareholder value, as well as delivering sustainable growth, underpins the delivery of our strategic objectives.**

**By overseeing the conduct of business with strict adherence to ethics and responsibility, the entire structure, cascading from the Board of Directors at the top, supported by processes, policies and the Vedanta Sustainability Framework, enhances the prosperity, long-term viability and sustainability of the Company.**

## COMPOSITION OF THE BOARD

In pursuance of our commitment towards responsible business in compliance with the applicable provisions of Companies Act, 2013 and Securities and Exchange Board of India (SEBI) Listing Regulations, including the amendments thereof, our Board presents an appropriate balance between Executive, Non-Executive and Independent Directors to distinct its functions of management and governance, to promote shareholder interests and to govern Vedanta effectively.

Our governance philosophy stems from our values of Trust, Entrepreneurship, Innovation, Excellence, Integrity, Respect and Care.

As on 2 June 2020, the Board comprises eight members as listed below:

| Name | Designation | Gender | Age (as on 31 March, 2020) |
|---|---|---|---|
| Mr. Anil Agarwal | Non-Executive Chairman | Male | 67 |
| Mr. Navin Agarwal | Executive Vice-Chairman | Male | 59 |
| Mr. K Venkataramanan | Non-Executive Independent Director | Male | 75 |
| Ms. Lalita D. Gupte | Non-Executive Independent Director | Female | 71 |
| Mr. Mahendra Kumar Sharma | Non-Executive Independent Director | Male | 72 |
| Mr. UK Sinha | Non-Executive Independent Director | Male | 68 |
| Ms. Priya Agarwal | Non-Executive Director | Female | 30 |
| Mr. GR Arun Kumar | Whole-time Director & CFO | Male | 48 |

| Age Group | Less than 30 years | Between 30-50 years | Above 50 years |
|---|---|---|---|
| Number of Directors | 0 | 2 | 6 |

| Gender | Male | Female |
|---|---|---|
| Number of Directors | 6 | 2 |

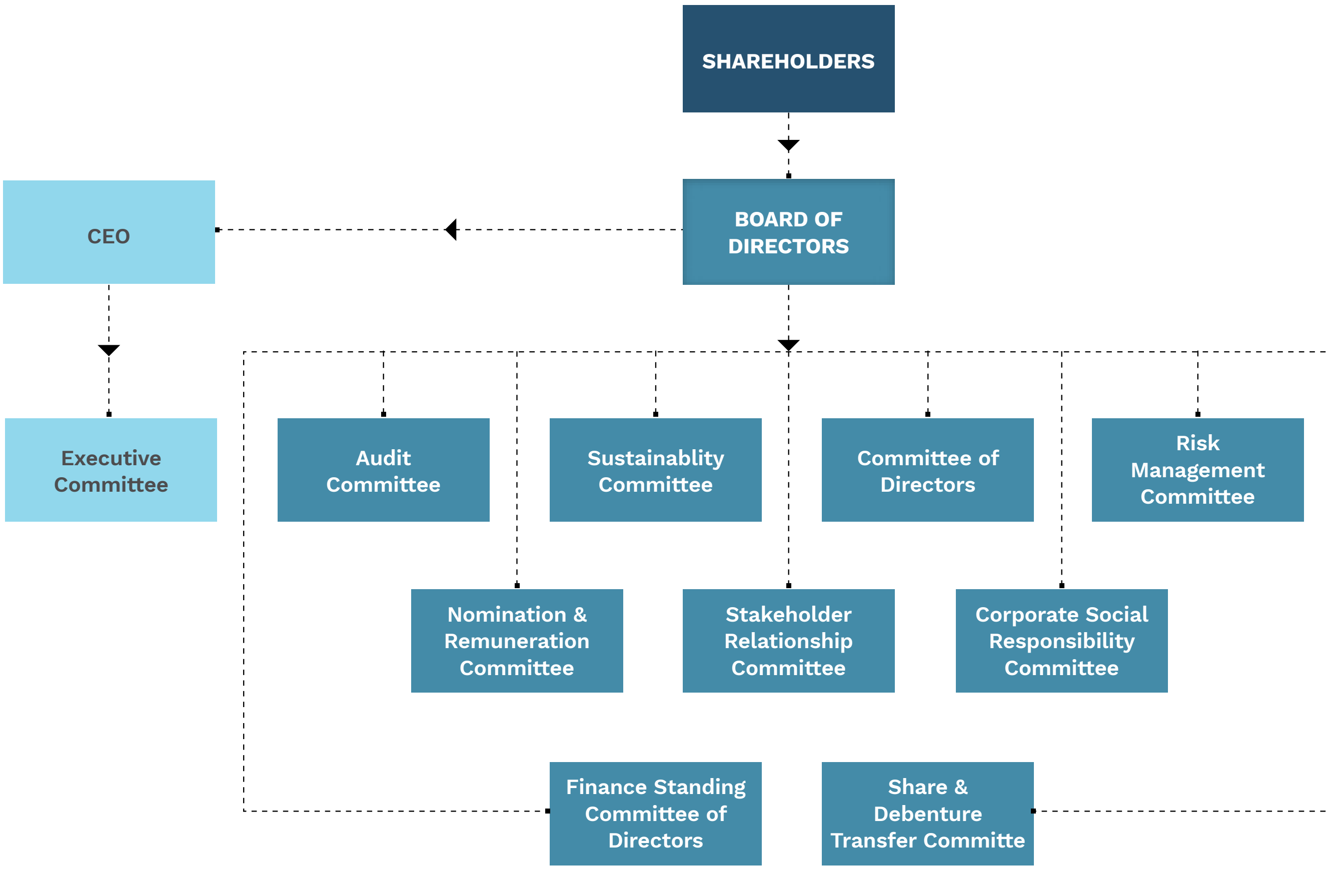
Our Board provides entrepreneurial leadership for the Company and strategic direction to the management. It is collectively responsible for promoting the long-term success of the Company through the creation and delivery of sustainable shareholder value. The reporting structure, as shown below, between the Board, Board Committees and Management Executive Committees, forms the backbone of the Group's Corporate Governance framework. As part of its decision-making processes, the Board considers the long-term consequences of its decisions, the interests of various stakeholders, including employees, the impact of the Group's operations on the environment and the need to conduct its business ethically. This is achieved through a prudent and robust risk management framework, internal controls and strong governance processes.

Our Board provides strategic perspective and steers the business in line with the commitments made to various stakeholders and sustainable growth. They are supported by:

- Established committees
- Sustainable development team
- Vedanta Sustainability Framework and Vedanta Sustainability
- Assurance Process (VSAP)
- Code of Business Conduct and Ethics


Diversified workforce in Wire Rod Mill and Bar Mill in ESL

**By overseeing the conduct of business with strict adherence to ethics and responsibility, the structure enhances the prosperity and long-term viability of the Company. The Board Sustainability Committee meets every six months.**



## EXECUTIVE COMMITTEE

Chaired by

**MR. SUNIL DUGGAL**
CEO

The Committee meets monthly and is responsible for implementing strategic plans formulated by the Board, allocating resources in line with delegated authorities and monitoring the operational and financial performance of the Group.

**SUSTAINABLE DEVELOPMENT TEAM**
Group (and BUs) HSE & Sustainability Teams

**COMMUNITY RELATIONS** | **ENVIRONMENT** | **OCCUPATIONAL HEALTH** | **SAFETY** | **DISCLOSURE & COMMUNICATION**

**REVIEW OF SUSTAINABLE DEVELOPMENT TEAM AND SEGMENT BUSINESS COMMITTEE**
(Monthly Operational Reviews/Business Management Group Meetings)

Aluminum Plant, Balco

Cambay Oil Facility, Cairn

# OUR SUSTAINABILITY MANAGEMENT APPROACH

**Our goal is to create long-term value for all our stakeholders. To deliver on this promise, we have developed the Vedanta Sustainability Framework that enables our business units to adopt sustainable business principles into their systems and procedures.**


Employees at Jharsugda

## VEDANTA SUSTAINABILITY FRAMEWORK

Developed in line with global standards from international bodies such as ICMM, International Finance Corporation (IFC), Global Reporting Initiative (GRI), United Nations Global Compact (UNGC) and SDGs, the Framework comprises several policies, standards and guidance notes, which help us in its execution. International consultants are also engaged to audit and provide feedback on the Framework's strengths and weaknesses.

**8 POLICIES**

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

**77 STANDARDS & GUIDANCE NOTES**

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

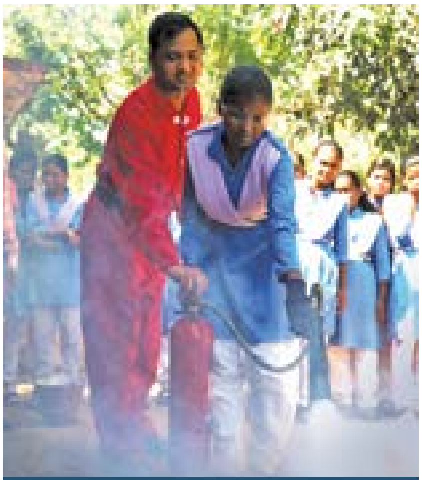
**ROBUST MONITORING**

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

## VEDANTA SUSTAINABILITY ASSURANCE PROCESS (VSAP)

VSAP is our sustainability risk assurance tool, used to assess the compliance of all our businesses with the Vedanta Sustainability Framework. The assurance model has different modules, which cover environment, health, safety, community and human rights elements. The assurance system works on the premise of tracking corrective and preventive action by each of our businesses and commissioning periodic formal audits by external experts.

VSAP is an annual process with clear tracking of results by the Sustainability Committee and the Executive Committee, which in turn report to the Board. As per the identified gaps, respective businesses make management plans and undertake corrective gap-filling actions, which are periodically reviewed, evaluated and documented. The successes and failures are identified and highlighted, and cross-learning opportunities are created.



Encouraging safety practices throughout community

**VSAP has been instrumental in helping us embed sustainable development into every activity that we undertake.**

Gamsberg Wet Area (Flotation, Thickener)

# ALIGNING STAKEHOLDER **EXPECTATIONS WITH BUSINESS STRATEGY**

Continuous engagement with our stakeholders allows us to remain responsive to their expectations, foresee emerging risks and identify opportunities. Our social responsibility performance standards help ensure effective engagement with relevant stakeholders across multiple industries and geographies; provide adequate grievance mechanisms to help resolve situations of potential conflict; and develop specialised standards for potentially vulnerable communities such as indigenous peoples. The process follows five principles of engagement:

| ASK | ANSWER | ANALYSE | ALIGN | ACT |
|---|---|---|---|---|
| Our dialogue begins with questions that solicit feedback. Our stakeholders have access to a number of platforms to reach out to Vedanta personnel and voice concerns. | We disclose not just because we want to be heard, but because we are responsible. We aim to provide a constructive response to feedback received. | We have established a robust investigation process for complaints reported via the whistleblowing mechanism, sustainability and group communications email IDs, involving senior management and relevant personnel. | We work hand-in-hand with stakeholders and align our goals and actions with their high-priority areas. The feedback from all our engagement becomes part of our materiality identification process. | We back up our words with demonstrable actions that move the needle towards promised outcomes. |

Enhancing agricultural incomes through innovative techniques

## OUR KEY STAKEHOLDERS

The table below represents an overview of the ongoing engagement with our stakeholders and the manner in which Vedanta responds to their expectations.

| Stakeholder Groups | Types of Engagement | Key Expectations | Initiatives in FY2020 |
|---|---|---|---|
| Local Community | Community group meetings, village council meetings, community needs/social impact assessments, public hearings, grievance mechanisms, cultural events, engaging philanthropically with communities via the Vedanta Foundation | ▪ Need-based community development projects<br>▪ Increasing reach of community development programmes<br>▪ Improved grievance mechanism for community | ▪ ₹288 Crore invested in Social Investment<br>▪ 3.26 million beneficiaries of community development programmes<br>▪ Community grievance process followed at all operations |
| Employees | Chairman's workshops, Chairman's/CEO's town hall meetings, feedback sessions, performance management systems, various meetings at plant level, V-Connect mentor programme, event management committee and welfare committee, women's club | ▪ Improved training on safety<br>▪ Increased opportunities for career growth<br>▪ Increasing the gender diversity of the workforce | ▪ 1.46 million person-hours of training on safety<br>▪ 30% of all new hires are women<br>▪ Identification of top talents and future leaders through workshops |
| Shareholders, Investors, & Lenders | Regular updates, investor meetings, site visits, AGM and conference, quarterly results calls, dedicated contact channel – Vedantaltd.ir@vedanta.co.in and sustainability@vedanta.co.in | ▪ Consistent disclosure on economic, social, and environmental performance | ▪ ₹83,545 Crore in revenue<br>▪ Sustainability assurance audits conducted through Vedanta Sustainability Assurance Programme (VSAP)<br>▪ Investor briefings and pro-active engagement with the investment community on ESG topics |
| Civil Societies | Partnerships with, and membership of international organisations, working relationships with organisations on specific projects, engagement with international, national, and local NGOs, conferences and workshops, dedicated contact channel – sustainability@vedanta.co.in | ▪ Expectation of being aligned with the global sustainability agenda<br>▪ Commitment to ensuring human rights for all | ▪ Membership of international organisations including the United Nations Global Compact, TERI, CII, and Indian Biodiversity Business Initiative (IBBI)<br>▪ Focus towards implementing Sustainable Development Goals<br>▪ Compliance to the Modern Slavery Act |
| Industry (Suppliers, Customers, Peers, Media) | Customer satisfaction surveys, scorecards, in-person visits to customers, suppliers, and vendor meetings | ▪ Consistent implementation of the cCode of Business Conduct and Ethics<br>▪ Ensuring contractual integrity | ▪ Hotline service and email ID to receive whistle-blower complaints |
| Governments | Participation in government consultation programmes, engagement with national, state, and regional government bodies at business and operational level | ▪ Compliance with laws<br>▪ Contributing towards the economic development of the nation | ▪ ~₹32,400 crore in payments to the exchequer |

# DELIVERING ON ESG PRIORITIES

In addition to the normal course of engagement, overseen by respective BUs and functions of the business, Vedanta, conducts a formal stakeholder engagement and materiality assessment exercise, once in every three years. This exercise is conducted to ensure that we have accounted for all expectations or concerns conveyed to us by our stakeholders, especially with regard to sustainability performance.

During FY2020, we completed our largest such exercise, having interacted with nearly 2,900 internal and external stakeholders via online surveys, focus group discussions, and face-to-face interactions. The results of this exercise have been distilled by our senior leadership team into areas that require our immediate attention and intervention (High); areas that can be managed using our existing frameworks and protocols (Medium); and areas that need continuous monitoring to prevent them from becoming critical for the organisation over time (Low). Classification of the areas was done using the following framework: (i) Importance to external stakeholders; (ii) Importance to the Vedanta leadership team; (iii) Potential regulatory impact; (iv) Potential reputational impact; and (v) Potential financial impact.

These results are specific to ESG-related expectations from the Company and do not include aspects related to economic/financial expectations.

| High | Medium | Low |
|---|---|---|
| Energy & Climate Change | Noise & Vibration | Land Acquisition & Rehabilitation |
| Water Management | Tailings Dam Management | |
| Solid Waste Management | Human Rights | |
| Air Emissions | Resource Efficiency | |
| Biodiversity | Transparent Disclosure | |
| Health & Safety | Materials Management | |
| Community Development | Learning & Development | |
| Supply Chain Sustainability | Use of Recycled Material | |
| Grievance Management | Brand Salience | |
| Compliance to Government Regulations | Innovation | |
| Upholding Rights of Indigenous People | Governance for Sustainability | |
| Ethical Business Practices | | |
| Diversity & Equal Opportunity | | |
| **Act** | **Manage** | **Observe** |

Water dredging at the Red Mud Pond in Lanjigarh

We further analysed the areas with 'high' expectations to explore how they are integrated with the UN Sustainable Development Goals. The final set of actions and targets, in alignment with UN SDGs, are described in the table below:

Achieved

Partially Achieved

Not Achieved

| Issues Emerging as 'High' Priority | SDG Alignment | FY2020 Targets | Status | Performance | Proposed Targets FY2021 & Beyond |
|---|---|---|---|---|---|
| **WORKFORCE SAFETY** | | | | | |
| **Health & Safety** | SDG 8.8. Protect labour rights and provide safe work conditions for all | Achieve score >75% in ten safety performance standards | | Average score <75% | Achieve score >75% in ten safety performance standards |
| | | Zero fatal accidents and an LTIFR of 0.30 | | 7 fatalities<br>LTIFR: 0.67 | I. Zero fatal accidents<br>II. Introduce TRIFR as the primary lagging metric for safety |
| **ENVIRONMENT MANAGEMENT** | | | | | |
| **Water Management** | SDG 12.2: Achieve sustainable management and efficient use of natural resources | Achieved 2.5 million m^3 of water savings | | 2.99 million m$^3$ of water savings achieved | I. Review our water targets in alignment with global best practices.<br>II. Achieve water savings of 0.5 million m3<br>III. For water stressed areas - have a sustainable sourcing model by 2025 |
| **Energy & Climate Change** | SDG 12.2: Achieve sustainable management and efficient use of natural resources<br>SDG 13.2: Integrate climate change measures into strategies, polices, and planning | Achieve 1.75 million GJ energy saving | | ~2.40 million GJ of energy savings achieved | Achieve energy savings of 3 million GJ |
| | | Reduce our GHG emissions intensity by 16% from a 2012 baseline by 2020 | | 13.83% reduction in GHG emissions intensity | Develop revised set of GHG emissions intensity reduction targets |
| **Solid Waste Management** | SDG 12.5. Substantially reduce waste generation through prevention, reduction, recycling and reuse | Achieve fly ash utilisation of 80% | | 105% utilisation of fly ash | Sustain fly-ash utilization at 100% or more |
| **Tailings Dam Management** | NA | Third-party review of tailings/ash dyke management system and development of specific improvement plan (India operations) | | Completed | Continue with third-Party review of our tailings dam/ ash dyke structures |
| **Biodiversity** | SDG 15.9. Introduce biodiversity management and planning into development processes | | | Completed | **New Target:** Review of site-biodiversity risk across all our locations |

## ENVIRONMENTAL STEWARDSHIP CONTINUED...

| Issues Emerging as 'High' Priority | SDG Alignment | FY2020 Targets | Status | Performance | Proposed Targets FY2021 & Beyond |
|---|---|---|---|---|---|
| **SECURING OUR SOCIAL LICENCE TO OPERATE** | | | | | |
| **Community Development** | SDG 2.1. End hunger and ensure access to safe, nutritious, and sufficient food, all year round<br><br>SDG 2.2. End all forms of malnutrition | Ensure alignment of all BU plans with issues identified during baseline surveys | | Baseline survey conducted across Group, BU plans aligned with findings/ recommendation | Implementation of programmes in line with baseline and key indicators and conduct impact study after three years<br><br>**New target:** Focus to align programmes with 2 key SDGs across group |
| | | 1,200 Nand Ghars to be constructed by FY2020 | | 1,250 Nand Ghars constructed | 4,000 Nand Ghars to be constructed by FY2021 |
| | | Rollout of employee engagement platform across the Group | | 'Passion to serve'-employee volunteering online platform launched in August 2019 | Intentionally left blank |
| **Grievance Management** | No specific SDG | A standard online community grievance record/ redressal software to be introduced across the Group | | 'Nivaran' portal launched in March 2019 | Timely redressal of grievance through unified portal across BUs |
| **Supply Chain Sustainability** | SDG 8.7. Eliminate worst forms of child labour, all forced labour | | | | No targets. However, BUs follow Modern Slavery Act requirements to monitor suppliers and vendors for breaches of human rights |
| **Upholding Rights of Indigenous People** | No specific SDG | | | | No target, however, Vedanta is committed to FPIC & plans to undertake a Social Performance pilot in FY2021 |
| | | | | | **New target:** CSR advisory at Group level |

Vedanta encourages leveraging advanced & sustainable technology

| Issues Emerging as 'High' Priority | SDG Alignment | FY2020 Targets | Status | Performance | Proposed Targets FY2021 & Beyond |
|---|---|---|---|---|---|
| **PEOPLE AND DIVERSITY** | | | | | |
| **Ethical Business Practices** | No specific SDG | Continue to focus on Code of Conduct (COC) training for all employees, including new hires | | All our employees sign a copy of COC as part of their joining process acknowledging that they have gone through the Code of Conduct policy. In addition, we have a digitised COC training module, which every employee must go through, at the end of which they have to answer a short quiz to complete the training | Continue to focus on COC training for all employees, including new hires |
| **Diversity & Equal Opportunity** | SDG 5.5. Ensure full & equal participation of women in all decision-making in the political, economic, and public life | Achieve 33% female representation at Vedanta Board-level by FY2020 | | Currently, we have 25% diversity in our Group Management Committee and 20% in Vedanta Limited's Board. We have made significant headway since last year where we have increased diversity in the Group | Achieve 33% female representation at Vedanta across all key decision-making bodies, including the Board, Management Committee and ExCo |
| | SDG 5.9. Adopt and enforce policies and legislation on gender equality | | | Executive Committee from 5% to 17% and we continue to focus on achieving 33% diversity across the table | |
| | | 5% improvement in our campus female hiring programme to promote gender diversity | | We have improved our on-campus recruiting diversity by 8.7% from 27.7% to 36.4% | Improve diversity across the organisation with focused 50% diverse hiring from campuses |
| | | Ensuring right lead-ership (ExCo) & succession for each business | | ExCo structure being reviewed by respective business CEOs and HR heads, along with top management every month – Key focus is on delivery and business impact. Status on KPIs being tracked for the ExCo leaders through a structured Scorecard process on a quarterly basis | Ensuring right Manage-ment in Place with defined deliverables in terms of Volume, Cost & EBITDA and succession for each business |

# OPTIMISING RESOURCES FOR A SUSTAINABLE FUTURE

We are committed to reduce our environmental footprint through a systematic and process-oriented approach. This includes addressing legacy issues at sites that have previously had a negative impact on the environment, retrofitting older assets with new technology and ensuring new operations are as efficient as possible by design. Additionally, all our operational sites are ISO 14001 certified.

Our Vedanta Sustainability Framework comprises policies, standards and guidance notes to manage environmental impacts. For the environmental priorities arising from the materiality process, we have developed specific objectives and targets, and review performance against these issues on a periodic basis.

## ENERGY MANAGEMENT & CLIMATE CHANGE

As a large consumer of fossil-fuel based power, we recognise the climate-related risks associated with our business activities. We understand the implications of our energy consumption, both in terms of its cost to the natural environment as well as cost to the operations and are committed to meet our energy demands, while limiting our carbon emissions. We remain fully supportive of the outcomes of the Paris Agreement and have taken on carbon reduction targets in alignment with the Nationally Determined Contributions (NDC) of the Government of India.


An employee at Cairn Oil & Gas

## GOVERNANCE STRUCTURE

Our Energy and Carbon Management Policy and Performance Standard commit our operations to adopt and maintain global best practices in carbon and energy management and minimise Greenhouse Gas (GHG) emissions.

The primary oversight of our carbon agenda rests with the Board's Sustainability Committee, which meets once every six months. The Committee also reviews progress on the sustainability targets, which include carbon-related goals. The operational oversight of the carbon agenda rests with The Carbon Forum - a council chaired by the CEO of our power business and led by the Chief Operating Officers of our businesses. The forum has been mandated with developing and overseeing the implementation of Vedanta's carbon mitigation approach.


The green lush environment at our Calciner in Lanjigarh alumina refinery

**During FY2020, the Company reconstituted the 'Carbon Forum' adding new members and refreshing its terms of reference.**

Included in the Forum's work are discussions related to approving Vedanta's carbon management strategy, long-term (GHG) emissions intensity reduction targets, alignment with investor requirements, emerging regulatory risks and carbon pricing. The Forum also informs the Group ExCo, Risk Management Committee and the Board Sustainability Committee on ways to manage our carbon footprint. Executive compensation is linked to VSAP performance, which means management of our carbon footprint is also indirectly included in the compensation structure. We are in agreement with the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD). We are currently examining the best way forward on refining our carbon management and disclosure practices to be in alignment with the same.

## CLIMATE-RELATED RISKS AND OPPORTUNITIES

Vedanta's global presence exposes us to regulatory changes aimed at limiting or reducing GHG emissions. These changes could potentially impact our operations with increased costs for fossil fuels, levies for emissions in excess of certain permitted levels, and increased administrative costs for monitoring and reporting. Further, increasing regulation of GHG emissions, including the progressive introduction of carbon emissions trading mechanisms and tighter emission reduction targets, is likely to raise costs and reduce demand growth. However, as of now, we do not anticipate any regulatory risks in India after the withdrawal of the clean energy cess in 2017.

We also anticipate physical risks related to extreme weather events and changes in the availability of water due to climate change. We have conducted a water risk assessment to evaluate the risks at 25 of our locations. Sites located in high-risk areas that are vulnerable to changes in the availability of water have begun to implement measures to reduce their dependency on local water sources by increasing water recycling rates and improving water use efficiencies.

We also anticipate a rise is the spread of vector-borne illnesses with rising temperatures. The COVID-19 pandemic has provided a glimpse of what such an outbreak could look like. We will incorporate the possibility and impact of such an event in our future risk planning – expanding on the Business Continuity Planning SOPs that have been prepared for the current COVID-19 crisis. In terms of climate-related business opportunities, we expect to benefit from an increase in demand for copper, zinc and silver, as the global renewable energy and electric vehicle industries expand.

We have not yet undertaken climate scenario planning and stress-testing of our projects based on internal carbon prices. There is an intention to introduce internal carbon prices in the next two years. Given the challenges related to Vedanta's diverse business operations, which have different emission intensities, the Company is in the process of reviewing whether to apply carbon price at a group or operations level.

Ensuring safe and best-in-class hygiene practices at Workplace

## TARGETS & STRATEGIES

Vedanta's businesses range from mining operations (surface and underground), smelting and refining units, hydrocarbon exploration, drilling and production, and product manufacturing to power generation. A significant portion of our operations are in regions where fossil-fuel based power forms the baseload of the energy grid. Additionally, due to the large and consistent requirement for power, many of our captive power plants use coal-based thermal technologies. Given the nature and location of our businesses, switching to large-scale renewable energies has not been possible due to the current financial and technical limitations of the technologies. As a result, much of our GHG emissions reduction programmes remain focused on improving the energy efficiency of our operations. We had aligned ourselves with the Nationally Determined Contributions (NDC) of the Government of India and had committed to reduce our GHG emissions intensity by 16% by 2020 from a 2012 baseline.

Shutdown maintenance activity at Cairn

In FY2020, we have reached the end-of-cycle for this target and achieved a reduction of 13.83%. This reduction is equivalent to ~9 million $tCO^2e$ in avoided emissions. While the final number is lower than the target, it is indicative of the stretch goal that had been taken by us. We are currently in discussions internally to take the next set of mid- and long-term targets. We expect to be able to disclose these new targets by Q3FY21. We are deliberating if Science Based Targets (SBT) should be adopted for the entire group, or if each of our businesses should commit to their own SBTs. Our Zinc India business has already committed to SBTs and plans to reduce its Scope 1 and Scope 2 emissions by 14% by CY2026 from a CY2016 baseline. It has also committed to reduce its Scope 3 emissions by 20% by CY2026 from a CY2016 baseline.

## PERFORMANCE

| GHG Emissions (million $tCO_2e$) | FY2020 | FY2019 | FY2018 | FY2017 |
|---|---|---|---|---|
| Scope 1 (direct) | 57 | 55 | 51 | 51.7 |
| Scope 2 (indirect) | 2 | 3.5 | 1.2 | 1.4 |
| **Total** | **59** | **58.5** | **52.2** | **53.1** |

| Energy Consumption (million GJ) | FY2020 | FY2019 | FY2018 | FY2017 |
|---|---|---|---|---|
| Direct | 518 | 483.9 | 424.94 | 411.95 |
| Indirect | 8 | 62.59 | 14.34 | 9.07 |
| **Total** | **526** | **546.49** | **439.28** | **421.02** |

The marginal rise in GHG emissions is primarily due to the inclusion of Electrosteels Steel Limited (ESL) data from FY2020 onwards. If we remove ESL from the dataset, there is a decline in GHG emissions by 3.6%. The decline for our GHG emissions and energy use is due to the marginal slowdown of activities in Q4 due to the lockdown measures initiated as part of our COVID-19 response.

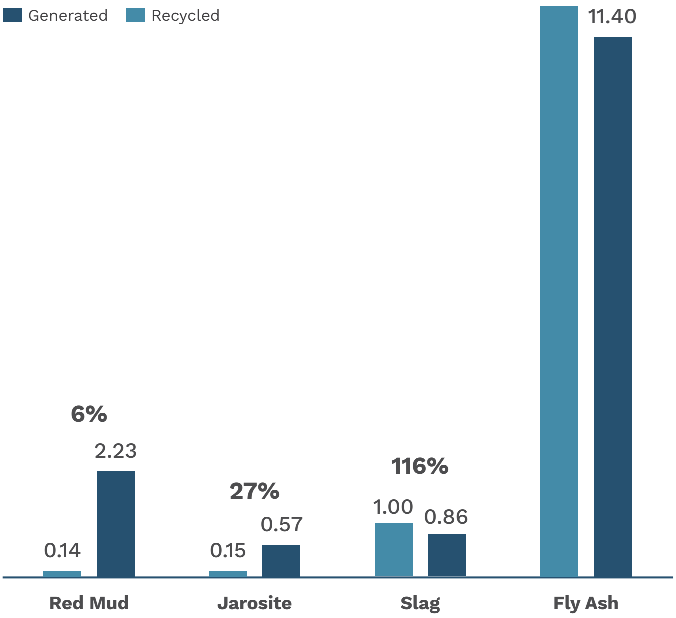
We calculate and report GHG inventory i.e. Scope 1 (process emissions and other direct emissions) and Scope 2 (purchased electricity) as defined under the World Business Council for Sustainable Development (WBCSD) and World Resource Institute (WRI) GHG Protocol.

## WASTE & TAILINGS MANAGEMENT

Responsible management of waste is the cornerstone of any sustainable operation. The safe and responsible management of hazardous, non-hazardous, and high-volume low-toxicity wastes is a key concern for our businesses. At Vedanta, the hazardous wastes include used/spent oil, waste refractories, spent pot lining and residual sludge from smelters, while the non-hazardous (high-volume, low-toxicity) wastes we generate include fly ash (from captive and merchant power plants), red mud (aluminium refinery waste), jarofix (from zinc smelting), slag, lime grit (process residues from smelters and aluminium refineries) and phosphogypsum (phosphoric acid plant).

The Resource Use and Waste Management Technical Standard and supporting guidance notes are part of the Vedanta Sustainability Framework. We follow the principle of first reducing the waste, quantitatively as well as qualitatively (reducing the toxicity), and then performing the recovery and recycle (either ourselves or sold to authorised recyclers). The last priority is disposal in landfill or by incineration, using authorised, licensed and secured landfills. In FY2020, we recycled 88% of the high-volume-low-effect wastes such as fly ash, slag, and jarosite. For the second year in a row, we could reutilise more than 100% of the fly ash generated in the year, by recycling legacy waste.

**High-Volume-Low-Effect Waste (million MT)**




Water sprinklers at the Red Mud Pond in Lanjigarh

## TAILINGS DAM MANAGEMENT

Tailings dams and ash ponds are integral to Vedanta's mining operations. However, they can cause significant damage to the environment and to the neighbouring communities if they are breached.

Vedanta oversees 18 active and 5 inactive, and 1 closed Tailings Management Facilities (TMFs). Our principle concern is to ensure the safety of the people who live downstream from our dams. All but one[1] tailings facilities have undergone an independent audit and assessment in the last 12 months by Golder Associates. We have also introduced a tailings dam management standard to ensure that our Group companies adhere to standard practices while managing their dam structures.

Critical aspects of Vedanta's TMF standards:

- Site selection must be based on a comprehensive environmental and social impact assessment, including economic, public health and safety risk over the life cycle of the tailing facility as per Good International Industry Practice
- Dam break analysis must be conducted based on the advice of the designer/consultant to quantify the TMF-related risks if the TMF is located upstream or close to communities or in sensitive environmental areas
- Design must be based on best available technology, to minimise the environmental, social, and economic risks, at optimal total cost of ownership over the life cycle of the operation

In keeping with stakeholder expectations on transparency of our tailings dam facilities, Vedanta has responded to the Church of England disclosure requirements. Details of the disclosure can be found on our website: www.vedantalimited.com


Project Jalgram

## WATER MANAGEMENT

Water is a shared resource. While access to a steady water supply is critical for mining and smelting operations, it is an equally critical requirement for our host communities and the natural ecosystem and biodiversity of the area. The shared nature of this resource calls for all stakeholders to use it responsibly and we have taken several measures to reduce its consumption of water.

Our Group water policy administered through our water management standard is in place and our approach is to keep it as a core factor while making decisions, either for a new project or an existing one. Water-screening assessment to identify sensitive water resources, aquatic habitats and any known or suspected water resource constraints in proximity to each operation, is a must and has been conducted by all our businesses. It ensures that our operations have built-in measures to evade, curtail, or where required, compensate its effect on water in their respective regions.

In the last year, we have collectively saved c.2.99 million m$^3$ water through various conservation and efficiency programmes.

Some examples of these efforts include:

- Increasing cycles of concentration at Jharsuguda Thermal Power Plant
- Improvement of recycling rate of treated cooling tower blowdown at TSPL
- Improvement of recycling rate of raw and process waste water at Skorpion Zinc
- Reuse of Thermogravimetry (TG) condensate at HZL

[1] Our facility at Skorpion Zinc underwent an audit in 2016.


Water mist canons, sheep rollers, soil blanketing, coir matting are innovations towards pollution control measures

### PERFORMANCE

| Water Consumption & Recycling (million m$^3$) | FY2020 | FY2019 | FY2018 | FY2017 |
|---|---|---|---|---|
| Total water consumption | 252.66 | 243.44 | 241.66 | 241.56 |
| Water recycled/reused | 73.85 | 66.99 | 71.70 | 64.65 |
| **% Water recycled** | **29.23** | **27.52** | **29.67** | **26.76** |

## AIR EMISSIONS

We closely monitor the extent of any impact that our operations have on air quality and the effects and implications that this may have on employees, the communities local to our operations, and the broader environment. We are committed to using processes and technology that minimises any particulate release.

As part of our ambient air quality monitoring process, we monitor Suspended Particulate Matter (SPM), SOx and NOx. We also keep in check lead emissions in our zinc operations, fluoride emissions in our copper and aluminium operations, and Polycyclic Aromatic Hydrocarbons (PAHs) in our aluminium operations as per our Environmental Management Standard.

### PERFORMANCE

| Stack Emissions (in MT) | FY2020 | FY2019 | FY2018 | FY2017 |
|---|---|---|---|---|
| Particulate matter | 9,603 | 8,862 | 8,414 | 9,296 |
| SOx | 255,685 | 242,234 | 189,823 | 174,340 |
| NOx | 66,526 | 67,278 | 56,749 | 44,935 |

### ALIGNING BUSINESS PRACTICES TO UN SUSTAINABLE DEVELOPMENT GOALS

| Goal: SDG 13 – Climate Action | Goal: SDG 12 – Responsible Consumption & Production | Goal: SDG 15 – Life on Land |
|---|---|---|
| **Target:** 13.2. Integrate climate change measures into strategies, polices, and planning | **Target:** 12.5. Substantially reduce waste generation through prevention, reduction, recycling and reuse | **Target:** 15.1. Conserve, restore and sustainably use all terrestrial ecosystems |

## CASE STUDY XX:
## A TURNAROUND AT ELECTROSTEEL STEELS LIMITED (ESL)

Vedanta has grown inorganically, through acquisition. A key to its success has been its ability to turnaround sick companies – not just economically, but also in how they manage sustainability. ESL is no exception to this practice. In the 21 months since Vedanta acquired ESL, there has been significant work done to improve the environmental performance of the unit.

Employee Cleaning the plant premises under Swaach Bharath Abhiyan

### Increase in Fly Ash and Blast Furnace Slag Reutilisation

From reutilising only 10% of the generated fly ash, ESL has been able to utilise 100% of the generated volumes. This has been achieved by establishing sales agreement for fly ash with cement companies, where the by-product is used in several blended-cement applications. In FY2020, ESL transferred ~108,000 MT of fly ash to the cement companies.

A similar success story has been achieved with Bblast furnace slag, where ESL has increased reutilisation levels from 30% to 100% of the generated waste. This too has happened by collaborating with cement manufactures.

### Fly Ash Management and Land Reclamation

Low-lying areas within plant-boundaries are prone to flooding and can thus disrupt operations. One such area has been reclaimed by using nearly 300,000 MT of fly ash. The area was levelled, lined with clay at the bottom layer, before moving the fly ash. laying in the plant premises for levelling. A layer of top-soil was then added and 50,000 saplings planted, thereby aiding in the biological reclamation of the land. This solution aided in reducing the risk of flooding as well as the spread of fly ash due to wind or water-related events.

### Increase in Reutilisation Rates of ETP Treated Water

Less than 1000 KL of Effluent Treatment Plant (ETP) water was reutilised in the plant every day. A project to identify losses and lay additional pipeline across the plant has seen the reutilization levels of the ETP treated water increased to 4,070 KL/day. The additional water is reutilised in the coke oven, blast furnace, sinter and lime, DIP, power plant, raw material handling and storage, sprinkling and greenbelt areas of the plant.

### Waste Heat Recovery

Our non-recovery type coke oven releases coke oven gas during its operation, which are in the temperature range of 110500$^{0}$C–11500$^{0}$C. In normal course, this waste gas will be released to the atmosphere, contributing to our overall emissions and negatively impacting the atmosphere. However, in order to recover the waste heat, we drive this waste heat through two specially designed boilers, which generate steam to run the turbines in our captive power plant. A total of 259,255 MWh of power is generated annually from the Waste Heat Recover Boilers (WHRB). This action has allowed us to reduce our coal usage by ~82,000 MT and reduce our GHG emissions by ~69,000 tCO2e/year.

**SDG Alignment**

**SDG 12:** Responsible Consumption & Production,
**SDG 13:** Climate Action
**SDG 15:** Life on Land

CASE STUDY XXX:

## DRY TAILINGS DISPOSAL SYSTEM - ZAWAR

Safe and sustainable management of our tailings facilities in central to our site management plan. Most tailings contain 50-65% water, forming a slurry. This introduces several risks to the tailings dam structure and the adjoining communities and environment.

The installation and commissioning of dry tailing plant at the Zawar operations of HZL, brings higher water recovery, near elimination of water losses through seepage and evaporation, virtual stoppage of any probability of groundwater contamination through seepage and significant safety improvement, thus reducing the risk of a catastrophic dam failure. It is now possible to extract excess water (recirculation for mill operation) from tailings by introduction of this filtration plants to transform solid fractions into cake containing only 16% moisture.

**Key advantages of this structure include:**

- Recirculation of >90% of the process water
- Elimination of the risks of catastrophic tailings flow when a slurry dam (TSF) fails
- Safe stacking of tailings cakes even in areas of high seismic activity
- Reduction of risk of groundwater contamination through seepage
- Reduction of storage footprint by 50% and enabling fast rehabilitation when approaching mine closure

**SDG Alignment**

**SDG 12:** Responsible Consumption & Production

Employee underground the Sindesar Khurd Mine

# EXPLORING A CIRCULAR BUSINESS MODEL

Every year the metals & mining industry produces ~174 billion MT of waste. Not only are these waste volumes great, but they often contain traces of heavy metals and chemicals. At best, these wastes result in large tracts of land being used to safely store them, and at worst, they can cause significant harm to environment and society, in instances of run-off or a breach in the storage areas.

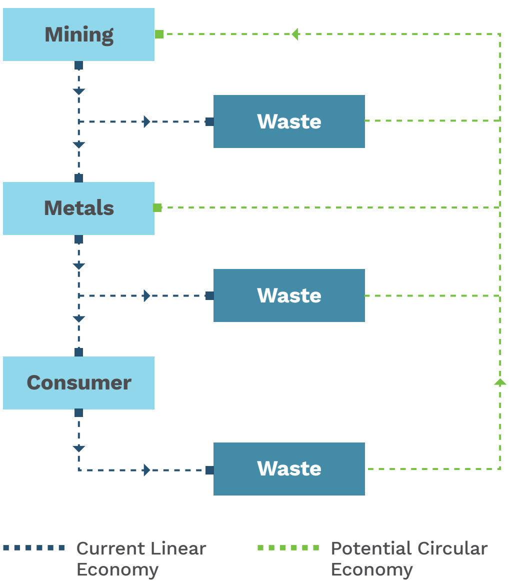
For many years, the industry has been evaluating solutions to minimize and reuse these wastes, however these have been imperfect, and often-times result in the generation of alternate waste-streams. It is estimated that nearly 40% of this waste can be recycled and converted into value-added-products.

In India, the unscientific disposal of hazardous waste has become a significant environmental issue. One reason is the growing unavailability of secure landfill sites to safely store this waste.

At Vedanta, we follow the waste hierarchy principles of reduce, reuse, recycle and dispose/store responsibly. Given the large volumes of waste we generate, we are always on the lookout for technologies or partners who can help us convert this "waste to wealth". Enter Runaya Refining and their technology-enabled sustainable solutions for mineral waste processing.

## RUNAYA – CREATING CIRCULAR ECONOMY SOLUTIONS FOR THE METALS & MINING INDUSTRY

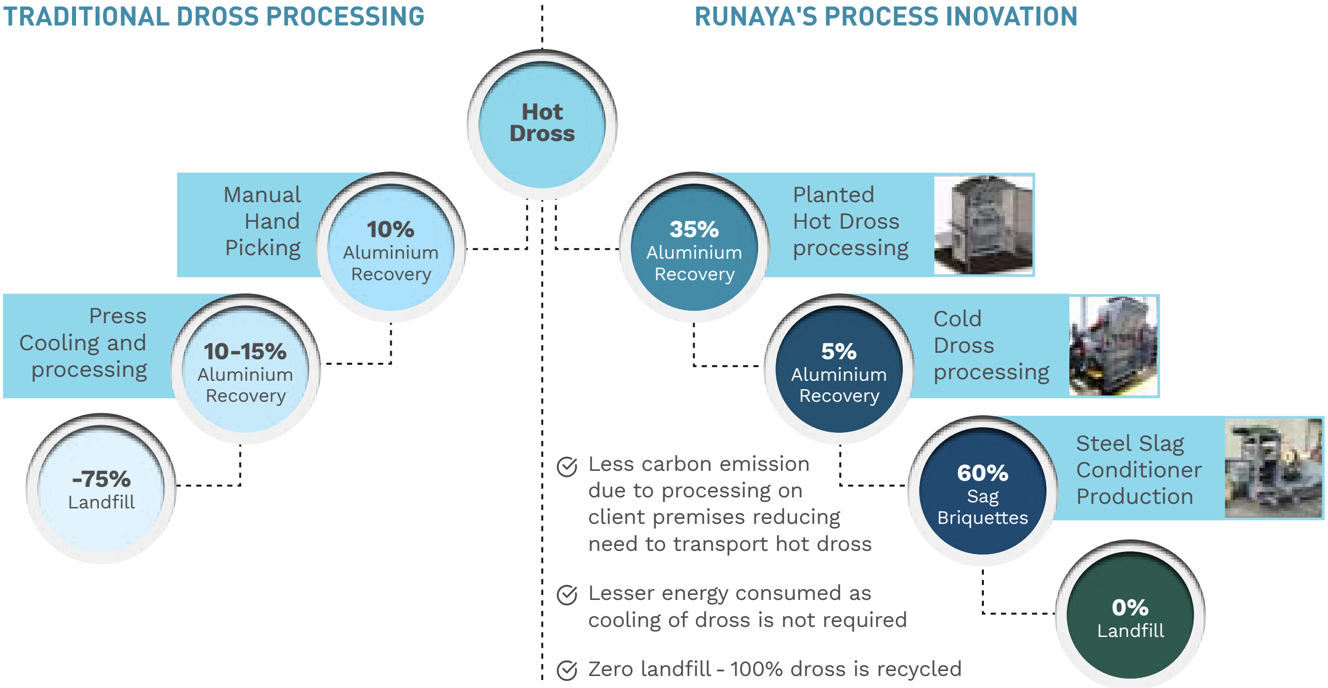
The world produces ~65 MMT of aluminium every year. Approximately 1.5% of the total quantity is lost in the form of aluminium dross – a by-product – that contains recoverable aluminium, aluminium nitrides and oxides, spinel, dimagnesium silicate, gupeiite, and sodium titanate. Aluminium dross is classified as a hazardous waste under the prevailing Indian Environmental regulations due to its potential environmental and health impacts. Current practice is to responsibly dispose this waste by sending it to State authorized recyclers/re-processors who process the waste as per approved guidelines by the Central Pollution Control Board. Recyclers attempt to recover aluminium from the dross, but because they handle cold dross, the recovery is limited to ~20% metal by weight from the dross.




The proprietary high-end technology used by Runaya breaks up the recovery process into two-stages – (i) Recovery from the hot dross, and (ii) Recovery from the cold dross. The combined effect is that one is able to recover ~40% of the metal by weight (or 90% of the metal present in the dross). This is a significant jump, resulting in improving the economic viability of the process. Also given that it is processing the dross in its melted state in stage 1, there is a significant reduction in the energy requirements compared to other solutions in the market.

Additionally, in keeping with Vedanta's "Zero Waste" philosophy, Runaya, which has a technological tie-up with TAHA International S.A (Luxemburg), is able to take the non-metallic portions of the residual dross and process it to produce briquettes that can be used as slag conditioner in the steel industry.

The end result is that 100% of the dross can be reutilized – through metal recovery and the creation of a value-added-product. This eliminates the amount of waste sent to secure landfills and is an environmentally safe way of utilizing a hazardous waste. It also decreases the dependence on the other raw materials used as slag conditioners in the steel industry – thereby living up to the ideals of circular manufacturing and circular economy.





Runaya Refining Site, Odisha

### A PARTNERSHIP ON THE BRINK OF A REVOLUTION

A circular economy is one that is restorative by design, aiming to keep products and components and materials at their highest utility and value at all times.

The solution being offered by Runaya is an example of what is possible for the aluminium industry and fulfills our vision of “zero waste” by eliminating a hazardous waste-stream. Vedanta is excited to partner with them and usher in a revolution for the resources sector in more ways than one.

> **“Runaya’s process is a game-changer for the Aluminum sector. Not only does it have the potential to eliminate a hazardous waste-stream, but it converts that waste into value-added products. It is a sustainable solution in the truest sense – addressing environmental, economic, and social aspects.”**

**Ajay Kapur**
**CEO Vedanta Aluminium & Power**

# EMPOWERING COMMUNITIES FOR INCLUSIVE GROWTH

Retaining the trust of our host communities is central to our ability to do business. In many instances, we are the primary economic driver where we operate. This places us in a unique position to significantly impact the lives of local communities, whether as employers and business partners or through our community development interventions. We take this responsibility seriously and endeavour to fulfil our role in a manner that upholds the dignity of all our stakeholders and allows us to live up to our values.

The Vedanta Sustainability Framework and its associated standards and policies guide our work on social performance. In areas with indigenous populations, we are committed to following the principles of Free, Prior, Informed Consent (FPIC). With its genesis in the UN Declarations of Rights of Indigenous Peoples, it has been adopted as a best practice by the IFC and ICMM.

Our CSR Council, led by a senior business leader, and including CSR Heads and CSR Executives from all business units, meets every month and reviews the performance, spends and outcome of CSR programmes across units. Governed by our in-house CSR Policy and Sustainability Framework, the Council is responsible for governance, synergy and cross-learning across the Group CSR efforts. The Board CSR Committee comprises senior Independent Directors; and apart from providing strategic direction for CSR activities, it also approves plans and budgets, and reviews progress of the initiatives.

## PERFORMANCE & SOCIAL LICENCE TO OPERATE

Securing and retaining one's social licence to operate is an outcome resulting from a Company's ability to garner the trust of the communities where it operates. Social performance frameworks are a good mechanism to measure, manage, and monitor this aspect of the business.

In FY2020, we took the first steps to developing a holistic approach to improving our social performance. Taking help from experts in this field, Vedanta conducted a cross-BU review of the maturity of our businesses with respect to the social performance framework. Additionally, perception surveys were also conducted at our key locations to understand the viewpoints of our local stakeholders. Learnings from both these exercises are being studied and in FY2021, we will be conducting a year-long social performance pilot programme at two of our operational sites to evolve our social performance approach.

Access to affordable and quality healthcare

## COMMUNITY DEVELOPMENT PROGRAMMES

Vedanta has one of the most extensive community development programmes in the country. During FY2020, we spent ₹288 crores to help communities enhance their quality of life through various interventions. An overview of these programmes is given below.

## CHILDREN'S WELL-BEING AND EDUCATION


Learning is enjoyable at Nand Ghar


Training Youth to build a better future


49 Nand Ghars are operating in Barmer, Rajasthan

**Key Features**

More than **50** initiatives across our Group companies

Nearly **300,000** children benefit from these programmes

**Types of Interventions**

Anganwadis and child-care centres; Public school infrastructure support (including sanitation); Scholarships and Teacher training; Digital classrooms & Computer-aided learning centres; Libraries; Vedanta-run Schools; Exam preparation counselling; Career counselling Science Fairs

## HEALTHCARE

**Key Features**

More than **35** initiatives across our Group companies

Nearly **1.9 million** people benefit from these programs

**Types of Interventions**

Support to Primary Health Centres; HIV/AIDS awareness programmes; Health camps; Mobile Health Vans; Specialist doctor support; Nutrition programmes; Vedanta-run hospitals; Health awareness drives


Community Healthcare initiatives at BALCO

## DRINKING WATER & SANITATION

A woman at Cairn Oil & Gas enabled borewell

### Key Features

**24** initiatives across our Group companies

Nearly **388,000** people benefit from these programmes

### Types of Interventions

Provision of drinking water; Construction of toilets; RO plant setup; Digging of borewells; Handpump repair/installation; Sanitation drives

## WOMEN'S EMPOWERMENT

### Key Features

More than **15** initiatives across our Group companies

More than **48,000** women benefit from these programs

More than **3,100** SHGs & **4,000+** micro-enterprises formed

### Types of Interventions

Self-Help Groups (SHG); Women's co-operatives; Micro-enterprises

Caption to be placed here

## SKILLING YOUTH

Vocational training activities to encourage self-sustenance

### Key Features

More than **10** initiatives across our Group companies

More than **3,900** youth trained

### Types of Interventions

Sewing centres; Vocational training centres; Technical & computer literacy programmes; Traditional crafts and painting training

## AGRICULTURE & ANIMAL HUSBANDRY


Project unnati-vegetable cultivation

### Key Features

More than **12** initiatives across our Group companies

More than **90,000** farmers benefited

### Types of Interventions

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


Cairn supported dairy cooperatives are procuring close to 15,500 litres of milk daily.


Poultry farming supported by Cairn Foundation in Barmer

## COMMUNITY INFRASTRUCTURE

### Key Features

More than **20** initiatives across our Group companies

More than **200,000** people and **4,000+** families benefit from these programmes

### Types of Interventions

Tube-wells/Open-wells/Borewells; Check-dams; Roads; Parks; Public education infrastructure; Community centres; Health centres; Village walls & gates; Renovation of sports complexes; Temples Irrigation channels; Drains; Bus stands; Street lights; Ponds; Public CCTV installations

CSR Initiative- Community Health Center at Amona

## SPORTS & CULTURE

### Key Features

More than **20** initiatives across our Group companies

**97,000**
sports-persons and culture enthusiasts benefited

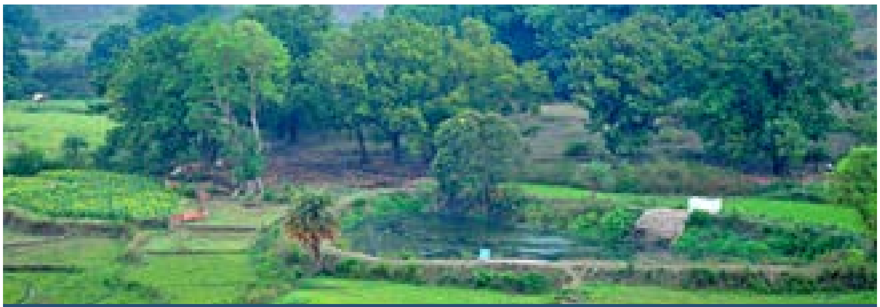
### Types of Interventions

Rural sports; Sponsorship for para-athletes; Marathons; Sports tournaments; Music festivals; Football and archery training academies

Zinc Football Academy: Building character and fueling excellence

Encouraging all round community development

## ENVIRONMENTAL RESTORATION & PROTECTION



Greenbelt Development around Red Mud Pond area at Lanjigarh plant

### Key Features

More than **159,000** saplings planted and under maintenance

### Types of Interventions

Sapling plantation & greenbelt management; Water conservation structures; Pond desilting

Our nurseries ensure high rates of plant survival in our green-belt programs

Employees engaged in tree plantation, Balco

## CASE STUDY XXX:
## NANDGHAR

Our flagship Nand Ghar programme, which has seen phenomenal growth and success since its inception, is a child and maternal health initiative designed to support the Government of India's Child Development Services (ICDS). At Nand Ghar, the traditional Anganwadi or rural childcare centre is reimagined as a state-of-the-art mother and child community hub, that provides crucial aid in the early stages of child's growth, and offers women with a platform to learn new skills.

Our ambitious venture equips the Nand Ghars with rooftop solar panels for 24x7 electricity supply, water purifiers and clean lavatories, while addressing the nutritional and education needs of young children. With their hands free during the Nand Ghar hours, the mothers are given the opportunity to get trained in special skills that could aid in their economic upliftment.

This has directly impacted over 44,000 children benefiting from the pre-school programme, while over 29,000 of them enjoy nutritious meals daily. Powering on, we intend to open as many as 4,000 Nand Ghars throughout the country which, alongside our Khushi initiative, will impact millions of children and women.

During FY2020, we operationalised our 1,302$^{nd}$ Nand Ghar – which can now be found across Rajasthan, Uttar Pradesh, Odisha, Jharkhand, Chattisgarh, Madhya Pradesh, and Karnataka.

**SDG Alignment**

**Goal: SDG 2-** Zero Hunger

**Target:** 2.1. End hunger and ensure access to safe, nutritious, and sufficient food, all year round


Nandghar in a Barmer village

## CASE STUDY XXX:
## BEYOND THE FENCE - POND DEEPENING PROJECT

HZL has spearheaded significant work on water preservation, considering that its operations are located in the water stressed state of Rajasthan. In addition to the work done to reduce the dependence of its operating sites on local water bodies, HZL has also instituted water management projects in its local communities.

### FATEH SAGAR LAKE DEEPENING PROJECT AT UDAIPUR

Vedanta, in association with the Urban Development Trust (UIT) of Udaipur has taken up the Fateh Sagar Lake deepening initiative, by desilting the lake during dry periods.

The desilting process has deepened the lake by increasing the catchment area and allowing trapping of more water in the rainy season, helping preserve water longer in those years with weak monsoons.

This project aims at improvement of lake biodiversity and creates a safe place for migratory birds.


At Fatehsagar Lake, Udaipur

### GROUNDWATER RECHARGE PROJECT AT RAMPURA AGUCHA

Groundwater recharge study was conducted in the nearby watersheds of Bhilwara district, with a view to achieve groundwater recharge of ~9 million $m^3$.

A total of 88 village ponds are being covered under this initiative.

The recharge work includes:

- Desilting of ponds
- Repairing and strengthening of ponds
- Installation of 413 recharge shafts

**SDG Alignment**

**Goal: SDG 6-** Clean Water and Sanitation

**Target:** 6.6. Protect and restore water-related eco-systems

Groundwater Recharge Study, Bhilwara

## CASE STUDY XXX:
## ENHANCING LIVELIHOODS IN COMMUNITIES

Livelihood programmes are central to the community development activities undertaken by Vedanta. As the largest private entity in many of the areas where we operate, community members look towards our organisation to improve their economic circumstances.

Where possible we have tried to integrate community members into our workforce or into our supplier network. For others, we have established robust, tested, livelihood programmes to help individuals gain new skills, allowing them to add new or enhanced sources of income.

Some success stories are given below:

The **agriculture support programme** managed by the BALCO CSR team provides soil testing, fencing infrastructure, fertiliser and seed-based input support, and technical training programmes. This intervention has motivated several farmers to adopt modern farming techniques such as System of Rice Intensification (SRI), which has doubled yields and enhanced incomes. Many farmers have also diversified their crops, further enhancing family incomes.


Enhancing agricultural incomes through innovative techniques

**Self-Help Groups (SHGs)** are another way to empower women and enhance family incomes. Build on the community-loan model, SHGs help women entrepreneurs start their own micro-enterprises – either individually or in a group. Women who have participated in these programmes have started tailoring units, farms, toy making, among other endeavours. These activities have not only supplemented their household incomes, but also empowered them to become independent members of society.


Developing communities through women empowerment


Developing communities through women empowerment

A third model involves the setting up of **technical training centres**, which teach individuals the skills to become part of the modern workforce. From call centre training provided by Cairn to the vocational training programmes such as plumbing, electrician, machine operators, among others – these programmes have allowed individuals to becoming primary wage earners for their families. HZL's skill development programmes have a wide range of options to cater to each segment of youth from those who have attended secondary schooling to graduates, ITI & diploma-holders. Training partnerships with automobile companies such as Maruti Suzuki have provided participants with a two-year ITI degree, along with a stipend.

**SDG Alignment**

**Goal: SDG 8-** No Poverty

**Target:** 8.6 Reduce youth unemployment, illiteracy, unproductivity


Employees at integrated facility, Jharsuguda

# COMMITTED TO EMPLOYEE SAFETY AND WELLBEING

It is a matter of extreme regret that we lost seven colleagues in work-related accidents during the year. We share the pain of their loved ones and are conveying our deepest condolences to them. Their loss is a hard reminder for us to continuously work to strengthen and improve our safety management systems.

At the beginning of FY2020, we observed an increasing trend in safety incidents, leading to fatalities within our workforce, over the past three years. This was a matter of grave concern, because within the same period, we had invested heavily in several systems and standards, which were introduced to ensure a safe, injury-free workplace.

To understand the rationale behind this anomaly, the Group ExCo along with our Group HSE teams went on to analyse the situation and developed a way forward.

The team determined that while the existing controls are important and development and monitoring of these needs to continue, given the nature of the safety incidents (70% repeats, >90% impacting our business partners) the following three areas required management attention:

**Visible Felt Leadership**

Where the expectation for leaders and support personnel is to spend quality time in the field performing safety interactions, workplace hazard reviews, along with making proactive & hands-on safety interventions

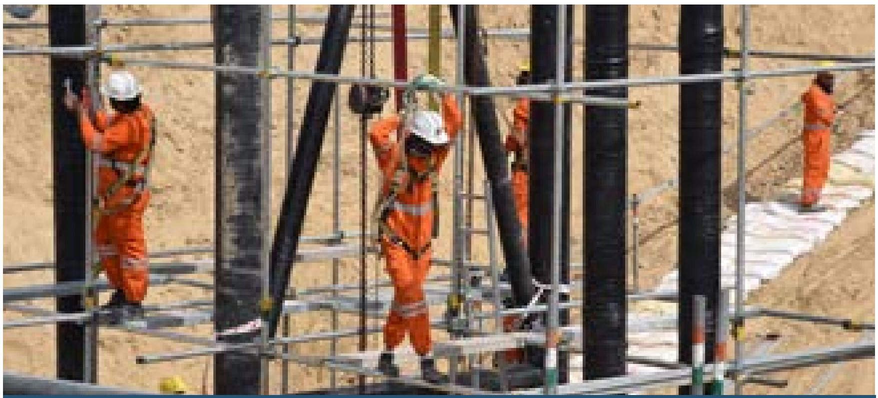
**Manage Safety Critical Tasks**

Where the expectation is that safety critical tasks are identified, critical competencies and controls documented in SOPs and the task leader verifies these are in place every time

**Business Partner Engagement**

Where the expectation is that long-term business partners are treated as employees for safety purposes and short-term/project-specific business partners are managed via deployment of suitable supervisors


Ensuring safety is a top priority


Employees at Cairn Oil & Gas

These management areas have been taken up to bring significant and lasting change in the manner we manage safety.

While the final outcomes will be visible over a multi-year timeframe, key improvements include:

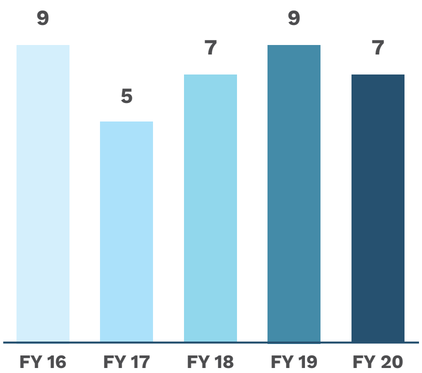
- A plateauing of our fatality count
- Significant rise in the amount of time business leaders are spending on the shop-floor, making safety interventions. SOPs and training manuals have been created for these individuals so that their interventions are found to be effective
- A review by businesses of their safety critical tasks followed by an update of their risk documents as well as permit-to-work process flows
- A review of our business partner pre-qualification and onboarding processes and the establishment of a committee to aid our business partners enhance their safety systems, with a focus on those vendors who do heavy maintenance and construction activities at our facilities
- The development of a right-to-refuse campaign, to educate our workforce on their right to refuse or stop unsafe work. The campaign will be launched in Q1FY21
- Improved reporting of all safety incidents, which are recorded, investigated and actions developed to prevent re-occurrences

In addition, several businesses have also taken on additional work to benchmark themselves and adopt best practices from some of the leading global safety frameworks. Specifically, they have engaged with the British Safety Council (BSC) to conduct audits and follow-up capacity building programmes.

All the major locations of our Oil & Gas business have received a 5-star rating from the British Safety Council. Similarly, a majority of our businesses have undertaken and achieved 5S certification, thereby significantly improving housekeeping practices and fulfilling our FY2019 goal of achieving >90% score in 5S.

This improvement, will decrease the safety incidents from occurring.
An overview of our safety performance is given below:

**Fatalities**



## CASE STUDY XX:
## SURVEILLANCE TEAMS TO ENSURE SAFE WORK CONDITIONS AT NIGHT

BALCO's Senior Management has vouched for safety and integrity as their prime focus. They strive to ensure a conducive and safe working environment and have undertaken several programmes to demonstrate Visible Felt Leadership.

In order to improve the efficiency and effectiveness of the plant at night, the management implemented the Night Surveillance Initiative. The Night Surveillance team promotes smooth flow of operations inside the plant through regulation-based, proactive safety oversight system. The team comprises three executives with one member from the senior/ middle management supported by an executive each from safety and security teams. The primary function of the team is to visit the SBUs (Metal, Power and Enabling) to identify unsafe operational practices, violation of cardinal rules, zero tolerance rules, violation of standing order provisions and any other applicable guidelines laid down under the Code of Business Conduct. Over 150 employees are involved in this process, conducting cross-functional audits and have helped highlight several best practices. The initiative is supported by an online platform providing immediate learnings and course corrections. This initiative has provided BALCO an additional platform to spread the awareness on safety and demonstrated the commitment of the senior leadership team towards HSE & the wellbeing of the workforce.

**SDG Alignment**

**Goal: SDG 8-** Economic Growth & Decent Work for All

**Target:** 8.8 Protect labor rights and provide safe work conditions for all

Surveillance Team outside BALCO

Mandatory Safety Training


Ensuring a safe work atmosphere

## CASE STUDY XXX:
## SAFETY BOOSTER PROGRAM

Unsafe work conditions are often a result of consistent, long-term unsafe habits by employees on the shop floor. Left unchecked, these behaviours can have a negative impact on the safety culture of the site and result in injuries or fatalities.

To prevent such behaviours from spreading unchecked, the Jharsuguda plant has adopted a 'safety booster' programme for those employees (Vedanta & business partners) who exhibit borderline unsafe behaviour. These employees are identified by the plant head in consultation with the HODs and safety teams if they exhibit the following behaviours over a period of time:

- Higher count of safety notices for areas under their supervision
- Repeated road safety violations
- Risk taking behaviours while performing jobs, a repetition of violations, or an unwillingness to perform safe work practices
- Not conducting Visible Felt Leadership/Behaviour Based Safety/Making Better Risk Decisions (MBRD) interactions/inspections
- Lower safety compliance in their area
- People working in isolation or isolated areas
- PPE violations

Once identified, these employees are provided counselling sessions, safety training, and a review of their performance after six months. The training programme covers the following topics: life-saving rules, safety standards, permit to work system, behaviour-based safety, zero harm culture, safety inspections and interactions, Hazard Identification and Risk Assessment, and safety legal requirements.

This approach has allowed several employees to self-correct once back on the shop floor and has improved the overall safety culture of the plant.

**SDG Alignment**

**Goal: SDG 8-** Economic Growth & Decent Work for All

**Target:** 8.8 Protect labor rights and provide safe work conditions for all

Fire Safety Drill


Encouraging workforce to adhere to safety practices

Encouraging workforce to adhere to safety practices

# FOSTERING A VALUE-DRIVEN CULTURE

Vedanta has always aspired to build a culture that demonstrates world-class standards in safety, environment and sustainability. People are our most valuable asset and we are committed to providing all our employees with a safe and healthy work environment.

Our culture exemplifies our core values and nurtures innovation, creativity and diversity. We align our business goals with individual goals and enable our employees to grow on a personal as well as professional front.

## VEDANTA VALUES THAT DRIVE THE ORGANISATIONAL CULTURE

**TRUST**
We actively foster a culture of transparency in our interactions and encourage an open dialogue which ensures mutual trust and respect.

**CARE**
We are committed to our triple bottom line of 'People, Planet and Prosperity' to create a sustainable future in a 'zero-harm, zero waste and zero discharge' environment for our communities.

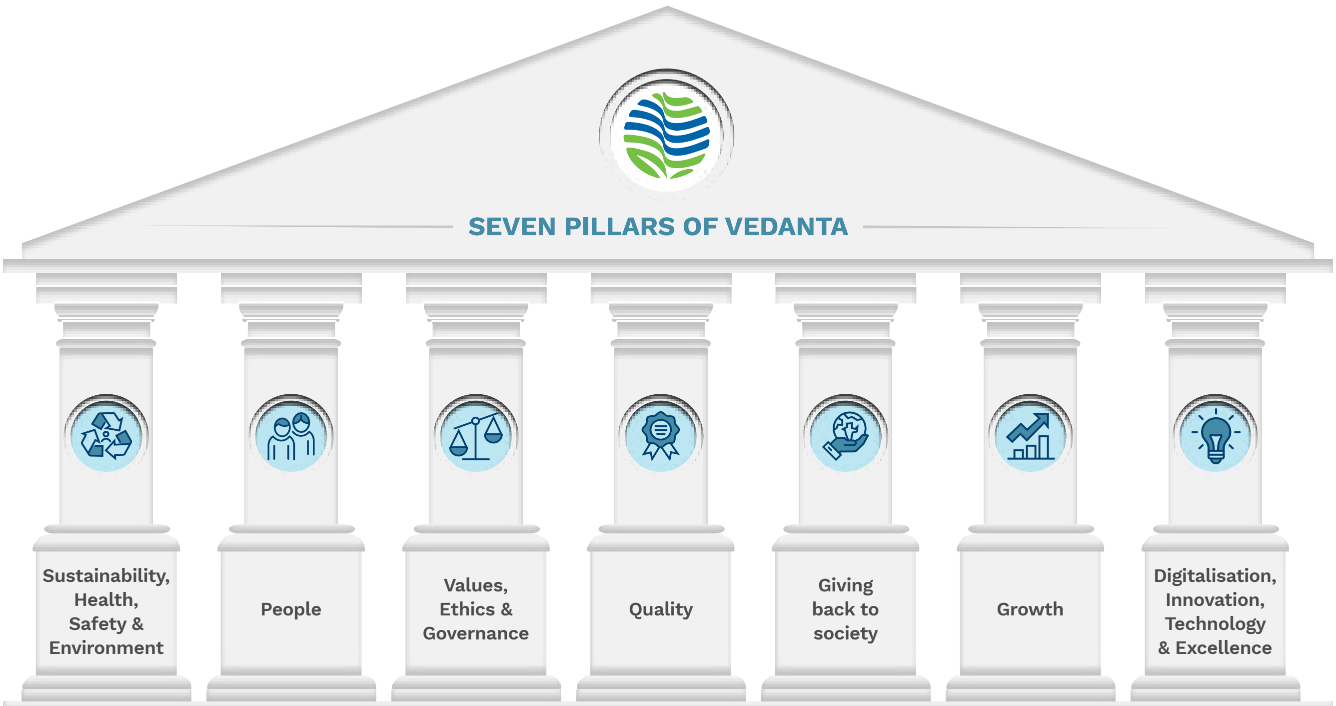
**INTEGRITY**
We engage ethically and transparently with all our stakeholders, taking accountability for our actions. We maintain the highest standards of professionalism and stringently comply with all international policies and procedures.

**INNOVATION**
We encourage innovation that leads to zero harm, zero waste and zero discharge, and we are committed to optimising the use of our natural resources, improving efficiencies and maximising recoveries of by-products.

**ENTREPRENEURSHIP**
People are at the heart of everything we do. We create an enabling environment to support them in pursuing their goals.

**RESPECT**
We place an emphasis on human rights and respect the principle of free, prior, informed consent, while our engagements with stakeholders give local communities the opportunity to voice their opinions and concerns.

**EXCELLENCE**
Our primary focus is on delivering performance of the highest standard. We are constantly looking at ways to reduce costs and increase production in our businesses through benchmarking best practices and employee participation.




**The whole working of Vedanta is based on these seven pillars. It is a continuous process of aligning all our methodologies and way of life to these pillars.**

## DIGITALISATION INITIATIVES

Standing firm on the 'Digitalisation, Innovation, Technology & Excellence' pillar of Vedanta, various initiatives were introduced on the people front to enhance process efficiency and maintain a competitive edge.

**V-Accelerate**

An end-to end online Internal Job Posting (IJP) portal was launched in FY2020 which was developed inhouse. The portal will add a great value to increase transparency and significantly reduce lead time in internal movements for filling up vacancies across the Group with internal talent.

**MIP Dashboard**

As part of our digitalisation initiatives, we developed the MIP Dashboard which provides a complete view of the ExCo structure at Group Level, ensuring that we have visibility of all leaders at the click of a button.

**Campus Analytics Dashboard**

We partnered with a reputed analytics firm to analyse and derive insights from our experiences with various college campuses and campus recruits over the years. As a result, we now have an exhaustive dashboard which provides key insights for shaping up our campus hiring strategy and onboarding and anchoring young talent.

Employees at Hindustan ZInc

Building talent through teamwork at Balco

## RECRUITMENT

Our recruitment programme includes a wide range of initiatives to support us in hiring skilled professionals across different functions and businesses.

**Right Management in Place (RMIP)**

To re-emphasise the Group's philosophy of empowering the SBUs, we have reviewed our existing businesses and SBU structures, and followed a rigorous assessment process to ensure we engage the right talent in the right role. The RMIP process also ensures that we have filled all the critical roles within our structures and any gaps in the management team are supported by strategic plans to fill vacancies. Our approach to recruitment is focused on hiring diverse, high-quality talent. We operate our businesses with global best practices and are benchmarked to global standards. Therefore, wherever needed, we also hire expats and specialists with world-class expertise and experience to manage such operations.

**Vedanta Leadership Development Programme (VLDP)**

VLDP is our flagship programme which aims to build organisational capability by developing talented individuals from premier management and technology institutes. It is a tailored programme which focuses on nurturing bright young minds to act as catalysts to steer our business to the next level of growth by implementing transformational new-age ideas. The programme includes induction sessions and cross-functional projects in significant roles, job rotation, development opportunities, and continuous anchoring to ensure that these individuals get an in-depth knowledge of our operations and recognise their areas of interest for a suitable role.

**Diversity Hiring Project**

At Vedanta, we see ourselves as an engine of inclusive growth that operates at scale, and ushers in prosperity for a large section of the society. In line with our vision to achieve 33% diversity across the group, we have launched a project to bring onboard diversity leaders across Technical, Operations and Enabling functions which will help us strengthen representation of women leaders in business and SBU ExCo. Through this project, we are looking at hiring ~30-40 women professionals across our various businesses and locations. In the last one year, we made significant progress in increasing the diversity representation in Group ExCo from 5% to 21%.

## TALENT MANAGEMENT AND DEVELOPMENT

**Leadership Performance Scorecard**

We take great pride in our performance-driven culture where every individual is motivated to contribute to the best of his/her potential. It is with this focus that we launched the 'Leadership Performance Scorecard', an initiative which aims to drive accountability and performance for our senior leaders aligned to their respective business, function, role and with the overall objectives of the organisation.

The performance scorecard covers ~570 senior leaders, diversity leaders and advisors across the Group and provides a quarterly scorecard on-the-basis of goals and achievements for rewards and development. The entire exercise is being executed in a very objective and transparent manner, aimed at recognising and further growing our top performing leaders, assisting those facing challenges and addressing any performance issues.

Mentoring and peer learning is a big part of working at Vedanta

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**Top 50 Young Talent Anchoring Programme**

At Vedanta, identifying and grooming business leaders for tomorrow and providing them with business exposure (in terms of higher responsibility, better visibility, differentiated rewards, focused guidance and support structure to perform) have formed a key part of our people agenda. In line with this, we launched the Top 50 Young Talent Anchoring Programme, where we have identified 50 young and high-potential candidates with digital and analytical mindset from our pool of 350+ VLDPs, Management Trainees & Chartered Accountants. These candidates have joined us from campuses in the last two years, for anchoring directly by the senior leaders of the Group. This young talent is being centrally mentored by our high-performing senior leaders to fast track their career growth into future CXOs.

Employees at operational site, Vedanta Limited, Jharsuguda

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**V-Reach: Graduate Development Programme**

At Vedanta, we have a strong and unwavering focus on identifying and developing internal talent from within. We have a 5,000+ strong talent pool who joined us as graduates, who form the backbone of our businesses. To identify top 100 talent from this graduate talent pool and provide them elevated roles and opportunities, we launched V-Reach, which will fast track their career growth within the Group. The project will be carried out in two steps. First ~300 potential leaders will be identified via desktop analysis based on objective parameters. Next, all the selected candidates will go through a structured Chairman's Workshop to identify the Top 100 leaders.


Employees at Cairn Oil & Gas

Vedanta advocates fun team building activities

## PERFORMANCE MANAGEMENT & TOTAL REWARDS

**V-Perform: One Performance System for One Vedanta**

Our focus is to constantly improve the level of automation in all our operations. V-Perform is a pan-Vedanta initiative to standardise the Performance Management System (PMS) and process across all Vedanta Group companies by leveraging technology. This enables functions, teams and individuals to track performance on a regular basis, evaluate efficiency through advanced analytics and implement proactive decisions towards achieving Vedanta's objectives. We foster a culture of safety and sustainability to achieve our ultimate vision of 'Zero Harm, Zero Waste & Zero Discharge'. To enhance our safety performance in the workplace and strengthen our existing Safety Management System, a safety competency assessment process was completed mid-year by all employees.

Employees at Hindustan ZInc

**360-degree Feedback**

At Vedanta, we promote growth and nurturing of our internal talent pool by encouraging internal dialogue between senior leaders and their young mentees and peers. Towards this, we have launched a 360-degree Feedback for our ExCo Leaders in collaboration with an external partner. We believe that this will help to fast track assessment and development of leaders and we aim to extend this to cover all our professionals in due course.

Aluminium CEO interacting with on site team

**Employee Stock Option Scheme 2019-20**

Employee stock options is a conditional share plan for rewarding performance on pre-determined performance criteria and continued employment with the Company. It provides a much better line-of-sight to all employees. On 29 November 2019, Nomination and Renumeration Committee approved the grant of Employee Stock Options 2019 to Vedanta employees covering 35% of eligible population.

In order to align the scheme with best-in-class reward practices globally, the ESOS 2019 Plan has undergone significant transformation. The grant under the ESOS 2019 is completely driven by performance and is a combination of individual contribution and business/SBU performance. Although the plan continues to be linked to Vedanta for its relative total shareholder returns performance, but since business delivery is of prime importance for the organisation today, the internal parameters of volume, cost, Net smelter return and EBITDA, as applicable to respective business and SBU have been introduced as additional performance parameters with enhanced weightage. The vesting of such options will also be a factor of sustained individual performance subject to continued employment with the Group.

Through this change, we not only ensure to protect the shareholder interests but also enable a better control of the outcome of the plan in the hands of the employee.

An employee at Cairn Oil & Gas

## CASE STUDY XX:
## IDENTIFYING AND KEEP NURTURING HOMEGROWN LEADERS

In the global context, nowadays most CEOs cite an inadequate pool of leadership talent as a business threat and yet many organisations don't move fast enough to address this. While companies expect talent to have growth, positive mindset, manage complexity, be agile, innovate, integrate, collaborate and empower, the talent itself expects continuous learning, exciting challenges, diverse and inclusive work environment, flexible career paths and ongoing feedback, to grow.

During 2015, Vedanta was at such a cross-road to build a pipeline of 'leaders of tomorrow' and under the leadership of the Chairman took the opportunity to initiate what was to become one of the largest and most successful internal leadership growth programmes in the industry. 'Leadership from within' has been our cardinal philosophy as we grow and in line with this we designed the 'Chairman's Internal Growth Workshop Program' to identify 'hidden gems' across the businesses basis 3 Ps - Personal Background (Education, Age, Experience, etc.); Performance (Last three year performance, Star of the Business, etc.); Potential (Identified by a comprehensive assessment mechanism).

Through this robust exercise, we have identified a bench strength of 600+ new leaders who have been entrusted with elevated/enhanced roles across business and functions. Meeting growth aspirations of the employees and ensuring internal mobility of high-quality talent has been the highlight of this endeavour. The new leaders have been empowered through various key strategic initiatives across the Group and regular feedback sessions, which have ensured they are in the right track of adding business value.

We also recently engaged an outsourced partner to conduct an independent study to gather objective feedback about the programme effectiveness. The study revealed a resounding positive feedback from across stakeholder segments (over 85% satisfaction level – in terms of role satisfaction & recognition, leadership visibility, right guidance etc.) thus re-enforcing its impact across the organisation.


Employees in Underground Mine at the Rajpura Dariba Mine

# BUSINESS RESPONSIBILITY **REPORT MAPPING**

This segment maps the Integrated Report (IR) for FY2020 with Securities and Exchange Board of India's Business Responsibility Report (SEBI BRR) framework.

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **SECTION A: GENERAL DISCLOSURES** | | |
| Our Approach to Reporting | | <<To be finalised upon pagination>> |
| General Information about the Company | A1, A2, A3, A4, A5, A7, A8, A9, A10 | Annexure C <<To be finalised upon pagination>> The information in this section is representative of the division companies of Vedanta Limited only |
| Financial Year Reported | A6 | 2019-20 |
| **SECTION B: FINANCIAL DETAILS OF THE COMPANY** | | |
| Paid up Capital (₹) | B1 | <<To be finalised upon pagination>> |
| Total Turnover (₹) | B2 | <<To be finalized upon pagination>> |
| Total Profit After Taxes (₹) | B3 | <<To be finalized upon pagination>> |
| Total spending on corporate social responsibility (CSR) (₹) | B4 | <<To be finalized upon pagination>> |
| List of activities in which expenditure in B4 above has been incurred. | B5 | Community Development Activities (Pg 48-51) |
| **SECTION C: OTHER DETAILS** | | |
| Does the Company have any Subsidiary Company/Companies? | C1 | Yes |
| Do the Subsidiary Company/Companies participate in the BR Initiatives of the parent Company? If yes, then indicate the number of such subsidiary Company(s) | C2 | Yes. Vedanta Ltd. has 8 subsidiaries – HZL, BALCO, MEL, Cairn India, Western Clusters, Zinc International and Copper Mines of Tasmania (CMT) |
| Do any other entity/entities (e.g. suppliers, distributors, etc.) that the Company does business with participate in the BR initiatives of the Company? If yes, then indicate the percentage of such entity/ entities. [Less than 30%, 30-60%, More than 60%] | C3 | Our suppliers are not directly involved with the 'Responsible Business' initiatives. However, our contracts address areas like HSE, Ethics, and Human Rights that our suppliers are obliged to adhere to strictly |
| **Section D: BR Information** | | |
| Details of Director/Directors responsible for BR | D1 | <<To be finalized upon pagination>> |

Employees, part of Vedanta Aluminum business

**2. Principle-wise (as per National Voluntary Guidelines (NVGs) BR Policy/policies (Reply in Y/N)**

| QUESTIONS | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 |
|---|---|---|---|---|---|---|---|---|---|
| Do you have a policy/policies for: | Y | N | Y | Y | Y | Y | Y | Y | Y |
| Has the policy been formulated in consultation with the relevant stakeholders? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Does the policy conform to any national/ international standards? If yes, specify. (50 words) | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Has the policy been approved by the Board? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Has it been signed by MD/Owner/CEO/ | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Appropriate Board Director? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Does the Company have a specified committee of the Board/Director/Official to oversee the implementation of the policy? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Indicate the link for the policy to be viewed online? | https://www.vedantalimited.com/Pages/CorporateGovernance.aspx?type=inv | | | | | | | | |
| Has the policy been formally communicated to all relevant internal and external stakeholders? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Does the Company have in-house structure to implement the policy/policies? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Does the Company have a grievance redressal mechanism related to the policy/ policies to address stakeholders' grievances related to the policy/policies? | Y | NA | Y | Y | Y | Y | Y | Y | Y |
| Has the Company carried out independent audit/ evaluation of the working of this policy by an internal or external agency? | Each year, the Company undertakes an audit exercise, conducted by an external agency to evaluate the workings of these policies. This audit is known as the Vedanta Sustainability Assurance Protocol (VSAP) audit. The VSAP audit is conducted across all of our significant sites. | | | | | | | | |

NA = Not Applicable

Employees at Cairn Oil & Gas

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **3. GOVERNANCE RELATED TO BR** | | |
| Indicate the frequency with which the Board of Directors, Committee of the Board or CEO to assess the BR performance of the Company. Within 3 months, 3-6 months, Annually, More than 1 year | D3 | Sustainability and ESG (Page 66-68) |
| Does the Company publish a BR or a Sustainability Report? What is the hyperlink for viewing this report? How frequently it is published? | D3 | Sustainability and BRR performance is detailed in the Vedanta Ltd. Annual Report. We also publish an annual Sustainability Report based on GRI Standards. Our sustainability reports can be found at: http://www.vedantalimited.com |
| **SECTION E – PRINCIPLE-WISE DISCLOSURES** | | |
| **Principle 1 - Conduct, Governance, Ethics, Transparency and Accountability** | | |
| Does the policy relating to ethics, bribery and corruption cover only the Company? Yes/No. Does it extend to the Group/Joint Ventures/Suppliers/ Contractors/NGOs /Others? | P1-1 | No. The Business Code of Conduct and Ethics applies to all directors, officers and employees of the Company and its subsidiaries. Page <<link to the ethics write-up in the corporate governance section>> |
| How many stakeholder complaints have been received in the past financial year and what percent was satisfactorily resolved by the management? If so, provide details thereof, in about 50 words or so | P2-1 | Standalone numbers:<br>Open complaints at 1st Apr19: 3<br>Number of whistle-blower cases opened: 29<br>Number of whistle-blower cases upheld and found correct in 2019-20: 10<br>Number of whistle-blower cases closed in 2019-20: 31 |
| **Principle 2 - Safety and Optimal Resource Utilisation across Product Lifecycle** | | |
| List up to 3 of your products or services whose design has incorporated social or environmental concerns, risks and/or opportunities. | P2-1 | HZL Case Study; Page 83 |
| For each such product, provide the following details in respect of resource use (energy, water, raw material etc.) per unit of product(optional): | P2-2 | Optimising resources and managing environmental sustainability; Page 78-85 |
| Does the Company have procedures in place for sustainable sourcing (including transportation)? If yes, what percentage of your inputs was sourced sustainably? Also, provide details thereof in 50 words or so | P2-3 | Optimising resources and managing environmental sustainability; Page 78-85 |
| Has the Company taken any steps to procure goods and services from local & small producers, including communities surrounding their place of work? If yes, what steps have been taken to improve their capacity and capability of local and small vendors? | P2-4 | In view of retaining quality, the Company sources its major inputs from OEMs and large national and international manufacturers. Goods and services are procured by businesses locally is of consumable nature where feasible |
| Does the Company have a mechanism to recycle products and waste? If yes, what is the percentage of recycling of products and waste (separately as <5%, 5-10%, >10%). Also, provide details thereof, in about 50 words or so | P2-5 | Optimising resources and managing environmental sustainability; Page 78-85 |

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **Principle 3: Employee Well-being** | | |
| Please indicate the total number of employees | P3-1 | 8,974 Full-time Employees |
| Please indicate the total number of employees hired on temporary/contractual/casual basis | P3-2 | 29,255 |
| Please indicate the number of permanent women employees | P3-3 | 1,062 Full-time female employees |
| Please indicate the number of permanent employees with disabilities | P3-4 | Not tracked |
| Do you have an employee association that is recognised by management? | P3-5 | Yes |
| What percentage of your permanent employees are members of this recognised employee association? | P3-6 | We have recognised employee association at Sesa Iron business only. 74%, the employees are a part of association |
| Please indicate the number of complaints relating to child labour, forced labour, involuntary labour, sexual harassment in the last financial year and pending, as on the end of the financial year | P3-7 | Child labour/forced labour/involuntary labour – Nil<br>Sexual harassment cases - 8*; All cases are closed<br>*Represents consolidated number |
| What number of your under mentioned employees were given safety & skill upgradation training in the last year? | P3-8 | The total safety and skills upgradation training given to employees, contract workers and third-party visitors is given as below:<br>• Employees: 44,772 hours<br>• Contract employees: 546,579 hours<br>• Third party: 123,242 hours |
| **Principle 4: Engaging Stakeholders - Sustaining Value** | | |
| Has the Company mapped its internal and external stakeholders? Yes/No | P4-1 | Our key stakeholders; Page 72 |
| Out of the above, has the Company identified the disadvantaged, vulnerable & marginalised stakeholders | P4-2 | Yes |
| Are there any special initiatives taken by the Company to engage with the disadvantaged, vulnerable and marginalised stakeholders. If so, provide details thereof in 50 words or so | P4-3 | Empowering communities and enabling prosperity; Page 86-93 |

Employees at Dariba Smelting Complex

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **Principle 5: Promoting Human Rights** | | |
| Does the policy of the Company on human rights cover only the Company or extend to the Group/Joint Ventures/Suppliers/Contractors/NGOs/Others | P5-1 | Yes |
| How many stakeholder complaints have been received in the past financial year and what percent was satisfactorily resolved by the management? | P5-2 | No complaints with respect to Human Rights were reported |
| **Principle 6: Nurturing the Environment** | | |
| Does the policy related to Principle 6 cover only the Company or extends to the Group/Joint Ventures/ Suppliers/Contractors/NGOs/others | P6-1 | Yes |
| Does the Company have strategies/initiatives to address global environmental issues such as climate change, global warming, etc? Y/N. If yes, please give hyperlink for webpage etc | P6-2 | Yes. Energy Management & Climate Change; Page 78-80 |
| Does the Company identify and assess potential environmental risks? Y/N | P6-3 | Yes |
| Does the Company have any project related to Clean Development Mechanism? If so, provide details thereof, in about 50 words or so. Also, if Yes, whether any environmental compliance report is filed? | P6-4 | No |
| Has the Company undertaken any other initiatives on – clean technology, energy efficiency, renewable energy, etc. Y/N. If yes, please give hyperlink for web page etc | P6-5 | Yes. Energy Management & Climate Change; Page 78-80 |
| Are the emissions/waste generated by the Company within the permissible limits given by Central/ State Pollution Control Board for the financial year being reported? | P6-6 | Yes |
| Number of show cause/legal notices received from CPCB/SPCB which are pending (i.e. not resolved to satisfaction) as on end of Financial Year | P6-7 | |

Medicinal garden developed on a reclaimed mine site, Sanquelim

Employees participating in a plantation drive at Balco

## BUSINESS RESPONSIBILITY REPORT MAPPING CONTINUED...

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **Principle 7: Responsible Policy Advocacy** | | |
| Is the Company a member of any trade and chamber or association? If Yes, Name only those major ones that your business deals with | P7-1 | Our business and subsidiary companies are members of trade and industry bodies like the Federation of Indian Mining Industries, Confederation of Indian Industries, Indian Institute of Metal, Federation of Indian Chambers of Commerce & Industry and The Energy Resources Institute, India, where they actively participate in their Management Committees |
| Have you advocated/lobbied through above associations for the advancement or improvement of public good? Yes/No; if yes specify the broad areas (Governance and Administration, Economic Reforms, Inclusive Development Policies, Energy security, Water, Food Security, Sustainable Business Principles, Others) | P7-2 | We are working to directly and indirectly support government authorities to catalyse sustainable development of the metals & mining sector. For example, in recent years, we have worked with the national authorities on various campaigns like 'Make In India', Resumption of Mining in Goa, Reduction of Iron Ore and Export duty among others |
| **Principle 8: Support Inclusive Development** | | |
| Does the Company have specified programmes/ initiatives/projects in pursuit of the policy related to Principle 8? If yes details thereof | P8-1 | Community Development Programmes; Page 87-93 |
| Are the programmes/projects undertaken through in-house team/own foundation/external NGO/ government structures/any other organisation? | P8-2 | We implement our programmes through all the following modes – directly through our Corporate Social Responsibility team and in partnership with government and civil society organisations. We also actively encourage our own employees to contribute towards these social initiatives |
| Have you done any impact assessment of your initiative? | P8-3 | Yes; See Stakeholder Engagement table on Page 73 |
| What is the Company's direct contribution to community development projects- Amount in INR and the details of the projects undertaken | P8-4 | CSR report in the Annual Report; <<To be finalized upon pagination>> |
| Have you taken steps to ensure that this community development initiative is successfully adopted by the community? Please explain in 50 words or so | P8-5 | Most of our programmes evolve from a thorough assessment of community requirements and are delivered in close partnership with them. Several of our initiatives, such as women's self-help groups, are now completely run and managed by the community members themselves. Our role is primarily that of a catalyst in the whole process |


The dairy cooperatives are procuring close to 15,500 litres of milk daily


Developing communities through women empowerment

| BRR Section | BRR Framework | Section/Page Number in Integrated Report |
|---|---|---|
| **Principle 9: Providing Customer Value** | | |
| What percentage of customer complaints/ consumer cases are pending as on the end of the financial year. | P9-1 | Nil |
| Does the Company display product information on the product label, over and above what is mandated as per local laws? Yes/No/N.A. /Remarks (additional information) | P9-2 | Yes. Our copper cathodes, aluminium are all internationally known brands registered with the London Metal Exchange (LME). LME standards signify highest product quality, uniform physical characteristics and consistency of products. Our products meet all relevant necessary and benchmarked national and global regulations, standards and guidelines. This re-emphasises our capability and commitment to meet world-class standards. For continuous quality improvement, Quality Management Systems are in place, which comply with the ISO 9001:2008 standard requirements |
| Is there any case filed by any stakeholder against the Company regarding unfair trade practices, irresponsible advertising and/or anti-competitive behaviour during the last five years and pending as on end of financial year. If so, provide details thereof, in about 50 words or so | P9-3 | Nil |
| Did the Company carry out any consumer survey/ consumer satisfaction trends? | P9-3 | |


Employees at Cairn Oil & Gas

## AWARDS AND ACCOLADES

# RECOGNITIONS THAT SET US APART

**The Executive Committee, led by the Chief Executive Officer assumes responsibility for the day-to-day operations and apprises the Board of the key developments, assisting them in setting our overall strategic direction.**

| Name of Awards | Category/ Recognition | Recepient(Business Unit) |
|---|---|---|
| **OPERATION EXCELLENCE** | | |
| Great Place to Work-Certified™ | Great Place to Work-Certified™ by Great Place to Work Institute (2019-20 ranking has not been declared yet, its an old one for all companies, please confirm) | Hindustan Zinc |
| Great Managers Award | Women Leadership & Result Orientation at the Great Managers Awards | Hindustan Zinc |
| Asia Disclosure Index 2019 | Champions in terms of Voluntary Disclosure Index by scoring 10/10 and securing position in Top 5 Indian Companies | Hindustan Zinc |
| Quality Circle Forum India | Par Excellence Award for Kaizen Competition | Sterlite Copper - Silvassa Unit |
| Quality Circle Forum India | Silver Award for Case study | Sterlite Copper - Silvassa Unit |
| Express Logistics & Supply Chain Conclave | Outstanding Digital Transformation In Supply Chain Award | Hindustan Zinc |
| Gas production team of Cairn Oil & Gas | First prize at the Quality Circle Forum of India's 5S competition. A team of five members presented a case study on 'Implementation of '5S' technique in ATR (Annual Turn Around)', thereby 20 hours of saving with improved safety performance. QCFI, Delhi chapter, and sub-chapter Jaipur, conducted 'CCQC 2019 Convention' on September 20, 2019 | Cairn Oil & Gas |
| Ravva onshore and offshore fields has been awarded 'Five Star' rating for the excellence in EHS (Environment, Health and Safety) practices | The large-scale industries category by Confederation of Indian Industries (CII) in the CII – SR EHS Excellence Award 2019 | Cairn Oil & Gas |
| Platinum Prize for Raageshwari, and Certificate of Appreciation for Mangala, Bhagyam, Aishwarya and Midstream business units | 8th FICCI Safety Systems Excellence Awards ceremony for safety excellence | Cairn Oil & Gas |
| Frost & Sullivan - India Manufacturing Excellence Award 2019 | India Manufacturing Excellence Award 2019 in Gold for manufacturing processes and achieving business results | Vedanta Lanjigarh |
| Maritime Gateway- Smart Expoter- Aluminium Award | Smart Logistics | Vedanta Jharsuguda |
| ISO | SafetySEZ Unit (Plant II) has been certified with ISO 50001:2011 (Energy Management System) | Vedanta Jharsuguda |
| Transformation Business Media - Future of Procurement Summit and Awards | Procurement Transformation & Growth | BALCO |

| Name of Awards | Category/ Recognition | Recepient(Business Unit) |
|---|---|---|
| **SUSTAINABILITY & CSR** | | |
| Dow Jones Sustainability Index | Ranked 1st in Asia-Pacific region and 5th Globally in Metal and Mining sector | Hindustan Zinc |
| The Sustainability Yearbook 2020 | Featured in The Sustainability Yearbook 2020 by S&P Global and RobecoSAM as Sustainability Leaders | Hindustan Zinc |
| FTSE4Good Emerging Index | Member of FTSE4Good Emerging Index across – Environment, Social and Governance | Hindustan Zinc |
| CSR Health Impact Award | Women & Child Health Initiative - conferred with the title of 'Game Changer' for its Khushi Anganwadi Program | Hindustan Zinc |
| ASSOCHAM Women Achievers Awards 2019 | SAKHI as Best CSR initiative for Women Award | Hindustan Zinc |
| Best Grassroots Football Programme of 2019 | Zinc Football - Best Grassroots Football Programme of 2019 at Football Delhi Awards | Zinc Football |
| Zee Business and World CSR Day Best Environmental Sustainability Award | Best Environmental Sustainability Award for excellence in CSR and Sustainability | Hindustan Zinc |
| 'Best Community Development Award' at National CSR Leadership Congress & Awards presented by Zee Business | Excellence in CSR & Sustainability | Sesa Goa Iron Ore Karnataka Division |
| Mining Mazma - 2019 | 'Sustainable Mining' category | Sesa Goa Iron Ore |
| 'Indian Chamber of Commerce Social Impact Award' | Healthcare under Large Enterprise category | Vedanta Sesa Goa Iron Ore - Value Added Business Unit |
| India CSR Summit and Exhibition 2019 | 6th CSR Impact Award for Aajeevika Project in reviving Dhokra art | Vedanta Lanjigarh |
| ET 2 Good 4 Good Award | CSR Activities | BALCO |
| Chairman Business Award | Sustainability Initiatives & Financial Results | BALCO |


Employees at Balco

## AWARDS AND ACCOLADES CONTINUED...

| Name of Awards | Category/ Recognition | Recepient(Business Unit) |
|---|---|---|
| **ENVIRONMENTAL PRACTICES** | | |
| Excellent Renewable Initiative under Platinum Category | 22 MW Solar Power Project at Rampura Agucha Mine by Green Maple Foundation Annual Award 2019 | Rampura Agucha Mine |
| Energy Efficient Unit at the Confederation of Indian Industry (CII) 20th National Award | Excellence in Energy Management | Sesa Goa Iron Ore Value Added Business (VAB) Unit |
| CII Energy Efficient Unit Award 2019 | Plant efficiency- Smelter I, Smelter II, CPP | Vedanta Jharsuguda |
| SEEM National Energy Management Award 2019. | Energy Management | Vedanta Jharsuguda |
| Energy Efficiency Summit 2019 | Excellent Energy Efficient Unit award 2019 for technological advancements in energy efficiency processes | Vedanta Lanjigarh |
| Energy & Environment Foundation Global Environment Award | Energy & Environment | BALCO |
| Mining Nazar 2019 | Balco Mines - Sustainable Mining Practices | BALCO |
| FIMI Misrilall Jain Environment Award | Chotia Mines -Best Environment practices | BALCO |
| Ministry of Labour & Employment- National Safety Award | Mines | BALCO |
| Kalinga Safety Excellence Award 2018 | Received bronze under the alumina sector category | Lanjigarh |
| Greentech Safety Award 2019 | Received platinum under the Mines & Metal category for safe practices | Lanjigarh |
| Environmental Excellence Award (By CM, Punjab) | Environmental management | TSPL |
| ROSPA | Safety performance | TSPL |
| PEDA annual energy efficiency awards | Efficiency performance for 2018-19 | TSPL |
| Efficient Management Fly Ash | >500 MW | TSPL |
| **TRANSFORMATION & INNOVATION** | | |
| Dun & Bradstreet Corporate Awards 2019 | Driving force of the Indian economy for their exemplary performance in the corporate world - Non-Ferrous Metals category | Hindustan Zinc |
| IEI Centenary Industry Excellence Award 2019 | Innovation, business strategies in manufacturing/engineering operations and services and their capacity to sustain excellence in a competitive manner | Hindustan Zinc |
| Kumar Dixit was awarded ABP News Leadership Excellence Award 2019 | Transformational leadership | CEO, Cairn Oil & Gas |
| **GOVERNANCE** | | |
| Global Golden Peacock Award | For eminence in Corporate Governance | Vedanta Group |

| Name of Awards | Category/ Recognition | Recepient(Business Unit) |
|---|---|---|
| **EXCELLENCE OF SKILLED TALENT** | | |
| India Procurement Leadership Forum & Awards 2020 | Ms Amrita Singh conferred with 'Woman Procurement Leader' award | HZL |
| Legal Summit and Awards 2019 | Legal Department was declared winner of the 'Legal Team of the Year 2019' award | Hindustan Zinc Legal team |
| Mines Safety Association Karnataka Zone - 3 | Vedanta Sesa Goa Iron Ore Karnataka Unit won 46 awards for different categories | Sesa Goa Iron Ore Karnataka Division |
| IMEA Future Factory Ready Award | Operational Excellence | BALCO |
| ET Now CEO of the Year Award | Awarded to Mr. Abhijit Pati for Leadership Excellence | BALCO |
| Customs Department Best Importor Award | Import Initiatives | BALCO |
| People Business Great Managers Award by Economic Times and People Business | Top 50 great managers of the country | Aluminium and Power |
| Excellence in trade finance | 2nd Financial Leadership award | Aluminium and Power |
| Bronze at the India Public Relations and Corporate Communications Awards 2019 | 2nd Financial Leadership award | Aluminium and Power |
| Chairman Business award Q2 FY'20 | CSR Communication (Beyond Metro) | TSPL |
| ET Now Business Leader of the Year Award - 2020 (Mr. Ajay Kapur) | Business Performance Q2 | Aluminium and Power |
| **PEOPLE PRACTICES** | | |
| 10th CII National HR Excellence Award 2019-20 | 'Significant Achievement in HR Excellence Award' | Hindustan Zinc |
| 'Top 25- India's Best Workplaces for Women – 2019' by Great Place To Work | Great Place to Work® is the global benchmark on building, sustaining and recognising high-trust, high-performance workplace cultures. | Cairn Oil & Gas |
| Great Place to Work | Great Place to Work certified - High Trust & High Performance | Vedanta Lanjigarh |
| Great Place to Work | Great Place to Work certified - High Trust & High Performance | Vedanta Jharsuguda |
| AON Best Employer Award | HR Enagement Initiatives | BALCO |
| World HRD Congress -ET HR Talent Management Leadership Award | Best Leadership Development Program | BALCO |
| CII HR Excellnece Award | HR Initiatives/Performance | BALCO |
| CII national HR Excellence Award | HR Excellence | TSPL |
| **TECHNOLOGICAL DISTINCTION** | | |
| 'Excellence in Security Technology implementation and Preventive System' | IFSEC India on 19 December 2019 at India Expo Centre for their measures towards ensuring security disruptions in operations to ensure business continuity. | RJON crude security systems, Cairn Oil & Gas |
| Digitally Advanced Company of the Year | Federation of Indian Petroleum Industry (FIPI) for its intensive deployment of digitalisation initiatives to drive value-creation across business operations and functions. | Cairn Oil & Gas |
| IMC RBNQ Performance Excellence Trophy-2019' | Manufacturing | Sesa Goa Iron Ore Value Added Business Unit |
| CII Quality Circle recognition | For developing an effective concept case study on improved traffic management | Sesa Goa Iron Ore Value Added Business (VAB) Unit |

# A DYNAMIC ENVIRONMENT, POSITIONED FOR LONG-TERM GROWTH

### GLOBAL ECONOMY AND COMMODITY MARKETS:

The global economy in 2019 faced twin headwinds of geopolitical uncertainty and sluggish growth in advanced economies and emerging markets. If we take a broad perspective, economic performance remained weak across most major economies such as the Group of 7 (G-7) and BRICS nations (Brazil, Russia, India, China and South Africa) due to a confluence of several factors, including the US and China trade tensions, Brexit and the fear of deglobalisation. The year saw tepid consumer and investor confidence and weak manufacturing and trade scenario. This significantly undercut commodity demand, thereby negatively impacting prices.

On the other hand, the start of year 2020 showed signs of recovery following the Phase I trade pact between the US and China, diminished fears of a no-deal Brexit and reduced geopolitical tensions. The effect of global central banks pursuing an accommodative monetary policy also helped partially revive the overall market sentiment.

However, these early signs of stabilisation were severely impacted by the risk posed by the ongoing global pandemic, COVID-19. The human cost of the pandemic is already immeasurable and all countries across the world are working hard in solidarity to protect people and limit the economic impact felt around the world. According to government sources, the US economy alone lost 20.5 million jobs in April. The number of just one month dwarfs the 8.6 million jobs that were lost over the entire stretch of 2008 and 2009 during the financial crisis. The US economy shrank by 4.8% at an annualised rate in April, the worst decline since the fourth quarter of 2008. The British and French economies also contracted in January 2021 compared to the previous three months.

The International Monetary Fund (IMF) has pegged global growth in 2019 at 2.9%. For 2020, however, the IMF projects a negative outlook, with a -3% de-growth in the overall global output. In one of the remarkable moves the US oil futures fell to below zero for "WTI Crude oil" for the first time in history. For the very near term the pace of the economic recovery is expected to be sluggish. Nevertheless, once the economies recover, global growth is expected to revive partially and register y-o-y growth of 5.8% in 2021. The recovery is expected in two stages - an initial phase of social distancing and containment, and the next planned phase of revival and stability.

**Once the economies recover, global growth is expected to revive partially and register y-o-y growth of 5.8% in 2021. The recovery is expected in two stages - an initial phase of social distancing and containment, and the next planned phase of revival and stability.**

Globally there is an encouraging and concerted action to battle the COVID-19 pandemic. Broad-based monetary policy and government expenditure are expected to shore up economic activity in most countries and countries like India have already announced immediate economic relief and support to various strata of the population.

### OPPORTUNITIES FOR VEDANTA - GLOBAL

Globally, the concerted actions of monetary and fiscal policy measures have been observed by individual countries as well as international financial institutions to help the global economy combat the slowdown. These ongoing measures are likely to provide support to improve demand for commodities. There are early signs that industrial activities in China are recovering with the Manufacturing Purchasing Managers Index (PMI) for March 2020 jumping to 52%, up from a record low of 35.7% in February 2020. Against this backdrop it is expected that global commodity prices will slowly recover, particularly across metal prices, something that Vedanta is well positioned to benefit from.

Growing urbanisation and ongoing investment in infrastructure will support the use of galvanised steel, especially in emerging economies such as China and India. In addition, China's stringent environmental norms and efforts to improve industrial utilisation are likely to deter new capacity additions. This supportive demand-supply dynamic for zinc is likely to augur well for Vedanta, one of the world's largest zinc producers. At Vedanta, we remain on track to become the world's largest integrated zinc-led silver producer in two years, while maintaining our cost leadership.

Employees in Underground Mine at the Rajpura Dariba Mine

Recent developments in the sourcing of alumina have provided us with a cost advantage in the aluminium business. We have been able to reduce our costs considerably with the structural changes and enhanced backward integration. There is also significant development in our energy business. We have emerged as a successful bidder for the Jamkhani coal block in Odisha. This, along with our Chotia mine, will strengthen our coal security for the aluminium business.

Thus, our diversified commodity portfolio and relentless emphasis on costs and digital implementation positions us well to take advantage of the expected demand upswing, and the resulting improvement in commodity prices.

**At Vedanta, we remain on track to become the world's largest integrated zinc-led silver producer in two years, while maintaining our cost leadership.**

Machinery at work inside the Rajupra Dariba Mine

## INDIAN ECONOMY

India is Vedanta's primary market and we believe in its immense potential, as the fundamentals for growth remain intact. 2019 has been particularly challenging for the Indian economy with a slowing growth rate, declining exports, rising inflation and a downturn in manufacturing output. However, the Government of India and the Reserve Bank of India (RBI) have announced a slew of policy decisions, aimed at bolstering market sentiment and reviving growth.

These include the biggest corporate tax cut in 28 years to encourage private investment. The successive interest rate cuts by the RBI are important steps in the right direction. The impacts of these measures will be gradually visible, after normalcy returns in the economy, and the benefits of lower rates stimulate economic growth.

Reforms in the Insolvency and bankruptcy Code (IBC) including the enforcement of a stringent timeline for the insolvency resolution process have forced a behavioural change, leading to resolution of more cases. The Government of India has also embarked on an ambitious divestment programme, more than doubling its current target by focusing on strategic sales.

The Government of India has also announced a plethora of reforms aimed at pushing growth and investment in our specific areas of operation. The cornerstone of investment spending will come from the ₹102 trillion National Infrastructure pipeline (NIP), which aims to ease bottlenecks and stimulate the economy. It includes projects under implementation in various government schemes such as Housing for All (PMAY), Smart Cities, Dedicated Freight Corridors, Sagarmala, Bharatmala, and Jal Jeevan Mission, apart from participation from the private sector.

This is also expected to be beneficial for related sectors such as steel, base metals, cement, power transmission and distribution. The expansion of the national gas grid announced in the Union Budget 2020 and expected reforms to facilitate transparent price discovery are set to significantly enhance the domestic gas market. While India had started to witness progress in the economy by Q4FY20, the COVID-19 situation dramatically brought production and the economic activity in the country to a standstill. Prioritising the health of its people, the Union Government announced consecutive lockdowns to maintain social distancing and arrest the spread of the pandemic.

Considering the effects of COVID-19, India's growth is expected to slow to 1.9% in FY2020. While this affects the nation's overall growth momentum in the short-run, India is relatively better placed than most of its counterparts and will be one of fastest recovering economies once the cycle inflects. In FY2021, India can expect a recovery and is expected to grow by 7.4% (Source: IMF, World Economic Outlook April 2020). Active government spending and revival of large-scale consumer demand are expected to maintain India's resilience.

Unique arrangement of two rigs closely operating, Barmer, Cairn

## OPPORTUNITIES FOR VEDANTA - INDIA

### India-focused Growth Agenda

Despite challenges in the global economy, India continues to outshine major economies of the world in terms of accomplishing decent growth that is sustainable and inclusive. The country's economic growth is supported by a sound fiscal policy framework, strong regulatory mechanism, wide-ranging structural reforms undertaken by the Government of India and states and a robust democratic ecosystem that continues to underline the importance of transparency in corporate governance. Rapid adoption of technology, growing confidence of global investors in the performance of the Indian economy and a young, aspiring and productive population further helped spur growth prospects. In 2019, India became the world's fifth largest economy, ahead of France and the UK in terms of nominal GDP. The road ahead continues to be attractive for India, despite macro headwinds.

Going forward, we expect to see emphasis on infrastructure development on account of a burgeoning workforce and wide-ranging urbanisation. The government's vision entails over ₹100 trillion expenditure on infrastructure, coupled with concrete steps towards decarbonisation and promotion of electric mobility. These initiatives will strengthen the country's demand for commodities, given that India's per capita consumption of all metals including steel, aluminium, copper and zinc is much below the world average. India is the third-largest oil consumer in the world, but in per capita terms, it is only about one-third of the world's average. Given its rising energy needs and increased dependence on crude oil imports, this also offers an opportunity for domestic oil producers.

**Emphasis on infrastructure development coupled with rising energy needs will strengthen the country's demand for commodities and offer opportunity for domestic oil producers.**

**Policy Support**

The Indian Government has announced various progressive policy measures in its Union Budget 2020 as part of its efforts to kickstart investment. These include the abolition of Dividend Distribution Tax (DDT) and the recently announced tax dispute settlement scheme – 'Vivad Se Vishwas', which is expected to boost the ease of doing business in India. Other measures such as lowering the effective corporate tax rate, reduction in cost of capital and simplification of regulatory and tax framework for foreign investment funds have also aided in this effort.

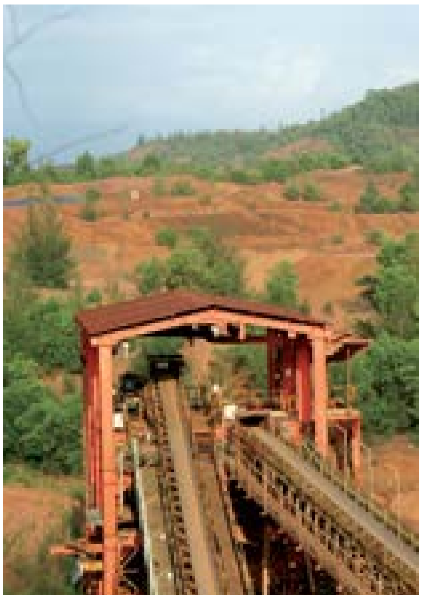
As part of its policy push to develop the metals, mining and oil sectors, the Government of India has drafted a framework policy for a variety of key supporting areas. These include the policy for steel clusters to resolve challenges of the ancillary, downstream and value-added steel units and unlock their growth potential.

It has also constituted a working group on the proposed new industrial policy, aimed at promoting emerging sectors, reducing regulatory hurdles and making India a robust manufacturing hub. The Government is also revamping its Foreign Trade Policy (FTP) for FY 2020-25, which could be a game changer for the Indian economy by promoting exports and making Indian goods more globally competitive. A National Logistics Policy is also being proposed to drive business competitiveness through an integrated, seamless, efficient, reliable, green, sustainable and cost-effective logistics network. The proposed policy aims to reduce overall logistics cost to less than 10% of India's GDP.

The government has allowed 100% Foreign Direct Investment (FDI) in coal mining and associated infrastructure, doing away with end-use restrictions for coal blocks – setting up the stage for commercial coal mining to take up in India in a big way. This clearly indicates that the government wants to bring competition, efficiency and transparency to the sector. The recent round of auctions in Odisha for iron ore and manganese mines is a testament to this reality. Other measures undertaken in mining include the setting up of a committee by the Ministry of Mines to revise royalty rates and dead rent on minerals. This is expected to substantially increase mining output and invigorate the sector. In the meanwhile, the Ministry of Environment, Forests & Climate Change (MoEFCC) is also working on streamlining environmental clearance processes to increase the ease of doing business.

Apart from the Open Acreage Licensing Programme (OALP) adopted earlier, India has further liberalised its oil & gas sector in 2019 by opening up its fuel retail sector to non-oil companies, a move that will intensify competition, with private and global oil majors seeking to expand their presence here. The country has also embarked on major reforms, aimed at expanding city gas distribution (CGD) networks, to raise the share of gas in the energy basket from the current 6% to 15% by 2023.

In order to provide support to the industries in the face of COVID-19, the government and the central bank have rolled out a slew of measures to infuse liquidity in the economy. The reduced the repo rate has been cut by 75 basis points to 4.4%, reverse repo rate by 90 basis points to 4.0%, and Cash Reserve Ratio (CRR) by 100 basis points to 3.0% (as on 27 March 2020). The RBI also permitted all commercial banks to allow a moratorium of three months on payment of instalments of all term loans outstanding as on 1 March 2020. The Reverse Repo rate was further reduced by 25 basis points to 3.75% on 17 April 2020.



Processing Plant at Sesa Goa Mine

To aid the economically disadvantaged sections of society, ₹1.70 Lakh Crore relief package has been announced by the Union Government under the Pradhan Mantri Garib Kalyan Yojana. The major focus areas of the relief package includes:

- Increase in the MNREGA wage to ₹202 per day from the earlier ₹182 to benefit 13.62 crore families
- ₹2,000 paid to farmers in the first week of April under the existing PM Kisan Yojana to benefit 8.7 crore farmers
- 5 kg wheat or rice and 1 kg of preferred pulses distributed free-of-cost every month for the next three months to 80 crore people
- The Government of India has also allowed state governments to utilise District Mineral Foundation (DMF) fund created out of the contribution from sale of minerals to combat the COVID-19 pandemic

As exports feel the impact of the pandemic, the Indian Government has extended the validity of Foreign Trade Policy 2015-20 to 31st March 2021. In order to boost exports and make Indian exports cost competitive, India is in the process of introducing a scheme for Remission of Duties and Taxes on Exported Products (RoDTEP). It will create a mechanism to reimburse various taxes/duties/levies, at the central, state and local levels, which are incurred during manufacturing and distribution of exported products, (applicable to those which are currently not being refunded under any other mechanism).

**The Indian Government has announced various progressive policy measures in its Union budget 2020 including policy push to develop the metals, mining and oil sectors in variety of key supporting areas to unlock their growth potential.**

# OPPORTUNITIES AMIDST CHALLENGES

Underground Mining in Rajpura Dariba Mine

## ZINC

### Overview

It was a tough year for Zinc generally with LME prices on a falling streak for the majority of the year. During the financial year, LME prices fell by 38% post April 2019. The average cash settlement price was ~US$2,402/t during the year compared to last year's $2,745/t. With the COVID-19 pandemic and concerns over global growth, the market is not expected to return to normal soon. Even so, absolute downside in Zinc looks limited from current levels particularly with so much of global production becoming uneconomic at current levels.

### Global Scenario

The trade war between the US and China began in 2018, when US President Donald Trump imposed tariffs on goods imported from China. The resulting trade uncertainties and growing protectionism between the world's two major economies impacted base metal prices globally. In December 2019, the 'Phase I' of the trade agreement was signed. The market responded positively to the news. The LME prices in the base metals complex strengthened somewhat, but the news of the pandemic outbreak led to its downturn again.

In 2019, most of the smelters in China were shut down due to environmental concerns, since then many have returned online and the rest are expected to be back in operation later in 2020. Nevertheless, even with increased production in China, globally mine production is expected to contract by 3-4% in CY2020. Countries like Peru, Canada, Mexico and Bolivia, which contribute roughly 20% of global mine production went in to lockdown and miners were forced to suspend operations. Consistent low LME pricing will mean number of mines will become uneconomic and will be forced to close. This shift will certainly provide a natural buffer to the weaker demand trends being seen; nevertheless, market challenges will persist for 2020 as uncertainty over underlying demand trends persist.

### Indian Market and Opportunities

Every year, India loses approximately ~3-4% of GDP due to corrosion and Indian industries have now slowly started recognising the fact, leading them to seek solutions. In the construction sector, the need for corrosion protection rebars has recently been picked by few domestic rebar manufacturers, who are collaborating with the International Zinc Association (IZA) to bring Continuous Galvanized Rebar Plant in India.

Indian Railways, considering safety and longevity of rail tracks are working on different mechanisms to protect the web area of rail from corrosion. Railway electrification has been growing rapidly. Encouragingly, Indian railways have set an ambitious target to electrify the complete rail route in the next few years, which will bolster India's zinc demand. Zinc-based fertilisers present other avenues which are yet to be explored. India as of now consume less than 2% of zinc-based fertiliser, which presents a lot of opportunities and demand in the sector.

### Products and Customers

Hindustan Zinc is the largest primary zinc producer in India, with an expected 78% market share in 2020. Around 72% of the refined zinc produced by our smelters is sold in the domestic market, and the rest is being exported to South-East Asian and the Middle East. Over 65% of zinc demand comes from galvanising steel, predominantly used in the construction and infrastructure sectors. We also produce Continuous Galvanising Grade (CGG), EPG (Electro Platting Grade) and two grades of zinc for use in die-casting alloys. We are working closely with our customers and to strengthen our zinc product portfolio in terms of value-added products (VAP). Our focus is to increase the supply of VAP to 25% of total zinc sales in FY2021, from 19% in FY2020.

### HZL to Launch E-commerce Platform

Lately, with the internet revolution, e-commerce platforms are turning out to be the new place for buyers to buy from their home and seller to reach widespread customers. HZL is planning to adapt to times by launching 'e-volve'- an e-commerce platform, which will make HZL the first producer in the non-ferrous industry to sell the metal on e-commerce portal. It will provide our customers with real-time pricing and seamless 'click-buy' facility for all the metals in our portfolio (zinc, lead, and silver). This will reduce manual intervention and enhance governance by providing transparent and real-time INR pricing options to end-users.


Drilling in progress at Ravva Offshore Platform,Cairn Oil & Gas


Helicopters ensure surveillance and security at Cairn Oil & Gas

# OIL & GAS

**India's Oil Demand Expected to Decline in the Short Run amid COVID-19**

With the outbreak of the pandemic, the year FY2020 has been marked by one of the biggest international public health emergencies. Most countries are under lockdown to curb the wide-spreading virus, disrupting the economic and social activities around the world.

As we speak, India is under a series of lockdowns, which started in March 2020. This has caused a dramatic near-term demand shock. Oil demand in India is estimated to have dropped by ~50% in April with the most impact on transport fuels. Travel restrictions, and lower industrial activity have for the time being all shown a marked slowdown.

Whilst the shock has been sharp and deep in the near term the longer-term outlook for oil demand remains positive. Whilst negative demand trends are likely to continue for at least the first half of 2020, the return to normalcy and broader economic recovery should allow oil markets to steadily rebalance over the next 12-18 months.

**Market Drivers and Opportunities**

The global demand shock caused by COVID-19 leaves traditional oil market modelling in uncharted territory. As a result of COVID-19 containment measures in 187 countries, mobility has almost come to a halt. Global oil demand is expected to fall by a record 9.3 mb/d year-on-year in 2020. Total global oil demand is now assumed at 92.82 mb/d, in 2020 with higher consumption expected in H2FY20 than in H1FY20. Global oil supply is also set to plunge by ~12 mb/d in May, after OPEC+ forged its output deal to cut production. Additional reductions are set to come from other countries with the US and Canada seeing the largest declines. This will impact the fall in oil prices which will be felt throughout oil's global supply chain and adjoining industries.

Whilst the pace of the rebalancing in global oil markets remains uncertain there's little doubt of the longer-term potential of India as one of the largest sources of incremental demand growth over the coming decade. India is the world's third largest oil consumer, the fourth-largest refiner and a leading net exporter of refined products. Without the help of local producers like Vedanta, India's import dependency is going to increase significantly in the coming decades. The country currently meets 84% of its oil consumption and 47% of its gas consumption through imports.[3]

The government projects a 10% reduction in India's imports of oil & gas by 2022. The government also aims to increase the share of natural gas in the country's energy mix to 15% by 2030, from the current 6%.[1]

India has prognosticated conventional hydrocarbon resources of over 300 billion barrels of oil and oil equivalent gas, with 70% of these assets yet to find category. To improve energy security, the government has prioritised the reduction of oil and gas imports, increasing domestic upstream activities, diversifying its supply sources and increasing Indian investments in overseas oil fields in the Middle East and Africa.

The government is cognisant that several policy reforms are needed to revitalise the exploration and production ecosystem. Along with the fast-paced implementation of the OLAP, the government introduced the Unconventional Hydrocarbon Policy (UHC) in August 2018, followed by Enhanced Recovery policy (ER) in October, to boost domestic production and improve hydrocarbon recovery.

The four OALP bid rounds, conducted till date, have been successful, with 94 blocks (1,37,000 sq km) awarded to leading E&P companies.

Vedanta has a world-class resource base, with a 58 blocks in India. With a strengthened growth pipeline in exploration and development, we are well-positioned to meet India's growing demand by contributing significantly more to the countries domestic crude oil production in the coming years.

**Products and Customers**

Vedanta is the largest private sector producer of crude oil in India. Our crude is sold to hydrocarbon refineries and our natural gas is used by the fertiliser industry and the city gas sector in India.

[1] EIA India 2020: Energy Policy Review, PPAC January 2020

Vedanta Aluminium, Jharsuguda

## ALUMINIUM

### LME Prices and World Trade Scenario

It was a challenging year for aluminium LME prices as they hovered between 1,700 US$/T to 1,800 US$/T for larger part of the year; averaging to 1,749 US$/T for the year, ~14% lower than FY2019 average of 2,035 US$/T. The global aluminium industry saw the dip in prices primarily due to sluggish demand and the pressure witnessed in the global automotive sector.

From a supply perspective, global aluminium capacity increased with the lifting of sanctions on UC Rusal by the US government. The restart of Alunorte Alumina Refinery in Brazil also impacted the balance of aluminium demand and supply, as alumina supply picked up globally. On the other side, the demand showed bearish sentiments triggered by trade standoff, resulting in rising exports from the country. This was exacerbated by the sharp slowdown in vehicle sales in Europe and Asia. This kept the LME aluminium prices subdued for most of the financial year. During March 2020, the LME aluminium prices touched a 4-year low in the wake of global lockdowns; consequently impacting the global demand for aluminium. All the major end use sectors for aluminium across automotive, building & construction, consumer durables and packaging have been hit hard by lockdowns, contributing to the decline in aluminium prices.

The global demand for primary aluminium in 2019 was at ~64.5 million tonnes, whereas the overall aluminium demand was at ~90 million tonnes. It is estimated that total primary demand outside of China will fall by 20% year-on-year in Q1FY21, which is the biggest quarterly decline since 2009. The total primary demand in China will fall by 11% year-on-year in Q1FY21. The global aluminium demand for 2020 is estimated to be a bit lesser than last year impacted by lockdowns in various parts of the world due to COVID-19 pandemic. The consumption is expected to grow over the next decade with innovation in automobile industry across vehicular light-weighting and increasing adoption of electric vehicles. The rapidly urbanising Asia–Pacific and African economies (mainly emerging markets) with demand mainly growing in packaging, automobile, construction and power sectors is expected to keep the global aluminium market buoyant for the years to come.

### Indian Market Drivers and Opportunities

Given the COVID-19 pandemic, there is a higher degree of uncertainty in both Indian and global markets. Total aluminium consumption in India is expected to reduce in 2020 from 3.4 million tonnes in 2019. All the major sectors like transport, electrical, building & construction have been impacted by lockdown imposed by Government of India.

However, the long-term demand for aluminium in India and the sub-continent will remain robust backed by increased industrial activity and government focus on infrastructure sector in the country. Several government initiatives like Make in India and Smart Cities project are expected to increase investment in the country. India's government is investing over US$1 billion in its 'Make in India' initiative. The aluminium consumption rise in India is inevitable with these initiatives lined up in the country, which is in line with India's five-trillion-dollar economy vision. There is a huge potential for increasing aluminium usage in India in building and construction, automotive and packaging industries. As Vedanta, we continue to expand our VAP portfolio in line with evolving market demand, positioning us for growth in the Indian aluminium market.

### Products and Customers

Vedanta has a 2.3 mtpa proposed aluminium capacity in India and operates one of the largest single-location smelters in the world at its Jharsuguda facility. It is the market leader in primary aluminium with ~40% market share in the primary aluminium segment. Our product range includes aluminium ingots, primary foundry alloys, wire rods, billets, slabs and rolled products. We cater to electrical, automotive, building & construction segments, along with a host of other industries, well supported by its high-quality value-added product portfolio. Around 41% of our total aluminium sales globally were value-added products.During FY2020, ~33% of our total sales were to the Indian markets, specifically meant for electrical, construction and transportation industries, a marginal improvement, compared to that of last year; of which 68% of domestic sales were for value-added products.

During the year, we expanded our market reach in South Korea and Australia. We also entered new markets like Saudi Arabia and UAE, among others. International sales to our established customers in other key Asian, European and North and South American markets remained at the same level vis-à-vis last year at 1.26 million tonnes. Vedanta sold ~42% of its total sales as value-added products in FY2020.

[2] CRU's Online Information Service for Aluminium

Dariba Lead Smelting Complex, HZL

# LEAD

**Market Overview**

Like other base metals, lead prices were also impacted by geopolitical tensions, global economic slowdown and the downtrend in the automotive sector. Shutting down of Nrystar's Port Pirie smelter in Australia twice during the year also kept the prices volatile. Uncertainty over the COVID-19 pandemic has unsurprisingly caused further price weakness during the last quarter as major European and American automakers were forced to shut operations as countries declared lockdowns. The replacement battery segment which is not impacted by geo-political and economic factors, contributes roughly half of global lead demand, and kept the demand intact for the metal in CY2019.

**Market Drivers & Opportunities**

In India, more than 90% of overall lead (primary + secondary) and 80% of the primary lead are consumed by the battery segment. More than half of the battery demand is driven by replacements, which are least impacted by any macro-economic and geopolitical factor, but by wear and tear of the battery's usage. Though the economic slowdown and COVID-19 scenario might impact the Original Equipment (OE) demand, the replacement demand is expected to remain intact.

In the recent times, several concerns have been voiced over the demand of lead due to rapid adoption of Electric Vehicles (EVs). While EVs still use lead auxiliary batteries, these are smaller in size compared to regular car batteries, thus requiring lesser lead contribution. However, the impact of it to certain extent will be offset by adoption of start-stop (idle-stop) technology for conventional vehicles, which contain around ~25% more lead.

Lead also finds application in industrial batteries, given the global push by nearly every government towards renewable energy sources such as solar and wind. This willingness to embrace renewable energy will in turn increase demand for energy storage, which in turn will drive up demand for lead acid batteries that are more economical in comparison with lithium ion batteries.

**Products & Customers**

India's refined lead market is ~1.1 million tonnes, including both primary and secondary markets. The primary lead market, which is ~280 kt in size, remained stagnant in 2019. During FY2020, HZL increased its domestic sales by 5% compared to last year. We sold 86% of our refined lead metal in the domestic market and the rest was exported to South-East Asian markets. Next year, we are expecting to increase our sales by 3-4% through new customers via the e-commerce platform and introducing lead alloys in our product portfolio. We are already exploring through collaboration with our customers and plan to exit Q4FY21 with 10% Lead VAP Sales.


Lead Ingots

Machinery at work inside the Rajupra Dariba Mine

MARKET REVIEW CONTINUED...

Aerial View of Pantnagar Metal Plant

## SILVER

### Global Scenario

Geopolitical tensions and economic slowdown led the Federal Reserve (the Fed) to cut down rates for the first time in the last 10 years in July 2019. In 2019, the Fed cut interest rates by a total of 75 basis points. The latest one in March 2020 being an emergency cut which brought the benchmark interest rate to zero to support the economy while dealing with the COVID-19 pandemic. Rate cuts like these draw investors' attention towards precious metals like silver, which are often considered as safe haven, to diversify their portfolio risk. Silver witnessed a wide range in prices during the financial year, from touching the high of US$18.48/oz in August 2019 to falling the low of US$12.01/oz in March 2020. Silver finds multiple applications as an industrial metal. The lockdown across countries has hit industrial demand for the metal.

Silver block

### Market Drivers & Opportunities

In 2019, India's silver demand was estimated to be ~7,000 tonnes and HZL roughly contributes 10% of our country's demand. We sell 100% of the precious metal in the domestic market. India's industrial demand for the metal has been consistent during the last five years. It contributes ~20% of total demand, which compared to global average where ~50% demand comes from the industrial sector is quite low. Demand in jewellery segment saw 10% CAGR growth in the preceding five years. However, the demand is mostly seasonal in nature. The investment demand has shown a decline in the second half of last year mainly due to sudden increase in prices. Silver prices hovered ~₹0.4 to 0.5 lakh per kg in the domestic market, a new high for the market.

The price increase can be attributed to two reasons. First escalation (10% to 12.5%) in customs duty in the last year's Union Budget presented in July 2019 and second to the price increase in the international markets as the Fed rate cuts have diverted the attention of investors to the precious metal, often considered as safe haven. We expect India's market to slowly accept the new price range and investors to start investing in the precious metal for portfolio diversification.

### Products & Customers

HZL is India's only primary silver producer and ranks 9th globally in terms of the top silver producing companies. We cater to various segments of markets including the industrial sector (electrical contacts, solder and alloys, and pharmaceuticals), jewellery and silverware. We sell our silver in the domestic market. Last year, we started spot sales of silver through an e-auction to reduce manual intervention, providing equal opportunity to all our buyers to compete and complete price transparency during the sales.

Dariba silver mine

Integrated facility at Jharsugda

# POWER

### Domestic Demand Driving Capacity Expansion

Vedanta operates over 9,000 MW diversified power portfolio in India consisting of 96% thermal power and 4% from renewable energy sources.

India is the third largest electricity producer in the world. The electricity generation target for conventional sources for FY2020 has been fixed at 1,330 billion units (BU), 6.5% higher y-o-y. Between 2010-2019, the country's electricity generation grew at 5% CAGR, driven by government initiatives and schemes to expand electrification and provide round-the-clock power supply.

### Market Drivers and Opportunities

India's power demand is expected to grow rapidly to 1,895 TWh by 2022, from 691 TWh in 2007 at 7% CAGR, driven predominantly by the expansion in industrial activities, a growing population, rising per capita income, policy support and increasing electricity penetration.

The government has also been supportive of growth in the power sector, delicensing the electrical machinery industry and allowing 100% Foreign Direct Investment (FDI). From April 2000 to June 2018, total FDI in the sector was US$14.2 billion, of which US$6.8 billion was invested in non-conventional power sources above.

The government has recently opened the coal sector for commercial mining, with revenue sharing based model, which is expected to ease any coal availability issues during peak demand season. In the wake of surging domestic coal production, the country's power sector is becoming increasingly stable.

At Vedanta, we are looking at expanding the renewable energy generation portfolio. The Ministry of Power notification on biomass co-firing dated 24 November 2020 allows blending up to 5%–10% biomass , considering it as renewable power.

This has opened additional avenues for utilising renewable power in existing thermal power plants. Vedanta has completed successful pilot projects for using biomass for power generation in its thermal power plants at Jharsuguda that supply power for aluminium production.

As of January 2020, India had total installed capacity of 369 GW, of which thermal constituted 231 GW, nuclear 7 GW, hydro 45 GW and renewables at 86 GW. The total captive power installed capacity stood at 55 GW.

Currently, India has a demand-supply gap of ~0.5%, providing an encouraging headroom for growth in the power market. The target for renewable energy has also been increased to 175 GW by 2022, of which 100 GW will be produced through solar power.

Vedanta's power portfolio is well positioned to capitalise on India's growing demand for power.

### Products and Consumers

Of our cumulative power portfolio, 37% is used for commercial power, while 63% is meant for captive use. Nearly 95% of the power generated for commercial purposes is backed by long-term Power Purchase Agreements with state distribution companies. The Ministry of Power, Government of India issued an order dated 28 June 2019 that has directed the DISCOMs (refers to electricity distribution companies in India) to service entire payments for any power supplied since August 2019 on advance basis. This has brought down the billing payment cycle across India.

VL-J Billet Casting Facility

[3] Ministry of Power publication on Power Sector at a glance in India as on 18 Feb 2020 around 0.5%, powermin.nic.in/en/content/power-sector-glance-all-india

[4] IBEF Report on Power Sector in India www.ibef.org/download/Power-June-2017.pdf

[5] Ministry of Coal notification on auction of coal mines for sale of coal – Discussion paper on key terms & conditions www.coal.nic.in/sites/upload_files/coal/files/curentnotices/Discussion-Paper-Auction-of-Coal-Mines.pdf

Value Added Business - Amona plant

## IRON ORE

### Iron Ore Prices Reversed from Early 2019 Strength

Weaker global steel demand and low margins for most steelmakers have fed through to the global iron ore market, constraining demand in recent months. Iron ore prices have dropped noticeably from their 2019 peak, as supply shortfalls have gradually closed. However, prices are not likely to retreat much further in the short term, as iron ore markets remain tight and iron ore stocks remain near five-year lows.

The FOB Australia iron ore price (62% iron content)—at which most Australian iron ore is sold—peaked in mid-2019, following the fallout from the tailings dam collapse in Brazil, but subsequently corrected. In late 2019, iron ore prices stabilised at around the same level as in late 2018.

### Market Drivers and Opportunities

Iron ore prices remain unusually high following production shortfalls. The iron ore price was expected to decline to an average US$60 a tonne (FOB Australia) by 2021, as the seaborne market gradually returned to balance. Australia's iron ore export earnings are set to increase from US$77 billion in FY2019 to $84 billion in FY2020. Earnings are then projected to ease to US$66 billion in the final year (FY2021) of the outlook period, as seaborne prices gradually decline. Export volumes are likely to grow from 834 million tonnes in 2019 to 878 million tonnes by 2021, as new production commences in Western Australia. The Brazilian supply is also recovering, albeit at an uneven pace.

Output from Vale remains constrained, as it is focused on dismantling a further nine tailings dams identified as facing potential collapse. Three of these dams are likely to be fully decommissioned and reintegrated into the surrounding environments by 2022, with Vale increasingly focused on risk management over recent months.

Output from Vale facilities remains uneven across Brazil, with regulators having frozen output at some sites during the September quarter. Vale is currently monitoring a major dam and has revised its forecast for the first quarter of 2020 down to 68-73 million tonnes of iron ore, from a previous forecast of 70-75 million tonnes. This will contribute to tight global supply conditions in 2020.

### Products and Customers

Iron ore, a key ingredient in steel manufacture, is used in the construction, infrastructure and automotive sectors. Our iron ore mining operations ceased in Goa from March 2018, pursuant to the Supreme Court order. Meanwhile, the permitted mining capacity at Karnataka has recently been increased to 4.5 million tonnes from the previous 2.29 million tonnes.

Hot Metal from the Blast Furnace operation

Pig Iron - Finished product

Source: REQ, December 2019, Pg 29 & 31

[10] Ministry of Power notification dated 28 Jun 2019 allowing opening & maintaining adequate Letter of Credit as payment security mechanism under Power Purchase Agreements by Distribution Licensees https://powermin.nic.in/sites/default/files/webform/notices/Opening_and_maintanig_of%20adequate_Letter_of_Credit_as_Payment_Security_Mechanism_under_Power_Purchase_Agreements.pdf

Stack of Copper Cathodes, Sterlite Copper

## COPPER

Global refined copper consumption remained unchanged in 2019 at 23.5 Mt vis-à-vis 2018, while demand in China, the largest copper consumer increased by ~1%. Geopolitical tensions and a struggling global manufacturing sector plagued refined copper consumption in 2019.

Encouraging developments in the trade dispute between the US and China was gradually bolstering consumer confidence. However, the pandemic outbreak has jeopardised recovery at least for the medium term. On the supply side, India grappled with availability constraints of refined copper due to Vedanta's Tuticorin smelter closure for the second year in a row.

**Products and Customers**

Refined copper is predominantly used in manufacturing cables, transformers and motors as well as castings and alloy-based products. The Tuticorin smelter closure adversely impacted our production in India.

**Market Drivers and Opportunities**

Over the medium and long term, copper consumption in India and China is likely to increase, driven by population growth, urbanisation, the rise of aspiring middle class and demand for EVs.

These trends are supported by enabling government measures and initiatives. However, these forecasts will only hold true if the virus is contained properly and there are no fears of massive disruption in socio-economic life across geographies.

On the supply side, there could be further disruptions in copper production due to the smelter upgrades in Chile following the introduction of new environmental regulations.

The extended closures at Chilean smelters (including Chuquicamata and Potrerillos) reduced smelter production in the first half of 2019. Our ability to take advantage of emerging opportunities is largely dependent on the re-opening of our smelter at Tuticorin.

Contract worker packing Copper rod for shipment, Sterlite Copper

Purity check of copper samples, Sterlite Copper

Employees with finisher Copper product, Sterlite Copper

# FINANCE REVIEW

## EXECUTIVE SUMMARY

We had a strong operational and financial performance in FY2020 despite of the challenging operating environment of low commodity prices and some impact on production on account of lockdown to combat COVID-19. The company continues to focus on controllable factors such as resetting cost base through diverse cost optimisation initiatives, disciplined capital investments, working capital initiatives, marketing initiatives & volume with strong control measures to ensure safe operations across businesses within framed government and corporate guidelines in view of COVID-19.

In FY2020, we recorded an EBITDA of ₹21,061 crore, 12% lower y-o-y and robust adjusted EBITDA margin of 29%. (FY2019: ₹24,012 crore, margin 30%).

Lower production volumes resulted in decrease in EBITDA by ₹102 crore, driven by lower production volumes at Zinc India (includes COVID impact) and Oil & Gas business. However, this was partially offset by higher sales volume at Iron ore of Karnataka & Steel business, additional volume from Gamsberg operations and increase in volumes at Aluminium business.

Market factors resulted in decrease in EBITDA by ₹3,672 crore compared to FY2019. This was primarily driven by downturn in the commodity prices across businesses partially offset by input commodity deflation (mostly in alumina, thermal coal and carbon prices) and rupee depreciation. Gross debt as on 31 March 2020 was ₹59,187, crore, decreased by ₹7,038 crore since 31 March 2019 (FY19: ₹66,225 crore), primarily driven by repayment of debt at Vedanta Standalone, TSPL and temporary borrowing at Zinc India partially offset by increase in borrowing at Oil & Gas.

Net debt as on 31 March 2020 was ₹21,273 crore, decreased by ₹ 5,683 crore since 31 March 2019 (FY19: ₹26,956 crore), primarily driven by repayment of debt partially offset by working capital blockage due to Covid-19 and dividend payment during the year.

The balance sheet of Vedanta Limited continues to remain strong with cash & cash equivalents, of ₹37,914 crore and Net Debt to EBITDA ratio at 1.0x, which is the lowest among Indian peers.

## CONSOLIDATED EBITDA

EBITDA decreased by 12% in FY 2020 to ₹21,061 crore. This was mainly driven by downturn in commodity prices, lower volume and higher cost at Zinc India & Oil & Gas business partially offset by additional volumes from Gamsberg operations and higher sales at Iron Ore Karnataka & Steel business, higher volume at Aluminium business, easing out of input commodity inflation, improved cost of production at Aluminium business, past exploration cost recovery at Oil & Gas business and rupee depreciation.

## CONSOLIDATED EBITDA

(₹ crore, unless stated)

| Consolidated EBITDA | FY2020 | FY2019 | % change |
|---|---|---|---|
| Zinc | 9,094 | 11,298 | (20) |
| -India | 8,714 | 10,600 | (18) |
| -International | 380 | 698 | (46) |
| Oil & Gas | 7,271 | 7,656 | (5) |
| Aluminium | 1,998 | 2,202 | (9) |
| Power | 1,649 | 1,527 | 8 |
| Iron Ore | 878 | 584 | 50 |
| Steel | 588 | 791 | (26) |
| Copper India | (300) | (235) | 28 |
| Others | (118) | 189 | - |
| **Total EBITDA** | **21,061** | **24,012** | **(12)** |

## CONSOLIDATED EBITDA BRIDGE

(₹ crore, unless stated)

| | |
|---|---|
| **EBITDA for FY2019** | **24,012** |
| **Market and regulatory: ₹ (3,660) crore** | |
| a) Prices, premium / discount | (7,839) |
| b) Direct raw material inflation | 3,576 |
| c) Foreign exchange movement | 592 |
| d) Profit petroleum to GOI at Oil & Gas | 169 |
| e) Regulatory changes | (158) |
| **Operational: ₹ 708 crore** | |
| a) Volume | (102) |
| b) Cost and marketing | 422 |
| c) Others | 388 |
| **EBITDA for FY2020** | **21,061** |

### A) PRICES, PREMIUM/DISCOUNT

Commodity price fluctuations have a significant impact on the Group's business. During FY2020, we saw a net negative impact of ₹7,839 crores on EBITDA due to commodity price fluctuations.

Zinc, lead and silver: Average zinc LME prices during FY2020 dropped to US$2,402 per tonne, down 12% y-o-y; lead LME prices decreased to US$1,958 per tonne, down 8% y-o-y; and silver prices increased to US$16.5 per ounce, up 7% y-o-y. The cumulative impact of these price fluctuations lowered EBITDA by ₹2,153 crore.

Aluminium: Average aluminium LME prices decreased to US$1,749 per tonne in FY2020, down 14% y-o-y, this had a negative impact of ₹3,954 crore on EBITDA.

Oil & Gas: The average Brent price for the year was US$60.9 per barrel, lower by 13% compared with US$70.4 per barrel during FY2019, this was further reduced by a higher discount to Brent during the year (FY2020: 7.1%; FY2019: 6.1%). This had negative impact on EBITDA by ₹1,026 crore.

### B) DIRECT RAW MATERIAL INFLATION

Prices of key raw materials such as imported alumina, thermal coal, carbon and caustic have reduced significantly in FY2020, improving EBITDA by ₹3,576 crore mainly at Aluminium and Zinc India business.

### C) FOREIGN EXCHANGE FLUCTUATION

INR and SA Rand depreciated against the US dollar during FY2020. Stronger dollar is favourable to the Group's EBITDA, given the local cost base and predominantly US dollar-linked pricing. The favourable currency movements positively impacted EBITDA by ₹592 crore.

Key exchange rates against the US dollar:

| | Average year ended 31 March 2020 | Average year ended 31 March 2019 | % change | As at 31 March 2020 | As at 31 March 2019 |
|---|---|---|---|---|---|
| Indian rupee | 70.86 | 69.89 | 1.4% | 74.81 | 69.17 |
| South African rand | 14.78 | 13.76 | 7.41% | 17.89 | 14.48 |

Encouraging young leaders, Vedanta Aluminum Business

### D) PROFIT PETROLEUM TO GOI AT OIL & GAS

The profit petroleum outflow to the Government of India (GOI), as per the production sharing contract (PSC), reduced by ₹169 crore. The reduction was primarily due to the higher recovery of capital expenditure incurred over the previous year.

### E) REGULATORY

During FY2020, changes in regulatory levies such as electricity duty, GST credits, Renewable Power Obligation etc. had a cumulative negative impact on the Group EBITDA of ₹158 crore.

### F) VOLUMES

Lower volume led to decrease in EBITDA by ₹102 crore by following businesses:

**Zinc India (negative ₹628 crore)**
The integrated metal sales stood at 860 kt, lower by 4%, and silver sales of 586 tonnes, lower by 13%. This had a cumulative negative impact on EBITDA of ₹628 crore.

**Oil & Gas (negative ₹638 crore)**
Oil & Gas business achieved WI sales of 40.27 mmboe, down by 8% y-o-y. This had negative impact on EBITDA of ₹638 crore

**Iron ore of Karnataka (positive ₹531 crore)**
Iron ore of Karnataka achieved sales of 5.78 mn tonnes, up 125% y-o-y. This sales volume increase had a positive impact on EBITDA of ₹531 crore.

**Zinc International (positive ₹396 crore)**
Increased volumes at Gamsberg from 15 kt in FY2019 to 109kt in FY2020, mainly because of full year operation in FY2020. This has positively impacted EBIDTA by ₹ 396 crore.

**Steel business (positive ₹125 crore)**
ESL achieved metal sales of 1,179 KT, up 15% y-o-y. This sales volume increase had a positive impact on EBITDA of ₹125 crore.

**Aluminium (positive ₹70 crore)**
In FY2020, the Aluminium business achieved metal sales of 1.92 million tonnes, up 3.6% y-o-y. This volume increase had a positive impact on EBITDA of ₹70 crore.

### G) COST AND MARKETING

Improved costs resulted in an increase in EBITDA by ₹422 crore over FY2020, primarily due to improved cost at Aluminium business driven by globally falling input raw material indices (alumina, carbon, caustic etc.), lower power cost on account of materialization of linkage coal supply and higher production of captive alumina at Lanjigarh and Steel business driven by falling input raw material indices and operational efficiencies. This was partially offset by higher cost at Zinc India due to volume led absorption & Oil & gas business due to higher maintenance cost and production enhancement initiatives during FY2020.

### H) OTHERS

This primarily includes the past exploration cost recovery at Oil & Gas business during the FY2020 partially offset by lower power EBITDA, inventory valuation at Aluminium business and lower EBITDA at Avanstrate Inc. (ASI) with a net positive impact on EBITDA of ₹385 crore.

### INCOME STATEMENT

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Net Sales/Income from Operations | 83,545 | 90,901 | (8) |
| Other Operating Income | 902 | 1,147 | (21) |
| EBITDA | 21,061 | 24,012 | (12) |
| EBITDA margin1 (%) | 29% | 30% | - |
| Finance Cost | 4,977 | 5,689 | (13) |
| Investment Income | 2,443 | 3,618 | (32) |
| Exchange Gain /(Loss) | (306) | (509) | (40) |
| Profit before Depreciation and Taxes | 18,220 | 21,432 | (15) |
| Depreciation and Amortisation | 9,093 | 8,192 | 11 |
| Profit before Exceptional items | 9,127 | 13,240 | (31) |
| Exceptional items2: credit/(expense) | (17,386) | 320 | - |
| Taxes3 | (3,516) | 3,862 | - |
| Profit after taxes | (4,743) | 9,698 | - |
| Profit after taxes (before Exceptional Items) | 6,122 | 9,490 | 33 |
| Minority interest | 1,920 | 2,633 | (26) |
| Attributable PAT after exceptional items | (6,664) | 7,065 | - |
| Attributable PAT (before exceptional items) | 3,995 | 6,857 | 38 |
| Basic earnings per share (₹/share) | (18.00) | 19.07 | - |
| Basic EPS before exceptional items (₹/share) | 10.79 | 18.50 | 38 |
| Exchange Rate (₹/US$) – Average | 70.86 | 69.89 | 1 |
| Exchange Rate (₹/US$) – Closing | 74.81 | 69.17 | 8 |

1. Excludes custom smelting at Copper India and Zinc India Operations.
2. Exceptional Items gross of tax
3. Tax includes tax gain on exceptional items of ₹6,521 crore on special items in FY 2020 (FY 2019: charge of ₹112 crore)
4. Previous period figures have been regrouped/rearranged wherever necessary to conform to current period presentation.

### REVENUE

Revenue for the year was ₹83,545 crore, 8% lower y-o-y. This was driven by subdued commodity prices, lower volume at Zinc India, lower volume at Oil & Gas business and lower power sales at TSPL partially offset by higher volume at Aluminium business, additional volumes from Gamsberg operations and higher sales at Iron Ore Karnataka & Steel business and rupee depreciation.

### EBITDA AND EBITDA MARGIN

EBITDA for the year was ₹21,061 crore, 12% lower y-o-y.. This was mainly on account of subdued commodity prices, lower volume and higher cost at Zinc India and Oil & Gas business partially offset by higher volume at Aluminium business, additional volumes from Gamsberg operations and higher sales at Iron Ore Karnataka & Steel business, easing out of input commodity inflation, improved cost of production at Aluminium business, past exploration cost recovery at Oil & Gas business and rupee depreciation. We maintained a robust adjusted EBITDA margin[1] of 29% for the year (FY2019: 30%)

### DEPRECIATION & AMORTIZATIONS

Depreciation for the year was ₹9,093 crore compared to ₹8,192 crore in FY2019, higher by 11%, primarily on account of higher charge at Oil & Gas business due to capitalisation of new wells partially offset by lower production; higher depreciation charge at Zinc India on account of higher ore production, additional capitalisation and increase in amortization rate due to increase in cost; higher charge at Zinc international due to increased production from Gamsberg and acquisitions of Steel business in June'2018.

### NET INTEREST

The The blended cost of borrowings was 7.9% for FY2020 compared to with 8.1% in FY2019. Finance cost for FY2020 was ₹4,977 crore, 13% lower y-o-y compared to ₹5,689 crore in FY2019 mainly on account of decrease in average borrowing due to repayment of debt at Vedanta Standalone, TSPL, BALCO and temporary borrowings at Zinc India, repayment of preference shares at CIHL in FY2019 and lower average borrowing cost in line with market trends.

Investment income for FY2019 stood at ₹2,443 crore, 32% lower y-o-y compared to ₹3,618 crore in FY 2019. This was mainly due to mark to market loss on a treasury investment made by Vedanta's overseas subsidiary through a purchase of an economic interest in a structured investment in Anglo American Plc from its ultimate parent, Volcan Investments Limited and one-time reclassification from other comprehensive income to profit and loss account at Zinc India during FY2019 which was partially offset by Mark to Market gain on other investment during the year.

### EXCEPTIONAL ITEMS

The exceptional items for FY2020 was at ₹17,636 crore, mainly on account of impairment charge relating to property, plant and equipment and exploration assets and claims & receivables at Oil & Gas of ₹15,907 crore, Copper ₹721 crore, Iron ore business (IOB) of ₹349 crore, Avanstarte Inc. (ASI) of ₹504 crore and Fujairah Gold (FG) ₹151 crore partially offset by RPO liability reversal of ₹168 crore at aluminium pertaining to previous years based on revision of liability pursuant to Odisha Electricity Regulatory Commission notification and interest accrued on power debtors at TSPL ₹82 crore in line with positive Supreme court order of prior periods.

(For more information, refer note (33) set out in P&L notes of the financial statement on exceptional items).

### TAXATION

Tax credit for FY2020 stood at ₹ 3,516 crore (FY19: charge of ₹3,862 crore). However, normalised effective tax rate (excluding tax on undistributed reserves from Zinc India , dividend from CIHL and impact of new tax regime) for FY2020 stood at 34%, compared to 28% in FY2019 due to profit mix within entities and primarily on account of increase in weightage of Cairn Energy Hydrocarbon (CEHC) which is taxable at higher rate of 43.68%.

### ATTRIBUTABLE PROFIT AFTER TAX (BEFORE EXCEPTIONAL ITEMS AND DDT)

Attributable PAT before exceptional items was ₹3,995 crore in FY2020 compared to ₹6,857 in FY2019 (lower 42% y-o-y).

### EARNINGS PER SHARE

Earnings per share before exceptional items for FY2020 were ₹10.79 per share as compared to ₹18.50 per share in FY2019.

### DIVIDEND

Board has declared interim dividend of ₹3.90 per share during the year.

### SHAREHOLDERS FUND

Total shareholders fund as on 31 March 2020 aggregated to ₹54,635 crore as compared to ₹62,297 crore as at 31 March 2019. This was primarily net profit attributable to equity holders earned during the year partially offset by dividend paid during the year.

### NET FIXED ASSETS

The net fixed assets as on 31 March 2020 were ₹107,489 crore. This comprises of ₹16,837 crore as capital work-in-progress as on 31 March 2020.

### BALANCE SHEET

Our financial position remains strong with cash and liquid investments of ₹37,914 crore.

The Company follows a Board approved investment policy and invests in high quality debt instruments with mutual funds, bonds and fixed deposits with banks. The portfolio is rated by CRISIL which has assigned a rating of "Tier I" (meaning highest safety) to our portfolio Further, the Company has undrawn fund based committed facilities of c.₹5,300 crore as on 31 March 2020.

Gross debt as on 31 March 2020 was ₹59,187 crore, a decrease of ₹7,038 crore since March 31, 2019.This was mainly due to the repayment of debt at Vedanta Standalone, TSPL and temporary borrowing at Zinc India partially offset by increase in borrowing at Oil & Gas business.

Gross Debt comprises term debt of c.₹46,600 crore and short-term working capital loans of c.₹12,600 crore. The loan in INR currency is 87% and balance 13% in foreign currency. Average debt maturity is of term debt is c.3.2 years as at 31 March 2020.

Crisil and India Ratings revised the outlook on Vedanta's Rating from AA/Positive to AA/Negative.

# OPERATIONAL REVIEW
# ZINC INDIA

### THE YEAR IN SUMMARY

Mine production progressively improved during the year with ore production growth at Rampura Agucha and Zawar and steady production at Sindesar Khurd while Kayad and Rajpura Dariba mines operated at capacity. This led to a record ore production of 14.5 million tonnes despite disruptions related to COVID-19 towards the end of the year. Operations were halted on account of lockdown to combat COVID-19 from March 22, 2020 onwards.

Mined metal production was 917 kt, lower by 2% due to inferior ore grades and COVID-19 related shutdown. Zinc production declined marginally while lead and silver were lower due to some temporary operational issues at Dariba Lead smelter and lower silver grades.

Major projects were completed including Rampura Agucha production shaft and Sindesar Khurd production shaft was ramped up post its commissioning at the end of last year.

The first dry tailing plant was commissioned in Zawar while the fumer project at Chanderiya and two pastefill/hydrofill plants in Zawar are ready for commissioning.

Employee at Operational site, Hindustan Zinc Dariba Smelting Complex

### OCCUPATIONAL HEALTH & SAFETY

We are deeply saddened to report two fatalities at the parking yard in Sindesar Khurd mine and Fumer project site in Chanderiya during the year. We have carried out detailed investigations of the incidents to learn and deploy our learnings across the Company and prevent any reoccurrences.

LTIFR for the year was 1.38 as compared to 0.63 a year ago. We are continuously trying to improvise our methodologies of incident investigation and categorisation with enhanced leadership focus on incident reporting. There has been greater management focus to bring a cultural change via Visible Felt Leadership programmes, safety town halls, enabling tools like safety whistle blower as well as reward & recognition for near-miss reporting.

In view of the COVID-19 health emergency, an advisory was issued for precautionary measures along with awareness campaigns and drive for disinfecting facilities across the Company. The Company's operations were halted during the lockdown period and employees were asked to work from home barring some employees who attended call for duty to keep production assets safe. To ensure business continuity, a committee of COVID-19 Response 'War Room' was organised to identify and implement urgent business decisions. We also engaged the SHG women in our communities to stitch and distribute cloth masks among the villagers, police and administration officials. Our teams worked with civil administration to ensure food reached vulnerable sections of the society.

Key safety initiatives undertaken during the year include Project Ru-ba-ru for business partner competency assessment with respect to manning, skill, qualifications, experience and gaps in organization; 'I Support Aarohan' wherein all employees undertake individual safety projects every quarter to improve safety of their work area; roll-out of new safety standards for molten metal and ground control management; technology enabled safety initiatives to reduce man-machine interactions; conducted Safety Perception Survey for making safety implementation system more effective and robust; and partnered with the global leader in industrial hygiene to improve hygiene with a one-year roadmap.

Employee at Operational site, Sindesar Khurd Mine. Hindustan Zinc

**Record ore production of 14.5 million tonnes**

# ZINC INDIA

## ENVIRONMENT

During the reporting year, hazardous recycling rose to 57% compared to 52% in FY2019, and water recycling rate was 39% (FY2019: 34%).

During the year, a dry tailing plant was commissioned at Zawar Mine to reduce freshwater consumption by enhancing recovery of process water to 90%, improve tailing dam structural stability and reduce the water footprint.

For effective metal recovery, a second ancillary plant was commissioned for treatment of process residues at Chanderiya Lead-Zinc smelter and a project to recover sodium sulphate was commissioned at the Dariba Zinc smelter. Waste such as Jarosite, Jarofix, slag and fly ash were gainfully utilized in cement manufacturing and road construction whilst tailings were used in back-filling voids in mines.

As a part of beyond the fence initiatives for water management, a 15 MLD of sewage treatment plant is under commissioning in Udaipur city, which will take the total sewage treatment capacity to 60 MLD.

As part of commitment towards biodiversity conservation, the Company is now a member of International Union for Conservation of Nature 'Leader for Nature India' initiative. Our sustainability activities received several endorsements during the year including the CII- ITC Sustainability Award for Corporate Environment as well as Best Environmental Sustainability Award in the category of National Awards for 'Excellence in CSR and Sustainability' by World CSR Day.

Zinc India's sustainability performance was ranked 5th in the Dow Jones Sustainability Index (Metal and Mining) globally, and No. 1 in Asia Pacific region and also selected as constituent of FTSE4Good Index series and the S&P Sustainability yearbook for the third consecutive year. Zinc India was also declared as 'Disclosure Champion' in the Asia Disclosure Index by FTI Consulting and is amongst the top 5 companies in India.


Underground Operations at Sindesar Khurd Mine

## PRODUCTION PERFORMANCE

| Production (kt) | FY2020 | FY2019 | % change |
|---|---|---|---|
| Total mined metal | 917 | 936 | (2) |
| Refinery metal production | 870 | 894 | (3) |
| Refined zinc – integrated | 688 | 696 | (1) |
| Refined lead – integrated[1] | 182 | 198 | (8) |
| Production – silver (in tonnes)[2] | 610 | 679 | (10) |

1. Excluding captive consumption of 7,088 tonnes in FY2020 versus 6,534 tonnes in FY2019.
2. Excluding captive consumption of 36.7 tonnes in FY 2020 versus 34.2 tonnes in FY 2019.


Smelting operation at Dariba Smelting Complex

## OPERATIONS

For the full-year, ore production was up 5% y-o-y to 14.5 million tonnes on account of strong production growth at Rampura Agucha and Zawar mines, which were up 18% and 14% respectively. Mined metal production for FY2020 was 917,000 tonnes compared to 936,000 tonnes in the prior year on account of COVID-19 related lockdown and low grades at Kayad and Sindesar Khurd mines in H1 FY2020.

Integrated metal production was down 3% to 870kt and silver production was lower by 10% to 610 MT due to COVID-19 related lockdown, lower lead production in Q2 FY20 & Q3 FY20 due to temporary operational issues and lower silver grades.

**India's first dry tailing plant commissioned at Zawar Mine**

## PRICES

Zinc LME prices fell by 12% to end the year at an average of US$2,402 per tonne on account of trade war between the US and China and the outbreak of COVID-19 in the final quarter of the year. On the positive side, exchange stocks continue to remain low at seven days of global consumption despite inflow of stocks to exchanges as unprecedented outbreak impacted demand

The financial year started on a high note with Zinc LME price crossing US$3000 per tonne mark, but subsequently the price witnessed downward trend before holding some ground in September and October. The signing of 'Phase I' of the trade agreement between the US and China in December provided some support to the price in January but prices again tumbled as the health catastrophe struck Industrial metal prices, which took a hit as industrial activities and government spending on infrastructure projects stopped.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Average zinc LME cash settlement prices US$/tonne | 2,402 | 2,743 | (12) |
| Average lead LME cash settlement prices US$/tonne | 1,952 | 2,121 | (8) |
| Average silver prices US$/ounce | 16.5 | 15.4 | 7 |

## ZINC DEMAND - SUPPLY

As many countries have imposed lockdown and have issued workforce curtailment advisories to tackle the spread of virus, mines are operating at reduced efficiency. Many mines in Peru, Mexico, Bolivia have suspended operations. The present low zinc price in US$1900-US$2000 has made many mines economically unviable. The new projects have been delayed and considering all these factors, global mine production is expected to witness contraction in CY2020. As per Wood Mackenzie, mine production is likely to contract by 3.8% in CY2020 compared to CY2019.

The benchmark Treatment Charge this year is US$299.5 per tonne, a substantial increase from last year's US$245 per tonne, highest since 2008. The spot TC's expected to remain higher for the year and would motivate smelters to continue production. The refined metal production is expected to grow at 0.6% in CY2020 as per Wood Mackenzie.

The last two years have witnessed a contraction in global zinc consumption with 0.4% in CY2018 and 1.1% in CY2019. Further, this year demand has weakened as the world is combating the pandemic. Lockdowns of 4-8 weeks have muted the demand for zinc in downstream industries. Major auto manufacturers in Europe have closed operations amid subdued demand and there are raw material supply chain constraints due to boundary closures and limited cargo movements. Infrastructure spending has also halted. As per Wood Mackenzie's initial reports, global zinc demand is expected to decline by 6.8%.

Indian government announced a 21-day nationwide lockdown which was further extended by 33 days in two steps to fight against the pandemic. Downstream industries, steel manufactures, galvanisers, alloy makers have suspended operations or are operating at reduced capacities.

| Zinc Global Balance (in kt) | CY2020 | CY2019 | CY2018 |
|---|---|---|---|
| Mine Production | 12,853 | 13,363 | 12,953 |
| Smelter Production | 13,686 | 13,601 | 13,183 |
| Consumption | 12,984 | 13,924 | 14,322 |

Source: Wood Mackenzie

## UNIT COSTS

Zinc's cost of production (excluding royalty) for FY2020 was US$1,047 per tonne, higher by 4% y-o-y. The Cost of Production during the year benefited from declining imported coal prices and higher linkage coal. The COP increase reflects higher mine development expense, lower ore grades and volume, lower acid credits, higher cement prices, and electricity duty on captive power plants which was hiked from ₹0.40 to ₹0.60 per unit starting July 2019, partly offset by lower coal costs. Government levies amounted to US$ 355 per tonne (FY2019: US$389 per tonne). This comprised mainly of royalty payments, the Clean Energy Cess, electricity duty and other taxes.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Unit costs (US$ per tonne) | | | |
| Zinc (including royalty) | 1,373 | 1,381 | (1) |
| Zinc (excluding royalty) | 1,047 | 1,008 | 4 |

# ZINC INDIA

## FINANCIAL PERFORMANCE

Revenue for the year was ₹18,159 crore, down 12% y-o-y, primarily on account of decline in LME prices and lower volume, partly offset by higher silver prices and rupee depreciation. EBITDA in FY2020 decreased to ₹8,714 crore, down 18% y-o-y. The decrease was primarily driven by lower revenue and higher cost of production.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 18,159 | 20,656 | (12) |
| EBITDA | 8,714 | 10,600 | (18) |
| EBITDA margin (%) | 48% | 51% | - |

## PROJECTS

All major projects to build capacity of 1.2 mtpa mined metal were completed during the year. Capital mine development increased by 12% to 48 km in FY2020.

At Rampura Agucha, the Shaft project was commissioned along with the associated conveyor , crusher systems and hauling from shaft through ore pass commenced in the final quarter. This has increased haulage capacity allowing RA UG to achieve production level of 4.5 mtpa.

At Sindesar Khurd, shaft is fully integrated with mine and ore hauling was ramped up to about 70% of capacity. The second paste fill plant was commissioned in June 2019, allowing the mine to operate at full production capacity.

At Zawar, India's first ever dry tail stacking plant was commissioned in the second quarter, significantly reducing water consumption & land requirement and addressing tailing dam risk. Further, the two backfill plants are under load trials and back filling of voids is expected to commence in Q1 FY2021. This will improve mine stability and provide an opportunity for pillar mining to remove left-out high-grade ore.

At Rajpura Dariba, the existing production shaft capacity is being upgraded from 0.7 to 1.3 mtpa to debottleneck the mine. The erection process has already commenced and is expected to complete in Q3FY2021. RD mine received the environment clearance for expansion from 1.08 to 2.0 mtpa of ore production and ore beneficiation from 1.2 to 2.5 mtpa. Smelter debottlenecking to expand the capacity to 1.1 mtpa was completed during the year to maintain mines/smelter synergies at higher levels of production. The Fumer plant at Chanderiya is ready to start and production is to commence in Q1 FY2021.

Chanderia Lead Zinc Smelter, HZL

## EXPLORATION

Zinc India's exploration objective is to upgrade the resources to reserves and replenish every tonne of mined metal to sustain more than 20 years of metal production by fostering innovation and using new technologies. It has an aggressive exploration program focusing on delineating and upgrading Reserves and Resources (R&R) within its licensed areas. Technology adoption and innovations play key role in enhancing exploration success.

Zinc India's deposits remain 'open' and exploration identified a number of new targets on mining leases having potential to increase R&R over the next 12 months. Across all the sites, it increased its surface drilling to assist in upgrading Resources to Reserves.

In line with previous years, the Mineral Resource is reported on an exclusive basis to the Ore Reserve and all statements have been independently audited by SRK (UK).

On an exclusive basis, total ore reserves at the end of FY 2020 totalled 114.7 million tonnes and exclusive mineral resources totalled 288.3 million tonnes. Total contained metal in Ore Reserves is 7.95 million tonnes of zinc, 2.07 million tonnes of lead and 256.2 million ounces of silver and the Mineral Resource contains 15.87 million tonnes of zinc, 5.93million tonnes of lead and 641.8million ounces of silver. At current mining rates, the R&R underpins metal production for more than 20 year.

## STRATEGIC PRIORITIES & OUTLOOK

Our primary objective remains to concentrate on enhancing overall output, cost efficiency of our operations and disciplined capital expenditure. Whilst the current economic environment remains uncertain our goals over the medium term are unchanged.

Our key strategic priorities include:

- Further ramp up of underground mines towards their design capacity, deliver increased silver output in line with communicated strategy.
- Reduce cost of production to below US$1,000 per tonnes through efficient ore hauling, higher volume & grades and higher productivity through ongoing efforts in automation and digitization
- Disciplined capital investments in minor metal recovery to enhance profitability
- Increase R&R through higher exploration activity and new mining tenements, as well as upgrade resource to reserve

Workmen at Dariba Smelting Complex, Hindustan Zinc

Virtual operations to ensure employee safety at HZL

# OPERATIONAL REVIEW
# ZINC INTERNATIONAL

### THE YEAR IN SUMMARY

During FY2020, Zinc International continued to ramp up production from its flagship project Gamsberg mine and achieved production of 108 kt.

Black Mountain continued to have a stable production of 66 kt. In May 2019, Skorpion experienced a major open pit failure which resulted in an ore gap of four months – which required the stoppage of the Refinery from November 2019 to January 2020. The open pit failure was safely and successfully dealt with. However, further (smaller) failures have since occurred with the latest one in January 2020, sterilising a significant portion of the open pit. This has resulted in an ore gap in excess of 10 months. Further technical studies have indicated the existence of similar such failure structures at depth. The safety of all employees is our first value. Therefore, we have decided to cease all mining operations at Skorpion and to put the mine under care and maintenance, while studies continue to look feasible ways to make the pit safe for mining options which would allow for the extraction of the remainder of the accessible ore.

employees. Black Mountain Mine has been approached by the Department of Mineral Resources and Energy (Regulatory Authority) to be a stakeholder in the development of National Guidelines for South Africa. We have strengthened our Employee Wellness Programmes that resulted in increased participation of employees and communities in VCT for Aids/HIV, blood donation and community sporting events. A total of 2,961 employees were screened for TB during the year.

### ENVIRONMENT

Zinc International had a good environmental performance in FY2020 with no level 3 or above environmental incidents reported. The Gamsberg Nature Reserve was proclaimed as Protected area under National Environmental Management Protected Area Act, 2003 (Act No. 57 of 2003) on 5 August 2019. The Gamsberg Nature Reserve Trust was established on.


Birdseye view of Gamsberg

**Total production 240,000 tonnes, 62% higher y-o-y.**

### PRODUCTION PERFORMANCE

| Production (kt) | FY2020 | FY2019 | % change |
|---|---|---|---|
| Total production | 240 | 148 | 62 |
| **Production– mined metal** | | | |
| BMM | 66 | 65 | 1 |
| Gamsberg | 108 | 17* | - |
| Refined metal Skorpion | 67 | 66 | 2 |

*Includes trial run production of 10 kt

### OCCUPATIONAL HEALTH & SAFETY

Regrettably, Vedanta Zinc International reported a fatality at Black Mountain Mine where Mrs. Venessa Plagg a Mining Operator was fatally injured on 10 January 2020. The mine conducted a comprehensive investigation using an independent Group-led team. The lessons learned, following a thorough investigation, have been shared across the business and initiatives have been rolled out to strengthen our practices in Housekeeping, Person-Machine Interaction, Stop & Fix non-conformances and leaders engagement focusing on critical risk controls. Significant improvements have been made in the reduction of LTIs from 23 to 10 for the year (LTIFR FY2019: 0.96 and FY2020: 0.98).

Airborne particulate management remains a key focus in reducing lead and silica dust exposures of

### OPERATIONS

During FY2020, total production stood at 240,000 tonnes, 62% higher y-o-y. This was primarily due to ramp up of first phase of Gamsberg expansion plan.

Production at Skorpion stood at 67,000 tonnes during the year, slightly higher y-o-y. The plan was to produce 130,000 tonnes during the year which was predominantly impacted by a multiple bench slope failure of ~400 kt material on the western pushback of the open pit on 9th May 2019 and further in January 2020 by a wedge failure which extended the old slope failure to south area of mine.At BMM, production was in line with that of previous year. In spite of a slight decrease in grades (5.2% versus 5.3%), BMM performance has improved in FY2020 with higher recoveries and throughput. This was however offset by lower ore production due to suspension of mining operations for 16 days during Q4FY20 on account of a fatality. Gamsberg's production was at 108,000 tonnes as the operation continues to ramp up with improved performance every quarter–Q1: 23,000 tonnes, Q2: 24,000 tonnes, Q3: 31,000 tonnes and Q4: 30,000 tonnes (impacted by COVID–19). Mining has fully ramped up to 4 mtpa capacity and ~1.8 Mt of healthy ore stockpile has been built ahead of plant. Crusher is consistently running on throughput of ~700 tph (better than design of 685 tph) and milling run rates have improved significantly (average for the year was 430 tph versus 501 tph design). Recovery continues to be a focus area as the plant ramps up and is stable.

At both BMM and Gamsberg, production was also slightly impacted by COVID-19 lockdown.

# ZINC INTERNATIONAL

## UNIT COSTS

The unit cost of production decreased by 13% to US$1,665 per tonne, from US$1,912 per tonne in the previous year. This was mainly driven by company's strong regime to reduce the cost and including reduction through higher production at Gamsberg, lower usage of purchased oxides at Skorpion Zinc, lower Sulphur prices, local currency ,offset by higher treatment and refining charge, lower copper credits and annual inflation.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Zinc (US$ per tonne) unit cost | 1,665 | 1,912 | 13 |

## FINANCIAL PERFORMANCE

During the year, revenue increased by 14% to ₹3,128 crore, driven by higher volumes compared to FY2019, partially offset by lower price realisations. EBITDA decreased by 46% to ₹380 crore, from ₹698 crore in FY2019 mainly on account of lower price realization partially offset by improved cost and higher volume.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 3,128 | 2,738 | 14 |
| EBITDA | 380 | 698 | (46) |
| EBITDA margin | 12% | 25% | - |

## PROJECTS

**Skorpion Refinery Conversion:**
Project activities were resumed due to the LOM getting completed at Skorpion and also being the fastest way to process Gamsberg concentrates. The previously completed feasibility study is currently being updated and based on this a project decision will be taken in the next quarter.

**Swartberg Phase II:**
Mine plan and design is complete. Ore reserves have increased from 2.6 million tonnes to 25.4 million tonnes in FY20.

**Gamsberg Phase II:**
The previously completed Phase 2 feasibility study was updated based on the revised mine design incorporating updated geological model post an extensive drilling programme. The new 8 mtpa mine design is complete. 54Mt Reserve has been added post completion of Feasibility which can result in additional 200ktpa MIC production over and above current production. Gamsberg Smelter - Substantial progress was made with respect to the environmental Impact Assessment process with public participation meetings getting completed and formal Environment applications submission to the government authorities.

## EXPLORATION

During the year, we made gross additions of 71.2 million tonnes of ore and 1.6 million tonnes of metal to R&R, after depletion. As at 31 March 2020, combined mineral resources and ore reserves were estimated at 521.4 million tonnes, containing 28 million tonnes of metal. The reserves and resources support a mine life of more than 30 years.

Mill at Gamsberg

## STRATEGIC PRIORITIES & OUTLOOK

Zinc International continues to remain focused to improve its YoY Production by sweating its current assets beyond its design capacity, debottlenecking the existing capacity and adding capacity through Growth Projects. Our Immediate priority is to ramp up the performance of our Gamsberg Plant at Designed capacity and simultaneously develop debottlenecking plan to increase Plant capacity by 10% to 4.4Mt Ore throughput. Likewise, BMM continues to deliver stable Production performance and focus is to debottleneck its Ore volumes from 1.6Mt to 1.8Mt. Skorpion is expected to remain in 'Care and Maintenance' for H1 FY21 while management is assessing feasible & safe mining methods to extract Ore from Pit 112. Zinc International continues to drive cost reduction programme to place Gamsberg operations on 1st Quartile of global cost curve with COP< US$1000 per tonne.

In addition to above, Core Growth strategic priorities include:

- Complete approval process and commence project activities of Swartberg Phase II Project and Skorpion Refinery conversion Project in FY2021
- Continue to improvise Business case of Gamsberg Phase II and Gamsberg Smelter Project through Government support, Capex and Opex reduction

Biodiversity at Gamsberg

Deeps Shaft at Black Mountain Mine

# OPERATIONAL REVIEW
# OIL & GAS

### THE YEAR IN SUMMARY

During FY2020, our focus was on the growth projects driven by gross capex of US$3.2 billion to increase volumes from our prolific operating blocks. In pursuit of our vision to contribute to 50% of India's domestic crude oil production, we have increased our block acreage by acquiring 51 blocks in Open Acreage Licensing Policy (OALP) and two blocks in Discovered Small Fields (DSF).

The acquisition has established us as one of the largest private acreage holders in the country, with a tenfold jump in acreage from 6,000 sq km in August 2018 to ~65,000 sq km.

The PSC blocks offer a rich project portfolio comprising enhanced oil recovery, tight oil, tight gas, facility upgradation and exploration and appraisal prospects. These projects are being executed under an Integrated Development strategy involving leading global oilfield service companies and are on track to deliver near-term additional volumes. During the year 136 wells were drilled and 41 wells hooked up.

In OALP blocks, our objective is to reduce the cycle time from exploration to production. We have implemented the largest onshore Full Tensor Gravity Gradiometry™ (FTG) airborne survey in India to optimise time and cost-intensive seismic data acquisition to fast track drilling. The seismic acquisition programme has been initiated and in Assam and mobilisation of the crew is underway in Rajasthan.

Ensuring safety standards at Cairn Oil & Gas

### OCCUPATIONAL HEALTH & SAFETY

There were fifteen Lost Time Injuries (LTIs) in FY2020. LTIFR stood at 0.3 per million man hours (FY2019: 0.3 per million man hours) amidst increased development activities. We strengthened the HSE culture by introducing Visible Felt Leadership.

Important recognition and awards during the year are as below:

- Mangala oil field received first prize – Overall performance and rolling trophy for Best Performing Fire Fighting Unit during Mines Safety Week.
- Raageshwari Oil & Gas Mine received First Prize in 8th FICCI Safety Systems Excellence Award
- HSE Excellence Safety Champion of the year Award, at Synnex HSE Excellence Summit and Safety Awards in New Delhi.
- '5Star' by British Safety Council for excellence in HSE Management for Pipeline Operation
- '5Star' in 'Par Excellence' rating by Quality Circle Forum of India for Raageshwari Oil & Gas Mine.
- '5Star' by Quality Circle Forum of India for Bhagyam, NI, Radhanpur, Viramgam and Bhogat terminal.
- Suvali offshore site received Genentech Safety Award 2019

Mangala Processing Terminal at night, Barmer

**Production sharing contracts (PSC) signed for Ravva block extended for 10 years**

### ENVIRONMENT

Our Oil & Gas business is committed to protect the environment, minimise resource consumption and drive towards our goal of 'zero discharge'.

We have secured position in sustainability front runners' category with scoring 912 out of 1200 in recently assessed Sustainability 4.0 Award 2020 jointly instituted by Frost & Sullivan and TERI.

Highlights for FY2019-20 are:

- Environmental laboratory at Mangala Processing Terminal (MPT), has been accredited by National Accreditation Board for Testing and Calibration Laboratories
- Disposal of drilling & oily waste through co-processing at cement industries: ~43,240 MT in FY2020
- Recycling and reusing of produced water resulting into reduced water abstraction: 96%. IOGP av. ~80%
- Natural gas was adopted at Raageshwari Gas Terminal for power generation, thereby eliminating flaring of gas emissions by ~17, 000 tonnes of $CO_2$e/annum.
- Biodiversity Conservation:
  a. Green belt development by only planting indigenous species in Rajasthan field, promoting plantation of desert-native species
  b. Carbon sequestration-plantation in Rajasthan field: ~23,156 tonnes of CO2e

# OIL & GAS

## PRODUCTION PERFORMANCE

| Particulars | Unit | FY2020 | FY2019 | % change |
|---|---|---|---|---|
| Gross operated production | Boepd | 172,971 | 188,784 | (8) |
| Rajasthan | Boepd | 144,260 | 155,903 | (7) |
| Ravva | Boepd | 14,232 | 14,890 | (4) |
| Cambay | Boepd | 14,479 | 17,991 | (20) |
| Oil | Bopd | 154,677 | 178,207 | (13) |
| Gas | Mmscfd | 109.8 | 63.5 | 73 |
| Net production – working interest* | Boepd | 110,459 | 119,798 | (8) |
| Oil | Bopd | 99,709 | 114,214 | (13) |
| Gas | Mmscfd | 64.5 | 33.5 | 93 |
| Gross production | Mmboe | 63.3 | 68.9 | (8) |
| Working interest production | Mmboe | 40.4 | 43.7 | (8) |

*Includes net production of 483 boepd from the KG-ONN block, which is operated by ONGC. Cairn holds a 49% stake.


A Cairn Oil & Gas employee

## OPERATIONS

Average gross production across our assets was 8% lower y-o-y at 172,971 boepd. The company's production from the Rajasthan block was 144,260 boepd, 7% lower y-o-y. The decrease was primarily due to natural reservoir decline and maintenance shutdown of Mangala Processing Terminal (MPT). The decline was managed by gains accruing from ramp-up of gas facilities and the new wells brought online. Production from the offshore assets, was at 28,711 boepd, 13% lower y-o-y, due to natural field decline.

Production details by block are summarized below.

### Rajasthan Block

Gross production from the Rajasthan block averaged 144,260 boepd, 7% lower y-o-y. This decrease was primarily due to the natural reservoir decline and maintenance shutdown of the Mangala Processing Terminal (MPT). The MPT Shutdown was carried out in February 2020 for production enhancement, reliability improvement and asset integrity enhancements. All the planned jobs during the shutdown were completed ahead of the schedule, with lower production losses vis-à-vis plan. The decline was partially offset by increase in gas production through early production facility and from new wells brought online as part of Mangala infill, Aishwariya Barmer Hill and production optimisation activities.

At Rajasthan, 132 wells have been drilled, of these 39 wells have been brought online as part of the growth projects during FY2020. Early gas production facility was brought online and ramped up to its design capacity of 90 mmscfd to supplement the existing gas infrastructure. Total Gas production from Raageshwari Deep Gas (RDG) averaged 100.1 (mmscfd) in FY2020, with gas sales, post captive consumption, at 79.1 mmscfd.


Cairn Oil & Gas, Barmer

On 26th October 2018, the Government of India, acting through the Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas, has granted its approval for a ten-year extension of the PSC for the Rajasthan block, RJ-ON-90/1, subject to certain conditions, with effect from 15 May 2020.
The applicability of the Pre-NELP extension policy to the RJ Block PSC is currently sub-judice.

### Ravva Block

The Ravva block produced at an average rate of 14,232 boepd, lower by 4% y-o-y. This was primarily due to natural field decline partially offset by the two new wells bought online through Ravva drilling campaign commenced as a part of growth project during FY2020. On 11th March 2019, the Government of India, acting through the Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas, has granted its approval for a ten-year extension of the PSC for the Ravva block, subject to certain conditions, with effect from 29 October, 2019.

### Cambay Block

The Cambay block produced at an average rate of 14,479 boepd, lower by 20% y-o-y. This was primarily due to natural field decline partially offset by production optimisation measures.

### PRICES

Crude oil price averaged US$60.9 per barrel, compared to US$70.4 per barrel in previous year driven by multiple reasons, shifting the world from the era of supply disruption to plenty. The year started with OPEC-led production cuts, countered by the US President's request to OPEC for a production increase to bring down fuel costs. Tensions were heightened at various points in the year in the Middle East with attacks on oil tankers off the coast of the UAE, and several drones strikes against Saudi Arabian oil facilities, leading to concerns over oil supply disruptions. Trade tensions between the US and China further raised the geopolitical tensions, but eventually the US -China trade deal and planned OPEC production cuts in CY2020 led to a steady rally in crude prices.

However, in March 2020 in order to limit the impact of economic contraction caused by COVID-19 on oil demand, OPEC+ failed to reach an agreement to cut oil supply and on 7 March 2020, Saudi Arabia slashed its oil prices to gain market share. As a result, oil prices fell to ~US$17 per barrel towards the end of the year, the lowest level since 2002. In April, OPEC and its partners agreed to significant supply cut which might help to reduce but is unlikely to prevent uncertainty regarding product demand. Looking forward, the recent events will continue to have an impact on the oil price volatility with downside risks until the global economies come out of lockdown and all OPEC and partner countries act collectively.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Average Brent prices –US$/barrel | 60.9 | 70.4 | (13) |

### FINANCIAL PERFORMANCE

Revenue for FY2020 was 4% lower y-o-y at ₹12,661 crore (after profit and royalty sharing with the Government of India), owing to fall in oil price realisation and lower volumes partially offset by one off for past exploration cost recovery of ₹1,276 crore. EBITDA of FY2020 was at ₹7,271 crore, lower by 5% y-o-y in line with the lower revenue. The Rajasthan water flood operating cost was US$6.1 per barrel in FY2020 compared to US$5.1 per barrel in the previous year, primarily driven by increase maintenance and production enhancement initiatives. Overall, the blended Rajasthan operating costs (including polymer) increased to US$8.7 per barrel compared to US$7.6 per barrel in the previous year.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 12,661 | 13,223 | (4) |
| EBITDA | 7,271 | 7,656 | (5) |
| EBITDA margin (%) | 57 | 58 | - |

### A. GROWTH PROJECTS DEVELOPMENT

The Oil & Gas business has a robust portfolio of development opportunities with the potential to deliver incremental volumes.

In order to execute these projects on time and within budget, we have devised an integrated project development strategy, with an in-built risk and reward mechanism. This new strategy is being delivered in partnership with leading global oilfield service companies.

### MANGALA INFILL, ENHANCED OIL RECOVERY (EOR) AND ALKALINE SURFACTANT POLYMER (ASP)

The field is currently under full field polymer injection. In addition, to increase the ultimate oil recovery and support production volumes, we are executing a 45-well infill drilling campaign in Mangala field. Till March 2020, 45 wells have been drilled and of these 35 wells are hooked up. Going forward, the ASP project at Mangala will enable incremental recovery from the prolific Mangala field.

The project entails drilling wells and developing infrastructure facilities at the MPT. Drilling campaign is already under progress and the contract for the ASP surface facility is yet to be awarded. Till March 2020, 60 wells have been drilled.

### BHAGYAM & AISHWARYA ENHANCED OIL RECOVERY (EOR)

The enhanced oil recovery project at Bhagyam and Aishwariya is progressing as per plan. Till March 2020, 28 wells in Bhagyam and 14 wells in Aishwarya have been drilled, of these 19 wells in Bhagyam and 8 wells in Aishwarya are hooked up. Surface facility development for polymer implementation has commenced and polymer injection is ongoing.

An employee at Cairn Oil & Gas

# OIL & GAS

## TIGHT OIL AND GAS PROJECTS

### Tight oil: Aishwariya Barmer Hill (ABH)

ABH is the first tight oil project to monetise the Barmer hill potential and drilling of the project started in Q1FY19. All 39 wells have been successfully drilled and seven wells are hooked up. Surface facility is under construction and to be commissioned in near term.

### Tight gas: Raageshwari deep gas (RDG) development

Gas development in the RGD field continues to be a strategic priority. Early production facility has been commissioned and ramped up to its designed capacity of 90 mmscfd.

Further construction of gas terminal through integrated contract is expected to deliver additional ~90 mmscfd of gas production in near term. This will ramp up the overall Rajasthan gas production to ~245 mmscfd.

In order to realize the full potential of the gas reservoir, contract for drilling of 42 wells has been awarded and till March 2020, 25 wells have been drilled.


Processing Facility, Cairn

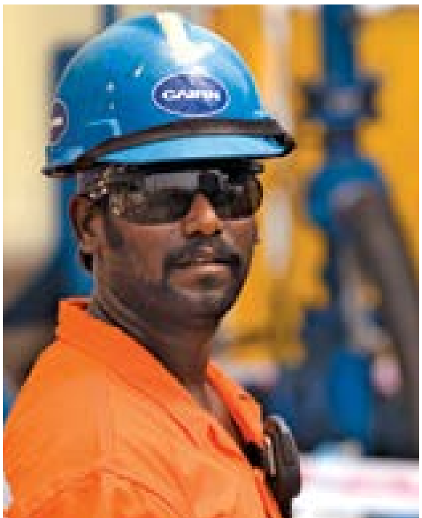
## OTHER PROJECTS

### Satellite Field Development

In order to monetise the satellite fields, an integrated contract for the appraisal and development activity through global technology partnership has commenced. Till March 2020, 13 wells have been drilled.

### Surface Facility Upgradation

The MPT facility upgradation is progressing in line with the schedule to handle incremental liquids. Intra-field pipeline augmentation project has been completed. The MPT surface facility augmentation project is expected to be commissioned in near term. The project will lead to the expansion in the liquid handling capacity by 30%.


An employee at the Mangala Processing Terminal, Barmer

### Ravva development

An integrated development campaign has been commenced. Till March 2020, 4 wells have been drilled and 2 wells are hooked up.

## B. EXPLORATION AND APPRAISAL RAJASTHAN - (BLOCK RJ-ON-90/1)

### Rajasthan exploration

The Rajasthan portfolio provide access to multiple play types with oil in high permeability reservoirs, tight oil and tight gas. We are evaluating opportunities to commence the drilling program.

### Tight Oil Appraisal

The appraisal programme of four fields (Vijaya & Vandana, Mangala Barmer Hill, DP and Shakti) entails the drilling and extended testing of 10 new wells with multi-stage hydraulic fracturing. Till March 2020, seven wells have been drilled.

### Open Acreage Licensing Policy (OALP)

Under the Open Acreage Licensing Policy (OALP), revenue-sharing contracts have been signed for 51 blocks located primarily in established basins, including some optimally close to existing infrastructure.

Our objective is to reduce cycle time from exploration to production. We have implemented an innovative technology - Full Tensor Gravity Gradiometry™ (FTG) airborne survey to prioritise area of hydrocarbon prospectivity. This is the largest FTG survey programme in India covering an area of 1,200 LKM in Assam blocks and 8,000 LKM in Kutch blocks.

The Seismic acquisition programme has commenced in Assam, Kutch and mobilisation of the crew is underway in Rajasthan, Cambay and Offshore blocks. Further, we have applied Satellite-based Sub-Terrain Prospecting (STeP®) in Assam, which includes eight remote sensing & computational technologies within a six-month time frame covering an area of 3,650 sq km. This is the first application in oil & gas exploration in India to provide information to optimize & prioritize areas for exploration focus.

### Discovered Small Fields (DSF2)

Discovered Small Fields (DSF2) provide synergy with existing oil & gas blocks in the vicinity. These blocks were assessed based on the resource potential and proximity to infrastructure in prioritised sedimentary basins across India.

Two discovered small fields named as Hazarigaon and Kaza gas fields, located in Assam and Krishna Godavari basins, respectively, have been awarded under DSF2.

## STRATEGIC PRIORITIES & OUTLOOK

Vedanta's Oil & Gas business has a robust portfolio mix comprising of exploration prospects spread across basins in India, development projects in the prolific producing blocks and stable operations which generate robust cash flows. The key priority ahead is to deliver our commitments from our world class resources with 'zero harm, zero waste and zero discharge:

- Commission the liquid handling capacity upgrade facility and new gas processing terminal to deliver incremental volume
- Increase recovery through full field injection in Bhagyam & Aishwariya Fields
- Unlock the potential of the exploration portfolio comprising of OALP and PSC blocks
- Continue to operate at a low cost-base and generate free cash flow post-capex

Caption to be placed here

# OPERATIONAL REVIEW
# ALUMINIUM

### THE YEAR IN SUMMARY

In FY2020, the aluminium smelters achieved India's highest production of 1.9 million tonnes (including trial run). It has been a remarkable year in our cost reduction journey across all levers. The input commodity costs have been benefited by falling alumina price indices from the all-time highs in the last year. We observed similar trends in caustic and petroleum coke prices. The coal materialisation from Coal India improved significantly this year. The improvement in operational metrics across our refinery, smelters and power plants have further contributed to cost reduction. We continue to focus on optimising our controllable costs and improving our price realisation to improve profitability in a sustainable way.

The hot metal cost of production for FY2020 was US$1,690 per tonne, on account of structural improvements in the cost. The Q4FY20 hot metal cost of production stood at US$1,451 per tonne. We also achieved record production of 1.81 million tonnes at the alumina refinery through continued debottlenecking. We continue to explore the feasibility of expanding the refinery's capacity, growing through a phased programme and subject to bauxite availability.

### OCCUPATIONAL HEALTH & SAFETY

We report with deep regret two fatalities during the year, one at our operations in Jharsuguda as the result of a rail accident at our smelter rail logistics and the other at Chotia coal mines of BALCO. We investigated both incidents thoroughly and shared the lessons learned across the business.

This year, we experienced total 21 LTIs at our operations with a LTIFR of 0.32. To enhance competencies of our executives, engineers and supervisors of business partners, we have imparted Making Better Risk Decision (MBRD) and Safety leadership trainings. Programmes were also conducted for managing safety in high-hazard work areas like confined space, vehicle and driving and working at height through external competent agency as a measure to prevent injuries and minimise potential risks in going forward.

Moreover, to sensitize our employees towards our core values of 'Care', we regularly carry out programmes such as 'Suraksha ki Goth' and 'Suraksha Charcha'. The worldwide outbreak of COVID-19 has not impacted our operations in FY2020. As part of our Corporate Social Responsibility, our Business Units worked with the government and stakeholders including local community to provide relief measures. Mobile Health units were used for creating awareness with a clear emphasis on the importance of social distancing and maintaining personal hygiene. All our Business units provided support to District & State Health Services in terms of medical equipment including hand sanitizers, medicines, reagents, PPEs such as surgical masks, gloves, gowns and manpower such as housekeeping staff, security personnel, medical personnel etc. in addition to contribution to government's relief fund for COVID-19. The SHGs associated with our facility at Lanjigarh and Jharsuguda were involved in preparing masks thereby creating livelihood while helping reduce the impact of COVID-19. Fire brigades at the facilities have been deployed to sanitize the premise and in the core villages near our facilities. The facilities are providing food to migrant workers, identified community groups, police personnel etc. as part of our CSR initiatives.


Encouraging all round development at Vedanta


Tree Plantation Drive, Aluminum Business

### ENVIRONMENT

Jharsuguda has recycled 21% of the water used in the year FY2020 while BALCO has recycled nearly 11%. There has been a significant improvement in our water consumption of 0.69 $m^3$/MT (FY2019: 0.72 $m^3$/MT) at BALCO. We are consistently focusing on improving the recycled water percentage in future.

Management of the hazardous waste like spent pot line, aluminium dross, fly ash, etc. are material waste management issue for the Aluminium and Power business. Our BALCO unit sent 3,224 MT spent pot lining and 6,507 MT of aluminium dross, to authorized recyclers this year. Both BALCO and Jharsuguda have been able to dispose 100% of its fly ash generation at the units. In our Lanjigarh operations, 98.4% of lime grit has been utilisied in FY2020 (FY2019: 97%).

**India's highest production, 1.9 million tonnes in FY2020**

# ALUMINIUM

## PRODUCTION PERFORMANCE

| Production (kt) | FY2020 | FY2019 | % change |
|---|---|---|---|
| Alumina – Lanjigarh | 1,811 | 1,501 | 21 |
| **Total aluminium production** | **1,904** | **1,959** | **(3)** |
| Jharsuguda I | 543 | 545 | - |
| Jharsuguda II[1] | 800 | 843 | (5) |
| BALCO I | 256 | 260 | (2) |
| BALCO II | 305 | 311 | (2) |

(1) Including trial run production of nil in FY2020 versus 63 kt in FY2019

Employees engaging in conversation in office

### ALUMINA REFINERY: LANJIGARH

At Lanjigarh, production was 21% higher y-o-y at 1.81 million tonnes, primarily through continued plant debottlenecking. We continue to evaluate the possible expansion of the refinery, subject to bauxite availability.

### ALUMINIUM SMELTERS

We ended the year with production of 1.9 million tonnes (including trial run). Both smelters at BALCO and Jharsuguda continued to show consistent performance. We continue to evaluate Line 4 of Jharsuguda II smelter.

### COAL LINKAGES

We continue to focus on the long-term security of our coal supply at competitive prices. We added 3.2 mtpa of coal linkages through Tranche IV and its materialisation began in March 2019. The captive coal block, Chotia, at BALCO operating at full capacity. We emerged as the highest bidder for Jamkhani coal block and have signed the Coal Mine Development and Production Agreement with the Government of India. The Jamkhani coal block is currently rated at 2.6 mtpa. This takes our coal security to 72% of our requirements.

### PRICES

Average LME prices for aluminium in FY2020 stood at US$1,749 per tonne, 14% lower y-o-y. LME prices hovered between US$1,700 per tonne – US$1,800 per tonne band for most of the year, showing a sharp decline in the last month of FY2020. LME was stabilised after sanctions against UC Rusal were lifted and US-China trade war concerns receding. However, uncertainties over the impact of COVID-19 have caused prices to plummet in recent months.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Average LME cash settlement prices (US$ per tonne) | 1,749 | 2,035 | (14) |

Aluminum Rolls

### UNIT COSTS

During FY2020, the COP of alumina improved to US$275 per tonne, due to benefits from increase in locally sourced bauxite, continued debottlenecking, improved plant operating parameters and rupee depreciation. This was further backed by falling input commodity prices (mainly caustic soda and imported bauxite). In FY2020, the total bauxite requirement of ~5.3 million tonnes was met by captive mines (9%), Odisha (49%) and imports (42%). In the previous year, the bauxite supply mix was captive mines (10%), Odisha (31%), other domestic sources (20%) and imports (39%).

In FY2020, the COP of hot metal at Jharsuguda was US$1,686 per tonne, down by 14% from US$1,970 in FY2019. The hot metal COP at BALCO fell to US$1,700 per tonne, down by 13% from US$1,962 per tonne in FY2019. This was primarily driven by falling global input raw material indices across alumina, carbon, caustic etc. The global alumina price indices fell from an all-time high of US$590 per tonne in September 2018 to US$280 per tonne levels in Q4 FY2020. Caustic prices also followed a similar trend. The power cost was lower as materialisation of domestic coal supply from Coal India improved, without any major supply disruptions witnessed unlike the previous year. It was further helped by higher Lanjigarh alumina production, operational improvements at power plants and currency depreciation.

The hot metal cost of production for FY2020 was US$1,690 per tonne, significantly lower compared to previous year on account of structural improvements in the cost due increase captive alumina production from the Lanjigarh refinery, improved coal materialisation, better processing costs and falling input commodity costs. Coal materialisation has been good throughout the year.

(US$ per tonne)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Alumina cost (ex-Lanjigarh) | 275 | 322 | (15) |
| Aluminium hot metal production cost | 1,690 | 1,967 | (14) |
| Jharsuguda CoP | 1,686 | 1,970 | (14) |
| BALCO CoP | 1,700 | 1,962 | (13) |

### FINANCIAL PERFORMANCE

During the year, revenue decreased by 9% to ₹26,577 crore, driven primarily by falling LME Aluminium prices. EBITDA was lower at ₹1,998 crore (FY2019: ₹2,202 crore), mainly due to improved hot metal cost of production & true up of RPO liability partially offset by lower sales realisations.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 26,577 | 29,229 | (9) |
| EBITDA | 1,998 | 2,202 | (9) |
| EBITDA margin (%) | 8 | 8 | - |

### STRATEGIC PRIORITIES & OUTLOOK

In wake of COVID-19 concerns, the outlook for the initial months of FY2021 is volatile with aluminium consumers either reducing or shutting production across geographies. The global maritime supply chain is also running with delayed timelines. However, all our alumina and aluminium facilities have been categorized as essential services by government authorities and continue to operate at current production levels. Our facilities have switched to limited manning, in line with government guidelines and social distancing norms. We look to dynamically adapt our product mix to cater to changing market requirements. The management is watchful of changing global and local scenarios and is actively charting its new course with health and safety as its first priority followed by its business objectives.

The input commodity prices continue to be low and we are looking at ways to continuously optimise our costs, while also increasing the price realisation in order to improve profitability in a sustainable way.

At our power plants, we are also working towards reducing Gross Calorific Value (GCV) losses in coal as well as improving plant operating parameters which should deliver higher Plant Load Factors (PLFs) and a reduction in non-coal costs. We look forward to operationalising our Jamkhani coal block in the last quarter of FY2021.

Whilst the current market outlook remains uncertain, our core strategic priorities include:

- Focus on the health & safety of our employees, our business partners and customers
- Deliver Lanjigarh refinery production growth and stable aluminium production
- Enhance our raw material security of bauxite & alumina
- Improve coal linkage security, better materialisation
- Operationalize Jamkhani coal block;
- Improve our plant operating parameters across locations
- Improve realisations by improving our value-added product portfolio

# OPERATIONAL REVIEW
# POWER

### THE YEAR IN SUMMARY

FY2020 was a significant year for the Talwandi Sabo (TSPL) power plant, where we achieved plant availability of ~91%. The plant load factor (PLF) at BALCO were also higher on account of better coal availability.

### OCCUPATIONAL HEALTH & SAFETY

The key focus area for this year was to improve leadership and develop a culture of care for which we launched the programme of 'Visible Felt Leadership'. This allowed our experienced leaders to share their valuable knowledge with the workers on site through direct interactions thereby minimising the gap.
In FY2020, we did not have any fatalities and our LTIFR was 1.51

### ENVIRONMENT

One of the main environmental challenges for power plants is the management and recycling of fly ash. At all our operations, we have a sustained 100% utilization of fly ash. Golder Associates has completed the review of our ash dyke structures and we are in process of implementing their recommendations. TSPL has recycled 14% of the water used. We are further working to enhance the recycled water percentage through measures planned during FY2021.

TSPL Facility

VL-J Billets coming out of the casting process

### PRODUCTION PERFORMANCE

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Total power sales (MU) | 11,162 | 13,515 | (17) |
| Jharsuguda 600 MW | 776 | 1,039 | (25) |
| BALCO 300 MW* | 1,726 | 2,168 | (20) |
| MALCO# | - | - | - |
| HZL wind power | 438 | 449 | (3) |
| TSPL | 8,223 | 9,858 | (17) |
| TSPL – availability | 91% | 88% | - |

#continues to be under care and maintenance since 26 May 2017 due to low demand in Southern India.

*We have received an order dated 1 January 2019 from Chhattisgarh State Electricity Regulatory Commission for conversion of 300MW IPP to CPP. During the Q4FY19, 184 units were sold externally from this plant.

**Greater than 100% utilisation of fly ash at all our operations.**

# POWER

## OPERATIONS

During FY2020, power sales were 11,162 million units, 17% lower y-o-y. Power sales at TSPL were 8,223 million units with 91% availability in FY2020.

At TSPL, the Power Purchase Agreement (PPA) with the Punjab State Electricity Board compensates us based on the availability of the plant. The 600 MW Jharsuguda power plant operated at a lower PLF of 11% in FY2020.

The 300 MW BALCO Independent Power Plant (IPP) operated at a PLF of 71% in FY2020. The MALCO plant continues to be under care and maintenance, effective from 26 May 2017, due to low demand in Southern India.

VL-J_Cast House Control Room

## UNIT SALES AND COSTS

Average power sale prices, excluding TSPL, increased by 9% to ₹3.6 per kWh. This was mainly due better prices in the open access market. During the year, the average generation cost was lower at ₹2.5 per kWh (FY2019: ₹2.9 per kWh), driven mainly by a decrease in coal prices and improved linkage materialisation.

In FY2020, TSPL's average sales price was lower at ₹3.7 per kWh (FY2019: ₹4.1 per kWh), and power generation cost was lower at ₹2.7 per kWh (FY2019: ₹3.1 per kWh).

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Sales realisation (₹/kWh)[1] | 3.6 | 3.4 | 9 |
| Cost of production (₹/kWh)[1] | 2.5 | 2.9 | (16) |
| TSPL sales realisation (₹/kWh)[2] | 3.7 | 4.1 | (10) |
| TSPL cost of production (₹/kWh)[2] | 2.7 | 3.1 | (13) |

(1) Power generation excluding TSPL

(2) TSPL sales realisation and cost of production is considered above, based on availability declared during the respective period

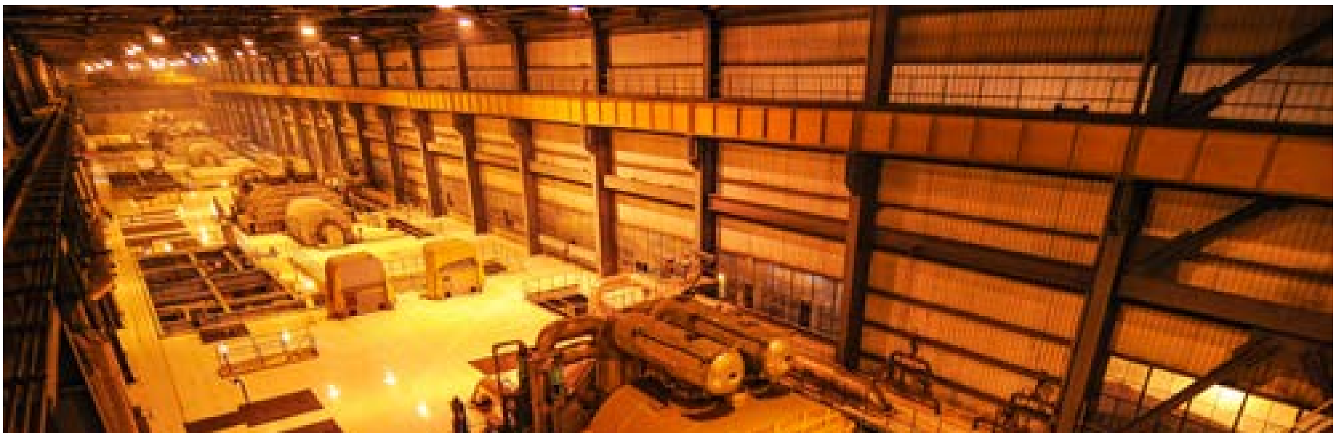
## FINANCIAL PERFORMANCE

EBITDA for the year was 8% higher y-o-y at ₹1,649 crore mainly because of lower cost of production cost of production due to improved coal prices and supply in the domestic market which resulted in higher linkage materialisation. During FY2020, TSPL realised ₹1,002 crores from PSPCL on account of Gross Calorific Value matter resolution basis Hon'ble Supreme Court order.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 5,860 | 6,524 | (10) |
| EBITDA | 1,649 | 1,527 | 8 |
| EBITDA margin (%) | 28 | 23 | - |

*Excluding one-offs



Power generation facility, BALCO

## STRATEGIC PRIORITIES & OUTLOOK

During FY2021, we will remain focused on maintaining the plant availability of TSPL and achieving higher plant load factors at the BALCO and Jharsuguda IPPs.

Our focus and priorities will be to:

- Resolve pending legal issues and recover aged power debtors
- Achieve higher PLFs for the Jharsuguda and BALCO IPP
- Improve power plant operating parameters to deliver higher PLFs/ availability and reduce the non-coal cost

TSPL Facility, Side View

# OPERATIONAL REVIEW
# IRON ORE

## THE YEAR IN SUMMARY

Production of saleable ore at Karnataka stood at 4.51 wet million tonnes. With the order of Central Empowered Committee (Supreme Court appointed body) in March 2020, our annual mining capacity has been increased up to 5.89 mtpa. In line with this, the Government allocated the production quantity of 4.82 wet million tonnes for the current year FY2020 onwards.

Meanwhile, operations in Goa remained in suspension in FY2020 due to a state-wide directive from the Supreme Court. However, we continue to engage with the Government to secure a resumption of mining operations.

## OCCUPATIONAL HEALTH & SAFETY

In our journey towards 'zero harm', Iron Ore Business (IOB) had a fatality free FY2020. The LTIFR was 0.49 (FY 2019: 0.30). Reporting of leading indicators has significantly improved, post the launch of Safety Mobility App, which has a real-time incident-reporting feature.

Iron Ore business has implemented a series of initiatives to improve its safety performance, including: deployment of more than 100 Safety Grid Owners across all units; focused training and certification programme by British Safety Council for Grid Owners; inclusion of business partners in Visible Felt Leadership schedules; '5S' Audits at regular intervals; identification and periodic review of safety procedures of all critical safety tasks; development

Hand washing kits distributed to students at Jharkhand

Employees planting saplings at Amona temple

of Level 2 Crane champions; Auto sampling and alarm systems for confined space entries; and development of internal trainers on defensive driving to improve vehicle and driving standards.

We have an attractive rewards & recognition scheme for safe performance. Additionally, there is an exclusive reward scheme for Grid Owners who have put exceptional effort in creating a safe workplace.

With the rising COVID-19's positive cases and deaths across the nation, top management team of Iron Ore Business is dedicated to take preventive actions to restrict spread of the COVID-19 among our employees and business partners.

A central COVID-19 taskforce was constituted under the guidance of our CEO and unit-wise, cross-functional teams for implementation of all the preventive and precautionary measures. Travel policy was issued directing to avoid any kind of personal and business travel unless completely unavoidable. Activities like cold fumigation for common areas were carried out. There were restrictions for entry of visitors as well as employees coming from outstation. We ensured necessary stock of medicines, Personal Protective Equipment (PPEs) as well as sanitisers, Hazmat suits, masks and gloves. All meetings were conducted through conference call or telepresence. Sesa Goa Iron Ore Value Added Business (VAB), was awarded the prestigious 'Gomant Sarvocha Suraksha Puraskar' at Green Triangle Safety awards for outstanding performance in occupational health & safety.

## ENVIRONMENT

In our journey towards 'zero discharge', we recycle and reuse almost all of the wastewater we generate at VAB, except the non-contact type condenser cooling water of the power plant, which is cooled and treated before discharging into the Mandovi river as per the consent to operate granted by Goa State Pollution Control Board.

At VAB, we have installed continuous emission monitoring systems in all the process stacks, which are connected to State Pollution Control Board. New bag house with advanced design have been installed for reducing fugitive emission at ladle dumping chamber of blast furnace for efficient dust control mechanism. A storm water management plan has been executed by building multiple settling ponds across our Goa & Karnataka operations. At Karnataka, the organisation has constructed 38 check dams, seven settling pond and two harvesting pits having a rainwater harvesting potential of 275,805 $m^3$ annually. Additionally, it has de-silted 10 nearby village ponds increasing their rainwater harvesting potential by 75,629 $m^3$/annum.

During FY2020, ~3.6 Ha of mining dump slope was covered with geotextiles to prevent soil erosion and mine reclamation with natural species of ~50,000 saplings. At Karnataka, operations to reduce water consumption without affecting the effectiveness of our dust suppression measures are underway with latest technologies like the use of mist cannons, environment-friendly dust suppressants and others. These initiatives have helped us in water saving of 12%. At VAB we have implemented projects to reduce thermal energy consumption through coke and coke breeze consumption and various electrical energy reduction projects such as optimization of compressed air, replacement of conventional lamp with LED lamps and other projects to reduce specific energy consumption. Our VAB unit won "Energy Efficient Unit Award" at CII National Energy Management Awards at Hyderabad.

**Annual mining capacity increased upto 5.89 mtpa in Karnataka.**

# IRON ORE

## PRODUCTION PERFORMANCE

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| **Production (dmt)** | | | |
| Saleable ore | 4.4 | 4.4 | - |
| Goa | - | 0.2 | - |
| Karnataka | 4.4 | 4.1 | 6 |
| Pig iron (kt) | 681 | 686 | (1) |
| Sales (dmt) | | | |
| Iron ore | 6.6 | 3.8 | 73 |
| Goa | 0.9 | 1.3 | (33) |
| Karnataka | 5.8 | 2.6 | 125 |
| Pig iron (kt) | 666 | 684 | (3) |

Employees with Pig Iron block at site

## OPERATIONS

At Karnataka, production was 4.4 million tonnes, 6% higher y-o-y. Sales in FY2020 were 5.8 million tonnes, 125% higher y-o-y due to an increase in production and stock liquidation at Karnataka by 1.6 wet million tonnes. Production of pig iron was 681,000 tonnes in FY2020, lower by 1% y-o-y.

Due to nationwide lockdown imposed by Central government because of COVID-19 pandemic, we lost ~20,000 tonnes at of pig iron production at VAB in month of March 2020.

Hot Metal from the Blast Furnace operation

At Goa, mining was brought to a halt pursuant to the Supreme Court judgement dated 7 February 2018 directing all companies in Goa to stop mining operations with effect from 16 March 2018. We continue to engage with the Government for a resumption of mining operations.

We bought 1.4 million tonnes low grade iron ore in auctions held by Goa Government in August 2019. These ore were then beneficiated and ~0.9 million tonnes were exported, which further helped us to cover our fixed cost and some ore were used to cater to requirement of our pig iron plant at Amona.

## FINANCIAL PERFORMANCE

In FY2020, revenue increased to ₹3,463 crore, 19% higher y-o-y mainly due to two-fold increase in sales volume at Karnataka partially offset by lower pig iron prices during the year. EBITDA increased to ₹878 crore compared with ₹584 crore in FY2019, mainly due to higher volumes at Karnataka.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 3,463 | 2,911 | 19 |
| EBITDA | 878 | 584 | 50 |
| EBITDA margin (%) | 25 | 20 | - |

### STRATEGIC PRIORITIES & OUTLOOK

Looking ahead for the next 12 months our focus and priorities will be to:

- Bring about a resumption of mining operations in Goa through continuous engagement with the Government and the judiciary
- Realigning and revamping all resources, assets, Heavy Earth Moving Machineries for starting the mine operation
- Increase our footprint in iron ore by continuing to participate in auctions across the country, including Jharkhand
- Securing Environmental Clearance for expansion & debottlenecking of Pig Iron plant to increase production capacity by 1.7 LTPA
- Advocacy for removal of e-auction/ trade barrier in Karnataka

Iron Ore mine at Codli

# OPERATIONAL REVIEW
# STEEL

### THE YEAR IN SUMMARY

Electrosteel Steels Limited (ESL) is an Integrated Steel Plant (ISP) in Bokaro, Jharkhand, with a design capacity of 2.5 mtpa. Its current operating capacity is 1.5 mtpa with a diversified product mix of wire rod, rebar, DI pipe and pig iron.

In ESL has achieved achieved the record volume and lowest-ever cost during the year since acquisition, however EBITDA margin was lower as compared to previous period (US$78 per tonne v/s US$115 per tonne) on account of decline in steel prices.

Mobile Health Check- up in 25 villages

### OCCUPATIONAL HEALTH & SAFETY

We unfortunately had one fatality on 28 February 2020 at Steel Melting Shop (SMS). On 22 February 2020, Mr. Laxman Kumar, a signal man met with unfortunate accident and succumbed to his injuries on 28 February 2020. Detailed internal and external investigations were undertaken to ascertain the root cause of the incidents and control measures have been put in place.

In terms of improvement of safety journey, initiatives like positive isolation survey conducted for an entire plant by E-Square; LOTOV implementation in progress across site; grid owner concept initiated to focus on HSE system being implemented effectively; critical risk identified across plant; HAZOP studies in progress; capability development under various module such as scaffolding safety; crane safety; defensive driving safety and others; overall 145 leaders were trained in MBRD to create awareness celebrated month-long National Safety day in February; initiated Periodic Medical Examination (PME) and Pre-employment Examination of Employees/Workers; procured advanced life support ambulance, established OHC with all latest medical equipment's inside the plant premises and other initiatives.
The LTIFR for FY2020 was 0.38.

ESL's Leadership planting trees in the plant premises for a sustainable future

### ENVIRONMENT

In Waste Management system, more than 100% utilisation of Blast furnace granulated Slag, Fly Ash to cement industries through long term contracts and Brick manufacturers, Disposal of Biomedical waste to CBWTF, Selling of Used Oil and Zinc Dust to Pollution Control Board authorized recyclers and re-processors is being ensured.

In Water Management, we treat of around 4,000 Kl of Effluent daily in Effluent Treatment Plant and it is being reutilized in several processes such as Coke Quenching, BF Slag granulation, 100% Greenbelt Development, Fire Fighting, Sprinkling and in operations of Lime and Dolo, DIP and others.

In Energy Management, usage of waste heat from coke oven flue gas for generation of steam which, ultimately helps in power generation, Reduction in Auxiliary power consumption from 12% to 8% through improvement in station heat rate.

Usage of LP steam in Blast furnace to minimize the fuel requirement, LD gas and BF gas in several operations such as reheating furnace of rolling mills, Blast Furnace, DIP and lime and Dolo to reduce the fuel consumption, Running of TG through steam generated from Waste Heat recovery.

In Air Emission Management, Revamping of OG system in SMS to reduce fugitive emission, upgradation of Air pollution control equipment's to meet the norms stipulated by the regulatory authorities, Installation of fixed sprinklers all along the haul roads and dry fog system in all the closed conveyors and deployment of mechanical sweepers for road sweeping.

**Design capacity of 2.5 mtpa.**

# STEEL

## PRODUCTION PERFORMANCE

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Production (kt) | 1,231 | 1,199 | 3 |
| Pig iron | 167 | 142 | 18 |
| Billet | 27 | 39 | (30) |
| TMT bar | 468 | 441 | 6 |
| Wire rod | 413 | 427 | (3) |
| Ductile iron pipes | 155 | 150 | 3 |


V-DUCPIPE

## OPERATIONS

There have been significant gains in operational efficiencies, such as optimisation of the coal mix in coke ovens and iron ore blending, shifting high grade ores to medium grades. Improved yields of the converters and finishing mills also added to the efficiency. Converter yield improved from 87.30 to 87.52% during the year.

During FY2020, we achieved 12,31,000 tonnes of saleable production during FY2020, up 3% y-o-y on account of improved availability of hot metal and better operational efficiency at converters and rolling mills.

The priority remains to enhance production of VAPs, i.e. TMT bar, wire rod and DI pipe. ESL maintained 85% of VAP sales, in line with priority.

Our Consent to Operate (CTO) for the steel plant at Bokaro, which was valid until December 2017, was not renewed by the State Pollution Control Board (SPCB).

This was followed by the Ministry of Environment, Forests and Climate Change revoking the Environmental Clearance (EC) dated 21 February 2018. Both the directions have since been stayed by the Hon'ble High Court of Jharkhand and the company is in the process of regularizing all alleged issues on without prejudice basis with a view to bring an end to all disputes pertaining to the said statutory approvals. Due to the nation-wide lockdown situation, all the high court hearings through a general order has been postponed and shall be taken up in due course.

## PRICES

Average sales realisation decreased 13% y-o-y from US$572 per tonne in FY2019 to US$495 per tonne. Prices of iron and steel are influenced by several macro-economic factors. These include global economic slowdown, US-China trade war, supply chain destocking, government spend on infrastructure, the emphasis on developmental projects, demand-supply forces, the Purchasing Managers' Index (PMI) in India and production and inventory levels across the globe, especially China.

Even though the NSR dipped by US$77 per tonne, we were able to maintain our EBITDA margin at US$78 per tonne for the year (against US$115 per tonne in FY2019) through better control over costs.

(US$ per tonne)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Pig irons | 354 | 404 | (12) |
| Billet | 418 | 486 | (14) |
| TMT | 494 | 564 | (12) |
| Wire rod | 519 | 638 | (19) |
| DI pipe | 602 | 593 | 2 |
| **Average steel price (US$ per tonne)** | **495** | **572** | **(13)** |


Empowering Women to work in ESL

### UNIT SALES AND COSTS

Cost has decreased by 9 % y-o-y from US$457 per tonne to US$ 418 per tonne in FY2020 mainly on account of softening of coking coal price during the year and operational efficiencies which was managed through improvement in key operational metrics.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Steel (US$ per tonne) | 418 | 457 | (9) |

### FINANCIAL PERFORMANCE

Revenue increased marginally by 2% to ₹4,283 crore (FY2019: ₹4,195 crore), primarily due to higher volume, partially offset by lower sales realisation. EBITDA decreased by 26% to ₹588 crore in line with sales partially offset by improved cost of production.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019* |
|---|---|---|
| Revenue | 4,283 | 4,195 |
| EBITDA | 588 | 791 |
| EBITDA margin | 14% | 19% |

* FY2019 Financial numbers are for a period of 10 months post acquisition


V-XEGA

### STRATEGIC PRIORITIES & OUTLOOK

Global steel markets at the time of writing remain uncertain yet the focus is to operate within the highest of heath and standards whilst improving efficiencies and unit costs wherever possible. Specifically, areas of focus will be;

- Ensure business continuity
- Cash preservation and deferring all 'good to go' capex
- Obtain clean Consent to Operate and environmental clearance
- Raw material securitisation through long-term contracts; approaching Free Trade Agrrements countries for coking coal
- Ensure zero harm and zero discharge, fostering a safety-centric culture
- To generate healthy EBITDA and Cash Profit


V-WIRRO

# OPERATIONAL REVIEW
# COPPER-INDIA/AUSTRALIA

### THE YEAR IN SUMMARY

The copper smelter plant at Tuticorin was under shutdown for the whole of FY2020. We continue to engage with the Government and relevant authorities to enable the restart of operations at Copper India.

We continued to operate our refinery and rod plant at Silvassa, catering to the domestic market.

### OCCUPATIONAL HEALTH & SAFETY

The LTIFR was Zero in FY2020 (FY2019: 0.15).

### ENVIRONMENT

Copper Mines of Tasmania continued in care and maintenance awaiting a decision on restart. Meanwhile, a small dedicated team is maintaining the site and there were no significant safety or environmental incidents during the year.

The site retained its ISO accreditation in safety, environment and quality management systems and the opportunity of a lull in production was used to review and further improve these systems.

Quality check of copper samples, Sterlite Copper

**The Company's Silvassa refinery and rod plant enabling us to cater to the domestic market.**

### PRODUCTION PERFORMANCE

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Production (kt) | | | |
| India – cathode | 77 | 90 | (14)% |

Contract workers at Refinery operations, Sterlite Copper

### OCCUPATIONAL HEALTH & SAFETY

The Tamil Nadu Pollution Control Board (TNPCB) vide order, dated 9 April 2018, rejected the consent renewal application of Vedanta Limited for its copper smelter plant at Tuticorin. It directed Vedanta not to resume production operations without formal approval/consent (vide order dated 12 April 2018), and directed the closure of the plant and the disconnection of electricity (vide order dated 23 May 2018).

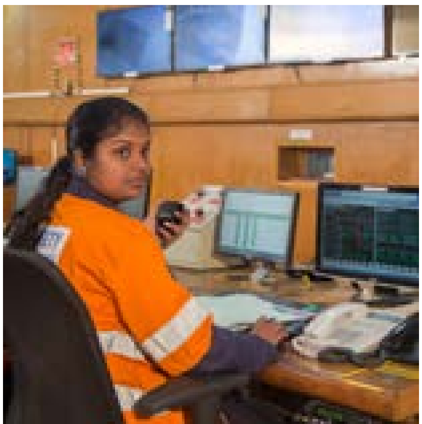
The Government of Tamil Nadu also issued an order dated 28 May 2018 directing the TNPCB to permanently close and seal the existing copper smelter at Tuticorin; this was followed by the TNPCB on 28 May 2018.

Vedanta Limited filed a composite appeal before the National Green Tribunal (NGT) against all the above orders passed by the TNPCB and the Government of Tamil Nadu. In December 2018, NGT set aside the impugned orders and directed the TNPCB to renew the Consent to Operate. The order passed by the NGT was challenged by Tamil Nadu State Government in Hon'ble Supreme Court.

The Hon'ble Supreme Court of India in its order dated 18 February 2019 allowed the appeal against NGT order and directed Company to challenge all the orders cumulatively before Hon'ble Madras High Court.

The Company filed a writ petition before Madras High Court in February 2019 challenging the orders of the State of Tamil Nadu and TNPCB. This Petition was heard by Hon'ble Madras High Court from June 2019 to January 2020. The hearing in this matter has currently concluded and the matter is reserved for orders. The Bench assured that it will endeavour to deliver judgement as early as possible. Meanwhile, the Company's Silvassa refinery and rod plant continues to operate as usual, enabling us to cater to the domestic market.

Our copper mine in Australia has remained under extended care and maintenance since 2013. However, we continue to evaluate various options for its profitable restart, given the government's current favourable support and prices.



Encouraging diversity leaders at Sterlite Copper

# COPPER - INDIA /AUSTRALIA

## PRICES

Global copper demand growth in FY2020 has been weaker than expected, reflecting a deterioration in the global macro-economic landscape. The prices decline due to weak demand amidst china and US China trade dispute, supply chain de-stocking. Ex-China demand has remained weak from auto, electronics and consumer goods sectors. Average LME copper prices decreased by 8% compared with FY2019.

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Average LME cash settlement prices (US$ per tonne) | 5,855 | 6,337 | (8) |

## FINANCIAL PERFORMANCE

During the year, EBITDA was ₹(300) crore and revenue was ₹9,053 crore, a decrease of 16% on the previous year's revenue of ₹10,739 crore. The reduction in revenue was mainly due to lower Copper LME prices and lower volume. EBITDA loss increased to ₹300 crore on account of decrease in sales realisations by 8%.

(₹ crore, unless stated)

| Particulars | FY2020 | FY2019 | % change |
|---|---|---|---|
| Revenue | 9,053 | 10,739 | (16) |
| EBITDA | (300) | (235) | (28) |
| EBITDA margin (%) | (3) | (2) | - |

## STRATEGIC PRIORITIES & OUTLOOK

Over the following year our focus and priorities will be to:

- Engage with the government and relevant authorities to enable the restart of operations at Copper India;
- Sustain operating efficiencies, reducing our cost profile
- Upgrade technology to ensure high-quality products and services that sustain market leadership and surpass customer expectations.

Sterlite Copper Plant

## PORT BUSINESS

### VIZAG GENERAL CARGO BERTH (VGCB)

During FY2020, VGCB operations showed an increase of 22% in discharge and 23% in dispatch compared to FY2019. This was mainly driven by higher availability of imported coal & railway rakes in the region.

Copper bending at Sterlite Copper


vedanta
transforming elements

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