



HINDUSTAN ZINC  
Zinc & Silver of India

# CARING A<sub>(g)</sub> to Z<sub>(n)</sub>





# CARING A<sub>(g)</sub> to Z<sub>(n)</sub>

Hindustan Zinc Limited (HZL) recognises that true signs of progress are made visible only through CARING—whether its ensuring safety, saving water, reducing wastage or enabling communities—A to Z of an all-encompassing, thoughtful approach to sustainable growth.

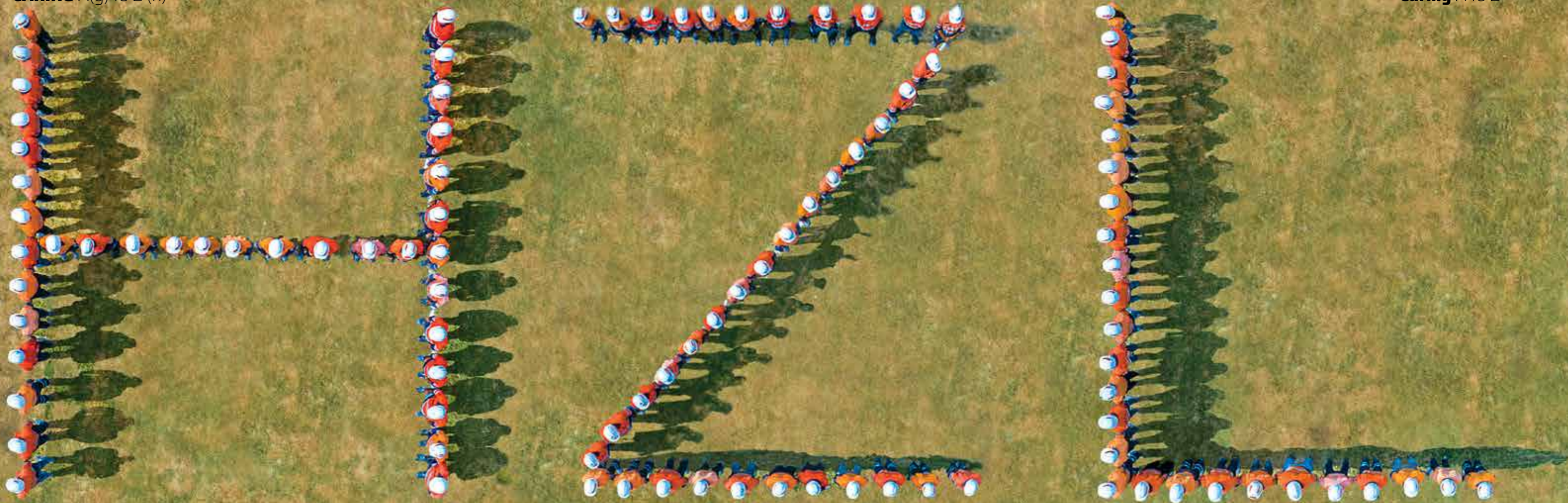
CARING A(g) to Z(n) represents the 'holistic' nature of sustainability at HZL, with a word play of 'A to Z' that demonstrates Ag (chemical symbol of silver) and Zn (chemical symbol of zinc), which along with lead (chemical symbol is Pb) are our key offerings. The report covers the sustainable growth journey of India's only and the world's leading zinc-lead-silver producer during FY 2019.

The impact of HZL's sustainability initiatives reflect in how we approach growth, how we reduce environmental impact, how we foster community development and how we invest in the progress of our people. The report gradually unfolds each of these aspects through C(Cautious at Work)-A(Augmenting Growth)-R(Responsible Partnerships)-I(Inclusive Progress)-N(Nurturing the Planet)-G(Growing Together).

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# Highlights FY 2019



**1.6%**  
Energy used from renewable resources



**42%**  
Reduction in waste generation



**28%**  
Waste reused/ recycled



**0.63**  
Lost-time injury frequency rate



**Zero**  
Occupational illness cases



**12.83%**  
Are women among total executives



**35.95%**  
Recycled/reused water as percentage of total water used



**5,00,000**  
CSR beneficiaries



**₹ 130.20 Cr**  
Community investments



**22 MW**  
Solar plant installed at Rampura Agucha Mine



**25 MLD**  
Sewage treatment plant commissioning



**52.6%**  
Reduction in waste disposal



# Sustainability journey through FY 2019

Goals and targets	Performance	Status
 <b>Health &amp; safety</b>		
Achieve zero fatal incidents	7 (2 employees + 5 contractor employees)	●
Reduce Lost Time Injury Frequency Rate (LTIFR) to 0.24 or less	0.63	●
Reduce Total Recordable Injury Frequency Rate (TRIFR) to be 0.70 or less	1.30	●
Improve occupational health and hygiene, and effective high-potential risk management	No occupational illness cases recorded	●
 <b>People</b>		
Ensure strong leadership depth and right management is in place	Right management in place for business Executive Committee (ExCo) and all Strategic Business Units (SBUs)	●
Developing critical underground mining skills in select local youths	107 candidates from local community have been enrolled in HZL's Mining Academy in FY 2019	●
Roll out of academy-driven learning programmes for employees	Launched Edumine programme for employees	●
SAP HCM Payroll implementation to have end-to-end integrated solution	Payroll to remain outsourced	●
Implementation of Success Factors Workforce Analytics	Workforce analytics is implemented To be further strengthened	●
To bring non-executive population on digital mode by setting up of Kiosks for HR-related transactions	Kiosks implementation testing phase is in progress	●
 <b>Environment</b>		
Saving of 0.35 Million cum meter	Achieved 1.1 MCM water saving	●
Saving of 0.052 Million GJ	Attained 0.032 MGJ energy saving	●
Achieve GHG emission reduction by 5% in next five years from base year 2016	Efforts are in line with achieving the targets	●
Renewable energy optimisation for captive use from 16 MW to 50 MW	With 22 MW of solar power capacity added this year, at present 38.9 MW of solar plant is installed at Rampura Agucha Mine, Rajpura Dariba Complex and Zinc Smelter Debari	●
Commissioning of Fumer plant and reduction in smelter waste disposal by 10% from 2016 as base year	22% reduction in waste to landfill; 3,14,776 MT of waste from smelters utilised in road construction and 77,608 MT used in cement industry; commissioning of fumer plant is under final stage	●





Goals and targets	Performance	Status
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 **Community**

Reach 20,000 women/families directly, increasing their access to savings, credit and entrepreneurial initiatives, through the Sakhi programme	Reached over 23,000 women/families directly through Sakhi programme	●
Target to complete 150 Nandghars	Completed 264 Nandghars (200 Brownfield and 64 Greenfield) in five districts	●
Provide skills/training/internships/job placement services to 400 youth	Offered skills/ training/job placement services to more than 550 youths	●
Run a Residential Football Academy with 30 students, and run another 60 community football coaching centres reaching nearly 2,000 children	Residential Football Academy successfully running with 32 students. Another 64 community football coaching centers reached ~2000 children in neighbourhood areas	●
Over 2,000 employees to be connected and engaged with our community wellbeing programmes	2300+ employees engaged in various CSR initiatives	●

 **Supplier and contract management**

Introduction of smart touch-less PO	Auto PO implemented through catalogues procurement for annual rate contract items	●
Business analytics and auto MIS	In progress	●
Ancillary unit encouraging global majors in explosives	Under implementation	●
Online quality feedback to suppliers and training on zero waste	Workflow-based online intimation of acceptance of quality and training on zero waste to service provider	●
Structured interaction with supplier management to give scorecard feedback	Monthly engagement plan is prepared for business partners and compliance of the same is monitored regularly	●
Best supplier awards on adoption of sustainability practices	Best supplier/contractors awarded on adoption of Health, Safety and Environment (HSE) practices	●
Simulators for Sindesar Khurd Mines, Rampura Agucha Mine and Zawar Mines for operators' skill enhancement	Simulator are already in use for Sindesar Khurd Mines, and Rampura Agucha Mine whereas recently received and installed at Zawar Mines	●
Compliance surveys and safety audits for suppliers	In progress	●

● Achieved      ● Not achieved      ● Work in progress



# Acclaimed for excellence

## Sustainability performance acknowledged on global platforms



HZL selected as Member of FTSE4Good Emerging Index (Rating 3.8/5)



Received 'Outstanding Accomplishment' in Corporate Excellence by CII-ITC CESD

Globally ranked 1<sup>st</sup> in environment dimension and overall 5th in SAM DJSI Corporate Sustainability Assessment amongst the metals & mining sector



HZL recognised among the 100 most sustainable companies in Asia by Channel News Asia Sustainability Ranking



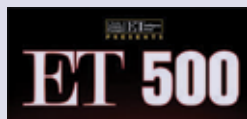
The only Indian Mining company to be selected as a member in Sustainability Year Book 2019



Received Platinum, Sustainable Plus Label from the Confederation of Indian Industry (CII)



HZL ranked 9<sup>th</sup> under Responsible Business Rankings - 2018 by Indian Institute of Management, Udaipur



Listed at 70<sup>th</sup> position in ET 500 listings







## Accolades

### Operational and business excellence

- Chanderia Smelting Complex received 'Leaders Award in Mega Large Business – Metals Sector'
- Dun & Bradstreet Corporate Award 2018 in 'Non-Ferrous & Precious Metals' category for 'Champions of Change' in transformation of the country
- HZL recognised as Great Place to Work by Great Place to Work® Institute
- CII HR excellence Award 2018-19 for strong commitment to HR practices
- Hindustan Zinc receives transformance procurement leadership awards 2019

### Corporate social responsibility

- 'Best CSR Collective Action Leadership Award' for Community Development programme by India CSR Leadership Summit
- Best Organisation award for 'Empowerment of Persons with Disabilities' by Ministry of Social Justice & Empowerment, Government of Rajasthan
- ET Now CSR Leadership Award 'Hall of Fame' for various community development initiatives & best practices
- Golden Peacock Award for Corporate Social Responsibility by Institute of Directors
- HZL recognised for Corporate Social Responsibility - 'Commendation for Significant Achievement Award'
- Dainik Jagaran CSR award 2019 to women's empowerment project 'SAKHI'
- CMRU-India CSR award for 'Best CSR Collective Action-Leadership' by CMR University
- Order of Merit to Khushi Anganwadi programme by Skoch CSR Awards
- Rampura Agucha Mine received Bhamashah Award by Rajasthan government



### Environment

- CII Environmental Best Practices Award 2018 to Central Research & Development Laboratory (CRDL)
- Dariba Smelting Complex received 'CII Excellence Award' for environment management
- Captive Power Plant at Zawar and Dariba Smelter Complex received the 'National Award for Excellence in Water Management' 2018
- Bala Gulshan Tandon Excellence Award 2018 (FIMI) to Sindesar Khurd Mines
- Frost & Sullivan TERI Sustainability 4.0 and Safety Excellence Award 2018 to CLZS

### Other significant achievements

- HZL received India Sustainability Leadership Award 2018 in two categories Sustainable Business of the Year Award & Sustainability Disclosure Leadership Award
- HZL received Indian Institute of Metals - Non-Ferrous Best Performance Award 2018
- HZL received Best Risk Management Framework & Systems - Sustainability Award 2018 of the India Risk Management Awards
- HZL received overall 1<sup>st</sup> place in 49<sup>th</sup> All India Mines Rescue Competition (AIMRC)
- HZL received CII ITC Sustainability Award 2018 - 'Corporate Excellence- Outstanding Accomplishment'





# 'C-A-R-I-N-G' – at HZL's core



**Mrs. Kiran Agarwal**  
Chairman

We are developing intelligent mines that would be smart, connected, safer and more productive



**Dear Stakeholders,**

For decades, Hindustan Zinc has been synonymous with creating value for all its stakeholders. Our theme this year, 'Caring A to Z', is our core intent of growth – all encompassing, and spans all areas of operation.

This is my first message as Chairman of Hindustan Zinc and I feel honoured to take on the chairmanship of a company with world class assets and practices and is recognised amongst the global best. We are in the process of developing quality systems using high end technologies for future growth and fostering partnerships for maximizing the benefits for the organisation, as well as for the communities around.

HZL has been working towards developing green belts, creating safe jobs and making operations more sustainable. Our move from open cast to underground mines and mine digitisation have helped develop intelligent mines that are safe, smart, connected and analytical. Technology has created safer working environment, and

helped the communities around – truly reinforcing our intent of 'caring A to Z'.

With the world's largest Zinc Mine (by volume) in Rampura Agucha, Hindustan Zinc is today India's largest and world's second largest zinc-lead miner. Hindustan Zinc is also the 9<sup>th</sup> largest Silver producer globally and is aiming to produce 1000 tonnes of Silver in the next 3-4 years. This will position Hindustan Zinc in the top 5 global Silver producers. The Company's silver refinery at Pantnagar is recognized by London Bullion Market Association for its quality and the Company is among LBMA's Silver Good Delivery List.

This global growth has been possible with the Company's unwavering focus on sustainability. HZL has a strong focus on conservation of water and energy. All the plants operate on zero-effluent discharge and we are moving steadily to Zero waste to landfill.



'Zero Harm' is our un-relenting objective. We believe that every incident is avoidable and acknowledge with deep regret, the tragic seven fatalities this year. We have strengthened our resolve to provide safe and secure workplaces to our employees through a number of innovative measures introduced this year.

To have more focus on site Health & Safety issues, compliance and performance, we initiated Zone HSE Coach programme where all ExCO members regularly visit sites and guide site teams. Formation of first-of-its-kind Safety Innovation Cell this year is an important step to drive safety through adoption of technology, innovation, analytics and benchmarking to bring best in class Safety Practices. In addition to HZL's existing framework of First Party Safety Audit and External Audits, we have also developed procedures for Second Party Audits. The investment in technology, innovation and sophisticated machines reinstate our safety resolve.

To be an employer of choice, HZL provides right learning and development opportunities to all employees across functions and levels. Keeping our promise of an improvement-oriented work culture, this year, we introduced Hexa, a Personal data assistant aimed at reducing manual work and visualizing analytics that will enable our teams in better decision-making.

This year, we have extensively revamped our mining communities. 14 mining communities represent the complete spectrum of Mine to Mill and emphasize on safety, operational excellence, technology & innovation and skill enhancement. The communities help us in implementation of best practices across locations while pushing towards standardization.

Project 'Sarathi' is helping in achieving faster turn around times for vehicles and we are showing a continuous improvement in logistics excellence. These examples have helped us move one step ahead in our ambition of getting end-to-end visibility in logistics, while ensuring essential compliance standards and safety measures.

The objective of all our community programmes is to build a life of dignity for the communities around. The Company has always had strong focus on education, training of rural youth for gainful employment, child care, rural women empowerment, agriculture & livestock development, to name a few. During the year, we put in place MEAL (monitoring, evaluation, accountability and learning) systems to improve transparency in CSR projects – a step forward in strengthening governance. Our total investment

in CSR activities has increased by 42%, to ₹ 130 Crore for the year, impacting 500,000 beneficiaries.

I would like make a special mention of Udaipur's first 'Sewage Treatment Plant (STP)' under Public-Private-Partnership model that Hindustan Zinc has set-up. Initially this STP had the capacity to treat 20 million litres of sewage per day which was expanded to 45 million litres of sewage treatment per day and another 15 MLD is under execution. With the expanded capacity, the Company expects to treat maximum of Udaipur's domestic sewage and this will help us in reducing our dependencies on fresh water at our Rajpura Dariba complex.

This year we have also re-visited our materiality issues and undertaken a materiality mapping exercise to re-examine issues that are important, both to the Company as well as to all its stakeholders.

I look forward to contributing to HZL's growth and want to continue to find new and innovative ways to lead and support initiatives that Hindustan Zinc has helped fulfil – in terms of growth, safety of our people and needs of our communities. The opportunity to help the company grow through an agenda of 'all-encompassing caring' is one that I am greatly looking forward to.

Warm regards

**Kiran Agarwal**



## CARING A(g) to Z (n)

CEO'S MESSAGE

# The essence of sustainability is in 'C-A-R-I-N-G'

### Dear Stakeholders,

Since inception, our purpose has been to create value and improve lives through sustainable and responsible mining. Our various achievements this year have reasserted our path to progress through our mission of becoming a global leader and creating value by conducting our business in a socially responsible and ethical manner. We know and recognise that the essence of sustainability is in 'C-A-R-I-N-G'. This year, our theme-CARING A(g) to Z(n)-is reflective of our thoughtfulness across our value chain.

While that has been the driving agenda of growth at HZL, I say with regret that this year we have fallen short of our commitment to provide zero harm working places. We are deeply anguished by these incidents and our prayers and thoughts are with affected families. We are determined to eliminate such accidents and have intensified our work towards our goal of zero harm.

### Cautious at work

Globally, the concept of safe mining has now become larger than volumes and profits. At HZL, care for and safety of our people is paramount. Continuously strengthening our safety initiatives, this year we have taken a number of measures to monitor and mitigate risks at work. A special Fatality & Serious Incident Prevention Plan (FSIPP) Subcommittee has been introduced to focus on high-risk activities and monitor control-measures. For assessing maturity level of employees and safety system implementation, Safety Maturity assessment was carried out across sites by DuPont.

While we have improved our Lost Time Injury Frequency Rate (LTIFR) from 0.85 in FY 2014 to 0.27 in FY 2018, LTIFR during the current year was 0.63. We are committed to our efforts in our quest towards zero harm and zero fatality.

### Augmenting growth

We could not have been the mining giant we are today, if concern and thoughtfulness about the way we grow had not been a part of our DNA. HZL governs about ~80% of the growing zinc market in India and produces ~100% of the country's integrated silver. While we continue to be the largest and lowest cost zinc producers in the world, our expansion is progressing in line with the expectation of reaching 1.2 MTPA capacity by 2020.

We declared a Special Interim Dividend of 1000% i.e. ₹ 20 per share on equity share of ₹ 2 each, amounting to ₹ 10,188 Crore (including Dividend Distribution Tax (DDT)). Another significant change this year was completely moving from open-cast to underground mines - a conscious choice that will ensure safety and be less harmful for the environment.



Mr. Sunil Duggal  
CEO

### Responsible supply chain

Our resilient and responsible supply chain is a reaffirmation of our universal message of caring within and beyond the boundary of the organisation. At HZL, we encourage our suppliers to not just comply by the relevant national and international standards, but ensure ongoing improvement in their own standards through regular exchange of knowledge and training. Our supply chain management strategy incorporates processes which help integrate tenets of sustainability across our value chain. As one of our future endeavours, we plan to audit our suppliers' sustainability practices.

We also introduced a one-of-its-kind Integrated Transport Management System that helps in real-time tracking of raw material, semi-finished and finished goods without any human intervention.





Our purpose is to create value and improve lives through sustainable and responsible mining

### Inclusive progress

Our people are at the heart of our operations. We have consistently been certified as a 'Great Place to work' for the past two years. Our drive towards employee engagement has led to an innovative programme called Reengineering to Achieve Cost Excellence (RACE). Under this programme, our employees generated over 300 ideas encompassing fundamental rethinking and radical redesign of existing resources and ways of working, to drive sustainable improvement in productivity, safety, waste elimination, increase in waste to wealth creation, and ultimately, reduction in cost.

To take our learning journey to the next level and leverage best-in-class content, we have partnered with 'Edumine', world's best online learning platform in the mining sector. The modules span an array of relevant topics from Exploration & Geology, Geotechnics, Health, Safety, Environment, Maintenance to Mineral Processing and Mine Management.

### Nurturing the environment

While mining provides most materials we rely on, environmental implications and remediation measures by the industry, have been a subject of global debates. At HZL, our deep-rooted culture of caring ensures nurturing of our immediate and extended environment.

In continuation of investment in green energy, this year we have commissioned a 22 MW solar power plant at Rampura Agucha Mine for captive use of generated green energy, taking the total captive solar power capacity to 38.9 MW.

In light of the tailings facility failures in recent years, we have conducted stability tests across our three tailing dams with the help of global experts. Further, I would like to mention

our efforts towards doubling the paste fill capacities at Sindesar Khurd and Rampura Agucha mines, which will significantly reduce quantum of tailings flowing into dams as well as dry stack tailing plant at Zawar for better stability and water conservation.

Through technology interventions, bulk of waste from our smelter and Captive Power Plant (CPP) is now being utilised by cement industry and in highway construction. The impact of these efforts in reducing our environment and land footprint is enormous.

### Growing together

Caring for communities is not just handing out doles; at HZL, we believe in enabling, educating and facilitating to foster self-sufficient and empowered communities. With ~40% of our CSR spend on education it remains the thrust area through which we endeavour to bring in the desired change.

Vedanta's flagship programme Nandghar, the new-age childhood care centres, is being integrated with our Khushi and Sakhi projects to create and provide unique models of women and childhood care.

HZL has been associated with sports and has been promoting sportsmen for almost four decades when we made our football stadium at Zawar in Rajasthan in 1976. During the reporting period, we set up India's first, below-12, international-level 'Hindustan Zinc Football Academy' in Zawar. With 'F-Cube' Training and Assessment Technology, the world's first intelligent and interactive device for football and fitness training, the fully residential Academy provides a 360-degree holistic football training opportunity for both boys and girls.

Accolades are not our objective, but when we receive recognition for our work, it reinforces our journey along the chosen path to progress! It is with great pride that I mention to our stakeholders that among the global mining & metal companies evaluated this year, we ranked 1<sup>st</sup> in environment and 5<sup>th</sup> overall, in the Dow Jones Sustainability Index.

We entered 2019 with an expectation to grow not only in terms of our financial returns, but truly see the benefits of that growth percolate to our stakeholders and reflect in the care for our people and our environment.

In closing, I express my gratitude to all those who have been a part of and supported our journey of sustainable growth. Please do read the elaborate journey in this Sustainability Report and share your feedback, that always prompts us to do better.

Warm regards

**Sunil Duggal**

# HZL's guiding philosophy

## Vision

To be the world's largest and most admired zinc, lead and silver company

## Mission

Enhance stakeholder value through exploration, innovation, operational excellence, safety and sustainability. Be the lowest cost producer. Maintain market leadership and enhance customer delight.

## Values



### Entrepreneurship

Our people are our most important assets. We actively encourage their development and support them in pursuing their goals.



### Excellence

Our primary focus is delivering value of the highest standard to our stakeholders. We are constantly motivated on improving our costs and improving our quality of production in each of our businesses through a culture of best practice benchmarking.



### Trust

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



### Innovation

We embrace a conducive environment for encouraging innovation that leads to a Zero harm environment and exemplifying optimal utilisation of natural resources, improved efficiencies and recoveries of by-products.



### Integrity

We place utmost importance to engaging ethically and transparently with all our stakeholders, taking accountability of our actions to maintain the highest standards of professionalism and complying with international policies and procedures.



### Respect

We lay consistent emphasis on Human Rights, respect the principle of free, prior, informed consent, while our engagements with stakeholders give local communities the opportunity to voice their opinions and concerns.



### Care

As we continue to grow, we are committed to the triple bottom line of People, Planet and Prosperity to create a sustainable future in a zero-harm environment for our communities.



# About the report

Our fourth Sustainable Development Report presents the 'A to Z' of what makes HZL a CARING enterprise. This Report attempts to inform all our stakeholders on how HZL is progressing on the path of long-term sustainable growth.

It presents a balanced and fair disclosure on policies, management systems and performance at HZL, which contribute to sustainable development. The reader may have access to additional information on our sustainability performance at [www.hzlindia.com/sustainability](http://www.hzlindia.com/sustainability)

## Scope and boundary

Data presented in the report includes the primary operations of Hindustan Zinc Limited, along with the five mining locations, three smelters, and one refinery. The key material aspects identified are relevant for the operations of the Company, value-chain partners, customers, communities and other stakeholders.

The information covered in the report is for the period of 1<sup>st</sup> April 2018 to 31<sup>st</sup> March 2019 and is aimed at bringing in comparability and completeness of information. The performance trend has been depicted for a time period of three years, wherever relevant.

## Reporting standard and principles

The report has been prepared in accordance with GRI Standards to meet the 'Core' criteria. We also report against the GRI Mining and Metals Sector Supplement. The GRI Indicators covered are listed out with relevant page numbers of the report in the GRI Content Index.

We recognise the strategic importance of the United Nations' Sustainable Development Goals (SDGs) to our business and to the world, and are committed to help achieve them. The ones with the strongest connections with our sustainability initiatives have been mapped in the report.

The report follows the guidelines of the International Council on Mining and Metals (ICMM) - Sustainable Development Framework for reporting on safety parameters.

We are a member of the UN Global Compact (UNGC) and Federation of Indian Mineral Industries (FIMI), key component of our commitments to their principles reflected in disclosure made in this report.

## External assurance

Assurance of this report was carried out in accordance with the International Standard on Assurance Engagements 3000 (revised) by M/s KPMG.

The reader may have access to additional information on our sustainability performance at [www.hzlindia.com/sustainability](http://www.hzlindia.com/sustainability)



# A journey of more than half a century

Hindustan Zinc Limited (HZL), a Vedanta Group Company, is among the largest integrated mining and resources producers of zinc, lead and silver. We represent India in international markets for these products and are recognised as 'Zinc & Silver of India'. We are also one of the lowest-cost zinc producing companies globally.

Over the next few years, we aim to produce 1,000 tonnes of silver. This will position HZL among the top 5 global silver producers.

We enjoy 59% market share in domestic primary lead consumption and delivered much higher growth than the market growth rate of about 3% in FY 2019.

Demand for lead is expected to increase by 1-2% in the current financial year and we are poised to expand its supply base to more end-users tapping the growth driven by increasing production in the automobile sector.

**HZL is the second largest zinc-lead miner and fourth largest zinc-lead smelter globally**

**We are among the top 10 and the fastest growing silver producers globally**

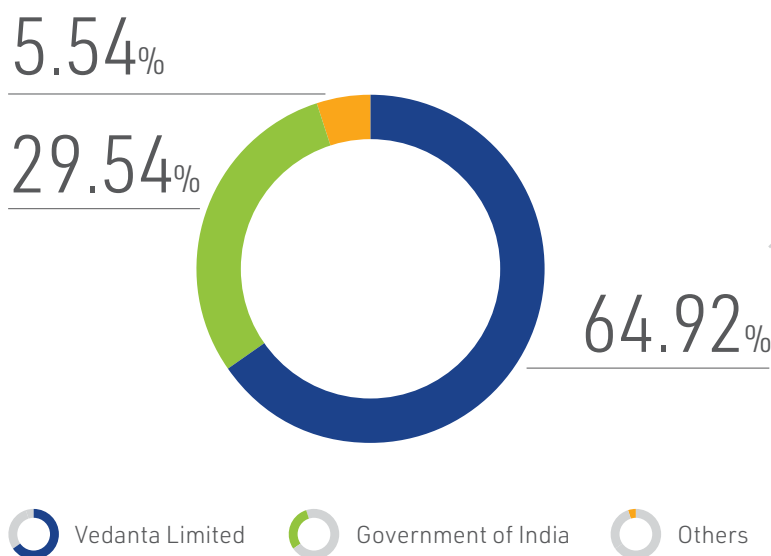
**We are among the lowest cost producers of zinc globally with cost of production (from ore to refined metal) in the first quartile of global cost curve**

## Our lineage

We are a public limited company and a subsidiary of Vedanta Limited, a diversified natural resources company whose business primarily involves producing oil & gas, zinc, lead, copper, iron ore, aluminium and commercial power.








### Ownership structure of HZL





## Our products and applications

 <b>Zn</b> <b>Zinc</b> Production capacity <b>880,000 MTPA</b>	 <b>Pb</b> <b>Lead</b> Production capacity <b>205,000 MTPA</b>	 <b>Ag</b> <b>Silver</b> Production capacity <b>800 MTPA</b>
 <b>CP</b> <b>Captive Power</b> Generation capacity <b>474 MW</b>	 <b>RE</b> <b>Renewable Energy</b> Solar power      *WHRB power      Wind energy <b>38.9 MW</b> <b>34.4 MW</b> <b>273.5MW</b>	

\*Waste Heat Recovery Boilers

We have Quality Management System in place for all our products which complies with the requirements of ISO 9001:2008 standards.

Our products contribute in a large measure to our A to Z daily requirements. From mobile phones and renewable energy products to medical equipment and automobiles to infrastructure such as bridges, these metals are the building blocks of society and the economy. It is our constant endeavour to enhance the sustainability quotient of our products and reduce our environmental footprint through innovation and optimisation.



### Zinc

**We produce refined zinc metal, which is used in a number of applications including galvanising, oxides, die castings and alloys.**

**We produce zinc in a variety of grades**

- Special High Grade (SHG) Zinc (99.995%)
- High Grade (HG) (99.975%)
- Prime Western (PW) (98.65%)
- Continuous Galvanising Grade (CGG)
- Electro-Plating SHG Zinc (EPG SHG)

**Hindustan Zinc Special High-Grade Zinc 99.995% conforms to the following standards**

- ASTM B6-SHG Z13001 Grade
- BS EN 1179:2003 - Z1 Grade

**LME registered Special High-Grade Zinc products**

- HZL SHG**
- HZL Zn SHG**
- Vedanta SHG**
- Vedanta Zn SHG**

**CARING** A(g) to Z (n)

**Pb**  
**Lead**

**We produce lead ingots with a minimum of 99.99% purity.**

Lead metal is used in several applications including battery segment, lead-based pigments, and cathode ray tubes.

**Hindustan Zinc Lead Ingots are LME registered – Hindustan Zinc has two LME registered lead brands - Vedanta 99.99 and Vedanta Pb 99.99.**



**Ag**  
**Silver**

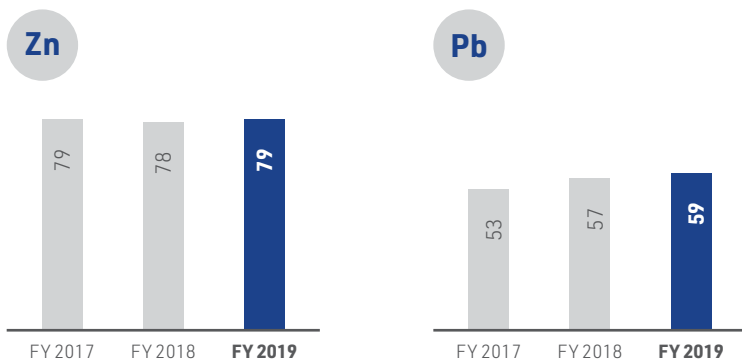
**We are a leading producer of silver in the world, and the largest in India. We produce refined silver; recovered as a by-product of zinc-lead facility.**

Our high-quality silver bullion having a minimum purity 99.9% of silver is listed on LBMA Good delivered List (LGD) – Hindustan Zinc Pantnagar Unit.

We cater to markets, including the industrial sector (electrical contacts, solder and alloys, pharmaceuticals), and the jewellery and silverware manufacturing segments.

Market share

(%)



Other than these three we are India's largest cadmium producer. We produce high-quality cadmium pencils having a minimum purity of 99.95% to 99.99%



## Our mines

We have a reserve base of 92.6 Million MT with an average zinc-lead grade of 10.2% and mineral resources of 310.4 Million MT. At current mining rates, the Rehabilitation and Reclamation (R&R) underpins metal production for more than 25 years.

### Rampura Agucha

The Rampura Agucha Mine (RAM) is one of the largest zinc-lead mines in the world with a production of 392 kt of mined metal in FY 2019. The mine has currently transitioned from open-cast to underground route and the underground mine is being developed with a vision of reaching 5.0 Million MT per annum of ore in the next couple of years. During the year, the second paste fill plant was also commissioned to support ore production.

**Our Rampura Agucha mining operations were completed in the year FY 2018.**

We are confident of reaching the design mined metal production capacity of 1.2 Million MT in FY 2020 and we are progressing well in that direction. We are expanding our mining capacities, implementing with six ongoing major mining projects.

### Sindesar Khurd

Sindesar Khurd Mines (SKM) is a world-class silver rich mine with state-of-the-art infrastructure and best-in-class mechanisation. The mine produced 283 kt of mined metal in FY 2019, up from 247 kt in FY 2018. As a result of ongoing volume ramp-up and higher recoveries, the mine has achieved a production rate of 5.3 Million MT of ore during the FY 2019, compared to 4.5 Million MT of ore in FY 2018.

### Zawar

This location comprises four different mines with footprints of ancient mining. As per the radio-carbon dating, the mines at Zawar are over 2,500 years old. We are on the course

## Successful transition to underground mines

We have a sustainable underground mining business and we completed a successful closure and carried out a seamless transition from predominantly open-cast operations to a fully underground mining company. Mined metal production from underground mine was 936 kt in FY 2019, 29% higher from a year ago on account of higher ore production and better grades.

of expanding the mines capacities in the next five years through mechanisation and by switching-over to trackless mining. We also have a 80 MW of captive thermal power plant at Zawar. During the year, the mine produced 99 kt of mined metal from an ore production of 2.9 Million MT compared to 71 kt of mined metal from 2.2 Million MT of ore in FY 2018. Ore production capacity at Zawar Mines (ZM) is planned to progressively increase to 4.8 Million MT per annum by FY 2021 and the vision is 8 Million MT per annum based on R&R potential.

### Rajpura Dariba

This is one of our oldest underground lead-zinc mine and currently has ore production capacity a little more than 1 Million tonne per annum. It produced 53 kt of mined metal in FY 2019 as compared to 44 kt in FY 2018.

During the year, Rajpura Dariba Mines (RDM) received Environment Clearance by the Ministry of Environment, Forest & Climate Change to increase ore production from 0.9 to 1.08 Million MT per annum and regulatory approval for further expansion to 2.0 Million MT per annum is under process.

### Kayad

Additionally, a new underground mine with fastest ramp-up has been opened up at Kayad, in Ajmer district. From its commencement in June 2014, the mine ramped up to its full potential of 1.2 Million MT of ore production in FY 2018. The mine produced 108 kt of mined metal in FY 2019.





Case study

# Kayad mine more safer more efficient

In realising the complications associated with safety concerns at our Kayad Mine, we put in place certain measures ensuring greater Environmental, Safety and Governance (ESG) compliance.

The safety concerns were disparate across different locations at the mine and thus needed diverse control measures.

### Improved mine illumination

On account of the potentially fatal incidents that occurred in the past, due to absence of proper lighting, we worked towards improved lighting installations at the surface, as well as underground. The entire site was studied by a Subject Matter Expert (SME) Agency and based on its recommendations 12 additional LED high mast towers were installed which replaced the existing tower lights. We further replaced ~850 metal halide (MH) lamps with LED lamps both on the surface and underground mines. This helped us achieve illumination, which exceeded the compliance requirement of the IFC guidelines, along with significant energy conservation and power cost savings.

### Preliminary discipline checks

In addition to the standard surveillance cameras and internal communication systems, strict disciplinary measures such as alcohol tests on workers at the main gate, alongwith stringent biometric system and prohibition of cell phones inside mine premises are in place. Safety videos are played at allocation points before each shift begins. Reflective flags have been configured on all Light Motor Vehicles (LMVs) while safety barriers are fitted at Heavy Earth Moving Machineries (HEMM) tyre inflation station. Biometric system installed at the gate checker office to track the number of people working in UG, in addition to the existing tag board system.

### Refined governance

World-class, dedicated parking yard is developed for each category of equipment such as LMV Trucks, Low Profile Dump Trucks (LPDTs) and Load Haul Dumpers (LHDs). Warning system is installed at each parking yard to provide alert for each person entering the parking yard. Foot overbridge is provided to avoid crossing in front of the portal area and closed-circuit pathway is provided in the entire mine. Warning signs with Cats Eye reflectors were installed in UG haul road for better visibility. Pedestrian Warning system installed at each zebra crossing at Surface.

### Better traffic management

We devoted attention towards better management by incorporating good drainage system throughout the

decline, road grading by grader, water sprinkling with dust suppression chemical, good quality route marker and Cats Eye reflector.

There were general improvements made to stope blasting practices wherein we installed cable bolt support throughout the drill drives. Additionally, regular monitoring of strata, proper delay sequencing and scanning of drives by ferro scanner have been adopted to make the process safer.

### Upgrading and digitising instrumentation

We upgraded the geo-tech instrumentation by means of geo-tech numerical modelling and simulation techniques. Procedures such as in-site stress measurement in two boreholes of 500 metre depth and GCMP system are practised at Kayad. We also configured multi-point borehole extensometer in order to monitor cap rock stability, while tape extensometer was used to monitor ground displacement. Dual height tell-tale is used to get continuous visual indication of roof conditions.

As a result, digitisation of mapping and updation of the short-term model have been achieved. We could also detect the lithological variations with updating Hanging Wall (HW) / Foot Wall (FW) contacts of ore and pegmatite correlation. Sharing of geotechnical maps has been adopted for efficient supporting, prior to stoping; while there is better correlation of ore body based on mapping for long-term planning.

### Greener steps forward

In order to conserve the biodiversity near areas of the mine, we have taken up the plantation of green belts. Additionally, endangered species nurseries and bird huts that help conserve peacocks, among other activities, have also been developed near our mine office. At present, water from STP is being consumed for wet drilling, sprinkling underground and along surface haul roads

We have incorporated a garland drain to collect the runoff and connect it to a pond with provisions for desilting. We are also making efforts to reuse wastewater from washing vehicles; treat sewage that is being generated within the mine area in the STP; and recycle rainwater by developing harvesting structures at rooftops, open areas as well as green belts. In sum, we are committed to maintaining zero discharge and restricting pollution in all aspects of our mining operations.



## Digitised mines to boost productivity

At HZL, digitisation at our mining operations is aiding in developing intelligent mines that are smart, connected, wired and analytical. Engaging various partners across the world and bringing in the best of technologies, the digital initiatives centred on enhancing production and safety will take our operations to the next generation of mining.

The outcomes of digitisation such as 10-15% increase in availability in crushing performance, are already showing in the key performance indicators. Through these digital interventions, we expect to improve our metal recovery performance to 95-96%.

We will soon be implementing an automated core scanning technology in India, a highly sensitive technology, which can project rock and terrain properties, along with the content of the ore. We also plan to adopt augmented reality and virtual reality (AR and VR) wearables and ore body intelligence, along with 3D laser scanning, introduction of high speed Wi-Fi networks in the underground mines, high bandwidth optical fibre, Voice over Internet Protocol (VoIP) and other IP-based devices.



### Case study

## Mechanising procedures for minimising risks

The need for greater efficiency was felt at Zawar mines in the resin capsule insertion process. The objective was to mechanise the procedures related to capsule insertion to eliminate the risk, while also speeding up the process cycle.

### What were the challenges

Resin capsules were being inserted physically, with operators standing on a two-metre raised platform under a roof that was not properly supported and safe at that point of time. As a result, the operators were always at the risk of falling from the height as well as Fall of Ground (i.e. fall of rock from roof). There was also the additional challenge of the entire process taking up a longer cycle time, all together contributing to the urgent need of making the process more competent.

### How we intervened

We decided that inserting the resin capsule using the jumbo drill machine itself would mitigate these risks. We also devised an adaptor that was configured with a reducer coupler attached with the shank rod of the jumbo machine. Using this and an insertion tube made of PVC, we are now inserting resin capsule in drill holes without additional manual intervention. We have ensured a 100% implementation of this procedure, given its success rate.

### What we achieved

The process of mechanised insertion of resin capsule using jumbo offered multiple benefits, the principal one being the elimination of the risk of fall-of-ground as well as fall-from-height accidents. This was also helpful for improving the cycle time of the associated function.

## Excellence driven through HZL mining communities

To drive excellence through the entire spectrum of mines to mills, fourteen mining communities have been constituted. Each of these communities have employees and senior executives from across the organisation.

The main objectives of the mining communities are:

- **Safety**
- **Operational excellence**
- **Technology and innovation**
- **Skill enhancement**

In order to achieve the above goals, the communities have also agreed on a common charter and accordingly each community has to meet once in a month at different locations. The communities carry out site audits and discuss on the observations with remedial actions. They also ensure standardisation and implement best practices horizontally. They help identifying the skill gaps and work towards skill enhancement to fill the same.



**CARING** A(g) to Z (n)

## Our smelters and refineries

Our smelters are located at Chanderia, Dariba and Debari in Rajasthan and zinc-lead-silver metal refineries at Pantnagar in Uttarakhand.

### Chanderia Smelting Complex

Located in Chittorgarh district, it is one of the largest single location integrated zinc smelting complexes. Its current metal production capacity is 643,000 MT per annum, including 558,000 MT per annum of zinc and 85,000 MT per annum of lead. The location also has captive power plants of 234 MW. Additional green power is generated through Waste Heat Recovery Boilers (WHRB).

### Dariba Smelting Complex

Located in the district of Rajsamand, has production capacity of 234,000 tonne of zinc and 120,000 tonne of lead per annum. Dariba Smelting Complex is uniquely self-sufficient with zinc smelter, lead smelter and captive power plants of 160 MW, all located in the vicinity of Sindesar Khurd Mines and Rajpura Dariba Mine.

### Debari Zinc Smelter

India's oldest zinc smelter, located at Debari in the district of Udaipur, has a zinc metal production capacity of 88,000 tonne per annum. Debari Zinc Smelter (DZS) also supplies surplus zinc oxide, an intermediate product, to our other zinc smelters.

### Pantnagar Metal Plant

The silver refinery at Pantnagar in the state of Uttarakhand has been upgraded to produce 800 MT per annum and will process residue and work-in-progress material from smelters at Dariba and Chanderia. Silver produced at Pantnagar is LBMA certified.

**Total smelting capacity**

HZL is the fourth largest producer of zinc and lead metal globally with a smelting capacity of 1.074 Million MT per annum





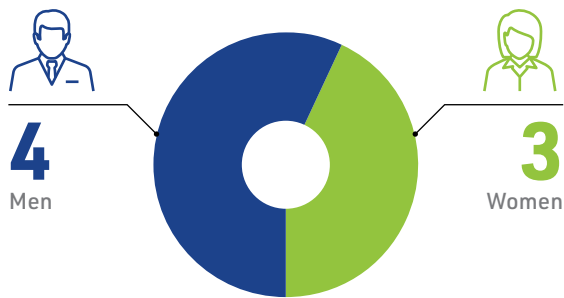
All our operations are certified for Integrated Management System (IMS) comprising the Quality Management System (ISO 9001), Environmental Management System (ISO 14001) and Occupational Health and Safety Management System (OHSAS 18001).



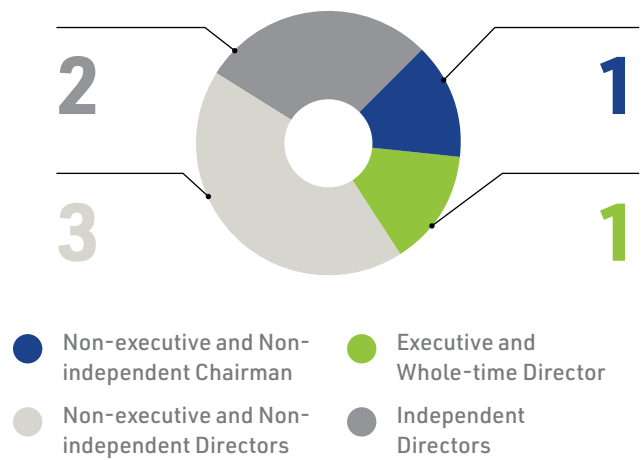
# Our leadership

The composition of the Board is an appropriate combination of Executive and Non-executive Directors with right element of independence. Our esteemed Board members bring with them several years' of experience, industry knowledge and expertise from varied industry and fields.

## Gender diversity of the Board



## Composition of the Board



## Board of Directors

as on 31<sup>st</sup> March 2019



**Mrs. Kiran Agarwal**

Chairman



**Mr. Navin Agarwal**

Director



**Mr. Sunil Duggal**

CEO & Whole-time Director



**Mrs. Reena Sinha Puri**

Director



**Mrs. Farida M Naik**

Director



**Mr. A R Narayanswamy**

Director



**Mr. Arun L Todarwal**

Director



### Executive Committee

<b>Mr. Sunil Duggal</b> Chief Executive Officer	<b>Mr. L S Shekhawat</b> Director - Operations	<b>Mr. Amitabh Gupta</b> Director - Commercial and CEO - Fertiliser	<b>Mr. Swayam Saurabh</b> Chief Financial Officer (Acting)
<b>Ms. Kavita Singh</b> Chief People Officer	<b>Mr. Arun Vijayakumar</b> Director - Projects	<b>Mr. Scott Caithness</b> Director - Exploration	<b>Mr. Vinod Wagh</b> Head - Smelter
<b>Mr. Rajendra Prasad Dashora</b> Head-Mining	<b>Mr. Praveen Kumar Jain</b> Director - Dariba SBU	<b>Mr. Sujal Shah</b> Director - Agucha SBU	<b>Mr. Balwant Singh Rathore</b> Director - Zawar SBU
<b>Mr. Rajesh Kundu</b> Head - Technical Cell and Business Excellence	<b>Mr. Sharad Kumar Gargiya</b> Chief Commercial Officer	<b>Ms. Neelima Khetan</b> Vice President - CSR	<b>Mr. Barun Kumar Gorain</b> Chief Technology and Innovation
<b>Mr. Harsha Shetty</b> Chief Marketing officer	<b>Mr. V Jayaraman</b> Vice President - Power	<b>Mr. Rajinder Singh Ahuja</b> Chief HSE Officer	

## Our memberships and associations

As a responsible corporate citizen, HZL plays an active role in propagating good practices, sharing knowledge, and being vocal on behalf of India's metals and mining sector on the right platforms.

### Industry associations



### Mining industry bodies



### Other national and international bodies



Mr. Duggal (CEO - HZL and CEO - Base Metals) is additionally serving as Vice Chairman-International Zinc Association; President - Indian Lead Zinc Development Association; Co-Chair-CII National Committee on Mining; Co-Chair - FICCI Non-Ferrous Metals Committee and President - Federation of Indian Mineral Industries (FIMI). Recently, he has been appointed as Chairman of the Skill Council for Mining Sector, India

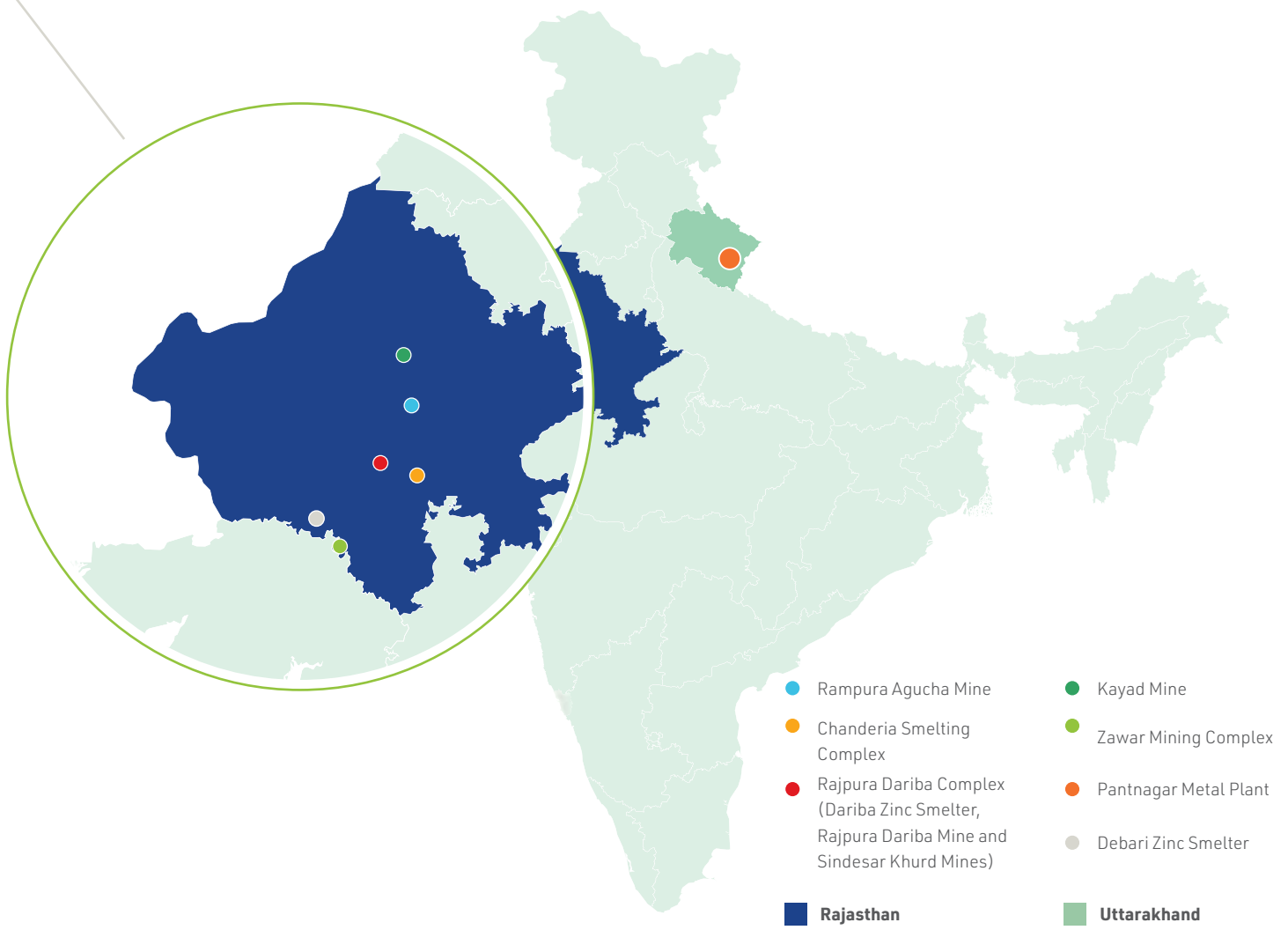
He is actively participating in various workshops and conferences which are leading towards development of sustainable mining in India.

₹ 17,99,950

Total membership fees paid during reporting period

Our CEO, Mr. Sunil Duggal is the President - Federation of Indian Mineral Industries (FIMI)

# Our operational and commercial footprint



## Our lineage

We are a public limited company and a subsidiary of Vedanta Limited, a diversified natural resources company



### Operational footprint

**05**

Mining locations

**03**

Smelters

**01**

Refinery



## Vedanta - At a glance

Vedanta Resources is a globally diversified natural resources company with interests in zinc, lead, silver, copper, iron ore, aluminium, power and oil & gas.

The Company is known for its long-standing history of consistent geographically-advantageous discoveries, sustainable growth, long-term value creation and best-in-class operations, in all the four continents where it operates. It operates across the value chain – from exploration, asset development and extraction, to processing and value addition, to deliver long-term value and growth across all stages.

The Company is focussed on sustainable development and reinforces sustainable development through building strong, engaging and beneficial partnerships with all its stakeholders.

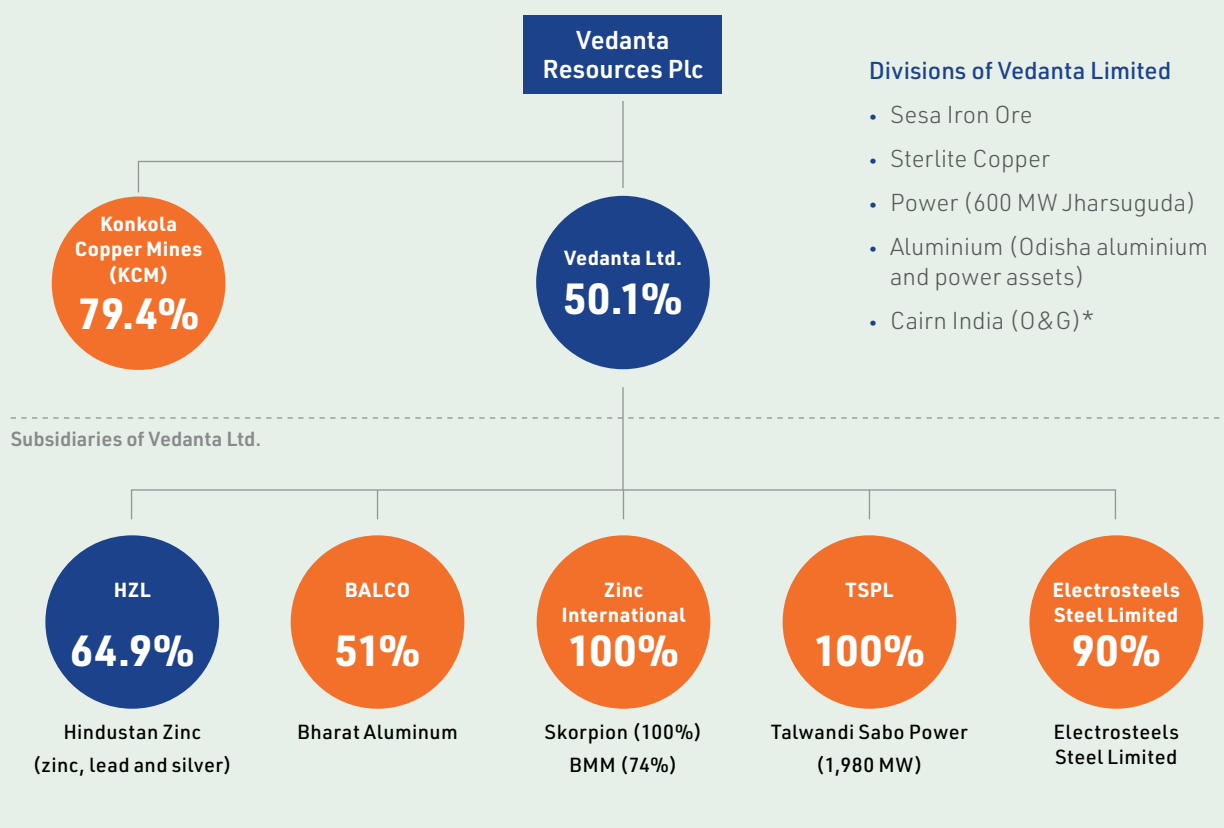
### Our core purpose

Vedanta is a globally diversified natural resources company with low-cost operations

The Company empowers its people to drive excellence and innovation to create value for its stakeholders. It demonstrates world-class standards of governance, safety, sustainability and social responsibility

### Vedanta Group holding

#### Vedanta Resources group structure



#### Divisions of Vedanta Limited

- Sesa Iron Ore
- Sterlite Copper
- Power (600 MW Jharsuguda)
- Aluminium (Odisha aluminium and power assets)
- Cairn India (O&G)\*

- Listed entities
- Unlisted entities

Note: Shareholding as on 31<sup>st</sup> March 2019

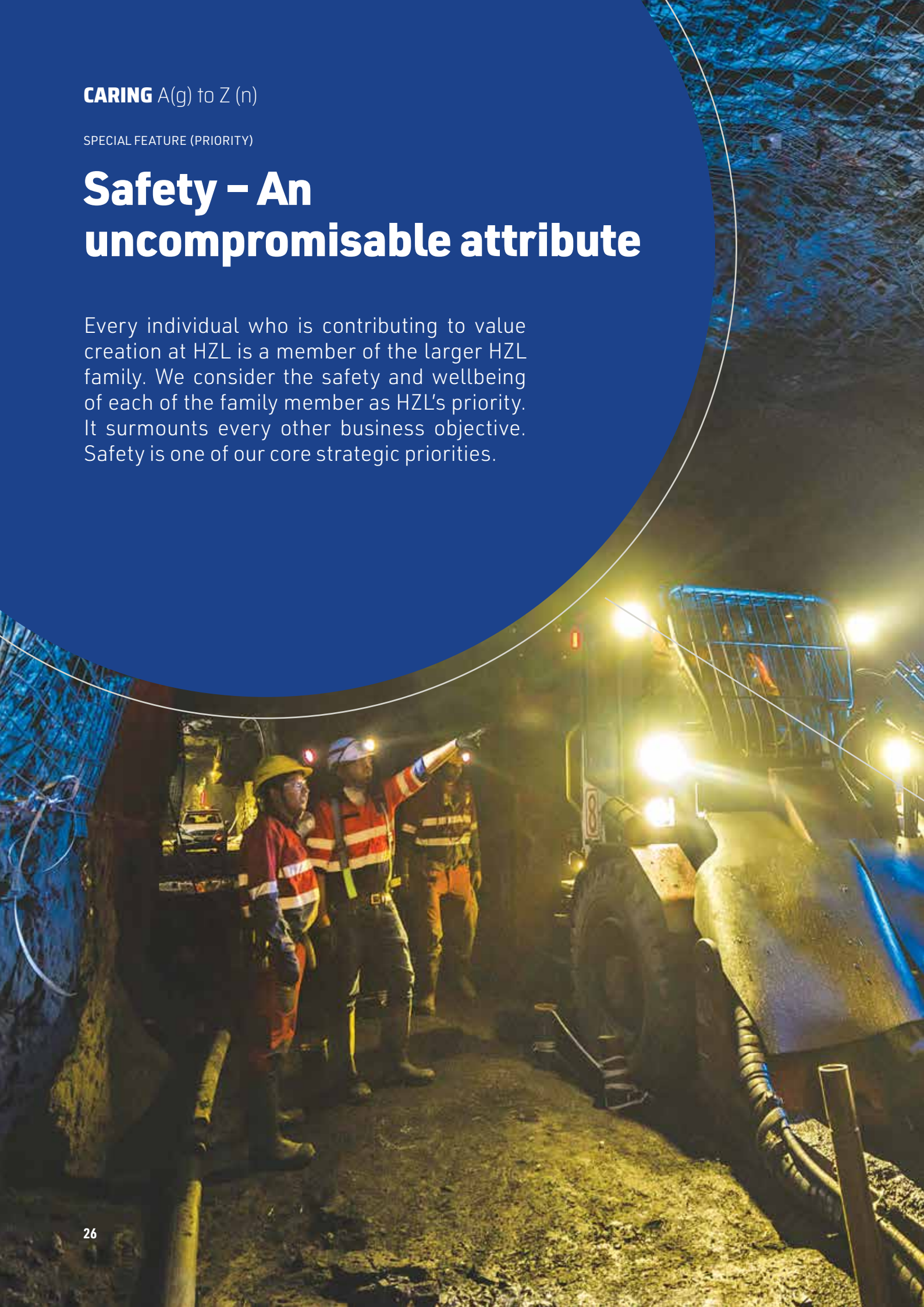
\*50% of the share in the RJ Block is held by a subsidiary of Vedanta Ltd.

**CARING** A(g) to Z (n)

SPECIAL FEATURE (PRIORITY)

# Safety – An uncompromisable attribute

Every individual who is contributing to value creation at HZL is a member of the larger HZL family. We consider the safety and wellbeing of each of the family member as HZL's priority. It surmounts every other business objective. Safety is one of our core strategic priorities.





We, at HZL, are committed to ensure a safe work environment and culture for all our employees and contract employees alike, in all our operations. To drive a cultural change on safety, we have taken several technical, functional, communication and governance measures across the organisation.

### **Aarohan – Our journey towards ‘zero harm’**

For four years between 2013 and 2017, we partnered with DuPont to bring about a cultural transformation for safety and make HZL a 'zero harm' workplace. This journey named Aarohan, has been instrumental in developing an improved safety culture. In 2018, we engaged with DuPont again for continuing our journey of improving our safety management and performance, with a target to enhance focus on Process Safety Management in the next phase.

### **Promoting innovation for safety**

While our actions on safety will be driven by our Safety Framework and the Vedanta Sustainability framework, we have formed a **Safety Innovation Cell**, which is promoting a culture of innovation to counter safety issues. The Cell is helping in technological interventions for safety, using data and analytics for measurement and management of safety parameters and benchmarking to ensure best-in-class safety practices.

### **Introduction of Fatality and Serious Incident Prevention Programme (FSIPP) Subcommittee**

To reinstate our commitment to being a business without fatalities, serious injuries or occupational illness, we introduced a Fatality and Serious Incident Prevention Programme (FSIPP) Subcommittee. The primary role of this committee is to identify and analyse high-risk activities, drive the fatality prevention programme in an organised manner, and monitor deployment of critical controls.

### **Training and awareness**

Increasing safety awareness and training people are the fundamentals of building a safe culture and bringing in behavioural changes. We try to increase competencies and awareness of employees and contract employees, through regular training programmes, engagement programmes with senior management and townhalls. During the reporting year, ~0.81 Million man-hours of safety training was imparted to our employees.

These are but a few broad areas of activities for reaching our goal of 'zero harm'. further details on our safety performance and our safety programmes are enunciated on Page 27.



We want to instill a culture where safety becomes every individual's responsibility

# 'Sustainability' embedded in HZL's growth

Our culture of growth based upon our Sustainability Framework bespeaks our commitment to 'C-A-R-I-N-G'. The framework helps us organise our sustainability thinking, undertake informed planning, evaluate activities and carve a sustainable growth path through creating long-term shared value.

Being a Vedanta Group Company, we follow Vedanta Sustainability Framework to excel in our sustainability journey.

### Our sustainability vision

To excel in operations by upholding world-class standards of governance to achieve zero harm and zero discharge, while being socially responsible.

### Our sustainability mission

Our mission is to become a global leader and create value by conducting our business in a responsible and ethical manner by:

- Improving health, safety, and well-being at the workplace
- Eliminating the potential damage of our activities on the environment and reducing our environmental footprint with the adoption of sustainable practices and preservation of natural resources
- Benefitting the communities in which we operate and enhance their livelihood
- Communicating our sustainability efforts and performance to our stakeholders with transparency, authenticity, and integrity

## Sustainability approach and strategy

HZL recognises that being more sustainable is being more successful. From innovations to scaling sustainable mining models to long-term environmental and community growth, our sustainability strategies are driven with the agenda of caring across the value chain.

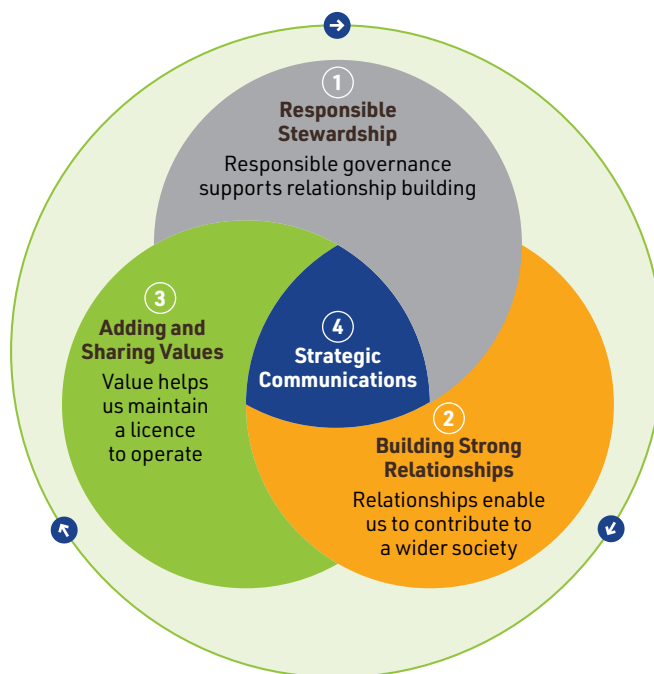
Our strategy for value-chain sustainability draws insights from our interactions with varied stakeholders and partners.

### Vedanta Sustainability Framework

HZL is a Vedanta Group Company, and our Sustainable Development Model is reinforced by the Vedanta Sustainability Framework (VSF), which assists our business in the implementation of the model.

VSF has been developed keeping in mind multiple internal and external sustainability imperatives like materiality and core values of each of the business, United Nations Global Compact (UNGC) 10 principles, United Nation's SDGs and standards set by International Finance Corporation (IFC), International Council on Mining and Metals (ICMM) and Organisation for Economic Co-operation and Development (OECD). These policies, standards and guidance notes help us in its execution.

### Four pillars of Vedanta Sustainability Framework (VSF)



These four pillars of the VSF are critical to ensuring the long-term successful future of our business, meeting our strategic goals of growth, long-term value and sustainability.





### 1. RESPONSIBLE STEWARDSHIP

- The way we manage our business in a sustainable manner and the measurement of our performance against both our own targets and international benchmarks, in line with our Sustainability Framework.
- It is critical to define how we operate, covering all aspects outlined in our Code of Conduct-including ethical behaviour and whistleblowing and our approach to risk management.
- It also encompasses our health, safety and environmental management, including the way we manage water, energy, waste, carbon footprint and biodiversity.



### 2. BUILDING STRONG RELATIONSHIP

- The strength of the relationships we build with our stakeholders is one of the ways we add value in a broad sense as they play an important role in influencing the strategic direction of our business.
- Engaging effectively and understanding the distinct requirements of our various stakeholders we identify groups with significant interest in our operations.



### 3. ADDING AND SHARING VALUE

- Our operations are based in India and we believe that we can add and share value in the communities where we operate to facilitate the development of the nation.
- We create value through structured and collaborative engagement with our stakeholders, including for our employees, our host communities and broader society.
- This is done not only through the commodities that we produce but through the economic and social contributions we make across our global operations, particularly in the developing world.



### 4. STRATEGIC COMMUNICATIONS

- The pillar interlocks with the other three pillars of our model and is the guiding principle which enables the organisation to engage with our stakeholders in a transparent dialogue.
- This pillar is the vital element of sustainable development, in implementing and strengthening our 'social licence to operate' efforts.

This pillar further reflects our commitment to becoming a more transparent and responsible corporate citizen and emphasises on our principles of community dialogue and mutual respect, including free, prior and informed consent to access natural resources.

#### Sustainability policies

We have eight sustainability policies, which influence every decision we make and give us the confidence to perform in a safe, ethical, and transparent manner. Through a dedicated sustainability taskforce, which includes officials from the safety, environment, and occupational health division, we drive sustainability throughout our Company.



HSE Principles & Policy

Human Rights Policy

Energy and Climate Change Management Policy

CSR Policy

Supplier & Contractor Sustainability Management Policy

Water Management Policy

Biodiversity Management Policy

HIV-AIDS Policy



## Sustainability governance

Our sustainability strategies are implemented through sound governance and accountability over environmental and social issues. Short- and long-term sustainable goals are set across the value chain and systematic performance monitoring ensures alignment of sustainability priorities at all levels of the organisation.

Our Sustainability Governance structure consists of a three-tier governance mechanism, directed by the Vedanta Board to the units of operations at the site level.

**T1**

**TIER 1 AT THE GROUP LEVEL**

**Sustainability Committee at Group Level**  
(Quarterly Meetings)

Advise on sustainability policies and framework, clearly setting out the commitments of the Group to manage matters of sustainable development effectively; review and approve targets for sustainability performance & recommend initiatives required to institutionalise a sustainability culture.

To ensure transparency and efficiency of the measures we have in place a Group Management Assurance System that coordinates the risk management framework, reviewed annually by the Audit Committee on behalf of the Board at the Group level.

**T2**

**TIER 2 AT THE COMPANY LEVEL**

**Sustainability Business Management Group at Company Level**  
(Monthly Meetings)

Identifies risks and opportunities and areas for improvement, reviewing the performance and effectiveness of the initiatives.

At HZL, we continuously identify, assess and mitigate risks arising as a result of internal and external factors. Through a formal monitoring process at the Company level, new risks are identified, categorised as per impact and likelihood, mapped to key responsibilities of select managers and managed with an appropriate mitigation plan. Group Management Assurance system is also supported by a Board-level Risk Management Committee comprising the CEO, CFO and Chairman of the Audit Committee, at the Company level.

**T3**

**TIER 3 AT THE UNIT LEVEL**

**Sustainability Review at Unit/Operation Level**  
(Monthly Meetings)

Along with reviewing progress, they are also responsible for data collection and reporting.

Through a formal monitoring process at the unit level, new risks are identified and managed with a mitigation plan. There is a risk management committee at unit level.

Our Sustainability Governance structure consists of a three-tier governance mechanism, directed by the Vedanta Board to the units of operations at the site level

## Risk management

Risk management drives the most important decisions in a business – from the detailed working of a mining engineering right up to long-term strategy and policy formulation.

Of all industry sectors, mining is probably the most familiar with risks – internal as well as external. HZL has a robust management framework in place to manage these risks, right from predicting them early on to working towards mitigating them.

Vedanta Sustainability Assurance Programme (VSAP), an internal risk management tool run by Vedanta's Management Assurance System team, conducts gap analysis and identifies any lacunae between current systems and processes. The identified gaps are discussed and reviewed by the leadership teams, and action plans are put in place to ensure compliance within specified period of time.





## Risk impact and analysis

Formal approach, analysis and assessment of risks prepares HZL for the future. As we have moved towards becoming a complete underground mining company, predicting, analysing and mitigating the impacts is an imperative. We have analysed all our processes and spheres of influence for potential risks and appropriate mitigation measures are in place.

Some of the key sustainability risks and the kind of impacts they can have on the organisation and the stakeholders have been identified below:

	Sustainability risks	Impacts	Mitigation
 <p><b>Safety, health and environment</b></p>	<ul style="list-style-type: none"> <li>• Incidents</li> <li>• Explosions</li> <li>• Leakage of hazardous emissions and wastes</li> </ul>	<ul style="list-style-type: none"> <li>• Adverse impact on surrounding communities and loss of goodwill/brand image</li> <li>• Adverse impact on environment</li> <li>• Litigation and disruption to operations</li> <li>• Penalties may cause adverse impact on productivity</li> <li>• Property or body damage</li> </ul>	<ul style="list-style-type: none"> <li>• HSE is a high priority area for HZL. Compliance with all applicable rules and regulations and standards, zero harm to people, environment and community is core to all our business decisions</li> <li>• Various sustainability policies and standards are in place to mitigate and minimise any HSE-related occurrences.</li> <li>• Our Aarohan journey is helping us in reducing risk level in high risk areas.</li> <li>• Structured monitoring and a review mechanism.</li> </ul>
 <p><b>Community relations</b></p>	<ul style="list-style-type: none"> <li>• Inability to provide inclusive growth</li> <li>• Disruption to their lifestyles due to our operations</li> </ul>	<ul style="list-style-type: none"> <li>• Discontent among the community</li> <li>• Loss of social licence to operate</li> </ul>	<ul style="list-style-type: none"> <li>• Our corporate social responsibility programmes are designed to address a wide range of issues such as education, sustainable livelihood, women empowerment and health, water and sanitation among others.</li> <li>• We have gained ground in our social projects which are growing in impact while strengthening our governance to make our CSR spending more transparent.</li> <li>• CSR team at all the sites are proactively engaging with communities and stakeholders through a proper and structured engagement plan</li> <li>• All units follow well-laid processes for recording and resolving all community grievances.</li> <li>• Our leadership teams have periodic engagements with the local communities to build relations based on trust and mutual benefit.</li> </ul>
 <p><b>Tailings dam management</b></p>	<p>A release of waste material leading to loss of life, injuries, environmental damage</p>	<p>Negative impact on operations, reputational damage, financial costs and production impacts</p>	<ul style="list-style-type: none"> <li>• System of monitoring of tailings dams instituted.</li> <li>• Independent assessment by global experts Golder Associates to review the integrity of our dam structures and their associated management practices</li> <li>• We follows Vedanta Tailings Dam Management Standard</li> </ul>
 <p><b>Learning and development</b></p>	<p>Talent retention and lack of underground mining skills</p>	<ul style="list-style-type: none"> <li>• Adverse impact on productivity</li> <li>• Attrition of talent pool</li> </ul>	<ul style="list-style-type: none"> <li>• Our people strategy is founded on this belief and is designed to recruit, develop and retain the talented workforce that run our businesses.</li> <li>• We focus on diversity and equal opportunity</li> <li>• Various employee development and training programmes to groom our employees</li> </ul>
 <p><b>Energy and climate change</b></p>	<p>Inability to reduce the carbon footprint of the company</p>	<ul style="list-style-type: none"> <li>• Adverse impact on operation</li> </ul>	<ul style="list-style-type: none"> <li>• Defined targets and action plans in place to reduce the carbon intensity of our operations through Science-based targets</li> <li>• Increasing renewable mix at sites</li> <li>• Exploring alternative solutions to minimise our environmental footprint</li> </ul>
 <p><b>Water management</b></p>	<ul style="list-style-type: none"> <li>• Availability of water</li> <li>• Recycling of water</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of availability of water will hamper our operations and impact future projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Supporting water conservation efforts of the Government is the stated priority and we maintain several water sources in conjunction with the Government. A Sewage Treatment Plant (STP) was also set up in Udaipur, which not only reduces inflow of sewage into local lakes but also provides a sustainable water source to its operations. We are currently in process of tripling the capacity to 60 MLD treating half of Udaipur's sewage helping fresh water usage reduction.</li> </ul>

# Partners in progress

We believe our stakeholders are our partners for the long-term and our growth is closely interlinked to our approach towards managing their expectations. We are committed to creating value for all our stakeholders in a manner, which is sustainable, transparent and inclusive.

Our stakeholder identification and prioritisation process is based on inclusivity, materiality and responsiveness







## Our approach to stakeholder engagement

Our stakeholders are our partners in progress and at HZL we consider it our primary responsibility to care for and grow while keeping in mind interests of each of our stakeholder groups. We engage with all our stakeholders on a continuous basis around the year as part of our business operations. Through various interactions and transactions, we identify their requirements and manage their expectations. We have identified our key stakeholders based on the nature of the relationship we share, their key expectations from us and how critical they are to our business.

We place importance on two-way communication with stakeholders and active participation in various initiatives in coordination with various groups.



### Stakeholder identification and prioritisation process

In order to identify aspects that are important to the Company and its stakeholders, HZL has a proactive, transparent and constructive approach to stakeholder engagement and development. This is critical to not only maintaining our social licence to operate but is a fundamental component in shaping sustainability strategy, reporting and disclosure.

Our stakeholder identification and prioritisation process is based on inclusivity, materiality and responsiveness. Our primary stakeholder groups are identified and prioritised based on:



#### Responsibility

Stakeholders to whom the Company has or in the future may have, legal, financial and operational responsibilities



#### Influence

People who are, or in future may be, able to influence the ability of the Company to meet its goals



#### Impact

Stakeholders whom the Company's activities affect or who it interacts the most



#### Dependency

Stakeholders that are most dependent on the Company

## CARING A(g) to Z (n)

HZL regularly engages with internal as well as external stakeholders to help them identify their priorities through need assessment. We invite opinion through multi-channels and ensure that stakeholder insights are reflected in our business activities and customised programmes are developed around assessed needs.

We also seek to identify and minimise any potential negative impacts caused by our operations and use any feedback as an input towards economic, environmental and social development. At HZL, we act transparently and ethically, promote dialogue with communities and have developed grievance mechanisms at each of our locations.

**Structured stakeholder engagement processes are in place at corporate and operational sites to ensure delivery of transparent, timely and fact-based communications to stakeholders.**

We have regular feedback and grievance redressal mechanisms as integral aspects of the stakeholder engagement process. The Grievance Committee reviews the grievances on a periodic basis.

Key stakeholder group	Employees
Relevance to HZL	Our employees are at the heart of our operations. Their productivity, collective knowledge and experience are of great relevance in meeting the business' objectives.
Key engagement platform	<ul style="list-style-type: none"> <li>• Intranet, in-house newsletters</li> <li>• Training programme</li> <li>• Town hall meetings between senior management and employees</li> <li>• Employee surveys (annual)</li> <li>• Suggestion scheme</li> <li>• Appraisal meetings</li> <li>• Suraksha Chaupals</li> </ul>
Key issues or expectations	Scope of learning and growth, remuneration and benefits, equal opportunities, promotion of occupational health and safety of human capital
Key engagement during the year	Employee engagement survey, roll out of diversity and inclusion policy, launch of Edumine initiative for learning, various townhalls at head office and at sites, various training programmes including Mr. Vijay Batra's motivational and inspirational sessions across HZL.







**Key stakeholder group**

**Customers**

<b>Relevance to HZL</b>	Our customers' requirements and feedback are of critical importance to us as they determine the quality and pricing of our products. We innovate and develop products based on customer requirements and also collaborate with them.
<b>Key engagement platform</b>	<ul style="list-style-type: none"> <li>• Customer servicing and feedback collation</li> <li>• Marketing activities</li> <li>• Online engagement through Website</li> <li>• Biannual customer satisfaction survey</li> <li>• Customer query resolution</li> <li>• Tailor-made value propositions on customer demand</li> </ul>
<b>Key issues or expectations</b>	Creation of better products and services, response to complaints and grievances, appropriate disclosure of information on products and services, meeting quality requirements, technical and pricing queries, support in time to market and improving resource efficiency
<b>Key engagement during the year</b>	<p>We have successfully launched and supplied Electro-plating Galvanising (EPG) and Hindustan Zinc Die-casting Alloy (HZDA) in FY 2019. Our focus is on increasing the supply of value-added products to 25% of total zinc sales in FY 2020, which was 16% in FY 2019. HZL has been working with Indian chapter of International Zinc Association (IZA) to grow the zinc consumption in domestic market through active market development programme. In the last year, IZA and HZL have conducted seminar and educational programme in various smart cities to enhance awareness about the role of zinc in corrosion protection in different infrastructural projects and sustainability of the smart cities' projects. Further, the team had organised seminars on Die-Casting Technology based on technical and market related discussions. IZA, along with HZL has several engagements with the Railway ministry, Steel ministry and Steel Authority of India Ltd. to use galvanised railway tracks.</p> <p>HZL has also been working on improving the technical and support services for all the customers for better awareness and detailing of product portfolio.</p>



# CARING A(g) to Z (n)

Key stakeholder group	Suppliers
<b>Relevance to HZL</b>	Our operational efficiency is closely associated with the value-chain partners we are dealing with. Timely supplies, logistical efficiency is of great importance for meeting our business objectives. We also ensure our suppliers also abide by the highest standards of environmental and social management so that HZL's brand reputation is intact and sustainability objectives are met.
<b>Key engagement platform</b>	<ul style="list-style-type: none"> <li>Contract negotiations, Supplier Code of Conduct, policies and standards,</li> <li>Supplier meetings</li> <li>Supplier Sustainability assessment</li> <li>Vendor due diligence</li> <li>Pre-qualification meetings</li> </ul>
<b>Key issues or expectations</b>	Building of fair and long-term business relations, effective information sharing towards better partnerships, technical knowledge exchange and other collaborations, contract terms and conditions
<b>Key engagement during the year</b>	We are expanding our ancillary facility for recovering value from waste in Dariba Smelting Complex to manufacture copper sulphate, which is required for ore beneficiation at mines. A second ancillary unit is under construction at Chanderia Lead Zinc Smelter premise, which will also convert to consumable or saleable products. Critical supplier's sustainability assessment, critical supplier review by senior management, contractors skill enhancement programme are few of the initiatives we initiated to strengthen the partnership with our suppliers
Key stakeholder group	Communities
<b>Relevance to HZL</b>	Our harmonious co-existence with our communities is important for disruption-free operations and this is also important for our social licence to operate.
<b>Key engagement platform</b>	<ul style="list-style-type: none"> <li>Social contribution/CSR activities</li> <li>Public hearings</li> <li>Community impact assessment surveys</li> <li>Complaints and grievances mechanisms</li> </ul>
<b>Key issues or expectations</b>	Fulfillment of our responsibilities as corporate citizen, involvement in the local standards of living, platform for improved income generation, skill development, meeting expectations related to rehabilitation and resettlement
<b>Key engagement during the year</b>	Baseline and impact assessment studies during the year; Undertook a job mapping and inclusion assessment for persons with disabilities in India's mining sector-first-of-its-kind evaluation-in partnership with a nationally reputed, specialist organisation; commissioned a water resource assessment to make a rainwater harvesting plan for our Dariba SBU, public hearing for Pantnagar, Rajpura Dariba Mines (RDM) and Chanderia Lead Zinc Smelter (CLZS) expansion projects and various socio-economic programmes to enhance the quality of life and economic wellbeing of communities During the year 19 community issues recorded and 17 resolved.



Public hearing PMP



Community plant visit





Sponsored and participated in (MINING MAZMA 2018) organized by FIMI

**Key stakeholder group**

**Government**

<b>Relevance to HZL</b>	We believe our business plays a significant role in nation-building and our contributions to the local economy complement the governmental initiatives in the region. Through our tax payments, we become a close collaborator for the local government and our CSR programmes strengthen public policies and programmes on development.
<b>Key engagement platform</b>	<ul style="list-style-type: none"> <li>• Advocacy through trade and industry bodies</li> <li>• Close engagement with regulators, local administration, inspection bodies on a regular basis</li> <li>• Regulatory and legal compliance</li> </ul>
<b>Key issues or expectations</b>	Compliance with domestic and international regulations, abiding by policy recommendations, participation in industry- and government-collaborative projects
<b>Key engagement during the year</b>	<p>Our dedicated team at corporate as well as facility level takes up the responsibility of interacting with the respective regulatory and government agencies for various compliances and other related functions.</p> <p>HZL constantly endeavours to engage with the government, regulatory authorities and professional bodies through regular dialogue and meetings to ensure timely sanctions, approvals and clearance.</p> <p>Our CSR projects are carried out in close partnerships with the government. We are collaborating with the state government on rainwater harvesting. We are the CSR partner under the Government of India's Swachh Iconic Places initiative as part of Swachh Bharat Mission. Our sewage treatment plant is a unique public private partnership project in association with government which is helping in cleaning the lakes of Udaipur.</p>

**Key stakeholder group**

**Shareholders/Investors**

<b>Relevance to HZL</b>	Our shareholders are the providers of financial capital and their trust in the business is of key importance for HZL's financial health
<b>Key engagement platform</b>	<ul style="list-style-type: none"> <li>• Financial results declaration (quarterly)</li> <li>• Annual General Shareholders Meetings (annual)</li> <li>• Investor Relations events, one-on-one meetings</li> <li>• Disclosure tools, including Annual Reports, Sustainability Reports, website</li> <li>• Complaints and grievances</li> </ul>
<b>Key issues or expectations</b>	Timely, fair and proper disclosure, fair assessment, ratings and support from capital markets, reflection of shareholder and investor viewpoints in corporate strategy and long-term plans
<b>Key engagement during the year</b>	HZL conducts a yearly shareholder gathering, the Annual General Meeting and we present our key performance indicators and the Company's strategy and the way forward. During the year, we had four earnings call and site visits to our mines and smelters for investors and research houses



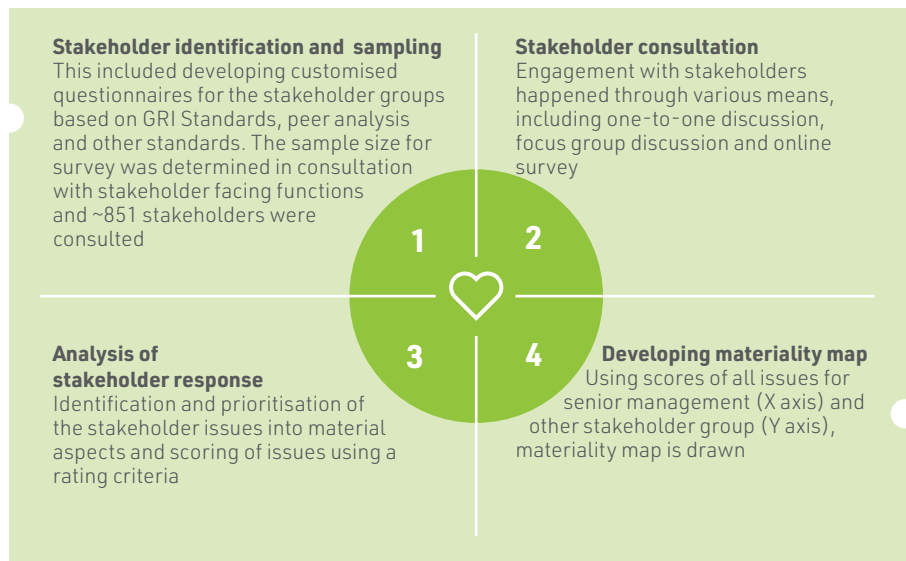


# Topics we care for

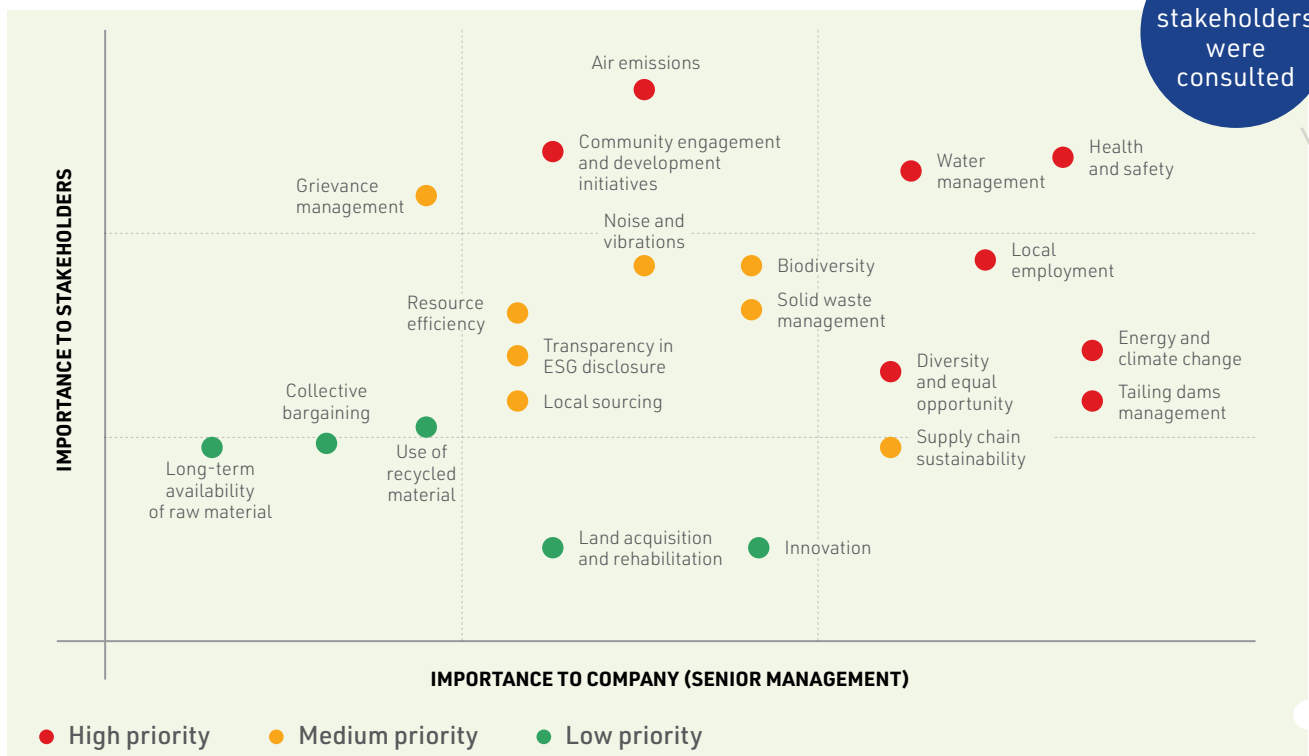
Our sustainability strategy is dynamic and is responsive to the developments in the external environment. To ascertain the ever-changing expectations of our stakeholders, in the evolving external environment, we conduct a detailed materiality assessment in every two to three years.

We develop our sustainability strategy, based on the materiality assessment, stakeholders' own priorities, analysis conducted by outside consultants, opinions of experts, references taken from GRI Standards and the Environmental, social and governance (ESG) indices.

During FY 2019, we engaged third-party consultant to carry out a detailed assessment involving an extensive set of internal and external stakeholders. The materiality assessment process entailed these key steps.



## Materiality map



Please find below the references where the identified high-priority issues are being addressed in this Sustainability Report.

High-priority issues	Relevance	Operational boundary	Section reference	SDG Linkage
<b>Health and safety</b>	Health and safety of our people is our top priority and we try to make our workplace free of fatalities, injuries or occupational diseases.	←	Page 46	
<b>Water management</b>	Water is a key natural resource we are dependent on. As we operate in a water stressed region, conservation of water is important to us.	← →	Page 88	
<b>Tailing dams management</b>	Tailing dams malfunctioning can cause huge environmental impacts and that's why managing them responsibly is our top priority.	←	Page 88	
<b>Air emissions</b>	We aim to minimise air emissions and reduce impact on the environment and local communities.	← →	Page 88	
<b>Energy and climate change</b>	Climate change is an issue that affects our business and creates both challenges and opportunities for our business and communities.	← →	Page 88	
<b>Community engagement and development initiatives</b>	We play a significant role of being a catalyst for socio-economic development of the region where we operate.	→	Page 108	
<b>Local employment</b>	We contribute to the development of the local economy through direct employment.	←	Page 78	
<b>Diversity and equal opportunity</b>	We encourage diversity at workplace because it enhances the collective experience and skill set of the organisation.	←	Page 78	
<b>Learning and development</b>	To facilitate the long-term career growth of our employees we play a significant role through training and learning and development. It also helps us expand our know-how.	←	Page 78	
<b>Compliance to government regulations</b>	We strictly follow the applicable laws and regulations at all our operations and we also ensure that regulatory compliance is maintained across value chain.	← →	Page 40, 46, 62, 68, 78, 88, 108	
<b>Ethics and integrity</b>	Corporate ethics and integrity are ingrained in all our business transactions and we take utmost care in upholding the same.	← →	Page 40, 68	
<b>Human rights</b>	Our commitment to human rights is reflected in our values, policies and actions. We seek to respect and protect human rights across our operations and value chain in all possible ways.	← →	Page 68, 78	

← Internal      → External



# Anchoring corporate stewardship

The key material issue associated	Priority of the issue	SDGs associated
Ethics and integrity	HIGH	   
Human rights	HIGH	
Compliance to government regulations	HIGH	

Being a responsible corporate citizen is an extension of our brand identity and a strong corporate governance structure ensures business transparency. Compliance with applicable regulations is an uncompromised facet of our business. Beyond compliance, HZL's sound and ethical governance policies ensure long-term economic value, help us assume increased corporate responsibility and, contribute to sustainable development.







## Corporate governance framework

We have a **three-tiered governance framework** and each tier plays a significant role in driving high standards of ethics, governance and corporate citizenship.



### Strategic Supervision

Aligned to the statutory stipulations, our Board of Directors comprises Committees that form the key elements of our corporate governance framework. The Board Committees play a key role in strategic supervision and the organisation's long-term strategic approach.

Our key Board Committees are entrusted with specific responsibilities and their decisions drive HZL's overall management approach.

#### Board Committee Roles and responsibilities

<b>Audit</b>	To provide reassurance to the Board on the existence of an effective internal control environment; ensure efficiency and effectiveness of operations; safeguard assets and adequacy of provisions for all liabilities; ensure reliability of financial statements and other management information, adequacy of disclosures and overall compliance
<b>Stakeholder relationship</b>	To address investor and stakeholders' complaints pertaining to transfers/transmission of shares, non-receipt of dividend and any other related matters
<b>Risk management</b>	To review the major risks identified by the management, along with the mitigation plans; monitor and review the Company's risk management plan and to apprise the Board of the same
<b>Nomination and remuneration</b>	To recommend to the Board the appointment or reappointment of Directors, remuneration of Directors and Key Managerial Personnel (KMPs); formulate criteria for evaluation of Independent Directors, Board diversity; assist in identification and selection of persons who could be appointed as Independent Directors, disclosure, effectiveness and monitor ethical standards
<b>CSR</b>	To monitor our CSR function as per the CSR Vision & Mission; framing our CSR policy and tracking implementation of CSR projects



### Management and control

The functional heads and plant heads of HZL led by our Chief Executive Officer, Chief Financial Officer and Director Operation, are key to implementing the strategies, coordinating different business transactions and focussing on process improvements at mines and smelters.

They form a part of our Executive Committee, which directly interacts with the Board and ensures seamless communication between HZL and the Board.



### Execution

This tier comprises several Strategic Business Units (SBUs) for overall execution and empowerment through decentralised decision-making.

## Ethical business conduct

Our Business Ethics and Code of Conduct lay the foundation of ethical practices that HZL's management, employees, partners, contractors and other stakeholders abide by. It is aligned with the Foreign Corrupt Practices Act and UK Bribery Act, 2010 and it enshrines principles of ethical conduct in HZL's work environment, business practices and relationships.



### Key elements of Business Ethics and Code of Conduct

- Human Rights
- Gift Policy
- Whistle Blower Policy
- Sexual Harassment Policy
- Insider Trading
- FCPA (USA)
- Diversity and inclusion policy
- UK Bribery Act

The Code guides our behaviour and helps us promote:

- Honest and ethical conduct, the ethical handling of conflicts of interest between personal and professional relationships
- Full, fair, accurate, timely and understandable disclosure of reports and documents that HZL files with, or submits to, relevant authorities, and in other public communications
- Compliance with applicable government laws, rules and regulations
- Prompt internal reporting to the appropriate person or persons identified in this Code

### Accountability for adherence to this Code

All the Board members, executives and new employees annually affirm compliance with the Code. Every year all employees give their sign-off for compliance with COC. An Ethics Committee has been constituted to orient and address the principles and standards. The committee takes various initiatives to spread awareness about our Code of Conduct and Whistle-Blower Policy.

### Anti-bribery and anti-corruption

We conduct all our business transactions in a fair and transparent manner. All our employees and stakeholders are trained and made aware of the core tenets of our Code of Conduct. This is to ensure that there is no undue monetary or facilitation payments made at any stage along the value chain; to any person or persons, including public officials, customers, or to any other organisation in an illicit manner.

## Ensuring compliance

During FY 2019, there have been no reported legal cases on anti-competitive behaviour, anti-trust and monopoly practices.

There were no reported fines/ non-compliance issues with regards to the applicable laws and statutes





During the reporting period, FY 2019, all whistle-blower complaints were resolved suitably

**Whistle-Blower Policy**

We encourage and empower our employees to raise concerns about any unfair business dealing, through our Whistle-Blower Policy. We safeguard the whistle-blower by keeping his or her identity confidential. As per the policy, any employee or contractual employee or other stakeholders can raise concerns pertaining to the following areas:

- Fraud against investors, securities fraud, mail or wire fraud, bank fraud, or fraudulent statements
- Violations of any rules and regulations applicable to HZL and related to accounting and/or auditing matters
- Intentional error or fraud in the preparation, review or audit of any financial statement of HZL
- Any violation to HZL's ethical business practices as specified in the Company's Code of Conduct policy

The Group Head – Management Assurance, is responsible for addressing all complaints raised and ensures thorough investigation of the same. The report for complaint resolution is then shared with the Audit Committee for review.

Further, to encourage safety practices, we have established a special 'whistle-blower portal for safety'. The programme reinforces our existing safety practices and helps employees reach out to senior management of HZL.

**Hotline Number:**  
000-800-100-1681

**Email:**  
hzlwhistle.blower@vedanta.co.in

**Web based reporting platform:**  
[www.vedanta.ethicspoint.com](http://www.vedanta.ethicspoint.com)  
[whistleblower.hzlmets.com/](http://whistleblower.hzlmets.com/)

**Our approach to human rights**

We lay great emphasis on human rights and have embedded human rights into our policies, business systems and processes. We respect the principle of free, prior and informed consent.

Respect for human rights is critical to the way we operate and impacts our employees through labour rights and communities right across our supply chain.

Our Human Rights Policy is aligned with the UN's Guiding Principles on Business and Human Rights, and includes strict prohibition of child or forced labour either directly, or through contract labour.

Additionally, our business ethics and Code of Conduct underpins our approach to protecting the fundamental rights of all our direct and indirect employees, communities and immediate supply chain. Both the Code and the Policy clearly communicate our expectations to our business partners to comply with all relevant legislation and follow our policies while executing work for HZL, or on our behalf.

**Slavery and human trafficking**

As per the disclosure obligations under the UK Modern Slavery Act 2015, we ensure that modern day slavery does not prevail in our business and supply chain. We monitor stringently to ensure our contractors, suppliers and business partners do not use any, forced or trafficked labour.

**To raise the awareness of employee's online test for awareness on Modern Slavery Act was launched for all employees. It was mandatory for all executives to participate in this test to enhance their awareness and implementation at site.**





## Cautious at Work

At HZL, care and safety of people is paramount. Continued work towards improving health & safety of its stakeholders is aimed at controlling risks around mining. While proactively dealing with identified major risks, HZL has put in place new initiatives, a number of committees involving mining operations and taken a number of initiatives to improve health and safety of personnel in the mining industry.

[Read more on Page 46](#)



## Inclusive Progress

Our people are at the heart of our growth. While we create for our people a dynamic and thriving workplace, we reward performance and continually invest in developing leaders. Regular training and opportunities to flourish and make HZL the most preferred and admired employer. It is not without reason that we have consistently been certified as a 'Great Place to work' for the past two years.

[Read more on Page 78](#)



## Responsible Supply Chain

Our suppliers and vendors are our partners in growth. Extending from procurement to selling end-user products, HZL seeks partners whose values resonate with ours. This is not only an assurance for our end consumers but also ensures efficiency and seamlessness in operations. We invest regularly in ensuring their safety and reliability in order to meet mutual growth needs.

[Read more on Page 68](#)



## Nurturing the Environment

At HZL, we are committed to sustainable use of natural resources. Being an extractive industry, we are extremely mindful of adverse effects on the environment and are constantly investing in finding new ways to rehabilitate and reverse any disturbances to the ecosystems. Our strict environmental controls and conservation methods ensure responsible use and replenishment of resources.

[Read more on Page 88](#)



## Augmenting Growth

We are a globally recognised mining giant with a promise to deliver long-term value to our stakeholders. HZL's commitment to sustained growth is reflected in its expanding mining capacities and maximising value with greater transparency and better governance. It is ultimately making mining better, faster and safer along with other benefits across its value chain.

[Read more on Page 62](#)



## Growing Together

Community participation is at the core of all our mining-related decision-making – it's an inclusive approach constantly building on creating shared value. Connected by 'Trust', our multi-stakeholder partnerships for implementing our flagship projects and other interventions, enhance the quality of life and economic wellbeing of the communities around our operations.

[Read more on Page 108](#)



# Cautious at Work

The key material issue associated	Priority of the issue	SDGs associated
Health & Safety	HIGH	 



## Zero Harm An unrelenting objective

At HZL, we are committed to being a business without fatalities, serious injuries or occupational illness. We firmly believe that every incident is preventable. 'zero harm to people' is our paramount health and safety goal.

We are committed to providing safe working conditions and have effective management systems in place to ensure the wellbeing of all our employees and others who may be affected by our operations.



### Our ambition

Establishing a zero harm culture at work and enhancing safety by eliminating fatalities, incidents and illnesses



### Our approach

- Establishing a Zero Harm culture at work and enhancing safety by eliminating fatalities, incidents and illnesses
- Recognising Occupational Safety as a core value and driving responsibility towards Safety, Health & Environment (SHE) to protect the people we work with and society at large
- Taking initiatives towards ensuring utmost safety of its employees and the environment they work in. The Safety Excellence Journey is a significant initiative on this front
- Governing safety through the Apex Body which is the Corporate Safety Council, chaired by the CEO, and involves various leaders from all verticals. The business HSE Head is the Member Secretary of this council
- Building the three safety pillars: safety culture transformation, capacity building and process safety management



### Strategic priorities

- Achieve zero fatality
- Achieve zero occupational illness cases
- Improve occupational health and hygiene
- Effective High Potential Risk Management
- Critical review and audit of safety standard implementation



### Performance in FY 2019

- Constituted Safety Innovation Cell
- Introduced Fatality & Serious injury Prevention Programme (FSIPP) Subcommittee as a workstream
- 11 mandatory online safety tests conducted
- Released videos on machine guarding and excavation standards
- Strengthening of Emergency preparedness of organisation - Fire team successfully arrested the chlorine gas leak at Choti Sadari of Pratapgarh District and saved the life of ~ 2,000 people of that area

# Safety governance

HZL aspires to achieve excellence in safety practices and performance. Therefore it has put a system in place to:



Safety at HZL is driven by the Corporate Safety Council, which is chaired by the CEO, and has the Chief HSE Officer playing a key role in the council. The apex body has six corporate subcommittees and five zone apex committees, with primary function to set system and procedures in place and to steer safety in business with ultimately helping the organisation to achieve zero harm.

Safety Councils have also been regularised at the Independent Business Unit (IBU) level to bring more accountability with regard to safety. Monthly safety meetings are conducted at all the IBUs involving key leaders and their active participation, which helps business to improve processes of safety through decision-making.

We also have a formal joint 'management-worker' health and safety committee, which is the governing body for monitoring the implementation of organisations occupational health and safety programmes and drives. It has equal representation of Management and workers. Most employees do participate in these safety committees. Committee meetings are held regularly to gauge the effectiveness of these programmes as an assurance process to safety implementation.

## Governance Structure





# Key safety subcommittees

Committee	Roles and responsibilities
Safety Interaction and Audit Subcommittee	<ul style="list-style-type: none"> <li>• Deploy, monitor and review unit Safety Observation and Audit process at HZL for achieving world-class safety performance</li> <li>• Ensure that all unit employees have adequate standard and procedures to define and implement a process to improve behavioural safety using safety interaction system</li> <li>• Implement, deploy and continually review safety interaction processes at zones for achieving world-class safety performance</li> </ul>
Incident Management Subcommittee	<ul style="list-style-type: none"> <li>• Effective communication to make all employees aware about the incident management &amp; investigation process that supports the objective of reporting, investigating and communicating all incidents. The principle that underlies this is 'the only reason an investigation is undertaken is to prevent a recurrence' and focusses only on finding 'fact' and not 'fault'</li> <li>• Develop, deploy and continually improve incident reporting and investigation process uniformly across all businesses of HZL</li> </ul>
Contractor Safety Management Subcommittee	<ul style="list-style-type: none"> <li>• Deploy, monitor and review a rigorous Contractor Safety Management System to allow HZL to partner with contractors who share HZL's values for safety and operational excellence</li> <li>• Implement and improve Contractor Safety Management (CSM) system in our operational units</li> <li>• Standardise contractor management cycle for contractor awareness, involvement and improvement</li> </ul>
Process Safety Management Subcommittee	<ul style="list-style-type: none"> <li>• Implement and maintain risk management systems &amp; processes in order to eliminate process safety incident and injuries</li> </ul>
Standards, Rules and Procedures Subcommittee	<ul style="list-style-type: none"> <li>• Ensure that adequate rules and procedures are available for all employees and contractors at HZL to work safely and effectively</li> <li>• Implement a process to identify, develop, train and implement the high risk standard and procedure</li> </ul>

## Introduction of Fatality and Serious Incident Prevention Programme (FSIPP) Subcommittee

With an aim to enhance focus on high-risk activities and monitoring the effectiveness of control measures, we introduced the 6<sup>th</sup> subcommittee – FSIPP subcommittee

The key objectives of the FSIPP subcommittee is to:

- Ensure that all the identified high-risk activities are analysed for risks and control measures defined, implemented and monitored
- Drive organisation fatality and serious injury prevention programme in a structured way
- Periodic monitoring, audit and horizontal deployment of critical controls across all locations

## Safety Committees – Composition



as on 31<sup>st</sup> March 2019

## Safety performance

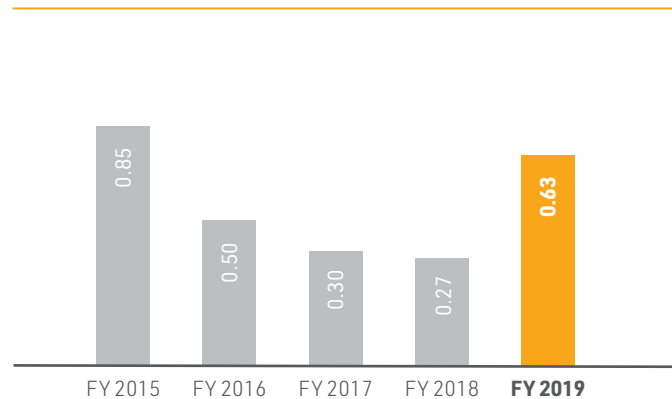
HZL believes in fostering a culture of transparent reporting and encourages employees to report every incident in order to eliminate all potential hazards and risks in our operations and prevent reoccurrence. During the year, HZL reported an increase in the number of incidents although there is reduction by 26% over the previous five years.

This year, there was an increase in lost time injury frequency rate from 0.27 to 0.63 partly on account of higher local contract workforce and increase in underground mining operations. This puts a high onus on HZL to enhance skill development and safety training of the local workforce and several initiatives are being taken in this area.

There were seven fatalities during the year – four in mining and three in smelting operations. The cause of these incidents have been thoroughly investigated and effective controls are being put in place to prevent their recurrence.

Safety trainings of 0.81 Million man-hours were conducted to strengthen adherence to safety standards and procedures.

**Lost Time Injury Frequency Rate (LTFIR)**



**Lost Time Injury per million man-hours and incident reporting as per ICMM guidelines**



**0.81 Million  
man-hours**

Safety training

# Strategic approach

For us the life of our people and their families are of paramount importance. As an organisation, we are committed to achieve safety excellence in our business and have embedded safety as an integral part of our Business. To achieve this we have adopted a strategic approach based on the following three pillars:

## Three pillars



### Safety culture transformation

- Safety Whistle Blower
- Safety Town Hall
- Safety Stand Down
- Action Employees Can Take (AECT)
- Contractor Safety Management



### Safety capacity building

- Safety Training
- Safety Training Kiosk
- Safety Training Park
- Online Safety Awareness Test
- Emergency Response & Rescue Drill
- Engaging Experts for Skill Development



### Safety process management

- Safety Standards
- Fatalities & Serious Injury Prevention Plan (FSIPP)
- Safety in Operations
- Hazard Analysis
- Safety Improvement Project
- Innovation & Technology

## 'Aarohan' –

### A upward journey of strengthening safety

Safety Excellence Journey is an initiative driven by the desire to protect the people we work with. In 2013, the journey was undertaken with help from DuPont Sustainable Solution, a wing of DuPont, a company known worldwide for its excellent safety systems





## A culture of safety

HZL's Health, Safety and Environment policy defines our commitment to protect employees and others affected by operations while a set of standards, guidelines, operating procedures and systems detail the accountability, mandatory controls and requirements for managing the business in a safer way.

### Key elements of the safety programme

The HSE policy, related guidelines and standards are implemented to maintain safety and wellbeing of our people at workplace, respond responsibly to incidents and undertake appropriate provision to mitigate risks.

All units are OHSAS 18001 certified and migrating towards ISO 45001 with Hazard Identification and Risk Analysis (HIRA) in place for all activities. For every significant risk, appropriate control measures are implemented as per the hierarchy of elimination, substitution, engineering, administration and Personal Protective Equipment (PPE).



## Safety Pledge

- Never compromise my own safety or the safety of my co-workers to get the job done
- Never take shortcuts or bypass the safety features to perform the task quicker or easier
- Perform my job with understanding that working safely is a condition of my employment
- Never walk past the work being done in unsafe manner; stop the job if it is not safe
- Actively look for hazards, promptly report them, and take appropriate action to warn others
- Always follow the Life Saving Rules
- Always do my job with 100% compliance of Safety Rules/Standards/SOPs
- Be a good safety role model for my friends and family. Even when off the job, I will voluntarily participate in the safety promotional activities and will demonstrate safe behaviour at all times



We have initiated the migration process from OSHAS 18001 to ISO 45001

## Hazard analysis and risk management

We, at HZL, follow the '5\*5' Risk Matrix for risk assessment, wherein risks are identified, categorised as per impact and probability and mitigation plan are prepared. There is a formal process for hazard identification, risk assessment and control to effectively manage workplace and safety hazards across the units. Training on identification and assessment of risk is imparted to employees. Apart from this, we have techniques called Hazard and Operability (HAZOP) and Process Hazard Analysis (PHA) to identify process risks and prepare appropriate mitigation plans through audits.

We have developed Standard Operating Procedure (SOPs) for the 26 high risks we have identified and are implementing phase-wise. Also, 14 Standards are being developed for fatality prevention elements.

**0.63**

Lost time injury frequency rate

**0.81**

Million manhours of safety training accomplished

**100%**

Periodic medical examinations of all employees as applicable



## Case study

## Upgrading safety standards

Our operations require the mass transportation of coal to coal bunkers and we devote attention to making sure that the process is carried out without interruptions and distress. We recognise the need to elevate uniform safety procedures pertaining to the handling and operating of coal bunker trolley. Ideally, the trolley should run in auto mode so as to employ least number of operators in the process, thereby engaging their productivity into more fruitful occupations while keeping them safe from hazards.

### What were the challenges

Our principal problem arose out of the fact that the bunker trolleys were dependent on human intervention, giving rise to potential hazards in and around the plant. Further, the operators working with these machines were not safe, since they were exposed to the machine interface.

### How we intervened

We have varying layers of hierarchy that assess the efficacy of our control measures. These layers are also useful in gauging the modes that lead to failure in operation, causing hazards. We identified the possible hazards present within the course of bunker trolley automation, by means of a systematic process.

Devising and implementing the use of an auto operation facility was viewed as the best way forward. In doing so, we installed four new proximity switches. We crafted a forward and reverse operation logic, in addition to incorporating Programmable Logic Controller (PLC) based protection and interlocks as well as a camera for remote monitoring. We retrained relevant personnel to ensure sustenance of the measures.

### What we achieved

One of the major risks associated with self-handling is the possibility of operators being trapped by moving machinery. However, following the implementation of control measures, likelihood of occurrence decreased to 20%. Risk likelihood came down from 25 to 5.



## The safety innovation cell

Over the last decade, with HZL expanding its capacity from 0.5 Million to more than 1.0 Mt in FY 2019, safety at the organisation has been impacted due to involvement of a larger workforce, at our mines, smelters and projects.

To boost safety innovation, HZL decided to explore best possible technologies as well as innovations that can boost safety and mitigate risks. A team of ten members was constituted from smelters and mines to identify the top 10 risks faced by HZL. As part of this exercise, the team collected last 10 years Fatality, High Potential Incident (HIPO), Lost Time Injury (LTI), Medical Treatment Injury (MTI) data and analysed their root causes possibility of any engineering control in that particular risk.

### Focus on top 5 critical hazards



Fall of ground



Man machine interaction



Mine fire



Hot metal work



Material handling

### Vision of the Safety Innovation Cell

Be a benchmark in safe work practices by eliminating risk through technology and innovations

#### Mission

- Identifying innovative engineering solutions for high-risk activities
- Eliminate/minimise manual activities in material handling
- Improve awareness on safety culture through Innovative ways
- Digitalisation of safety system

### Innovation cell's approach

- Understand high hazard activities in detail
- Review effectiveness of earlier action plan against each incident
- If risk is not mitigated, look for innovative solutions to eliminate/mitigate risk through:
  - Engineering control
  - Mechanisation/digitalisation/automation
  - Benchmark solutions/visits to other mines/smelters
  - Engaging engineering consultants
- Finalise the solution for implementation at one place and measure its effectiveness
- Horizontal deployment across all mines/smelters

### Major innovative technological developments from safety innovation cell

#### Man-machine interaction

- Collision avoidance system – Proximity Sensor/Radio Frequency Identification (RFID)
- Innovative parking design with no reversing/drive-in parking
- T Stick/Flasher light for underground
- Smart cone positive barricade system

#### Rock-falls prevention technologies

Rock and roof falls is one of the most common and the leading cause of underground mining accidents. The Safety Innovation Cell has explored D-Fog, an early warning system for fall of ground and introduced mobile scanning device at Rampura Agucha Mine to know the convergence of the area with ease of working. To minimise manual interaction in rock bolting & wire meshing, we explored a new technology called Mesha & jumbo guard





in boomers/jumbos to interlock hydraulic action during manual intervention.

**Computerised permit-to-work system**

SI cell with the help of ENSTRAPP, has developed a permit-to-work authentication system called IntelliPERMIT that integrates all aspects of permits-to-work, access control and risk assessment, tracks the authorisation levels of each employee at work, and ties permits into access control with biometric fingerprint identification. IntelliPERMIT has been installed and in use at Chanderia Lead Zinc Smelter (CLZS) and is being expanded for horizontal deployment across all sites.

**Fatigue monitoring**

Seeing Machine, an Australian company, has developed fatigue monitoring systems called Driver Safety System (DSS) using patented eye and head tracking technology. The DSS comprises a dash-mounted camera constantly detecting the fatigue and distraction in the driver's eyes. This system was already installed at Rampura Agucha Mines open pit trucks earlier. A new technology has been developed by Daversman called seat vibration integrated with dash board camera. The cell is exploring integration of this technology with our systems at underground mines.

**Mine rescue: Custom build refuge chambers**

To facilitate easy rescue for more than 200 to 300 persons inside underground mine, the Safety Innovation Cell has asked Strata PDS (USA) to develop custom-built refuge chambers for Sindesar Khurd Mines and Rampura Agucha Mine in the first phase. It will be horizontally deployed in the next phase in other mining units.

**Crane smart safety**

Material handling through EOT and mobile cranes in mines and smelter is always challenging and is a high potential hazard. Safety innovation cell has explored eight engineering controls for EOT cranes to be implemented, especially at smelters:

- Balanced lifting
- Access control
- Line of fire safety
- Accidental remote operation
- Auto hook latching
- Lift control & smooth hoist
- Specific weight lifting control and
- Crane hook latch live monitoring



Case Study

# Man-Machine Interaction at Rampura Agucha Mine

The number of vehicles and pedestrians are very high at mining premises. Seven fatalities have been reported in the last 10 years at HZL and the recent fatality reported at Mochia revealed that blind spot areas of mine truck operators lead to fatality.

The HSE department conducted an audit and a routine inspection at roads and parking areas which revealed a major hazard 'struck by vehicle' and 'run-over' due to non-segregation of pedestrians and vehicles and blind zones, creating 'line of fire', especially while vehicle reversing.

**Few initiatives taken up by team to avoid MMI:**

- Pedestrian walkway extension
- LED light stick on LMV's
- Speed breaker to control speed of vehicles
- 'One -way' traffic
- Improved road traffic signages and road marking
- Prohibition on usage of mobile in unauthorised areas
- Defensive driving technique and blind spot training
- Line of fire exhibition with live models
- Better handling of blind zones
- Following recommendations from this programme, we implemented solutions like installation of additional cameras. As a result, rear and side views improved
- Defensive driving technique training imparted to operators and HZL, drivers and contract workers changed their behaviour



Through this drive we covered 409 participants

## Strengthening safety performance



Case Study

# Towards safety excellence

We are pursuing a vision to become the best and the most sustainable corporate. To that end, we conducted a Safety Perception Survey and Safety Management Evaluation of HZL's operations during February 2013. Soon after, we announced the commencement of a long-term safety excellence journey for 48 months, in collaboration with DuPont. We christened the journey 'Aarohan' with the meaning - 'stepping up towards safety excellence' in mind.

### Intervention

With our high benchmark for effecting positive change in mind, it was necessary for us to transform the culture of our organisation from reactive to independent. At the same time, achieving excellence in safety standards was paramount. The journey involved a structured programme, which was catalysed by four key levers:

- Engaging the senior leadership
- Inculcating a strong safety consciousness across the organisation
- Building skills and competencies for consistent implementation along prioritised work streams (such as safety interactions, incident management, contractor safety management, process safety management and others)
- Enhancing existing safety management systems and enriching its associated ideals

### Impact

Aarohan allowed us to see positive results achieved mainly on account of our dedication, commitment and hard work towards becoming the safest organisation and offering a supportive workplace. This programme enabled employees to develop a personal sense of ownership and accountability, through continuous dialogue related to safety issues.

One of our primary focus areas was to energise the senior management into participating in the programme and thus leveraging a higher degree of involvement to direct the team towards fulfilling the objective of 'care' and 'zero harm'. The journey of Aarohan has succeeded in demonstrating 'Visible Felt Leadership' with the Line Management proactively taking accountability and responsibility for safety and fostering a belief that all incidents are preventable.

Since the implementation of this programme, we have realised better reporting of leading indicators; an improvement in the quality of incident investigation; increased active employee participation in safety-related activities; and an improvement in the standardisation of systems as well as the overall development of skills.

### OTHER INITIATIVES

- Leadership-driven safety townhall, IBU-level safety council, zone HSE coach programme, mining and smelting safety workshops, second party safety audit and leadership tour of shop floor to showcase felt leadership
- In light of the tailings facility failures in recent years around the globe, we have proactively conducted stability tests across our three tailing dams with the help of global experts in addition to comprehensive internal audits by cross-functional teams and recommendations from these are being addressed on a priority basis
- Introduced Observance Day to sensitise all employees on past incidents, implementation of its learnings and to avoid reoccurrence of same incident in future
- 11 mandatory online safety tests were conducted to bring awareness on various safety standards
- Videos on machine guarding and excavation standards were released under training application. Safety videos will be made for all standards in the coming years.
- We have introduced the safety stand down platform to extend the learnings of an incident at any site to other units.
- We have rolled out monthly themes for our high-risk activities and conducted various programmes (training and awareness sessions, competitions, etc.) around these themes to spread awareness across our operations.
- Automatic operation of coal bunker trolley was done by installing proximity switches, forward and reverse operation logic for trollies, protection of interlock by PLC, installation of camera for remote monitoring. As a result, likelihood of accident occurrence decreased by 20%





## Case Study

## Automating rack-in, rack-out process

Electrically powered equipment can pose a significant hazard to workers, causing burns, shocks and electrocution. Different sources and records revealed that most of the incidents that happened within electrical systems were at the time of inserting or removing (rack in or rack out) circuit breakers from the circuit.

These incidents occurred while connecting or disconnecting the moving part from the charged part, known as busbars. Generally, the rack in and out practice is performed by engineers, after the circuit breaker is opened. This is done by rotating a handle, which is fixed on the breaker, anti-clockwise. Physical racking in and racking out circuit breakers poses a potential risk of lethal arc flash exposure. The chances of flashing are more pronounced at the time of disconnection, resulting in electrocution of the person performing the task.

We discussed the reduction of human interventions with OEMs. We identified motorised rack in and rack out breakers, wherein operations are conducted remotely from an electrical control room. We implemented this feature in a medium-voltage switchboard and were able to lower the risk of 'line of fire' accidents. Additionally, arch flash protection relays protect equipment from getting damaged in case of internal faults.



## Case Study

## Enhancing fire safety measures

In order to protect turbines from fire hazards similar to the one that occurred in the Chanderia Lead Zinc Smelter (CLZS) Captive Power Plant (CPP) and the Zawar CPP, we initiated the process of turbine enclosure modification.

The primary reason for the fire was detected to be the oil leakage from the control valve servo meter seals, which lead to the spillage of oil on to the hot turbine surface. Suitable actions has been taken for oil seal design however to avoid any possibility of fire hazard , enclosure has been designed suitably keeping all hydraulic circuit outside the enclosure.

### Intervention

We designed the newly modified turbine enclosure in such a way that all hydraulic governing circuit equipment including government console, accumulators with piping, servo assembly and so on are configured outside of the enclosure. This was thought of in order to eliminate the problem of seepage of oil, through seals and joints, on to hot surfaces of the turbine equipment when leakages occur.

### Impact

The maximum loss incurred in production at the CLZS CPP, from the leakage and subsequent fire, was ₹ 806.4 Lakh. We estimate that the reconfigured turbine enclosure will generate just as much monetary savings for us, since it prevents the possibility of a fire breaking out.



Automating rack-in, rack-out process







Case Study

## Quick action averting possible catastrophe

At Chanderia, our safety team detected chlorine gas leakage in Choti Sadri of Pratapgarh district, which threatened the wellbeing of people in and around the location. We had to urgently address the issue in order to ensure that things did not get out of hand and result in serious mishaps. Besides exposing the neighbouring communities to the dangers of a gas leak, we had to tackle the general lack of awareness among our workforce regarding the probability of such an incident.

### How we intervened

Our fire team responded swiftly to the problem and arrested the chlorine gas leak. The leakage occurred in the middle of the night and our rescue team woke the people residing within 200 metres of the plant and promptly evacuated them from the area.

### What we achieved

Our swift intervention ensured the successful stoppage of the chlorine gas leak at Choti Sadri within ten minutes of reaching the spot. We were able to save the lives of ~2,000 people in the area, bringing them into the open and away from the affected area.

## Training and awareness

Health and safety risks are communicated through regular training and awareness sessions provided to the employees and contract workers to improve their behaviour and attitude towards safe working practices. All newly hired employees and contract employees undergo necessary health and safety trainings before assigning of tasks.

Refresher training was also conducted throughout the year. Communication cells have been established at the units to communicate about safety to shop floor employees. Safety alerts are also released which are displayed on notice boards to make employees aware of the incidents that take place in any units and learnings are shared.

### Driving safety through training

Safety trainings of 0.81 Million man-hours were conducted to strengthen adherence to safety standards and procedures. In particular, onboarding and skill enhancement of contractor workforce has become a critical business imperative.



Case Study

## Enhancing competency of mining mates

As we transition to high level of mechanisation at Zawar mines, it is imperative for us to enhance competency of frontline supervisors to deliver growth in a safe manner. Therefore, we have implemented a comprehensive Mining Mate Training programme – a custom built, contextualised 3-stage programme, which includes assessment, training and audit of mining mates at Zawar Mines in partnership with a leading mining training specialist from Australia. The course covers a range of key elements related to statutory requirements and safety in mining operations.

A skill gap assessment of 300 mining mates was conducted to understand the current knowledge of skills, roles & responsibilities and a custom-built training programme was developed with strong emphasis on their roles and responsibility.

**Stage 1:** Data from the assessment was analysed for insights on each mining mate, ranking them based on their performance during assessment.

**Stage 2:** A 15-day training programme was conducted for 21 selected mining mates to develop them as master mining mates.

**Stage 3:** These master trainers are imparting training to all mining mates at Zawar mines.

The training modules are designed with a blend of classroom and practical activities on the surface and underground to improve operational and risk management skills and empower mining mates to make informed decisions regarding safety and production parameters.

# Contractor safety management

HZL's IT-enabled six-step contractor safety management programme emphasises on safe execution of the contractual work by business partners. We aim to bring all the IT-enabled platforms – SAP, Contractor Workforce Management System (CWMS), field observation and critical incident history of contractors under a common platform.

It involves providing them with safety training, daily tool box talks, a work permit system, and an independent assessment of their tools and tackles, along with regular audits.

**A dedicated Contractor Safety Management Subcommittee** is responsible for continually improving Contractor Safety Management (CSM) systems at all units and standardising contractor management cycle for contractor awareness and involvement.

**Contractor Field Safety Audits (CFSA)** are conducted by trained executives for Improvement Projects and Shutdown Activities by observing them and giving feedback for corrective action.

## Key steps ensuring contractor safety Selection process

A minimum level of safety awareness and implementation is built-in as a pre-qualification criteria. This ensures that the contractor comes onboard aware of the safety standards expected and we are able to pick the best fit contractor, thus ensuring safety for all. The contract preparation and award process involves pre-award meetings, elaboration of safety conditions of contract, understanding of SHE and all certification requirements

## Hand-holding and capability building

Safety induction and job specific training is a mandatory part of the induction process and is continuously upgraded. Recently introduced features include historical training record based on bio-metric identification, enabling HZL to track the training hours invested on a particular contractor employee throughout their engagement with us. We also maintain CFSA, score cards and safety passports for all our contractual workers.

## Auditing and performance monitoring

In addition to the monthly meetings, FY 2019 onwards, the CSM has introduced quarterly

CSM steps	Monitoring parameter
<b>Contractor selection</b>	Pre-qualification
<b>Contractor preparation</b>	<ul style="list-style-type: none"> <li>• Model contract</li> <li>• Safety conditions of contract</li> <li>• Pre-award meeting</li> <li>• Understanding of SHE requirements certificate</li> </ul>
<b>Contract award</b>	<ul style="list-style-type: none"> <li>• Contract award</li> </ul>
<b>Training &amp; orientation</b>	<ul style="list-style-type: none"> <li>• E-modules training</li> <li>• Safety induction</li> <li>• Job specification training</li> </ul>
<b>Managing the work</b>	<ul style="list-style-type: none"> <li>• CFSA</li> <li>• Score cards</li> <li>• Other audits</li> </ul>
<b>Evaluation</b>	<ul style="list-style-type: none"> <li>• Injuries/Medical Treatment Injury (MTI)/Lost Time Injury (LTI)</li> <li>• Score card improvement</li> <li>• Reporting</li> </ul>



audits as well. We also closely monitor injuries/Medical Treatment Injury (MTI)/Lost Time Injury (LTI) and score card improvement. This enables us to be aware of any safety gaps, take immediate precautionary steps to resolve the issue, enhance safety measures and provide specific training, if needed.



## Occupational health management

Occupational health and wellbeing is as much important as safety. We maintain the highest standards of work environment to minimise the exposure of our workers to health risks.



Case Study

### Facilitating better health management

We believe that functionality has much to do with proper maintenance of our fronts and in this regard, it was necessary to upgrade our hospital infrastructure at the Rampura Agucha Mine. It was also essential to address the issue of hospital and medical records being maintained on paper, which left room for making errors and misplacing documents. Thus, we recognised the need for a complete renovation, internal and external, of the hospital premises.

#### What were the challenges

At the outset, we identified multiple problems that afflicted the daily operations of the hospital. From improper functioning of the Panacea software, inadequate equipment and diagnostic services to insufficient inventory of quality medicines and supplements, unavailability of specialists and consultants and regulatory non-compliance - we looked into a wide range of concerns. The state of outpatient care left much to be desired. Further, ambulance services were not aligned to the HZL vehicle policy and standards.

#### How we intervened

Our involvement encompassed initiatives at multiple levels to renovate the premises, reconfigure advanced procedures and equipment, and upgrade existing hospital amenities. We put in place systems that could allow the transactions to become paperless so that proper records could be maintained. Suitable apparatus and personnel strength to handle the high volume of outside referrals to our private hospital was arranged for. Furthermore, vehicles were refurbished, they were better equipped to deal with emergencies. We implemented complete legal and statutory compliance with regard to biomedical Waste, radiation safety and pharmacy.

#### What we achieved

Our efforts were able to deliver satisfaction among employees and dependents of the colony and contractors. We also accomplished a reduction in cost of purchase of medicines and ensured greater reliability in terms of their quality. Proper administrative operations also allowed the saving of expired medicines and surgical instruments. Digitisation of operations allowed staff members to be relieved of store management. Specialist services have been made available and children are now under better care. Early rehabilitation by physiotherapy was also achieved. The rate of new patient admissions has been lowered, owing to improved diagnostic facilities and reduced incidence of ailments. Overall absenteeism among employees has also gone down.





**Establishing health and wellbeing at work place**

HZL believes that all occupational diseases can be prevented. We aim to eliminate occupational illness by providing a workplace free from occupational health and hygiene risk and by proactively contributing towards healthier lifestyles of our people to increase productivity, reduce absenteeism and enhance retention.

**Occupational health centres**

We have established occupational health centres at all mines and smelters with medical professionals for regular health examination of employees and contract workforce. The operations of these health centres are managed using software to coordinate all aspects of patient care, from pre-registration and admission to patient care and discharge.

**Health services**

Health services include pre-employment medical check-up followed by periodic medical check-ups with on-site medical professionals to monitor the occupational exposure limits. Depending on the nature of exposure and surrounding risk, there are different levels of processes, controls and monitoring mechanisms.

**Healthy workplace**

In pursuit of a healthy work environment, we emphasise on controlling source of pollution and monitoring exposure to hazardous substances through technologically advanced processes that reduce possible exposure levels. Additionally, various life style management trainings are conducted.



During the year, over 24,158 employees and contract employees underwent periodic and initial medical examinations. No occupational illness related cases were reported







ECONOMIC PROGRESS

# Augmenting Growth



For over five decades, HZL has been actively contributing to nation-building through taxes, royalties and by creating livelihoods; with an active role in sourcing responsibly from local suppliers, encouraging small businesses, investing in community development programmes and infrastructure. HZL drives socio-economic development by fostering mutually beneficial relationships to ensure long-term success.

The key material issue associated	Priority of the issue	SDGs associated
Community engagement and development	HIGH	 
Transparent disclosure	MEDIUM	 
Local sourcing	MEDIUM	
Land acquisition and rehabilitation	LOW	



### Our ambition

To continue enhancing the direct economic value generated, through profits and employment creation.

To enhance the indirect economic value generated through the contribution we make to the region's economy



### Our approach

- We acknowledge that we play a crucial role in uplifting the overall economy of the region where we operate and hence our senior management is focussed on contributing towards long-term economic prosperity and social wellbeing through job creation, provisioning local goods and services, community investments, and contributing to the exchequer.
- These commitments are part of our Sustainability Vision and are supported by our standards and systems.



### Strategic priorities

- To develop a more structured approach for measuring the economic value our operations generate for the Government of Rajasthan and the local communities
- To continue making significant contribution to the United Nation's Sustainable Development Goals and at the same time contributing to the local Governmental schemes and programmes
- To collaborate closely with public institutions for advocating the usage of zinc for sustainable development and introduce other good practices and products, which shape the industry-wide practices in the country
- To support the ancillary industry
- Create systems for availability of skilled workforce



### Performance in FY 2019

- We contributed ₹ 11,563 Crore to the Government treasury through royalties, taxes and dividends.
- ₹ 905 Crore disbursed as salaries and wages
- ₹ 130.20 Crore community investments

## Our purpose of creating and sharing value

Our purpose is to deliver HZL's shareholders financial returns and in the process we focus on investments in innovation, process automation, and effective risk management systems.

We believe our positive reputation and image are valuable to our shareholders and employees. The reputation that HZL enjoys today is a consequence of our relentless focus on sharing value with all our stakeholders and the continuous improvements we have made in our financial and non-financial performance. With new business, new investments and improvements, HZL continues to play a significant role in nation-building.

### Economic scenario and our performance

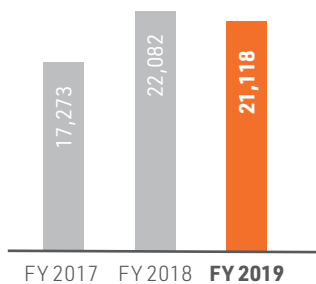
Our financial performance is closely interlinked with the global macroeconomic trends, which have given diverse signals to the market during FY 2019. The uncertainty from international trade dispute, increasing protectionism, slowdown in manufacturing activity, volatility in financial markets together with the negative impact of a stronger dollar and higher interest rates in emerging and developed markets have combined to undermine the pace of global growth.

The modest growth in FY 2019 consumption was mainly attributable to China and India. Zinc consumption growth in China has been supported by increasing investment in

### Financial performance

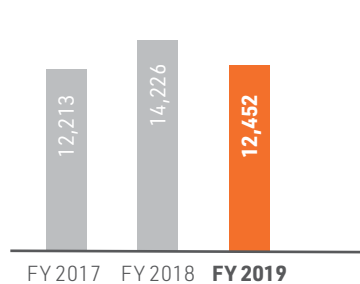
#### Revenue from operation (net of Excise Duty)

₹ (in Crore)



#### PBDIT (Profit before Depreciation, Interest & Tax)

₹ (in Crore)

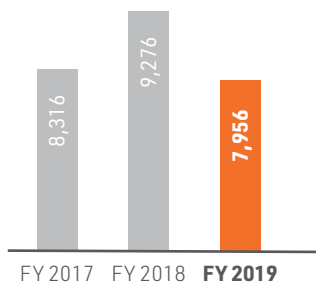


**₹ 10,188  
Crore**

Paid out as dividend to  
providers of capital

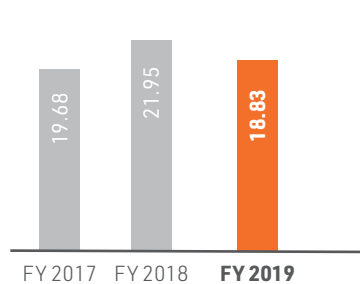
#### Net profit

₹ (in Crore)



#### Earnings per share

₹





infrastructure in central and western parts of the country and measures to stimulate demand in the automotive, household appliance and other sectors. The zinc demand in the US benefitted from continued expansion in manufacturing sector. Trade talks have a significant bearing on investor sentiment and consequently on metal prices. Against a backdrop of a fundamentally tight zinc metal market, a resolution of trade crisis could fuel a surge in metal prices. In this scenario, HZL continued to make and share profits with respective shareholders.

**Revenue**

HZL reported 'Revenue from operations' (net of excise duty) of ₹ 21,118 Crore, a decrease of 4% y-o-y, higher lead and silver volumes, and rupee depreciation, offset by lower metal prices and zinc volume.

**PBDIT**

The profit before depreciation, interest and tax (PBDIT) was ₹ 12,452 Crore in FY 2019, down 12% as compared to FY 2018.

**Net profit**

HZL reported record net profit of ₹ 7,956 Crore, 14% lower than previous year on account for lower PBDIT and higher depreciation, partly helped by lower tax rate.

Depreciation and amortisation has trended up due to higher capitalisation and increased underground ore production.

**Operational performance**

The year saw a sharp increase in mined metal production from underground mines. With an increase of 27% increase in ore production and better grades, the underground mined metal production increased by 29% to 936 kt this year. The closure of open-cast operations resulted in a decline in total mined metal production by 1% from last year.

At 894 kt, integrated metal production was down 7% from the last year. Due to lower zinc mined metal availability, zinc production was at 696 kt, 12% lower year-over-year. Integrated lead and silver production were at record 198 kt and 679 MT, an increase of 18% and 22%, respectively over last year. This was largely due to higher lead mined metal availability, retrofitting of pyro metallurgical smelter lead in line with higher lead mined metal availability and better silver grades.

**Dividend**

The Board of Directors declared a Special Interim Dividend of 1,000% i.e. ₹ 20 per share on equity share of ₹ 2 each, amounting to ₹ 10,188 Crore (including DDT).

The Board has not recommended final dividend for the year.



**Rated for sound financial health**

CRISIL has reaffirmed HZL's long-term rating of AAA/Stable and short-term rating of A1+. The ratings continue to reflect our low-cost operations, strong market position, efficient and integrated operations, high reserve and resource and a strong balance sheet

## Transparency and disclosure with providers of capital

Further, to ensure transparency in this process, we communicate with our shareholders through press releases, relevant facts, quarterly and annual income statements, periodic participation in events with stakeholders and analysts from financial institutions. The Company also performs periodic surveys with analysts and investors on the level of information provided and their respective publishing actions.

## Local employment and business opportunities

Hiring locally and sourcing from local suppliers benefits our communities and helps in 'nation-building' in many ways, including reduced poverty, improved skills and the opportunity to achieve long-term inclusive growth and economic diversification.



With our business activities, we try to encourage local employment and procurement, as we understand they are a means to mitigate risk and maximise opportunities by building community and government support, reducing costs, improving efficiencies and creating a more inclusive and diverse workplace.

HZL has played a significant role in the economic development of the regions where we operate. Our projects generate direct and indirect employment to the tune of 4,199 full-time employees and 17,384 contract labourers.

In addition to the employment generated, we constantly engage with communities involved in resettlement and rehabilitation programmes. Any land acquisition or mining closure of HZL is followed by a series of activities that help create opportunities of economic value generation through enterprise development and other employment created.

### Seamless transition to Open-cast Mining

Over a period of the last 27 years, Rampura Agucha Open Cast Mine (RAOC) produced around 79 MT of ore and 710 MT of waste, delivering its last ore in March 2018 before seamlessly and successfully transitioning into an underground mine on the completion of its open pit operations. We followed the mine closure plan as per the international standards like IFC and ICMM and ensured that society and environment are not impacted negatively.

In consultation with our key stakeholders, we came up with a range of solutions to transition sustainably and most of the people engaged with the Rampura Agucha Open Cast (RAOC) were absorbed in existing Rampura Agucha Underground (RAUG) operation. These people were imparted training and skills required to work in the underground mine. Those who opted out were suitably compensated and released.

On the environment front, waste dump rehabilitation is being done by taking up plantation. The 50 Ha waste dump is being utilised to set up 22 MW solar power plant; several initiatives to monitor air and water quality are being taken up.

The open pit operation has not been fully closed except for the mineral extraction part. The activities such as dewatering operation, underground ore and waste hauling, construction of underground portal in open pit, construction of ventilation raises in open pit and pit slope stability management in open cast mining will continue in the long run to support and facilitate the underground mine operation.

By local we mean the state where our operations are located.

30% suppliers we engaged during the year were local

18% employees newly hired in the company are local



Provided skills or training or job placement services to more than 550 youths

**Developing ancillaries, supporting local economy**

After successful operation of ‘waste to wealth’ ancillary plant at Dariba Smelting Complex, a new ancillary unit has commenced construction at Chanderia Lead Zinc Smelter (CLZS) to treat all smelting process residue including work-in-progress material like zinc oxide, copper dross, purification cake, antimony dust and cadmium sponge and is expected to be commissioned by FY 2020. The plant is expected to generate a cost saving in the range of ₹ 50-75 Crore per annum by producing value-added products, which will be fed back to our mines and smelters.

**Contribution to sustainable development**

We constantly monitor how our financial progress is contributing to the global and local agenda of sustainable development. The United Nations Sustainable Development Goals (SDGs) establish a global agenda to protect the environment, eliminate poverty and ensure a healthy, prosperous life for all by 2030.

We believe that industry, such as metals and mining, can play a major role in advancing these goals, and we are committed to being a leader in the areas where we have the greatest impact through our business activities.

We map the progress of our strategic actions for addressing material issues and monitor how are these actions contributing in meeting the targets of the Sustainable Development Goals.





# Responsible Partnerships

The key material issue associated	Priority of the issue	SDGs associated
Compliance to government regulations	HIGH	 
Human rights	HIGH	 
Ethics and integrity	HIGH	
Supply chain sustainability	MEDIUM	
Local sourcing	MEDIUM	



Supply chain efficiency is critical in the mining industry and HZL is committed to build long-term relationships with its suppliers. We motivate our suppliers to comply with applicable regulations and encourage more ambitious industry commitments. We empower our suppliers to share responsibility for integrating sustainability and human rights by building their own management systems and internal controls. We are thus able to influence sustainable, positive change throughout the supply chain and the industry.



### Our ambition

Creation of an efficient supply chain with focus on technology, innovation and collaboration



### Our approach

HZL's approach to Supply Chain Management is collaborative and provides opportunities for digitalisation, innovation, co-operation and mutual growth. We encourage our suppliers to go beyond legal compliance by ensuring their commitment to relevant standards. We exchange knowledge and collaborate for continuous improvement.



### Strategic priorities

- 360-degree approach to sustainability assessment of partners
- Frequent visits to works and offices of major vendors
- Enlarging our supplier base for de-risking our supply chain
- Introduction of Integrated Transport Management System



### Performance in FY 2019

- Migrated most of our processes for supply chain to web-based solutions to minimise the use of paper in offices
- 95% payments are made electronically
- Real-time tracking of material transported
- Reduced inventory level by 9% and averted purchase orders worth ₹ 95 Crore by standardising and aggregating spares requirements

## Our approach towards an efficient supply chain management

Our entire operations encompassing activities such as raw material procurement, production, distribution and final delivery to customers - requires an array of physical transactions and processes.

Efficient management of these transactions and processes has a positive impact across the product life cycle and demands that companies work together with their suppliers. Strengthening collaboration with our suppliers provides us opportunities for innovation, co-operation and economic development.


### Defining the basic principles - Supplier Code of Conduct

Our Supplier Code of Conduct spells out the fundamental requirements that our suppliers need to respect and adhere to. This code embodies our commitment to internationally recognised standards, including the Core Conventions of the International Labour Organisation, United Nations' Universal Declaration of Human Rights, as well as, prevalent industry standards, and all other applicable statutory requirements concerning:

- Environment Protection
- Health & Safety
- Child Labour
- Minimum Wages
- Anti-Bribery
- Anti-Corruption

Our supply chain management strategy incorporates processes, which help integrate tenets of sustainability across our value chain.

### Strategic approach:

-  Supplier identification and selection
-  Identification of key performance indicators and action areas
-  Supplier audits and review
-  Supplier engagement
-  Innovation and technology building supply chain efficiency

### Supplier review by senior leadership

Our top management reviews the initiatives towards sustainable supply chain during various monthly review meetings, including the Business Management Group meeting. The business Ex Co members review the initiatives as well, during the ExCO (Executive Committee) meetings. Wherever gaps are identified, remedial actions are duly initiated.

- Total tier 1 suppliers**  
1256 and share of total procurement spent is 100%
- Total Critical tier 1 suppliers**  
170 and share of total procurement spent is 60%
- Total tier 1 Local suppliers ( Rajasthan Based)**  
371 and share of total procurement spent is 65%

During the reporting period, none of the suppliers were identified as being at risk for undesired labour practices, including child, forced or compulsory labour



## Supplier identification and selection

Supplier identification and qualification are the first two steps in the supplier management process. At HZL, our new supplier selection criteria are based on our sourcing strategy that includes:

<b>Pre-qualification Form (PQ form)</b>	It covers various questionnaires relating to organisational health, safety policy (OH & S), Environment policy and Personal Protective Equipment (PPE), among others.
<b>Field Visits</b>	Employees of safety, commercial and user departments frequently visit the works and offices of major vendors associated. They inspect suppliers' premises for safety, housekeeping, monitoring whether child labour is employed or not, among other aspects.
<b>Formalised process of vendor onboarding</b>	This process involves categorisation of vendors based on the supplies.

The SAP ARIBA, a network based collaboration platform, has made it easy and convenient to connect and share information with our partners and vendor networks in real time. It has added significant value across the entire supply chain lifecycle by enabling efficient onboarding and easy integration, improving transparency and compliance, and allowing scope for broader collaboration.

At the time of supplier selection, the information submitted through **ARIBA PORTAL** is also assessed.

### Vendor qualification criteria

Vendor qualification is based on a pre-qualification form. Only vendors with minimum score of 75% are inducted. Key qualifiers include, quality standards, environmental performance, social performance, health and safety performance, among others.

## Identification of key performance indicators and action areas

In order to ensure quality, reliability and sustainability across our value chain, in 2017 we had rolled out a set of key performance indicators with associated action plans.

Key performance indicators	Action plan	Performance
<b>Productivity</b>	<ul style="list-style-type: none"> <li>Driving supplier co-innovation to improve Total Cost of Ownership (TCO) and technological investments (ARIBA Phase-II)</li> </ul>	<ul style="list-style-type: none"> <li>ARIBA Phase-II has been implemented. Turnaround time reduction achieved and manual intervention is eliminated for these suppliers</li> </ul>
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>Skill enhancement of supervisor team of HZL as well as business partners from Lisheen Technical and Mining Services (LTMS)</li> <li>Evaluation of vendors on sustainability criteria</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation on sustainability criteria for business partners is taken up in revised PQ which is already implemented</li> </ul>
<b>Environment-friendly innovation &amp; automation in product supplies</b>	<ul style="list-style-type: none"> <li>Setting up automatic lubricant filling system in Sindesar Khurd Mine to reduce pilferage of oils due to multiple handling and reducing use of plastic containers</li> </ul>	<ul style="list-style-type: none"> <li>All materials are received and project under execution. Timeline for completion by 31<sup>st</sup> August 2019</li> </ul>
<b>Encouraging tier-2 and tier-3 vendors for adoption of sustainable processes</b>	<ul style="list-style-type: none"> <li>Ensuring same safety practices and zero discharge at our critical commodity vendors and single vendor or proprietary vendors</li> </ul>	<ul style="list-style-type: none"> <li>Vendor due diligence exercise carried out by third-party, external agency for 600 key vendors. Findings of the same is under implementation</li> </ul>
<b>Collaborations for achieving enhanced production targets and improving bottom line of the organisation</b>	<ul style="list-style-type: none"> <li>Business partner engagement through structured framework</li> <li>Ensuring timely redressal of vendor/supplier grievances</li> </ul>	<ul style="list-style-type: none"> <li>Monthly engagement plan is prepared for business partners across sites and senior leadership and compliance of the same is monitored regularly</li> </ul>



## Supplier audits and review

In order to monitor and evaluate the suppliers' progress in adoption of sustainability principles, we audit and review our supplier's performance at their sites. Additionally, we assist them in overcoming the identified risks through knowledge sharing, technology transfer and process innovations on ground. All our service provider/vendors at all locations, along with their supervisors must follow Modern Slavery Act (MSA) in all their activities.



Some of the best practices adopted for integrating sustainability in the supply chain, include:

- Appropriate uses of Personal Protective Equipment (PPEs)
- Registration of suppliers, vendors and service providers through online ARIBA PORTAL wherein sustainability aspects are included
- Ensuring compliance for contract workers' compensation and welfare management like provident fund, insurance, applicable wages and canteen facilities
- Suitable provisions in the contract for induction/vocational training
- Issuance of gate passes to contract labourers after successful completion of the induction/vocational training
- Review meetings with contractors, performance score cards prepared on monthly basis related to quality of work, machinery, manpower availability, house-keeping, HSE aspects and others

## Ensuring supply chain sustainability

As part of our initiatives towards greening of supply chain we have made it mandatory for our suppliers to be ISO-certified.

We maintain strict vigilance on the implementation of the management standards and advise our suppliers to ensure timely assurance.

Monthly payments are also linked with performance and safety score for partners having long-terms agreements.

### Performance linkage with contract

All business partners across value chains are evaluated on EHS aspects through Pre-Qualification (PQ) process on various attributes such as organisation's safety, health and environmental indexes, policies and practices, commitment to the global norms apart from other conventional aspects.

Monthly payments are also linked with performance and safety score for partners having long-terms agreements. Key Personnel from business partners are part of our safety committees at sites to create sense of ownership among them.

### Modern Slavery Act - Human rights due diligence of our suppliers

We conducted Human Rights audit for our vendors in two phases. In the first phase, we have conducted an online test in which they have filled all the details which are explained and validated by KPMG through call.

In the second phase, we have circulated a training module to all the high risk and moderate risk vendors. For high risk vendors, we have conducted an on-site audit by a third-party where they have verified and submitted a report. For vendors with moderate risk, we have taken an undertaking that they have gone through the training module and following it in their business model.



## Case Study

# Third-party assessment of supply chain practices

As part of our ongoing efforts on identifying supply chain risks, improving sustainability performance and building in operational efficiency, we carried out a desktop review of our critical suppliers during FY 2019, in association with KPMG India.

A detailed supplier sustainability assessment questionnaire was developed, which includes criteria on environmental standards, human rights, occupational health and safety, business ethics, social and governance criteria.

Critical suppliers were identified for a detailed sustainability assessment based on the guidelines as per our supply chain management strategy. The assessment criteria and evaluation parameters were categorised as per the nature of risks:

- **Critical risks:** Systems not in place; not meeting legal licences, permits
- **Major risks:** No system, largely non-compliance
- **Moderate risks:** System are in place but observed gaps in formulation of comprehensive policies and SOPs
- **Minor risks:** Systems largely in place but found few evidences

The assessment indicators broadly spanned three areas:

**Health and safety indicators** focussed on compliance with the laws and regulations applicable, capacity to detect, assess, avoid and respond to potential threats to workers' health and safety, degree of active cooperation

with workers (and/or their representatives) when developing and implementing systems for occupational health and safety.

**Social indicators** focussed on workers' right of collective bargaining, decent working hours and timely compensation, protection of child labour, young workers, bonded labour and supplier's compliance with the government's labour regulations.

**Environmental indicators** focussed on suppliers' energy use, hazardous and non-hazardous waste storage and disposal mechanisms and natural resource conservation activities (if any), preventive or mitigating measures and compliance to environmental regulations

### Outcome

The comprehensive project gave HZL an opportunity to build long-term relationships with the suppliers. It also motivated the suppliers to comply with more stringent regulations and more ambitious industry commitments.

Moving forward, HZL aims to empower their suppliers even further to share responsibility for human rights, and help them build their own management systems and internal controls.

## Due diligence of Vendors

We have taken this step to ensure we are dealing with vendors who follow the regulations. In Phase-I, 600 vendors were covered. Various economic, social, environmental and governance criteria were considered for evaluation. We engaged two parties to do this extensive due diligence of our vendors. A total of 600 vendors were covered by third-party consultants. Out of 600, external agencies identified 44 suppliers as high risk suppliers. Based on the report findings, we are making a comprehensive action plan.



## CARING A(g) to Z (n)

### Supplier engagement

Apart from audit, review and corrective actions, we engage with our suppliers on a continual basis, as we believe collaborations bring out the best results and help in mutual prosperity and growth. There is also a structured vendor engagement plan in place across all levels.

#### Health and fitness

We ensure health and fitness of our partners on a regular basis through routine medical check-ups. We provide accommodation and other amenities to contractors, such as, sanitation facilities, food and medical facilities.

#### Supplier training

We regularly invest in skill development for our suppliers and contractual workers. All the contractors are part of induction safety training, on-the-job safety training, safety townhall and other awareness activities.

One of our key programmes is the 'Driver Education Programme'. Here, we organise regular in-house camps, at individual plant levels, to create safety awareness among the drivers for our Vehicle and Driving Safety Standard. We have designed the safety training programme covering vehicle and driving safety standard, life saving rules, learning from past incidents, awareness for No Go criteria, housekeeping, parking area rules etc. We are carrying out training for the drivers and enhancing their understanding of road safety

through an agency institute of driver safety and fleet management. We also conducted a parking area modification and seat belt awareness training through seat belt convincer.

We strictly follow our Vehicle and Driving Safety standard and No Go criteria, under which only 100% fit vehicles are allowed in our locations.

#### Business partner meet

During the year, business partner meet was conducted at Rampura Agucha Mine with the theme 'Digitization and Innovation'. During the meeting latest technological initiatives, business plan, cost-effective measures, compliance and grievances were discussed.

Awards like Best Performer in Safety and Performance, Best Performer in Digitalisation were awarded during the meeting.



### WASH Pledge

We are committed to providing water sanitation and hygiene (WASH) facilities to all our workers, especially focussing on women workers. We have taken the Wash Pledge as part of the World Business Council for Sustainable Development (WBCSD) initiative.



Business partner meet





## Case Study

## Design intervention for drivers' awareness on traffic safety

Parking areas are fraught with factors that make them danger zones for industries like us where the truck movement is more.

To counter the relaxed attitudes of drivers who no longer are in traffic, identifying blind spots and managing reduced sightlines because of parked vehicles, managing frequent turning of delivery trucks, distracted drivers and pedestrians, and to minimise the man machine interactions, we have made following changes in our CLZS parking yard:

- Auto Sequencing based improved Gate Management of inbound parking to avoid congestion at the gate and minimising the queue
- Rest room area for drivers and safety awareness video shown to them during their leisure time
- Better systems to ensure reverse parking, installation of convex mirror, applying wheel chalk in parked vehicle and a distance is being maintained to avoid vehicle collision
- Footover bridge to avoid man and vehicle interaction
- Seat belt convincer installed for raising awareness towards the importance of buckling up while driving, drivers can understand the impact on the body during rollover crash
- Display board for raising safety awareness



## Technology and innovation in supply chain

We have undertaken several measures to digitise processes in our supply chain. Some of these include a thorough monthly spend based on the data generated by the SAP system. Smart touch-less purchase order for annual rate contract has been introduced, ARIBA Phase-II has been launched to improve Total Cost of Ownership (TCO) and technological investments.

### **Bulk lubrication system at Sindesar Khurd Mines**

For efficient handling of lubricants from storage tanks to workshops, 50 KL-tank Bulk Lubrication System for handling fresh and used hydraulic oil, is being established. This will facilitate transfer of oil through pipelines resulting in efficient handling of lubricants.

Sindesar Khurd underground mine plans to increase production capacity from 5.5 MTPA ore to 6 MTPA in FY 2020. The current consumption of around 240 barrels (50 KL) of hydraulic oil per month is distributed among the existing four surface workshops through barrels. The transfer of fresh and used oils is also through barrels. Similarly, the used oil is also handled through barrels. In addition to contamination of oil due to storage under sun or rain, frequent handling of barrels requires new barrels and results in wastage of fresh oil in every barrel.

After commissioning of the proposed system, hydraulic oil will be supplied through bulk tankers resulting in reduction in wastage of oil, efficient handling of lubricants, elimination of contamination in oil and reduction in number of plastic and MS drums.

### **Logistics excellence through Integrated Transport Management**

Logistics is a key process involving movement of Millions of tonnes of materials across various units of HZL and to the customers. This activity has high business risk in terms of pilferage, safety, and delayed delivery of goods.

To eliminate this risk through technology and innovation, Integrated Transport Management System (also known as TMS) has been introduced. The salient features of this system include route deviation alert and fleet breakdown notifications, which have helped us reduce the turnaround time.

Moreover, with prior registration of drivers and vehicles, the risk of unauthorised entry in the premises has been averted and it has in turn improved safety and security of transporters. Our end-to-end processes, from loading to unloading have all been automated. This includes gate entry, weigh bridges, geo fencing and digitally signed invoicing.

### **Integrated Transport Management System (TMS)**

This is a one-of-its-kind system that we initiated. This helps in real-time tracking of raw materials, semi-finished and finished goods without any human intervention.



**Bulk lubrication system**

### Project Saarthi

HZL's Logistics Transformation Project, Saarthi, was aimed at transforming overall logistics efficiency by setting up a Command & Control Logistics Centre with standardised workflow processes and dashboard.

It also aims to revamp transport vehicle turnaround time at our locations and transit time of inter-unit movements. The eventual goal is to standardise our processes, establish real-time visibility of our supply chain, reduce costs and have audit trail of all deviations.

#### Saarthi will result in

- Operational efficiency by redefinition and simplification of processes
- Automation for reduced manual activity and safety resulting in higher efficiency



### Project Lead Vikas Adlakha

Implementation of Project Saarthi brings seamless efficiencies in the logistics operations with auto-alerts of deviations with audit trails, standardized workflows & dashboards.

"I can proudly say that it is the most advanced Logistics automation in Asia and will be facilitating reduced turnaround & transit times for material movement and control on pilferages & costs."

- An integrated Command & Control Centre with limited pre-agreed functionalities at the locations, encompassing CCTV, GPS and Integrated Transport Management Systems (ITMS) will include functionalities like GPS, additional sensors/displays at critical locations, track and trace dashboard and so on
- App for transporters which will help them track and trace their vehicle running for HZL, which includes transporter performance matrix, vehicle health check standards
- App for drivers where they can see the navigation of ideal route which is followed, receive the notification via SMS and Mobile wherever needed for optimised routes, which will help them reduce Transit Turnaround Time

#### Auto invoicing as the truck leaves

Automated process has been enabled for creation of logistics service provider invoice as the truck leaves the plant

#### Alternate local vendor development

Many of the items such as spares for pumps, refractory, spares for cell house equipment, etc. which are being imported from European suppliers were developed from reputed Indian suppliers.

### Waste to wealth initiative and associated benefits




An Ancillary plant has been installed adjacent to our Dariba Smelter Complex to recycle wastes generated from our smelting process like zinc process residue, lead residue, etc. With this initiative we have been able to improve recovery of Zinc, Lead and Silver from wastes, minimise import of Copper Sulphate. Setting up of this ancillary plant is a win-win situation for both HZL and the suppliers. While creating wealth out of mining waste, this initiative has also supported local production bringing in supply chain efficiencies.

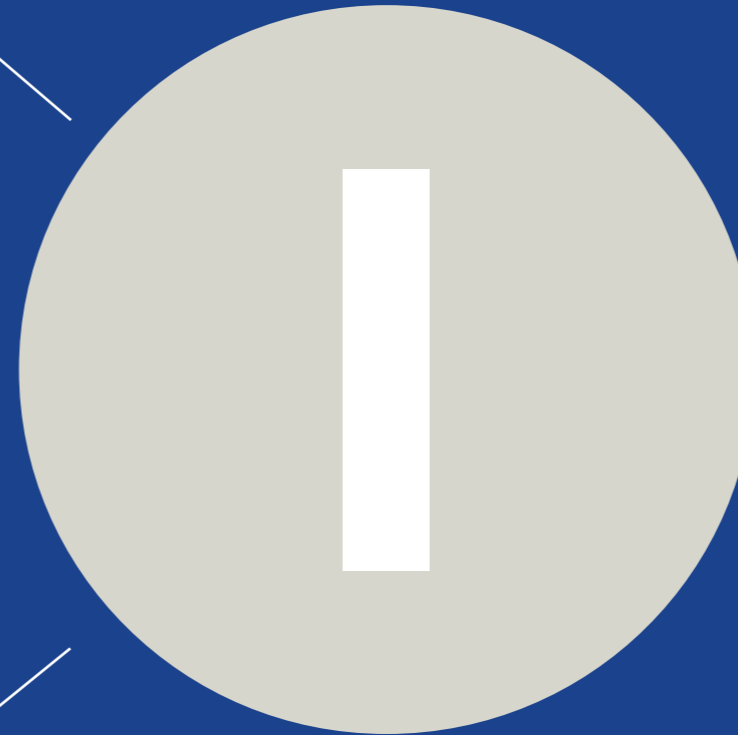
#### Ancillary plant at Chanderia Lead Zinc Smelter (CLZS)

During the manufacturing process of zinc and lead, a lot of process residues get generated. At present majority of the residues are being sold to registered authorised processors. Raw Zinc Oxide (RZO) is one of the work-in-progress materials, which was being used in Pyro plant. Consequent to the conversion of Pyro sinter to lead sintering, usage of RZO has been reduced and therefore it has been decided to treat this RZO through Hydro route by setting up an Ancillary unit at CLZS. Other process residues will also be treated in this ancillary as well.



# Inclusive Progress

The key material issue associated	Priority of the issue	SDGs associated
Diversity and equal opportunity	HIGH	 
Learning and development	HIGH	
Human rights	HIGH	
Local employment	HIGH	



With globalisation and competition for the world's depleting resources, Human Resource cell plays a significant role in aligning talent with shifting realities. Our people are at the heart of our operations. Their wellbeing and safety is our priority and we are confident that our people-centric policies enable our long-term growth. We provide equal opportunities of growth to all our employees and have effective learning and development programmes in place for employees, workmen and contract workforce.

Focus areas of our human resource team include: building an engaging work culture, skill development, learning organization and gender diversity.

**4,199** Total fulltime employees  
**17,384** Total contract workmen



### Our ambition

To be recognised as a top employer in all our operating regions



### Our approach

- We believe that diversity is essential to our business and to that effect we prohibit discrimination on any basis.
- We have zero tolerance for racial, sexual or workplace harassment
- Our senior management engages with our workforce and unions to understand their requirement and we go beyond compliance in providing the right work environment
- To become an employer of choice we provide the right learning and development opportunities to all employees across functions and levels



### Strategic priorities

- Develop operational skills in underground mining for enhanced performance and productivity
- Create and develop leadership pipeline and succession planning for key positions
- Leverage technology for data-driven HR processes
- Foster a work environment of high engagement and become an admired employer in the industry
- Having a diverse workforce which can promote an inclusive environment that values all people



### Performance in FY 2019

- Certified as 'Great Place to Work'
- Enhancement in women workforce by 6%
- Number of training manhours - 0.56 Million
- Number of grievances raised 1,919 and addressed 1,865 as on 31<sup>st</sup> March 2019
- Mining mate competency assessment
- Rolled out diversity and inclusion policy
- Introduced Edumine as learning platform
- Launched the HZL NEEM Program with the concept of Earn While U Learn

## Employee diversity - spurring innovation

Workforce diversity is more than a mandate. For organisations it is a way to show they embrace differences, while allowing greater access to talent. Employees representing diverse backgrounds, genders and demographics, make the collective knowledge and skills of the organisation richer. The sheer variety in skill sets leads to a high-performance environment for the organisation.

### Gender diversity

We as an industry, and the organisation in particular, are a live and compelling example of gender diversity at workplace! With the recent amendment in labour laws, permitting entry of women workers in underground mines, we are trying to find ways to encourage more women workers in our underground mines. HZL has taken conscious steps to increase gender diversity.

#### Full-time employees

 **3,823**

 **376**

#### Contract workmen

 **13,351** | **3,917**  
operation | project

 **116**

as on 31<sup>st</sup> March 2019

 Male  Female



## Women in mining

"The mining industry has always been male dominated, regardless of its geographical location. However, the Ministry of Labour and Employment took a remarkable step in solving this by passing a notification which allows women in mining industry in the Gazette of India. We conducted a one-day workshop that included a series of discussions and group activities, where our women workforce were made to understand the interpretation of the notification, including the dos and don'ts, related technical and safety issues and various other compliances".



*I am very thankful and proud to be a member of the Vedanta family. It gave me an opportunity to work in mines, be it in operations or e-planning. I always had an interest to work in the field but we had to go a long way since there was a restriction for women to work in underground mines. With the help of mining industry and the interest shown by women in mining industry, the law got amended and women are now allowed to work underground. I am delighted with this wonderful amendment by Ministry of Labour and Employment and look forward to capitalising this opportunity given to women .*

**Yogeshwari Rane**  
Mining Engineer

**Women in workforce**

	FY 2019
New entrants	20.6 %
Management positions	8.23 %
Junior management positions, i.e. first level of management	16.36%
Top management positions, i.e. maximum two levels away from the CEO or comparable positions	5.62%
Management positions in revenue-generating functions (e.g. sales)	8.6% in O&M 28.5 % in enabling functions

as on 31<sup>st</sup> March 2019



**Facilitating the right working conditions for women**

We have deep rooted values of respect and care, that help in fostering a culture of working together with maximum efficiency, HZL has taken another step towards making working conditions for women easier. With more women entering the workforce, we are providing them with facilities to balance work and family life without them having to choose one over the other. We have also established Child Day Care Centre at Dariba, first of our kind in HZL, in partnership with Your Kids R Our Kids.

**A young workforce**

In sync with India's demographic advantage, HZL has a young and vibrant workforce with an average age of 32.7 years. The entrepreneurial culture of HZL encourages its youth to play an important role in our growth.

**New employee hires**

Age range	20-30 years		31-50 years		51-58 years		Above 58	
	Local	Non-local	Local	Non-local	Local	Non-local	Local	Non-local
<b>Male</b>	55	229	2	21	-	1	2	3
<b>Female</b>	13	62		4		1		

From 1<sup>st</sup> April 2018 to 31<sup>st</sup> March 2019

As an endeavour to help local youth to gain meaningful employment, and enhance employability, we offer training in specialised skills in advanced mining operations.

We provide various platforms to local youth for developing highly specialised skills to operate the latest and the most advanced equipment used in underground mining operations, while making them self-reliant and opening paths for sustainable livelihood. We encourage local employment across the organisation at all levels, including our senior management.

By 'local', we mean the state where our operations are located.

**18%**  
People newly hired in HZL are local



**34%** of senior management in significant locations of operation are local



## CARING A(g) to Z (n)

### INITIATIVE

## Empowering the youth of today

As part of our corporate citizenship endeavour, we undertake several initiatives to uplift the youth of the country, such as the 'Earn while U Learn - HZL NEEM Programme', the Graduate Engineer Trainee (GET) induction programme, Digital Projects and the Underground Mining Academy.

The 'NEEM Programme' selects candidates through a structured evaluation process, with the aim of enhancing their employability by imparting training at our various operations for three years. They also receive a stipend upon fulfilling the given assessment criteria, enabling them to earn while they learn.

Over 150 graduates in two batches have been trained until now under this programme

GETs join us at HZL from premier engineering institutes and are trained over forty-five days, during which they get familiarised with our operations, safety interactions, CSR and other industry verticals. Digital projects streamlines existing processes and encompasses pilot scale initiatives to comprehensively enhance the pace and scope of learning and development of GETs as well as all new joinees.

Through our Underground Mining Academy, we partner with the Government and a local NGO to offer full-time residential training to unemployed local youth on skills pertaining to mining activities.



Our efforts have won us many accolades including being voted as a 'Great Place to Work' by Great Place to Work Institute for building high-trust and high-performance culture within the organisation



Across each of these training programmes, youth receive hands-on training in industrial operations and gain the opportunity to develop skills for underground mining. The ones who display potential and perform well are given preferential posting within projects and recognised in the valedictory ceremonies before the CEO.

## Preparing for the future

### Training and development

Human resource practitioners are the keepers of corporate culture, instillers of team building and changers of management practices. We follow world-class practices for mapping skills and competencies of our workforce. Our skill mapping exercise identifies skill deficits, learning requirements, skills required for progression and fulfilling technical or functional requirements.

We try to create a conducive environment for learning and upgrading functional competencies. Our learning and development programmes are aimed at nurturing leaders for the future. By creating a vibrant workplace, we intend to facilitate innovation at workplace. This not only helps our employees shape their career aspirations but also helps retain a sustained interest in the organisation.

## 0.56 Million

Training manhours during the year

Different platforms and modes of training include, classroom training, on-the-job training, workshops and conferences, simulation exercises, visits for onsite learning, knowledge sharing meetings, learning implementation projects, institutional training and sabbaticals for experienced executives, among others.

Catering to the training needs of individuals from all key functions and at all levels within the organisation, we planned a series of training programmes.

## Mining Mate competency assessment

Mynesight Australia, a leading Mining Training specialists from Australia imparted a comprehensive Mining Mate training programme for HZL.

### On-the-job training

In order to seamlessly integrate with the culture of the organisation, young engineers and trainees undergo a robust and extensive 45-day induction programme. The purpose of the Induction Programme is to engage the millennials through paperless onboarding, online weekly assessments, merit-based posting allocations and live projects. To facilitate sharing of knowledge and learnings, an online knowledge portal has been developed. Our people use the portal to post their success stories, the solutions they adopted for solving problems during critical situations and their overall learning and development at work.

## Taking it a notch above: The Hindustan Zinc School of learning

To take HZL's learning journey to the next level and leverage best-in-class subject matter related content, we have partnered with 'Edumine', world's best online learning platform in the areas of Mining, Exploration & Production, Geology, Geotechnics, Health, Safety, Environment, Maintenance, Mineral Processing and Mine Management.

# ₹ 1.87 Crore

Total expenditure on training

# 211

Graduate Engineer Trainees (GETs) inducted in FY 2019





## CARING A(g) to Z (n)



### Driving excellence through training

We drive a culture of learning and improvement through several training programmes round the year. Though we realise that excellence is a journey and learning is a constant process, there are indicators which are reflective of the effectiveness of the functional and technical training that we impart to the employees. Our employees applied the learnings of the training programmes and successfully carried out initiatives which were aligned to the business goals. Termed as 'RACE' initiatives, these initiatives have a direct bearing on costs of production.

Our total training expenditure was to the tune of ₹1.87 Crore and the total cost savings made through RACE initiatives was around ₹80 Crore

### Leadership Development Programme

The 'Leadership Development Programme' (LDP) for Strategic Business Unit (SBU) Heads aims at developing potential business leaders of HZL. The programme offers a series of management and operational modules for the senior management. Spread over six to eight months, it covers aspects such as coaching, leadership, team building and problem-solving.

We have identified over 400 candidates as potential employees. They are being developed on a fast track growth path, through various initiatives such as Internal Growth Workshops and Accelerated Competency Tracking & Up Gradation Programme (ACT UP).

In addition to this, 17 top level executives were identified as future leaders and went through customised coaching programmes in FY 2019.

### Life-skills training

Establishing a workplace that encourages balanced growth provides a more stimulating environment. We believe, empowering employees with technical training alone, is insufficient if they have to truly grow and remain competitive. Hence, we lay emphasis on enhancing business acumen and other life-skill through various in-house programmes such as external residential training and onsite visits, among others. We collaborate with renowned training providers and choose partners after detailed evaluation of the training content and delivery method.

16.6% of open position filled by internal talent.





**HZL's team HR organised a series of motivational sessions across all locations for executives and their family members.** Among the many motivational sessions, some were conducted by Vijay Michihito Batra - a revered and trusted motivational and inspirational speaker in corporate India. He is known for spreading the message of positive thinking and work ethics through his talks and training seminars.

*"The session delivered by Mr Vijay Batra on simple ways to keep family vibrant and the eight traits of being successful were a great takeaway for everyone. He infuses positivity in life in many ways by using wonderful short story examples. In the interactive and lively sessions, he involves his viewers and inculcates qualities of good leadership and he shares logic to remain motivated in today's stressful routine. His guru mantra of 'Switch On-Switch Off' is worth applying in life".*



**Mamta Sharma**  
HR Executive



#### Case Study

## Connecting hearts

As part of the employee engagement initiative, we invite renowned motivational speakers to HZL to have a meaningful and stirring interaction with teams. The series, christened as 'An Insight with...', was inaugurated by Mr. Ashish Vidyarthi and subsequently, saw Shri Gaur Gopal Das participate as the second guest. In its third and most recent edition, held on 18<sup>th</sup> June, 2018, we welcomed film legend, Mr. Anupam Kher. A Padma Shree and Padma Bhushan awardee, he has acted in more than 500 films and has received two National Film Awards and 8 Filmfare Awards.

'An Insight with Anupam Kher' was held at Hindustan Zinc Auditorium in Udaipur; and was attended by employees and senior management from across the units, along with a live webcast on our Facebook page, where it was viewed by more than 40,000 people. He emphasised on the importance of a 'two-way system' of trust and communication in any workplace culture. He enthralled the audience with anecdotes from his personal and professional life, while also answering questions from the audience on topics such as life, love, motivation, achievements, women empowerment and management.



## CARING A(g) to Z (n)

### Creating an engaged workforce

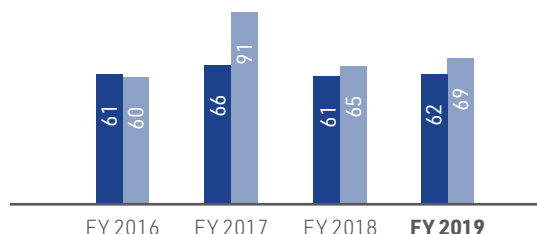
We believe in creating an engaging vibrant workplace at HZL. The senior management engages with our employees not just during the annual performance review, but on multiple levels at various occasions.

We have devised various awards and reward systems for employees to drive individual ownership and the zeal to perform better.

### Employee engagement score

Engaged employees (AON Best Employer Survey Score) through survey as % of total employees

Coverage (%)



Our policies are developed for the benefit of full-time employees of the organisation. Some of these marquee policies include:



**Talent review policy:** This policy directs effective assessment, development and deployment of our talent with an objective of developing leaders internally and strengthening the existing talent pool.



**Diversity and inclusion policy:** This policy ensures workforce diversity based on race, religion, colour, age, gender and nationality, among others. It lays the foundation for respecting stakeholder diversity and fostering an atmosphere of inclusion.



**Healthcare/Mediclaim policy:** The objective of the policy is to meet the unforeseen expenses relating to hospitalisation of executives and their dependent family members.



**Leave policy:** The leave policy at HZL is benchmarked with the best in the industry and is in line with our goal to be the 'Employer of Choice'.

### Parental leave and data

Total Number of Employees who took parental leave during FY 2019

Number of employees who resumed office post completion of parental leave in FY 2019

Number of employees who were in continuous service for the next 12 months after returning from parental leave

Return to work rate



156

156

137

88%



18

18

16

89%

as on 31<sup>st</sup> March 2019

86% male executives and 75% of female executives received performance appraisal and career review during the year



### Protecting worker rights

We believe that the key to long-term uninterrupted operations is to develop harmonious industrial relations. Our policies are supportive of our contract workforce and 100% of our employees enjoy the right of collective bargaining.

Although, with the closure programme of our Rampura Agucha Mines there has been a significant change in our operations, HZL management harmoniously settled worker requirements. A prior notice of eight weeks was given to the workers as part of the collective bargaining agreement.

### Our approach to human rights

We believe in upholding people's fundamental rights in our everyday operations. We comply with all the local, state and national laws on human rights and worker rights. Our HR policies are aligned with UNGC principles on business and human rights. Other than our employees and contract workers, it covers suppliers, contractors, joint ventures and NGOs as well. During the year, 1,456 man hours were spent for human rights trainings, including security personnel. Our Code of Conduct clauses extend to all our business partners.

# 100%\*

Employees covered by collective agreements

\*100% of the non-executive employees are part of collective bargaining



For more details on our Human Rights Approach, kindly refer to:

[www.hzllindia.com/wp-content/uploads/3.-Human-Rights-approach-at-HZL.pdf](http://www.hzllindia.com/wp-content/uploads/3.-Human-Rights-approach-at-HZL.pdf)

**Zero**  
 Strikes and lockouts during the year





ENVIRONMENTAL CARE

# Nurturing the Planet



The key material issue associated	Priority of the issue	SDGs associated
Water management	HIGH	6 CLEAN WATER AND SANITATION, 7 AFFORDABLE AND CLEAN ENERGY
Tailing dams management	HIGH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Air emissions management	HIGH	13 CLIMATE ACTION, 15 LIFE ON LAND
Energy and climate change	HIGH	
Solid waste management	MEDIUM	
Biodiversity management	MEDIUM	
Noise and vibrations management	MEDIUM	
Use of recycled material	LOW	

(All the GRI EN indicators cover all operating units of HZL.)

Being in the metals and mining sector, our business is closely interlinked with the natural ecosystem of the region where it operates. We reckon the impacts our mining and smelting operations have on the environment and we are also aware of the dependencies of our business on the natural resources.

At HZL, our policies and practices are not just limited to conserving the natural resources, we are also focussed on enhancing the quality of the natural environment of the region where we operate.



### Our ambition

To be an industry leader in using green technologies for reducing our environmental footprint; this we envisage to achieve by innovating processes for water stewardship; introducing captive usage of energy from renewable sources; and adopting new methods for waste recycling



### Our approach

- The three key constituents of our strategy for managing the environment are:
  - Focussing on conservation of natural resources
  - Minimising the environmental impacts of our operations
  - Keeping our ecological footprint in check, and minimising the negative impacts, if any across the value chain
- Our environmental management process, driven by internationally recognised standards such as ISO 14001, ISO 50001, focus on key issues of water, waste, energy, emissions and climate change, as well as preserving biodiversity
- Our actions are guided by environmental policies, which include policies on water management, biodiversity management, HSE principles and policy, energy and climate change management
- Striving to go beyond compliance and setting industry benchmarks in environmental performance



### Strategic priorities

- Work towards water stewardship in line with the United Nations Sustainable Development Goal SDG-6: water and sanitation to reduce fresh water use
- Evaluate opportunities to improve energy efficiencies or implement lower emissions sources
- Actions to achieve Science-based GHG emissions targets i.e 14% reduction in Scope-1 and Scope-2 and 20% reduction in Scope-3 by 2026 from the base year FY 2017
- Reduce carbon footprint through enhancing green energy portfolio
- Strengthening of zero liquid discharge at all locations
- Exploring opportunity for reducing, reusing and recycling of waste



### Performance in FY 2019

- 1.10 Million m<sup>3</sup> water saved
- 35.95% of total water requirement met by recycling and reuse
- Zero Category 4 (serious) and 5 (catastrophic), environmental incidents
- 64% waste recycled
- Total renewable energy consumed 46.52 Million GJ
- 69 Crore invested as environmental protection expenditure
- Globally ranked 1<sup>st</sup> in Environment dimension in SAM Dow Jones Sustainability Indices (DJSI) Corporate Sustainability Assessment amongst the metals & mining sector
- Carbon Disclosure Project (CDP) climate change disclosure, CDP water disclosure scored B



## Preserving the environment and enhancing the natural capital

Environmental management at HZL is guided by the fundamental principles of conserving resources, negating the impacts of our ecological footprint and adopting policies that ensure zero harm to the environment. Efficient management of environmental resources begin with a thorough risk and impact analysis of our projects and operations.

Every project at HZL undergoes a thorough Environmental and Social Impact Assessment (ESIA) for environmental clearance. The mitigation plans are put in place for countering any potential impacts of the planned projects. Based on the impact assessment study, an environmental management plan is made which is revisited at regular intervals and appropriate corrective measures are taken. **During the reporting period, we received no significant fines and no reports of non-compliance with environmental laws and regulations across our operations.**

For the ongoing operations, we follow an internationally recognised management standard, ISO 14001. We have also adopted an international standard, ISO 50001 for managing energy at three of our units at Sindesar Khurd Mines (SKM), Pantnagar metal plant and Rajpura Dariba Mine.

Our environmental management practices are focussed on the following issues and we have taken several measures for addressing these issues. We set targets for each of these focus areas and direct our efforts towards implementing management systems and processes, adopting appropriate technologies and improving existing processes.



**Water management**



**Energy and climate change management**



**Air emissions management**



**Waste management**



**Biodiversity conservation**

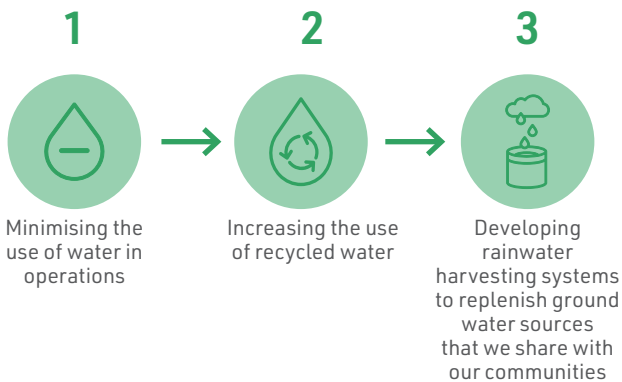






## Managing water optimally

We acknowledge that water, although a renewable resource, is significantly scarce in the regions where we operate. As freshwater resources are constantly depleting, we have adopted a multi-pronged approach to manage water resources.



### Reducing consumption at source

Our operations are highly dependent on water and hence it is important that water consumption at source is minimised. Moreover, it is important to minimise the freshwater used. For reducing process-related water consumption, we have improvised several procedures and have modified technologies for the same.

#### Some of these process modifications include:

- Using deep cone decanter to reduce water content in mine tailing disposal
- Installing air cooled condenser. It saves water consumption up to 95% when compared to traditional water-cooled condenser.
- Reducing freshwater use at the Demineralised (DM) water plant at Dariba Smelting Complex's lead plant by condensing the steam generated at the Captive Power Plant (CPP) at Dariba Smelting Complex's zinc plant
- Using harvested rainwater in operation
- Integrated effluent treatment plant at all smelters

Our water management policy directs our actions on water management.

With a commitment for zero effluent discharge, the water management practices at HZL include:

- Reducing consumption at source
- Water utilisation efficiency
- Zero effluent discharge operation
- Water accounting
- Storm water management
- Technological upgradation by installation of Multiple Effective evaporator/Mechanical Vapour Recompression (MVR) at Debari and Chanderia Smelters in place of conventional evaporators will strengthen zero discharge with improved water recovery
- Dry tailing disposal plant at Zawar mines is under execution and will ensure recirculation of >90% of the process water
- Initiatives to minimise water evaporation from water reservoirs
- Sewage treatment plant (STP) of 25 MLD commissioned; another 10 MLD and 5 MLD in progress







Case Study

# A meaningful step towards circular economy

Udaipur generates 70 Million Litres per Day (MLD) of sewage. Part of the cities selected under the Government of India's Smart City Mission, Udaipur has benefitted from HZL's endeavour to treat the city's domestic sewage. Sewage inflow into Udaipur's lakes was one of the biggest problems plaguing the 'City of Lakes' giving rise to high volumes of pollution. There was a need to develop alternative sources of potable water and conserve the same. Our units operate on the principle of 'zero discharge' and the Sewage Treatment Plants (STPs) represent a significant action taken towards conserving water as well as reducing discharge into the lakes.

### Intervention

We commissioned a 20 MLD STP in Udaipur in 2014 under a public-private partnership, which is the first of its kind in Rajasthan. This required an investment of ₹ 170 Crore. HZL and Udaipur Smart City Limited signed an agreement in June 2017 to extend the sewage treatment capacity by another 40 MLD. Of the proposed 40 MLD STP, 25 MLD has been commissioned in January 2019. We have spent ₹ 80 Crore on this project so far.

### Impact

At the 20 MLD STP, sewage water is treated through various steps that include biological processes, wherein the end product consists of treated water and manure. These are then used in sludge thickening and dewatering units. Partly treated water is also sent to rivers. Following the commissioning of the new STP, 50% of the water will be sent to the rivers. Power consumption has also reduced on account of the fully automatic plant and hydraulics mechanism. The process of treatment is environment-friendly as well, since no hazardous emissions are generated during the process.



Udaipur Sewage treatment plant - 25 MLD

**Measuring and managing water efficiently**

We believe what gets measured is managed better. To reduce our specific water consumption, we focus on increasing overall operational efficiency. And this starts with measuring water consumed by different processes and sub-processes.

By monitoring and measuring water consumption, any leaks or wastage in the process can be identified and managed.

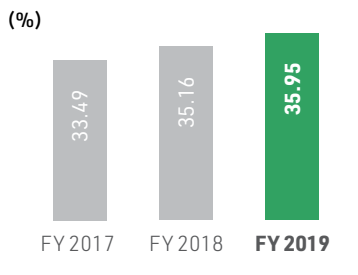
**Some of the key steps for better measurement and management of water are:**

- Carrying out water risk assessment across all our operating sites
- Installing water meters at all key processes
- Online monitoring of water consumed at all the processes

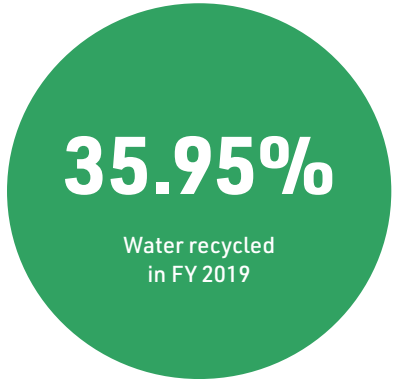
**Zero effluent discharge operations**

All our operation sites maintain 'zero effluent discharge'. For achieving zero effluent discharge, we have installed reverse osmosis (RO) plant and multiple effect evaporator. Additionally, we focus on increasing use of recycled water by installing integrated effluent treatment plants.

**Waste water recycled**



As our operations are located in water-stressed regions, we carry out risk analysis to identify operations where water is a critical issue. This enables us to reduce our impact on water stressed areas and identify different sources of water. For this, we engage with a team of external experts every year and water-stressed areas are classified based on WRI's Aqueduct tools.



● Effluent treatment plant



## CARING A(g) to Z (n)

### Stormwater management

HZL is committed to stormwater management and efforts are in place to reduce runoff of rainwater and the improvement of water quality. Stormwater collection pond is constructed at all sites to collect rainwater runoff and treated in ETP for reuse. We adopt rainwater harvesting not only at our operations but at nearby communities as well.



#### Case Study

# Water conservation initiative around Rajpura Dariba Complex

To improve the water table in surrounding villages, in FY 2019, Sindesar Khurd Mines unit initiated a project for deepening a pond of capacity 5.32 Lakh m<sup>3</sup> in the vicinity. The approximate project cost for this intervention was ₹ 3.5 Crore and is being executed by HZL's civil department. Deepening work of 2.12 Lakh m<sup>3</sup> has been completed so far, and the remaining 3.2 Lakh m<sup>3</sup> is under way.

#### This initiative will have multi-faceted impact:

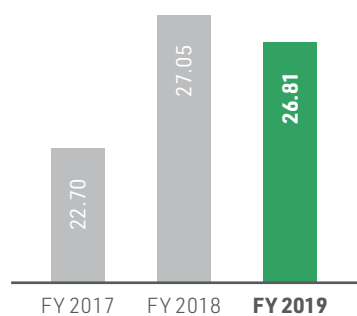
- The pond will be helpful for harvesting rainwater and recharge of ground water
- It will also be a water supply centre for the surrounding communities for various household needs and agriculture



Pond deepening

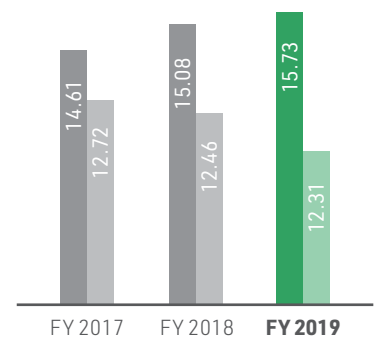
#### Total water consumption

(in Million m<sup>3</sup>)



#### Specific water consumption

(in m<sup>3</sup>/MT)



Increase in specific water has been observed due to variance in metal production and increase in the use of STP treated water but freshwater intake has reduced

- With STP water
- Only freshwater





## Case Study

# Effecting water conservation and recycling

As corporate citizens, we believe that the onus of being accountable towards the environment and society is upon us. We go beyond compliance with respect to our Corporate Social Responsibility (CSR) endeavours. We devote our attention towards the reduction of safety and environmental hazard during operations, while also laying emphasis on increasing the scope of water conservation and recycling.

## What were the challenges

Our tailing dam area spans ~8.2 Lakh m<sup>3</sup> and tailing from the Sindesar Khurd Mines and the Rajpura Dariba Mine was being stored in the dam in the form of slurry. Water was then siphoned from the dam into a pit near our pump house, following which it was pumped back into the Sindesar Khurd Mines. With increase in production following the expansion of operations at Sindesar Khurd Mines, the volume of tailing was increased. The storage capacity was under stress from rainwater during the monsoons, resulting in an overloading of the tailing dams. This raised safety and environmental risks related to the dams. Further, there was no proper procedure for monitoring the water level and displacement on the embankment.

## How we intervened

We are making sure that the minimum volume of water finds its way into the tailing dams. This is made possible by transferring large volumes of water into the newly constructed lined storage pond, which has a capacity of 1.25 Lakh m<sup>3</sup>. Some parts of the water is also diverted to the mines for use in the ore beneficiation plant. To enhance the levels of monitoring, three piezometers have been installed and installation of another five is under progress. Inclinerometers are installed to monitor movement in X and Y axis. Reading from both the instruments is being transferred through GPS to the person in charge of the tailing dam. This aids in taking proactive steps against the occurrence of unfortunate incidents. Installation of a camera on site adds to our security muscle.

## What we achieved

### Construction of 1.25 Lakh m<sup>3</sup> capacity lined storage pond:

- Reduced water losses due to evaporation, earlier more surface area was occupied by water in the dam
- Reduced safety and environmental risks due to more volume of storage
- All the reclaimed water is being used in ore beneficiation process

### Installation of Piezometers

- Piezometers are installed for measuring core water pressure in embankment of tailing dam. which is one of the important parameters to monitor health of embankment





## Managing energy and mitigating climate change

The metals and mining industry is energy intensive. Being a leading player in the sector, we have been proactive in adopting many practices for energy efficiency that are recognised as industry benchmarks. While we have adopted internationally recognised energy management standard ISO 50001 at three of our operating sites Sindesar Khurd Mines, Pantnagar metal plant and Rajpura Dariba Mine, we continuously focus on reducing overall energy consumption, improving energy, efficiency and using green energy which in the long run help mitigate climate change.

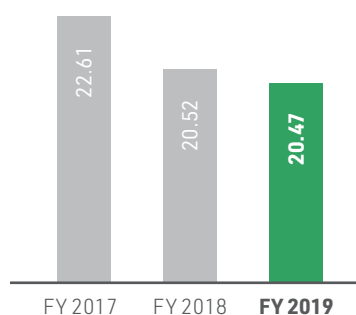
### Some of the key initiatives for reducing energy consumption are:

- LPG heaters replaced by electrical burners at Pantnagar Metal Plant, to reduce LPG consumption during Jumbo Casting
- Installation of Vacuum Fluorescent Display (VFD) in sinter crusher ID fan, at Chanderia Lead Zinc Smelter (CLZS)
- Replacement of existing street lights and metal halide lamps with LED lights
- Use of Roaster Air Blower for providing secondary air by stopping circulating air fan
- Cooling tower fan operation automation based on water temperature at Debari Zinc Smelter
- Installation of variable frequency drives to reduce auxiliary power consumption

- VFD installed in thickener underflow pump at Rampura Agucha Mine milling unit
- Occupancy Sensor installation at various offices and conference halls
- Switching from open-cast to underground mine at Agucha resulted in reduction of diesel consumption
- Switching from high speed diesel to pipe natural gas in Pantnagar

### Specific energy consumption

(in GJ/MT)



### Adopting green energy

The Company has 273.5 MW wind farms in five states across India which are registered under Clean Development Mechanism (CDM) programme by United Nations Framework Convention on Climate Change (UNFCCC) and Verified Carbon Standard programme, VERRA.

HZL is also registering these projects at 'Gold Standard', the most rigorous certification standard globally for carbon offset projects supported by WWF.

HZL has made significant investment in green energy aggregating to **346.82 MW** to reduce greenhouse gas emission and carbon footprint.



**38.9 MW**

Solar power captive capacity





For our captive use, we commissioned a 22 MW solar power project on our waste dumps at Rampura Agucha taking the total to **38.9 MW**. All solar power projects have been installed on land that otherwise had no possible use at Rajpura Dariba Mine and Debari Zinc Smelter. The green power generated has reduced carbon footprint by 66,049 MT of CO<sub>2</sub> emission per annum. In addition, there is 34.4 MW of power capacity through waste heat recovery from roasters and steam turbo generator of which 9.4 MW/Waste Heat Recovery Boiler project is registered under Clean Development Mechanism, along with 21 TPH Low Calorific Value boilers for steam generation project.

We are planning to further enhance our solar energy footprint by another 35 MW in the coming year. This includes a 1 MW floating solar power project at a captive dam near Chanderia, which will not only eliminate 5 acres of land usage, but also reduce water evaporation in a water stressed region. After completion of Fumer Project, it will generate 21 MW through waste heat recovery boiler, out of which 11 MW will be used in running the Fumer project and rest will be utilised for other operations or will be available for state grid.

#### Projects in pipeline

- 30 MW solar power project at Dariba
- 1 MW floating solar power project at Ghosunda Dam which will also help in the reduction of evaporation loss
- 3 MW roof top solar power project (0.75 MW already commissioned)
- Commissioning of waste heat recovery boiler at Fumer project
- Additional 50 MW wind power plant

## Science-based targets

HZL is committed to reduce absolute Scopes 1 and 2

GHG emissions 14% by 2026 from a 2016 base-year. We are also committed to reduce absolute Scope 3

GHG emissions 20% by 2026 from a FY 2017 base-year

**1.6%**  
Of total energy consumption met via renewable energy

## Solar power for captive use

During the year, HZL produced solar power of 49.5 Million units, waste heat energy of 114 Million units and wind power of 465 Million units.

## Many 'firsts' in the RE space of Rajasthan

The 4 MW solar power project installed by HZL at Rajpura Dariba Mine is the first such project in the district of Rajsamand in Rajasthan. A 12 MW project installed at Debari Zinc Smelter is largest solar energy project in the district of Udaipur and 22 MW project installed at Rampura Agucha Mine is also the largest solar energy project in the district of Bhilwara. All the projects are installed on waste land, where no other activity could be done.

#### Recognition in the RE space

- Rampura Agucha Solar Project received Project Development Innovation of the year award by RE - Assets India 2019 conference
- Debari Solar Project received Gold Award in the Rising Category as Best Performing Project of the Year on Utility Scale Solar Energy at the RE ASSETS Excellence Awards Summit

#### Countering climate change

With our commitment to optimise energy consumption, diversify our energy portfolio and invest in newer technologies, we are trying to reduce our carbon footprint.

At HZL, we constantly invest in newer technologies that foster energy conservation. We participate in the Carbon Disclosure Programme (CDP), which calculates and reports Greenhouse Gas (GHG) inventory within a threefold scope as defined under the World Business Council for Sustainable Development and World Resource Institute GHG protocols. We are also committed to a science-based target initiative to set GHG emission reduction benchmarks, which are in harmony with climate science.





## Managing air emissions

We regularly monitor air quality and have adopted numerous preventive measures. We are committed to measuring, controlling and reducing air emissions at all our operation sites.

We have proactively implemented systems and procedures to address the concerns of our local communities and comply with our environmental licence conditions. Through advanced measurement, mitigation and management strategies, we continue eliminating any potential impacts on air quality caused by our operational activities.

**To ensure that emissions generated from our activities is minimised, we have implemented a range of management procedures and controls including:**

- Adequate stack height for better dispersion
- Double Conversion Double Absorption (DCDA) in acid plant
- Clean technology-based Tail Gas Treatment plants for old acid plants to reduce SO<sub>2</sub> emissions
- Eight field Electrostatic Precipitator (ESP) to minimise particulate matter emission from Captive Power Plants (CPP)

- Low NO<sub>x</sub> burners at CPP to minimise NO<sub>x</sub> emission
- Covered conveyor belts and material carrying trucks to prevent dust/fugitive emissions/spillages
- Regular watering of active mining areas and haul roads
- Track-mounted down the hole drills with wet drilling system
- Water sprays nozzles and Venturi scrubbers at crusher to collect dust
- Using washers, mechanised vacuum road sweepers and dust suppressants
- Perforated rubber hose pipe line laid inside the drilling level of the stope for dust suppression during mucking operation at Rampura Agucha Underground Mine
- Planting trees as buffers to minimise windblown dust
- Bag filters have been placed for reduction of fugitive emissions.

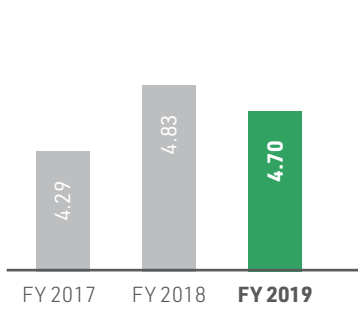
For regular air quality and meteorological monitoring both in core and buffer zones, HZL has installed online emission monitoring systems connected directly to the servers of Pollution Control Board.





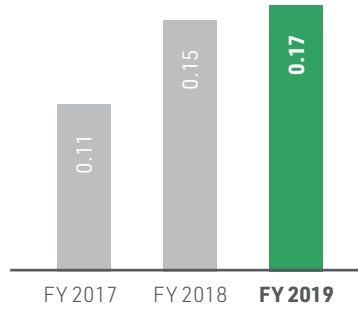
**Total GHG emissions (Scope 1)**

(Million MT CO<sub>2</sub>e)



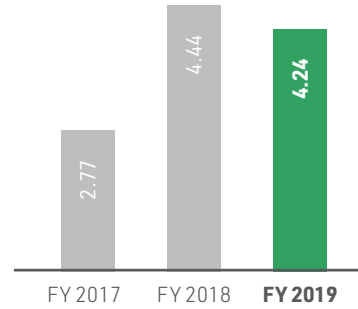
**Total GHG emissions (Scope 2)**

(Million MT CO<sub>2</sub>e)



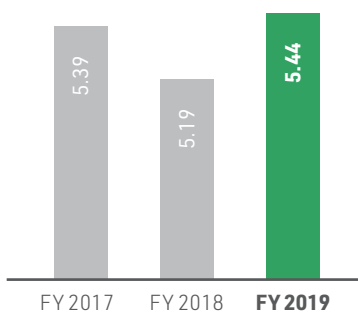
**Total GHG emissions (Scope 3)**

(Million MT CO<sub>2</sub>e)



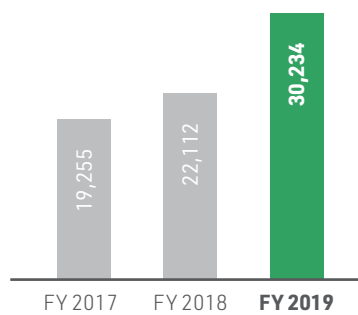
**Specific GHG emissions (scope-1 and scope-2)**

(Scope-1 and Scope-2)



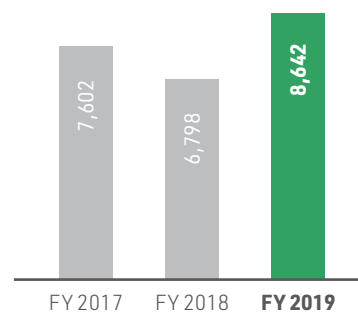
**SO<sub>x</sub> emissions**

(MT)



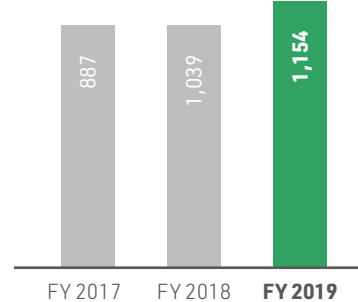
**NO<sub>x</sub> emissions**

(MT)



**PM emissions from stack**

(MT)





## Managing waste and creating value

In our mining operations, a large amount of solid waste is generated which is both hazardous and non-hazardous in nature. At HZL, we keep looking for alternative uses and recycling of waste. We examine and identify the maximum value that can be extracted from any waste and take utmost care in disposing the rest.

### **Our approach to 'waste to wealth'**

We follow the principle of reducing waste generation at source and recovering and recycling wherever possible. We have rigorous waste management systems in line with our waste management guidelines to dispose hazardous and non-hazardous waste while preventing environmental contamination.

We have a 'Waste to Wealth' committee that explores opportunities to generate wealth from waste and achieve primary objectives of reduction of waste generation, conversion of residue material to saleable product and reduction of waste to landfills.

### **INITIATIVE**

## A sustainable approach to waste management

Jarosite and Jarofix are waste materials produced during the hydrometallurgical extraction processes at all three lead-zinc smelters Dariba, Debari and Chanderia. Slag from the Imperial Smelting Furnace (ISF) is generated at Chanderia during the refining process, while slag from the Fuming Furnace (FF) is produced at Dariba. Moore cake treatment plant slag is generated and stored at Debari. Large quantities of Jarosite and Jarofix are stored on site, causing risk to the environment and expanding the waste footprint of the organisation. Slag from pyro-metallurgical process compounds this problem.

In order to reduce the waste footprint of the organisation, various studies were carried out in relation to slag and its utility in cement and road construction. ISF and FF slags find use in the road and cement industry. Similar studies were also carried out in relation to Jarosite, which resulted in a positive turn and it was approved by Bureau of Indian Standards (BIS) for 1% utilisation in the cement industry. Jarofix was found to be suitable for road construction projects and as per approvals from Rajasthan State Pollution Control Board Indian Road Congress (IRC), Jarofix is being utilised in highway construction projects.

These efforts have been instrumental in rationalising the waste footprint of HZL, creating more space within the previously occupied areas. We have also been able to despatch high quantity materials to road construction and cement industries.

We are continuously focussing on best practices for void management in our underground mines where we have doubled paste fill plant capacity in FY 2019 from 5.5 MTPA in December 2017 and will continue to add capacity. Good void management practices







maximise the use of waste generated underground along with tailings from the mill and fly ash from CPPs.

We are also focussing on setting up paver block units, which can use slag, fly ash, bottom ash and Jarosite. We use large amounts of paver blocks in our operations. We are gainfully utilising a significant amount of these waste materials to cement and road construction industries.

## Waste used by other industry

During FY 2019, 3,14,776 MT of waste from smelters was utilised in road construction and 77,608 MT was utilised in cement industry

Waste utilization in Road construction

### Among the many initiatives we undertook to manage wastes, some noteworthy steps have been:

- Laying of waste rock on our dedicated freight corridor railway double line works. Excess quantity after back filling was utilised for the same from Kayad Mine
- Fly ash, bottom ash and slag are utilised in cement and brick manufacturing units
- SKS fume dust leaching system was modified at Dariba Lead smelter, with a new process to control the off-gas dust composition and bleed off the impurities. This has led to reduction in waste generation like dust inventory and improvement in off-gas system reliability as well as equipment life

### INITIATIVE

## Optimal utilisation of waste

Zinc Smelter Debari recovers zinc from process residue waste and produces a non-hazardous solid waste called Waelz Kiln (WK) Slag generated at high temperature of over 1,000 °C., which is stored in slag yards. To gainfully utilise this slag, studies were done to establish its usage as sub-grade filling material for various construction activities, which has now been accredited by Indian Road Congress. To use this slag on a large scale, HZL started exploring the possibility of its usage in construction of national highways. Through continuous engagement with National Highway Authority of India (NHAI) and establishing lab scale testing, a breakthrough was achieved when NHAI agreed to use WK slag for sub-grade filling purpose after testing the strength and stability of road constructed with this slag. So far, **~57,000 MT** of WK slag has been utilised in the construction of six-lane NH 27 and the usage is still continuing.

This initiative has not only helped in reusing waste but has also contributed to the preservation of natural ecosystem, which would have been hampered by NHAI's soil excavation activities.



Case Study

# Engineering more value

Every year, we produce ~800 MT of antimony slag from the Chanderia Lead Zinc Smelter (CLZS) pyro smelter. The slag contains 60% lead and 20% antimony. There is a need to improve the antimony realisation from the slag, since antimony is a commercially viable product. Moreover, there exists a huge demand for antimony trioxide on account of its utility as a flame retardant.

### Intervention

Our Central Research and Development Laboratory (CRDL) devised a hydrometallurgical route to treat lead-infused antimony slag. The flowsheet for the same has been successfully validated at a pilot level. The pilot scale trials generated ~2 MT of antimony trioxide.

### Impact

Antimony is recovered as antimony trioxide with more than 95% purity. The residue, which is full of lead, can be treated internally at the lead smelter. Overall, we have been able to achieve improved realisation from the slag, thus resulting in the extraction of value-added products from the hazardous waste.

## Process technology upgradation in Leaching Plant at CLZS

Our conversion process in leaching plants allows impurities to recycle back into the system and loss of zinc metal in Jarosite with 3% zinc content. Through use of internal resources involving no additional equipment, leaching plant in one hydro-metallurgical smelter was modified by eliminating weak acid leaching and incorporating a process called Jarosite acid wash. This results in improved quality of zinc sulphate purified solution with extremely low impurity level and reduction in total zinc lost through Jarosite cake.

Post this modification, current efficiency in cell house of smelter has improved to ~90% from 88% and total zinc loss in Jarosite is reduced to ~2.5% leading to saving of about ₹ 22 Crore per annum at current LME level, along with reduction in specific energy consumption. With further improvements in automation for finer control of process parameters, current efficiency of more than 92% can be achieved which will increase savings by another ₹10 Crore per annum.

This same process improvement is planned to be replicated at other smelters and total potential savings from this initiative will be about ₹ 100 Crore per annum.



Jarosite capping reduce or eliminate erosion, fugitive dust emissions, and infiltration of water to prevent the migration of contaminants



## Creating economic value with positive environmental impacts

HZL is focussed towards generating wealth from waste. We have set up an ancillary plant in Dariba 5 years ago. The plant has helped in recovering value from waste and manufactures copper sulphate which is required for ore beneficiation at mines. A second ancillary unit is under construction at Chanderia Lead Zinc Smelter premise which will also convert waste to consumable or saleable products.

After successful operation of 'waste to wealth' ancillary plant at DSC, a new ancillary unit has commenced construction at CLZS to treat all smelting process residue. The plant commissioning is expected in December 2019. The total cost of the project is ₹ 9.5 Crore and the payback for the project to be attained in 14 months. With the installation of this plant the expected cost savings in the range of ₹ 50-70 Crore per annum.

The waste material generated in metric tonnes per annum i.e. zinc oxide, antimony dross/dust (260), enrichment cake (527), purification cake (2997) and cadmium sponge (20) which be an input for the ancillary plant and will be producing value-added products such as zinc sulphate solution, antimony trioxide, cobalt filter cake, copper matte, lead bullion, lead-enriched cake and copper sulphate. This will help in reduction of our waste footprint and leap towards the sustainable environment.

## A benchmark initiative by HZL in India - 'Fumer Project'

### **Aiming to recover valuable metal lost in zinc residue**

HZL's first zinc Fumer project with a waste processing capacity of 160,000 MT per annum is expected to commission in FY 2020. The Fumer will lead to annual recovery of valuable metals including 32 MT of silver and 6,200 MT of zinc and lead from zinc residue, which otherwise would be wasted in Jarofix. This initiative will help move towards the goal of zero solid waste to landfill and saving one hectare of land per annum.





## Proactive measure for preventing environmental disasters

In response to recent high-profile tailings dam failures in the world, HZL initiated review of tailings storage facility standards, guidelines and risks and subsequently tailing management policy was rolled out during the year. Dam break stability studies are under progress in coordination with global experts. Tailing Storage Facility (TSF) community has been formed for driving actions to prevent similar incidents and ensure that best practices are implemented at all mining locations.



At HZL we have three active tailing storage facilities and all sites have a dedicated TSF manager and TSF committee consisting of a design engineer, operations, construction and environmental staff. All TSFs, as well as associated pipeline and pumping infrastructure, are subject to regular audit as well as regular inspection. In addition to tailing management policy, we also have organisation wide tailing management standard, which provides approach, methodology and guidance on tailings management.

### **Following actions were initiated by TSF community:**

1. Structured TSF organogram at each mine site and periodic review
2. Replacement of wet tailing disposal system with dry tailing disposal system. Dry tailing disposal would reduce the water content in tailings which will help in improving the stability of dam
3. Creation of secretariat at each location for ensuring availability of tailing dam related documents at single desk
4. Dam break assessment
5. Initiation of online monitoring of health of tailing dam embankment through vibrating wire type piezometers and in-place inclinometer





Case Study

# Stabilising dams for robust functioning

Generation of tailing from ore beneficiation process and its sustainable disposal is an integral part of our process of ore beneficiation in mining operations. We are optimising our disposal in tailing dam by increasing utilisation in backfilling of through paste fill plant. Remaining tailings in the form of slurry is being disposed at tailing dam.

Our operations require us to employ tailing dams. These are earth-fill embankments that are used to store by-products and waste materials left over from mining. It is imperative to regularly monitor the stability of these dams, while also ensuring that they are being efficiently used in accordance with their capacity.

**What were the challenges**

Water that came from liquid tailings and rain was accumulating at the tailing dam, increasing the risk of seepage through the bottom of the embankment. This also created concerns around stability. Additionally, with the tailing dams being at remote locations, efficiency audits were inconvenient.

**How we intervened**

- We erected a water collection reservoir with a capacity of 1.25 Lakh litres. This reservoir stores excess water accumulating at our tailing dams. In order to eliminate the need for physical inspections, we commissioned the installation of vibrating wire type piezometers and location-based inclinometers within the embankment. These instrumentation systems provide real-time monitoring information to our offices, which has boosted overall surveillance.
- We also structured a Tailing Storage Facility (TSF) organogram at each site wherein periodic reviews are carried out. Additionally, wet tailing disposal systems have been replaced with dry tailing disposal ones alongside creating a secretariat at each location, to ensure availability of documents related to tailing dam information at a single desk. Dam break assessments are also being carried out.

**What we achieved**

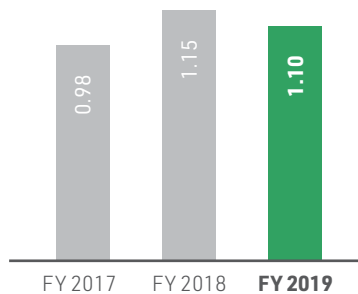
We have attained a certain degree of stability within our dams. Seepages at ground level are being trapped using shallow depth open wells constructed at the downstream side of the tailing dam area. Continuous pumping of water is reducing the charged water table, aiding in improving the stability of our dams. A total number of five open wells have been constructed and made operative at our locations. Dry tailing disposal system is also reducing the water content in tailing dams helping stabilise the process further.



**Waste generated**

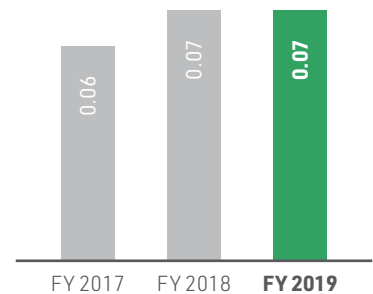
**Non-hazardous\***

(Million MT)



**Hazardous**

(Million MT)



\* Jarosite is now included in non-hazardous waste  
Non-hazardous is not including tailing and overburden



## Nurturing biodiversity

We, at HZL, recognise the magnitude and scale of impact that mining operations may have on biodiversity. Hence, conserving biodiversity is an integral part of our commitment to sustainable development.

For every project we conduct a detailed Environmental, Social Impact Assessment, of which biodiversity risk assessment is an integral part. We then develop a Biodiversity Management Plan (BMP) to mitigate the identified risks.

Our specific biodiversity conservation efforts are not just based on the applicable regulations; we go beyond regulations in protecting biodiversity. We have engaged a third party for carrying out extensive study on biodiversity at all our units. Based on the initial biodiversity risk screening, we have developed a unique and exclusive BMP for all our operations. Our dedicated Biodiversity Policy and Management Standard advice how disruption to wildlife should be avoided, minimised or compensated for, from project scoping to site closure and beyond. Our aim is to achieve a minimum of No Net Loss (NNL) of biodiversity and Net Positive Gain (NPG) of biodiversity (in case any critical habitat is present) at all our operations.

### Mapping biodiversity impacts and risks of our operations

Geared with our commitment to protect the environment, we have reviewed all our operations to identify their proximity to International Union for Conservation of Nature (IUCN) areas, important bird areas and key biodiversity hot spots. We conducted a preliminary analysis of the type of risks associated to the existent biodiversity in the vicinity of our operations. We used the mapping tool Integrated Biodiversity Assessment Tool (IBAT), for the screening process and categorised our operations as high/medium/low as per the associated risk category. The study confirmed that most of our operations did not pose any threat to their associated biodiversity.

During the year, Natural Capital Externalities Evaluation for impact on natural capital was conducted through CII at Dariba Smelting Complex, Chanderia Lead-Zinc Smelter and all five mines. The objective of the assessment was to develop a baseline for natural capital impacts from operations and to track performance annually.

### Biodiversity enhancement beyond boundaries

We take biodiversity preservation and enhancement initiatives both in our operations and beyond our boundaries in other locations. During FY 2016, we partnered with Udaipur Urban Improvement Trust for regeneration of two hills in the city- Ratnagiri and Kalimagri. During FY 2019, ~5000 trees were planted during the 'Van Mahotsav' on 17.91 acres of barren land of Ratnagiri and also on ~12 Ha. at Kalimagri. We also supported the forest department in the development of the biodiversity park in Udaipur.

## Our bit for biodiversity conservation

### We have planted more than 1.5 Million plants around our operations

During the year, 155,000 saplings were planted to increase flora density in the areas around our operations. Peacock conservation park, endangered plant nursery, butterfly garden, medicinal park, tree inventerisation, plantation on Kalimagri and Ratnagiri are few of the key projects for biodiversity management.







**~1.5  
Million**

Saplings planted to  
increase flora density

## Plantation Drive at Chanderia Lead Zinc Smelter

We planted ~60,000 saplings at Chanderia for development of green area leading to the prestigious 'Van Wordhak Prohatsan' award from District Forest Department Chittorgarh.

## Jyotish Vatika at Debari Zinc Smelter

Hindustan Zinc Jyotish Vatika was established at Debari Zinc Smelter. It comprises 27 nakshtra, 12 rashis and 9 grih. This initiative is taken in line with our biodiversity management policy to conserve medicinal plants. Vatika labelled with a board, shows colours, plants and planets of each nakshtra and rashi.

## Butterfly-cum-rose garden at Chanderia Lead Zinc Smelter

Protecting and enhancing biodiversity is an integral part of HZL's commitment to sustainable development. We have a separate policy on biodiversity and we stay committed to prevent risk on biodiversity throughout our business. To comply the policy, we developed butterfly-cum-rose garden in CPP Unit at CLZS as Implementation of Biodiversity Management Plan.

## Distribution of 20,000 plants

HZL, in joint agreement with Forest Department Udaipur, has conducted plant distribution programme to make Udaipur Green City. In this programme, various 20,000 fruit bearing and ornamental plants were distributed to various organisations and institutes like 'Pukar Foundation', Govt. and Private Schools, affiliated colleges of MLSU Udaipur, Rama Phosphate, IIM Udaipur and Udaipur Military cantonment.



# Growing Together



## Illustrating the many facets of our community intervention

Trust, integrity, respect and care are enshrined in our corporate philosophy. Our communities are our partners in progress, and we engage with them on a continual basis, co-creating solutions and programmes that cater to specific community needs while creating long-term prosperity.

The key material issue associated	Priority of the issue	SDGs associated
Community engagement and development initiatives	HIGH	
Land acquisition and rehabilitation	HIGH	



### Our ambition

Enhance the quality of life and economic wellbeing of communities



### Our approach

At HZL, our corporate sustainability strategy is driven by the Board's CSR Committee and the CSR function in our Company. The identified intervention areas for our CSR activities are:

- Education
- Sustainable Livelihood
- Women's Empowerment
- Health, Water and Sanitation
- Sports and Culture
- Environment and Safety
- Community Asset Creation



### Strategic priorities

- Enhance the quality of education accessible to children and youth
- Help families reach financial security and stability
- Train local youth with appropriate employable skills based on their aptitude and education
- Empowering rural women and helping them achieve economic independence
- Support creation of appropriate common property resources in villages
- Ensure easy access to quality healthcare and clean drinking water
- Support young sport enthusiasts in achieving excellence
- Remain an active partner regarding environment and safety practices
- Practise job mapping measures, creating a connection between the employable and the employer



### Performance in FY 2019

- Our CSR spend was ₹ 130.20 Crore, an increase of nearly 42% over last year
- We touched the lives of 5,00,000 people through our CSR interventions
- Carried out baseline and impact assessment study during the reporting year with a sample size of 3,500 households, which had two major outcomes
  - ~64% of the sample households in the operational area benefitted from at least one CSR programme
  - ~88% impacted households are from lower- or middle-income groups and ~85% belong to SC/ST/OBC communities
- ~75,000 students impacted through various education interventions
- ~12,000 families benefitted through agriculture and livestock interventions
- Provided skills/training/job placement services to more than 550 youth
- Reached over 23,000 women/families directly through Sakhi programme for their socio economic development
- 569 road safety awareness sessions conducted covering 51,954 community members





## CSR governance at HZL

HZL's CSR efforts are directed towards 189 villages near our operations, including 184 in Rajasthan and five in Uttarakhand. The projects address issues of national importance and are carried out in close partnerships with the Government, local communities and credible NGOs.

The emphasis is on effective response to grassroots development needs and high-impact results. During the year, CSR spend was ₹ 130.20 Crore impacting the lives of over 5,00,000 beneficiaries.

The broad vision of our CSR policy, to enhance the quality of life and economic wellbeing of the communities around our operations, is drawn from our core management belief that 'our licence to operate comes not only from the Government but also from the communities surrounding our operations and particularly the people of Rajasthan'.

MEAL-Monitoring, Evaluation, Accountability and Learning-systems are an integral part of project design to ensure high transparency in all CSR projects. HZL has developed highly effective monitoring tools, documentation and process manuals in some of its flagship projects for its own project efficacy and also to contribute towards the CSR knowledge repository in India.

"As a responsible mining company, we have a long-term commitment towards all stakeholders. We want our communities to be an integral part of our growth story wherein all members participate, and no one is left behind."

**Mr. Sunil Duggal, CEO**

During the year,  
CSR spend was

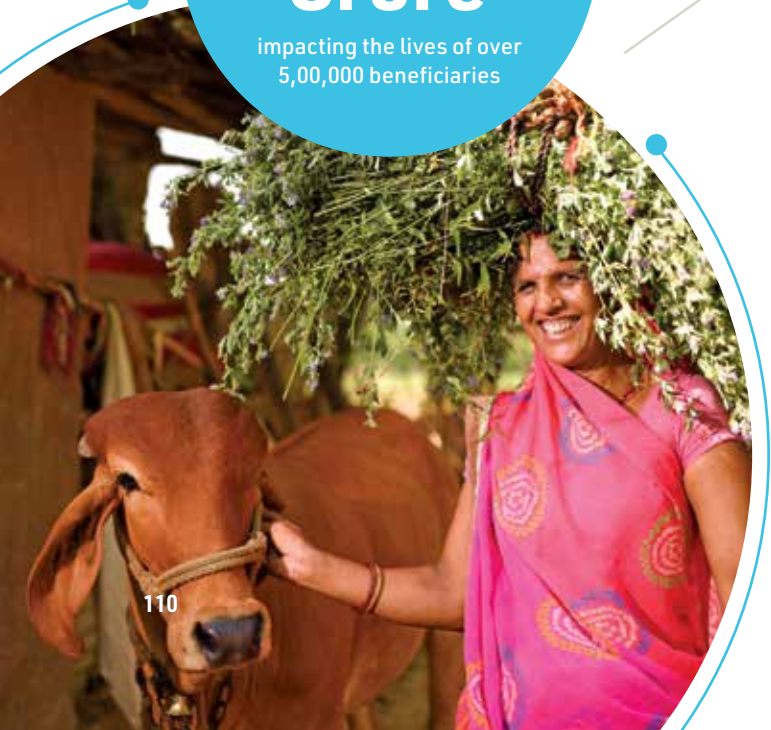
**₹ 130.20  
Crore**

impacting the lives of over  
5,00,000 beneficiaries

### CSR governance

At HZL, transparency and accountability are the cornerstones of governance that are achieved through strong systems/processes and multi-tiered reviews. The overall responsibility of shaping CSR engagements rests with the Board CSR subcommittee while the Executive Committee and the Implementation Monitoring Committee (IMC) play a leading role in ensuring the translation of that vision into action. The dedicated CSR professionals in HZL are responsible for project design, quality execution, monitoring and reporting.

All flagship CSR projects follow a listing of activities, expected outputs, outcomes and impacts, along with allotted budget. In many cases, there are Project Advisory Committees consisting of respected external experts on relevant thematic areas who provide guidance and thought leadership to ensure high-quality design and effective implementation of the projects. The large flagship projects also have Project Steering Committees (PSC) that usually meet monthly. The PSC is responsible for taking stock of







the progress as per plan, efficacy of the interventions and keeping alive innovation and learning.

Due diligence, accountability and transparency around the implementation of all CSR projects are constantly ensured through audits conducted at three levels mentioned below:



#### **Vedanta Sustainability Assurance Programme**

This is an annual audit of sustainability practices and processes, which is conducted across Vedanta. The audit covers a review of CSR practices within the Social Sustainability and Stakeholders Engagement module.



#### **Management Assurance System Audit**

This is an independent process audit conducted annually across Vedanta, and it highlights any discrepancy in processes vis-à-vis laid down policies, commitments and laws.



#### **CSR Internal Audits**

Apart from the above two audits, we have also appointed dedicated internal auditors who carry out quarterly audits of our CSR projects. The audits cover both, a financial audit, as well as a physical audit of activities carried out on the ground. These internal audit reports are reviewed by the IMC, senior management and the Board CSR Sub Committee.

In addition, HZL commissions a comprehensive baseline and impact study by a third party, at all its locations, once every three years.

#### **CSR programmes**

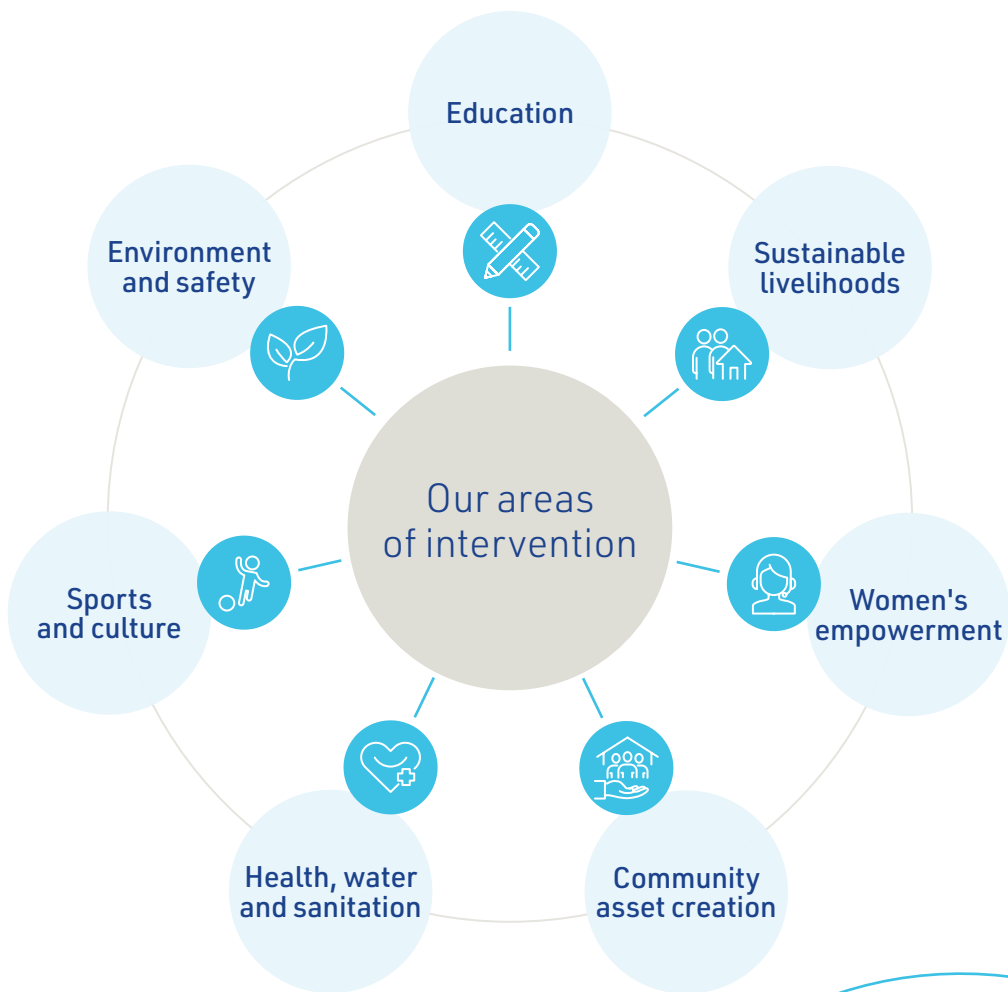
The Board of Directors revised the CSR policy in April 2018 to reflect the changes in programme mix. HZL's CSR policy lays down thematic focus areas of work as education, sustainable livelihoods, women's empowerment, health, water and sanitation, sports and culture, environment and safety and community development. The specific project priorities emerge through baseline studies conducted once every three years and constant community engagement and consultations. Projects are designed to effectively address the felt developmental needs in identified villages.



## Our areas of community interventions

We are able to thrive and sustain because of the community we operate in, therefore their interests are of paramount interest for our business. We ensure that our business operations help create value for them and empower them.

Leveraging our expertise, technology and resources, we are forging multi-stakeholder partnerships with governments, civil society, academia and local communities, to empower communities living around our operation sites. In addition to the key areas of intervention covered by CSR, our employee volunteers contribute significantly to community development.



## Assessing impacts of interventions

We believe that partnerships are 'key' to enhancing value in any developmental effort; and measuring impact is imperative to sustaining our focus on projects and their implementation. We conduct baseline and impact assessment every three years to monitor progress of our community interventions.

Environment and Social Impact Assessment (ESIA) studies are carried out by recognised and approved third parties to identify risks and based on that mitigation plan is prepared in the form of Environmental and Social Management Plan, which is part of ESIA document.

The impact assessment study is done internally and also at times with external agencies once in three years. During the current year external impact assessment was done by Taru Leading Edge.

### Excerpts from our baseline & impact assessment study carried out during FY 2019 - Education

Khushi

**Increase**

In enrolment

**Focus**

On cognitive development

**65%**

Reported medium to high impact

**Nutritious**

Food

**99%**

Desired continuation of the programme

Unchi Udaan

**Free education provided**

To the students especially girls, who are continuing their higher education

Shiksha Sambal

**78% (HHS)**

Improvement in grades

**81% (HHS)**

Interest in going to schools

**78% (HHS)**

Improved quality of education

Jeevan Tarang

**Impressive**

Change observed in deaf schools

**Children**

Are becoming confident

### Recommendations from the impact and baseline studies

- Vocational Training Programmes for the illiterate to help them gain secure livelihoods



**Excerpts from our baseline & impact assessment study carried out during FY 2019 - Sustainable Livelihoods**

**~24%**

Households impacted through Project Samadhan

**~33%**

Households reported increase in yield by improved seed varieties

**~74%**

Households before reported medium to high impact

**Recommendations from the impact and baseline studies**

- Identify progressive farmers and facilitate links with banks for low-cost loans and online marketing portals
- Camps to address bovine fertility and gynaecological issues, treatment of such animals and raise awareness about best practices in dairy business

**Excerpts from our baseline & impact assessment study carried out during FY 2019 - Women's Empowerment**

**73%**

Coverage for the Sakhi programme

**30%**

of surveyed households availed loans for starting their business/ enterprise

**67%**

Households reported income enhancement

**Strong**

Bearing on thought process and behaviour of community

**Recommendations from the impact and baseline studies**

- Initiatives from skill-based vocational trainings and facilitation of business development
- Linking women to appropriate vocational training centres or skill development centre

**Excerpts from our baseline & impact assessment study carried out during FY 2019 - Health, Water & Sanitation**

**34%**

Coverage

**48%**

People received medium impact from the programme

**Recommendations from the impact and baseline studies**

- Aquifer mapping and plotting of hand pumps, open well other sources. Conduct audit to replenish existing sources
- Introduce rainwater harvesting and recharge in all possible location
- Improve safe drinking water
- Strengthening of health services through the Mobile Medical Vans
- Raise awareness on individual level sanitation in partnership with Government run programs
- Camps and low-cost services especially for respiratory disease to reduce the cost of health care

**Excerpts from our baseline & impact assessment study carried out during FY 2019 - Sports**

**81%**

Received high-medium impact from the football programme

# EDUCATION

Shaping a brighter future



*"Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mine worker can become the head of a mine, that a child of farm workers can become the president of a great nation."*

– Nelson Mandela

Education offers access to better opportunities; it is the key that unlocks the door to a better life. It is universally acknowledged as the strongest driver of empowerment and wellbeing. At HZL, we implement several projects related to educating diverse members of the community.

## Our reach

During FY 2019, we spent ₹ 51.41 Crore (39% of total CSR expenditure) on education programmes benefitting ~75,000 students



## Our goal

To enhance the quality of education accessible to children and youth of up to 18 years; giving wings to dreams of a future that each child wants to create for herself or himself



## Key initiatives

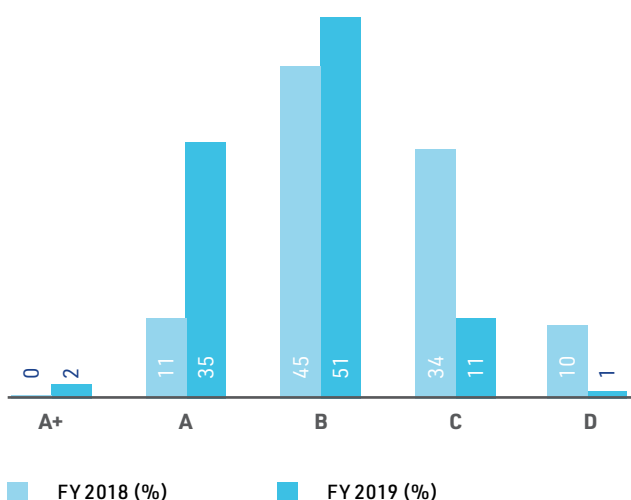
### Khushi

Project Khushi is in its fourth year and directly reaches 60,000 children in 3,089 Anganwadi Centres (AWCs). The AWCs are very important grassroots level institutions that cater to the health, nutrition and pre-school needs of children, in the formative 0-6 years age group.



#### FY 2019 performance

- 60% of the enrolled children regularly attended AWCs
- ~1,600 severely & acutely malnourished children were identified, of which 37% were successfully brought to normal category through various project interventions
- ~21,000 pre-school children were assessed at 1,522 AWCs across five districts for preschool learning assessments conducted twice a year on five development domains-language, cognitive, social, physical and creative-and an average increase of 11% was observed across all domains for the children who appeared for both the tests
- All 3,089 AWCs were evaluated using a unique Anganwadi Grading Tool and the results were positive:



**60,000**  
Children directly reached  
in 3,089 Anganwadi  
Centres (AWCs)

- ~1,800 AWCs were assisted in setting up kitchen gardens to supply fresh vegetables for the children's meal
- Organised recipe trials, using the dry Take Home Ration (THR)-provided by the Government to mothers for supplementing protein and fat deficiency in their diet-as the primary ingredient to teach mothers how THR can be converted into a delicious meal
- 34,000+ community meetings were held. Community contributions received at more than 44% AWCs amounting to ₹ 82 Lakh
- Two AWC workers, Ms. Rukmani Bhoi and Ms. Vimla Kunwar, were selected by the Ministry for Women and Child Development for the 'National Awards for Exceptional Achievements' in January 2019





## Nandghar

Nandghar, a Vedanta group flagship programme re-imagines AWCs as state-of-the-art centres which find a place of pride in communities.

Project Nandghar provides children with a safe and friendly learning environment with amenities like safe drinking water, uninterrupted supply of solar power, digital learning facilities and more. Many Nandghars are also used (post AWC hours) for providing entrepreneurial skills training to women through another flagship project, 'Sakhi'.

### FY 2019 performance

264 Nandghars were constructed, taking the total count to 314

## Shiksha Sambal

Shiksha Sambal, aimed at providing education in Science, English and Maths (SEM), impacts over 7,800 students across 60 government schools.

The project places additional teachers in schools and helps build a strong conceptual foundation among students using innovative learning techniques, including group learning, worksheets, learning camps, science fairs and so on.

### FY 2019 performance

The class 10 results were a huge reaffirmation of this investment with significant improvements in results of SEM subjects. The table below shows the change in % of schools, which had pass rate of over 70% in these subjects in FY 2016 (base year) and FY 2018 (current year)

Subject	FY 2017 –% of schools with >70% pass rate	FY 2019– % of schools with >70% pass rate
Science	76	99
English	86	100
Maths	62	72

### Bolstering language and mathematics skills across schools

During the year under review, we initiated a new programme in 19 government schools to strengthen Language and Mathematics learning for classes 1-8, using a personalised and adaptive cloud-based learning solution called 'Mindspark'. The initiative is directly benefitting more than 3,200 students.

Within the first quarter of its implementation, the programme helped 226 students move up at least one learning level in Mathematics. This early intervention with a special thrust in mathematics and language will help reduce dropouts from schools.

## Jeevan Tarang

This programme reaches over 800 differently-abled children who have special needs (hearing/vision/intellectual). The project's primary objective is to make the children self-reliant through improved education opportunities, including technology-based learning.

It also aims to sensitise and spread overall awareness among the general public and employers about physically challenged individuals to build a more equal and inclusive society.

### FY 2019 performance

- Undertook a job mapping and inclusion assessment for persons with disabilities in India's mining sector—first-of-its-kind evaluation—in partnership with a nationally reputed, specialist organisation
- Organised workshops on menstrual hygiene and sexual violence for hearing-impaired girls
- Introduced Indian Sign Language to family members and teachers of hearing-impaired children to facilitate better two-way communication
- Mainstream cinema hall screenings of Bollywood movie 'Hichki' in Audio Described Format for visually impaired audience were organised in Udaipur, Bhilwara and Ajmer

**Over  
800**  
Differently-abled  
children reached by  
the programme



As part of planning for FY 2019, we undertook a comprehensive study on readiness for disability inclusion at HZL as the first step towards building a bridge between the HZL staff and the community through our CSR initiatives



### **Comprehensive study on readiness for disability inclusion at HZL**

As part of planning for FY 2019, we undertook a comprehensive study on readiness for disability inclusion at HZL as the first step towards building a bridge between the HZL staff and the community through our CSR initiatives.

The study focussed on three aspects (i) Accessibility of infrastructure and services (ii) Identifying jobs for persons with disabilities and (iii) Assessment of readiness for disability inclusion, both at institutional and individual levels

V-shesh, an empaneled access auditor with Government of India's Sugamya Bharat Abhiyaan, was identified as our implementation partner. This study was conducted from June 2018 through February 2019 and covered each aspect listed above.

This study will not just help in aligning our CSR disability inclusion work with our team members but has laid the foundation for an 'ahead of time' compliance with requirements of The Rights of Persons with Disabilities Act, 2016.

Objective	Methodology	Output
<b>Accessible infrastructure</b>	Access audit of premises at every HZL location	Actionable plan for making each location/ premises accessible for persons with disabilities
<b>Disability inclusive hiring</b>	Development of methodology for opening up jobs at HZL for persons with disabilities	Methodology for making jobs open for persons with disabilities and over 50 roles now open for hiring, using this methodology
<b>Openness towards disability inclusion</b>	Seeking feedback from our staff members via an online survey and 100+ in person meetings	Specific feedback from staff members on making disability inclusion work at HZL



#### Success story

Chanda Sisodiya has been the hostel caretaker at the Deaf School in Udaipur for five years now. A teacher in the past, Chanda left her job to aid her son in overcoming his disability.

She also believes that Indian Sign Language (ISL) makes communication among children with hearing disabilities easier. It also gives the children more confidence to have meaningful engagements with people who may not know any sign language, including their family members. The value of ISL is reflected from the rising interest among teachers and parents to also learn it. This initiative was made possible on account of support from our CSR project Jeevan Tarang. The project partners with schools for differently- and specially-abled children to build capacities of these institutions to impart effective education and skilling of more than 800 special children in Udaipur, Bhilwara, Chittorgarh and Ajmer districts of Rajasthan.



## Unchi Udaan

This project builds on the foundation of Shiksha Sambal and creates an opportunity for high-performing students from the project schools to enter engineering institutions of national repute. It provides residential and non-residential schooling and coaching support to selected students.

### FY 2019 performance

The first batch of 24 residential and six non-residential students is prepared to take the Joint Entrance Examinations for engineering colleges in 2019.



### Success story

Rani Khatik from Dariba is one of the star performers in our CSR initiative Unchi Udaan, and is set to become an IITian. The project provides free residential schooling and coaching support to meritorious students studying in government schools near our operations, giving wings to their dreams of studying in IITs and other institutions of national repute.

Rani's success in the JEE is especially inspiring for us. Abandoned at birth by her father, a government school teacher, because he only wanted a son; Rani's life's mission is to prove that girls, like boys can excel in any profession. At school, Rani has always loved maths and dreamt of becoming a civil engineer. Her mother, Manju did not want to depend on anyone's charity. She did not hesitate to work as a daily wage construction labourer to make ends meet, while fighting for nine years to ensure that Rani's father pays maintenance charges for her upbringing, because it was Rani's right. A work site accident where Manju broke her arm and had to undergo a surgery where a steel rod was fitted in, meant that she could no longer work as a labourer.

When our women's empowerment project, Sakhi was started in the village, Manju joined a self-help group (SHG). She had started a small grocery shop. The small loans that she took from her SHG helped to finance the operating costs of her shop. When in class 10, Rani herself used to sew to earn some money, to reduce the burden on her mom for paying for her education. Cracking the IITs is always a high, and when you do it against all odds, as Rani has done, it is that much more special and we are proud to be part of Rani and Manju's life journeys.



## Scholarship support for higher education

We provide merit-cum-means scholarships called 'Yashad Sumedha' for youth pursuing engineering education. HZL also provides full scholarship for girls from surrounding villages around its operations to pursue higher education at the Vedanta Post-Graduate Girl's College, Ringus.

### FY 2019 performance

- 111 students received this Yashad Sumedha scholarship
- 8 top ranking students of various streams from College of Technology and Agriculture Engineering, Udaipur were awarded scholarships
- 51 new girls were supported for higher education, taking the total number to 98 girls, at Vedanta Post-Graduate Girl's College, Ringus



## Other engagements in education

We have five schools that directly provide education to 1,737 children from communities in their vicinity. We also provide need-based furniture and infrastructure support to government schools in our immediate neighbourhood.

**1,737**

Children provided education in five schools



# SUSTAINABLE LIVELIHOODS



Striving to create thriving communities

*"But if you can create an honourable livelihood, where you take your skills and use them and you earn living from it, it gives you a sense of freedom and allows you to balance your life the way you want"*

- Anita Roddick

Sustainable livelihoods empower communities and drive financial growth for them, as well as the nation. Our livelihood programmes include on-farm and off-farm interventions comprising innovative and effective solutions, especially for improving employability of local youth

## Our reach

During FY 2018-19, we spent ₹ 16.32 Crore (13% of our CSR expenditure) on sustainable livelihoods projects, benefitting 13,000 families directly



## Our goal

To enable families to reach financial security and stability; striving to create thriving communities.



## Key initiatives

### Samadhan

This is our flagship programme for on-farm sustainable livelihood. We extended our support to 8,174 farmers through agriculture-based interventions and 4,295 families through livestock-based programmes during FY 2019.

Project Samadhan, as the name suggests, focusses on 'delivering solutions' for collective challenges, by bringing together members of various Farmer Interest Groups (FIGs), formed according to their unique circumstances such as types of landholding. The FIGs help their members in overcoming issues related to market access and product pricing, among others. During the year under review, we focussed on improving soil health, quality of agriculture seeds, horticulture plants and improving breeds of livestock, along with improving farming practices and technology.

#### FY 2019 performance

##### Agriculture

- 23.1% increase in maize production in three clusters while soyabean yield improved by ~7% compared to non-intervention areas
- During Rabi 2018, ~57% farmers (out of 3,451) adapted line sowing technique from the package of practices provided in the project
- 372 new farmers were provided support in olericulture (growing vegetables) and from the data analysis of 198 farmers, it shows that additional cash flow generated ranged from ₹ 5,000 to ₹ 25,000 per farmer
- 288 fruit orchards (WADI) were established covering an area of 142 acres in which horticulture crops like mango, lemon, guava, figs (anjeer), sapota (chikoo) and others were planted. In addition, 25 ultra-high-density plantation/high-density plantation (UHDP/HDP) wadis of mango and guava were established
- 3,835 new farmers were added to the programme through various interventions
- ~3,129 farmers actively participated in Farmers' Day, organised successfully in five clusters

##### Livestock

- Introduced Sorted Semen, a cutting-edge technology that is proven to have 90% female calf birth rate
- 271 animal camps were conducted covering more than 1,00,481 animals and benefitting over 2,610 families
- 6,747 artificial inseminations were carried out through nine different Integrated Livestock Development Centres (ILDC) running under the project
- Cumulatively 3,429 calves have been born with the help of this project over the last 2.5 years, of which 1,624 are female, resulting in an asset creation of ₹ 78.42 Lakh for the farmers



#### Success story

We have much to learn from Gautam, a differently-abled young man from Zavar village, who has not allowed his physical constraints to affect his passions.

He collaborated with our flagship CSR project on agriculture, Samadhan in 2018 and has, since then, planted a mango orchard and a rose farm. We supported him more in this direction by taking him on a learning visit to the Jain Irrigation headquarters at Jalgaon, Maharashtra. Here, he learned more about developing high-density orchards for pomegranates, guava, mango and others, as well as acquainted himself with the basic concepts of tissue culture. Gautam is Samadhan's shining star and the visit inspired him to interact with the Government-run agriculture department, obtaining 100 saplings to plant a pomegranate orchard.



## Skill development

Our skill development project trains local youth for appropriate job-related skills based on their aptitude and education, to improve their employability.

During FY 2019, six projects were initiated exclusively for youth living around our operating sites. These projects are run in collaboration with leading organisations known for their commendable work in skill development.

### Skill development projects implemented during FY 2019



#### 1. HZL Mining Academy

Incorporated in FY 2016, the Academy continues to grow with three centres that are currently training ~172 students with a lucrative career in underground mining. The students receive classroom instructions as well as practical training using simulators and on-the-job training in mines.



#### 2. HZL Skilling and Entrepreneurship Centres

During FY 2019, we started skill development centres at two of our mining locations (Dariba and Agucha). Both centres will train a total of 350 youth per year across six different trades as part of this programme. The training will be followed by placement in surrounding districts. Currently, 159 youth (including girls) are undergoing training for micro-finance, home electrician, security guard, general duty assistant, sales associate and data-entry operator.

**3. ITI training at Maruti Suzuki, Gurgaon**

We encourage, prepare and support youth from the villages near us to be selected for this two-year course offered by Maruti Suzuki, which offers job training for the automotive industry with a handsome stipend. The programme now hosts 152 boys from villages in our vicinity.

**4. National Employability Enhancement Mission**

Under this project, qualified graduates are placed as apprentices in various business units of HZL for a period of three years for receiving on-the-job training. During FY 2019, we absorbed 134 youth as apprentices under this scheme.

**5. BPO training**

We began this course during the year under review at two locations (Dariba and Agucha), where training was imparted to 48 youth, including 26 girls and 22 boys. Post completion of the training 70% of them were placed in jobs with salaries ranging from ₹ 8,000 to ₹ 25,000 per month.

**6. Other training courses**

Training programmes for employment as security guards and drivers, as well as a 45-day training on micro-entrepreneurship was introduced during FY 2019 benefitting 21 youth.



**6 projects**  
 Initiated exclusively for youth living around our operating sites during FY 2019



**Success story**

It takes enormous strength to walk out of a marriage, even when you know that your husband has wronged you. The choice is even more stark when you know that you will be a single parent, responsible for raising your six-year-old daughter.

Yet 28-year-old Anjum Mirza from Railmagra, near our Dariba smelter had the courage to do so in 2017. She then took up a teaching job in a private school, but her childhood dream was to join a corporate job. She came to know about our skilling initiatives and joined the Micro-finance Trade Executive course. She performed very well and after passing out got placed with Axis Bank in Bhilwara, drawing a salary of ₹ 12,500/- per month.



**CARING** A(g) to Z (n)

# WOMEN'S EMPOWERMENT



A step towards parity and prosperity

*"The question isn't who's going to let me; it's who is going to stop me"*

-Ayn Rand

Women empowerment sets a direct course towards gender equality, poverty eradication and inclusive economic growth. It broadens access to economic assets and enhances women's participation in shaping a country's economy. At HZL, we are geared towards mobilising rural women towards economic independence and find their collective voice for setting developmental priorities in their families and villages.

## Our reach

During FY 2019, ₹ 5.40 Crore (4% of CSR expenditure) was allocated for women empowerment programmes that directly impacted the lives of over 23,000 families



## Our goal

Is to unlock the full potential of all women in our neighbourhoods by helping them experience economic self-reliance and find their collective voice for setting developmental priorities in their families and villages



## Key initiatives

### Sakhi

Sakhi marshals rural women into self-help groups (SHGs) and helps develop their capacities in leadership, skill development, finance management and entrepreneurship.

#### FY 2019 performance

- By the end of FY 2019, we had formed 1,922 SHGs with ~23,954 members and total savings of ₹ 6.2 Crore and cumulative loans of ₹ 17.13 Crore, including credit of ₹ 2.7 Crore leveraged from banks
- Overall, 18,053 women availed loans from SHGs for various purposes like livelihood activities, education, debt redemption and household consumption
- 492 women initiated or expanded their micro-enterprises

During the year under review, there were two other significant developments:

#### Formed five federations of 23,000 women

The SHGs we support normally consist of 10 members and are brought together at the village level as a Village Organisation (VO), which are clubbed into a Federation. We assist in developing the three-tier structure for women that offers a pathway to financial self-sufficiency. The project now has 126 functional VOs and during FY 2019 we helped form 5 Federations with a base of 23,000 women.

#### Collaboration between our largest projects

During the year under review, we brought together two of our flagship programmes - Khushi and Sakhi - wherein ~140 women stitched uniforms for 60,000 Khushi Anganwadi children under the 'Khushi Baatiye' Campaign. 'Khushi Baatiye' is an employee engagement campaign at HZL to gift a pair of uniform and sandals to children in the Khushi Anganwadi centres.



# 23,000

Women associated through 1922 SHGs



#### Success story

Sumitra is the youngest daughter of a worker in a coal mine, who due to financial constraints of raising a daughter, married her off early. Married for seven years and with two daughters, life hadn't been easy. Sumitra got involved in our Sakhi project two and half years ago.

Sumitra, a Samuh Sakhi took a ₹ 10,000 loan to open a small grocery shop which also doubles as a tailoring shop. She has some informal training as a beautician and plans to incorporate a beauty parlour in the shop space once she has some spare money. She feels that being part of the Samuh has helped her meet her growth aspirations. She does not really have to depend on someone else for money. The women in her group take care of each other and help in empowering each other. Sumitra is prepared to pursue her dream of building a small house for her family in Hurda.

*"Beti kisi ki bhi ho, jab tak uski haat may hunnar na ho, uski shadi mat karana."*

Sumitra, a part of the SHG



**CARING** A(g) to Z (n)

# COMMUNITY ASSET CREATION



Enriching quality of life

*"There is no power for change greater than a community discovering what it cares about."*

Margaret J. Wheatley

The creation of community assets enhances the quality of living and is fundamental to defining development of any region. At HZL, we focus on creating appropriate common property resources like community halls, drains and roads, among others for the families living in our neighbourhood villages.

## Our reach

During FY 2019, we invested ₹ 9.44 Crore (7% of CSR expenditure) on building community assets



construction of class rooms in school 📷

## Our goal

To support creation of appropriate common property resources in villages, thereby enhancing the quality of life in communities



📷 construction of CC road to temple



## Key initiatives

### Amenities for communities

The creation of an appropriate physical asset for communities is sometimes the most tangible expression of a company’s commitment towards continuous community development.

At HZL, we help in the construction of community assets after close consultation with the concerned villagers.

#### FY 2019 performance

During the year, we initiated several projects, including construction of community halls, classrooms in schools, cement concrete (CC) and bitumen roads, bus stands, cremation centres, culverts, drains and open-air public spaces in villages according to community requirements. In addition, water projects like installation of pipelines, providing water connections, construction of water tanks, supplying drinking water through tankers and others were also undertaken.



Construction of Community Hall



Construction of running track

**CARING** A(g) to Z (n)

# HEALTH, WATER AND SANITATION

Facilitating cleaner, safer,  
healthier lives

*"In nothing do men more nearly  
approach the gods, than in giving  
health to men."*

– Cicero

Health, water and sanitation are essential amenities that any community is dependent on. Our focus is on ensuring that communities around us receive safe potable water and access to proper healthcare and sanitation facilities. Our programmes are directed towards facilitating infrastructure development in these areas.



## Our reach

During FY 2019, ₹ 11.65 Crore  
(9% of CSR expenditure) was  
spent on health and water  
related initiatives benefitting  
the community directly



## Our goal

To ensure improved and quality access to  
healthcare and drinking water, especially for  
the most vulnerable populations



## Key initiatives

### Health

Proper healthcare facilities are vital for community's development. Therefore, we consistently strive to provide high-quality healthcare facility to the communities in our vicinity.

#### 1. Mobile Health Vans (MHVs)

During FY 2019, we re-launched Mobile Health Vans around four of our locations to provide accessible and affordable medical care to our neighbouring communities. The project is set to positively touch lives of ~1.42 Lakh people over the next three years, especially that of women and children.

##### FY 2019 performance

- 42,000 patients (of which ~26,000 were women and children) received healthcare through overall 832 OPD sessions
- 1,419 rapid tests were conducted, along with 293 antenatal check-ups
- 309 villagers were referred to base hospitals in the district, as referral is one of the components to the MHU
- ~3,617 beneficiaries covered through 62 awareness sessions conducted on anaemia, women's health, nutrition, healthy hand washing and others



#### 2. Angdaan Mahadaan Campaign

This was a joint initiative of HZL and Dainik Bhaskar with Mohan Foundation Jaipur Citizen Forum as the technical partners. The campaign reached more than 12,000 people through awareness seminars in 15 towns of Rajasthan, workshops for doctors and nursing staff in hospitals, street plays, talk shows cum felicitation ceremony for donor families, road shows in rural markets and Udaipur marathon.

##### FY 2019 performance

- 12,000 people reached through this campaign

#### 3. Other health initiatives

Our six company-run hospitals treated over 1,07,500 external patients during FY 2019. We also extended our support to a Homeopathic medicine camp at Gulabpura, where over 22,000 patients were treated.



## Water

Water is among the most important needs of a community, especially in a state like Rajasthan. At HZL, we have always supported people in receiving access to adequate drinking water. During FY 2019, we began to activate a long-term water security strategy for areas near us. This includes working on both water replenishment/recharge and access to clean drinking water.

34

Water harvesting structures were built/repared with a capacity to hold 4,675 m<sup>3</sup> of rainwater

### 1. Water harvesting

Widespread water harvesting is the only sustainable solution to water scarcity for the same. We are collaborating with the State Government on this mission.

#### FY 2019 performance

- 34 water harvesting structures were built/repared with a capacity to hold 4,675 m<sup>3</sup> of rainwater
- Commissioned a water resource assessment to make a rainwater harvesting plan for our Dariba SBU. The assessment employed state-of-the-art technology, including remote sensing and Geographic Information System (GIS) tools

### 2. Drinking water provisioning

We have always focussed on providing safe potable water.

#### FY 2019 performance

Initiated community RO water plants in partnership with local Gram Panchayats based on a viable business model where in HZL provides capital costs and funds gap in operational funding for the first few years. Three such community RO plants were set up this year, along with five water ATMs.



# SPORTS AND CULTURE



Encouraging sports and preserving culture for a vibrant youth

*"Champions aren't made in the gyms, champions are made from something they have deep inside them - a desire, a dream, a vision."*

- Mohammed Ali

Sports and culture are an integral part of community life and both help in enhancing the quality of life. While sports instill the spirit of leadership, teamwork and other important life lessons, culture embellishes life in general. Our significant investments in sports during the year reflect our commitment towards promoting education outside of classrooms. We also continued supporting cultural events to make them accessible for all.

## Our reach

During FY 2019, we spent ₹ 19.89 Crore (15% of CSR expenditure) on sports and culture projects benefitting 45,000 persons directly



## Our goal

To support young talent in achieving excellence; making sports and culture accessible for everyone



Case Study

## Grooming tomorrow's sports stars

HZL has undertaken a one-of-a-kind programme, known as Zinc Football, in India. This is an umbrella initiative that encompasses several broad-level interventions, which are geared to serve the objective of identifying high-performing young talent and nurturing them into skilled sports professionals, while also ensuring they receive formal education off the field.

### Intervention



At the heart of this initiative is the residential school, titled Zinc Football Academy, at Zawar. We organised 43 scouting camps across 23 districts in Rajasthan to shortlist the 32 students to be enrolled here. Additionally, four talent hunt initiatives also took place at major regional, state and national tournaments.

The academy is a state-of-the-art unit with world-class facilities and the country's first-ever 'technology-hinged football training'. The novel F-Cube Training and Assessment Technology enables the continuous tracking of key developmental parameters of the scholars. We ensure that each of these children can access all the right opportunities as well as balanced guidance from qualified support staff.

Moreover, we have also set up 64 Zinc Football Schools throughout Rajasthan. A comprehensive curriculum is followed at each of these schools and this is complemented by periodical evaluations, coaches' refresher courses and competitive tournaments.

#### Residential academy at Zawar

Laced with world-class facilities, this academy focusses on technology-hinged football training. Using Artificial Intelligence (AI) and simulation programmes, this academy intends to devise new ways of training. Currently, there is a batch of 32 children who are getting trained here.

### Impact



We saw more than 4,300 children participate in the academy scouting camps. Each of our schools drew over 2,000 young boys and girls from nearby localities and they are, at present, being coached by fully-skilled trainers. In addition, we reached out to more than 5,000 young footballers, as part of our 'Football Clinics' drive.

The response to the overall initiative has been overwhelming. Children are displaying as well as developing immense love for the sport, while dreaming of representing the country in the game in future. This inspires us to stay on course and groom tomorrow's stars.





“It was very important for someone to take this initiative for the betterment of Indian and Rajasthan football. Thankfully, Mr. Duggal decided to address the problem. However, this is only a baby step and if these kids are nurtured well from now on, they will definitely bring pride for the country.”

**Rohit Parashar,**  
Veteran Indian footballer and former coach of Sports Authority of India



Success story

We pride ourselves in the Zinc Football Community Centre in Dariba

While it has helped some spirited children realise the extent of their enthusiasm and potential for sports, it has inspired kids like Ladu to reclaim control of his life and get closer to transforming the dreams of his loved ones into reality, in the aftermath of a tragedy. Ladu, taking after his late father’s passion for football—who worked as a labourer for HZL and would regularly take him to watch matches—now wakes up early and travels 6 km on a bicycle from his home to our Zinc Football Community Coaching Centre in Dariba. While his mother has busied herself in farm work to support her young children, Ladu is recovering from the enormous loss by dedicating himself wholeheartedly to the sport and his coach vouches for his regularity and imminent success.

**FY 2019 performance**

- Zinc Football team made its debut at the national-level annual sports meet conducted by School Games Federation of India (SGFI) where they reached the quarter finals
- Aman Khan, a student of the Zinc Football Academy, was selected to represent Rajasthan’s state team in the SGFI U-17 Championship, held in Jammu and was its youngest member
- 8 of U-14 Zinc Football Academy boys have been selected to represent DAV Rajasthan in the forthcoming DAV Under-19 National Championship to be held in Ranchi
- Skill improvement initiative for coaches was conducted in collaboration with coaches from the US and the UK, from the award-winning non-profit organisation 'Coaches Across Continents'



## Key initiatives

### Culture

#### 1. Festivals or concerts

We supported a three-day World Music Festival in Udaipur which was attended by 150 artists from 15 different countries and over 42,000 spectators. Additionally, we continued to support Smritiyaan and Maharana Kumbha Sangeet Samaroh, which was graced by leading classical music artists like Ustad Amjad Ali Khan, Prakhar Jojan, Ustad Asghar Husain and others.

#### 2. Cleaning Ajmer Dargah

We are the CSR partner under the Government of India's Swachh Iconic Places initiative as part of Swachh Bharat Mission. It is a special clean-up initiative focused on select iconic places in the country from heritage, spiritual or cultural perspective. This initiative was rolled out by the Prime Minister of India, under which we are partnering with the Khwaja Moinuddin Chishti's Dargah and the Ajmer Municipal Commissioner to make the Dargah into a clean and iconic place. During FY 2019, a tripartite MoU was signed between the Ajmer Dargah Committee, Municipal Corporation of Ajmer and HZL, along with all the Anjuman Committees.

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High-tech cleaning machines to ensure cleanliness of the Ajmer Dargah premises

#### FY 2019 performance

- Deployed a rose petal manure making machine and 17 high-tech cleaning machines to ensure cleanliness of the Dargah premises
- Conducted trainings in risk management, fire safety and crowd management for the Dargah functionaries, along with mock drills to ensure full preparedness among stakeholders to deal with any unforeseen eventualities
- Prepared a detailed disaster management plan for the Dargah in association with the Ajmer District Disaster Management Authority



# ENVIRONMENT AND SAFETY



Creating the right environment for a greener tomorrow

“The environment and the economy are really both two sides of the same coin. If we cannot sustain the environment, we cannot sustain ourselves.”

- Wangari Maathai

Healthy and safe community environment means having clean air and water, security of person and property, and supportive infrastructure. At HZL, we consistently endeavour to provide communities around us with a safe and clean environment.



## Our reach

During FY 2019, our total expenditure on environment and safety initiatives was ₹ 10.98 Crore (8% of CSR expenditure)

## Our goal

To be an active partner with communities living around our operations in caring for the environment and embedding a culture of safety





## Key initiatives

### Sewage Treatment Plant

In 2014, we set up Udaipur's first Sewage Treatment Plant (STP) with a capacity of 20 MLD, with the twin objective of preventing untreated sewage from entering the city's lakes, and to reduce the freshwater consumption for industrial purposes. Given the huge success of this intervention, this financial year we were invited by the city administration to enhance the capacity to more than double. Hence, during FY 2019, another STP with capacity of 25 MLD was completed.



### Community solar lights

We installed solar street lights in villages to improve safety and convenience of villagers.

#### FY 2019 performance

- 396 solar powered street lights were installed in 23 core villages

### Safety in communities

To create a culture of safety in communities, we conduct several awareness activities ranging from fire safety among school children to road safety sessions in communities. The campaigns on road safety encourage the use of helmets by two-wheeler users and seat belts for four-wheeled or larger vehicles; promote the utilisation of safety features like reflector stickers; create awareness on the Good Samaritan Charter guidelines and other such features.

#### FY 2019 performance

- 51,954 community members were covered through 569 road safety awareness sessions
- 24,157 school children participated in various activities like essay writing, poster making, debates, slogan writing, street theatre and others across all operating locations to raise awareness on road safety

**51,954**

Community members were covered through 569 road safety awareness sessions

# Employee engagement



HZL has volunteering and community engagement programmes to strengthen bonds between employees and the communities. This year, over 2,300 employees contributed their time in CSR initiatives, including making financial contributions of ₹ 20.97 Lakh.



## Our goal

To encourage holistic engagement of employees. Ensuring that being responsible becomes a part of our DNA of how we do business



## Connecting farms with zinc areas

As an initial step of linking Samadhan beneficiaries' produce with the market, employees and their families purchased their fresh produce to support the initiative.

## Mentoring Shiksha Sambal students

Employees volunteered during the summer and winter camps held for children under the Shiksha Sambal project.

## Audio-described movie

In its second year, a well known film 'Hichki' was screened in Audio Descriptive format for the visually impaired in Udaipur, Bhilwara and Ajmer. More than 100 employees attended the screening of the movie along with about 250 visually impaired children, adults and elderly.

## Khushi Baatiye

In its second year of continued commitment to gift a pair of clothes and sandals to 60,000 children enrolled in Khushi Anganwadis, the campaign received support from 875 donors (739 employees and 136 contractors/others) with contributions of over ₹ 24.17 Lakh.

## CraftAbility

Organised in support of deaf children of Badhit Baal Vikas Samiti, Ajmer, employees purchased Diwali diyas that were handcrafted by the students.





## Our partners



### Education

Ministry of Women and Child Development – Government of India, Department of Women and Child Development – Government of Rajasthan, Care India, Seva Mandir, Jatan Sansthan, Gramin Evam Samajik Vikas Sanstha, Vidya Bhawan Society, Resonance, Sumedha, Educational Initiatives Private Limited, Avanti Learning Centers Private Limited, Noida Deaf Society, V-Shesh, Vedanta PG Girls College



### Sustainable Livelihood

BAIF Institute of Sustainable Livelihood Development (BISLD), Skill Council for Mining Sector, Indian Institute of Skill Development, Maruti Suzuki, Ambuja Cement Foundation, Team Lease



### Women's Empowerment

Manjari Foundation and Saheli Samiti, Center for Study of Values (COS-V)



### Community Asset Creation

Local Panchayats and Government



### Health, Water and Sanitation

Mukhyamantri Jal Swavlamban Yojana (MJSY) – Government of Rajasthan, Swacch Bharat Abhiyaan, Smile Foundation, Jimmedari Foundation, Dainik Bhaskar



### Sports and Culture

Football Link, Seher, Government of India



### Environment and Safety

Urban Improvement Trust, Forest Department

# Goals 2020

As our journey on sustainability continues, we keep setting new milestones. Taking stock of our performance against the goals and targets for FY 2019, we have now set our targets for FY 2020. Working around our strategic priorities, we keep setting the goals on our way forward.



## Occupational Health and Safety

<b>Achieve Zero Fatal incidents</b>	Reduce Lost Time Injury Frequency Rate (LTIFR) to <b>0.24</b> or less	Strengthening process safety management
Reduce Total Recordable Injury Frequency Rate (TRIFR) to be <b>0.70</b> or less	Structured skill improvement of contractor workforce	



## Supply Chain Performance

Workflow automation for smart touch-less Purchase Order (PO) other than Annual Rate Contract (ARC)	Business Analytics and Auto MIS, including trend analysis
Completion of the set up of ancillary unit with a global major in explosives and focus on waste to wealth initiatives	Continue structured cross-functional interaction with suppliers and service providers with key focus on sustainability
Compliance surveys and safety audits for suppliers	



## People

Drive diversity in our workforce	Developing critical skills - technical and managerial	Structured learning and development programmes
Seamless integration of technology on various people practices		Drive an engaged workforce



## Environmental Performance

Water saving target of <b>0.27 Million m<sup>3</sup></b>	Energy saving target of <b>0.03 Million GJ</b>
Achieve GHG emission (Scope-1 and 2) reduction by <b>14%</b> in next 10 years from base year FY 2017	Renewable Energy optimisation for captive use from <b>38 MW to 50 MW</b>
Commissioning of Fumer plant and reduction of waste to landfill by <b>25%</b>	



## Community

Reach a cumulative total of <b>25,000 families</b> through programmes on agriculture and livestock improvement	Skilling initiatives for <b>1,000 youth</b>	Doorstep health care services for at least <b>170 villages</b> in HZL neighbourhood communities
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## Key performance indicators

### ECONOMIC INDICATORS

	Units of measure	FY 2017	FY 2018	FY 2019
<b>ECONOMIC VALUE GENERATED (A)</b>				
Revenue from Operation (including excise duty)	₹ Crore	18,798	22,082.00	21,118.00
Other Income	₹ Crore	2,474	1,716.00	1,782.00
<b>Total (A)</b>	₹ Crore	<b>21,272</b>	<b>23,798.00</b>	<b>22,900.00</b>
<b>ECONOMIC VALUE DISTRIBUTED - EXPENSES (B)</b>				
Revenue from Operation (including excise duty)	₹ Crore	722	776.05	905.17
Other Income	₹ Crore	6,763	6,296.95	6,785.63
Total (A)	₹ Crore	12,624	3,627.00	8,563.64
Payment to Government (Income Tax)	₹ Crore	6,250	5,982.15	6,585.47
Community Investments	₹ Crore	49	92.00	130.20
<b>Total (B)</b>	₹ Crore	<b>26,408</b>	<b>16,774.15</b>	<b>22,970.11</b>
<b>Economic Value Retained (A-B)</b>	₹ Crore	(5,136)	7,023.85	(70.11)
<b>Profit before depreciation, interest and tax</b>	₹ Crore	12,213	14,023.00	12,451.56
<b>Profit before tax</b>	₹ Crore	10,200	12,497.00	10,455.56
<b>Net tax expense/(benefit)</b>	₹ Crore	1,884	3,221.00	2,500.20
<b>Profit for the year</b>	₹ Crore	8,316	9,276.00	7,955.36
<b>Earnings per equity share</b>	₹	19.68	21.95	18.83

### PRODUCTION INDICATORS

Operational highlights FY 2019

**936 KT**

Mined metal production

**894 KT**

Total metal production

**198 KT**

Record Lead production

**679 MT**

Record silver production

**402.9 Million MT**

Total R&R

	Units of measure	FY 2017	FY 2018	FY 2019
		<b>Refined metal</b>	<b>Refined metal</b>	<b>Refined metal</b>
Zinc	KT	734	792	696
Lead	KT	144	168	198
Silver	MT	480	558	679

	Units of measure	FY 2017	FY 2018	FY 2019
<b>REVENUE SHARE</b>				
Zinc	Percentage	74.00	75.00	69.00
Lead	Percentage	12.00	13.00	15.00
Silver	Percentage	10.00	10.00	12.00
Wind Energy	Percentage	0.95	0.73	0.86
Others	Percentage	1.70	1.50	2.20



## HUMAN RESOURCE INDICATORS

Workforce	Units of measure	FY 2017			FY 2018			FY 2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Full-time Employees	Number	4,097	324	<b>4,421</b>	4,035	363	<b>4,398</b>	3,823	376	<b>4,199</b>
Contract Employees	Number	13,049	106	<b>13,155</b>	15,149	113	<b>15,262</b>	17,268	116	<b>17,384</b>
New Hires	Number	117	32	<b>149</b>	348	108	<b>456</b>	313	81	<b>394</b>
New Hire Rate	Percentage			<b>3.37</b>			<b>10.37</b>			<b>9.38</b>
<b>New Hires (Age-wise split)</b>										
Less than 20 years	Number	1	0	<b>1</b>	1	1	<b>2</b>	0	1	<b>1</b>
20-30 years	Number	114	30	<b>144</b>	287	102	<b>389</b>	284	75	<b>359</b>
31-45 years	Number	1	2	<b>3</b>	46	5	<b>51</b>	23	4	<b>27</b>
46-58 years	Number	1	0	<b>1</b>	14	0	<b>14</b>	6	1	<b>7</b>
Employee Turnover Rate	Percentage			<b>10.28</b>			<b>10.19</b>			<b>16.72</b>

### EMPLOYEE TRAININGS

Full-time Employees*	Man hours	89,205	13,999	<b>1,03,204</b>	55,949	5,922	<b>61,871</b>	78,722	6,362	<b>85,084</b>
Contract Employees	Man hours			<b>3,92,238</b>			<b>8,77,172</b>			<b>4,77,671</b>

\* Including workmen

## HEALTH AND SAFETY INDICATORS

	Units of measure	FY 2017	FY 2018	FY 2019
<b>FATALITIES</b>				
Full-time Employees	Number	0	0	2
Contract Employees	Number	4	2	5
<b>LOST TIME INJURY FREQUENCY RATE</b>				
Full-time Employees	Numbers per million hours worked	0.32	0.22	0.64
Contract Employees	Numbers per million hours worked	0.30	0.29	0.64
Overall HZL	Numbers per million hours worked	0.30	0.27	0.63
<b>TOTAL RECORDABLE INJURY FREQUENCY RATE</b>				
Full-time Employees	Numbers per million hours worked	0.95	0.75	1.17
Contract Employees	Numbers per million hours worked	1.00	0.83	1.37
Overall HZL	Numbers per million hours worked	0.98	0.82	1.30
<b>Occupational disease rate</b>	Numbers per million hours worked	0.00	0.00	0.00
<b>Process incidents</b>	Numbers per million hours worked	7.72	7.66	8.42

## LEADING INDICATOR REPORT TREND

YEAR	Near miss reporting	Unsafe act reporting	Unsafe condition reporting
FY 2017	12,738	2,03,250	87,307
FY 2018	12,466	2,03,857	64,010
FY 2019	14,298	2,07,638	62,123

**ENVIRONMENTAL INDICATORS**

	Units of measure	FY 2017			FY 2018			FY 2019		
		Mines	Smelters	Total	Mines	Smelters	Total	Mines	Smelters	Total
<b>MATERIALS USED</b>										
Raw Material	Million MT	11.15	0	<b>11.15</b>	13.23	0	<b>13.23</b>	14.18	0.00	<b>14.18</b>
Semi-manufactured goods or parts	Million MT	0	2.08	<b>2.08</b>	0	2.56	<b>2.56</b>	0.00	2.44	<b>2.44</b>
Associated Process Materials	Million MT	0.17	0.49	<b>0.66</b>	0.53	0.24	<b>0.77</b>	0.60	0.51	<b>1.11</b>
Packing Material	MT	0	469	<b>469</b>	0	484	<b>484</b>	0.00	403.00	<b>403.00</b>
<b>ENERGY CONSUMPTION</b>										
Direct Energy	Million GJ	9.31	32.17	<b>41.48</b>	9.2	37.7	<b>46.87</b>	9.05	37.49	<b>46.54</b>
Indirect Energy	Million GJ	0.11	0.39	<b>0.5</b>	0.14	0.54	<b>0.68</b>	0.18	0.56	<b>0.73</b>
Renewal energy (Solar energy)	Million GJ						<b>0.11</b>	0.07	0.10	<b>0.17</b>
Renewal energy (WHRB)	Million GJ								0.58	<b>0.58</b>
<b>TOTAL ENERGY CONSUMPTION</b>										
Fossil fuels purchased and consumed	Million Mwh			<b>11.52</b>			<b>13.02</b>			<b>12.90</b>
Electricity purchased	Million Mwh			<b>0.14</b>			<b>0.19</b>			<b>0.20</b>
Total renewable energy purchased or generated	Million Mwh			<b>0.14</b>			<b>0.20</b>			<b>0.20</b>
Total non-renewable energy sold	Million Mwh			<b>0.014</b>			<b>0.025</b>			<b>0.023</b>
Total non-renewable energy consumption	Million Mwh			<b>11.66</b>			<b>13.18</b>			<b>13.08</b>
Total costs of energy consumption	₹ Crore			<b>1,593.46</b>			<b>1,976.94</b>			<b>2095.48</b>
<b>WATER WITHDRAWAL</b>										
Ground water	Million m³	3.25	0.067	<b>3.32</b>	3.59	0.09	<b>3.68</b>	3.128	0.08	<b>3.20</b>
Surface water	Million m³	4.93	11.84	<b>16.77</b>	5.40	14.98	<b>20.38</b>	5.58	14.10	<b>19.68</b>
Rainwater	Million m³	0.00	0.005	<b>0.005</b>	0.00	0.02	<b>0.022</b>	0.00	0.006	<b>0.006</b>
Waste water from another organization	Million m³	0.55	4.21	<b>4.77</b>	1.14	3.90	<b>5.04</b>	1.15	5.02	<b>6.17</b>
Municipal water supplies or other water utilities	Million m³	0.005	0.00	<b>0.005</b>	0.09	0.00	<b>0.09</b>	0.03	0.09	<b>0.12</b>
Total net fresh water consumption	Million m³			<b>18.09</b>			<b>22.13</b>			<b>20.76</b>
<b>Water recycled</b>	Million m³	6.38	5.05	<b>11.43</b>	9.17	5.50	<b>14.67</b>	10.23	5.49	<b>15.72</b>
<b>AIR EMISSIONS</b>										
PM Emission from stacks	MT			<b>887</b>			<b>1,039</b>			<b>1,155</b>
SOx Emission from stacks	MT			<b>19,255</b>			<b>22,112</b>			<b>30,235</b>
NOx Emission from stacks	MT			<b>7,602</b>			<b>6,798</b>			<b>8,642</b>
<b>CARBON EMISSIONS*</b>										
Scope I Emission	Million MT CO <sub>2</sub> e			<b>4.29</b>			<b>4.83</b>			<b>4.70</b>
Furnace oil (FO)	Million MT CO <sub>2</sub> e			<b>0.042</b>			<b>0.03</b>			<b>0.00</b>
High Speed Diesel (HSD)	Million MT CO <sub>2</sub> e			<b>0.20</b>			<b>0.17</b>			<b>0.20</b>
Propane	Million MT CO <sub>2</sub> e			<b>0.016</b>			<b>0.02</b>			<b>0.01</b>
Liquified Petroleum Gas (LPG)	Million MT CO <sub>2</sub> e			<b>0.001</b>			<b>0.001</b>			<b>0.001</b>
Coal	Million MT CO <sub>2</sub> e			<b>3.64</b>			<b>4.22</b>			<b>4.19</b>
Coke	Million MT CO <sub>2</sub> e			<b>0.38</b>			<b>0.39</b>			<b>0.30</b>
Pyrolysis Oil	Million MT CO <sub>2</sub> e			<b>0.002</b>			<b>0.00</b>			<b>0.00</b>
LSHS	Million MT CO <sub>2</sub> e			<b>0.00</b>			<b>0.00</b>			<b>0.00</b>
Scope II Emission (electricity purchased from state grid)	Million MT CO <sub>2</sub> e			<b>0.11</b>			<b>0.15</b>			<b>0.17</b>
Scope III Emission	Million MT CO <sub>2</sub> e			<b>2.77</b>			<b>4.44</b>			<b>4.24</b>
<b>WASTE GENERATION</b>										
Hazardous Waste <sup>5</sup>	Million MT	0.001	0.06	<b>0.06</b>	0.001	0.07	<b>0.07</b>	0.002	0.07	<b>0.07</b>
Non-Hazardous Waste <sup>5</sup>	Million MT	0.06	0.92	<b>0.98</b>	0.06	1.09	<b>1.15</b>	0.04	1.06	<b>1.10</b>
Overburden/ Waste Rock	Million MT	38.42	0.00	<b>38.42</b>	15.86	0.00	<b>15.86</b>	3.18	0.00	<b>3.18</b>
Tailings	Million MT	9.09	0.00	<b>9.09</b>	11.66	0.00	<b>11.66</b>	12.37	0.00	<b>12.37</b>
<b>SOLID WASTE DISPOSED</b>										
Total waste disposed <sup>4</sup>	Million MT			<b>45.41</b>			<b>24.31</b>			<b>11.50</b>

\* GHG emissions have been computed in line with the Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard, evaluated by a third party as per the ISAE 3410 standard

<sup>4</sup> Waste disposal quantity is provided for the Hazardous Waste given which is being disposed in the Secure Landfill (SLF) and the common Treatment, Storage and Disposal Facility (TSDF), tailing which is being disposed in tailing dam, Jarosite or Jarofix are disposed in Jarosite pond or yard and overburden at dump area. Our Non-hazardous Waste is being sold or stored in the store yard.

<sup>5</sup> Jarosite is excluded from the category of hazardous wastes as 'high volume low effect wastes' as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016<sup>1</sup> dated 4<sup>th</sup> April 2016.

Reported Data changed for FY 2017, FY 2018

Now Jarosite waste is reported as Non Hazardous waste

## ANNEXURE 2

**MAPPING WITH UNGC PRINCIPLES**

<b>Principle</b>	<b>Statement</b>	<b>Report Reference</b>	<b>Page Number</b>
<b>HUMAN RIGHTS</b>			
<b>Principle 1</b>	Businesses should support and respect the protection of internationally proclaimed human rights	Anchoring Corporate Stewardship Inclusive Progress	Page 43 Page 87
<b>Principle 2</b>	Make sure that they are not complicit in human rights abuses	Responsible Partnerships	Page 72
<b>LABOUR RIGHTS</b>			
<b>Principle 3</b>	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Inclusive Progress	Page 87
<b>CHILD AND FORCED LABOUR</b>			
<b>Principle 4</b>	The elimination of all forms of forced and compulsory labour	Responsible Partnerships Inclusive Progress	Page 72 Page 87
<b>Principle 5</b>	The effective abolition of child labour	Responsible Partnerships Inclusive Progress	Page 72 Page 87
<b>Principle 6</b>	The elimination of discrimination in respect of employment and occupation	Inclusive Progress	Page 80, 81
<b>ENVIRONMENT</b>			
<b>Principle 7</b>	Businesses should support a precautionary approach to environmental challenges	Sustainability Governance Nurturing the Planet	Page 31 Page 88, 89
<b>Principle 8</b>	Undertake initiatives to promote greater environmental responsibility	Nurturing the Planet	Page 90-107
<b>Principle 9</b>	Encourage the development and diffusion of environmentally friendly technologies	Partners in Progress	Page 36
<b>ANTI-CORRUPTION</b>			
<b>Principle 10</b>	Businesses should work against corruption in all its forms, including extortion and bribery	Anchoring Corporate Stewardship	Page 42, 43

**MAPPING WITH FIMI PRINCIPLES**

<b>Principle</b>	<b>Statement</b>	<b>Report Reference</b>	<b>Page Number</b>
<b>Principle 1</b>	Integrate sustainable development considerations within the corporate decision making process	Sustainability' embedded in HZL's growth	Page 28-31
<b>Principle 2</b>	Conduct business with ethical practices and sound systems of corporate governance	Anchoring Corporate Stewardship	Page 42-43
<b>Principle 3</b>	Implement risk management strategies based on valid data and sound science	Sustainability' embedded in HZL's growth	Page 30-31
<b>Principle 4</b>	Seek continual improvement in health and safety performance	Safety - An uncompromisable attribute Cautious at Work	Page 26-27 Page 46-61
<b>Principle 5</b>	Seek continual improvement of our environment performance based on a precautionary approach	Sustainability Governance Nurturing the Planet	Page 31 Page 88, 89
<b>Principle 6</b>	Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities	Anchoring corporate stewardship Inclusive Progress Responsible Stewardship	Page 43 Page 87 Page 72
<b>Principle 7</b>	Contribution to conservation of biodiversity and integrated approaches to land use planning and management	Nurturing the Planet	Page 106-107
<b>Principle 8</b>	Facilitate and encourage responsible use, reuse and recovery of mined materials including associated natural resources	Nurturing the Planet	Page 100-105
<b>Principle 9</b>	Contribute to the social, economic and institutional development of the communities in which we operate	Growing Together	Page 108-140
<b>Principle 10</b>	Implement effective and transparent engagement, communication and verifiable reporting arrangements with our stakeholders	Partners in Progress	Page 32-37



## GRI content index

GRI Standard	Disclosure	Reference	Page No	
GRI 102: General Disclosures	102-1	Name of the organization	Corporate Overview and Management	Page 14-21
	102-2	Activities, brands, products, and services	Corporate Overview and Management	Page 14-21
	102-3	Location of headquarters	Corporate Overview and Management	Page 14-21
	102-4	Location of operations	Corporate Overview and Management	Page 24
	102-5	Ownership and legal form	Corporate Overview and Management	Page 14, Page 25
	102-6	Markets served	Corporate Overview and Management	Our products are sold almost in all the states in India. We also export, primarily to Asia and Middle East
	102-7	Scale of the organization	Corporate Overview and Management	Page 14-17
	102-8	Information on employees and other workers	Workforce Snapshot	Page 80
	102-9	Supply chain	Responsible Partnerships	Page 68-77
	102-10	Significant changes to the organization and its supply chain		NA
	102-11	Precautionary Principle or approach	Sustainability Framework	Page 28-31
	102-12	External initiatives		HZL aligns itself with the following external charters & principles: UN Global Compact, UN Sustainable Development Goals, ICMM, IFC Performance Standards, GHG Greenhouse Gas Protocol.
	102-13	Membership of associations	Corporate Overview and Management	Page 23 (Our memberships and associations)
	102-14	Statement from senior decision-maker	Chairman's Message CEO's Message	Page 8 Page 10
	102-16	Values, principles, standards, and norms of behavior	HZL's guiding philosophy	Page 12
	102-18	Governance structure	Corporate Overview and Management	Page 22-23
	102-40	List of stakeholder groups	Stakeholder Engagement	Page 32-37
	102-41	Collective bargaining agreements	People Practices	Page 87
	102-42	Identifying and selecting stakeholders	Stakeholder Engagement	Page 32-33
102-43	Approach to stakeholder engagement	Stakeholder Engagement	Page 34-37	
102-44	Key topics and concerns raised	Stakeholder Engagement	Page 34-37	
102-46	Defining report content and topic Boundaries	Materiality	Page 38-39	
102-47	List of material topics	Materiality	Page 38-39	

GRI Standard	Disclosure	Reference	Page No
	102-48 Restatements of information		NA
	102-49 Changes in reporting		NA
	102-50 Reporting period	About the Report	Page 13
	102-51 Date of most recent report	About the Report	Page 13
	102-52 Reporting cycle	About the Report	Page 13
	102-53 Contact point for questions regarding the report		Questions can be directed to: Sustainability.Hzl@vedanta.co.in
	102-54 Claims of reporting in accordance with the GRI Standards	About the Report	Page 13
	102-55 GRI content index		Page 148
	102-56 External Assurance		Page 154

GRI Standard	Disclosure	Reference	Page No
<b>MANAGEMENT APPROACH</b>			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	Materiality	Page 38-39
	103-2 The management approach and its components	Governance and Ethics Safety at HZL Economic Progress Supply Chain Management People Practices Environmental Care Community Engagement	Page 40-41 Page 46-47 Page 62-63 Page 68-69 Page 78-79 Page 88-89 Page 108-109
	103-3 Evaluation of the management approach		Assurance Statement
<b>ECONOMIC PERFORMANCE</b>			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Key Performance Indicators	Page 144 (Economic Indicators)
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage		At all our significant locations, we ensure that the ratios of entry level wages meets or exceeds the legal requirements and complies with all applicable laws. With regards to gender, the ratio is 1:1 and we don't discriminate in any way in terms of standard entry level wages.
	202-2 Proportion of senior management hired from local community	People Practices	Page 81
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Community Engagement	Page 115-125 (Education), Page 128-129 (Community Asset Creation), Page 130-132 (Health, Water and Sanitation), Page 133 (Sports and Culture), Page 137-138 (Environment and Safety)
<b>PROCUREMENT PRACTICES</b>			
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Supply Chain Management	Page 66

## CARING A(g) to Z (n)

GRI Standard	Disclosure		Page No	
<b>CORRUPTION</b>				
GRI 205: Corruption risks	205-1	Operations assessed for risks related to corruption	Governance and Ethics	Page 40-43
	205-2	Communication and training about anti-corruption policies and procedures	Governance and Ethics	Page 40-43
	205-3	Confirmed incidents of corruption and actions taken	Governance and Ethics	Page 40-43
<b>ENERGY</b>				
GRI 301: Materials	301-1	Materials used by weight or volume	Key Performance Indicators	Page 146 (Environmental Indicators)
GRI 302: Energy 2016	302-1	Energy consumption within the organization	Key Performance Indicators	Page 146 (Environmental Indicators)
	302-3	Energy intensity	Key Performance Indicators	Page 96
	302-4	Reduction of energy consumption	Key Performance Indicators	Page 4
<b>WATER</b>				
GRI 303: Water 2016	303-1	Water withdrawal by source		Page 146 (Environmental Indicators)
	303-2	Water sources significantly affected by withdrawal of water	Environmental Care	Page 91-95
	303-3	Water recycled and reused	Key Performance Indicators	Page 146 (Environmental Indicators)
<b>BIODIVERSITY</b>				
GRI 304 Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Environmental Care	Page 106-107 ( None of the operating sites are located adjacent to areas of high biodiversity value or protected areas)
	304-2	Significant impacts of activities, products, and services on biodiversity	Environmental Care	Page 106-107
	304-3	Habitats protected or restored	Environmental Care	Page 106-107
	MM2	The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place		100% of the sites have Biodiversity action plan in place
<b>EMISSIONS</b>				
GRI 305 Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Key Performance Indicators	Page 146 (Environmental Indicators)
	305-2	Energy indirect (Scope 2) GHG emissions	Key Performance Indicators	Page 146 (Environmental Indicators)
	305-4	GHG emissions intensity	Key Performance Indicators	Page 146 (Environmental Indicators)
	305-5	Reduction of GHG emissions	Key Performance Indicators	Page 146 (Environmental Indicators)
	305-7	NOX, SOX, and other significant air emissions	Key Performance Indicators	Page 146 (Environmental Indicators)



GRI Standard	Disclosure		Page No	
<b>EFFULENTS &amp; WASTE</b>				
GRI 306 Effluents & Waste	306-1	Water discharge by quality and destination	Key Performance Indicators	Page 146 (Environmental Indicators)
	306-2	Waste by type and disposal method	Key Performance Indicators	Page 146 (Environmental Indicators)
	MM3	Total amounts of overburden, rock, tailings, and sludge's and their associated risks		Page 146 (Environmental Indicators)
<b>SUPPLIER ENVIRONMENTAL ASSESSMENT</b>				
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	Supply Chain Management	Page 70-73
<b>EMPLOYMENT</b>				
GRI 401 Employment	401-1	New employee hires and employee turnover	Key Performance Indicators	Page 145
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	People Practices	We provide an array of benefits to our employees that are not provided to temporary or part time employees. The benefits include: life-insurance scheme, health-insurance scheme, parental leave, retirement benefits and management grades are covered under stock options scheme of Vedanta.
	401-3	Parental leave	People Practices	Page 86
GRI 402: Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	People Practices	Page 87
	G4-MM4	Number of strikes and lock-outs exceeding one week's duration, by country	People Practices	Page 87
<b>OCCUPATIONAL HEALTH &amp; SAFETY</b>				
GRI 403: Occupational Health & Safety	403-1	Workers representation in formal joint management worker health and safety committees	Safety at HZL	Page 48-61
	403-2	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities	Safety at HZL Key Performance Indicators	Page 48-61 Page 145
	403-3	Health and safety topics covered in formal agreements with trade unions	Safety at HZL	Page 48-61
<b>TRAINING &amp; EDUCATION</b>				
GRI 404 Training & Education	404-1	Average hours of training per year per employee	Key Performance Indicators	Page 145
	404-2	Programs for upgrading employee skills and transition assistance programs	People Practices	Page 82-85
	404-3	Percentage of employees receiving regular performance and career development reviews	People Practices	Page 86

## CARING A(g) to Z (n)

GRI Standard	Disclosure		Page No	
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>				
GRI 405 Diversity	405-1	Diversity of governance bodies and employees	Corporate overview People	Page 22 (Our leadership) Page 80
	405-2:	Ratio of basic salary and remuneration of women to men		We are an equal opportunity employer. Across HZL we recruit both men & women on equal salary ratio. Our remuneration is linked to performance of the individual and business.
<b>NON-DISCRIMINATION</b>				
GRI 406: Diversity and Equal Opportunity 2016	406-1	Incidents of discrimination and corrective actions taken	Governance and Ethics	HZL is an equal opportunity employer and does not discriminate based on race, religion, caste, gender, age, disability, HIV/AIDS status, and any other characteristic. Page 40-41
<b>FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>				
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk	Supply Chain Management	Page 72-73
GRI 408- Child Labour 2016	408-1:	Operations and suppliers at significant risk for incidents of child labor	Supply Chain Management	Page 72-73
GRI 409- Forced Labour 2017	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Supply Chain Management	Page 72-73
GRI 410 - Security Practices 2016	410-1	Security personnel trained in human rights policies or procedures	People Practices	Page 87
<b>HUMAN RIGHTS ASSESSMENT</b>				
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments		Each year, all of our operational sites undergo the Vedanta Sustainability Assurance Program (VSAP) audit. This audit is conducted by an external 3 <sup>rd</sup> party overseen by our Management Assurance Services (MAS) team. As part of the audit, all sites of HZL are evaluated on their human rights management related to supplier and vendor management.
	412-2	Employee training on human rights policies or procedures	People Practices	Page 87
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	People Practices	Page 87
<b>LOCAL COMMUNITIES</b>				
GRI 413 Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	Community Engagement	Page 108-141

<b>GRI Standard</b>	<b>Disclosure</b>	<b>Page No</b>
<b>SUPPLIER SOCIAL ASSESSMENT</b>		
GRI 414 : New suppliers that were screened using social criteria	414-1 New suppliers that were screened using social criteria	Supply Chain Management Page 70-73
<b>PUBLIC POLICY</b>		
GRI 415 Public Policy 2016	415-1 Political Contributions	Hindustan Zinc's Code of Business Conduct and Ethics is the guiding document on our interactions with the government and political parties.
<b>RETTLEMENT</b>		
G4 - MM9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	None of the sites
<b>CLOSURE PLANNING</b>		
G4 - MM10	Number and percentage of operations with the closure plans	As a part of statutory clearance all our mining operations have a closure plan.



## Assurance statement



**KPMG (Registered)**

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### Independent Limited Assurance Statement to Hindustan Zinc Limited on their Corporate Sustainability Report for FY 2018-19

To the management of Hindustan Zinc Limited,  
Yashad Bhawan, Udaipur, Rajasthan, India -313004

#### Introduction

KPMG in India (KPMG) was engaged by Hindustan Zinc Limited ('the Company' or 'HZL') to provide an independent assurance on its Sustainability Report for FY 2018-19 ('the Report'). The Report is prepared by the Company based on Global Reporting Initiative (GRI) Standards (2016) 'in-accordance - core option' for sustainability reporting.

The development of Report, its content, identification of key material topics and related impacts, engaging with stakeholders is the sole responsibility of the management of the Company. KPMG's responsibility is to provide limited assurance on the Report content as described in the scope of assurance.

#### Reporting Criteria

HZL applies its sustainability performance reporting criteria based on Sustainability Reporting Standards of Global Reporting Initiative (GRI Standards) including the Mining and Metals Sector Disclosure, National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVG) framed by the Ministry of Corporate Affairs (MCA), Government of India, United Nations Global Compact (UNGC) principles, International Council on Mining and Metals (ICMM) and Sustainable Development Goal frameworks for the Company as detailed in the 'Scope, Boundary and Limitations of Assurance'.

#### Assurance Standards Used

We conducted limited assurance in accordance with the requirements of International Federation of Accountants' (IFAC) International Standard on Assurance Engagement (ISAE) 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information. Under this standard, we have reviewed the information presented in the report against the characteristics of relevance, completeness, reliability, neutrality and understandability.

#### Scope, Boundary and Limitations of Assurance

The Assurance has been provided for selected sustainability performance disclosures presented by HZL in its Report. The reporting boundary included data and information for the period 01 April 2018 to 31 March 2019 for Indian operations, based on Global Reporting Initiative's (GRI) Standards in accordance 'Core' option. Our Scope of assurance included verification of sample data and information on selected material topics reported at the following units/locations and Corporate office in Udaipur:

• Chanderiya Lead and Zinc Smelters, Rajasthan	• Dariba Smelting Complex, Rajasthan
• Debari Zinc Smelter, Rajasthan	• Kayad Mines, Rajasthan
• Pantnagar Metal Plant, Uttarakhand	• Rajpura Dariba Mines, Rajasthan
• Rampura Agucha Mines, Rajasthan	• Sindesar Khurd Mines, Rajasthan
• Zawar Mines and Power Plant, Rajasthan	• Corporate Office, Udaipur, Rajasthan

**The assurance scope excludes:**

- Data and information outside the defined reporting period and boundary;
- The Company’s financial performance;
- The Company’s compliance to legal obligations/disclosures;
- The Company’s statements that describe expression of opinion, belief, aspiration, expectation, aim or future intention and assertions related to Intellectual Property Rights; and
- Aspects of the report other than those mentioned below

**The Universal and Topic Specific Standards subject to assurance were as follows:**

Universal Standard Disclosures	Topic Specific Standards
<b>General Disclosures</b>	<b>Environment</b>
• Organizational Profile (102-7 to 102-11)	• Energy (302-1, 302-3, 302-4)
• Strategy (102-14)	• Water (303-1, 303-3)
• Ethics and Integrity (102-16)	• Biodiversity (304-1)
• Governance (102-18)	• Emissions (305-1, 305-2, 305-3, 305-4, 305-7)
• Stakeholder Engagement (102-40 to 102-44)	• Effluents and Waste (306-1, 306-2, MM3)
• Report Profile (102-46 to 102-56)	<b>Social</b>
<b>Management Approach</b>	• Employment (401-1, 401-2, 401-3)
• Disclosure on Management Approach (103-1) <sup>1</sup>	• Labor/Management Relations (402-1)
	• Occupational Health and Safety (403-1, 403-2)
	• Training and Education (404-2, 404-3)
	• Diversity and Equal Opportunity (405-1)
	• Non Discrimination (406-1)
	• Local Communities (413-1)

**Methodology Adopted for Assurance**

Our assurance processes involve performing procedures to obtain evidence about the reliability of specified performance information. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the selected sustainability disclosures whether due to fraud or error. In making those risk assessments, we have considered internal controls relevant to the preparation of the Report in order to design assurance procedures that are appropriate in the circumstances.

We have obtained sample evidences, information and explanations that were considered necessary in relation to the assurance scope and have arrived at conclusions mentioned below. Our work included a range of evidence-gathering procedures which included:

- Assessing that the report is prepared in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI Standards (2016) – in accordance “Core” option).
- Reviewing the Report to ensure that there is no misrepresentation of disclosures as per scope of assurance and our findings.
- Reviewing the materiality and stakeholder engagement framework deployed at HZL.
- Understanding the appropriateness of various assumptions used for estimation of data by HZL.
- Assessing the systems used for data collection and reporting of disclosures from Universal Disclosures and Topic Specific Disclosures of material topics as listed in the assurance scope above.
- Verifying systems and procedures used for quantification, collation and analysis of sustainability performance disclosures included in the Report.

<sup>1</sup> Disclosures on Management Approach were verified for select specific standard disclosures as per the given table

## **CARING** A(g) to Z (n)

- Holding discussion with senior executives at the plant locations and at the corporate office to understand the risks and opportunities from a sustainability perspective including the strategy that HZL has adopted to address the same.
- Assessing data reliability and accuracy
- Verifying select key performance data through site visits to operational locations and corporate office for:
  - Testing reliability and accuracy of data on a sample basis
  - Assessing stakeholder engagement process through interactions with relevant internal stakeholders and review of related documentation
  - Limited review of the materiality assessment process
  - Reviewing the processes deployed for collection, compilation and reporting of sustainability performance disclosures at corporate and plant level.

Appropriate documentary evidence was obtained on a sample basis to support our conclusions on the information and data verified. Where such documentary evidence could not be collected due to sensitive nature of the information, our team verified the same at HZL's premises.

### **Conclusions**

We have reviewed the Sustainability Report of HZL. Based on our limited review and procedures performed in line with the scope, boundary and limitations of assurance, nothing has come to our attention that causes us not to believe that the sustainability data and information presented in the Report is fairly represented in line with the identified material topics and is in accordance with the sustainability reporting standards of the Global Reporting Initiative.

Data representation and calculation related errors were detected but the same were resolved during the assurance process. There is a scope for enhancing the understanding of the performance disclosures among the data owners. We have provided our observations to the Company in a separate management letter. These, do not, however, affect our conclusions.

### **Independence**

The assurance was conducted by a multidisciplinary team including professionals with suitable skills and experience in verifying environmental, social and economic information in line with the requirements of ISAE 3000 (Revised) standard. Our work was performed in compliance with the requirements of the IFAC Code of Ethics for Professional Accountants, which requires, among other requirements, that the members of the assurance team (practitioners) be independent of the assurance client, in relation to the scope of this assurance engagement, including not being involved in writing the Report. The Code also includes detailed requirements for practitioners regarding integrity, objectivity, professional competence and due care, confidentiality and professional behavior. KPMG has systems and processes in place to monitor compliance with the Code and to prevent conflicts regarding independence. The firm applies ISQC 1 and the practitioner complies with the applicable independence and other ethical requirements of the IESBA code.

### **Responsibilities**

HZL is responsible for developing the Report contents. The Company is also responsible for identification of material sustainability topics establishing and maintaining appropriate performance management and internal control systems and derivation of performance data reported. This statement is made solely to the Management of HZL in accordance with the terms of our engagement and as per scope of assurance. Our work has been undertaken so that we might state to HZL those matters for which we have been engaged to state in this statement and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than HZL for our work, for this Report, or for the conclusions expressed in this independent assurance statement. The assurance engagement is based on the assumption that the data and information provided to us is complete and true. We expressly disclaim any liability or co-responsibility for any decision a person or entity would make based on this assurance statement. By reading this assurance statement, stakeholders acknowledge and agree to the limitations and disclaimers mentioned above.



**Santhosh Jayaram**

Partner

KPMG India

30<sup>th</sup> August 2019



## FEEDBACK ON SUSTAINABILITY REPORT 2018-19

Thank you for your interest in HZL's Sustainability Report 2018-19. Your feedback is important to us as it helps to improve our reporting on sustainability performance. Please do spend a few minutes to give us your feedback on this report. It will help us make it even more engaging and relevant to your needs.

### 1 Which of the following describes your affiliation with HZL?

- Employee
  Vendor / Supplier
  Customer
  Regulatory Agency
  Other (please specify)

### 2 Your rating of the entire report

- Excellent
  Good
  Fair
  Poor

#### 2.1 If you ticked 'Excellent' or 'Good', what did we do well? (Choose relevant options)

- Navigation
  Design & Layout
  Readability
  Comparability
  Clarity in representation
  Completeness
  Flow of information

#### 2.2 If you ticked 'Fair' or 'Poor', what do we need to improve the most? (Choose relevant options)

- Navigation
  Design & Layout
  Readability
  Comparability
  Clarity in representation
  Completeness
  Flow of information

### 3 How would you rate individual sections in depth and coverage?

#### 3.1 Stakeholder inclusiveness (Prioritisation and engagement of stakeholders)

- Depth  Appropriate  Too detailed  Too brief  
 Coverage  Appropriate  Too broad  Too narrow

#### 3.2 People Performance

- Depth  Appropriate  Too detailed  Too brief  
 Coverage  Appropriate  Too broad  Too narrow

#### 3.3 Economic Performance

- Depth  Appropriate  Too detailed  Too brief  
 Coverage  Appropriate  Too broad  Too narrow

#### 3.4 Environmental Performance

- Depth  Appropriate  Too detailed  Too brief  
 Coverage  Appropriate  Too broad  Too narrow

## CARING A(g) to Z (n)

### 3.5 Social Performance

Depth  Appropriate  Too detailed  Too brief  
Coverage  Appropriate  Too broad  Too narrow

### 3.6 Product Performance

Depth  Appropriate  Too detailed  Too brief  
Coverage  Appropriate  Too broad  Too narrow

### 3.7 Case studies

Depth  Appropriate  Too detailed  Too brief  
Coverage  Appropriate  Too broad  Too narrow

### 4 How would you rate HZL's Sustainability Report as compared to our peers?

Excellent  Good  Fair  Poor

### 5 Any other comments / suggestions (inclusions / exclusions)

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#### Please provide your contact details for updates:

Name \_\_\_\_\_ Company \_\_\_\_\_  
Address \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

**Fax / Email your responses to:** [sustainability.hzl@vedanta.co.in](mailto:sustainability.hzl@vedanta.co.in)

**Mailing Address:** Hindustan Zinc Limited, Yashad Bhawan, Udaipur (Rajasthan) - 313004









**HINDUSTAN ZINC**

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