



HINDUSTAN ZINC
Zinc & Silver of India

SUSTAINABILITY REVIEW FY 19 20



SMART MINING FOR A SUSTAINABLE FUTURE

Welcome

Hindustan Zinc Limited (Hindustan Zinc) is India's only and world's leading producer of zinc, lead and silver. Sustainability Review FY 2019-20 is a part of our Integrated Annual Report FY 2019-20. We have been publishing our Sustainable Development Report since FY 2015-16. However, this year, we moved to Integrated Reporting <IR> to provide a holistic, unified view of our value creation process, with special emphasis on Environmental, Social and Governance (ESG) performance. While the Integrated Annual Report provides an overview of our ESG performance during the year, the Sustainability Review presents a more detailed account of the same, besides providing a balanced and fair disclosure of our policies, management systems and performance.

VEDANTA PARENTAGE

Hindustan Zinc is a subsidiary of Vedanta Limited which owns 64.9% stake, along with the Government of India, which owns 29.5%. We are listed on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE).

ABOUT THE REPORT

This report is prepared in accordance with the Global Reporting Initiative (GRI) Standard: Core. We are also reporting as per the GRI Mining and Metals Sector Supplement.

SCOPE AND BOUNDARY

Data presented in this report covers the primary operations of Hindustan Zinc, including five mining locations, three smelters, and one refinery, for the period of April 1, 2019 to March 31, 2020. The report aims at bringing in comparability and completeness of information.

ALIGNMENT WITH NATIONAL AND INTERNATIONAL FRAMEWORKS AND GOALS

As a signatory to the United Nations Global Compact (UNGC), our disclosures reflect UNGC principles. This report also includes disclosures on principles of Federation of Indian Mineral Industries (FIMI). We also work towards contributing to the United Nations Sustainable Development Goals (SDGs), given their importance to our business and to the world. For reporting on safety parameters, we follow the guidelines of the International Council on Mining and Metals (ICMM) – Sustainable Development Framework.

EXTERNAL ASSURANCE

KPMG has done assurance of this report in accordance with the International Standard on Assurance Engagements ISAE 3000 (revised).



Sustainability Snapshot FY 2019-20

1.73%	31%
Share of renewables in energy consumption	Waste reused/recycled
39.36%	₹111 CR
Recycled/reused water as a percentage of total water used	Environmental expenditure
2.87%	71%
y-o-y reduction in GHG emission	y-o-y reduction in fatalities
ZERO	5 LAKH
Category 4 and 5 environment incidents	CSR beneficiaries
₹131.65 CR	1.38
Community investments	Lost-time Injury Frequency Rate (LTIFR)
ZERO	14.39%*
Occupational illness cases	Women among total executives



*Round off No. reported in IR- 14%

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Message from the Deputy CEO

Transforming Intent into Impact



■ At Hindustan Zinc, we are working closely with our stakeholders to re-imagine a sustainable future through smart mining, making our processes safer and more efficient, across the value chain.

Dear Stakeholders,

We live in unprecedented times, which put to test the collective strength of our characters as individuals and businesses. The Coronavirus pandemic has disrupted our way of life. It has also brought to the fore the global interdependencies between economic, environmental, social and governance outcomes. Simply put, the immunity of the entire ecosystem is compromised, if one part gets affected.

That being said, we are also presented with a unique opportunity – to effect transformative changes in our thinking and actions towards building a better, stronger, resilient, and inclusive future. At Hindustan Zinc, we are working closely with our stakeholders to re-imagine a sustainable future through smart mining, making our processes safer and more efficient, across the value chain.

Defining a Sustainability Roadmap

We have established our Sustainability Goals 2025, in line with the emerging external environment (changing demand dynamics in a post-COVID world) and developments within the organisation (completion of major capacity expansion).

We are prioritising eight material issues of high importance:

- GHG emissions
- Water stewardship
- Waste management
- Biodiversity
- Health and safety
- Community engagement and development
- Diversity and equal opportunity
- Supply chain sustainability

Our sustainability goals for 2025 are the lighthouse around which we will plan all our activities over the next five years.

Conversion of tailings into paste fillings and moving them to underground mines is critical to achieve our goal of having zero waste to landfill. At present, 30-40% of our tailings goes into mine backfills, which we plan to make 50-60% going forward. Further, the commissioning of the fumer project will lead to an annual recovery of 32 MT of silver and 5,500 MT of zinc and lead from zinc residue.

This project will also lead to overall waste reduction and lower landfill requirements.

We are a 2.41 times water positive organisation and we aspire to become a 5 times water positive organisation through exploring alternative water sources, dry tailing and other initiatives enabling us to reclaim more water.

Leveraging Data to Enhance Mine Safety

We have deployed smart, interconnected machines in our wi-fi enabled underground mines, which transmit data in real time. This allows for better planning and faster decision-making, while reducing overall downtimes. Technology is also enabling us to enhance safety in our underground mines. In more high-risk zones, we operate drills and loaders from safe, remote locations. Further, we monitor all our despatches through GPS, as well as movement of men and machines, which minimises the possibilities of collision. Deployment of these cutting-edge technologies comes at a significant financial cost, but we view it as an investment in sustainability, which will provide significant returns over the medium to long term.

Ensuring Sustainability for All

At Hindustan Zinc, we encourage diversity and inclusion at the workplace. We hire talent from premier institutions across India from different educational backgrounds, geographies, special abilities and skillsets. We see significant scope for more women engineers to join our underground mines. As part of our overarching objective of giving back to the society, we work closely with the government to create more employment opportunities for locals in our communities.

During the nationwide lockdown, we worked proactively to support our communities, providing them with masks, food and other basic necessities. We created a facility for mine workers with food and other amenities. They accepted our hospitality and kept our operations running. I extend my heartfelt gratitude to them for their unwavering dedication.

Our customers remain at the core of our existence. Our focus on ensuring responsible and sustainable practices across the value chain is the primary reason why we remain the preferred choice for our marquee customers.

We engage with our suppliers constantly and handhold them to imbibe our principles and values within their businesses. During the year under review, we conducted events such as 'Confluence' and projects such as 'Sarathi' for this purpose. Producing metals with no compromise on safety and environmental norms, ensuring no negative impact from our operations, ancillary units around our community were other focus areas.

We stay committed to creating jobs in our communities, serving our nation to the best of our abilities and creating value for the country in a sustainable manner.

Road Ahead

The pandemic situation continues to evolve, prompting lasting changes to the way we live, work and socialise. There is greater appreciation for cleaner cities than ever before. All organisations have learnt to adapt to a remote work environment, requiring minimal presence of staff at premises. It is difficult to predict what will happen in the future, because it depends on what we do today.

At Hindustan Zinc, our endeavour will be to progress on our sustainable development goals, encourage further collaborations to drive inclusive growth and achieve our Sustainability Goals 2025.

In conclusion, I would like to thank all our stakeholders, including customers, employees, shareholders, business partners, government, regulators, among others and seek their constant support in future.

Warm regards

Arun Misra

Deputy Chief Executive Officer

Health and Safety

Inculcating Safety Culture



HIGH-PRIORITY MATERIAL ISSUES

• HEALTH AND SAFETY

VISION

Achieving 'Zero Harm' to people with the belief that all workplace injuries are preventable.

SUSTAINABILITY GOAL 2025



ZERO

Work-related fatalities and 50% reduction in Total Recordable Injury Frequency Rate

SDGs ASSOCIATED



OUR APPROACH

- 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 our employees and the environment they work in. The Safety Excellence Journey is 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.
- 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 standards implementation

SAFETY GOVERNANCE STRUCTURE

We have always promoted safety as one of the most integral cogs of our value system and have adopted best-in-class initiatives towards ensuring safety for our employees. The Safety Excellence Journey is a significant initiative on this front.

The Safety Excellence Journey 'Aarohan' is an initiative driven by the desire to protect the people we work with, and was initiated in 2013. We collaborated with DuPont Sustainable Solutions which is known worldwide for its excellent safety systems. Our Corporate Safety Council provides overall direction to the organisation's Safety Management system.

The Corporate Safety Council is chaired by the CEO, with the Chief HSE Officer acting as secretary and senior leaders being its members. It is assisted by seven corporate subcommittees and nine zone apex committees to carry out its primary objective of policy development, resource deployment and laying out the strategic safety roadmap for the organisation. The role of safety subcommittees is to establish various safety systems, standards, rules, procedures and help the organisation achieve its zero harm goal seamlessly.

GOVERNANCE STRUCTURE



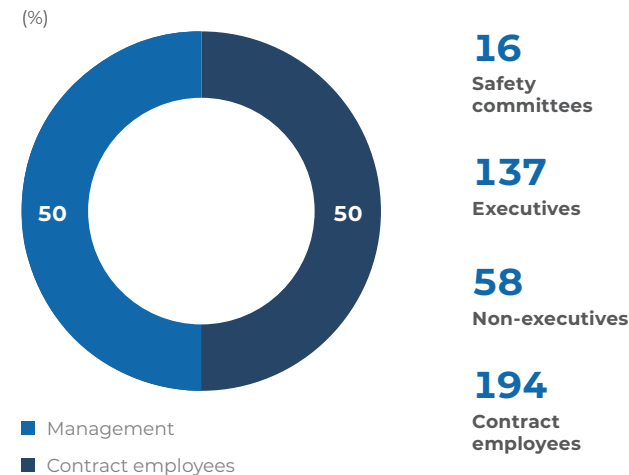
JOINT MANAGEMENT-WORKER HEALTH AND SAFETY COMMITTEE (JMWHSC)

This is the formal governing body for monitoring the implementation of organisation's occupational health and safety programmes and drives them at all locations. It has an equal representation of management and workers.

The actions emerging from this committee are monitored for implementation at the shop floor.

The functioning of this subcommittee is monitored and tracked monthly and its composition as on March 31, 2020 is presented here.

Joint Management Committee Composition (%)



SAFETY PERFORMANCE

At Hindustan Zinc, safety is our core value and we are committed to ensuring zero harm to our employees. Our prime responsibility is to provide safe workplace to all employees entering our premises. During the reporting year, there was an enhanced leadership focus on incident reporting, incident categorisation and incident investigation. This has led to a more vigilant and aware operations team; ultimately resulting in a significant increase in the number of incidents reported.

Although our LTIFR increased to 1.38 this year from last year's 0.63, our leadership is constructive in taking this as a positive safety cultural shift; and this has resulted in more specific, focused efforts towards reducing the incidents and making our workplace incident free.

Despite promoting a culture of safety and wellbeing, we are deeply saddened by two fatalities that took place this year, one at Sindesar Khurd mine at the parking yard and one at the Fumer project. Their loss is irreparable to their families as well as to each one of us at Hindustan Zinc. We have carried out detailed investigations of the incidents to learn and deploy the learnings across Hindustan Zinc to prevent re-occurrences. These fatalities are alerts that we must remain meticulous in our efforts to achieve our vision of zero harm. Lesson learned and its horizontal deployment is underway to avoid reoccurrence across the locations.



Incidents

Sindesar Khurd Mine

One contract employee was fatally injured due to roll over by reversing mine truck.

Fumer Project

One contract employee was fatally injured due to failure of lifting chain pulley block during erection of L-shaped pipe line

Management Plan and Mitigation Measures

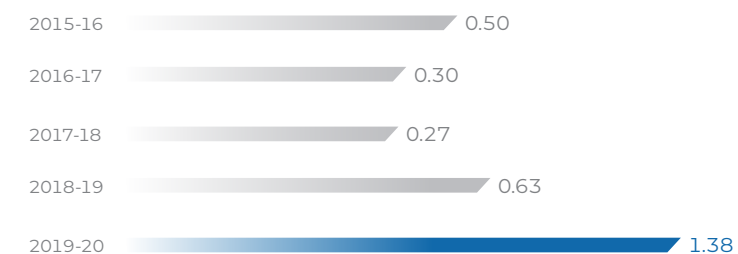
- Any temporary or permanent parking area for Heavy Mobile Equipment (HME) must include safe access for operators and segregation of equipment and pedestrians.
- HME parking areas must be designed as a one-way system, including eliminating the need to reverse vehicles.
- SOPs for vehicle parking areas must be enforced and verified by management review.
- Vehicle/pedestrian segregation must be ensured for all locations.

- All contractors are to set up jobs to ensure that required barricading is in place to prevent unauthorised personnel from entering an area that has a suspended load.
- Rigorous implementation of Permit to Work (PTW) and Job Safety Analysis (JSA) controls to be ensured prior to work
- Train all workers on slinging; lifting gear inspection prior to use.
- Colour coding of lifting tools and tackle standardised and documented in the lifting and shifting standard



Lost Time Injury Frequency Rate* (LTIFR)

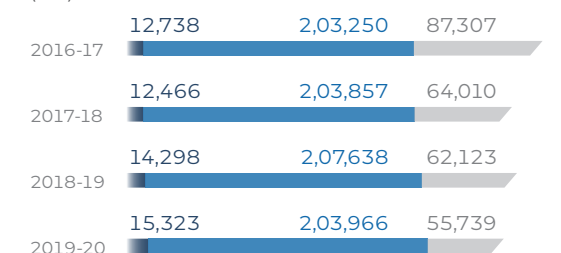
(per million hours worked)



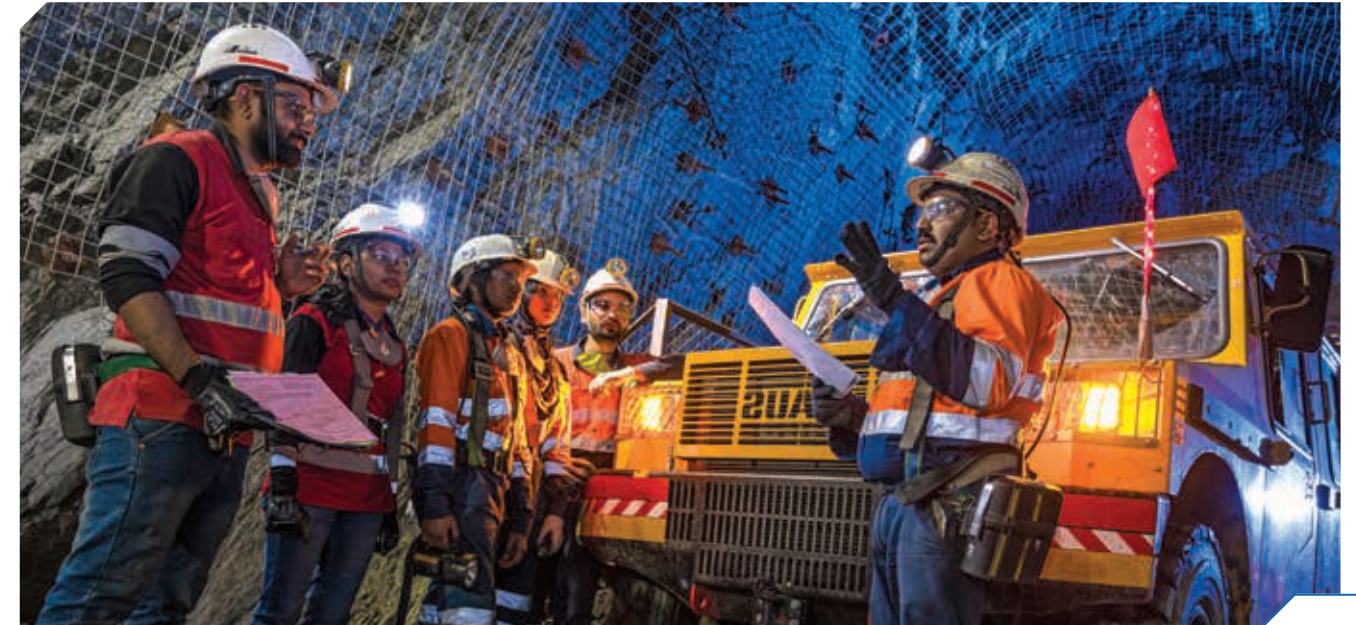
*Based on ICMM guidelines

Leading Indicator

(No.)



■ Near miss reporting ■ Unsafe act reporting
■ Unsafe condition reporting



SAFETY IS NON-NEGOTIABLE

CEO Designated as Head Safety

Leadership plays a key role for building a safety culture at site. Our safety culture is always leadership driven, and mature leaders use this as an opportunity to create connect, improve engagement and care for the employees. Our CEO personally demonstrates safety as his core value. He declared himself as Chief Safety Officer of Hindustan Zinc and has taken ownership to build a safety culture at our Company. He has committed to spend 30% of his time on safety; and is also meeting safety professionals across sites regularly to empower them for the implementation of Safety Standards at Hindustan Zinc.

Our Executive Committee (ExCo) members and unit teams visit nearby communities regularly to create connect and ideate on how better to support them in their development.

Our CEO personally demonstrates safety as his core value and has taken ownership to build a safety culture at our Company.

Launch of 'I Support Aarohan' Initiative

The 'I Support Aarohan' initiative is deeply inclusive, where each team member during the reporting year adopted one safety project in each quarter to improve safety performance of the organisation. In total 4,145 projects were undertaken during the year. This short-term safety KPI has improved overall safety performance of the organisation.

Safety Perception Survey

Safety in Hindustan Zinc has always been a core value. We are striving for continual improvement in our overall safety management system through collective and participative journey named 'Aarohan', which was initiated in 2013.

We have already ramped up enough scale and expanded the scope of the project; and now after six years, it is important to take a pause and seek feedback from all our stakeholders. Their insights are critical for course-correction and necessary changes to make safety systems more effective and robust. With this objective, we launched Safety Perception Survey (SPS) across the organisation. In SPS, 96% of employees and contract employees participated. The key themes/areas of focus emerging out of survey have been identified and action plans have been developed for improvement.

CONTRACTOR SAFETY MANAGEMENT

Launch of Discrete Incentive and Penalty Scheme for Business-wide Application

During FY 2019-20, we launched discrete incentive and penalty scheme for business, to establish an effective structure of incentive and penalty schemes for business participants. This will help us in remodeling the implementation and execution of the safety standards.

Advantages of the proposed scheme:

- Establish a clear line of accountability on business partners in case of:
 - Discrete severity based standard violation
 - Lost Time Injury (LTI) and fatalities at Hindustan Zinc
- Embolden business partners to follow Hindustan Zinc safety standards by encouraging incentive schemes

Project Ru-Ba-Ru

During FY 2019-20, we initiated the Ru-Ba-Ru programme to establish a safe and productive environment at the job sites. Ru-Ba-Ru focuses on capability building of business partners across four areas:

- HSE commitment for safe operations and strengthening our safety culture
- Technical skill enhancement for continuous performance improvement
- Management In Place (MIP) to ensure business partners have the right organisation structure and the right talent in the right positions
- Asset Optimisation (AO) to maximise all aspects of our operational assets

Our approach to improvement on these four areas entails a rigorous capability assessment of our business partners' workforce by technically trained supervisors. Following the assessment, a tailored training programme is implemented to bridge identified skill gaps. The training programme includes aspects of both classroom knowledge building and on-the-job handholding to ensure a comprehensive, practical learning experience.

Skill Development Training Programme at Sindesar Khurd mine

Skill development training programme for miners, mine supervisors and technical personnel are very beneficial as they promote safe practices, assist in the implementation of Standard Operating Procedures (SOPs) on ground and help optimise overall mine operations. Training assists mining operations on the road to 'best practices'.

We started skill development training programme to upskill our critical operators (Jumbo, Load Haul Dumper (LHD) and SOLO) and supervisory training programme for mining mate and foreman in terms of Safety, Quality and Productivity to enhance the overall safety and productivity of mine operation. The purpose is to develop more master trainers in each operation to upskill every individual working with us and to run our operations through safe hands.

Safer Facilities

Our Safety Innovation Cell an independent safety improvement body strives to implement global best practices, innovative engineering solutions/ideas and automation to further enhance safety practices.

The cell is assisted by subject matter experts and technocrats from diverse domains in the business. During FY 2019-20, the Safety Innovation Cell has undertaken high-end projects spanning mines/smelters/captive power plants. Of these, 47 have been completed/ installed across the organisation and trial of seven projects have been completed successfully during the reporting period.

Some of the prominent Pilot Projects undertaken during the year through the Safety Innovation Cell comprise:

HORIZONTAL UNLOADING OF ORE AND CONCENTRATE

Objective

To reduce manual handling and ensure safe and fast unloading from trucks

Issues Faced Earlier

- Need for a person to climb over the truck, which is unsafe activity
- Truck toppling due to shifting of centre of gravity during unloading
- Time-consuming activity
- High probability of collision with roof structure

Action Taken

Retrofitted Keith walking floor in loading vehicles for horizontal unloading of ore and concentrate

Advantages

- Toppling can be avoided
- Reduction in manual intervention
- Safe and fast unloading
- Automatic unloading of trailers up to 40 MT within 5-6 minutes

ZIG-ZAG 360° CONVEYOR GUARD INTERLOCK SYSTEM

Objective

To eliminate possibility of injury while bulk material handling

Issues Faced Earlier

- Bulk material handling equipment with rotating components presented a risk of injury to workers

Advantages

- Enhanced safety
- Allows conveyor to run only when guard is in intact position
- It is fail-proof against the rope being stretched or shortened due to any mis-operation

Action Taken

Introduced interlocking of guard with the conveyor operation

BOOM BARRIER ARRANGEMENT TO PREVENT MACHINE-TO-MACHINE INTERFACE IN RMH

Objective

To eliminate possibility of vehicle collision in the Raw Material Handling (RMH)

Issues Faced Earlier

- No control over the movements in RMH section
- Amid both side vehicle movement gate control and simultaneous vehicle movements there is chance of vehicles collision incidents

Action Taken

Implemented the Boom Barrier system

Advantages

Control of gate operation responsibility will be at loader operator, as this vehicle is most prone for collision type incidents. Only loader driver will have control to allow and authorise entry or exit of transporters vehicles or other vehicles of internal movement inside the RMH yard



Safer Mines

Our utmost priority is to ensure highest level of safety across all our mines. We believe, continued work is needed towards improving health and safety of our stakeholders to control risks around mining. While proactively dealing with identified major risks, we have put in place a number of committees involving mining operations and have taken multiple initiatives to improve health and safety of our personnel involved in mining. Globally too, the concept of safe mining has now become larger than volumes and profits.

Our Focus on Falls of Ground Prevention

We operate fully mechanised underground mines and are currently developing over 100 km tunnels for underground infrastructure and ore access to enable production and expansion projects. Maintaining safe operating environment in ore access tunnels and in mine production areas is critical for achieving our zero harm goal.

In underground mines across the world, most fatalities and potentially fatal events relate to the falls of ground hazards. Over the last three years, we have undertaken a few initiatives to avoid such incidents.

Improved Ground Control Process

- Ground control management plans implemented by all mines
- Improved SOPs through internal and external reviews

Effective Ground Support Systems

- Updated ground support regime to meet geological and stress conditions
- Sourced best-in-class consumables

Strong Geotechnical Capabilities

- Largest geotechnical team in India, trained in rock mechanics
- Leading external geotechnical consultants assist with assessing global mine stability and for resolving difficult ground control issues
- Trainings and awareness programmes in ground control safety for all personnel working underground



TELE-REMOTE OPERATION OF LHD AT RAMPURA AGUCHA MINES (RAM)

We initiated tele-remote operations of LHD to

- Provide ability to relocate operators to a safe, comfortable location underground
- Eliminate exposure to noise, dust, seismic activity and other underground hazards
- Reduce the need for air delivery and cooling
- Allow access to deeper ore bodies and greater productivity gains for long-term remote operations
- Reduce fatigue felt by operators
- Provide ability to monitor machine operation and health through user interface to ensure machine is not at risk
- Eliminate the cost for radio licences required in line-of-sight control
- Scale to surface and align with future mine network development for mine monitoring