

Responsible Production

RESPONSIBLE PRODUCTION

PURPOSE OF THE DOCUMENT

Responsible Production refers to an approach that aims to understand, reduce, and communicate the environmental, safety, health, and social impacts of products throughout its life cycle.

To ensure the mining and metals industry contributes to sustainable development, ICMM guidelines suggest companies to produce materials that are safe to use: safe for the environment and safe for humans. At HZL, we believe that to be recognized as a responsible metal producer, our business strategy and existing efforts needs to be aligned in such a way that it gives due consideration to Responsible Production

PARTNERSHIP & COMMITMENTS

HZL is supporting the global move towards an economy focused on reducing waste and keeping products in use by providing key commodities required for sustainable products and infrastructure: zinc, lead and silver. HZL collaborates to maximise the effective use, recovery and disposal of metals to keep products and materials in use for longer, while not compromising on health, safety or the environment. In FY 2023-24, HZL has secured two Indian patents, titled 'Method for production of lead by performing dross removal procedures' and 'Method for production of zinc by utilising lead plant slag', ensuring circular economy and resource utilisation.

HZL supports responsible production by providing products that contribute to sustainability while also working to minimize environmental impacts. In addition, we have implemented measures to reduce waste associated with our products. Recently, Responsible Production includes our efforts to comply with **London Metal Exchange (LME)** Responsible Sourcing Guidelines. We have completed the Red Flag Assessment as recommended by LME to comply with Responsible Sourcing Requirements through Track A selection and have submitted it to LME.

We work with various industry associations to support responsible materials production and waste management.

International Zinc Association (IZA): IZA is a non-profit organization that promotes the role that zinc plays in product applications, human health and crop nutrition; we participate in IZA's programs that have a strategic focus in the areas of environment and sustainable development, technology and market development, and communications

IZA's climate related programs are coordinated in IZA's Climate Change Task Force and Stewardship Working Group. HZL is an active member company. In addition, HZL helps in moving climate change and decarbonization into the focus of IZA's overall strategy.

Decarbonization Roadmap: This project aims at understanding the global zinc industry's current carbon footprint and impact opportunities for to reducing it. HZL actively participates discussions.

Carbon Footprint calculation and reporting guidance for SHG zinc: This guidance enables zinc refiners to report on

the product carbon footprint for their zinc production to the LMEpassport in a credible, transparent, and harmonized way.

Life Cycle Assessment (LCA): IZA submits global average information on the impact of zinc mining and refining to the relevant LCA data bases. This information is based on industry data and is updated regularly. HZL participates in this program with all their zinc mines and smelters.

Scope 3 GHG emissions reporting guidance for zinc producers: Increasingly, companies must report on their company carbon footprint to comply with regulations and meet expectations from the financial sector and customers. This involves the so-called Scope 3 GHG emissions according to the GHG Protocol's standard. Together with its member companies, IZA develops guidance for zinc producers to report on their Scope 3 emissions in a credible, transparent, and harmonized way. HZL actively supports this project

GOVERNANCE

The Board Level **Sustainability and ESG Committee** is aligned with our Responsible Production commitment and facilitates our efforts towards the accomplishment of our 2025 goals and Environmental, Social and Governance priorities.

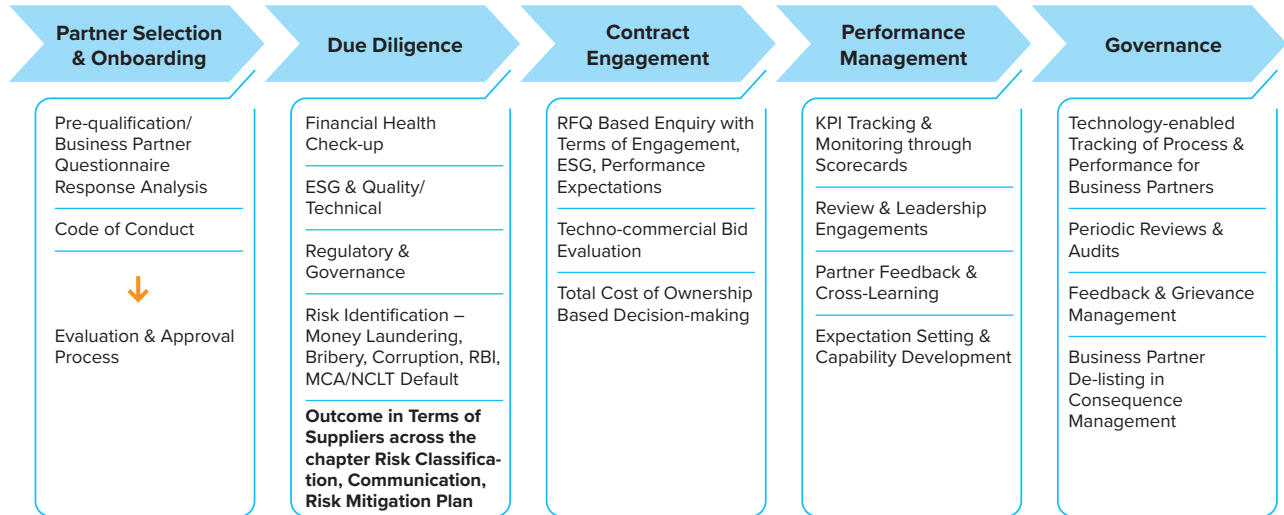
The committee is led by an independent director as the chairperson of the committee. The role of the Sustainability and ESG Committee is to assist the Board in meeting its responsibilities in ESG matters and to ensure a strong governance on sustainability matters. It is also responsible for providing oversight on sustainability strategy, setting long-term goals & targets, ensuring continual improvement of our sustainability related performance as well as implementation of appropriate processes and policies across the Company. It also plays a key strategic role in eliminating potential damage to the environment and enhance our commitment towards stakeholders.

- The Board Committee is supported by the Executive Sustainability Committee at the corporate level, chaired by CEO and includes senior executives to oversee delivery of the programs. The Executive Committee is responsible for sustainability, health and safety, environment, community, waste management. The Committee is also meant to oversee the resolution of all grievances in a timely manner. The ESC consists of multi-functional representation of senior leaders.
- The Waste to Wealth Community is responsible for monitoring the waste disposal, use and reuse.
- Central Safety and occupational health council oversees compliance with safety standards, and regularly reviews safety risks and strategic issues, including tailings, toxicity etc.
- Supply Chain Community oversees our responsible sourcing strategy

CODE OF CONDUCT

Labour & Human Rights	Health, Safety & Environment Sustainability	Business Integrity	Intellectual Property	Third-Party Representation	Prohibition on Insider Trading	Business Partner's Compliance Commitment	Reporting of Unethical Practices & Grievance Addressal Mechanism
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ORGANISATION POLICIES, PROCEDURES AND ENGAGEMENT FRAMEWORK



POLICIES

- At HZL, we have a **Sustainable Sourcing Policy, Suppliers & Sustainability Management Policy, Supply Chain Strategy and Suppliers Due diligence Procedure** that aligns our goals with our valued business partners and promote a culture of responsibility towards sustainability. HZL's Sustainable Sourcing Policy is applicable to all our immediate business partners including service and supply partners based on fundamental requirement of adherence to the Suppliers Code of Conduct. The Code embodies our commitment to internationally recognized standards on five core principles – Labour and Human Rights, Occupational Health and Safety, Environmental Sustainability, Business Integrity, and Governance. It basically covers aspects such as health and safety, zero tolerance on child labour, environmental protection, climate change, anti-bribery program, unfair trade practices, grievance redressal mechanism, etc.

Our HSE Management Standards and Guidance give general guidance on responsible stewardship. HZL's HSE Management Standards are based on ISO management standard 14001 and OHSAS 18001 standards.

Technical Standard Resource Use and Waste Management ensures HZL uses resources and manages all of the wastes it produces in ways that minimise the impact on the environment and to human health; and that supports our policies in relation to sustainability and protection of the environment.

STRATEGY

We run our mining, smelting and power operations in a sustainable manner at multiple locations across India and engage on B2B sales with various industries including Battery Industry, Pipe Industry, Galvanizing, Steel Industry and Traders. Our final products are Lead, Zinc and Silver which are used as raw materials by many other industries.

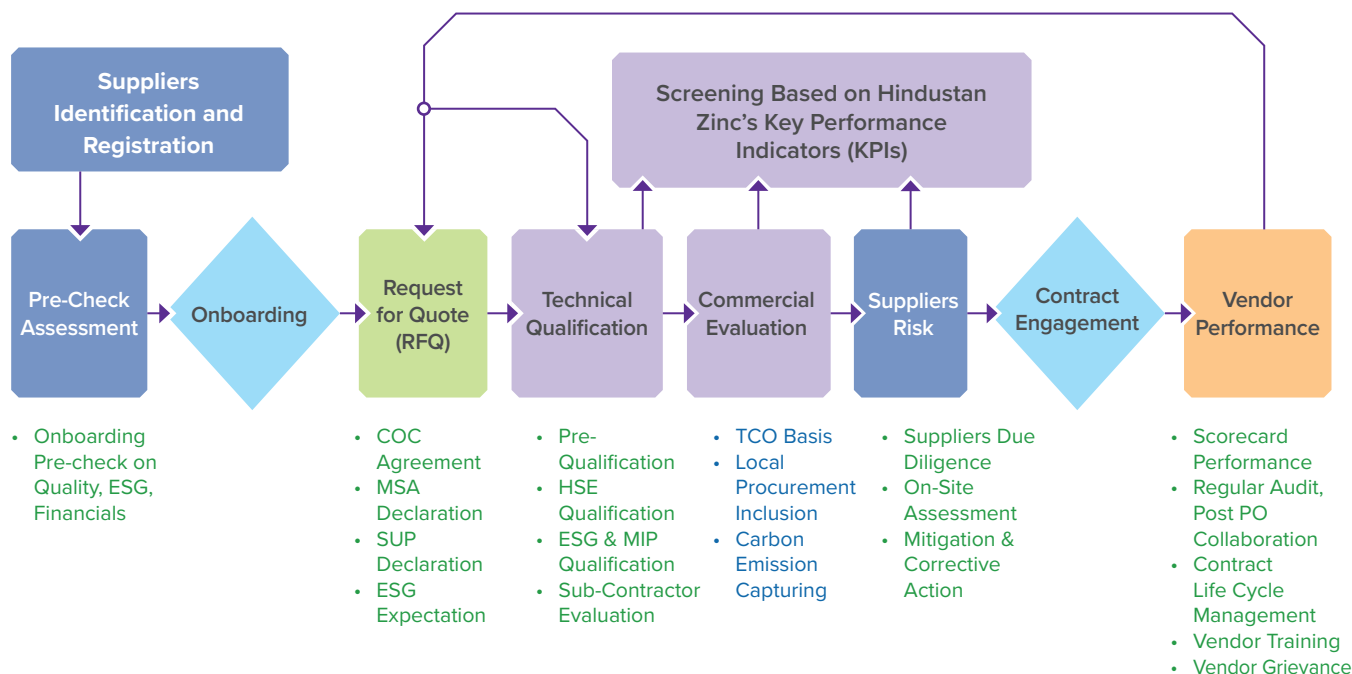
The important pillars of our Responsible Production strategy are as follows:



1. SUSTAINABLE SOURCING

We engage with our business partners through collaborations to improve their processes and performance by referring to the global best practices on responsible sourcing. Following are the steps undertaken by HZL for ESG integration in supply chain management strategy:

Hindustan Zinc's Business Partner Engagement Process



INTRODUCING ESG EXPECTATIONS

At Hindustan Zinc, we are committed to identifying, reducing and mitigating any negative impact of our business activities on people and environment. Adding to the launch of ESG Expectations for our Suppliers in the previous year, we collaborated with over 600 active suppliers and service partners, 25 of which were critical Suppliers to enhance business performance in line with our ESG objectives.

We were able to conduct sustainability assessment (water & biodiversity) for critical Suppliers.

Our suppliers commitment to, and fulfilment of ESG Expectations is of paramount importance to Hindustan Zinc. We have thus applied for the recognition of ESG Expectations on a global basis and integrated them into the various practices involved in Hindustan Zinc's qualification, evaluation, selection and management of Suppliers across the chapter, as part of its contracting process. It is assessed as a factor when Hindustan Zinc considers awarding commercial opportunities.

As per this, Suppliers are required to provide information, complete training and perform other activities in connection with the ESG Expectations before, during, or after their supply of goods or performance of services for Hindustan Zinc's requirements:

- Suppliers to identify their ESG issues in line with Hindustan Zinc's sustainability goals

Objectives of conducting an LCA

- Identifying all potential areas for improvement and direct efforts to reduce the impact, or otherwise minimize as far as possible, getting the consequent environmental improvement and compare with the benchmark and best available technologies.
- Optimization and improvement of the production processes, end-of-life scenarios, etc.
- Stimulating the generation of information on the life cycle performance of materials to support both reductions in the footprint of the upstream

- Identify risks and opportunities against ESG issues, identify and strategise solutions for the same, such as decarbonisation solutions, products which consume less energy/water
- Be 100% compliant with all regulatory requirements
- Make a commitment to various sustainable development goals like the Paris Agreement, net-zero target, Science-Based Targets initiative (SBTi), RE 100, EV 100, EP 100

Local sourcing is another important aspect for us, especially to empower our local communities. Even though HZL does not have a preferential procurement policy currently, we strive to procure locally which makes up 56.4% of the overall procurement spent (Rajasthan State based). We are committed to work with long-term Tier 1 suppliers to submit their GHG reduction strategies by 2025 and align with our commitments by 2030. As of FY 2023-24, 403 of the total 957 Commercial Suppliers are Local Tier-1 Suppliers. Further, FY 23-24 was a year of innovation in the MSME payment processing system at Hindustan Zinc. The implementation of the touchless payment feature has further streamlined the process.

2. LIFE CYCLE ASSESSMENT OF PRODUCTION PROCESSES

We have conducted Life Cycle Assessment (LCA) study as per ISO 14040/44 standard, using the approach of “cradle to grave” for our Zinc, Lead and Silver products. The study was intended to establish the baseline impact of ‘1 ton of Zinc, Lead and Silver Production’ for facilities of HZL.

A set of life cycle environmental impact indicators such as Abiotic Depletion of Fossil Elements, Acidification Potential, Eutrophication Potential, Global Warming Potential, Ozone Layer Depletion Potential, Photochemical Ozone Creation Potential, Primary Energy Demand and Blue Water Consumption were considered. While comparing the results, it was found that HZL's results are at par with the world average data. Electricity consumption and water consumption were identified as having maximum environmental impact on the value chain of zinc. Based on such findings, we accordingly make changes in our strategies and come up with new projects to bring down the impacts of our products and processes.

Hindustan Zinc Publishes 1st **Environmental Product Declaration for Zinc Products**. During FY 2022-23, Hindustan Zinc published its first environmental product declaration (EPD) for its zinc products, thus reinforcing its commitment to sustainability, transparency and minimising its environmental footprint. EPD is an independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products.

The Company, through its sustainable business practices, provides long-term value for its stakeholders, communities and the environment. The EPD provides objective, comparable, and third-party verified data on the environmental performance of the Company's products throughout their lifecycle. Hindustan Zinc's EPD can be compared with EPDs from other manufacturers around the world, as it complies with ISO 14025:2006 and EN 15804:2012+A2:2019 standards.

In July 2024, we launched EcoZen, a low-carbon Zinc. We undertook a Product Carbon Footprint of Average Low Carbon SHGZ product based on mass balance approach as per ISO 14067 Standards along with Third Party Verification by an Independent International Reviewer. As per the latest verification carried out, the total emissions associated with

our zinc produced is 5.882 TCO₂e/ tonne of Zinc & emissions associated with low carbon Zinc is 0.939 TCO₂e/Tonne of Zn, which is less than 1 tonne. The low carbon Zinc, we are offering is produced with 75% less GHG emissions per tonne of Zinc than the industry average.

3. MINIMIZING WASTE:

We recognize that our activities both mining and smelters can generate waste as a result of process. HZL's Waste to wealth community ensures that we continually improve our waste management practices so that we can reduce waste generation at source wherever possible, minimize waste generation by adopting best operational practices and circularity measures, and ensure responsible disposal. A key component to how we manage waste at each operation is ensuring compliance with applicable standards, regulations and permits for treating and recycling waste. The procedures are in place for managing all kind of wastes generated during the manufacturing of finished goods. We are using technology and innovation to reduce-reuse-recycle waste and restore natural systems, including land rehabilitation through top-soil cultivation and water reuse. Waste and land, as part of our efforts to transition to a circular economy. Company is also exploring technologies to extract the valuable residual metals and minerals. New chemicals are enabling the company to optimise the mining process, minimise wastage through the leaching process and significantly enhancing recoveries.

For details on how we are managing the waste, please see **HZL's Approach to Waste Management**.

4. RESEARCH & DEVELOPMENT

Our Research & Development (R&D) capabilities are playing an important role in propelling our Circular Economy goals. Among the various investments we have initiated in this regard is in the development of technology for mill tailings and various waste recycling projects to reduce our environmental footprint. We have also identified and replaced one of the hazardous reagent used in mineral floatation by non hazardous environment friendly reagent. Our R&D team has developed a laboratory process to recover Iron (Fe) from jarosite in the form of Fe₂O₃ (Hematite) product, a step towards adding value to waste products.

In an endorsement of its progress on its circularisation goal, the Company has been granted US patents for two of its sustainability technologies, developed in-house by our R&D center - ZnTech (formerly known as Central Research and Development Laboratory). US10844551B2 for manufacturing Paver Blocks from process waste US10919924B2 for the method of production of Potassium Antimony Tartrate (PAT) by utilising Antimony bearing residues. Both these technologies are aimed at creating value from waste, that can be utilised within Company's operations and support local entrepreneurs and communities.

Company has also signed Memorandum of Understanding (MoU) with global companies like Normet group Oy, Epiroc Rock Drills AB and Sandvik to provide BEVs at our mining operations.

5. CUSTOMER ENGAGEMENT



Ensuring **safe and responsible usage of our products** is an important aspect of our Responsible Production strategy. Relevant sustainability topics that are of importance to customers are considered and even incorporated into our materiality assessment process. We continuously engage with our customers with focus on new consumers, if any, to get them familiarized. We communicate with our customers and provide guidance to them via Mail. All the customers are provided with the Safety Data Sheet (SDS), that has all the relevant information about the product and its usages. And we continuously engage with the customers to ensure safe and responsible usage of our products. We also conduct studies on our product applications in various sectors to come up with value-added products and improved services for the relevant customers. Hindustan Zinc has published its 1st Environmental Product Declaration (EPD) for Zinc Products, which can be accessed by anyone.

HZL also conduct various seminar in association with International Zinc Association to educate about responsible usage of zinc in various industries like sheet, structure, pharma etc

In case of any modifications to our products, either as per customer requirement or for providing added benefits to our customers, we conduct studies in collaboration with subject matter experts. This is done to establish the techno commercial benefits of particular products, so as to pass on the learnings with our consumers for making their operations efficient in all aspects, save energy, etc. For instance, in case of Continuous Galvanising Grade (CGG) zinc alloy, which was produced as per consumer requirement, this kind of study was conducted, and the learnings were communicated to our consumers.

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HZL carries out Biennial customer satisfaction survey. Last year we conducted a survey through third party firm. The engagement was carried out to assess the health of relationship as well as to ascertain expectation level among customers while working with our Company.

In addition, guided by our Grievance Redressal Performance Standard, we have formal mechanisms in place to collect feedback from the customers. Vedanta Metal Bazaar portal is one-stop portal for the customers from buying the product to raising concerns or complaints, etc. Customers can raise their concerns or feedback on the portal. An automatic ticket will be raised and customers can monitor the progress of the complaint <https://vedantametalbazaar.moglix.com/#!/login>.

GOALS & TARGETS

HZL operates by the principles of carrying out business in a manner that is sustainable and safe as well as engaging with and providing value to our customers in a responsible manner.

We have been accredited with REACH certification for our

SHG Zinc in Oct'22, which has opened up opportunities for us in European market. REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) is a regulation of the European Union, adopted to improve the protection of human health and the environment. To comply with the regulation, companies must identify and manage the risks linked to the substances they manufacture and market in the EU. We have successfully completed the registration complying with all the rules and regulations.

- One of our major goals, with regards to Responsible Production, is implementing **100% responsible sourcing in supply chain by 2025**.
- Furthermore, considering the growing significance of Scope 3 GHG emissions, which include indirect emissions from our value and supply chain and from investments, we are working towards achieving a **25% reduction in absolute Scope 3 emissions by 2030**.
- Increase our **Value Added Products to 24% by 2025**.
- **Achieve three times increases in gainful utilisation of smelting process waste by 2025**.

PERFORMANCE

- Achieved highest-ever VAP sales in FY 23-24 by increasing the share of value-added products to 20% from **15% in FY 2022-23**
- **31.24%** waste recycled in FY 2023-24

Products/services sold by the entity (accounting for 90% of the entity's turnover):

S. No.	Product/ Service	NIC Code	% of total Turnover contributed
1	Zinc	27204	62%
2	Lead	27209	14%
3	Silver	27205	19%

INITIATIVES

- Improve recovery of metals in existing ancillary processes from the residue generated in zinc purification process
- Sodium based salt production from effluent stream and its use in hydro process
- Improve recovery of metals from copper matte and enhance copper sulphate production
- Alternative low capex process for jarosite preparation for its use in cement industry, customer test planned