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MGC GLOBAL RISK ADVISORY LLP

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Extended Producer Responsibility ('EPR') for Non-Ferrous Metals Scrap

UNDERSTANDING INDIA'S EPR MANDATE FOR NON-FERROUS METALS

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Executive Summary

What & Why

Extended Producer Responsibility ('EPR') is an environmental policy that makes Producers responsible for the environmentally sound management of scrap of Non-ferrous metals.

The Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2025, effective April 2026, introduce EPR for non-ferrous metals containing products—aluminium, copper and zinc.

Non-ferrous metal scrap in India is often mishandled or absorbed by the informal sector, leading to material loss and lack of accountability. With rising metal demand and the social-environmental sensitivity of mining regions, India needs to shift from primary extraction to a circular system that recovers and recycles these materials.

Policy Intent

The foundational regulatory development is the notification of the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2025 on July 1, 2025 introduced by Ministry of Environment, India with the regime becoming effective from **April 1, 2026.**

The policy's intent is to formalize and trace the flow of valuable metal scrap, to reduce environmental and social impacts associated with virgin mining and to enhance resource security by channelling secondary metals back into the economy. **The framework legally transfers the responsibility for end-of-life management from municipalities and the informal sector to the producers who place the products on the market.**

Next steps for EPR Compliance

- **Conducting product portfolio assessments** to determine scope applicability
- **Initiating registration** preparations for the forthcoming CPCB portal
- Establishing partnerships with **authorized recyclers or PROs**
- **Integrating compliance planning** into procurement and product design processes
- Developing internal **monitoring systems for EPR** target tracking

Context & Rationale

Strategic importance in modern economies

Non-ferrous metals—aluminium, copper, zinc and lead are essential to India's growth in construction, mobility, energy and electronics. Their high conductivity, corrosion resistance and strength-to-weight advantages make them **hard to substitute** and critical for industrial resilience. As India expands steel capacity and renewable energy infrastructure, **demand for these metals will surge,** making responsible and efficient sourcing a national priority.

Why are non-ferrous metals under EPR?

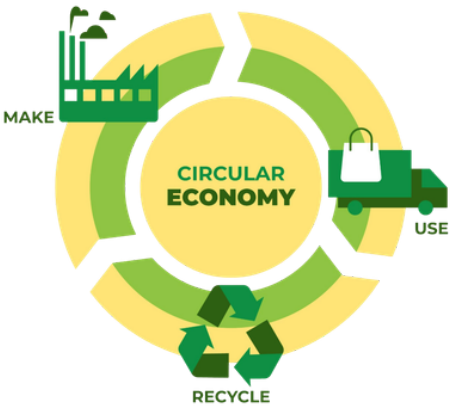
Non-ferrous metals are non-renewable natural resources with an ever-growing global demand across sectors.
India's mineral-rich areas are often located under dense forests and inhabited by tribal communities. Continued extraction threatens:

- Livelihoods of indigenous populations.
- Forests and vegetation cover, leading to ecological imbalance.

Recycling and reuse of already extracted metals mitigates these risks by reducing the need for fresh extraction, thereby supporting both environmental conservation and social equity.

Circular economy opportunity

These metals offer **high recyclability.** Aluminium requires only ~5% of the energy of primary production and recycled copper retains 90–95% of its value. This creates major potential to **cut emissions**, reduce extraction pressures in ecologically sensitive areas and support India's climate target of reducing emissions intensity by 45% by 2030. Recycling-based production of aluminium emits only **5–10%** of the carbon footprint of primary smelting.



Risks of poor waste management

Most households, shops and industries give their metal scrap to scrap dealers and informal scrapyards.

- They sort, dismantle and melt the scrap without proper safety controls through unsafe methods (burning, acid extraction) which cause **pollution, health hazards and ecosystem damage.**
- Informal operations recover only **60–70%** of metal value versus **90%+** in formal systems.
- This is the **dominant disposal route** because it is cheap and easily accessible.

India's EPR framework is designed to **shift recycling into regulated, traceable channels**, improving recovery rates, worker safety and environmental compliance

Table 1: Energy and Environmental Benefit of Recycling

Metal	Energy saved in recycling	Primary benefit
Aluminium	95%	Significantly cuts the environmental impact of mining and dramatically lowers emissions.
Copper	84%	Helps preserve natural ore resources and reduces the energy needed for processing.
Zinc	75%	Lowers the ecological impact associated with extraction and resource depletion.

Sectoral Market Analysis

Production and Consumption Trends

- India is now a major global consumer, especially of aluminium and copper.
- Domestic primary metal production capacity is limited, leading to significant import dependence.
- This supply–demand gap creates both a vulnerability (high import reliance) and an opportunity (recycling potential).
- Growth is driven by infrastructure expansion, urbanization and manufacturing sector development.
- By 2030, recycling can supply 30–50% of India's aluminium demand.
- India's consumption of non-ferrous metals has grown at 6–8% CAGR over the past decade.
- Recycling can also supply 40–60% of India's copper demand by 2030.

Regulatory Landscape & Scope

Policy Framework and Legal Foundation

The EPR framework for non-ferrous metals represents an expansion of India's evolving EPR regime that began with plastics and e-waste in 2022 and has progressively encompassed batteries, tires and now non-ferrous metals. The regulatory approach follows the "polluter pays" principle, internalizing the environmental costs of metal production and consumption while creating economic incentives for circularity.

Materials, Products and Sector Coverage

The framework comprehensively addresses aluminium, copper, zinc and their alloys, covering 18 distinct product categories specified in Schedule X of the rules. These range from packaging applications (beverage cans, aerosol containers, food foils) to industrial and consumer goods (conductor cables, electrical fittings, furniture components, apparel accessories, toys).

The framework also distinguishes between recycling and refurbishment pathways, with Schedule XII specifying products eligible for life extension through certified refurbishment.

Regulatory Landscape & Scope

Obligated Entities and Value Chain Responsibilities

The rules define obligations across the entire value chain, creating a shared responsibility model:

Table 2: Key Stakeholder Roles Under EPR

Stakeholder	Role / Responsibility
Producers / Manufacturers / Brand Owners	Primary entities responsible for meeting EPR targets through collection, recycling, or purchasing EPR certificates. Includes companies that manufacture under their own brand or rebrand products made by others.
Importers	Have EPR obligations based on import volumes, reflecting India's high reliance on imported non-ferrous metals.
Recyclers	Must register with the authority and use environmentally sound recycling methods; they generate EPR certificates for sale to producers.
Refurbishers	Certified entities that extend product life, allowing temporary deferral of EPR obligations.
Collection Agents	Formal intermediaries who collect and aggregate scrap, linking waste generators with recyclers and processors.

Regulatory Landscape & Scope

Non-Compliance: Penalties & Enforcement

The EPR framework establishes a strict, escalatory penalty structure to ensure adherence. Enforcement is grounded in the Environment (Protection) Act, 1986.

Table 3: Penalty Framework for EPR Non-Compliance

Penalty Type	Legal Basis / Trigger	Specific Consequences & Calculation	Enforcement & Notes
Environmental Compensation ('EC')	Failure to meet EPR targets, false reporting, improper handling of scrap.	A financial penalty Penalty: ₹10,000 to ₹50,000 per tonne of shortfall	Imposed by CPCB/SPCBs. Serves as the primary deterrent.
Suspension/ Cancellation of Registration	Serious or repeated violations of EPR obligations.	**Operational shutdown:** Revocation of legal authorization to place products on the market or operate as a recognized recycler/PRO within the EPR system.	A severe action that halts business operations related to EPR. May follow unsuccessful EC penalties.

EPR Compliance Mechanism

Registration and Authorization Framework

Mandatory digital registration on the CPCB portal is the foundation of EPR compliance. All obligated entities:

Producers | Manufacturers | Recyclers | Refurbishers | Collection agents | Bulk consumers

must register before operating. Registration builds a verifiable national database for oversight and enforcement.

Producers must submit business details, product categories, estimated waste generation and a waste-management plan. The EPR certificate issued upon approval signals ongoing compliance, requiring periodic reporting and achievement of assigned targets.

Collection, Recycling and Management Infrastructure

The framework offers multiple compliance pathways:

Self-Managed Systems: Producers may establish their own collection and recycling networks, partnering with registered recyclers for higher material recovery and operational control.

Producer Responsibility Organizations ('PROs'): Producers can delegate obligations to authorized PROs, which pool waste volumes to deliver collection and recycling efficiently, especially beneficial for smaller producers.

EPR Certificate Market: Producers may purchase certificates from registered recyclers via the CPCB portal, enabling market-based compliance and incentivizing recycling capacity.

Figure 1: CPCB's online EPR portals for different sectors

Business & Economic Implications

1. Cost of compliance and operational implications

Initial costs include registration, system development and PRO or certificate fees. However, these must be weighed against volatile virgin metal prices; strategic investment in recycling can stabilize long-term material costs. SMEs may face a higher relative burden.

2. Impact on supply chains and procurement strategies

EPR mandates integrating end-of-life management into procurement, favoring products designed for disassembly. Bulk consumers must set up collection points, transforming waste into a managed resource stream. Minimum recycled content rules will further reshape sourcing.

3. Opportunities in secondary raw materials and recycled content

The framework formalizes markets for recycled metals. The EPR certificate system creates transparent pricing, while recycled content targets (e.g., 20% for copper by 2031-32) guarantee demand, justifying infrastructure investment and creating value for verified secondary materials.

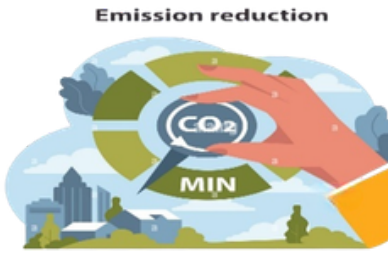
4. Emerging markets for EPR credits and compliance services

Regulatory complexity will drive growth for PROs, consultants and verification agencies. The EPR certificate market could evolve like carbon credits, and strong EPR performance would unlock green financing and ESG-linked advantages for companies.

Environmental & Social Outcomes

Reduction in Virgin Metal Extraction and Energy Use

Systematic recycling drastically cuts energy use (e.g., 95% less for aluminium) and conserves natural resources, directly supporting India's emissions reduction goals and reducing pressure on ecologically sensitive mining areas.

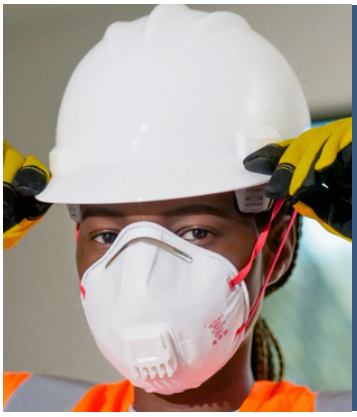


Emissions Reduction Potential

Formal, regulated recycling eliminates toxic emissions from informal processing (e.g., open burning). It also reduces upstream emissions from mining and virgin metal production, contributing to cleaner air and soil.

Formalization of Recycling Value Chains

EPR integrates informal workers into the formal economy through registration, offering better safety, fair wages and skill development. This promotes social equity and economic inclusion.



Improved Worker Health, Safety and Traceability

Mandated safe practices and digital tracking on the CPCB portal ensure worker protection and material traceability. This improves the quality and reliability of recycled metals, building market confidence.

Challenges, Risks & Global Learnings

Key Implementation Gaps and Systemic Constraints

Table 4: Critical Challenges in EPR Implementation

Challenge Category	Core Issue	Main Risk
Institutional Capacity	Overstretched regulators with limited resources for managing the complex new system.	System delays, weak enforcement and reduced trust in the framework.
Informal Sector Integration	No clear, practical plan to bring informal collectors and processors into the formal system.	Continued informal market, loss of materials and social inequity.
Infrastructure and Technology	Lack of advanced recycling facilities.	High compliance costs and poor environmental results.
Consumer Behaviour	Low motivation to segregate waste and limited willingness to purchase recycled products.	Poor collection quality, reduced recycled products demand and weakened EPR system effectiveness.

International EPR approaches *(European Union, Japan, OECD)*

EPR is implemented in many countries such as those in the European Union, Japan, South Korea, Canada and parts of the United States to improve waste management. It is mainly applicable to sectors like packaging, electrical and electronic waste, batteries, vehicles, tyres and increasingly textiles and furniture. Under EPR, producers are legally responsible for collecting, recycling, or safely disposing of their products after use. This system has helped countries increase recycling rates and reduce the amount of waste sent to landfills. It has also shifted the financial burden of waste management from governments to producers, encouraging better product design and material use. Overall, EPR has strengthened recycling infrastructure and supported more sustainable and circular waste management systems.

Way Forward & Recommendations

Strategic Recommendations for Industry

- Conduct Immediate Readiness Assessment: Review products against Non ferrous notification by CPCB, quantify metal content and start maintaining audit ready record for EPR.
- Forge Early Partnerships: Build relationships with registered recyclers or PROs.
- Invest in Digital Traceability: Implement systems to track materials and prove compliance with recycling and recycled content rules.

Ecosystem Development Recommendations

- Upgrade Capacity and Technology: Recyclers must invest in efficient, environmentally sound processes. PROs should develop effective collection models.
- Enable Digital Solutions: Develop tracking, certificate management and reporting tools that integrate with the official CPCB portal.

Conclusion

India's EPR framework for non-ferrous metals marks a shift from waste disposal to circular resource management, creating market incentives to improve recycling and reduce environmental impacts. Its recycling and recycled-content targets set a clear path aligned with national development and climate goals.

Successful implementation will require strong governance, digital tracking systems and integration of the informal recycling sector. With rules effective from April 2026, early adopters will gain advantages in compliance, supply-chain resilience and brand reputation. Overall, the framework positions India to turn rising metal demand into a sustainable, circular growth opportunity.

References & Terminologies

References:

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Terminologies:

- **EPR**: Extended Producer Responsibility
- **CPCB**: Central Pollution Control Board
- **PRO**: Producer Responsibility Organization
- **ESG**: Environmental, Social and Governance
- **SPCB**: State Pollution Control Board
- **EC**: Environmental Compensation

Connect with our experts

Supriya Bansal

Partner, Global Sustainability, AVA Insights
supriya.bansal@avallp.in
https://avainsights.in/

Sarthak Taneja

Partner, ESG, MGC Global
sarthak.taneja@mgcglobal.co.in
https://www.mgcglobal.co.in/

Meenakshi Chauhan

Associate Director, ESG, MGC Global
meenakshi.chauhan@mgcglobal.co.in
https://www.mgcglobal.co.in/

Apeksha Charpe

ESG Analyst, AVA Insights
apeksha.charpe@avainsight.com
https://avainsights.in/

Nilima Ballal

Sr. Sustainability Expert, AVA Insights
nilima.ballal@avainsight.com
https://avainsights.in/