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E-Waste Management in India: Understanding Environmental Compensation Guidelines and the 2024 Amendment Rules

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INTRODUCTION

India is grappling with an escalating e-waste crisis, driven by the rapid proliferation of electronic devices. With millions of tons of e-waste generated annually, effective management is crucial for environmental sustainability. The Extended Producer Responsibility (EPR) framework, outlined in the E-Waste (Management) Rules, mandates that manufacturers and producers bear responsibility for the entire lifecycle of their products. The 2024 guidelines for Environmental Compensation (EC) form an essential part of this framework and serve as both a deterrent for non-compliance and a funding mechanism for waste management initiatives. This is complemented by a new provision introduced by the 2024 Amendment Rules, which allows the Central Government to establish platforms for the exchange of Extended Producer Responsibility certificates, enhancing accountability in e-waste management.

THE NEED FOR ENVIRONMENTAL COMPENSATION (EC)

1. Accountability

- EC ensures that producers are

financially accountable for the environmental impacts of their products. When producers fail to comply with the provisions of E-Waste rules or meet the specified e-waste collection and recycling targets, they must pay EC as a penalty. This aligns financial incentives with environmental responsibilities, encouraging companies to invest in sustainable practices rather than opting for the easier route of non-compliance.

- This penalizing approach derives from the well-established polluter pays principle in environmental jurisprudence. It underscores the direct link between a producer's EPR obligation and its environmental impact, reinforcing the notion that the offending entity is responsible for the damage caused to the environment and must pay the price for non-compliance.

2. Funding for E-Waste Management Initiatives

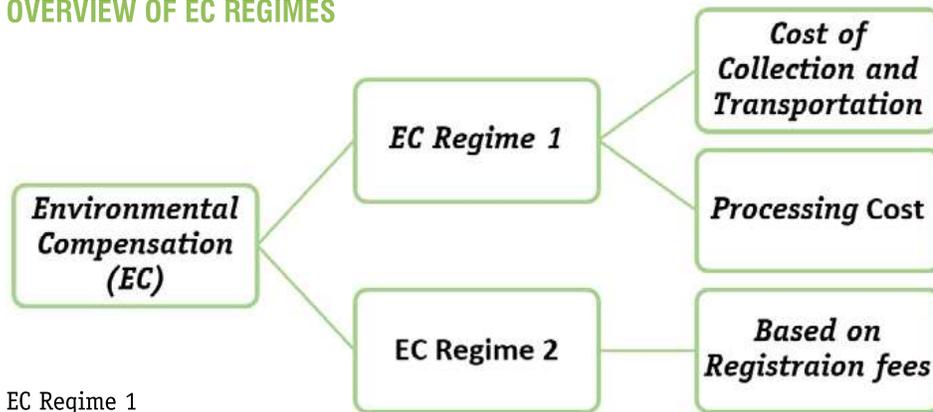
The EC funds collected are strategically allocated to several key areas: enhancing collection and environmentally responsible recycling of uncollected e-waste, including historical and orphaned types; investing in research and development to advance



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recycling technologies and improve waste management solutions; providing financial incentives to stimulate the recycling industry and attract more participants; and supporting local bodies in waste management projects to ensure effective grassroots implementation of these initiatives.

OVERVIEW OF EC REGIMES



EC Regime 1

• **Parameters:** The environmental compensation as per the 2024 guidelines, is calculated based on the average costs associated with the collection, transportation, and processing of e-waste. This means that if a producer does not meet its target, it must compensate for the equivalent e-waste that was not processed. However, payment of the EC does not absolve producers from their extended producer responsibility.

• **Carry Forward Clause:** If a producer does not fulfill its EPR obligations in a given year, the shortfall can be carried forward for up to three years. This system incentivizes producers to address their deficiencies promptly, with varying refund percentages based on how quickly they rectify their shortfall.

Year	% of EC refunded
After 1 Year	85% refund of EC
After 2 Years	60% refund of EC
After 3 Years	30% refund of EC
Post 3 Years	No refunds

• **Parameters:** As per the 2024 guidelines, the Environmental Compensation under this regime will be levied to any entity for non-compliance with E-Waste Rules, 2022 and amendments thereof. This regime bases EC calculations on the average application fees for the registration

of recyclers and producers on the E-Waste EPR Portal. A base EC charge of ₹20,000 is established for producers to standardize expectations. For Recyclers, Manufacturers and Refurbishers, ₹15,000 is considered as the parameter in this regime.

THE E-WASTE VALUE CHAIN AND THE ROLE OF INFORMAL RECYCLERS

The e-waste value chain is multifaceted, involving various stakeholders from collection to recycling. Within this chain, a significant portion of the activity occurs in the informal sector, where collectors, transporters, and recyclers operate outside the regulatory framework. These informal recyclers play a pivotal role in the initial stages of e-waste processing by collecting discarded electronic devices and extracting valuable materials. However, their operations are characterized by several detrimental practices that pose severe environmental and public health risks.

INFORMAL COLLECTION AND RECYCLING PRACTICES

1. **Unscientific Methods:** Informal recyclers typically utilize crude methods for extracting valuable materials from e-waste. For instance, they may burn circuit boards to recover metals, releasing toxic fumes and harmful pollutants into the environment. Such practices not only degrade air quality but also contribute to soil and water contamination.

2. **Inefficient Recovery:** The techniques employed by these informal operators are often inefficient, resulting in significant losses of recoverable materials. For example, the recovery rates for valuable metals like gold, copper, and aluminium are much lower compared to those achieved through formal recycling processes that utilize advanced technologies.

3. **Environmental Damage:** The lack of adherence to safety and environmental standards by informal recyclers leads to substantial ecological harm. Chemicals used in the extraction of metals can leach into the ground, affecting local ecosystems and posing health risks to communities living near recycling sites.

THE NEED FOR TECHNOLOGICAL INVESTMENTS

Under the E-Waste (Management) Rules, 2022, and subsequent amendments, four end products have been recognized as crucial outputs of e-waste recycling: gold (Au), copper (Cu), aluminium (Al), and iron (Fe). Recovering these valuable materials through formal channels requires significant investments in:

1. **Technology:** Advanced recycling technologies are necessary to efficiently and safely extract metals from e-waste.



This includes the development of methods that minimize environmental impact while maximizing recovery rates.

2. Research and Development (R&D): Ongoing R&D is essential to innovate better recycling processes and improve existing technologies. Investing in R&D is necessary for the development of eco-friendly methods that reduce the environmental footprint of recycling operations.

3. Health and Safety Measures: Implementing robust health and safety protocols is critical to protecting workers involved in e-waste processing. Proper training and equipment can reduce occupational hazards associated with handling toxic materials.

ESTABLISHING FLOOR PRICES FOR EPR CERTIFICATES

Establishing a floor price for EPR certificates is crucial for several reasons, particularly in creating a sustainable and

competitive recycling industry that can effectively address the challenges posed by the informal sector.

1. Incentivizing Investment: A floor price provides a stable financial framework that encourages investments in collection and transportation networks. When recyclers know they can recover their costs through a guaranteed minimum price for EPR certificates, they are more likely to invest in infrastructure that enhances collection efficiency and logistics.

2. Economic Viability: By making collection and logistics costs economically viable, a floor price can stimulate the development of a formal recycling sector that operates efficiently and responsibly. This, in turn, can help reduce reliance on informal recyclers who do not adhere to environmental and safety standards.

3. Protection against Commodity

Price Fluctuations: The prices of recyclable materials can be volatile due to market dynamics. A fixed floor price for EPR certificates protects legitimate recyclers from the risks associated with these fluctuations, providing them with a more predictable revenue stream. This stability is essential for their long-term sustainability.

4. Enhancing Competition: Establishing a floor price levels the playing field between formal recyclers and informal operators. With guaranteed returns, legitimate recyclers can invest in better practices, improving their ability to compete with informal sector recyclers who often operate at lower costs due to their disregard for regulations and environmental responsibilities.

EPR CERTIFICATES

Producers must meet their Extended Producer Responsibility (EPR) obligations by purchasing EPR Certificates online, only from registered E-Waste Recyclers. The Central Pollution Control Board (CPCB) issues these certificates through the Portal to registered Recyclers. Registered Recyclers are required to upload information about the quantities of E-Waste they have procured, collected, recycled, and the end products they have produced and sold onto the E-Waste EPR Portal. Based on this uploaded information, the CPCB generates the EPR certificates for the Recyclers. These certificates are subject to environmental audits conducted by the CPCB or other authorized agencies.

TRADING PLATFORM AND GOVERNMENT OVERSIGHT

According to the new e-waste management amendment rules notified on March 8, 2024, the government may establish multiple platforms for the exchange or transfer of these



certificates, all regulated in accordance with guidelines set by the Central Pollution Control Board (CPCB). The central government has taken an active role in regulating this trading system by empowering itself to set the prices for EPR certificates.

The CPCB is tasked with determining the highest and lowest prices for EPR certificates, which will range from 30% to 100% of the environmental compensation for non-fulfilment of EPR obligations. This regulatory framework aims to ensure a fair and stable trading environment while incentivizing producers to meet their recycling targets.

The CPCB's regulation of EPR certificate prices is a critical aspect of the EPR framework. Ensuring that the lowest price for EPR certificates does not exceed the market value of recovered metals, Promotes sustainable practices and encourages material recovery. Producers are incentivized to invest in the recycling of e-waste rather than purchasing metals from the market,

leading to a more sustainable cycle of materials.

POTENTIAL BENEFITS OF TRADING PLATFORMS

1. Flexibility for Producers: The ability to trade EPR certificates provides producers with a flexible mechanism to meet their compliance obligations. Companies that excel in e-waste management can sell excess credits to those struggling to meet their targets, creating an economic incentive to improve recycling processes.

2. Market-Driven Solutions: The trading system introduces market dynamics into e-waste management, encouraging innovation and efficiency among producers and recyclers. Companies are motivated to develop better recycling technologies and practices to generate surplus credits.

3. Encouragement of Sustainable Practices: By placing a monetary value on environmental obligations, the trading system fosters a culture

of sustainability. Companies are more likely to invest in eco-friendly practices, knowing that successful recycling efforts can yield financial benefits.

POTENTIAL ISSUES IN IMPLEMENTATION

Despite the promising framework for EPR certificate trading, several challenges may arise in its implementation:

1. Synchronization of Multiple Platforms

With the establishment of multiple platforms for exchanging EPR certificates, the need for synchronization becomes paramount. Several challenges are associated with this:

- **Data Consistency:** Variability in reporting standards and formats across different platforms could lead to inconsistencies in data. This inconsistency can complicate compliance tracking, making it difficult for both producers and regulators to assess whether obligations are being met accurately.

- **Regulatory Oversight:** A robust centralized regulatory framework is essential to monitor the operations of these platforms. Without proper oversight, discrepancies in transaction reporting and compliance verification could undermine the integrity of the EPR system. Ensuring that all platforms adhere to established guidelines is crucial for maintaining trust in the system.

2. Risk of Double Reporting and Paper Trading

The risk of double reporting becomes significant when multiple platforms operate independently, potentially leading to inflated compliance numbers:

- **Centralized Monitoring:** To mitigate the risk of double counting, implementing a centralized system for tracking all EPR certificate transactions is essential. This centralized database would provide a unified view of all trades, helping to ensure that credits are not reported more than once.

- **Auditing Mechanisms:** Regular audits conducted by the CPCB can serve as a deterrent against fraudulent activities. Audits would ensure that reported data accurately reflects the physical handling of e-waste, thereby reinforcing the credibility of the EPR certificate system.

3. Ensuring Transparency

Transparency is vital for fostering trust among all stakeholders in the EPR system. Several strategies can enhance transparency:

- **Public Reporting:** Making transaction data publicly accessible can enhance accountability and encourage compliance. Transparency in operations not only builds trust but also provides valuable insights for continuous improvement in e-waste management practices.

- **Stakeholder Engagement:** Regular consultations and engagement with producers, recyclers, and environmental organizations can ensure that concerns are adequately addressed. Stakeholder involvement in decision-making processes can lead to more effective and practical solutions, as they can provide first hand insights into the challenges and opportunities within the e-waste ecosystem.

CONCLUSION

The EPR framework for e-waste in India, augmented by Environmental Compensation and EPR credit trading, is a significant advancement in environmental governance. By facilitating flexibility, encouraging sustainable practices, and introducing market dynamics, it holds significant promise for improving e-waste management. However, addressing potential implementation challenges, particularly in terms of synchronization, reporting integrity, and transparency, will be critical for the success of this initiative. Through robust regulatory measures and stakeholder collaboration, India can effectively harness the benefits of EPR certificate trading while mitigating associated risks and set a global precedent for responsible electronic waste management. 



Sonal Verma leads the ESG Practice in the firm as a Partner and Global Leader – Markets & Strategy. With his crossroad working with business & laws – he brings advice & technology for effective change management in the journey of ESG. Sonal is well acclaimed for his work in regulatory & compliance programs over the last decade. He had in the past worked with 1800 plus clients in India and 61 other countries globally. He has worked with the top 3 unicorns and many Fortune 500 companies. His clients have been across different industries, viz. Automotive and OEMs, Pharma and Life Sciences, Manufacturing, Chemical Industry, BFSI, Infrastructure and Utilities (including stateowned PSUs), e-Commerce and Fintech Companies, Diversified Conglomerates etc.



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