

① Essentials of cohesive e-waste management thinking in India

- * Life-cycle approach - managing e-waste from design \rightarrow production \rightarrow use \rightarrow disposal.
- * Integration of stakeholders - producers, consumers, recyclers, dismantlers, government.
- * Formalisation of recycling sector - shifting from informal, unsafe handling to certified facilities.
- * Resources recovery mindset - recovering metals (Au, Cu, Ag), plastics, glass efficiently.

② E-waste flow and recycling scenarios in India

Flow of e-waste:

1. Generation (Households, industries, institutions)
2. Collection - informal scrap dealers dominate
3. Dismantling - separation of components
4. Recycling/Recovery - extraction of metals/plastics.
5. Final disposal - landfilling of non-recoverables.

③ Goals, implementation and challenges of e-waste management.

Goals:

- * Reduce hazardous waste
- * Increase recycling and resource recovery
- * Promote EPR compliance
- * Protect environment and worker health.

Implementation:

- * E-waste Rules 2016 + 2018/2022 amendments
- * EPR authorisation and targets for producers
- * Registration of recyclers/dismantlers.
- * Collection centres and take-back systems.

④ Considerations for successful implementation of EPR

- * Clear EPR targets for collection and recycling
- * Producer responsibility organisations (PROs) for efficient operations.
- * Traceability using digital tracking of e-waste
- * Strong partnerships with recyclers and logistics agencies.
- * Consumer incentives for returning used electronics.

⑤ WEEE Directive and its global impact.

WEEE Directive (EU):

A European Union law for Waste Electrical and Electronic Equipment, ensuring collection, treatment, recycling and recovery of e-waste through producer responsibility.

Global Impact:

- * Set worldwide standards for EPR and recycling.