



# Enhancing Resource Efficiency and Circular Economy through EPR

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#### **Indian Scenario:**

- Extraction of raw material up by **420%** between 1970 and 2010
- 3<sup>rd</sup> highest CO2 emitter responsible for 6.9% of global emissions
- Low material productivity and inefficiency in recycling
- Import dependence, high urbanization rates, product affordability















# **EU Resource Efficiency Initiative (REI)**





## Building Blocks of Resource Efficiency Policy







# **Objectives of draft RE Policy (MoEFCC 2019)**



Minimize the resource use and environmental impacts at each life cycle stage by adopting the concepts of resource efficiency and circular economy using one or more of the 6Rs principles





#### **Enhancing RE through EPR**

#### Extended Producer Responsibility (EPR) – quick recap

- An internationally applied policy principle which seeks to decrease the negative impact from a product by making producers responsible for the entire lifecycle
- Dual objective of EPR is to improve upstream processes and downstream processes
- Since the 1990s, adoption of 384 EPR policies worldwide
- EPR is a key feature of both the Indian Packaging Waste Management Rules and E-waste Management Rules, 2016

















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#### **EEE in India**



- Indian domestic production of EEE valued at 34 billion EUR in 2016 vis-à-vis demand to the tune of 86 billion EUR
- Domestic production expected to grow at CAGR of 27% whereas domestic demand projected to grow at CAGR of 41% between 2016-2020
- Annual generation of 2 million tonnes; 95% of waste is recycled by the informal sector





#### **EEE in India**



	Consumer Electronics: 1.17	TV: 0.42 Digital Cameras: 0.14 AV Players: 0.04 Refrigerators: 0.16 AC: 0.11 Water purifiers: 0.04 Set top Boxes: 0.16 Washing machines: 0 Air Coolers: 0.02	Consumer Electronics: 1.1 08	7 addition to stock/in use	Product lif	espan uncle	ear
EEE domestic consumption: 3.8*	Electronic consumption: 0.84			555 dayla 2.0	Large household appliances: 0.84	not acco	inted for/addition to stock: 0.782*
	l dustrial electronics: 0.78			End-of life: 2	IT communication technology: 0.68	total WEEE	WEEE managed by formal sector: 0.062*
	omputer: 0.34						WEEE managed by informal sector: 1.186 <sup>*</sup>
	trategic Electronics: 0.29				Consumer electronics_: 0.28		WEEE collected: 1.248
	Communication & Broadcasting	g Equipment: 0.38			Others: 0.2		

Extrapolations based on consumption rate from 2012

Major uncertainties in end-of-life statistics!















# Policy Options for Enhancing RE through EPR in India















For a Circular Economy products need to be durable, repaired, re-EU-RE used and hence recyclable/reusable

# Extended <u>Producer</u> Responsibility (EPR) plays a vital role:

- Producers have control over product design
- Producers can accept extended responsibility but consequently request control over related processes and cost.
- EPR provides **incentives** to producers to prevent wastes at the source.















Strengthen capacities of implementing agencies, explore strengths and weaknesses of different implementation mechanics and create administratve synergies.



Design monitoring & evaluation framework for **EPR** schemes

Harmonise EPR schemes to harvest administrative synergies

Strengthen capacities of implementing agencies

Monitoring, evaluation and enforcement of EPR in India Elaboration of **guidelines** for future EPR schemes

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EU-REI Creating a Resource Efficient India

Promote large-scale formalisation of the informal economy through dedicated guidelines, tailor-made capacity building programmes and promotion of innovative business models.

- Legal framework largely neglects the informal sector; there is no structured approach to mapping informal activities and capacity building programmes under Skill India do not acknowledge the diversity of the sector
- Various formal-informal partnerships via designated interface agencies have been launched; yet they have proven to be unstable due to the economic reality of the sector

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#### Case Studies: Green E-waste Recyclers; Delhi







#### Support the implementation of EPR by developing standards and promoting certification schemes in the field of RE and CE

- Manufacturers are reluctant to use recyclates in their production processes due to unknown material qualities – standards on Secondary Raw Materials (SRM) could increase market penetration
- Standards for collection, logistics and treatment could form essential parts of the monitoring and enforcement frameworks of the E-waste Management Rules
- Certification schemes (e.g. c2c) can increase demand for sustainable products – adapt to local conditions and leverage through Green Public Procurement









CII-ITC Centre of Excellence for Sustainable Development









# Provide incentives for sector-wide platforms of collaboration to facilitate information exchange across the entire value chain

- Unrestricted flow of information between different stakeholders in the system is a pre-requisite for the transition towards a CE
- Being home to more than 1.3 billion people, it is highly unlikely that one single collection scheme (PRO) can handle this challenge alone
- PRO sector emerging in India is characterised by a high degree of fragmentation with heterogeneous interests – coordination remains incremental
- Coordination vis-á-vis policy makers through a dedicated body/association – an evolution towards co-opetition?

34 PROs, representing >31,000 producers

PRO Europe Packaging Recovery Organisation Europe

29 PROs, representing >150,000 producers



Шббб















#### **Potentials for Indo-European Collaboration**

#### Indo-European Producer Responsibility Partnership

- Dialogue platform for compliance services providers (PROs and their ٠ associations)
- Facilitate information exchange and find solutions for common ٠ challenges, e.g. informal sector integration, free-riding via online sales, models for M&E, or else
- Use technology for the implementation of the Rules and engage ULBs. ٠

#### Joint working group on standards in the field of RE and CE

Explore which standards are needed to ensure M&E in India and how could trade of SRM be enhanced for closing material loops at the global scale (e.g. Article 10, WEEE Directive)













# Action Agenda (EEE Strategy – MeitY & Niti Aayog)

1. Initiate a resource efficiency scheme

2. Incorporate the role of local bodies and informal sector in collection of e-waste

3. Feasibility Study for Assessing Secondary Resource Utilization Potential

4. Awareness Programme for all stakeholders

- Driving overall goal of RE and CE through the materials chain
- Inclusive framework to enhance participation from all stakeholders
- Enhance collection potential by including the role of local bodies and informal sector to be included in the E-Waste Rules 2016
- Local collection infrastructure to enhance ease of disposal for consumers
- Define methodology for estimating secondary resource potential from end of life materials
- Estimating quantum of secondary materials which can be channelized into electronics production process
- Awareness programmes for all sets of stakeholders in the electronics product chain
- Institutionalisation of awareness to maximise potential of industry contribution under EPR obligation

# Action Agenda (EEE Strategy – MeitY & Niti Aayog)

5. Capacity building of the informal sector and actors for proper handling of e-waste

6. Business models for technology proliferation

7. Policy & Guidelines for Promoting RE for eco-design, BAT for decontamination and dismantling, increased use of secondary raw materials in EEE production

8. Standards for reuse and refurbishment

- Development of online tools and certification programmes to enhance livelihood security
- On the job training at pilot facilities for proliferation of technology
- Feasibility study to understand economic potential of technology proliferation in the informal sector
- Development of requisite infrastructure for integration of the informal sector
- Development of guidelines for adoption of eco-design principles in the production process
- Guidelines for recycling and creation of market platforms for trade of secondary materials
- Research Study for Evaluating policy frameworks for incorporating 'Right to repair' of used products to enhance RE
- Guidelines for product design and upgradation to remove forced obsolescence



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# **Towards a circular electronics sector**





