

# Indian Approach To Circular Economy

## 12th Regional 3R and Circular Economy Forum in Asia and the Pacific

Plenary Session 2- “3R and Circular Economy Towards Resilient,  
Low-carbon and Sustainable Cities and Communities”

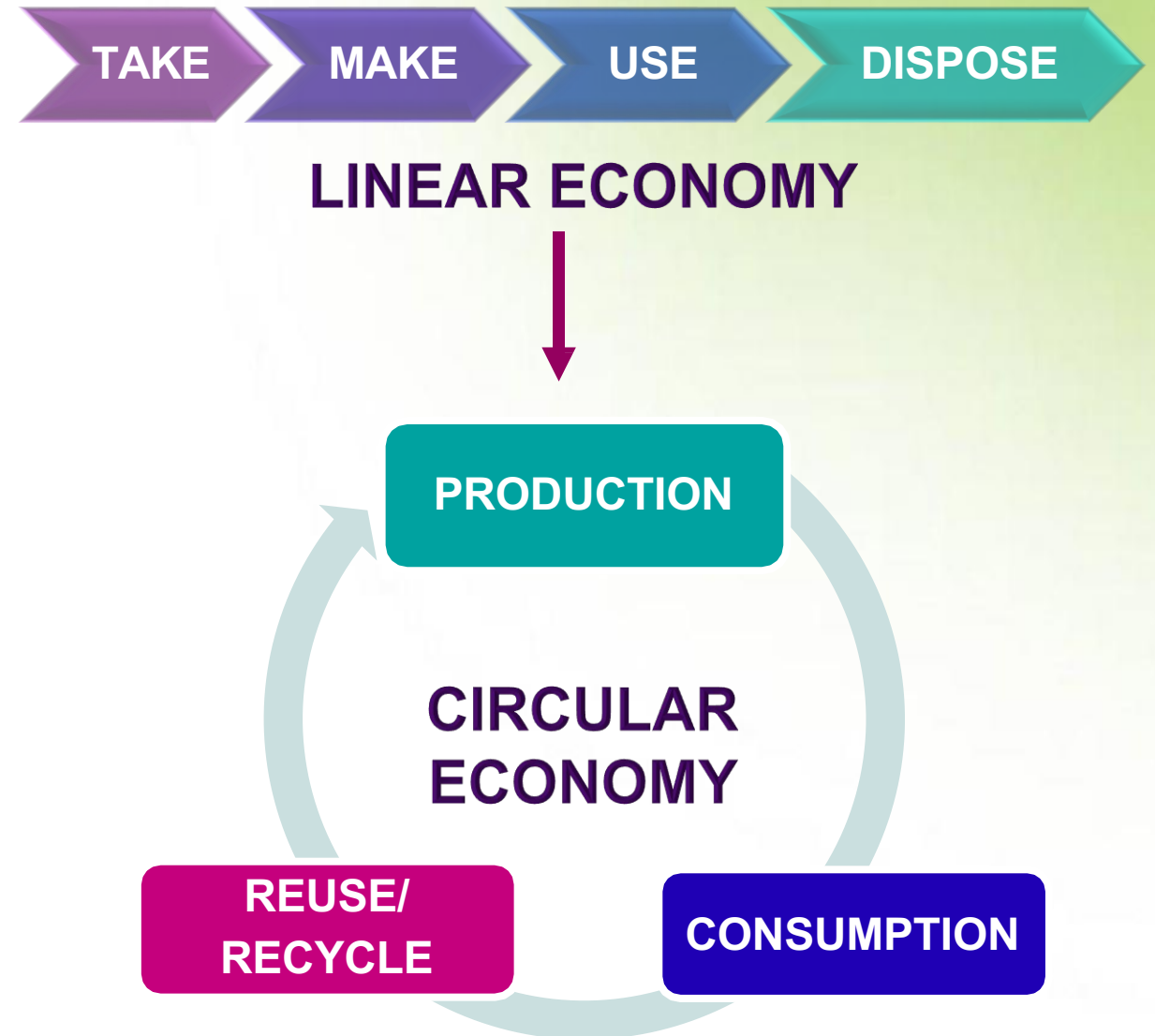
**3rd March 2025**



**Ministry of Environment, Forest and Climate Change**

# Transition To Circular Economy

- **Optimum utilization of resources** is a must due to development, growing population, rapid urbanization, climate change and environmental pollution
- Paradigm shift from **traditional linear model** of 'take, make, use, dispose' to a **regenerative approach**



# Key Aspects Of Circular Economy

**Environmentally sound management of waste**



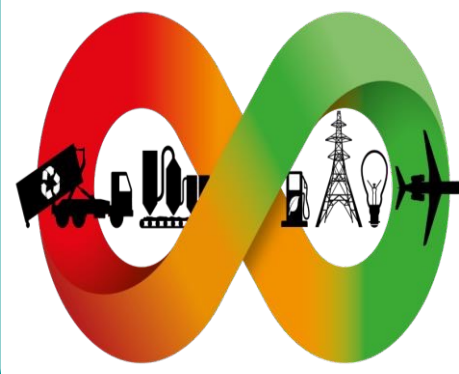
Promotes resource conservation by **reducing extraction of virgin material**



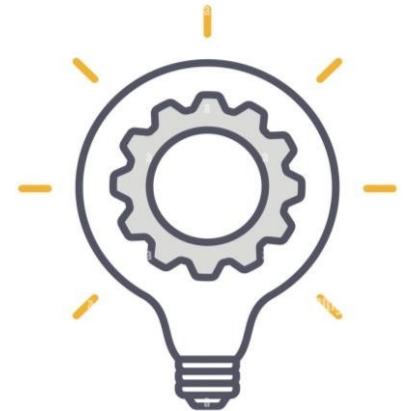
Prioritizes **continuous use of materials through reuse, recovery & recycling**



**Transforming waste into valuable resources**



Creates **new opportunities** for economic activities, green jobs, and innovations





# Focus Areas For Circularity

**Solid Waste**



**Plastic Waste**



**E-waste**



**Battery Waste**



**Liquid Waste**



**Used Oil**



**Waste Tyre**



**End-of-Life  
Vehicles Waste**



**Metal Scrap**



**Construction &  
Demolition Waste**



**Hazardous Waste**





# Indian Approach to Circular Economy



- **Multi-pronged steps being taken to catalyse transition to circular economy**
- **Institutional & Developmental** - Sectoral Committees constituted and Action Plans finalized for 11 sectors/ waste streams
- **Regulatory Reforms** - Introduction of **Extended Producer Responsibility**



# Circular Economy Action Plans

**Circular Economy Action Plans for 10 waste categories have been finalized by NITI Aayog and are under implementation**

S. No.	Category of Waste	Nodal Ministry/ Department
1	Li-ion Batteries	NITI Aayog
2	Electronics & Electrical Sector	MEITY
3	Scrap Metal (Ferrous and non-Ferrous)	M/o Steel
4	Toxic & Hazardous Industrial Waste	DCPC
5	Tyre and Rubber Waste	MoEFCC
6	Used Oil	MoPNG
7	Municipal Solid Waste	MoHUA
8	Solar Panel	MNRE
9	End-of-life Vehicles	MoRTH
10	Gypsum	DPIIT



# Market Based Extended Producer Responsibility (EPR)

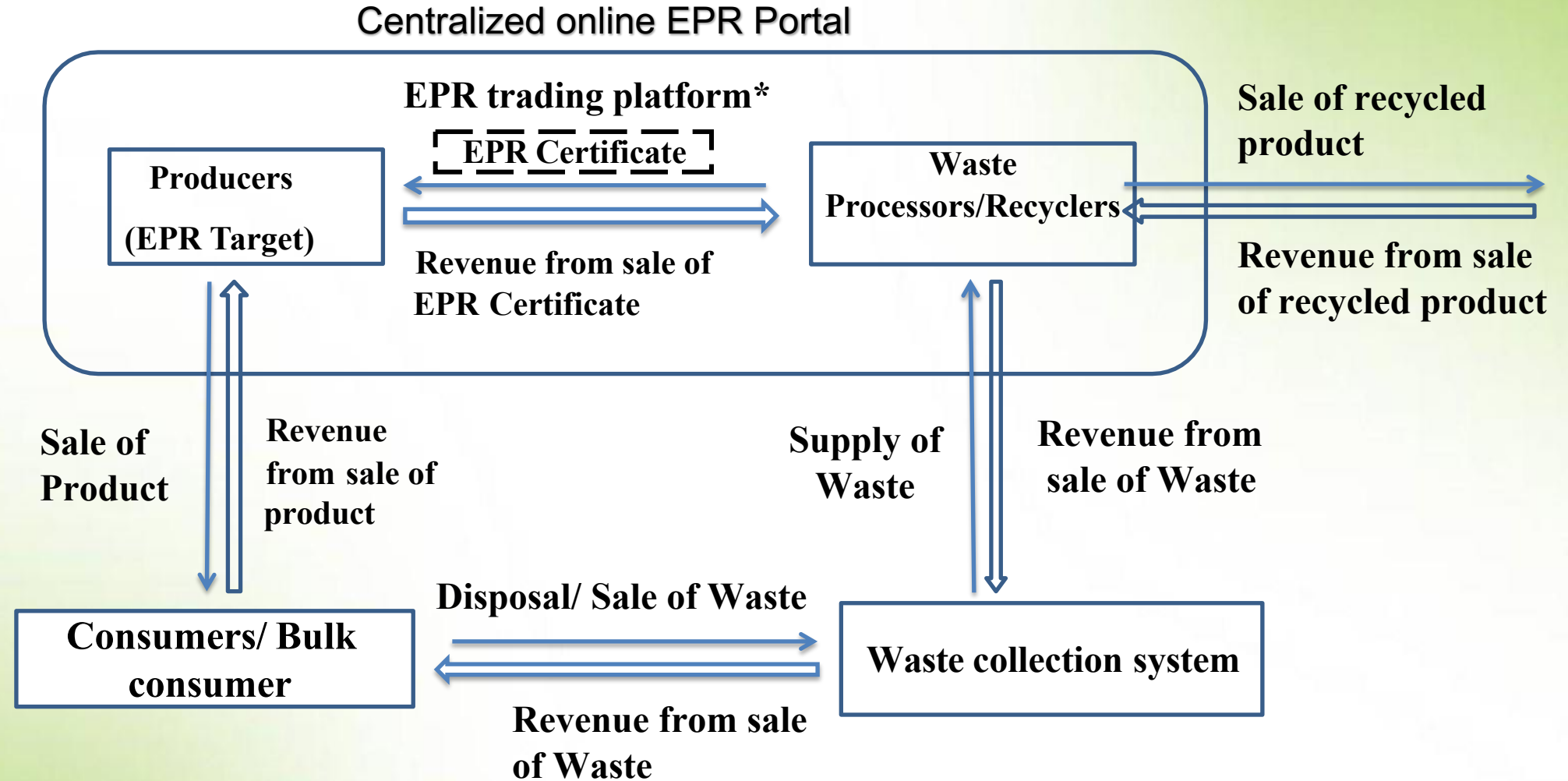
- Extended Producer Responsibility (EPR) - **Tool for operationalization** of 'Waste to Wealth' & Circular Economy
- EPR obligation: **Producers, Importers or Brand Owners (PIBOs) introducing products in market is obligated for its environmentally sound management**
- Fulfilment of EPR obligation: Mandates PIBOs to acquire EPR certificates as per the imposed obligations
- EPR obligation varies product-wise
- EPR certificates are generated as per the waste recycled/ processed by recyclers

# Market Based Extended Producer Responsibility (EPR)

- Mandatory annual targets for
  - EPR, Reuse, Recycling, Use of recycled material
- Ease of Doing Business
  - Centralized EPR portal for each waste
- Compulsory registration of obligated entities
  - Producers, Importers, Brand Owners (PIBOs)
  - Waste Processors (WPs), Registered Vehicle Scrapping Facilities (RVSFs) (End-of-Life Vehicles)
  - Refurbishers (E-waste, waste tyre, battery waste)
- Generation of EPR certificates by registered waste processors
  - Based upon quantity of output recovered
  - Price of EPR certificates – market mechanism
- Robust system of audit to ensure integrity of EPR certificates
- Levy of Environmental Compensation for non-compliance



# EPR Framework



\*yet to be established

## EPR Notifications- Published

- **EPR on plastic packaging** notified in February, 2022
- **EPR on waste tyres** notified in July, 2022
- **EPR on waste batteries** notified in August, 2022
- **EPR on E-waste** notified in November, 2022
  - Number of e-waste items increased from 21 to 106
- **EPR on used oil** notified in September, 2023
- **EPR on end-of-life vehicles** notified in January, 2025

***EPR portals are operational for plastic packaging, waste tyres, waste batteries, e-waste and used oil.***



# Centralized Online Portal for EPR Implementation



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and Climate Change

- Registration and reporting
  - Producers, Importers, Brand Owners (PIBOs)
  - Refurbishers, Waste Processors (WPs) and Registered Vehicle Scrapping Facilities (RVSFs)
- Issue of EPR certificates by WPs & exchange of credits
- Geo-tagged and time stamped pictures of WPs
  - GST data
  - Recording of transactions between PIBOs & Refurbishers and WPs
- System generated quarterly report and annual returns for stakeholders
- Levy of Environmental Compensation for non-compliance

**End to end IT Framework for EPR – ensures Ease of Doing Business**

# Implementation of EPR

S.No	Waste Type	Registered entities	Registered Recyclers	EPR Certificate generation (in tonnes)	EPR certificate traded (in tonnes)
1.	Plastic Packaging	47,031 (PIBOs)	2702	112.36 lakh	93 lakh
2.	E-Waste	7609 (producers)	322	6.03 lakh	5.05 lakh
3.	Battery Waste	3204 (producers)	350	6.32 lakh	3.74 lakh
4.	Waste Tyre	217 (producers)	493	69.97 lakh	45.93 lakh
5.	Used Oil Wef 01.04.2024	21 (producers)	05	Registration Module launched on 24.06.2024 for Producers and 24.09.2024 for recyclers	

- Led to growth of recycling sector, increase in number of recyclers, circularity in waste streams, resource conservation by reducing use of virgin materials



# Electronic Trading Platforms

- Provision for common Electronic Trading Platform for exchange of EPR Certificates
- Exclusive virtual interface between producers and recyclers
- Guidelines for authorization of agencies and operation of electronic trading platforms issued
- Exchange of EPR certificates between producers and recyclers
- Highest and lowest price for EPR certificates equal to 100% and 30% of the EC to be fixed by CPCB
- Price discovery of EPR certificate between the highest and lowest prices fixed
  - Transparency in price determination through Electronic Trading Platform
- All transactions to be done electronically through Electronic Trading Platform only

**Selection of agency for Electronic Trading Platform under progress**



# Waste Management/ EPR Notifications in pipeline



## **Scrap Metal (Non- Ferrous)**

- Draft rules were notified in August 2024.
- The rules have been finalized by MoEFCC and pending with MoLJ for legal vetting.

## **Construction & Demolition Waste**

- Draft rules were notified in July 2024.
- The rules have been finalized by MoEFCC and pending with MoLJ for legal vetting.

## **Packaging made from paper, glass and metal as well as sanitary products**

- Draft rules were notified in December 2024.
- The rules are in the process of finalization.

## **Solid Waste**

- Draft rules were notified in December 2024.
- The rules are in the process of finalization.

## **Liquid Waste**

- Draft rules were notified in October 2024.
- The rules have been finalized by MoEFCC and sent to MoLJ for legal vetting.



# Incentives for Waste Minimization, Circularity and Environmentally Sound Management under EPR Regime



- Promotion of refurbishing - E-waste, Tyre waste, battery waste
  - EPR Compliance deferral and reduced EPR target
  - EPR Compliance deferral for re-treaded tyres
- Promotion of higher form of recycling
  - Graded weightage of EPR certificates for quality recycling in tyre waste and used oil
- Use of recycled content in plastic packaging, batteries and non-ferrous scrap metal.
- Reuse of rigid plastic packaging by brand owners
- Focus on recovery of precious metals like Gold & Silver in E-waste recycling
- Standard Operating procedures to ensure proper recycling processes

# Market Based Extended Producer Responsibility for Circular Economy

- Creation of **demand for recycling**
- Focus on **material recovery**
  - Use of recycled material
- Promote **superior design of products** and materials
- **Reduced** use of **virgin materials**
- **Environmentally sound management** of wastes







# Thank You