



# WORLD ENVIRONMENT DAY 2018

## Extended Producer Responsibility

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### EPR Implementation in Plastics & Packaging

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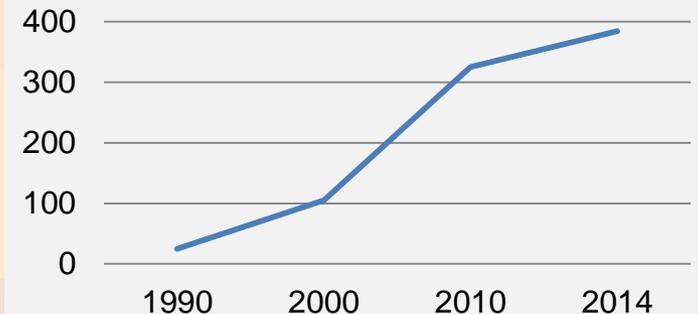


# Enhancing RE through EPR

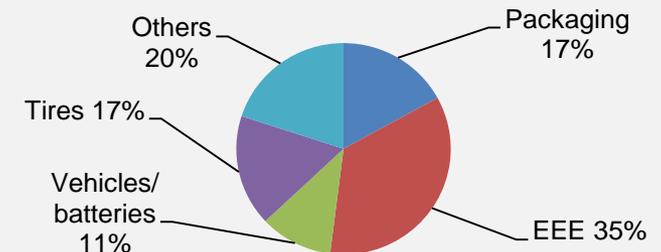
## Extended Producer Responsibility (EPR)

- Policy principle to decrease the total impact from a product, by making producers responsible for the entire life-cycle (Lindhqvist 1992)
- Dual objective of EPR is to improve upstream processes, i.e. Design for Environment (DfE), and downstream processes, i.e. waste management (Tojo 2004)
- Since the 1990s, adoption of 384 EPR policies worldwide (Kaffine & O'Reilly 2015), fuelling the creation of waste management industries with a revenue of 335 billion EUR by 2019 (UNEP 2011)

Global cumulative adoption of EPR schemes



Global application of EPR schemes by product type

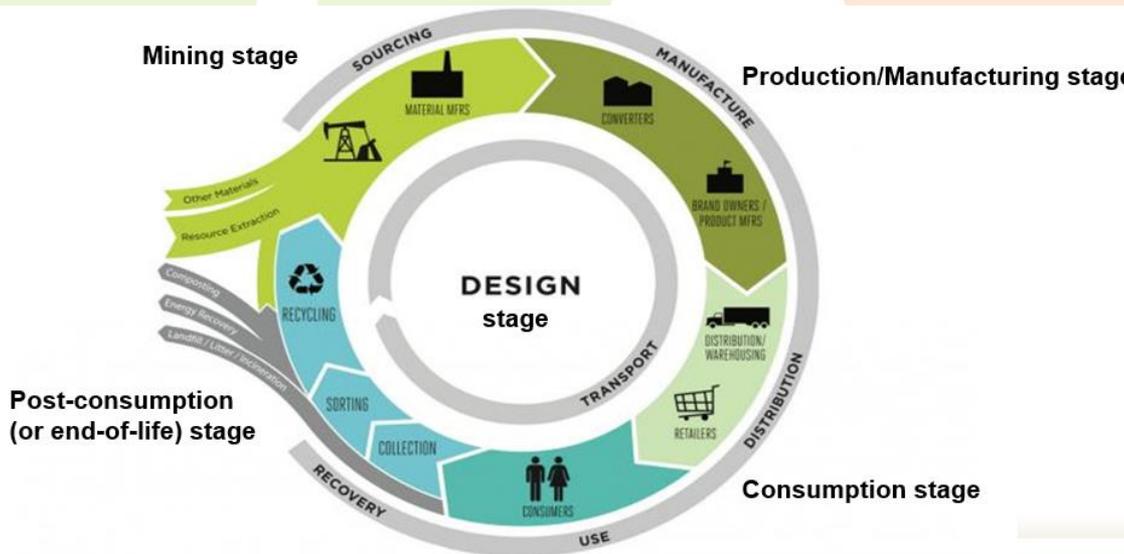




# Linkages of Circular Economy to Extended Producer Responsibility



**WASTE  
WASTE  
WASTE**



**Creativity & Innovation**

**Design Changes**

**Business models**

**Reverse Logistics**





# Challenges to Rethinking Models – Global and India

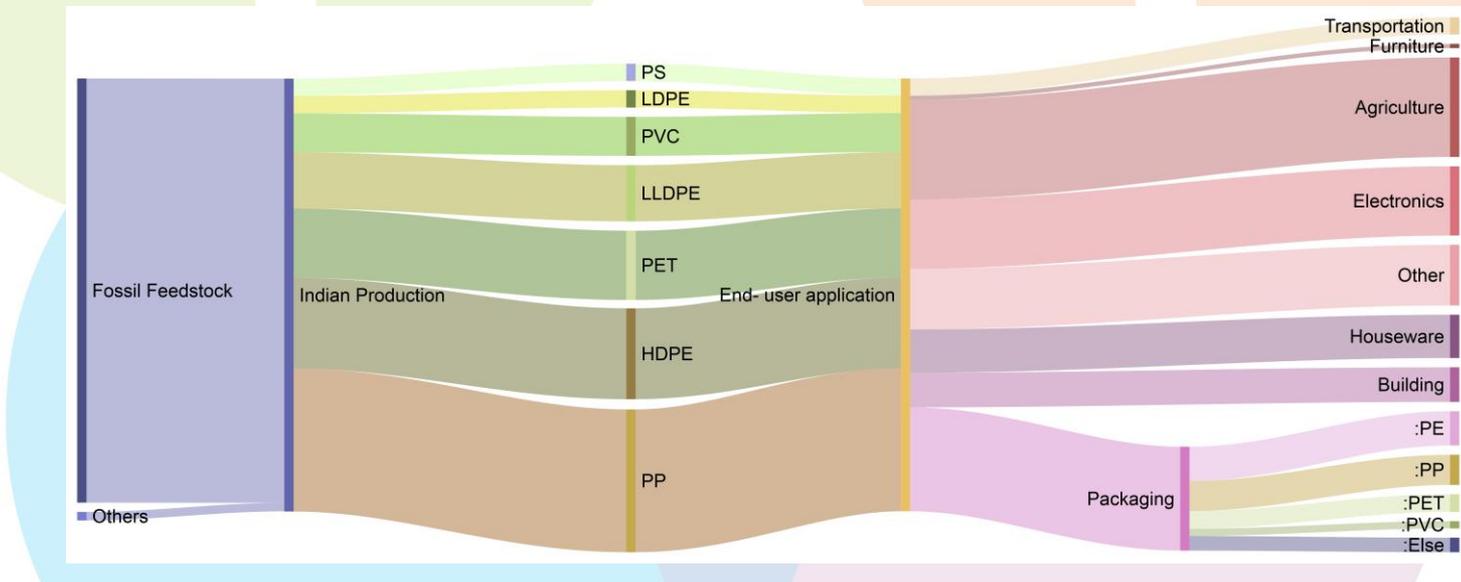


- Across all consumer goods sectors, over 30% of the natural capital costs come from GHGs released upstream in the supply chain from the extraction of raw materials and manufacturing of plastic feedstock.
- The most significant downstream impact is marine pollution, which has a natural capital cost of at least \$13bn (UNEP)
- Linear economic models promote environmental and health risks at the production and disposal stages.
- Regulations have been focussing on controlling waste flows than transporting items which have an intrinsic value leading to policy barriers
- Logistics is a major issue leading to unpredictable flow of returned products
- Very few market leaders on circular products and business models



# Material Flows of Plastic Packaging in India

- Estimates for recovery rates (reuse, recycling and thermal recovery) vary widely across the existing body of literature – no consistent estimates available
- For plastic waste in general, it is estimated that about 42% of plastic waste was recycled in 2014 (Wang/Shammans 2014); Atulesh (2011) estimates 60% of recycling rates
- In the packaging sector, recycling rates for PET bottles have been reported to be as high as 70% due to strong presence of the informal sector





# Options for Enhancing RE: Plastic Packaging



- Inclusion of targets for collection and recycling in Plastic Waste Management Rules as well as complementary policy instruments to increase effectiveness of EPR scheme
  - Cost Reductions and DfE Achievements: Japan's Packaging Recycling Scheme - PET manufacturers
  - Implementation of EPR-based recycling fund (possibly eco-modulated) to mobilise investments in recycling infrastructure and increase demand for secondary raw materials
  - Economic incentives to favour circular products and business models (e.g. through harmonised criteria and the application of modulated fees).
- Mandate creation and continuous development of standards (e.g. ISO, EN) for the entire e-waste value chain to ensure level playing field amongst all actors
- Encourage sectoral collaboration among the downstream processes to enhance including collection, dismantling and recycling



For more information, see forthcoming report on “**Enhancing Resource Efficiency through EPR**” under EU-REI project in September 2018.

