

# **Extended Producer Responsibility in E- Waste Management**

## **Indian Prospective**



**INTERNATIONAL WORKSHOP ON EXTENDED PRODUCER  
RESPONSIBILITY IN INDIA: OPPORTUNITIES, CHALLENGES AND  
LESSONS FROM INTERNATIONAL EXPERIENCE**

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# Definition

**E-waste means electrical and electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes.**







# Growing Volumes







# Health and Environmental Risk



जहाँ है दृष्टियाली ।  
वहाँ है खुशाहाली ॥

## E-Toxins

**Antimony:** Highly toxic poison

**Arsenic:** Highly toxic poison

**Barium:** Neurological, gastrointestinal and cardiovascular toxin

**Beryllium:** Carcinogenic and lung damage

**BFRs (Brominated Flame Retardants):** Central nervous system, immune system and foetal damage

**Cadmium:** Organ and bone toxin, carcinogenic

**Chromium:** Organ toxin and carcinogenic

**Dioxins:** Carcinogenic

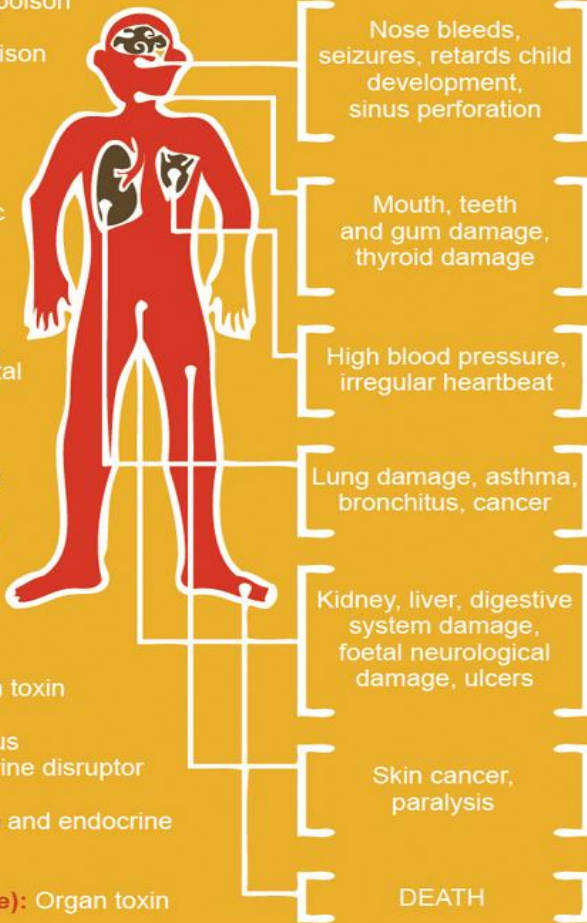
**Lead:** Central nervous system, blood and organ toxin

**Mercury:** Central nervous system toxin and endocrine disruptor

**Phthalates:** Organ toxin and endocrine disruptor

**PVC (Polyvinyl chloride):** Organ toxin and endocrine disruptor

## Health impacts







# E Waste – A Rich Resource

Silver (Ag)



Gold (Au)



Palladium (Pd)



Platinum (Pt)



Rhodium (Rh)



Lead (Pb)



Nickel (Ni)



Copper (Cu)



Iridium (Ir)



Ruthenium (Ru)



Indium (In)



Selenium (Se)



Tellurium (Te)



Aggregate



Sodium antimonate





# E-Waste Statistics

- Global EEE consumption 2012 : 58 MMT
- Global e-waste generation 2014: 41.8 MMT
- Forecast 2018: 50MMT

Global <sup>(1)</sup>

- Asia: 16 MMT (3.7kg)
- Americas: 11.7 MMT(12.2kg)
- Europe: 11.6 MMT (15.6 kg)
- Africa: 1.90 MMT (1.7 kg)
- Oceania: 0.60 MMT (15.2 kg)

Continental: Year 2014 <sup>(1)</sup>



- CPCB 2012: 0.8 MMT
- CAG 2010: 0.4 MMT
- ELCINA 2009: 0.43 MMT
- UNU 2014: 1.7 MMT

National<sup>(2)</sup>

Source: (1) Baldé, et al. United Nations University; (2) various including UNU



# e-waste (Management and Handling) Rules, 2011- Salient Feature

- Extended Producer's Responsibility (EPR) - Producer of EEE has the responsibility of managing such equipment after its end of life.
- Producer -manufacturer or assembler who offers to sell the EEE under their own brand or offers to sell imported EEE.
- EPR Authorization- From SPCB/PCC
- Applicability- Producer, consumer, collection centre, dismantler and recycler. IT & telecommunication and consumer EEE
- Exemption- Micro and Small enterprises



# e-waste Rules, 2011 - Challenges

- EPR Authorization from multiple SPCBs - Pan India Authorization.
- Financing mechanism - not elaborated neither binding.
- MSEs exempted-major source of generation.
- Collection centres - not part of EPR Authorization.
- No regulation for Bulk Consumers
- Major stakeholders as manufacturer, dealer, refurbisher missing.

*Contd--*





# **e-waste Rules, 2011**

## **Challenges contd...**

- **Separate Authorization & Registration.**
- **Ineffective provisions for dismantling and recycling - illegal operations.**
- **Registered Recyclers and Dismantlers not getting e-waste.**
- **Lack of capacity building and awareness initiatives by Producers.**



# E-Waste (Management) Rules, 2016

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- **Target based approach** with introduction of more **flexibility** for implementation of EPR.
- **Pan India EPR Authorization of Producers**
- **Additional Options-** PRO, e-waste exchange, Deposit Refund scheme
- **Collection-** Producer's responsibility, collection mechanism approach and no separate authorization
- **E-retailers now Producers**
- **CFL and other mercury containing lamp** brought under the purview of rules.



# E-Waste (Management) Rules, 2016

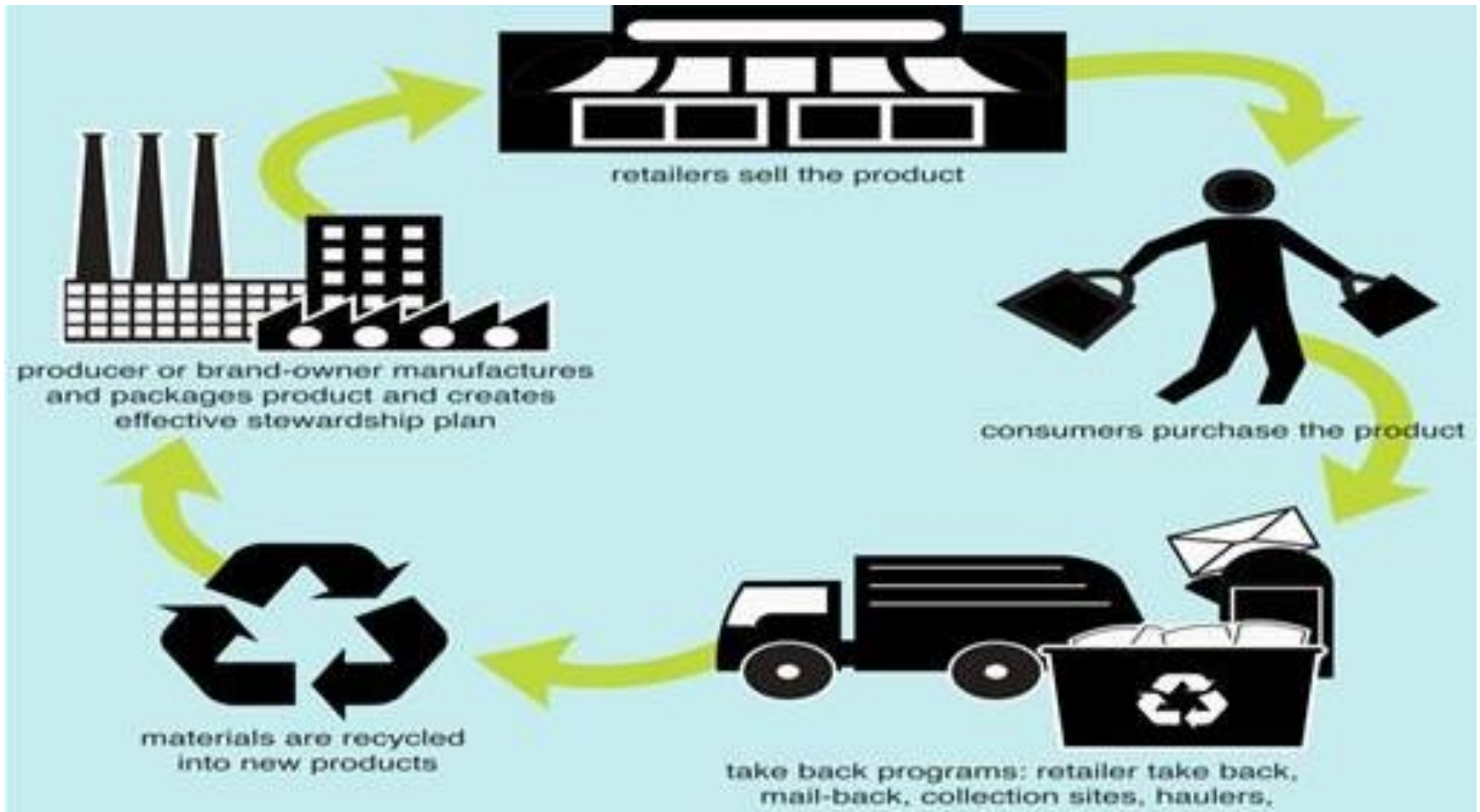
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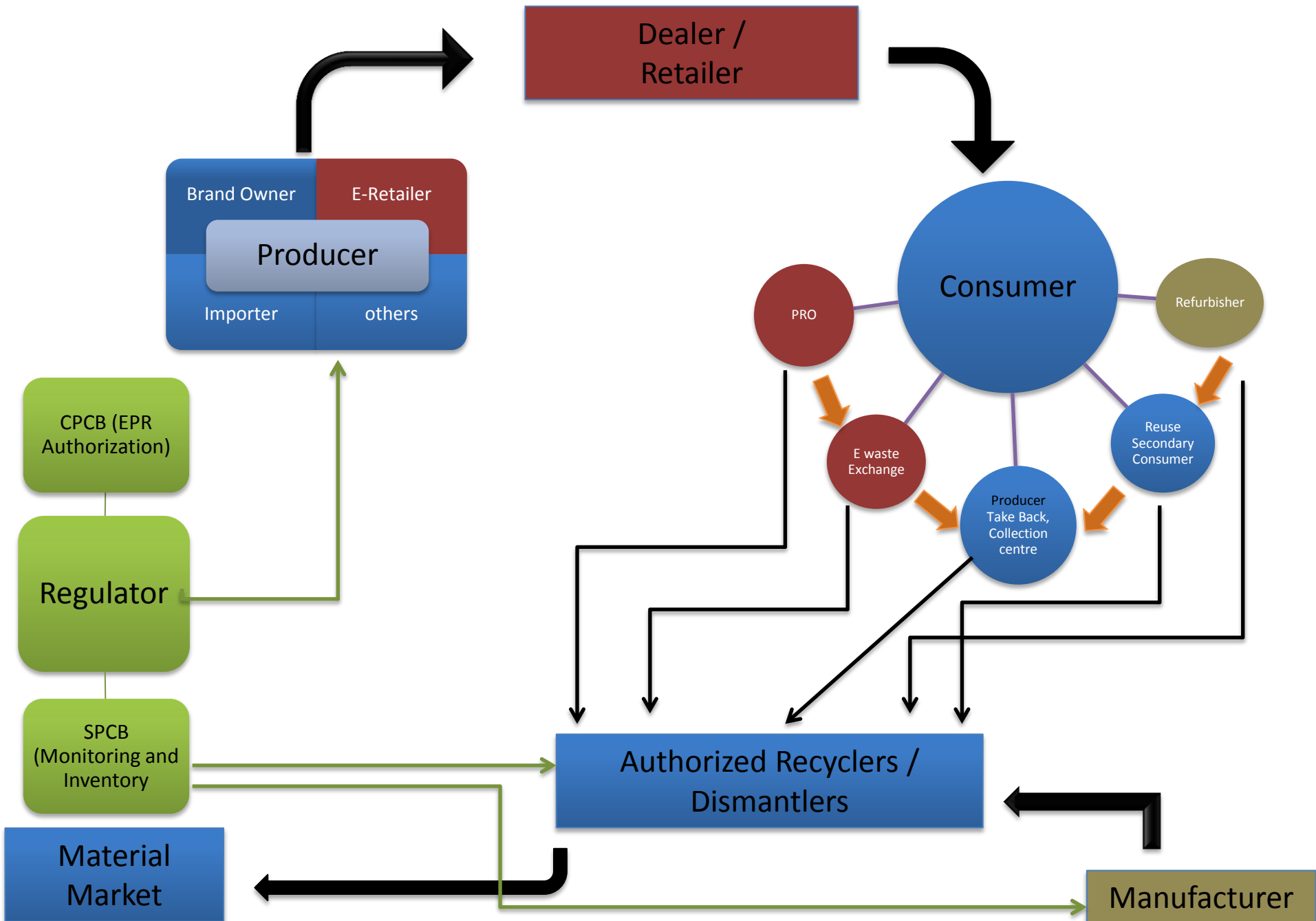
- **Extended to manufacturers, dealers and refurbishers**
- **Exemption – only for micro enterprises**
- **Bulk Consumer- need to file annual returns now.**
- **Only one permission- Authorization for all stakeholders including dismantlers and recyclers.**
- **Inter-state transportation- strengthen the mechanism**
- **Liability clause- penalty for violation of the rules**
- **State Govt Responsibility- allot space, skill development, health and safety of workers**





# Extended Producer Responsibility







# Way Forward

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- Evolve effective implementation procedure
- Specific guidelines on EPR Authorization and Target calculations.
- Review of guidelines for recyclers and dismantlers
- Evaluation of existing authorized recyclers
- Specific instructions in form of guidance to major Bulk Consumers
- Change in tendering conditions for e-waste
- Capacity building and awareness initiatives targeting specific consumers



**The End**