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E-waste Management in India: Current Status, Emerging Drivers & Challenges

Regional Workshop on E-waste/ WEEE Management
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United Nations Environment Programme
UNEP-DTIE-IETC

In Collaboration with the Global Environment Centre Foundation (GEC)

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Status of E-waste Mgt. – Major Milestones

1. Pilot E-waste Inventory Study Delhi March 2004 (MoEF/CPCB/ gtz/ SECO) (PCs)

2. Way forward March 2004 (MoEF/ CPCB)

3. National level inventory June 2005 (MoEF/CPCB/gtz). Inventory 1,46,000 tons in 2005 likely to exceed 4,00,000 tons in 2011(TV/PC/Ref/WM)

4. Mumbai/ Pune E-waste Inventory Estimates 2006-07 (MPCB/ UNEP) (PC/TV/Ref/Mobile)

5. Inventory Dec 2007 (MAIT/ gtz) (PC/TV/Mobile)

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Status of E-waste Mgt. – Major Milestones (contd.)

6. National level ESM Guidelines March 2008 (MoEF/ CPCB)

7. Haz. Waste (Mgt. , Handling & Transboundary Movement) Rules Amendment (E-waste Part inclusion- Schedule 4) 2008

8. Registration of E-waste recyclers since 2008 (Eleven – Capacity -60% of estimated inventory)

9. Draft EPR based Regulations open for Public Consultation (14th May 2010) (87 items under nine categories; mandates registration of Retailers/ Refurbishers/ Dismantlers/ Recyclers; Bans Import)

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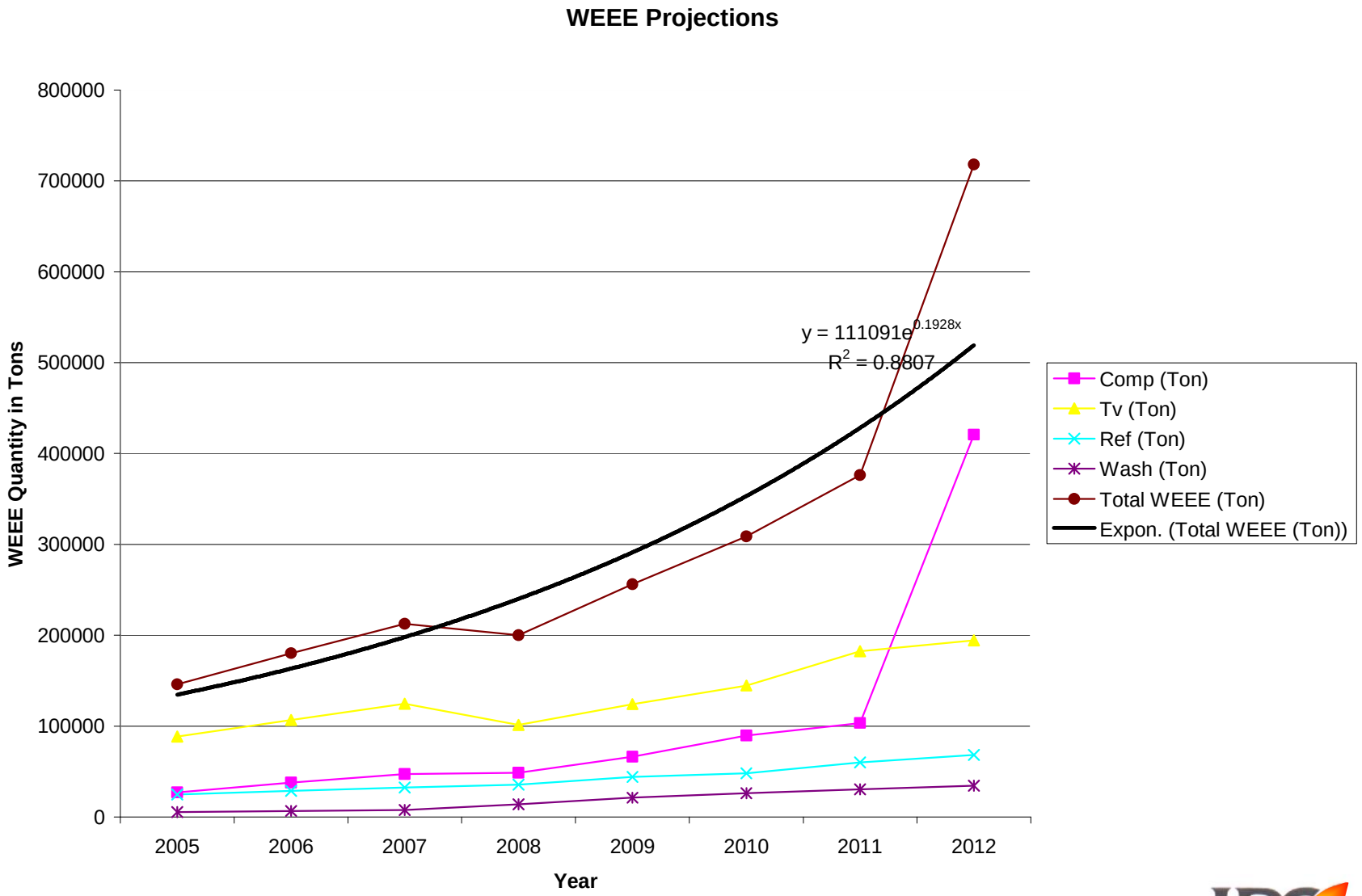
E-Waste Trends/ Projections in India



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Scrap Recycling Industry

1. Scrap recycling industry is dependent on recyclable scrap generated from municipal solid waste / domestic industry/ Imports.

2. India generates about 47 million ton per annum of municipal solid waste and 7.2 million ton per annum of hazardous waste (CPCB estimates)

3. About 20% of the recyclable scrap is generated from two sources, which serve as feedstock to recycling industry.

4. At sector level, the recycling industry is organized into paper, plastic, ferrous and non ferrous sectors. In the non-ferrous sector, the majority of recycling industry is involved in zinc, copper and lead production.

5. Recycling industry meets 40% to 50% of the total demand of the metals, plastic and paper in the country.

6. Majority of recycling industry is organized in informal sector without pollution control.

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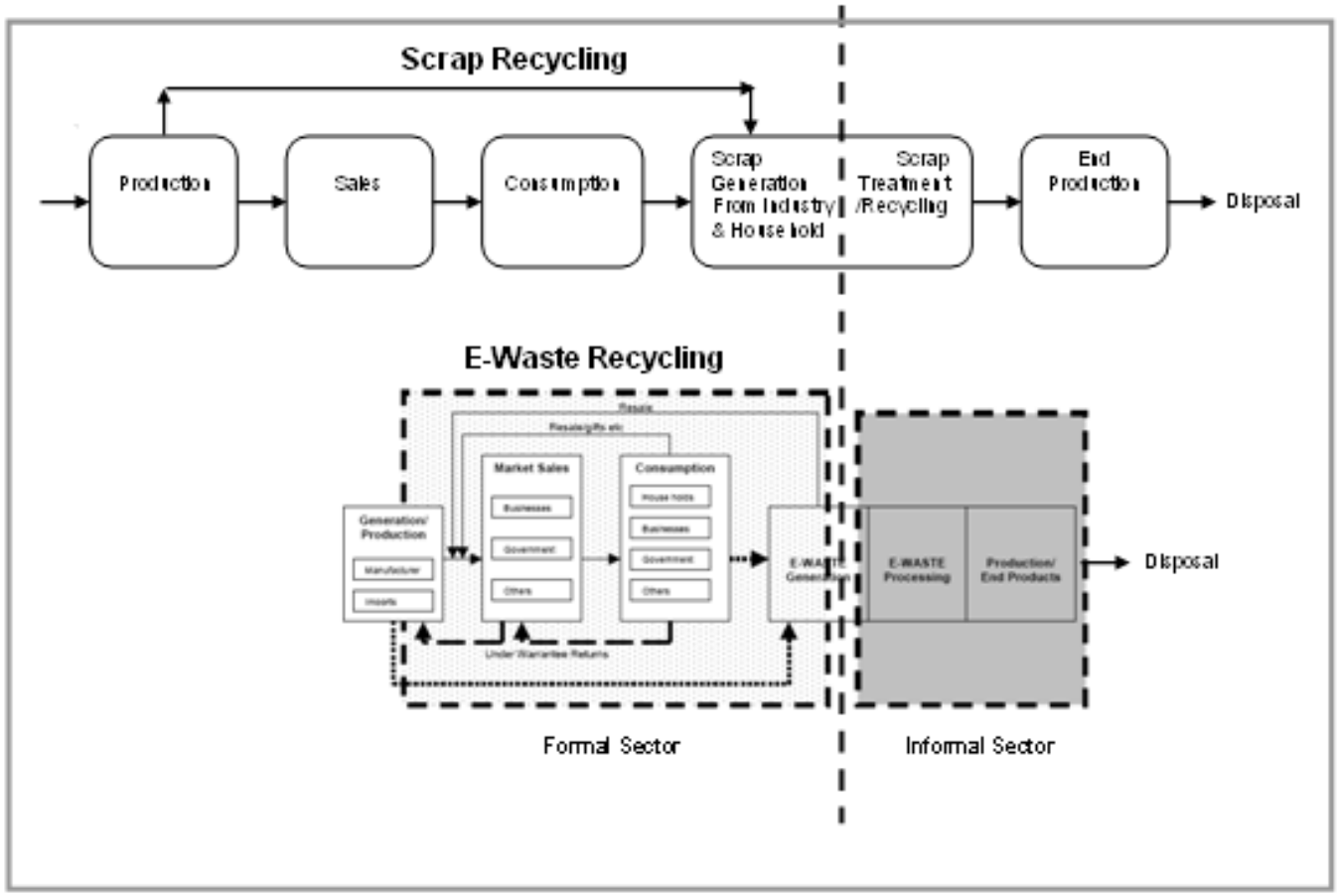
Recycling Industry Mapping: Scrap Recycling vs E-Waste Recycling (Material Flow/ Tracer Technique)



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Consumer Behavior in India

The key findings of ELCINA's report on consumer's behavior for E-waste are summarized below.

- At household level, 65% of the individuals look for best monetary or exchange value for their old products.
- Only 2% of individuals think of the impact on environment while disposing off their old electrical and electronic equipment.
- At corporate/ business level, 60% of the companies/ offices look for best monetary value for their old computers while selling them.
- Only 6% of the organizations were found to be disposing off their computers in environmentally friendly manner.

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Consumer Behavior in India (contd.)

- 11% of the replaced computers enter E-waste stream through scrap dealers.
- 21% of the replaced computers enter E-waste stream through second hand market.
- 48% of the replaced computers enter E-waste stream exchange and buy back scheme.

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Major Drivers for Future

1. SWOT analysis of E-waste inventory in India indicates that computers, cellular phones (Information and Communication Technologies Equipments), TVs (brown goods), refrigerators and washing machines (white goods) are expected to drive the future growth of E-waste recycling industry in India.

2. The recovery of plastics and metals will continue to drive the local E-waste trade.

3. International trade, environmental issues and recycling infrastructure will drive E-waste recycling in India.

4. Cheaper cost of recycling in informal sector. Leakage of E-waste abroad will also drive informal sector

5. Shift in consumer behavior from “Money Receiver” to “Money Giver”

6. Material Security

7. “Pollution Control” regime to “EPR” (Success of “Take Back” Scheme)

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E-waste Management: Business Model

Risk Profile

1. Risks due to lack of baseline (inventory) of 81 items under nine categories
2. Risk due to time taken to “design & institutionalize” take back system (collection/ transport/ economic instrument/ roles and responsibilities/ monitoring/)
3. Risks of availability of raw material
4. Risk associated with competition
5. Type of raw material / input to E-waste recycling system
6. Scale of operation
7. Expected yield / output (scale/ technology/ efficiency)
8. Price Risks

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Major Challenges

1. Implementation of EPR based regulations (country/ state/ city)
2. Cleaning of Material flow chain for each E-waste item (country/ state/ city)
3. Leakage prevention (Internal/ External) and channelization of material
4. Integration of informal sector to formal sector
5. Local and cheap solutions for E-waste dismantling/ recycling

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THANK YOU

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