



# UNEP work in the area of WEEE/E-waste Management



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# Overview

## IETC programme on E-waste Management

Concept

Process

Training

Projects

Lessons





# Overview

## Approach

- Normative → Regional training workshops for national and local stakeholders
- Demonstration Projects at City / Municipality Level:
  - E-Waste Inventory
  - Situation Analysis of Present E-Waste Management System
  - Target Setting and Identification of Issues of Concern
  - Development of E-waste Management Plan
  - Awareness Raising, Training and Public Dissemination
  - Capacity building on development of specific activities / projects for E-waste management

## Activities:

- **Normative:** Three manuals on E-waste (E-waste inventory, E-waste management system, and take-back system), regional training workshops and policy dialogues – Guidelines on E-waste management technologies (under preparations) and disposal of counterfeit goods (led by CAP/OzonAction UNEP, Bangkok)
- **Demonstration Projects:** Phnom Penh – Cambodia
- Global Partnership on Waste Management – E-waste is one of the current 7 thematic areas
- Training and multi-stakeholder dialogues







# Innovative Policies and Programmes

## 20<sup>th</sup> CENTURY

### WASTE MANAGEMENT

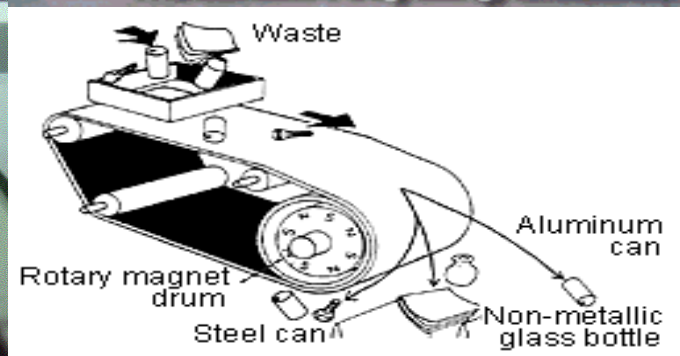
“How do we get rid of our waste efficiently with minimum damage to public health and the environment?”



## 21<sup>st</sup> CENTURY

### RESOURCE MANAGEMENT – CIRCULAR ECONOMY

“How do we handle our discarded resources in ways which do not deprive future generations of some, if not all, of their value?”

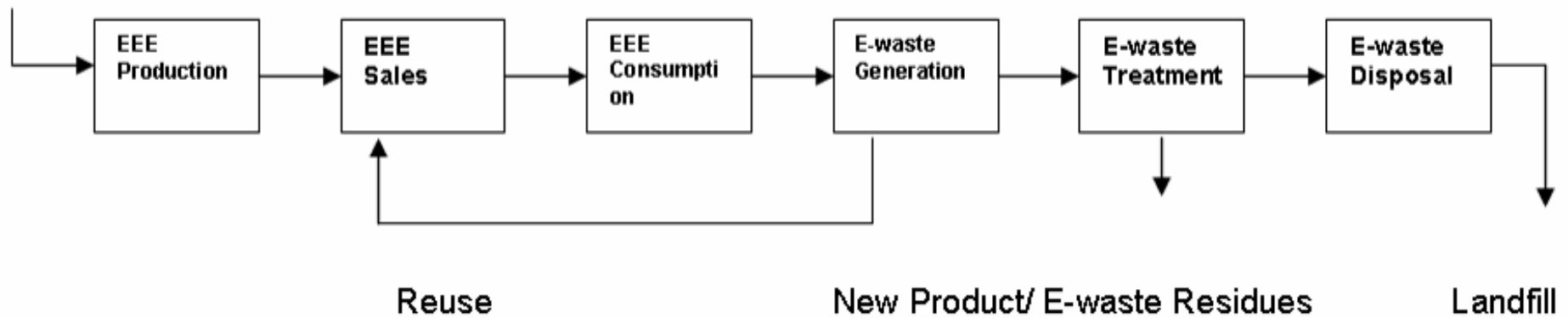


Source: Dr. Paul Connett, Zero Waste, Power Point

# Metals Life Cycle and E-waste



Raw Material Input



**Figure 3.3: Conceptual Life Cycle of Electrical and Electronic Equipment**

1. EEE production: import/ manufacturing of EEE
2. EEE sales
3. EEE consumption (stock)
4. E-waste generation
5. Re-use / down cycle
6. E-waste treatment/ Re-cycle
7. Secondary raw material / disposal

# Metals Life Cycle – Recovery Stages

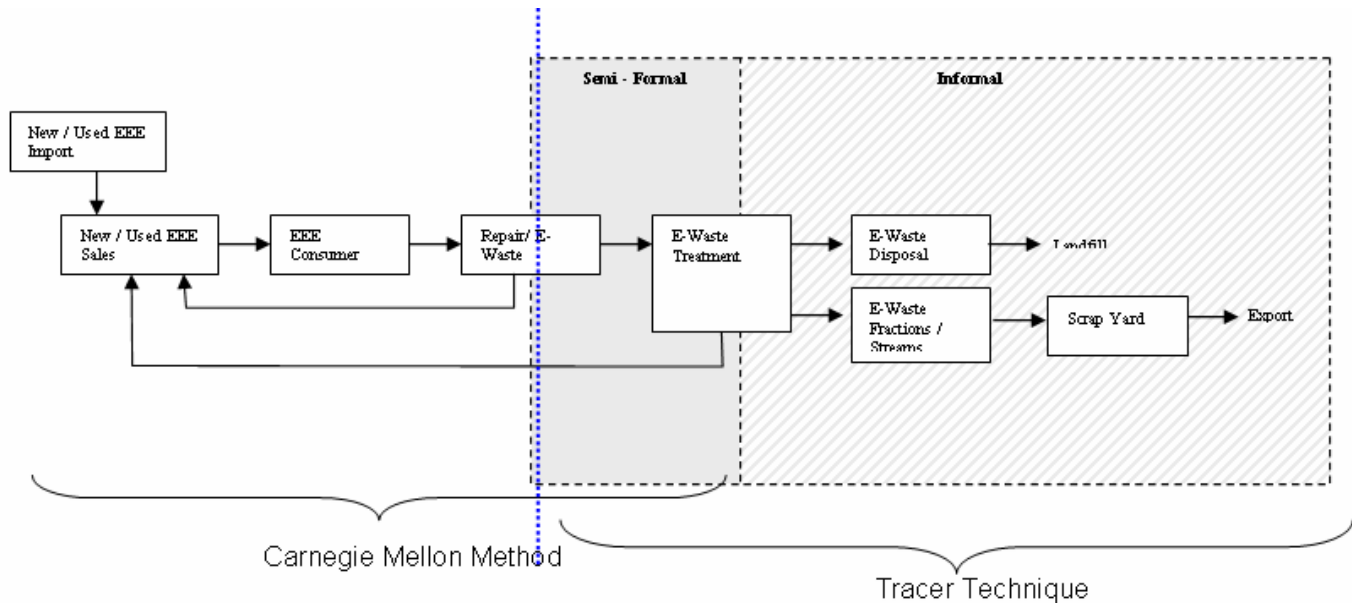
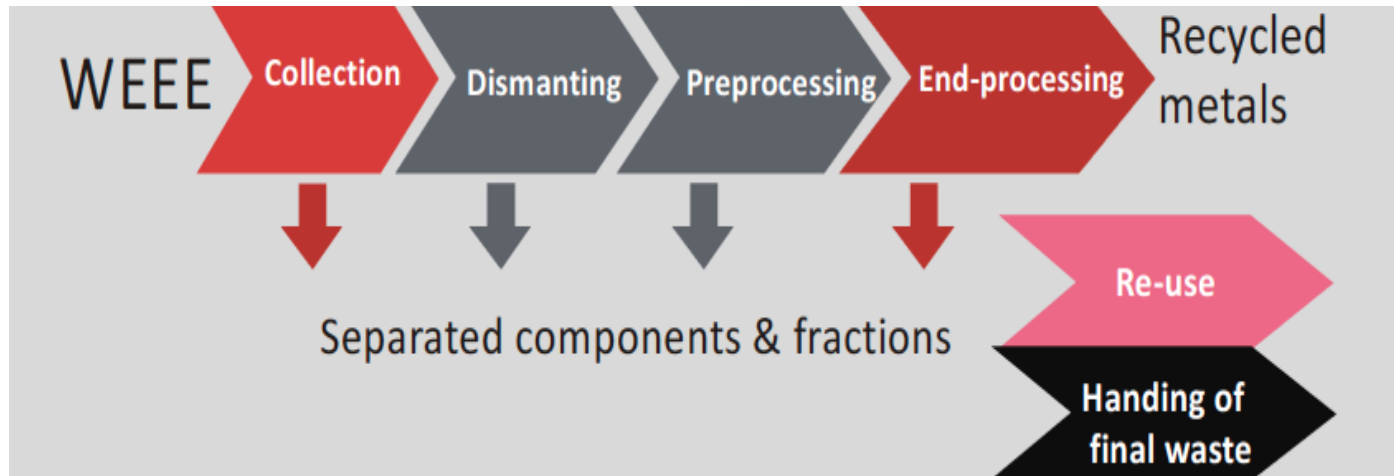


Figure 5.1: Application of two methodologies in the E-waste trade value chain



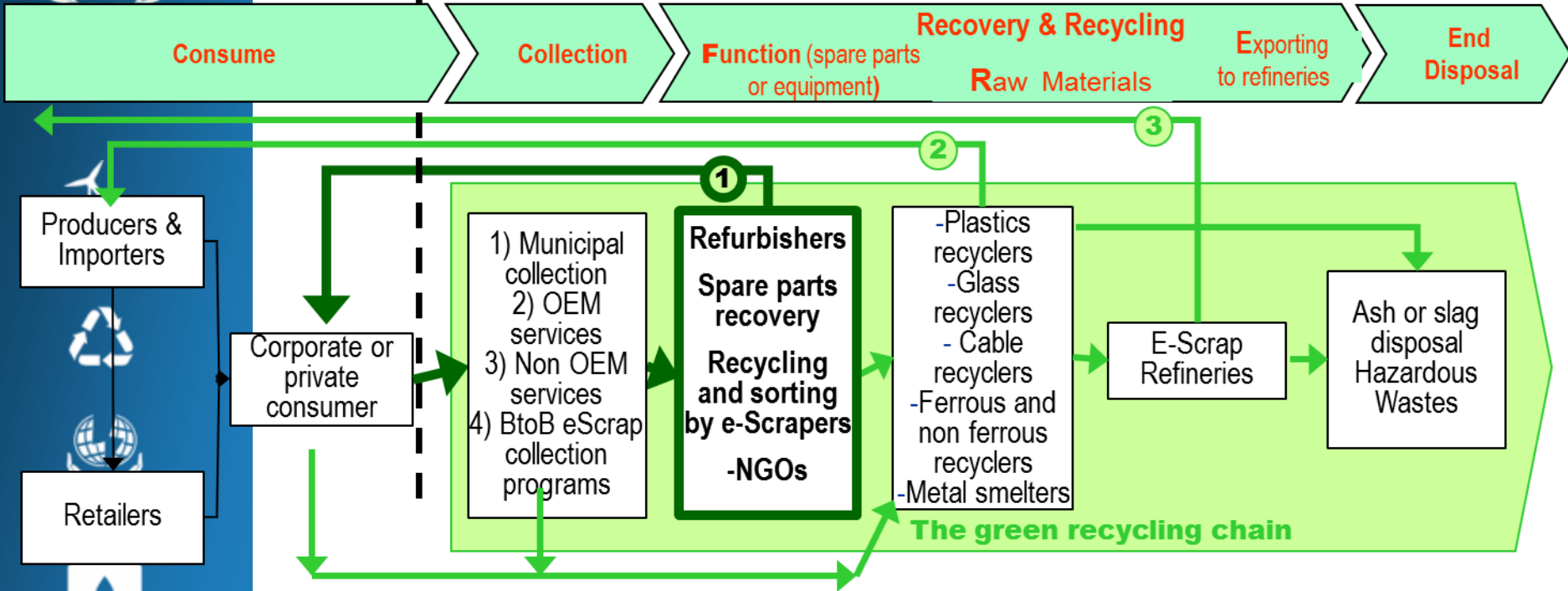
Source: Recycling – From E-waste to Resources: Sustainable Innovation and Technology Transfer Industrial Sector Studies, UNEP, 2009



# Scrap-chain in Developed Countries



Product WEEE Management



- 1 Recovery of function from refurbishes or recyclers that “harvest” spare parts such as memories, IC chips, power supplies, batteries, etc.
- 2 Raw material recyclers : get ferrous scrap for iron/steel smelters; plastics for extruders; copper/aluminum and other base metals processors or smelters
- 3 Base and precious metal refineries



# Urban Mining – Metals Recovery



weight-%	plastics	Fe	Al	Cu	Ag [ppm]	Au [ppm]	Pd [ppm]
TV-board	28%	28%	10%	10%	280	20	10
PC-board	23%	7%	5%	20%	1000	250	110
mobile phone	56%	5%	2%	13%	3500	340	130
portable audio	47%	23%	1%	21%	150	10	4
DVD-player	24%	62%	2%	5%	115	15	4
calculator	61%	4%	5%	3%	260	50	5

value-share	Fe	Al	Cu	Ag	Au	Pd	sum PM
TV-board	4%	10%	50%	7%	22%	7%	36%
PC-board	0%	1%	18%	5%	61%	15%	81%
mobile phone	0%	0%	9%	13%	64%	14%	91%

预览已结束，完整报告链接和二维码如下：

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