



## E-Waste - Challenges & Opportunities

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## Introduction

The electronics and information technology industry is the world's largest and fastest growing manufacturing industry.

Discarded electrical & electronic equipment, or e-waste, is now recognized as the fastest growing waste stream in the industrialized world.

This new waste stream would be of environmental significance due to resource and energy consumption

Most electronic wastes are also hazardous wastes, because of widespread usage of toxic chemicals in today's high-tech equipment, such as:

- brominated flame retardants in plastics and circuit boards,
- beryllium alloys in connectors,
- lead-tin based solders,
- lead and barium laden cathode ray tubes,
- mercury lamps, etc..



## Introduction

A number of developing countries are generally considered to be the main importers of E-Wastes generated around the world. Importing countries can earn significant income from refurbishing used PCs and disassembling obsolete PCs, monitors, and circuit boards and then recovering the gold, copper and other precious metals.

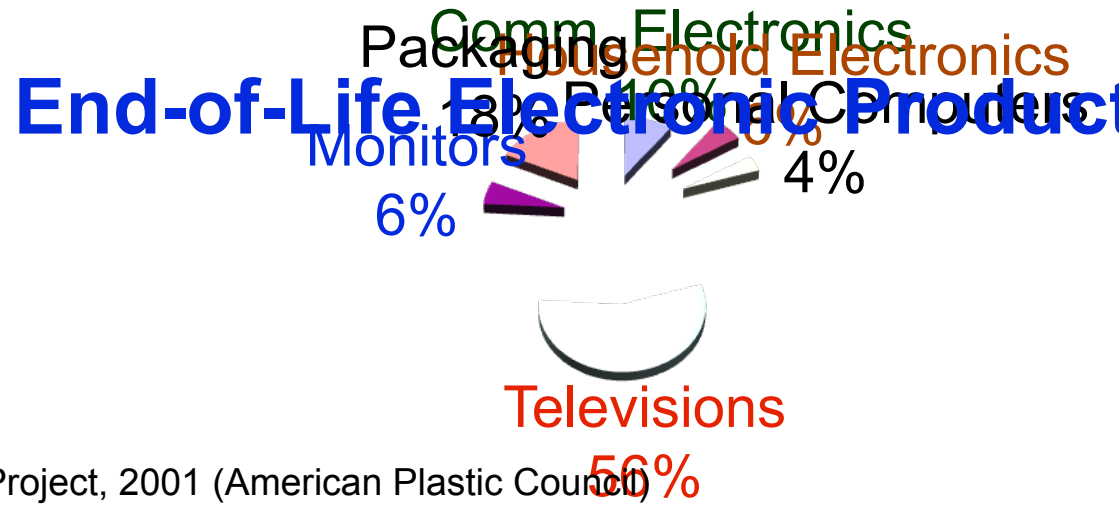
Much of the growth in the IT sector in developing countries has been fueled by the importation of hand-me-down, used equipment from rich, developed countries, whose consumers are all too happy to find buyers for it.

Many brokers and businesses have sprung up to channel used equipment from North to South, rich to poor.



## E-Waste:

- | **About 130,000 computers are discarded every in the USA**
- | **100 million cellular phones will be discarded in the USA every year, resulting in 65,000 tones of phone waste**
- | **610 million mobile phones are to be discarded of in Japan by 2010**
- | **Every year, an EU citizen leaves behind 25kg of E-Waste**
- | **25-50 million tones of E-Waste are generated per year world wide**
- | **Today, E-Waste comprises more than 5 per cent of all municipal waste, which is nearly the same amount of all plastic packaging, and is growing steadily**



Source: Minnesota Demonstration Project, 2001 (American Plastic Council)



## Movement of E-Waste:

- | **Some are documents and controlled under Basel Convention for trans-boundary movement.**
- | **Some are moved as second-hand products**
- | **Some are dismantled for the recovery of valuable metal parts.**
- | **Some which are not recycled or re-used are thrown in open dumpsites or burnt in open air.**



## Why E-Waste is an issue?

- | **Ever-increasing generation of end-of-life equipment (short life of products)**
- | **Adverse environmental and health effects of unsound management**
- | **Exports to developing countries to non ESM facilities**
- | **E-waste can potentially contain useful and valuable materials**



## Mobile Phone Partnership Initiative

- | **Adopted at the sixth Conference of the Parties to Basel Convention (decision VI/31)**
- | **A Mobile Phone Working Group (MPWG) was formed**
- | **MPPI “project groups” prepared guidance papers for MPWG and Parties consideration on:**
  - Refurbishment;
  - Recovery and Recycling;
  - Awareness raising and training;
  - collection and trans-boundary movement



## E-Waste Projects currently undertaken by UNEP DTIE:

### Mobile Back Senegal

- | Setup a workshop for repairing and recycling cell phones for West Africa.
- | Refurbished cell phones to be sold at a “special price” to low income groups.
- | Irreparable end-of-life cell phones to be transformed into artistic objects with commercial value.
- | Create a centre for promoting good environmental practices and acquiring experience in view of transferring to other regions.
- | Raise awareness among cell phone users, specially young users, on the issues related to E-Wastes and sustainable consumption and production patterns.



## E-Waste Projects currently undertaken by UNEP DTIE:

### Environment and E-Waste India

- | At the **Local Level** (Mumbai), minimise and avoid the practice of open-burning and leaching E-Waste
- | At the **National Level**, promote the re-organisation of the current E-Waste recycling sector by raising public awareness and accelerating the policy process to enhance extended producer responsibility, promoting profitable environmental and social management among business and policy makers and increasing technical know-how among relevant sectors
- | At the **Regional Level**, a network for the exchange of experience among the countries of South and Southeast Asia will be established and linked to the global policy discussions on E-Waste



# United Nations Environment Programme

## The Arab Region





## The Arab Region and its ICT Industry

- 1 The Arab region consists of 22 countries and territories with a combined population of some 325 million people spanning two continents.
- 2 The prevalence of ICT in the Arab region is below that of international averages, particularly with regard to the use of personal computers and internet access.
- 3 Grow rates of internet users range from 200 to 1100 percent. Between 2002 and 2005, internet subscriber rate rose with factor four in the Arab region.
- 4 Telephone line and cellular subscriptions were highest in the United Arab Emirates at 94 subscribers for every 100 population, followed by Bahrain and Kuwait, at 84 and 72 respectively.



# **Desk Study on E-Waste Management in the Arab Region**

**Commissioned by:**

**UNEP & CEDARE**

**(Centre for environment & Development in Arab Region & Europe)**



## Aim and Scope of the Study

- | The aim of this mapping study was to identify all actors and activities in the ICT E-waste field in the Arab region.
- | The main actors were the governmental organizations, the companies producing or selling ICT devices or deliver ICT services and the non-governmental organizations addressing different issues in the E-waste field.
- | The study aimed at giving an overview of all available information and the current situation and practices in the target region.
- | Outline the available legislation and regulations, the state of E-waste Management, and detail profile of the key stakeholders.



## E-Waste Challenges

- | **The growing quantity**
- | **Hazardous substances in electronic products**
- | **The need of E-waste Technology, Inventory and Knowledge**
- | **The need for E-waste policies and regulations**
- | **E-waste Export from Arab States**



## E-waste Opportunities

- | **Refurbishment and Material Recovery**
- | **Creating Jobs and Improving Job Quality**
- | **Reduction of the Environmental Impact**
- | **Recycling Friendly Design**



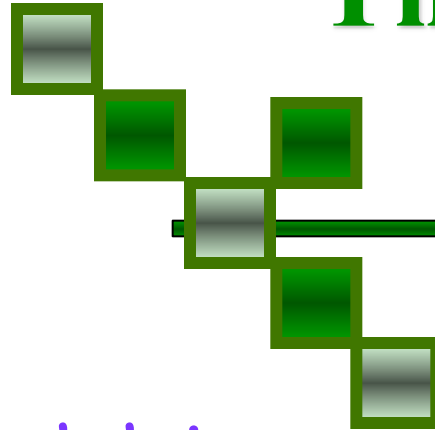
## Potential for ESM of E-Waste

- | Develop E-waste guidelines and regulations
- | **Develop national/regional action plan for ESM of E-waste**
- | Implement monitoring, harmonisation and control system for the trans-boundary movement of used E-products & wastes
- | **Encourage Extended Producer Responsibility within the industry**
- | Build capacities of stakeholders and hold national awareness campaigns on E-wastes (Collaboration between UNEP, CEDARE, BCRC, World Bank, Governments/Telecom Regulators & the Industry)
- | **Develop E-waste management standards concerning occupational health & environment**
- | Encourage setting up of pilot recycling facilities, including recycling plastics from EOL electronics.

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## Thank You



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