UNEP's Role in Promoting Environmentally Sound Management of E-Waste

2nd E-Waste Management Forum
"Green Business Opportunities"

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Why E-Waste is an issue?

- The electronics and information technology industry is the world's largest and fastest growing manufacturing industry.
- Rapid product obsolescence
- E-waste is the fastest growing waste stream in the industrialized world.
- This waste stream would be of environmental significance due to heavy resource and energy consumption
- Most electronic wastes are also hazardous wastes, because of widespread usage of toxic chemicals in today's high-tech equipment
- generated around the world.
- iA number of developing countries are generally considered to be the main importers of E-Waste
- 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.

Why E-Waste is an issue?

- More than 500 million computers became obsolete in the USA alone between the year 1997 and 2007
- 130 million cellular phones were discarded in the USA by the year 2005, resulting in 65,000 tones of phone waste
- 610 million mobile phones are to be discarded of in Japan by 2010
- 315 million PCs became obsolete in 2004 alone
- 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

UN Environment Programme
6 Thematic Priorities

- Climate change
- Ecosystem management
- Resource Efficiency/ Sustainable Consumption and Production
- Harmful Substances and Hazardous Waste
- Disasters and Conflicts
- Environmental Governance

Resource Efficiency / Sustainable Consumption and Production

- **Division of Technology, Industry and Economics**
  - Sustainable Consumption and Production (SCP) Branch
  - International Environmental Technology Centre (IETC)
- **Marrakech Process/10-year Framework of Programmes on Sustainable Consumption and Production**
- **International Panel for Sustainable Resource Management**
- **OECD – UNEP Conferences on Resource-Efficiency**
- **UNEP-SETAC Life Cycle Initiative**
- **Pilot Projects on Integrated Waste Management**

Hazardous Substances and Hazardous Waste

- **Division of Technology, Industry and Economics**
  - *Chemicals Branch*
- **Strategic Approach to International Chemicals Management (SAICM)**
- **International Conferences on Chemical Management**
- **Secretariat of the Basel Convention**
- **Regional E-waste Projects**
- **World Forum on E-waste**
  - *Organized on 30 November 2006 as part of Basel Convention COP-8*
  - *Chaired by UNEP's Executive Director Achim Steiner, who said:*

"Governments need to develop effective regulatory regimes that empower the market to respond positively to the challenge of e-wastes. By partnering with the private sector and with civil society, they can promote collection chains that channel obsolete goods back to their original manufacturers for recovery and recycling".

UNEP history of e-waste activities

SCP Branch

- **Global e-Sustainability Initiative and StEP**
- **Pilot project in India**
  - Mumbai-Pune Region E-waste Assessment
  - E-Waste Awareness Campaign
  - Informal Sector Networking and Training
  - National E-waste Legislation Workshop
  - E-waste session at Asia Pacific Roundtable on SCP

Chemicals Branch

- **Pilot Projects on POPs from Waste**

IETC

- **UNEP E-waste Manual**

UNEP E-waste Manual -1

- **To build the capacity of practitioners and policy makers for preparing and developing an E-waste management system**
- **E-Waste Vol. 1: Inventory Assessment Manual (Dec 2007)**
  - **Summarizes the available legislations on E-waste in different countries and provides a methodology to design and use E-waste inventory assessment studies and projects.**
  - **Discusses the E-waste management chain (starting from electrical and electronic equipment manufacture, production, import, consumption, E-waste generation, treatment and disposal) to identify the "mechanism of trading" and related socio-economic and environmental risks.**
  - **Elaborates methodologies for E-waste inventory assessment in a city/geographical area/country with reference to developing countries.**
  - **Provides case studies from developing countries.**

UNEP E-waste Manual -2

- **Available at http://www.unep.or.jp/letc/Publications/index_pub.asp**
- **E-Waste Vol. 2: E-waste Management Manual (Dec 2007)**
  - **Summarizes the current practices in developed and developing countries on E-waste management, the technologies for E-waste management (collection, transportation, treatment and disposal) and the important pre-requisites for effective and sustainable E-waste management.**
  - **Provides the conceptual approach for developing regulatory system of E-waste management for policy makers in order to design an E-waste management system.**
  - **Reviews current practices for E-waste management from developed and developing countries.**
  - **Discusses financial viability of E-waste management for effective and sustainable E-waste management.**
  - **Presents a case study from a developing country, which describes each aspect of E-waste management including techno-economic feasibility**

Strategic Priorities in the proposed E-waste Programme

- **Theme 1: Take global actions:**
  - Engage stakeholders
  - Build local capacity and train
  - Transfer technologies and sustainable models
- **Theme 2: Improving understanding of the e-waste issue:**
  - Enable creation of holistic, broad perspective for decision makers
  - Address different trade-offs in life cycle perspective
  - Bridge scientific output into the political debate
- **Theme3: Communicating and raising public awareness:**
  - Provide guidance
  - Raise awareness

Theme 1: Take global actions

Engage stakeholders

- **Engage more GeSI member companies in the GeSI E-waste WG and develop an End-Of-Life management tool and an integrated road map focusing on material stewardship for the WG**

Build local capacity and train

- **Carry out a local pilot project on e-waste in Cambodia**
- **Prepare e-waste projects under the UNIDO-UNEP Programme on Resource-Efficient and Cleaner Production (RECP) in Developing Countries and Transition Countries**

Transfer technologies and sustainable models

- **Issue a Sustainable Innovation and Technology Transfer - Industrial Sector Study on Recycling "From E-waste to Resources" (done through StEP)**

Theme 2: Improving understanding of the e-waste issue

Enable creation of holistic perspective for decision makers

- **Join the Steering Committee of the StEP Initiative**

Address different trade-offs in life cycle perspective

- **Work with Global Metal Flows Group of the International Panel for Sustainable Resource Management**
  - **Study on the stocks of metals in use**
  - **Study on opportunities and challenges for metal recycling**
  - **Study on environmental implications of global metal flows**
  - ***Background studies on a) global flow of metals and b) critical metals***

Bridge scientific output into the political debate

- **Support e-waste management as a topic in OECD and SAICM**

Theme 3: Communicating and Raising public awareness

Provide global guidance

- Support the Partnership for Action on Computer Equipment (PACE)

Raise awareness

- Develop an e-waste awareness-raising video through an award for students in communication

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

The Arab Region and its ICT Industry

- The Arab region consists of 22 countries and territories with a combined population of some 325 million people spanning two continents.
- 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.
- 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.
- 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

Conclusions & Recommendations

- **Awareness;** The low number of E-waste activities identified indicated that there is a need for raising E-waste awareness in the Arab region.
- **Status;** The few projects located and the content of them indicated that E-waste management in the Arab region is in its starting phase. There is a need for more basic data collection, inventories and assessment studies in all areas of the Arab region.
- **Legal Framework;** To ensure a sustainable E-waste management a regulatory and legal framework has to be developed and implemented. The level of implementation and the content of the framework have potential for improvement especially concerning the ICT sector.
- **Pilot Projects;** The implementation of E-waste management pilot project is a key factor for the development of technology, best practice and the dissemination across the Arab region.
- **Sustainable Business Solutions and Infrastructure;** Private enterprises play a key role and have to be incorporated in a recycling system. Technical assistance and business models have to be developed. Those models should be based on high social and environmental standards.

Thank You

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