



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

**2<sup>nd</sup> E-Waste Management Forum  
“Green Business Opportunities”**

**23<sup>rd</sup> – 24<sup>th</sup> November 2010  
Marrakech, Morocco**

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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

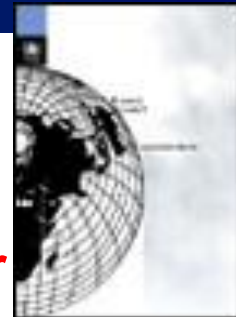
- **Pilot Projects on POPs from Waste**

### 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](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**



# United Nations Environment Programme

## 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
- **Theme 3: 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



# United Nations Environment Programme

## 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.
- Growth 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**



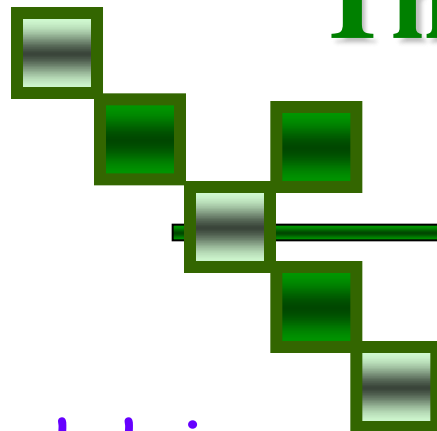
## Conclusions & Recommendations

- **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.

11/24/2010



## Thank You



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