



E-waste management

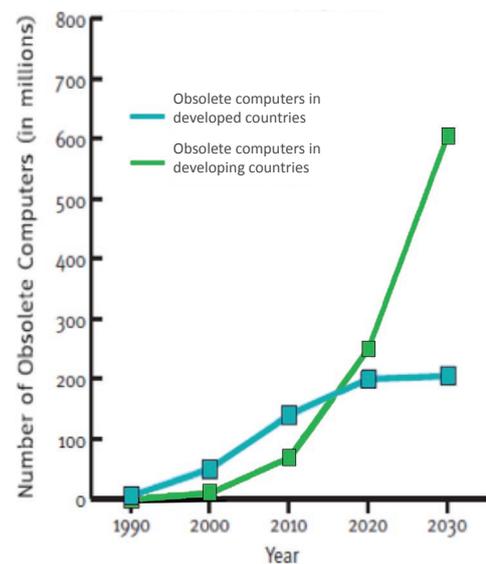
Background

E-waste is a complex and rapidly growing issue of global concern, as it contains various hazardous materials such as mercury and cadmium that if not managed correctly are detrimental to both the environment and human health. E-waste can also provide many opportunities if recycled properly, since it contains many valuable and precious materials like palladium, gold and silver.

Up to 60 chemical elements can be found in every computer or mobile phone. The nature of e-waste requires well-structured regulations, effectively organized and managed collection, adequate dismantling and/or treatment facilities, and properly operating markets.

Given the complexity of handling e-waste, collection rate is low even in industrialized countries. This results in large amounts of discarded electric and electronic devices and e-waste being exported to developing countries without adequate recycling facilities.

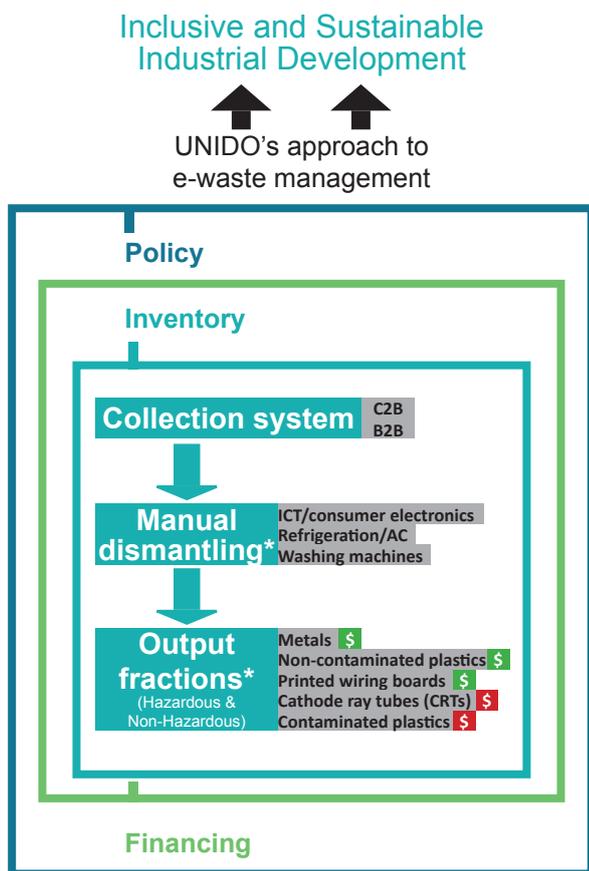
Forecasting of generation of obsolete computers in developed and developing countries



Jinglei Yu, Eric Williams, Meiting Ju and Yan Yang (2010). Forecasting Global Generation of Obsolete Personal Computer, *Environ. Sci. Technol.*, 44 (9), pp 3232-3237

Approach

The United Nations Industrial Development Organization (UNIDO) supports developing countries and countries with economies in transition to develop sustainable recycling industries, including in the e-waste management sector. UNIDO tackles all stages of e-waste recycling — from collection to pre-treatment, recycling and final disposal. Aside from establishing an effective recycling process, UNIDO supports countries to develop effective legal frameworks and identify financing options. As a first step, the baseline situation is assessed to determine a course of action. Based on the scenario depicted by national data, the Organization collaborates with the local government to establish a national e-waste management strategy, which includes collection schemes and business plans for dismantling facilities.



* Electronics and output fractions provided are intended only as examples and are not exclusive

Activities

The United Nations Industrial Development Organization is currently supporting several countries in Africa, Asia and Latin America to establish sustainable e-waste management strategies.

- In Africa: Ethiopia, Rwanda, Tanzania and Uganda
- In Asia: Cambodia
- In Latin America: Argentina, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay, Venezuela

To support the implementation and promotion of e-waste activities on the global scale, UNIDO has established a strong international e-waste network consisting of the private sector, academia, non-governmental organizations and governments. It is also taking an active part in important international partnerships, which include:

- Solving the E-waste Problem Initiative
- Global Partnership on Waste Management
- The Partnership on Action for Computing Equipment
- The signature of several Memorandums of Understanding with Dell, Microsoft and Samsung among others

Impact

Implementing a sustainable e-waste system creates green jobs and reduces the negative impact of e-waste on the environment and human health. Furthermore, the United Nations Industrial Development Organization supports countries building their capacities in the recycling sector, so that a minimum fraction of e-waste is exported for environmentally sound end-processing.

Through recycling, less virgin materials are required in the production process, which in turn has a positive effect on the use of global resources.

Outlook

The growing demand for the development and implementation of sustainable e-waste management strategies has translated into the United Nations Industrial Development Organization developing numerous project concepts for Turkey, the Philippines, western and southern Africa.

UNIDO is working to create an integrated approach to tackle the requirements set by the Stockholm Convention, the Basel Convention and the Montreal Protocol. International partnerships and South-South cooperation will be further enhanced through active sharing of success stories and lessons learned.