

ENVIRONMENTAL REQUIREMENTS AND MARKET ACCESS:  
TURNING CHALLENGES INTO OPPORTUNITIES

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Excellencies, ladies and gentlemen,

It is an honour to be here today and to have the opportunity to discuss some important and rapidly changing issues affecting the trade and movement of used and obsolete products under the Basel Convention. In particular, I will focus my remarks on ICT goods and waste electronic and electrical equipment.

In 2004, the export market of ICT goods from OECD countries reached 789 billion US dollars -- 789 billion in one year. According to a recent report from OECD, the rapid growth of the ICT market is focused primarily on new niche products and the replacement of equipment: the replacement of portable PCs and mobile telephone handsets underpin the highest growth area.

What is done when the consumer is finished with the ICT product is a growing global problem. In a 2005 study published by the Economist, the e-waste stream was noted as the fastest growing municipal waste streams, accounting for 8 percent of municipal waste in the European Union. In the United States, it is estimated that between 14 to 20 million personal computers become obsolete every year.

This mounting volume of electronic and electrical waste needs to be disposed of somewhere -- somehow -- and it should not be discarded at the local dump because most of these products contain hazardous substances. Toxic substances in electronic waste include lead, mercury and cadmium. Carcinogenic

substances in electronic waste may include [polychlorinated biphenyls](#) (PCBs). As you can see, it is necessary to take action to protect human health and the environment and ensure that these wastes are handled in an environmentally sound manner.

Due to lower environmental standards and working conditions in [China](#), [India](#), Nigeria and elsewhere, electronic waste is being sent to these countries for processing – in most cases illegally. Uncontrolled burning, disassembly, and disposal of e-waste in and next to water sources are causing environmental and health problems for those involved in the dismantling and disassembly processes or living near where the wastes are left. Trade in electronic waste is controlled by the [Basel Convention](#).

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal is the only global framework on the control and management of hazardous and other wastes. The Convention came into force over 15 years ago and has 170 Parties.

The overarching goal of the Convention is to protect human health and the environment against the adverse effects, which can result from the generation, transboundary movement and management of hazardous wastes and other wastes. To achieve this goal a number of objectives need to be met like, reduce the transboundary movements of hazardous wastes, minimize the quantity as well as the hazardousness of wastes generated and ensure their environmentally sound management. Given the fact that this is a Convention that is focussed on assisting developing countries, another key objective is to help these countries address in an environmentally sound manner hazardous and other wastes.

With the Basel Convention, systems have been put into place to regulate and restrict the export and import of hazardous wastes and other wastes through the notification and prior informed consent procedures. In this connection, I

want to mention that hazardous wastes is not only the PCBs or dioxins you hear so much about, but also e-products that no longer function.

A central policy instrument of the Basel Convention is that of "environmentally sound management or ESM", aimed to protect human health and the environment by minimizing hazardous waste production wherever possible. Environmentally sound management is a cradle-to-grave approach, which involves strict controls from the generation of a hazardous waste to its storage, transport, treatment, reuse, recycling, recovery and final disposal.

Earlier I mentioned that the new hazardous waste problem confronting the world today is the proper handling of obsolete ICT equipment containing hazardous substances. The increasing global importance of this issue relates primarily to where the obsolete ICT equipment ends up. With the lack of legislation and often controls on management of these wastes in developing countries, most of the obsolete equipment is being shipped to developing countries which usually do not have the capacity or the proper installations for dismantling, refurbishing or recycling the equipment. Often such shipments are the illegal transport of a hazardous waste, sent under the guise of used ICT equipment: yet in reality, most the equipment does not work.

On the basis of information received, up to about 80 percent of a shipment of used equipment from developed to developing countries are actually non-functioning equipment, and therefore, waste. Similarly, the good will of donation programmes from developed to developing countries often provide computing and other ICT equipment that we have been told functions for a very short time period. For instance, Uganda has computers that are donated for use at schools which only last a few months. Once the computer no longer works, the country or local and very often ill funded local garbage system must do something with these computers. Often, it piles up by the

side of the road, next to water sources or is burned, endangering the health and well-being of the local residents.

At the same time, development in some countries is moving rapidly and the demand for ICT equipment is growing. Consequently, while shipment of the e-waste continues to grow, there is also an important problem of mounting waste within the developing country. For instance in countries like China and India, the use of electrical and equipment is increasing rapidly from domestic generation and from legal and illegal shipments. Regarding illegal shipments, a recent study by the Oeko Institute in Germany found that from one port, a dealer was shipping 100 000 CRT – cathode ray tube -- monitors to Asia each month, however, there are no statistics that indicate this movement. From this same port it was found that shipments of mini-vans to Benin, were filled with computing equipment. While restrictions exist in Nigeria for the import of these vehicles and equipment, when they arrive in Benin, they are driven across the border to Nigeria.

While I have used the term e-waste, it is important to note that e-waste can also be considered an E-RESOURCE as the equipment contains valuable substances such as gold and copper. Recovering these materials has become a profitable business, resulting in global transboundary trade in e-waste. With the skyrocketing prices in metals due to demand from several developing countries, it is a lost business opportunity when these goods are landfilled, or the computer is burned, leaving other valuable materials to go to waste.

For emerging economies as well as developing countries, material flows from e-waste offer a business opportunity as well as a market for cheap second hand electrical and electronic equipment. There is strong growth of a semi-formal or informal sector economy in many developing countries. In fact, I think it is safe to say that an entirely new economic sector is evolving around trading, repairing and recovering materials from used and or obsolete e-

products. While it is a source of livelihood for the urban and rural poor in countries, it often causes severe risks to human health and the environment. Most of the participants in this sector are not aware of the risks, do not know about better practices or environmentally sound management, or have access to investment capital to finance profitable improvements for environmentally sound management.

While on one hand these goods are becoming recognized as important means for bridging the digital divide between developed and developing countries, on the other hand, e-waste is a serious environmental challenge. E-waste is hazardous – containing elements such as lead, cadmium, mercury, brominated flame retardants, PVCs, etc – and is being generated at alarming rates due to rapid technological innovation, powerful consumer marketing, and market forces and prices providing a convincing idea that it is easier to discard and replace ICT and other electronic and electrical equipment, than to repair and reuse it.

Another issue is that due to the lack of legislation on e-waste in developing countries, e-waste mostly ends up in landfills or water bodies or is partly recycled in unhygienic and unsafe conditions. Countries also export huge amounts of e-waste in the form of second hand items and reusable components, causing much controversy about the exports, including for donations. In many cases, when the developed countries ship used electronics to developing countries, such as India, China, Pakistan and Africa, there is no way to ensure that the e-waste will be managed responsibly – de-manufactured and recycled with human health and the environment in mind.

The challenges of managing e-waste in developing countries are very different from those in developed countries. While there can be several shared lessons, the complexity of the e-waste issue, for example in China and India, given its vast geographical and cultural diversity and economic disparities, makes sound e-waste management uniquely different than to

other developing countries. A few of the challenges I would like to emphasize to you are :

- There is rapidly increasing e-waste volumes, both domestically generated as well as through imports. One of the key problems raised by developing countries is that imports of computers and other equipment are often disguised as second-hand computer donations towards bridging the digital divide and many of the computers do not function or have a life-span of a few months.
- While some figures and statistics can be provided, there are no accurate estimates of the quantity of e-waste generated, transported or recycled in countries or on a regional or global scale.
- Low level of awareness of consumers about the hazards of incorrect e-waste disposal.
- Widespread e-waste recycling in the informal sector using rudimentary techniques such as acid leaching and open air burning resulting in severe environmental damage
- As a way to make money, people and children are continuously sifting through the local dump where piles of e-waste are accumulating looking for metals or other sellable items. There is little or no knowledge of toxins in e-waste or that they are exposed to serious health hazards.
- Inefficient recycling processes result in substantial losses of high value materials, this is especially pertinent as the price of metals are skyrocketing,
- Selective material recovery by recyclers who recover only the precious metals and improperly dispose of the rest of the parts and other metals, some that are rare and could provide a feed source in the future. .

Recognizing the growing importance and the global dimension of the e-waste problem was the theme for the eighth meeting of the Conference of the Parties to the Basel Convention, November to 2006, was "Creating

Innovative Solutions through the Basel Convention for the Environmentally Sound Management of Electronic Waste". At this meeting, the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste and decision VIII/2 were adopted mandating actions to address this growing issue under the auspices of the Convention.

Excellencies, ladies and gentlemen,

Electronic goods are composed of hundreds of different materials, often of high value. Gold, platinum, silver, copper, etc. are valuable materials which recyclers recover from e-waste. A study found that more than 50% of the weight of an average desktop computer was in plastics, iron and aluminum. While precious metals as a percentage of the total weight were relatively small, the concentration of such metals, like gold, was much found to be higher in e-waste than found in naturally occurring mineral ore. The benefits of recycling and recovering materials from e-waste or E-RESOURCES include:

1. Materials are managed in a way to minimize environmental impacts by focusing on reuse and reclamation of materials versus adding this to landfills or disposing of electronic waste in some other manner.
2. Usable products and components are put into computer systems for distribution back into the communities.
3. Unusable items such as plastics, glass, tins, aluminum, wires, etc, are then separated into bins and are given or sold to recyclers as materials.

These three points outline the informal market in many countries. Slowly, new innovations are being developed to effectually reuse the plastics from e-waste for products such as biofuels. While research and development are underway, it can be a viable process in the near future.

Waste to resource is an important and evolving theme and is becoming an innovative niche market.

While the recycling and recovery of useful materials from e-waste, should be encouraged, due regards should be given to the effects on human health and the environment. As a result of these findings, more and more individuals, companies and organizations are seeking ways to ensure that electronics discarded in the developed countries are not exported. There are legitimate export markets for useable or recyclable electronics, however, due diligence must be undertaken in order to ensure those markets are legitimate.

E-products need be designed in such a way as to discourage the use of hazardous materials and easier to be dismantled for recycling purposes. Now, there is increased pressure on electronic product manufacturers from legislators<sup>1</sup> to reduce or eliminate toxins in the products they make. Large impacts in the future can be made by specifying standards or codes of practice for electrical and electronic devices that are more energy efficient, contain fewer toxic components, and are more easily refurbished and recycled.

Waste prevention and recycling have been identified as key strategies to reduce the greenhouse gases that cause global warming. According to a recent study of the German government and a study by the U.S. Environmental Protection Agency, by recycling e-waste, you help reduce greenhouse gases and global warming in two key ways:

- Reducing emissions from energy consumption - manufacturing goods from recycled materials typically requires less energy than producing goods from virgin materials. Waste prevention is even more effective. When less energy is needed, fewer fossil fuels are burned and less carbon dioxide is emitted to the atmosphere.
- Reducing emissions from incinerators - recycling and waste prevention reduce greenhouse gas emissions from waste combustion.

For every ton of personal computers recycled:

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<sup>1</sup> (for example in California, Maine in USA, and in Europe)

- greenhouse gas emissions are reduced by one metric ton of carbon equivalent. That is equal to one car off the road per year.
- 44 BTUs of energy is saved vs. the energy used to landfill that same ton.

One of the problems with e-waste is the separation and collection of it. Extended producer responsibility (EPR) is a policy tool often used in OECD and non-OECD countries to encourage better management of e-products and its waste. EPR programmes shift the traditional balance of responsibilities of manufacturers, importers, distributors and retailers of such consumer goods..

In the case of EPR, with the policy intervention at the end of life phase of the product life cycle, signals are sent upstream to the producers , to design a product to be more reusable or recyclable, or with a reduction or elimination of toxic components in their products by being given the financial and/or physical responsibility to address the end of life management of their products. Some manufacturers of electronic devices have engineered computers to be more easily dismantled and recycled. Others have set up take-back programmes and/or sponsored collection events for computers as part of a new extended producer responsibility model.

Excellencies, ladies and gentlemen,

In conclusion, I would like to say that this symposium is part of a continuous consultation process that will provide opportunities for experts to exchange views of both needs and opportunities in the trade of obsolete ICT products - - e-waste, and to share information and knowledge on the environmental, health, social and economic impacts of of waste electrical and electronic equipment from a life cycle perspective.

In closing, I think

We can all agree that the market for ICT goods and other electronic and electrical products is foreseen to grow as there is a need for new

technologies or refinement and adaptations to current technologies to meet consumer needs and demands for faster and more efficient electronic and electrical equipment.

Globalization has changed how goods as well as hazardous and other wastes are moved around the world. It is no exaggeration that hazardous and other wastes continue to pose serious challenges, not only to the environment, but by increasing health risks and impacting the livelihoods of many people. I want to emphasize that the global community must continue to work together to address the potential threats and dangers of hazardous and other wastes, as there are some hard choices to face in the near and not so distant future.

One important challenge for the future is to collectively change the way we invest and behave at the local, national and global level: government, industry and all other stakeholders, to act to increase the environmentally sound management of wastes under the Basel Convention and minimize impacts on the environment, human health, economies and society.