Producer responsibility solution to electronic waste in developing countries

12 September 2011

How can legislation be used to avoid hazardous waste being dumped where it could poison people and the environment in developing countries? Introducing producer responsibility could be one solution, says Panate Manomaivibool of the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden, in a new thesis.

In recent years, the problems of waste electrical and electronic equipment (WEEE) in China, India and various African countries have been highlighted. Unregulated recycling in these countries has led to toxic substances such as lead and mercury from televisions, PVC from wire coating and brominated flame retardants from plastics leaching into the environment and poisoning people. Both the poor people who work with recycling and local residents have been affected.

Initially, a lot of the hazardous electrical and electronic waste was exported from the West in breach of the Basel Convention. More recent studies also show that WEEE from domestic consumption has increased sharply in emerging and developing economies.

Faced with this growing problem, a number of these countries are now developing systems and legislation for the management of WEEE. Panate Manomaivibool's thesis shows how lessons can be learnt from the OECD countries' solutions when tackling the problem and developing relevant legislation.

Producer responsibility is a key part of the solution. It creates incentives not only to improve the recyclability of the product but also to improve other aspects of the product system. This could mean better waste management technology and methods or changes to the design of products to facilitate waste management. This helps to reduce the amount of toxic substances in the materials and components.

Producers can be given responsibility for WEEE in a number of different ways. In Europe, for example, manufacturers often join forces and form collective producer responsibility organisations, which manage the collection and recycling of products on their behalf, free of charge to householders. In Japan, obsolete products are returned to retailers and then sorted according to manufacturer. The major manufacturers have their own recycling facilities. This system has been effective in engaging the manufacturers in learning about recycling and stimulating product redesign.

There are good opportunities to apply producer responsibility for WEEE in non-OECD countries. The levels of this waste are still relatively low, which means that effective preventive measures can still be taken for the future growth in WEEE. For example, producers could be required to phase out hazardous substances and provide recycling guarantees for new products before they come onto the market. The countries also benefit from the fact that many manufacturers of ICT are working to develop systems to deal with obsolete products. Many of them are multinational companies with long experience of producer responsibility from OECD countries.

However, there are challenges involved in introducing producer responsibility. One problem is that it can be difficult to identify the producers of counterfeit or non-branded goods, and another is that the polluted informal recycling sector competes for recyclable material. These challenges are nonetheless manageable. Large companies which supply components for non-branded products, for example 'white-box' computers, can be made responsible instead of pursuing the small assemblers. It is important that fees collected can be used to support the recycling facilities that operate legally.

"In order to succeed, the politicians in non-OECD countries need to take on the challenges that exist by exploiting the full potential of producer responsibility. They have the privilege of being able to learn from the successes and mistakes of the OECD countries. In combination with an understanding of the context of their own country, there are good opportunities for them to design and run a programme that rewards producers who develop their products in a way that improves their environmental performance", says Panate Manomaivibool.

Provided by Lund University