

A CHINA ENVIRONMENTAL HEALTH PROJECT FACT SHEET

China as E-Waste Dumping Ground: A Growing Challenge to Ecological and Human Health

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More than any other developing country, China has become a dumping ground for international electronic waste, also known as e-waste or e-junk. Domestic generation of e-waste is also a growing challenge. The Chinese government has begun to take action on e-waste as the dangerous ecological and human health consequences of improper disposal of electronic equipment are becoming apparent. There is also considerable discussion internationally on more strictly regulating e-waste trade.

International Electronic Waste

A 2002 report from the Basel Action Network and Silicon Valley Toxics Coalition estimates that 80 percent of the world's hi-tech trash is exported to Asia, and 90 percent of this flows into China, most of it processed in towns on China's southern coast, such as Guiyu in Guangdong Province. As one of the largest e-waste dumping sites in China, Guiyu has received heightened media coverage by the likes of BBC and ABC news. Official statistics indicate that over 5,500 households (over 50,000 people) in the town work with e-wastes and over 75 percent of the town's 300-odd private enterprises are in the e-waste business.

Similar to the practice of ship breaking, the import of e-waste is generally aided by middlemen in Hong Kong, the Philippines, and other Asian countries. According to a Worldwatch Institute report, discarded equipment is shipped to Hong Kong in containers labeled "for recycling," and then smuggled to several "recycling towns" in adjacent Guangdong Province. From there, much electronic waste is outsourced to farmland for dismantling. In September 2006, authorities from Guangdong Province and Guangzhou's Haizhu District uncovered dozens of illegal electronic waste-processing workshops in one of the biggest cases in the province. The 40 tons of e-waste, headed for the huge market for second-hand IT markets in the Pearl River Delta, contained over 350 harmful chemical materials according to local authorities. The Chinese news media is increasingly covering crackdowns on such illegal e-waste operations.

Health and Environmental Costs

In the numerous e-waste towns in China, electronic waste is burned by night and hand-

stripped by day using hydrochloric acid on plastic coverings in order to recover valuable metals like gold (of which every ton of computers has approximately 0.9 kg) and copper. Workers rarely have safety equipment and are thus exposed to a variety of toxins released in the metal recovery process. This includes lead, cadmium, phosphorus, polychlorinated biphenyls (PCBs), and the common flame retardant polybrominated diphenyl ethers (PBDEs). Toxic chemicals found in computers can cause stomach disease, lung disease, miscarriages, birth deformities, and premature deaths among other health problems. In addition, less-recognized hazards such as toner ink (a possible carcinogen) and the glass covering computer screens (which contains lead oxide, a hazardous waste) abound. E-waste workers in China who are injured by these toxins face difficulties in accessing treatment, for most lack any form of health care coverage or money to afford paying for the increasingly expensive medical care.

The concentrations of the released toxins far surpass the levels deemed safe. In Guiyu, Basel Action Network researchers took air and soil samples that had 190 times the amount of lead deemed safe by the World Health Organization, as well as chromium and tin that were 1,338 times and 152 times, respectively, the level deemed safe in the United States. Materials from the e-waste that cannot be recycled are often dumped into landfills or in open fields, which then leach toxins into the soil and water, contaminating crops and humans.

Domestic E-waste

With the rapidly increasing production and domestic use of technology in China, domestic e-waste is a problem unto itself. Experts predict Beijing will produce 115,200 tons of e-waste in 2006 alone, including 3.6 million old TVs, fridges, washing machines, air-conditioners and personal computers and 2.3 million mobile phones. By 2010, this is predicted to increase to 158,300 tons of e-waste. Like such waste imports, the e-waste created in Beijing is sent to southeast China, mainly the provinces of Guangdong and Zhejiang, for refining and metal recovery. Industrial electronic waste, due to the plentitude of electronic production facilities in China (many of which cater to the international market), also poses a major problem.

Addressing the Problem

Through a series of increasingly restrictive regulations passed after 1996, the Chinese government specifically banned e-waste imports. Such imports are also covered under the Basel Convention, an international treaty that regulates hazardous waste. However, some countries that have signed the convention, notably Canada, have argued that e-waste does not fall under the category of hazardous waste and is therefore not covered under the convention. The 2006 meeting of the Basel Convention debated with no resolution on how to create innovative solutions to electronic waste.

In China, there have been a variety of responses to the issue of mounting domestic industrial e-waste. One is the construction and registration of e-waste treatment stations, such as the Beijing Jin Huan Industry Waste Treatment Service Station that was established in 1996 to process up to 300 tons of industrial e-waste. Another response has been to go straight to the source of industrial e-waste. Effective from 1 March 2007 and

roughly similar to the Restriction of Hazardous Substances Directive (ROHS) adopted by European Union, China's National Development and Reform Commission in conjunction with Ministry of Information Industry and other ministries are adopting the policies to minimize industrial pollution from the production of electronic and telecommunication products.

Several NGOs have launched their own campaigns to reduce e-waste, both imported and domestic. The Greenpeace-China Toxics Campaign in partnerships with other grassroots groups is focusing on eliminating toxic chemical waste through clean production and Extended Producer Responsibility. The goals of the campaign include halting the import of toxic materials, including e-waste, and encouraging a take-back policy among manufacturers, specifically those producing electronics.

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