

# World Congress and Expo on Recycling

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## Recycling of e-waste in Korea

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Several million tons of waste electric and electronic equipment (WEEE) are being generated in Korea. The generation of such a large amount of WEEE containing a variety of hazardous substances is a major threat to both the environment and the human being. In order to contain the negative impact of this kind of wastes, the extended producer responsibility (EPR) system was implemented in 2003 in Korea to activate recycling practices of WEEE. EPR is basically applied to existing items under a deposit system based on the waste control act and all the new items began to be subjected to EPR starting from 2003. For further promoting recycling of WEEE, the Act on the Recycling of Electric and Electronic Equipment and Vehicles was legislated in July, 2007 in the country and was subsequently enforced on January 1, 2008. This paper highlights the present status of recycling of waste electric and electronic equipment such as refrigerator, washing machine, TV, air conditioner, PC, and mobile phone etc. in Korea. The volume of obsolete electric and electronic equipment has been by taking into account the estimated average service life of them. The commercial processes in vogue and new technologies under development for the recycling of WEEE are described briefly.

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## Development and challenge of e-waste recycling in the world

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At present, e-waste has become one of the fastest growing waste streams in the world. However, e-waste is a crisis not only of quantity but also of environment and human health. In this study, the development and challenge of worldwide e-waste recycling were introduced to understand the current situation. From a general view, the potential threat on environment and human health has been control in Asia country, especially China; however, the African countries are facing more and more serious e-waste issues. At the same time, the transboundary activities of e-waste from developed countries to developing countries aggravated the situation. Many countries are setting about or have established the legal framework on e-waste; however, how to effectively and universally implement these policies and measures is still a key point. Despite toxic substances, e-waste recycling is a fast-growing industry in some developing countries. Up to October 2014, about 106 formal recycling enterprises in China have obtained qualification License of the Treatment and disposal accompany with fast development of e-waste recycling industry, many effective recycling technologies and equipment for e-waste have been developed, and large valuable resources were recovered and reused. E-waste management has made great progress in the last ten years, but the illegal transboundary still exist, the potential environmental threat still exist, e-waste still keeps the fast increasing, and we are still facing with serious challenge of e-waste issues. E-waste is not the environmental issue of one country. Rather, an international research agenda should be set by experts to deal with it.

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