

## ABSTRACT

Technological wastes or electronic wastes (E-Wastes) have significantly increased as a result of rapid technology development. Many high technology products are increasingly produced and imported every year, especially “mobile phones,” one of the highly used electronic communication devices, and their batteries and accessories. Mobile phones and batteries are a type of electronic appliances that contain hazardous substances such as lead, cadmium, nickel, cobalt, etc. These chemical are hard to decompose and harmful to human health and overall ecology. Without effective measures to manage and control hazardous waste released from such equipment, there will be serious environmental problems. One such measure is legal control of e-wastes. At Present, Thailand does not have specific legislation to control the e-wastes from cellular phones and batteries. The law will prove to be an effective way of the e-waste control.

The study shows that successful legal measures require control of the e-wastes from the beginning to the end of the entire process. In order to avoid trade restriction, we also need to study such measures from the Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on Waste Electrical and Electronic Equipment (WEEE) and the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the Restriction of the Use of Certain Hazardous Substance in Electrical and Electronic Equipment (RoHS). In addition, we should establish guidance for control of toxic substances in products and develop environmentally friendly commodities. Furthermore, we can study from developed countries such as Germany, Japan and Australia effective mechanisms for management of e-wastes from mobile phones and batteries.

As stated earlier, Thailand does not have any state policy for e-waste management nor does it consider tackling pollutions caused by hazardous waste a top priority issue. This conflicts with the high technology being rapidly developed and damages it brings to the population's health and the environment. With the cancellation

of hazardous waste tax to foreign countries and lack of clear and comprehensive regulations according to the Basel Convention, it is questioned whether Thailand is becoming a dumping site of e-wastes from developed countries. Thailand also has many other limitations of e-wastes management. It has no agency directly responsible for mobile phones and batteries or adequate personnel for nationwide control of e-wastes. In some cases, however, there are several government authorities involved, which results in duplicate operations and ineffective work on prevention and reduction of wastes from point sources, recycling, assessment of mobile phone and battery life cycle and factory control. Lastly, Thailand lacks financial mechanism and sources of funding to support waste management and waste control research. Therefore, it is recommended that a pro-consumer, non-profit organization is established to control e-wastes from mobile phones and batteries under supervision by the government authorities concerned so as to save the government's budget and manpower.

The draft strategy of managing remaining parts of electronic appliances indicates management through recycling, proper elimination and sustainable development. However, ministerial regulations and/or ministerial notifications should be issued to stipulate absolute or strict liability to control and manage each type of e-wastes, especially from mobile phones and batteries, according to its means of import, production, recall, storage, collection, sorting out, elimination and collection of information or database. As the behavioral patterns of the problems or the problems themselves change, we will be able to find solutions quickly and appropriately. Otherwise, the e-waste mismanagement will have severe impact on the ecology in the near future.

Public participation is another important strategy to control e-wastes. This can urge people to separate e-wastes from their normal garbage and ease the problem of protest against waste management plant establishment. It can also promote better knowledge and understanding among people to use environmentally friendly products and support recycle society. To raise public awareness for reduction, control and

management of e-wastes from mobile phones and batteries along with legal, economic and social measures will prove to be an effective mechanism to manage the e-wastes from mobile phones and batteries both at present and in the future.