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## **ACE Paper 2/2010**

*For discussion on 8 February 2010*

# **A New Producer Responsibility Scheme for Waste Electrical and Electronic Equipment**

## **INTRODUCTION**

On 18 January 2010, the Government published the Consultation Document at **Annex** for the purpose of soliciting the public's views on introducing a mandatory producer responsibility scheme for the proper management of waste electrical and electronic equipment ("WEEE").

## **BACKGROUND**

2. Under "A Policy Framework for the Management of Municipal Solid Waste (2005-2014)" published in December 2005, a comprehensive package of proposals to address the waste issue has been advanced. It encompasses waste avoidance and minimization measures, reuse and recycling initiatives and state-of-the-art treatment facilities. One of our key policy initiatives is to introduce mandatory producer responsibility schemes to promote waste reduction, recovery and recycling. The Legislative Council enacted the Product Eco-responsibility Ordinance (Cap. 603) in July 2008 to provide a legal framework for implementing mandatory producer responsibility schemes for various products including electrical and electronic equipment. An environmental levy has already been introduced for plastic shopping bags and, in his 2009-10 Policy Address, the Chief Executive identified WEEE as the next target for a producer responsibility scheme.

3. There is no standard definition of WEEE internationally. When understood generally, WEEE could refer to any discarded, surplus, obsolete, broken electrical and electronic device that is designed for and dependent on electric currents or electromagnetic fields in order to work properly or is designed for the generation, transfer and measurements of electrical currents or

magnetic fields. WEEE contains hazardous components that are harmful to the environment and human health if it is disposed of improperly<sup>1</sup>. Many governments have introduced mandatory schemes to regulate the disposal of WEEE<sup>2</sup>.

## **Present Position**

4. In 2008, more than 70 000 tonnes of WEEE were generated in Hong Kong. At present, about 80% of locally generated WEEE is recycled and the majority of it is sold through second-hand dealers, usually to developing countries, for re-use and recovery of valuable materials. Notwithstanding the seemingly high recovery rate, this export strategy is not environmentally sound and is indeed unsustainable because in time, demand for second-hand products in developing countries is expected to decline as the living standard improves and the awareness of sustainability develops. Controls on importing WEEE may also be tightened. At the same time, WEEE generation in Hong Kong has been on the increase (by about 2% annually in recent years). Given the emergence of more affordable products and improved technology, this trend is expected to continue despite increasing public awareness on waste reduction. We therefore need to develop a local solution in the spirit of eco-responsibility to manage the WEEE problem as soon as practicable.

5. In recent years, we have introduced three producer responsibility schemes on WEEE on a voluntary basis<sup>3</sup>. The Government has been taking a facilitating role in these programmes with partial funding support in some cases. While these programmes have enhanced public awareness, the volume of WEEE treated under these programmes accounts for only about 1% of the WEEE generated locally. To expand the percentage of treated WEEE prior to disposal, it is necessary to introduce a mandatory scheme. Indeed, various jurisdictions across the globe have put in place specific measures for the management of WEEE; and the mainstream approach has been to bring WEEE under mandatory control through producer responsibility schemes.

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<sup>1</sup> For instance, lead and mercury, which are usually found in electrical appliances and computers, could cause cognitive deficits in children, and could damage kidney, liver and the neural, circulatory and reproductive systems. In addition, some WEEE contains chlorofluorocarbon and hydrochlorofluorocarbon, which destroy the ozone layer and contribute to global climate change.

<sup>2</sup> Many member states of the European Union have introduced producer responsibility schemes on WEEE since the 1990s, e.g. the Netherlands and Switzerland in 1998, Denmark in 1999 Sweden in 2001 and the United Kingdom in 2006. In the Asia Pacific region, Japan, Korea and Taiwan have already implemented specific measures for the management of WEEE. Mainland China also passed legislation in 2009 to enable mandatory WEEE control with effect from 1 January 2011.

<sup>3</sup> These include (a) two government-funded recycling programmes for computers and electrical equipment since 2003, with the participation of non-governmental organisations Caritas and St. James Settlement; and (b) a trade-based recycling programme for computers since 2007, with the participation of some 20 computer equipment manufacturers and suppliers.

## THE CONSULTATION DOCUMENT

6. The Consultation Document comprises the following parts –
- (a) Part I explains the challenges we are now facing and explains the need of a mandatory producer responsibility scheme for proper management of WEEE in Hong Kong (“WEEE Scheme”);
  - (b) Part II sets out our options for formulating the WEEE Scheme for Hong Kong, giving due regard to relevant international experience as well as our local context;
  - (c) Part III summarizes the proposals arising from our analysis and invites views and comments from the public; and
  - (d) Part IV contains supplementary information relevant to our analysis and a response form.

### The Proposals

7. We propose that the WEEE Scheme covers (a) television sets; (b) washing machines; (c) refrigerators; (d) air conditioners; and (e) computer products including desktops, laptops, printers, scanners and monitors. This is because they represent the majority source (i.e. 86% by weight) of WEEE generated in Hong Kong, and they generally contain more hazardous substances than other electrical and electronic equipment. Hereinafter, we will refer to the aforesaid products collectively as “regulated products” and the waste generated from such products as “regulated WEEE”.

8. Our ultimate goal is to develop a safe and sustainable scheme so that everyone who generates WEEE shares the responsibility for its collection, treatment and disposal. The proposed key features of the Scheme as set out in the Consultation Document would require various stakeholders to contribute in the following ways –

#### *(a) Consumers*

9. Consumers would ensure that any regulated WEEE they generate are properly handled. We propose that by amending the Waste Disposal Ordinance (Cap. 354), all regulated WEEE be banned from disposal as ordinary trash. They should be separately collected for recycling by various options including arranging take-back upon the purchase of new equipment; arranging collection by qualified WEEE recyclers; arranging delivery to municipal collection facilities; or handing over the item(s) to a second-hand dealer or a charitable organization for proper handling.

10. When purchasing new regulated products, consumers would contribute to the costs of collecting and treating the regulated WEEE. An appropriate level of fee under the WEEE Scheme is difficult to specify at this stage because the actual costs would depend on a basket of factors, including the specific features of the Scheme. Recent polls, however, suggest that about half of the public (49.2%) consider a fee up to 2.5% of the retail price to be reasonable, whereas another quarter (23.9%) find 2.5% to 5% of the retail price to be reasonable. In keeping with the “polluter pays” principle, the WEEE Scheme should seek to recover the costs for waste collection, recycling processes and other administrative matters. The level of fees should reflect the extent of treatment required. This is related more to the sizes and components of the WEEE rather than the retail prices. Making reference to the fees charged in mandatory schemes on WEEE in some overseas jurisdictions, the fees could be around \$100 for a small WEEE (such as a small television) and around \$200 to \$250 for a bulky one (such as a large television, refrigerator and washing machine). Fees for computer products are expected to be lower. The exact level of the fee under the proposed WEEE scheme in Hong Kong would be subject to the detailed design of the scheme.

*(b) Importers, distributors and retailers*

11. Importers, distributors or retailers would ensure that regulated products to be sold are affixed with the specified labels, representing the contributions to the costs of WEEE Scheme. As an illustration, importers and distributors could first pay the fee and affix the specified label to the regulated products at the time when they are brought into Hong Kong for local sales. This cost could ultimately be recovered along the supply chain, wholly or partially, from consumers. Alternatively, it is also possible for the labelling to be done and the fee be collected by retailers at the point of sales when a transaction is completed.

12. When a new regulated product is purchased by a consumer, retailers would also take back their equivalent old equipment (including historical items, i.e. equipment bought before the introduction of the WEEE Scheme without the specified labels) free of charge on a “new for old” basis. The Government would by open tender appoint one or multiple WEEE Management Contractors (“WMCs”) to provide WEEE collection and recycling services. Retailers should properly dispose of WEEE collected from its take-back programme through the appointed WMCs. This take-back requirement is common across different WEEE schemes internationally.

13. When purchasing new regulated products, consumers have a choice to keep the old equipment for continued use or dispose of it through alternative means. In the latter, the retailer’s take-back obligation would be deemed discharged. It is then the responsibility of the consumer to arrange proper

disposal of the old equipment. A labelling system would identify regulated products for which contributions have been made towards the costs of the WEEE Scheme. The appointed WMCs would provide free pick-up and treatment services for these labeled regulated products so the consumer could contact them directly when they are ready to discard their product. However, initially most of the regulated products being discarded would not carry a label because they would be historical products that were purchased prior to the implementation of the mandatory WEEE scheme. In this case, the consumer could sell such products to second hand dealers, bring the old equipment to a regional transfer centre designated for WEEE collection themselves, donate to a charitable organisation, or pay the appointed WMCs a handling fee to cover their pick-up service or other logistics costs.

14. We would work out the operational details of the labelling and charging system (including the fee collection mechanism) in consultation with the trade, giving regard to the situation in Hong Kong where delivery and installation are serviced separately and often outsourced. There are also merits and drawbacks in the respective options of collecting the fees at the point of import or at the point of sales.

*(c) Other related trades*

15. At present, certain import and export controls are imposed under the Waste Disposal Ordinance for monitors and televisions with cathode ray tubes as well as batteries. There is a case to subject WEEE to more stringent import and export controls based on environmental considerations. We propose to apply permit controls to the import and export of used regulated products and regulated WEEE. The control regime will have to take into account the relevant factors in permitting the import and export of these used regulated products and regulated WEEE in or out of Hong Kong. These factors include the source and/or destination of the shipment, the availability of confirmation from the relevant competent authorities in respect of the legality of the import or export of the shipment concerned, the certification of relevant laboratory testing, etc.

16. We also propose to introduce licensing requirements for processing and storage of used regulated products and regulated WEEE to properly manage the potential environmental hazard arising from these activities. To obtain a licence, the applicants would have to demonstrate that they operate the dismantling and recycling processes in an environmentally sound manner and that they have installed in the storage facilities necessary structure and equipment to ensure public safety and that no adverse impacts will be caused to the environment. In future, second-hand dealers and recyclers would properly handle or dispose of used regulated products and regulated WEEE in accordance with the tightened import and export controls and licensing

requirements for dismantling, recycling and storing regulated WEEE.

### **Need of Local WEEE Processing Capability**

17. The proper treatment and recycling of WEEE involves various dismantling, detoxification and recovery processes. International experience has shown that WEEE schemes typically require local WEEE processing facilities that have adequate capacity and appropriate technology. Although Hong Kong has a few recyclers who are treating some of the proposed regulated products, the capacity is well below that needed to undertake proper treatment and recycling of these products on a commercial, territory-wide basis. Since much of the WEEE is currently exported, the volume remaining in Hong Kong is often too small to justify a viable commercial operation having also to consider the significant capital and recurrent costs and the volatile commodity prices.

18. A mandatory control on the proper handling of regulated WEEE, however, would result in an increased volume of WEEE that would have to be treated locally. This will in turn support the growth of a recycling industry in Hong Kong, provide opportunity for technological upgrading and create job opportunities. We have to monitor whether, in the light of the mandatory scheme, private investments would be forthcoming to fund and operate local WEEE treatment plants on a commercial basis or whether other facilitating measures to kickstart the development of competent local WEEE processing capacity is necessary. As a matter of principle, the WEEE scheme should be self-financing in the long term. We will further consider the issue taking into account the outcome of the consultation and other relevant factors.

### **OTHER OPTIONS**

19. International experience suggests there are alternative ways to operate a WEEE scheme. For example, in some countries the concerned trades have taken the lead in implementing the scheme. This usually entails establishing a producer responsibility organization to carry out the functions of the appointed WMCs and manage the financing of the scheme (including fee charging). At this stage, we maintain an open mind about this alternative mode, while noting the practical issues of enforcement and ensuring compliance.

20. Separately, we are aware that there are pros and cons on the proposals above when evaluated against their competing alternatives. At this stage, the Government has yet to make any decisions on those issues and welcomes the public's views.

## **THE PUBLIC CONSULTATION**

21. Since the launch of the public consultation on 18 January 2010, we have arranged background briefings for relevant trade groups and recyclers. We have also briefed the LegCo Panel on Environmental Affairs at its meeting on 25 January 2010. Looking ahead, we will continue to engage different stakeholders. Among others, the LegCo Panel on Environmental Affairs would have another session to receive deputations on 22 February 2010. Briefing sessions for professional bodies and other public engagement initiatives would also be arranged. We will take into account views collected to develop the details of the scheme.

## **ADVICE SOUGHT**

22. Members are invited to comment on the proposed producer responsibility scheme for WEEE, including whether it should be introduced, the share of eco-responsibility between consumers, the trades, Government and other stakeholders, the Scheme's coverage, design and other relevant issues.

**Environmental Protection Department  
February 2010**