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**Panel on Environmental Affairs**

**Meeting on 23 May 2005**

**Updated background brief on  
management of municipal solid waste in Hong Kong**

**Introduction**

Between April 1989 and March 2000, more than \$10.2 billion has been invested in new waste management facilities. These comprise three new sanitary landfills with leachate and gas collection; seven refuse transfer stations and refuse transfer facilities for the outlying islands; a chemical waste treatment centre; and a livestock waste composting plant. On the other hand, the amount of solid waste has been rising as a result of the continuous growth in population and economic activities. In 1999, the total amount of municipal solid waste (MSW) (which comprises domestic, commercial and industrial waste) generated was 5.2 million tonnes, representing a 45% increase over 1989. The amount of construction and demolition materials (which comprise soft inert materials, hard inert materials and non-inert waste) generated was 13.5 million tonnes, representing a 100% increase over 1989.

**Strategies on waste management**

2. To develop a range of new initiatives that would work together to bring about a major reduction in the volume of waste requiring disposal, the Administration commissioned the Waste Reduction Study in 1994 and consulted the public on recommendations of the Study in mid-1997. On the basis of the public response, as well as taking into account latest policy developments and technological renovation, the Administration issued the Waste Reduction Framework Plan (WRFP) in 1998. The objectives of the 10-year WRFP were as follows:

- to extend the useful life of existing landfills;
- to reduce the land required for new landfills in future;
- to reduce the annual waste management costs;

- to save resources by encouraging the use of less raw materials;
- to produce electricity for local consumption through waste-to-energy incineration;
- to create more job and trade opportunities through encouraging expansion of the recycling industry;
- to reduce the environmental impacts of waste management by cutting the vehicles transporting waste through Hong Kong;
- to reduce the production of greenhouse gases and leachate at landfills; and
- to enhance public awareness of environmental protection.

### **Municipal waste**

3. The overall volume of waste has been increasing at an annual rate of 3.5%. For domestic waste alone, the average increase is 4% which is significantly higher than the average population growth of 0.9%. To this end, the Administration has adopted a number of measures to better manage and contain the increasingly serious problem on MSW.

#### Strengthening support for waste separation and recovery

4. Various waste recovery systems have been tested to identify the most cost-effective and suitable mode to develop a habit among the public to separate waste from recyclables at the point of disposal and not to discard recyclables as waste. These include the three-coloured separation bin scheme and the Wet/dry Waste Separation Pilot Programme (the Programme). At present, there are 28 000 three-coloured waste separation bins placed at some 9 300 points throughout the territory. In 2004, 140 000 tonnes of waste were collected for recycling through this scheme. The 16-month Programme was carried out in four housing estates from April 2003 to July 2004. Participating households separated wastes into wet and dry wastes which were then gathered at Refuse Collection Points of the estates by cleansing workers. Contractors of the Food and Environmental Hygiene Department then delivered the wastes to Island East Refuse Transfer Station for sorting. The sorted dry wastes were sold to recyclers. Revenue generated was used to offset the sorting cost. While the Programme in tandem with the three-coloured bin scheme in the four participating estates recovered 12% more recyclables than the three-coloured bin scheme alone in non-participating estates, it is considered not sustainable as the processing cost is high.

5. With the experience gained in the Programme, a 12-month pilot programme on Source Separation of Waste was launched in August 2004 in 13 housing estates in the Eastern District covering about 37 000 households and a population of about 120 000. The pilot programme aims to make it more convenient for residents to separate domestic waste at source by encouraging and assisting property management companies to provide waste separation facilities on each floor of the building. It also aims to expand the types of recyclables to be collected to include all plastics, all metals and other types of recyclables such as old clothing and waste electrical products. Under the pilot programme, recyclables are separated within each estate and sold to recyclers direct without having to be transported to a central location for additional sorting, which makes the operation more cost-effective. Initial results of the pilot scheme show that the volume of recovered recyclables has increased significantly. In view of the encouraging results, the Administration rolled out a territory-wide campaign in January 2005 to promote separation of domestic waste at source.

6. The subject of management of municipal waste was discussed at the meeting of the Panel on Environmental Affairs on 28 February 2005. Given that the 28 000 three-coloured waste separation bins were only able to collect about 140 000 tonnes of waste in waste in 2004, equivalent to the amount of waste produced in Hong Kong in one and a half day, question was raised on the effectiveness of the three-coloured bin scheme. Some Panel members also opined that segregation of domestic waste at source might not be practicable given the space constraints of most households in Hong Kong. They therefore suggested that financial assistance should be provided to encourage more innovative recycling initiatives, such as new features in building design to facilitate waste segregation. Consideration should also be given to introducing legislation to require the provision of waste segregation facilities in new buildings.

#### Making available land for waste recovery operations

7. The Administration has set aside 20 hectares of permanent land in Tuen Mun Area 38 for setting up an EcoPark. Land throughout the territory will also be provided on short-term tenancies for exclusive use by the recycling industry. So far, 27 sites with a total area of about five hectares have been leased to recyclers. Another three short-term tenancy sites in Yau Tong, Fanling and Tseung Kwan O will also be made available to recyclers.

#### Enhancing publicity and education

8. Publicity and public education programmes, including exhibitions, seminars, visits by a theme van on waste problems and solutions to shopping centres, schools and housing developments etc., have been organized to promote waste prevention and recovery. Workshops for teachers to enhance their knowledge and teaching skills in waste issues have also been organized. The Administration has further put in place a hotline service which provides information and advice on waste reduction and separation.

### Government to take a leading role

9. All government bureaux and departments are urged to reduce photocopying paper consumption by 10% by 2006-07 i.e. an annual reduction of 2.5%, using 2002-03 as the base year. The recycled content required in the specification of recycled photocopying paper has also been revised from 50% to 80%. Also, the use of retreaded tyres has been extended to all government medium and heavy vehicles. Where practicable, departments involved in greening work are encouraged to use compost made from organic waste. The Government Logistics Department has also been updating product specifications and tender assessment criteria taking into account environmental considerations where practicable.

### Product Responsibility Schemes (PRS)

10. PRS is one of the tools to enhance recovery, recycling and reuse of wastes. Under PRS, manufacturers, importers, retailers and consumers of goods are required to take responsibility for the collection and disposal of end-of-life products. As a first step, the Administration has conducted a Regulatory Impact Assessment (RIA) of PRS on tyres and rechargeable batteries. In April 2002, a voluntary PRS programme was launched to recover mobile phone rechargeable batteries. Since then, 8.6 tonnes of batteries have been collected for recycling in overseas facility. The scheme has been expanded in April 2005 to include other types of rechargeable batteries and to include more members of the trade. The RIA study to identify possible options of PRS for waste tyres and their impact on the trade and stakeholders is near completion. The Administration aims to commence public consultation in the second quarter of 2005 and to implement the PRS on waste tyres by late 2006. Another RIA study on the implementation of PRS for electrical and electronic equipment and for beverage containers will be conducted in 2005. Given the large amount of plastic bags being disposed of at landfills, the Administration will also study the overseas experience in putting a levy on plastic bags with a view to reducing plastic bag waste.

11. At the Panel meeting on 28 February 2005, members were disappointed at the lack of concrete plans to take forward the recycling of batteries, computer parts and plastic bags etc which had been dragged on for a long time. They considered it necessary for the Administration to set out the respective timetables, priorities and target. Other members also pointed out that various pilot projects on waste recovery were piecemeal in nature, and that the general public might not be aware of the means through which recyclable wastes such as used mobile phone batteries should be dealt with. They opined that the Administration should work out a comprehensive and sustainable policy on waste recovery.

### Closer cooperation with the business sector

12. Business sector, particularly management companies, restaurants and hotels, are encouraged to take a more active role in waste prevention. Examples include leftover food donation programme, furniture and plastic bottles and textile recycling

programmes specially designed for hotels, plastic bag recovery programmes involving supermarket chains and mooncake containers recovery trial involving property management companies and restaurants.

#### Closer cooperation with District Councils

13. Collaboration with District Councils in carrying out various types of district-based waste prevention and recovery will continue as they are in a better position to assess the needs of the districts, and at the same time can mobilize the support of local residents.

#### Bulk reduction and disposal of unrecyclable waste

14. As a result the above measures, the quantity of MSW requiring disposal was maintained at 3.4 million tonnes each year from 2000 to 2003, comparing favourably with the 3.5% annual growth rate in the years before 2000. The overall MSW recovery rate rose from 34% to 36% in 2002 and to about 41% in 2003. The domestic waste recovery rate rose from 8% to 13% in 2002. Notwithstanding, there will still be large volumes of waste which cannot be recycled and need to be properly disposed of. Maintaining the current manner of disposing of waste without treatment at landfills and using landfill as the only waste management is not sustainable. Hence, there is need to explore new waste treatment technologies for the development of Integrated Waste Management Facilities (IWMF). In this connection, the Administration launched an expression of interest (EoI) exercise in late April 2002 to invite local and overseas suppliers and facility operators to propose waste treatment technologies for the development of IWMF in Hong Kong. A total of 59 submissions were received, in which six technology types, namely composting, anaerobic digestion, incineration, gasification, a combination of mechanical and biological treatment as well combustion of fuel derived from waste for the production of cement, were identified.

15. At the Panel meeting on 28 February 2005, members noted that the Advisory Group on Waste Management Facilities (AG) set up to assist in assessing EoI had visited several large-scale waste management facilities in Japan and South Korea in November 2004. They however pointed out the AG's report failed to provide scientific information on pollutants, in particular dioxin, emitted from incineration and gasification. Some members also expressed concern that the Administration was trying to push forward incineration as the way forward for resolving the waste problems.