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Panel on Environmental Affairs

Meeting on 24 March 2014

**Background brief on "Hong Kong's municipal solid waste recovery rate
and handling of imported waste"
prepared by the Legislative Council Secretariat**

Purpose

This paper provides background information on Hong Kong's municipal solid waste ("MSW") recovery rate and the handling of imported waste, and gives a brief account of the views and concerns expressed by members on the subject.

Background

Import and export control of waste and recyclables in Hong Kong

2. Plastic recyclables exported from Hong Kong into the Mainland can broadly be classified into two categories, namely, (i) recyclable plastics bought from overseas and imported into the Mainland, and (ii) recyclable plastics collected locally in Hong Kong. Good quality recyclable plastics, being commodities with commercial value, are actively traded in the international market. They can be recycled or reused as raw materials for production, thus conducive to the circular economy, waste reduction and sustainability development. However, the import of waste, including foreign domestic waste (commonly known as "foreign rubbish"), for disposal in Hong Kong is illegal. The Environmental Protection Department ("EPD") and the Customs and Excise Department ("C&ED") are responsible for taking enforcement actions against such activities.

3. In line with international practices adopted by other places, Hong Kong laws strictly prohibit the disposal of imported waste locally. Enforcement actions would be taken in accordance with the Waste Disposal Ordinance (Cap. 354) against importers of waste for disposal in Hong Kong and offenders are liable to a fine of \$200,000 and imprisonment for six months on first conviction and a fine of \$500,000 and imprisonment for two years for subsequent conviction. The offender is also required to remove the imported waste and return them to the country of origin. Details of the quantities of recyclables imported and exported during the years from 2008 to 2012 are set out in **Appendix I**.

Tightened inspection of imported waste and recyclables in the Mainland

4. The Mainland enforcement authorities have launched the Operation Green Fence ("OGF") since February 2013 as a measure to tighten the inspection of waste and recyclables at all ports across the country. Under OGF, the Mainland authorities have, pursuant to the existing national legislation regarding the control over the import and export of waste, stepped up the interception of unlawfully imported waste which may pollute the environment. To strictly implement the relevant national standards, they have also tightened the inspection of imported recyclables and reusable materials.

5. The Mainland authorities have, under OGF, notified EPD and C&ED of 226 rejected containers up to mid-November 2013. As at 20 November 2013, among the returned containers, 217 (96%) had been shipped out of Hong Kong and arrangements were being made for the departure of the remaining 9 (4%). Recyclable plastics accounted for 121 of the 226 returned containers; among them, 114 (94%) had left Hong Kong whilst the remaining 7 (6%) were pending arrangements to be shipped out.

Control on waste disposal at landfills

6. There were concerns that imported waste plastics were disposed of at local landfills. According to the Administration, all vehicles entering a waste disposal facility must stop at the weighbridge for weighing and inspection. EPD officers and contractors will require the drivers to open hood covers of their vehicles to facilitate inspection by site staff and recording through the closed circuit television system of information such as the type of waste, weight of the load and the vehicle registration number. According to the past records, EPD has not found large loads of waste plastics or materials with recyclable value being transported to landfills or refuse transfer stations ("RTSs") for disposal.

7. Since the launch of OGF in the Mainland, EPD has strengthened its monitoring efforts at landfills and RTSs. Apart from regular monitoring measures mentioned above, EPD officers and contractors have also paid special attention to vehicles carrying waste plastics to landfills and RTSs. EPD's monitoring actions subsequent to the implementation of OGF indicated that all waste plastics disposed of at landfills were locally generated, highly contaminated and of no recyclable value.

8. According to EPD's records, the quantity of MSW disposed of at landfills every day was steady in the past ten years. In 2012, about 9 300 tonnes of MSW were disposed of daily at landfills. The overall waste plastics content among MSW disposed of was about 20%, a steady percentage over the past ten years. Details of MSW quantity and waste plastics content are set out in **Appendix II**. EPD has not found any disposal of large amount of imported plastic recyclables among MSW disposed of at the landfills.

9. Since June 2013, EPD has launched a trip ticket system on the "Disposal Arrangement of Locally Generated Waste Plastics" to prevent illegal disposal of imported plastics in Hong Kong and to avoid disposal of locally generated plastic recyclables by recyclers at landfills or RTSs. EPD officers will first carry out inspections at the waste recycling sites and check with the persons-in-charge about their operation. The first step is to ascertain the origin of the plastic recyclables to confirm if there are any imported materials involved. In addition to on-site inspections, EPD officers will also obtain relevant documents and information from recyclers to find out and ascertain the origin of the recyclables. As at 22 July 2013, EPD received a total of five applications for the afore-mentioned arrangement from local recyclers.

10. As understood by EPD, local recyclers have been scaling down the quantity of recyclables imported into Hong Kong, some recyclers have introduced waste sorting processes, whilst some others are upgrading waste treatment capabilities (such as shredding machines and washing machines) as well as exploring other export outlets for the recyclables.

Import and export trade declaration figures on recyclables

11. Regarding the media reports that referred the anomalies found in the import and export statistics of recyclables in Hong Kong as an indication of possible disposal of large amount of imported waste plastics at the landfills, the Administration has clarified that such speculation does not tally with the actual quantity of waste received at landfills and is therefore not substantiated. There is a possibility that imported materials are re-exported under another classification

category, hence the difference between import and export declaration figures of recyclables in Hong Kong. EPD considers that it should focus on the total imports and exports of recyclables and has pointed out that in the past five years, the total exports of recyclables exceeded the total imports of recyclables every year.

Estimation of MSW recovery rate

12. According to EPD, it has all along adopted a methodology commonly used internationally in estimating the MSW recovery rate in Hong Kong. The formula is as follows –

$$\frac{\text{MSW recovered}}{(\text{MSW recovered} + \text{MSW disposed})}$$

13. The total quantity of MSW recovered for recycling in each year is derived from the sum of (i) the annual total of recyclables exported from Hong Kong to other places for recycling as compiled by the Census and Statistics Department ("C&SD") (based on export declarations submitted by exporters to C&ED) and (ii) the annual total of MSW recycled locally (estimated from the statistical surveys on local recyclers conducted by EPD). The total quantity of MSW disposed of is the annual total of MSW disposed of at waste disposal sites (primarily landfills).

14. The data used for estimating the MSW recovery rate is mainly sourced from the figures of waste treatment facilities and recyclers, export statistics of recyclables, results of interview surveys, etc. Different countries/regions will adopt appropriate data for estimation in accordance with the actual circumstances such as data availability and reliability.

15. Based mainly on domestic exports figures collated by C&SD, EPD estimates the quantity of recyclables recovered. Domestic exports refer to (i) goods manufactured in Hong Kong; or (ii) products of a manufacturing process in Hong Kong which has changed permanently the shape, nature, form or use of their basic materials.

16. EPD is concerned about the substantial fluctuation in domestic exports figures on plastic recyclables in recent years. In late 2012, EPD commissioned an independent consultant to conduct a detailed study to ascertain the production, recovery and disposal of waste plastics in Hong Kong. The report of the study was expected to be completed by the end of 2013.

Deliberations by the Panel on Environmental Affairs

17. The Panel on Environmental Affairs ("the Panel") discussed the matters on MSW recovery rate and handling of imported waste at its special meeting on 26 July 2013. The major views and concerns expressed by members are set out below.

Estimation of the MSW recovery rate

18. Pointing out that there had been media reports which casted doubt on the accuracy of the MSW recovery rate in Hong Kong, members sought clarification on whether there was any imported waste, in particular waste plastics, being disposed of at landfills in Hong Kong. The Administration responded that since the launching of OGF, EPD had strengthened its monitoring efforts at landfills and RTS. EPD had not found large loads of imported plastic recyclables being transported to landfills or RTS for disposal. The whereabouts of the returned containers would be monitored closely until they were shipped out of Hong Kong.

19. On the consultancy study commissioned by EPD, the Panel was informed that the main purpose of the study was to ascertain the production, recovery and disposal of waste plastics in Hong Kong. The consultants engaged in the study would be communicating with the recycling trades on the import and export of plastic recyclables. Based on the findings of the study, EPD would decide whether the existing formula should be used in the calculation of the MSW recovery rate, having regard to the substantial fluctuation in domestic exports figures on plastic recyclables.

20. The Panel also sought clarification as to whether the MSW recovery rate had included the export of recyclables which were transshipped through Hong Kong. The Administration advised that MSW recovery rate had not included the export of recyclables transshipped through Hong Kong. There might however be consolidated or mixed container loads which contained recyclables imported from other places, and were treated in Hong Kong but exported and declared as locally generated recyclables.

Control on waste disposal at landfills

21. Some Panel members considered that there was a need for tracking the import and export of plastic recyclables in and out of Hong Kong. More should be done in the source separation of waste in preparation for the MSW charging scheme. There was also the concern about the means to differentiate between locally generated waste and imported waste. The Administration advised that

EPD had all along been closely monitoring the waste delivered to landfills and RTS. Together with C&ED, EPD would continue to enhance co-operation and information sharing with the Mainland enforcement authorities to combat illegal trans-boundary movements of waste and malpractices.

22. Some other members enquired if there was a professional estimate on the amount of waste generated from the sorting of imported recyclable materials in Hong Kong, given the discrepancy in waste disposal statistics. The Administration advised that there was no professional estimate on the amount of waste generated from the sorting of imported recyclable materials in Hong Kong. Of the 9 000 tonnes of MSW generated per day, there were about 6 000 tonnes of domestic waste and 3 000 tonnes of commercial and industrial waste, the overall composition of MSW comprised 1 800 tonnes of waste plastics. Landfill surveys were conducted twice a year to analyze the composition of the waste disposed of in landfills.

Tightened inspection of imported waste and recyclables in the Mainland

23. Some members were concerned about the stockpiling of imported recyclables in Hong Kong following the launching of OGF in the Mainland and the possibility that such articles might end up in the landfills in Hong Kong. The Administration advised that Mainland authorities had strengthened the control on imported recyclables, including the verification of customs declaration documents. Any non-compliant imported shipments, such as consolidating recyclables from different countries of origin or mixing different types of recyclables would be subject to stringent inspection and management requirements of the Mainland enforcement authorities. The Administration also reiterated that existing legislation strictly prohibited the disposal of imported waste locally. The container loads of recyclables rejected by the Mainland under OGF would be shipped out of Hong Kong.

Import and export control of waste and recyclables in Hong Kong

24. There was also the concern that Hong Kong, being a free port, would not have much control over imports. As a result, waste materials could be imported from different countries to Hong Kong. With the tightened control over imported recyclables by the Mainland, there should be corresponding measures to be taken by Hong Kong to tighten import control as otherwise, the container loads of recyclables would end up in the landfills in Hong Kong. Members considered it necessary that guidelines be formulated to specify the standard of plastic recyclables that could be allowed for import to Hong Kong. There should also be legislation banning the import of wastes to Hong Kong. Assistance should be

given to local recyclers in the recycling of locally generated waste and not imported waste.

Licensing system for waste recyclers

25. Some members supported the introduction of a licensing system for waste recyclers and urged the Administration to work out the details with the recycling trades. Some other members held the view that there were pros and cons in the establishment of a licensing system for waste recyclers since a licensing system would enable more effective monitoring while increasing operating cost. Some recyclers would be forced out of business if they could not meet the licensing requirements. The Administration responded that it was open about the establishment of a licensing system for waste recyclers in Hong Kong.

Council questions

26. Hon Tony TSE Wai-chuen and Hon CHAN Hak-kan raised questions relating to OGF and recycling industry at the Council meetings on 5 June and 20 November 2013. Details of the Council questions are hyperlinked in **Appendix III** for ease of reference.

Latest development

27. Pursuant to the discussion on the subject at the Panel's special meeting on 26 July 2013, the Administration will provide updated information on the relevant issues, including the latest situation about import and export of recyclables in Hong Kong and the result of the study on the estimation of MSW recovery rate at the Panel meeting on 24 March 2014.

Relevant papers

28. A list of relevant papers is set out in **Appendix III**.

Appendix I

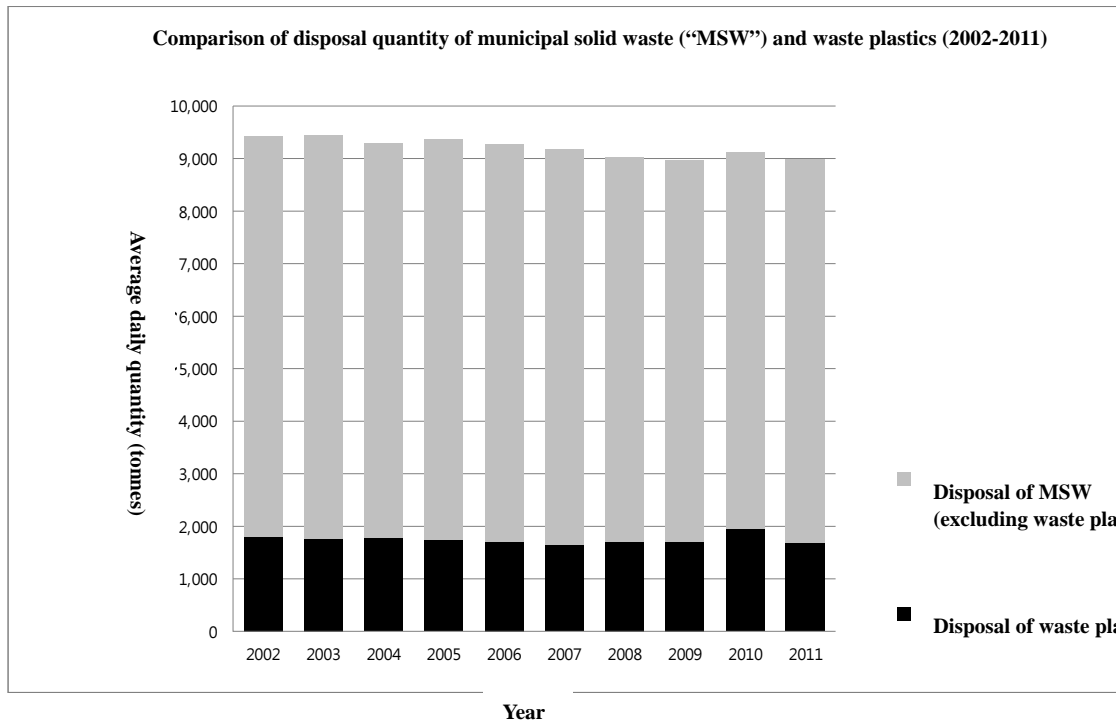
Quantities of Recyclables Exported (by type) (2008 - 2012) (in thousand tonnes)

Type of recyclables	2008	2009	2010	2011	2012
Ferrous metals	1,247	1,183	1,012	1,136	1,098
Non-ferrous metals	232	206	251	190	197
Paper	1,101	1,036	1,200	1,287	1,171
Plastics	4,178	4,127	4,223	3,453	3,237
Others	217	170	179	180	143
Total	6,975	6,722	6,865	6,246	5,846

Quantities of Recyclables Imported (by type) (2008 - 2012) (in thousand tonnes)

Type of recyclables	2008	2009	2010	2011	2012
Ferrous metals	513	402	353	319	319
Non-ferrous metals	260	245	210	194	167
Paper	52	122	187	215	103
Plastics	4,489	4,696	4,799	3,962	3,200
Others	184	137	171	146	137
Total	5,498	5,602	5,720	4,836	3,926

Appendix II



Appendix III

List of relevant papers

Council/ Committee	Date of meeting	Paper
Panel on Environmental Affairs	26 July 2013	<p>Administration's paper on "Matters on Hong Kong's municipal solid waste recycling rate and handling of imported waste" (LC Paper No. CB(1)1620/12-13(01)) http://www.legco.gov.hk/yr12-13/english/panels/ea/papers/ea0726cb1-1620-1-e.pdf</p> <p>Fact sheet entitled "A summary of media reports on issues relating to handling of imported recyclable materials" prepared by the Legislative Council Secretariat (Chinese version only) (LC Paper No. FS32/12/13) http://www.legco.gov.hk/yr12-13/chinese/sec/library/1213fs32-c.pdf</p> <p>Minutes of special meeting (LC Paper No. CB(1)53/13-14) http://www.legco.gov.hk/yr12-13/english/panels/ea/minutes/ea20130726.pdf</p>

Hyperlinks to relevant Council Questions:

Date	Council Question
5 June 2013	Council question raised by Hon Tony TSE Wai-chuen http://www.info.gov.hk/gia/general/201306/05/P201306050252.htm
20 November 2013	Council question raised by Hon CHAN Hak-kan http://www.info.gov.hk/gia/general/201311/20/P201311200626.htm