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## **ACE-WM Paper 3/2020**

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# **Monitoring of Solid Waste in Hong Kong 2018**

## **INTRODUCTION**

This paper presents the statistics on disposal and recovery/recycling of solid waste generated in Hong Kong in 2018.

## **TOTAL SOLID WASTE**

2. Total solid waste includes municipal solid waste (MSW), overall construction waste and special waste. Within MSW, there are two waste categories, namely: domestic waste as well as commercial and industrial (C&I) waste.

3. In 2018, the total quantity of solid waste disposed of at the strategic landfills was 16,096 tonnes per day (tpd), which had increased by 3.7% as compared to 2017. **Table 1** below shows the disposal quantities of various components of solid waste and their annual growth rates.

**Table 1: Disposal of solid waste at landfills**

Solid waste	Disposal quantity (tpd)		Year-on-year change (%) <sup>(1)</sup>
	2017	2018	
Municipal Solid Waste	10,733	11,428	+6.5%
● Domestic waste	6,404	6,712	+4.8%
● C&I Waste	4,329	4,716	+8.9%
Overall construction waste	4,207	4,081	-3.0%

Special waste <sup>(2)</sup>	575	587	+2.0%
<b>Total<sup>(3)</sup></b>	<b>15,516</b>	<b>16,096</b>	<b>+3.7%</b>

(1) Year-on-year change is calculated based on the exact amount of solid waste before rounding off.

(2) Special waste includes dewatered sludge, dewatered waterworks sludge, incineration ash and stabilized residue, sewage works screenings, livestock waste, waste tyres, etc.

(3) Figures may not add up to total due to rounding off.

## MUNICIPAL SOLID WASTE (MSW)

### MSW generation

4. The quantity of MSW generation in 2018 was 5.95 million tonnes, which had increased by 3.5% as compared to 2017.

### MSW disposal

5. In 2018, the quantity of MSW disposal was 11,428 tpd, which had increased by 6.5% as compared to 2017 (**Table 1**). The quantity of domestic waste disposal was 6,712 tpd (59% of MSW disposal), which had increased by 4.8% as compared to 2017. In parallel, the quantity of C&I waste disposal at landfills was 4,716 tpd, representing an annual increase of 8.9%.

### *MSW per capita disposal rate*

6. As shown in **Table 2**, discounting the factor of population growth, the per capita disposal rate of MSW was 1.53 kg/person/day in 2018, compared to 1.45 kg/person/day in 2017. The growth was partly attributed to the increase in waste as a result of the extensive damage caused by the Super Typhoon Mangkhut, which hit Hong Kong in September 2018. The increase in MSW disposal was also partly associated with the growth of the local economy in 2018 (the GDP growth rate in 2018 was 3%). Besides, the weakened demand from markets outside Hong Kong for certain types of recyclables and the tightened control of imported recyclables by certain economies resulted in a drop in recovery quantity (c.f. paragraphs 10-15 below), which in turn might have driven up the total disposal quantity.

7. If data from September to November are excluded (as the disposal quantity of these three months was more affected by Typhoon Mangkhut), the disposal rate of MSW would be 1.50 kg/person/day.

**Table 2: MSW Per capita disposal rate**

Waste category	Per capita disposal rate (kg/person/day)	
	2017	2018
MSW	1.45	1.53
Domestic waste	0.87	0.90
C&I waste	0.59	0.63

*MSW disposal by waste type*

8. **Table 3** shows the disposal quantities by waste types. Food waste is the major component of MSW in Hong Kong, which amounted to 31% of the total MSW disposal quantity in 2018. A total of 3,565 tpd of food waste was landfilled in 2018, which had decreased by 2.6% as compared to 2017.

9. Following food waste, waste paper and waste plastic are the second and third largest constituents of MSW, taking up 24% and 21% of MSW disposal in 2018 respectively. The disposal quantity of waste paper increased by 6.7% as compared to 2017, whilst that of waste plastic rose by 10.3% as compared to 2017.

**Table 3: Quantity of MSW disposal (by waste type)**

Waste type	Disposal quantity (tpd)		Year-on-year change (%)
	2017	2018	
Paper	2,532	2,702	+6.7%
Plastic	2,124	2,343	+10.3%
Ferrous Metals	201	218	+8.9%
Non-Ferrous Metals	51	61	+18.2%
Glass	291	300	+3.4%
Textiles	370	392	+6.0%
Wood	298	427	+43.4%
Food Waste	3,662	3,565	-2.6%
Electrical and Electronic Equipment	73	67	-7.8%
Others <sup>(1)</sup>	1,132	1,352	+19.4%
<b>Total <sup>(2)</sup></b>	<b>10,733</b>	<b>11,428</b>	<b>+6.5%</b>

(1) Others include bulky items directly disposed of at landfills and other miscellaneous waste materials.

(2) Figures may not add up to total due to rounding off.

## MSW resource recovery

10. The quantity of MSW recovered in 2018 was 1.78 million tonnes, representing a decrease of 2.9% compared with 2017. Most of the recovered materials (92%) were exported to the Mainland and other economies for recycling, with a total export value of recyclable materials of \$6.3 billion.

### *MSW recovery rate*

11. In 2018, the overall MSW recovery rate was 30%, which decreased from 32% in 2017. The domestic waste recovery rate was 22%, while that of C&I waste was 39%. The challenging conditions of commodity markets outside Hong Kong that lasted for years have had a dampening effect on the demand for local recyclables. Moreover, nearby economies have tightened their import control regimes in recent years. Local recyclables not meeting the import standards could no longer enter such places for further processing.

### *MSW resource recovery by type*

12. **Table 4** shows the quantities of individual types of recovered recyclables from MSW in the past two years, including recyclables absorbed by local recycling industries or exported to other economies.

13. As metal recyclables are highly reusable and relatively valuable in markets outside Hong Kong, there are strong economic incentives for the industry to recover metal waste. Among all recyclable types, metal recyclables have the highest recovery rate at 90% in 2018.

14. In response to the tightening of import control of recyclables by the Mainland, the local plastic recycling industry has gradually shifted its mode of operation from the previous simple compression process to the recycling of plastic recyclables into raw materials or products. As a result, the quantity of plastic recyclables recycled locally increased threefold in 2018 as compared to 2017. However, the quantity of plastic recyclables recovered in 2018 dropped by over 40% due to the significant reduction in export quantity. It takes time for the local recycling industry to adjust and evolve in order to absorb more locally generated waste plastics.

15. Separately, paper recyclables' recovery quantity has continued to trend downwards in recent years and decreased by 12.3% in 2018 as compared to 2017.

**Table 4: Quantity of recyclables recovered from MSW (by type)** including recyclables absorbed by local recycling industries or exported to other economies

Recyclable type	Recovery quantity (Thousand tonnes) <sup>(1)</sup>		Year-on-year change (%)
	2017	2018	
Paper	792	695	-12.3%
Plastic	116	64	-44.4%
Ferrous Metals	785	789	+0.4%
Non-Ferrous Metals	49	127	+160.5%
Glass <sup>(2)</sup>	11	15	+37.0%
Textiles	3	6	+109.8%
Wood	1	6	+360.9%
Food Waste	15	27	+84.3%
Electrical and Electronic Equipment <sup>(3)</sup>	49	42	-14.4%
Others <sup>(4)</sup>	9	7	-26.9%
<b>Total <sup>(5)</sup></b>	<b>1,831</b>	<b>1,778</b>	<b>-2.9%</b>

(1) Those originated from construction and renovation activities were excluded.

(2) Glass beverage bottles recovered for reuse through deposit-and-refund system operated by local beverage manufacturers are not included.

(3) The volume of waste electrical and electronic equipment recovered for recycling is compiled from results of a biennial survey on “Generation & Disposal Practice of Used/ End-of-Life Electrical & Electronic Equipment and Batteries in Hong Kong” commissioned by EPD, and figures from market research and local recyclers.

(4) Quantity includes recycling of yard waste as well as reuse, retreading and recycling of vehicle tyres and local retreading of aircraft tyres. Waste tyres disposed of at landfills are categorised under disposal of special waste, as waste tyres are shredded or cut prior to disposal at landfills.

(5) Figures may not add up to total due to rounding off.

## OVERALL CONSTRUCTION WASTE

16. In 2018, the quantity of overall construction waste landfilled was 4,081 tpd, which decreased by 3.0% as compared to 2017 (**Table 1**). The consecutive decrease in the past two years could be partly attributable to the increase in construction waste disposal charges effective from April 2017, strengthening incentive for the trade to reduce and reuse construction and demolition materials and reduce disposal.

17. Most inert materials in the construction waste generated was delivered to the public fill reception facilities and other outlets for direct reuse. The reuse rate has remained at above 90% in recent years and was 92% in 2018.

## **SPECIAL WASTE**

18. In 2018, the quantity of special waste disposed of at landfills was 587 tpd, which increased by 2.0% as compared with 2017 (**Table 1**). Following the commissioning of the Sludge Treatment Facility (T•PARK) in Tuen Mun in April 2015, the disposal quantity of dewatered sludges has recorded a cumulative reduction of 88 per cent compared with 2014. The growth in special waste disposed of at landfills in 2018 was partly due to the increase in condemned goods.

19. For more detailed statistics, Members can refer to the publication “Monitoring of Solid Waste in Hong Kong: Waste Statistics for 2018”, available on: [https://www.wastereduction.gov.hk/en/assistancewizard/waste\\_red\\_sat.htm](https://www.wastereduction.gov.hk/en/assistancewizard/waste_red_sat.htm).

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