

立法會 *Legislative Council*

LC Paper No. CB(1)766/19-20(04)

Ref. : CB1/PL/EA

Panel on Environmental Affairs

Meeting on 22 June 2020

Background brief on management of yard waste prepared by the Legislative Council Secretariat

Purpose

This paper provides background information on the management of yard waste in Hong Kong. It also gives a brief account of the views and concerns expressed by Members when the subject was discussed by relevant committees of the Legislative Council ("LegCo").

Background

2. Yard waste is also known as green or garden waste which consists of all types of vegetation waste matters and is usually biodegradable. Typical types of yard waste include grass clippings, leaves, branches, tree trunks, cut flowers, bushes and shrubs, festive plants, etc.

3. According to "Monitoring of Solid Waste in Hong Kong 2018", about 341 tonnes of yard waste were disposed of at landfills each day in 2018,¹ accounting for about 3% of Hong Kong's municipal solid waste ("MSW"). Yard waste is mainly generated from the soft landscape works and vegetation maintenance, and the major generators are various government departments and

¹ Super typhoon Mangkhut, which hit Hong Kong in September 2018, had resulted in extensive damage and increase in waste. According to the Administration, if data from September to November are excluded (the disposal quantity of these three months had been affected by typhoon Mangkhut), the disposal quantity of municipal yard waste is 171 tonnes per day.

commercial establishments with extensive plantings and landscaping.²

A Food Waste & Yard Waste Plan for Hong Kong 2014-2022

4. In February 2014, the Environment Bureau ("ENB") published "A Food Waste & Yard Waste Plan for Hong Kong 2014-2022" ("the Plan"), mapping out the strategies, targets, policies and action plans for the management of food waste and yard waste in the coming years. According to the Plan, the strategy to deal with yard waste is to collect data, promote reduction at source, encourage separation and collection, and explore the most suitable means to treat unavoidable portion. In support of the strategy, the Government has implemented various programmes to promote yard waste reduction and recycling such as promotion of Christmas trees and peach blossom trees recycling during Christmas and Lunar New Year, and a pilot scheme on yard waste recycling at Lam Tin Estate.³

5. Government departments are required to contribute to yard waste reduction at source through two key measures: (a) minimizing the use of plants for display during festivals such as Christmas and Lunar New Year and replanting plants; and (b) minimizing yard waste generation when designing landscaping areas. An inter-departmental working group chaired by ENB has been set up to coordinate the work of government departments in implementing the Plan.

Guidelines on Yard Waste Reduction and Treatment

6. In July 2014, the Greening, Landscape and Tree Management Section of the Development Bureau ("DEVB") promulgated the "Guidelines on Yard Waste Reduction and Treatment" with a view to providing general reference on implementing measures on yard waste reduction and treatment in various stages from planting design to maintenance, and suggesting ways of how yard waste can be reduced, reused and recycled. With the exception of plants infested by pests, diseases or invasive species, yard waste is treated according to its nature by appropriate means, including natural degradation, composting, mulching, fuel production and reusing as recreational facilities or decoration.

² These government departments include Leisure and Cultural Services Department, which manages public parks and gardens as well as maintains roadside trees and landscaped areas along non-expressway public roads outside country parks; Highways Department, which is involved in associated vegetation maintenance within the boundary of expressways and roadside slopes under its purview; and Architectural Services Department, which is involved in building projects and vegetation maintenance on slopes under its purview, etc.

³ The Housing Department launched a trial yard waste recycling scheme at Lam Tin Estate in July 2014. The yard waste collected is recycled as compost for on-site gardening.

Development of a pilot plant for woody waste recycling

7. Composting is a common technology to recycle yard waste. However, composting is land demanding and it cannot deal with woody yard waste or wood waste quickly and effectively.⁴ As such, alternative technologies need to be explored so as to increase the recycling rate of yard waste and wood waste.⁵ For instance, technologies for biochar production have become increasingly popular because of its soil fertility improvement as well as carbon sequestration potentials. Having taken into account the little local experience in and application of the said recycling technologies as well as use of the recycled products, the Administration plans to pursue a pilot plant project to try out potentially suitable woody waste recycling technologies and beneficial uses of the recycled products in the local context.

Major views and concerns expressed by Members

8. Issues relating to management of yard waste were brought up at meetings of the Panel on Environmental Affairs ("EA Panel") as well as the Subcommittee on Refuse Collection and Resource Recovery in the Sixth LegCo. Relevant issues were also raised during the examination of the Estimates of Expenditure in recent years. Members' major views and concerns are summarized in the ensuing paragraphs.

Reducing yard waste disposal at landfills

9. Members enquired about the Administration's targets to reduce yard waste disposal at landfills and adoption of more environmentally friendly and effective disposal methods. Some Members suggested the Administration set up a dedicated working group comprising representatives from the Agriculture, Fisheries and Conservation Department ("AFCD") and the Leisure and Cultural Services Department ("LCSD") to enhance and expedite the measures for reducing yard waste disposal at landfills.

⁴ Wood waste comprises waste matters derived from the processing of timber or woody tree trunks such as sawdust, timber offcuts, wood furniture and crates, pallets, wooden packaging, bamboo and timber form works for construction, etc.

⁵ Other yard waste and wood waste recycling technologies may include using wood chips as bulking agent for composting, as mulch, or for animal bedding; or for production of biochar, charcoal, heat or energy, etc. through pyrolysis or gasification.

10. The Administration advised that the Environmental Protection Department ("EPD") had been exploring various proposals to utilize yard waste resources effectively, with various treatment trials in progress. For example, trials had been conducted using industrial grade wood shredder to turn shredded wood into wooden chips for various uses, such as solid fuel for appropriate facilities, bulking agent in the composting process at the Organic Resources Recovery Centres ("ORRCs"), mulch for planting purposes, and soil cover at landfills. Subject to the outcome of the above trials, EPD would consider incorporating these proposals in long-term strategies on yard waste management.

11. The Administration further advised that yard waste generated from premises managed by AFCD and LCSD were treated through natural degradation or composting where space permitted. For instance, most of the yard waste generated from vegetation maintenance in country parks was stockpiled in nearby natural habitats to provide niches for wildlife. Some tree logs were recycled to make furniture or decorative materials for the recreational facilities in country parks such as animated features, waymarks and benches, and some were used for construction of hiking trails. However, not all yard waste could be treated in situ, given their large volume, the considerable space and time required for the decomposition process, and the physical constraints to install composting or other treatment facilities at certain existing premises. In 2019, about 83 tonnes of yard waste which had been infested with pests/diseases or mixed with invasive species were unavoidably disposed of at landfills because they were not suitable to be stockpiled on site in country parks for natural decomposition. EPD would continue to liaise with relevant departments with a view to raising the efficiency in the treatment of yard waste and reducing disposal of yard waste at landfills.

Yard waste treatment facilities

12. Members enquired about the development of centralized yard waste treatment facilities, including the possibility of recycling yard waste at ORRCs.

13. The Administration advised that ORRC1 and ORRC2 were designed for recycling food waste only. Currently, a temporary yard waste disposal and treatment site near T · Park in Tuen Mun had been set up and guidelines had been issued to DEVB and works departments requiring them to request contractors of public works programmes to properly separate yard waste from other waste and deliver yard waste to the above temporary site for onward treatment.

14. In the long run, EPD planned to develop a yard waste processing centre near T · Park. The facility would initially collect and process yard waste arising mainly from government departments and public works. Collected yard waste would be shredded, sterilized and air dried to produce different useful materials

to facilitate recycling or upcycling. The facility was expected to commence operation in early 2021 with an estimated treatment capacity of 11 000 tonnes in the first year, which would gradually increase to 22 000 tonnes a year subsequently (i.e. about 35% of the current disposal quantity of yard waste in MSW). In addition, EPD would study the development of a pilot plant in EcoPark to convert suitable yard waste into useful materials such as biochar. Subject to the results of the study, the pilot plant was expected to commence operation in early 2022.

Campaigns for recycling Christmas trees and peach blossom trees

15. Members asked about the effectiveness of the campaigns for recycling Christmas trees and peach blossom trees. Some Members observed that the Christmas trees and peach blossom trees collected were not properly handled and thus were unable to be recycled and converted into useful materials.

16. The Administration advised that since 2016, EPD had followed the prevailing government procurement procedures to engage qualified contractors with relevant experience and capability to provide services for collection, delivery and recycling of natural Christmas trees and peach blossom trees. The Christmas trees and peach blossom trees recovered between Christmas in 2016 and the Lunar New Year in 2019 were treated and then converted into compost, bulking agent for composting, mulch for gardening, wood pellets, solid fuel and other useful recycled products with a total weight of about 120 tonnes for use by facilities under EPD and 21 educational, social, charity or landscaping organizations. In the recycling process, the contractors would dispose of materials unsuitable for recycling (such as ropes for tying and damaged decorations). EPD would continue to closely monitor the contractors' progress and ensure that the work of the contractors complied with the contractual requirements.

Post-typhoon tree waste

17. Members expressed dissatisfaction about the Administration's incapability in handling fallen trees and broken branches at public places after the onslaught of super typhoon Mangkhut. The Administration also failed to forge collaboration across bureaux and departments ("B/Ds"), resulting in delayed clearing of fallen trees. Members enquired about the measures to be taken by the Administration to improve and strengthen the treatment of yard waste generated after natural disasters in future.

18. The Administration advised that super typhoon Mangkhut had caused extensive damage to trees and over 60 800 tree failure reports had been received. Various government departments worked in close collaboration to clean up fallen trees and broken branches, in particular those managing land or facilities

where the trees were located. The temporary wood waste collection area set up in the Kai Tak Development Area for handling tree waste caused by Mangkhut received a total of around 8 200 truckloads of tree waste. Some 1 300 tonnes of tree waste were recycled eventually.

19. After typhoon Mangkhut's attack in 2018, EPD procured an industrial grade wood shredder and two non-industrial grade wood shredders. The industrial grade wood shredder was placed in the temporary yard waste recycling site in EcoPark, and about 1 700 tonnes of yard waste had been shredded since its commencement of operation in November 2018 to January 2020. The other two wood shredders had completed the installation and testing procedures, and were now placed in the landfills as a backup for handling tree waste generated from emergency circumstances. Looking forward, EPD would continue to discuss with relevant B/Ds effective treatment of post-typhoon tree waste.

Council questions

20. At the Council meetings of 10 May 2017, 14 November 2018 and 5 December 2018, Hon HUI Chi-fung, Hon Holden CHOW Ho-ding and Hon Jeremy TAM Man-ho raised questions about the management of yard waste. The questions and the Administration's replies are hyperlinked in the **Appendix**.

Latest development

21. At the meeting on 22 June 2020, the Administration will brief EA Panel on the overall management of yard waste including the latest measures to promote yard waste reuse/recycling, and contingency arrangements for handling yard waste generated after natural disasters.

Relevant papers

22. A list of relevant papers is set out in the **Appendix**.

Management of yard waste

List of relevant papers

Date of meeting	Event	Paper
13 December 2016	Meeting of the Subcommittee on Refuse Collection and Resource Recovery ("Subcommittee")	Minutes of meeting (LC Paper No. CB(1)407/16-17)
5 June 2017	Meeting of Subcommittee	Administration's paper on "Technologies for waste separation and resource recovery in Hong Kong", "Work of the Steering Group on the Modification of Recycling and Refuse Collection Facilities in Public Places" and "Management of yard waste" (LC Paper No. CB(1)1061/16-17(01)) Administration's follow-up paper (LC Paper No. CB(1)1260/16-17(03)) Minutes of meeting (LC Paper No. CB(1)1318/16-17)
29 December 2017	Letter from Hon HUI Chi-fung on issues relating to the recycling of yard waste	Letter dated 29 December 2017 from Hon HUI Chi-fung on issues relating to the recycling of yard waste (Chinese version only) (LC Paper No. CB(1)425/17-18(01)) Administration's response to the letter dated 29 December 2017 from Hon HUI Chi-fung (LC Paper No. CB(1)766/17-18(01))
17 April 2018	Special meeting of the Finance Committee ("FC") for examination of Estimates of Expenditure 2018-2019	Written questions raised by Members and the Administration's replies (Reply serial numbers: ENB001, 094)

Date of meeting	Event	Paper
19 July 2018	Meeting of the Panel on Environmental Affairs ("EA Panel")	<p>Administration's paper on "5173DR - Organic Resources Recovery Centre Phase 2" (LC Paper No. CB(1)1249/17-18(03))</p> <p>Administration's follow-up paper (LC Paper No. CB(1)142/18-19(02))</p> <p>Minutes of meeting (LC Paper No. CB(1)1428/17-18)</p>
25 February 2019	Meeting of EA Panel	<p>Administration's paper on " Staffing proposal to take forward Municipal Solid Waste Charging and complementary waste reduction and recycling initiatives" (LC Paper No. CB(1)596/18-19(04))</p> <p>Administration's follow-up paper (LC Paper No. CB(1)974/18-19(02))</p>
9 April 2019	Special meeting of FC for examination of Estimates of Expenditure 2019-2020	<p>Written questions raised by Members and the Administration's replies (Reply serial numbers: ENB070, 089, 103, 191, 230) (Reply serial numbers: S-ENB006)</p>
28 October 2019	Policy briefing cum meeting of EA Panel	<p>Administration's paper on "2019 Policy Address - Policy initiatives of Environment Bureau: Environmental protection" (LC Paper No. CB(1)31/19-20(03))</p> <p>Minutes of meeting (LC Paper No. CB(1)251/19-20)</p>

Date of meeting	Event	Paper
6 April 2020	Special meeting of FC for examination of Estimates of Expenditure 2020-2021	Written questions raised by Members and the Administration's replies (Reply serial numbers: ENB037, 080, 148, 172, 226, 229, 235)

Other relevant documents:

Government bureau	Document
Environment Bureau	A Food Waste and Yard Waste Plan For Hong Kong 2014-2022 Agreement No. CE 9/2019 (EP) Development of a Pilot Plant for Woody Waste Recycling – Investigation, Design and Construction (English version only)
Development Bureau	Guidelines on Yard Waste Reduction and Treatment

Hyperlinks to relevant Council questions:

Date	Council Question
10 May 2017	Press release on Council question (written) raised by Hon HUI Chi-fung
14 November 2018	Press release on Council question (written) raised by Hon Holden CHOW Ho-ding
5 December 2018	Press release on Council question (written) raised by Hon Jeremy TAM Man-ho