

**For discussion on
22 June 2020**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Food Waste Collection and Delivery Arrangements

PURPOSE

This paper briefs Members on the findings of a consultancy study on food waste collection and delivery, and the progress of the Pilot Scheme on Food Waste Collection (the Pilot Scheme).

BACKGROUND

2. The Environment Bureau unveiled “A Food Waste and Yard Waste Plan for Hong Kong 2014-2022” (the Plan) in February 2014, which maps out four strategies to tackle food waste, namely reduction at source, reuse and donation, recyclable collection and turning food waste into energy. Hong Kong people throw away over 3 600 tonnes of food waste every day, accounting for some 30% of our total municipal solid waste volume. To promote reduction at source, we launched the Food Wise Hong Kong Campaign in May 2013. The Campaign promotes a food wise and waste less culture through various schemes and activities such as the Food Wise Charter and Food Wise Eateries Scheme as well as the publicity of the Big Waster, aiming to enhance public awareness of food waste issues and instil behavioural changes across different sectors of the community to avoid and reduce food waste at source. The Campaign also facilitates food donation from those establishments with surplus food to charitable organisations. Through the Environment and Conservation Fund, the Environmental Protection Department (EDP) has been supporting non-governmental organisations in running food recovery projects, under which surplus food is collected from the commercial sector and donated to the needy to achieve the goal of caring for society and reducing food waste. As experience of food waste collection reveals that disposable plastic tableware is a major category of contaminants

found in food waste, we are closely collaborating with the food and beverage sector and other stakeholders to promote source separation of food waste and reduced use of disposable plastic tableware.

3. The Chief Executive announced in her 2018 Policy Agenda that a pilot scheme would be introduced to examine the feasibility of implementing government-run food waste collection services in the long run. To take forward this initiative, we commissioned a consultancy study to explore the appropriate means, mechanism and operation mode for the collection and delivery of food waste. The consultancy study was completed in 2019. Meanwhile, the EPD has launched the Pilot Scheme since July 2018 to try out different approaches on collecting food waste and their effectiveness.

4. Food waste collection has to be supported by a massive network of recycling facilities to turn the food waste collected into energy. Located at Siu Ho Wan of the Lantau Island, the first phase (O·PARK1) of the Organic Resources Recovery Centre commenced operation in July 2018 with a food waste treatment capacity of 200 tonnes per day (tpd). The second phase (O·PARK2) in Sha Ling of the North District is under construction and is expected to begin operation in 2022 with its treatment capacity at 300 tpd. As for the third phase, we commissioned in mid 2018 the necessary engineering feasibility study and environmental impact assessment. In view of the technical challenges ahead, we remain open-minded about the location of the facility and will consider other alternatives, such as identifying a new site or expanding existing recycling facilities.

5. To better utilise existing resources for higher recycling rate of food waste, the EPD is working with the Drainage Services Department to examine the application of the “food waste/sewage sludge anaerobic co-digestion” technology, whereby food waste is turned into biogas for power generation. The first trial scheme has been started at the Tai Po Sewage Treatment Works (STW) since May 2019 with a food waste treatment capacity of 50 tpd. We are planning to extend the trial scheme to the Sha Tin STW in 2022, and will continue to apply the technology further to boost the overall food waste treatment capacity in Hong Kong.

The Consultancy Study on Food Waste Collection

6. The key findings and specific recommendations of the consultancy study are as follows:

- a) A voluntary approach may be adopted to implement food waste recycling in phases, with waste generators producing food waste of large quantities and low level of contamination, i.e. from the commercial and industrial (C&I) sector, as the initial targets for their waste is relatively easier to collect;
- b) Free collection services for food waste may be provided under a pilot programme to encourage community involvement;
- c) Given the public concerns about environmental hygiene and odour problems, it is suggested that proper means to be adopted to contain food waste for disposal. It will be necessary to carry out a pilot programme to test the use of different means such as reusable containers, transparent/semi-transparent plastic bags or waste newspaper to contain food waste with a view to choosing the options that best serve the different needs and situations in Hong Kong;
- d) Domestic households or users/tenants of C&I buildings may bring their food waste to the central refuse rooms, where property management companies (PMCs) will arrange for collection services by food waste collectors;
- e) Smart food waste collection bins are suggested to be used to facilitate domestic food waste collection in housing estates. With scientific technologies embedded, smart bins may help monitor food waste collection, track participation rate, arrange on-time collection services and minimise odour and hygiene problems;
- f) Food waste should be collected and removed daily at non-peak hours;

- g) Food waste decomposes quickly and is thus not suitable for delivery to refuse transfer stations for compression treatment. Direct haul to food waste recycling facilities is recommended to reduce odour and hygiene problems; and
- h) Side-loader tanker trucks are preferred to tail-lift vehicles for food waste collection because of higher payload, prevention of spillage of leachate and better efficiency during the unloading operation at food waste recycling facilities.

First Phase of the Pilot Scheme on Food Waste Collection

7. The EPD has launched the Pilot Scheme since July 2018, focusing on food waste generated from the C&I and public sectors with a view to identifying and ascertaining the major operation and logistic arrangements for the collection and delivery of food waste to the O·PARK1 that commenced operation in the same month. To date, the Pilot Scheme covers 70 public venues, including 19 hospitals under the Hospital Authority (HA), 40 public markets and cooked food venues managed by the Food and Environmental Hygiene Department (FEHD), 9 shopping centres and wet markets in public housing estates, as well as 2 Wholesale Food Markets managed by the Agriculture, Fisheries and Conservation Department. Since April 2019, the EPD has also provided free food waste collection services for all primary and secondary schools across the territory through school lunch suppliers. In addition, 120 establishments comprising food factories, restaurants, airline caterers, shopping malls and hotels voluntarily collect, source-separate and deliver their food waste to the O·PARK1 for recycling on a daily basis.

8. To promote recycling of food waste and enhance the quantity and quality of the food waste collected, the EPD has engaged a contractor to provide guidance and training for operators of public market stalls, cooked food venues and shopping centres as well as participating private firms on how to practise source separation, collection and delivery of food waste. The average quantity of food waste collected under the Pilot Scheme in 2019 was about 90 to 100 tpd.

9. The Pilot Scheme has received positive and active feedback since its launch, with participants willing to continue with their support. Some have suggested that food waste collection services of a larger scale will help

encourage more establishments to practise food waste separation and recycling. Experience gained from the Pilot Scheme also indicates that side-loader tanker trucks are preferred to tail-lift vehicles for food waste collection as more food waste can be collected with a higher efficiency in its collection and delivery. Moreover, time schedules on food waste collection services have to be adjusted to meet the operational needs of different C&I establishments.

Second Phase of the Pilot Scheme on Food Waste Collection

10. Based on the groundwork laid and experience gained in the first phase of the Pilot Scheme, we plan to roll out the second phase of the Pilot Scheme on a larger scale by the end of 2020. In addition to collecting food waste from C&I sources, we will progressively collect and deliver domestic food waste to the ORRCs direct for turning waste into energy. Comparing with onsite composting in housing estates, the new initiative will significantly enhance the food waste recycling volume as well as the efficiency of turning waste to energy, and allow more domestic households to participate in the Pilot Scheme.

11. The Pilot Scheme will adopt a phased approach for the daily collection and delivery of source-separated food waste mainly generated from Hong Kong Island and Lantau Island, Kowloon and the New Territories. The EPD is preparing to invite tenders to provide vehicle fleet for the collection of food waste.

12. We have invited more stakeholders to join the second phase of the Pilot Scheme. As compared to the first phase, some 150 more venues have expressed interest in joining the second phase. These include 47 catering facilities of community service organisations, 59 shopping centres and wet markets in public housing estates, 26 canteens in government and tertiary institution premises, 13 public markets and cooked food venues managed by the FEHD and 9 hospitals under the HA. Furthermore, we will invite public and private housing estates with experience in source separation of food waste to participate in the Pilot Scheme, and will continue to solicit support from the C&I sector.

13. The collection services of the second phase will adopt the recommendations of the consultancy study mentioned in paragraph 6 above as well as the experience gathered in the first phase, with a view to enhancing the

collection efficiency and abating hygiene problems and odour nuisance. The contractor will closely liaise with waste generators or PMCs to devise suitable food waste collection arrangements for the venues, while flexibility will be allowed on the choice of collection vehicles to cope with specific constraints of individual venues. We will also encourage the trial of smart bins to collect domestic food waste in housing estates to increase efficiency and ensure environmental hygiene.

14. On the other hand, the Recycling Fund of the EPD has earmarked \$50 million to encourage the industry to initiate business on food waste collection and delivery to food waste treatment facilities. The Recycling Fund also supports the sector in adopting new technologies and equipment to enhance the efficiency in collecting and treating food waste.

15. The food waste collected daily will progressively increase upon the introduction of the second phase of the Pilot Scheme. We expect that the quantity of food waste collected will gradually reach 250 tpd in 2022.

THE WAY FORWARD

16. Having regard to the findings and recommendations of the consultancy study, the EPD will implement the second phase of the Pilot Scheme by the end of this year to accumulate experience and knowledge in food waste collection in line with the promotion of a food wise and waste less culture and the enhancement of waste-to-energy facilities, with a view to preparing for further expansion of the scope of food waste collection.

ADVICE SOUGHT

17. Members are invited to note the content of the paper and give views on the Pilot Scheme.

Environment Bureau
Environmental Protection Department
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