

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**Supplementary Information on
Improvement and Extension Works of Waste Management Facilities**

The proposal of upgrading three projects on waste management facilities (viz Part of **5165DR** – West New Territories (WENT) landfill extension, **5184DR** – Refurbishment and upgrading of West Kowloon transfer station and **5185DR** – Refurbishment and upgrading of Island West and Island East transfer stations) to Category A was discussed at the Legislative Council Panel on Environmental Affairs on 22 February 2021. At the meeting, Members asked the Administration to provide information on:

- (a) details of the mechanism for reviewing and updating the Administration's strategies and targets in respect of waste management roughly every five years, with a view to ensuring that the long-term targets set out in the Waste Blueprint for Hong Kong 2035 would be achieved within the expected time frame;
- (b) key performance indicators (if any) of the operation of major waste-to-resources/energy facilities and quantifiable assessment of the effectiveness of these facilities in reducing waste disposal at landfills; and
- (c) report of the consultancy study for preparation of the West New Territories Landfill Extension project.

2. The information in respect of the above queries is appended below for Members' reference.

- (a) Details of the mechanism for reviewing and updating the Administration's strategies and targets in respect of waste management roughly every five years, with a view to ensuring that the long-term targets set out in the Waste Blueprint for Hong Kong 2035 would be achieved within the expected time frame

3. The Government unveiled on 8 February this year the “Waste Blueprint for Hong Kong” (the Blueprint). Setting out the vision of “Waste

Reduction•Resources Circulation•Zero Landfill”, the Blueprint outlines the strategies, goals and measures to tackle the challenge of waste management up to 2035. Under this vision, the Government will work with the industry and the community to move towards two main goals. The medium-term goal is to gradually reduce the per capita municipal solid waste (MSW) disposal rate by 40 to 45% and raise the recovery rate to about 55% by implementing MSW charging, while the long-term goal is to move away from the reliance on landfills for direct waste disposal by developing adequate waste-to-energy facilities.

4. To achieve the above goals as well as waste reduction and recycling on a considerably larger scale, in accordance with the vision and strategies laid down in the Blueprint, we will make greater efforts in mobilising the entire community to practise waste reduction, and implement multi-pronged measures, for example, taking forward various legislative proposals, implementing MSW charging and producer responsibility schemes, expanding the central collection services for food waste and waste plastics, enhancing the community recycling network, supporting the recycling industry as well as strengthening our education and publicity work. On the other hand, we will promote transformation of waste into resources and build a circular economy through the further development of waste-to-resources/energy facilities. Should sufficient waste-to-energy facilities with adequate treatment capacity be in place by around 2035, we will no longer need to rely on landfills for direct disposal of our MSW. By then, only a small amount of waste that is non-combustible and cannot be recycled or reused will be directly sent to the landfills. For the treatment of construction waste, the Government will further encourage the construction industry to practise source separation as far as possible, and develop appropriate sorting facilities for construction waste, with a view to enhancing the reuse of construction materials and minimizing the disposal of construction waste at landfills.

5. The market, technologies and opportunities are ever-changing, and whether the targets in the Blueprint can be achieved as scheduled will depend on a number of factors including the participation and support of members of the public and different sectors of our society. Therefore, we have to take more steps to keep pace with the times by timely reviewing our actions and goals in a pragmatic manner. In order to realise the vision and keep abreast of the latest situation, we plan to conduct periodic review of and even update our strategies and targets roughly every five years to make timely adjustments and meet the prevailing community needs. In the course of review and update, we will study the latest development of waste recycling and treatment in Hong Kong, consult relevant stakeholders, and draw reference from the latest practice of other places. Upon completion of the review and update, we will report the findings to the

Panel on Environmental Affairs of the Legislative Council.

(b) Key performance indicators of the operation of major waste-to-resources/energy facilities and quantifiable assessment of the effectiveness of these facilities in reducing waste disposal at landfills

6. In 2019, the average quantity of MSW disposed of at landfills was about 11,000 tonnes per day. We have been proactively developing more waste-to-resources / energy facilities to transform waste into resources. The detailed plans and targets are as follows :

Waste-to-Resources/Energy Facilities	Commencement Date	Treatment Capacity and Waste Type
Waste-to-Energy Facilities		
T·PARK (sludge treatment facility)	April 2015	2,000 tonnes of sewage sludge/day
O·PARK1 (Organic Resources Recovery Centre Phase 1)	July 2018	200 tonnes of food waste/day
Food Waste/Sewage Sludge Anaerobic Co-digestion Trial (Tai Po Sewage Treatment Works)	May 2019	50 tonnes of food waste/day
Food Waste/Sewage Sludge Anaerobic Co-digestion Trial (Shatin Sewage Treatment Works)	2022 (expected)	50 tonnes of food waste/day
O·PARK2 (Organic Resources Recovery Centre Phase 2)	2023 (expected)	300 tonnes of food waste/day
I·PARK (Integrated Waste Management Facilities)	2025 (expected)	3,000 tonnes of MSW/day
Waste-to-Resources Facilities		
WEEE·PARK (Waste Electrical and Electronic Equipment Treatment and Recycling Facility)	March 2018	About 80 tonnes of WEEE ¹ /day
Y·PARK (Yard Waste Recycling Centre)	End of 2021 (expected)	60 tonnes of yard waste/day

¹ WEEE (Waste Electrical and Electronic Equipment) includes air-conditioners, refrigerators, washing machines, televisions, computers, printers, scanners and monitors.

Paper Pulping Facility	2024 (expected)	About 820 tonnes of waste paper/day
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7. To achieve the vision of “Zero Landfill” through resources circulation, we will develop more waste-to-resources / energy facilities in the long run, including an additional state-of-the-art waste-to-energy facility for handling non-recyclable MSW. We will also continue to develop more food waste-to-energy facilities and optimise the use of land to modify the sewage treatment works for carrying out food waste/sewage sludge anaerobic co-digestion, as well as explore other innovative food waste treatment technologies with a view to enhancing the overall food waste treatment capability in Hong Kong. Our target is to largely equip Hong Kong with adequate facilities by mid-2030s to handle the amount of food waste expected to be collected (i.e. around half of the daily food waste disposal). As mentioned above, should sufficient waste-to-energy facilities with adequate treatment capacity be in place by around 2035, we will no longer need to rely on landfills for direct disposal of our MSW.

(c) Report of the consultancy study for preparation of the WENT Landfill Extension project

8. Since the Finance Committee (FC) of the Legislative Council approved in December 2014 the funding for the design and related consultancy study of “West New Territories landfill extension – consultants’ fees and investigations”, a consultancy study with the scope approved by the FC² was commissioned in September 2015 to proceed with various outline design, site investigation and related preparatory work.

9. The related design and investigation work of the consultancy study have been substantially completed, including the detailed examination of different landfill extension options and land requirements. Having regard to the views of local communities and taking into account that the Government is proactively planning to develop more waste-to-energy/resources facilities to handle municipal solid waste, we plan to reduce the landfill extension area from the original design of about 200 hectares (ha) to about 100 ha. The landfilling area is also halved, from the original design of about 180 ha to about 94 ha. In addition, the whole project does not require resumption of any private land or removal of existing graves and temples. We can speed up the project progress

² The scope of the consultancy study approved by the FC comprises (i) outline design of the extension scheme; (ii) study on interfacing and handing-over issues; (iii) arrangement and supervision of site investigation and baseline surveys; (iv) tender document preparation, tender assessment and contract procurement; and (v) contract administration and management of resident site staff in the initial years of the design-build-operate contract.

and reduce its impacts on the relevant parties. According to the preliminary design, the landfill extension can provide a landfilling capacity of about 76 million cubic metres to meet waste disposal need in Hong Kong in the short to medium term.

10. A copy of the consultancy report on the enhanced outline design for the landfill extension project has been sent to the Secretariat for Members' reference.

11. Regarding the plasma gasification technology adopted in Teesside, United Kingdom as mentioned by Member, the technology is a thermal treatment technology which breaks down waste under extremely high temperature and oxygen-starved environment to produce synthetic gas (syngas) for generation of electricity. However, the plant failed to operate successfully. We have been keeping track of the latest development of plasma gasification technology. Although similar facilities were found in other cities, such facilities are in small scale and are mostly in pilot scale or in research and development stage, with limited track records in commercial scale. Currently, plasma gasification technology is primarily used for treating industrial waste and hazardous waste. The application of such technology to treat mixed MSW is still undergoing various complex challenges, and no facility has been successful in maintaining persistent and long-term treatment of mixed MSW using such technology in commercial scale.

**Environment Bureau / Environmental Protection Department
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