

Islands District Council
Paper No. IDC 60/2018

**Integrated Waste Management Facilities Phase 1 –
Latest Progress and Architectural Design**

Purpose

This paper aims to present the latest progress of the Integrated Waste Management Facilities (“IWMF”) Phase 1 project and consult members on the architectural design of the IWMF Phase 1.

Background

2. To tackle the challenges brought by the imminent waste problems, the Environment Bureau announced the “Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022” (“the Blueprint”) in 2013 that maps out a comprehensive strategy with targets, policies and action plans on waste management for the 10 years from 2013, with a view to tackling the waste crisis in Hong Kong. To achieve the goal, the Blueprint proposes policies and actions in three areas, namely undertaking multiple and concurrent actions to drive behaviour change to reduce waste at source through policies and legislation; rolling out targeted territory-wide waste reduction campaigns; and allocating resources to enhance waste-related infrastructure, including the treatment of municipal solid waste (MSW) with waste-to-energy technologies.

3. In addition to measures such as waste reduction at source and recycling, the use of advanced waste-to-energy technology to treat waste is an indispensable part of modern urban waste management strategies. The IWMF Phase 1 is located on an artificial island near Shek Kwu Chau. In addition to an incineration system which will be capable of treating MSW up to 3,000 tonnes per day, the IWMF Phase 1 will also be equipped with a mechanical sorting and recycling facility which could recover useful resources from up to 200 tonnes of MSW per day.

4. The IWMF Phase 1 will recover heat energy from the incineration

process to reduce the use of fossil fuel in electricity generation and greenhouse gas emission. We expect that the IWMP Phase 1 will produce about 480 million kilowatt-hours of surplus electricity for export to the existing power grid in Hong Kong every year, which will be sufficient for use by 100,000 households. Through the replacement of fossil fuel in electricity generation and reduction of MSW for landfill disposal, it is estimated that about 440,000 tonnes of greenhouse gas emissions per year can be curtailed.

5. The architectural and landscaping design of the IWMP Phase 1 will embrace the environmental philosophy of “Green, Clean and Lean” so as to blend in with the surrounding environment (see attachment). We will also strive to acquire the green building rating accreditation of BEAM Plus Gold or a higher rating for the project. The IWMP Phase 1 will adopt state-of-the-art air pollution control system to ensure that its emissions will comply with the most stringent emission standards in Hong Kong and the European Commission. 24-hour air quality monitoring stations will be set up at Shek Kwu Chau, Cheung Chau and South Lantau to comprehensively monitor and provide objective data on local air quality to ensure that the operation of the IWMP Phase 1 will not affect the surrounding environment.

Latest Progress

6. In January 2015, the Finance Committee of the Legislative Council approved the funding application for the project cost of IWMP Phase 1 estimated at \$19,203.7 million.

7. Following an open tender process, we awarded the contract for the design, construction and 15-year operation of the IWMP Phase 1 to Keppel Seghers-Zhen Hua Joint Venture, a company jointly formed by Keppel Seghers Hong Kong Limited and Zhen Hua Engineering Company Limited.

8. The estimated awarded contract sum is \$31.4 billion, covering the design and construction cost estimated at \$18 billion and total operation fees estimated at \$13.4 billion for 15 years of operation, including provisions for price adjustments and project contingencies.

9. The design and construction of the IWMF Phase 1 commenced in December 2017. The Contractor is currently carrying out detailed design, detailed construction planning and preliminary investigation and testing works. Reclamation work will commence in the fourth quarter of 2018. We expect commissioning of the facility in 2024.

Architectural Design

10. We presented the latest progress of the IWMF Phase 1 project at the “Islands District Liaison Group”¹ meeting on 26 April 2018. The Contractor also briefed members the architectural and landscaping design as well as options for the chimney design (see attachment). Members generally supported the architectural and landscaping design concepts of the IWMF Phase 1 and expressed views on the options for the chimney design.

11. In addition, we have set up an expert review panel for the architectural and landscaping design of the IWMF Phase 1. Panel members include representatives from the Hong Kong Institute of Architects, the Hong Kong Institute of Landscape Architects, the Hong Kong Institute of Urban Design, the Hong Kong Green Building Council and the School of Architecture of the Chinese University of Hong Kong. The panel members have provided professional views and advice on the architectural and landscaping design.

12. After collecting views from all relevant parties on the architectural design, we will reflect these views to the Contractor. Subject to technical feasibility and compliance with relevant safety requirements, the architectural design of facility and chimney will be further enhanced.

Advice Sought

¹The Government set up the Islands District Liaison Group in July 2015 on the environmental planning and management of major waste facilities in the Islands District (including the IWMF Phase 1) with a view to strengthening communication with the local communities so as to enhance understanding and minimize potential impacts. The Islands District Liaison Group comprises members from the Environmental Protection Department, the Chairman of Islands District Council, the Chairman of the Tourism, Agriculture, Fisheries and Environmental Hygiene Committee of the Islands District Council and individual members, chairmen of relevant rural committees, local stakeholders and representatives of relevant government departments.

13. Members are invited to note the latest progress of the IWWMF Phase 1 project and offer comments on the architectural design.

14. During the design, construction and operation stages of the project, we will continue to maintain close liaison with the Islands District Council, local communities and other relevant stakeholders with a view to listening to their views and responding to their concerns.

Environmental Protection Department
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