Seberang Perai
Proposal For an Integrated Waste Management Facility in Pulau Burung Sanitary Landfill

WCS Smart Cities Workshop
Seberang Perai, Malaysia
Outcome 1: Towards zero waste disposal at landfill by 2030

Outcome 2: Achieving 80% waste recycling rate by 2030

Outcome 3: Fostering practice of segregating waste and storing recyclables at source by households and trade premises for collection by 2025

Outcome 4: Aligning waste management towards Seberang Perai’s decarbonization aspirations, and realizing the vision of Carbon Neutral City by 2030 and a Zero Carbon City by 2050

Vision
Transit to Circular Economy for waste management, and building a thriving local industry for waste reuse, repair, remanufacturing and regeneration
Current Waste Management

- Waste Generation – 538,000 tonnes/year
- Pulau Burung Sanitary Landfill
  - Located at Pulau Burung, South District of Seberang Perai
  - Disposal of municipal waste from (a) South District of Seberang Perai, and (b) Penang City Council
  - Disposal of non-hazardous industrial waste from Seberang Perai
  - Currently, 1/6 of landfill capacity has been used up, and the landfill is projected to reach full capacity by 2035
- Ampang Jajar Transfer Station
  - Receiving waste from households, wet markets, food courts from North and Central Districts of Seberang Perai
Proposed Waste Management

- **Waste Processing & Treatment Centre** under development
  - Location: Co-located with Ampang Jajar Transfer Station
  - Capacity: 650 tonnes/day
  - Material Recovery Facility (MRF)
  - Anaerobic Digestion Plant (AD)
  - Construction and Demolition (C&D) waste facility
  - 10% inert waste will be sent to Pulau Burung Sanitary Landfill for disposal

- Proposed **Integrated Waste Management Facility** (IWMF) to complement the Waste Processing & Treatment Centre
  - To further reduce the reliance on Pulau Burung Sanitary Landfill
  - To drive waste management towards a circular economy
  - To build a comprehensive waste management system and resilient waste infrastructure
Project Overview

Proposed Integrated Waste Management Facility (IWMF)

- Location: Co-located with Pulau Burung Sanitary Landfill
- Capacity: 1,500 tonnes/day (industrial and domestic waste)
- Facility/Plant
  - 1,500 tonnes/day capacity MRF
    (500 tonnes/day will be segregated)
  - 1,000 tonnes/day capacity Waste to Energy (WTE) plant
    (to treat mixed waste from reject MRF and landfill.
- Ancillary services: Buy-Back Centre and Exhibition Centre
Ways Forward

Integrated Waste Management Facility (IWMF)
Invitation to technology companies with the necessary technologies, and planning, design, EPC and O&M experience and track records of Waste to Energy (WTE) plants and Materials Recovery Facility (MRF), and finance institutions to participate in:

- Developing a 1,000 tonnes/day capacity WTE plant
- Exploring the recycling infrastructure required to support the MRF operations
Key Learning Points from TFURP

- Seberang Perai’s participation in the Temasek Foundation Urban Resilience Programme (TFURP) held in Singapore on early 2021 to mid 2022 provided
  - Useful insight into Singapore’s integrated solid waste management system
  - Deeper understanding in the transition from Linear Economy to Circular Economy in waste management

- Useful waste management examples from Singapore included
  - Inter-agency interactions and coordination among local governments and sharing experience of solid waste management operations
  - Policies and strategies of waste management in addressing urban challenges and climate change impact

- TFURP also opened up a new networking opportunities for Seberang Perai in order to upgrade and improve solid waste management of our city.

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Thank You

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