BUSINESS ENVIRONMENT COUNCIL 商界環保協會

BEC Topical Digest

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Recyclables Sorting Options in Hong Kong

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Hong Kong has been facing a waste crisis for decades, with a growing waste disposal rate but a consistently low resource recovery rate. In February 2021, the Hong Kong Government announced the *Waste Blueprint for Hong Kong 2035*, which sets a medium-term target to reduce per capita municipal solid waste ("MSW") disposal by 40-45% and increase the recovery rate to approximately 55%. There are new policy measures to help us get closer to the target, including collection (e.g. GREEN@COMMUNITY and future mandatory recyclable collection at housing estates) and downstream treatment facilities (e.g. O·PARKs).

On the challenge side, the recyclable collection network is largely manual-based, leading to question about labour and logistic costs in the long term. It is also noteworthy to mention that out of Hong Kong's current 31% recovery rate, 85% of the recyclables are delivered to overseas for recycling. Arguably, the local recycling capacity is not yet in scale to meet potential growth of collected recyclables.

Material Recovery Facilities could be an essential component of any city's residential and commercial recycling policies, increasing the sheer quantity of recyclable materials diverted from landfills.

This Topical Digest highlights key findings of the BEC report *Material Recovery Facilities ("MRFs"): Exploring Recyclables Sorting Options in Hong Kong*. Read full report here.

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What are Material Recovery Facilities ("MRFs")?

Dirty Material Recovery Facilities ("DMRFs")

- **Specialised facilities** that process **solid waste**, including **contaminated or hazardous materials**, in order to recover materials and reduce the amount of waste sent to landfills or incinerators.
- The input for DMRFs includes any **waste** and **recyclable materials.** Typically, the material is extracted from mixed MSW streams.
- The process of DMRFs involves various techniques, such as **shredding**, **crushing**, or **melting** the materials.

Clean MRFs

- **Recycling facilities** that process **recyclables** gathered from **residential**, **commercial**, and **industrial** sources.
- The input for clean MRFs are **all recyclable materials** collected in the same bin or container **without** any need for **sorting**.
- Clean MRFs utilise mechanisms which vary depending on the target recyclable. For example, **jet streams (plastic film)**, **magnet (metal)** and **infrared sensing (plastic)**.
- Clean MRFs also make recycling **easier** for general public by assigning the **sorting responsibility** to the **recycling facility.**

Material-specific Clean MRFs

- The input for material-specific clean MRFs is only **one type of recyclable** collected from multiple bins or containers and **sorted at the source**.
- Material-specific clean MRFs use mechanisms to **sort** the **residual waste from the recyclables** collected from specific recycling bins.
- The **technical** and **financial barriers** for material-specific clean MRFs are **lower** than traditional clean MRFs.
- The public bears the **burden of sorting** of materials.
- The practice is more similar to the current recycling system in Hong Kong.

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Why do we need MRFs in Hong Kong?

The need for a more efficient and convenient collection and sorting system

- A **manual** and **decentralised system** causes **inefficiencies**, and therefore, a small number of automated and centralised MRFs could be considered as an alternative option beneficial to operators and the wider community.

Mistrust of current recycling system

High contamination rate

The tendency for the bins to overflow

Majority of recyclables are sent to landfills

- **Food waste**, **plastic** and **paper** are always among the **top three types** of **waste** disposed of in **landfills**, accounting for more than 70% of MSW.
- The volume of paper and plastics sent to landfill is higher than other recyclables (glass and metals).
- The **incentives** for both commercial and residential buildings to recycle remain **insufficient** (**Low gate fees** and **no landfill tax** in Hong Kong).

2020: 31% MSW
2021: 30% MSW

2020: 21% MSW
2021: 21% MSW

2020: 24% MSW
2021: 20% MSW

Policy Recommendations for Hong Kong

Increasing Incentives for Commercial Sector to Recycle

- Hong Kong's waste management hierarchy is the **low gate fees (or landfill tax)** to dispose of municipal solid waste ("MSW") at landfills.
- Hence, **recyclable materials** are not properly recycled and disposed of in **landfills**, taking up valuable space.
- The Government should consider **increasing gate fees** to incentivise companies to recycle.
- The Government should introduce **regulations** to **ban sending recyclables** to **landfills** or **incinerators**, ensuring all recyclable materials are recycled and thus minimising waste of finite resources.

Government Intervention for Setting-up MRFs

- The Government can choose to either **subsidise** or **fully fund** the **set-up** and **operations** of MRFs (Similar to O•PARKs, T•PARK and WEEE Facility).
- A **gradual transition** from refuse transfer stations to adopting MRFs.
- The Government should work closely with the recyclers to understand their needs to best situate such MRF facilities.

Strategic Urban Planning and Effective Land Use

- MRFs should be built in **flat** and **stable** areas **close to existing roads**, and located in the industrial zone or **close to landfills**.
- Potential locations for setting up MRFs: **Refuse transfer station** at **new development areas** (Hung Shui Kiu) and **Saturated Landfill Sites** (South East New Territories Landfill).

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