

Hong Kong's Growing Municipal Solid Waste Problem: Options For A Sustainable Future

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Abstract

The waste issue in Hong Kong is very serious, urgent and produce grave consequences. Around 6 million tonnes of municipal solid waste (MSW) are produce each year. Three landfills will be overloaded in the coming five to ten years. Hong Kong needs a more sustainable way to deal with waste. Hong Kong has limited lands and since the landfills are nearly full, building incinerators for solving overloaded waste maybe the best option. Hong Kong can learn from other governments on how to ease transition into implementing incinerators to process MSW.

Methods

- . This study reviewed the current opposing perspectives on constructing incinerators in Hong Kong
- . Nearby governments (Japan & Taiwan) were selected to analyze how incineration was adopted and what benefits were gained from incinerators
- . Suggestions were made a more sustainable MSW solution for Hong Kong

Opposition perspectives on constructing incinerators

- . Economic: Construction of incineration facilities is expensive, government should focus on motivating public on waste classification
- . Environmental: Incineration of MSW produces dioxins, causing air pollution to the nearby residential area and the surrounding habitats
- . Social: The proposed construction sites of incineration facilities (Tuen Mun and Shek Kwu Chau) are located near the residential area and required reclamation project, respectively.
- . Social & Environmental: 31 hectares of fishable areas will be damaged and tourism in the nearby islands will also be affected



Figure 1: One of the incineration facilities in Taiwan. It has a 360° degree restaurant on top of the incineration plant.

Case Study: Japan

- . The Waste Cleaning Act in 1900 had two major goals: improve public health and incinerate waste
- . This led to creation of more than 1500 incinerators in Japan
- . Cultivated individuals with advanced knowledge and skills who were certified as engineering managers for waste management facilities and pollution prevention in order to ensure the efficient maintenance of facilities for proper waste management
- . Increased incineration efficiency
- . Promoted effective waste treatment and disposal
- . Set up laws to ensure citizens are educated on waste treatment
- . Residents understand the important position of incineration in their country because the government communicated well with residents

Case Study: Taiwan

- . The EPA implemented the resource recovery policies in 1998 with the goal to replace landfill by incineration
- . Led to 29 incinerators created in Taiwan.
- . At the end of 2015, 97.12% of wastes were incinerated and 2.83% was landfilled
- . Incineration generates electricity for countries with insufficient natural resources to provide its own energy, like Taiwan.
- . Today, 450,980 kW of electricity are generated daily by incineration
- . Taiwan has lowest emission of dioxins in the world
- . Educated citizens on the importance of incineration and waste disposal by brochures

Conclusion

- . Construction of incineration facilities are necessary for solving waste issues in short term in Hong Kong
- . Hong Kong must use the most advanced, safe and reliable technology on incineration facilities
- . Design of the incineration facilities should integrate smoothly into the community in a harmonious way
- . Government should connect with their citizens closely via open consultation
- . Expansion of landfills is not a sustainable way for future development
- . Education and establishment of environmental laws on waste treatment is best solution for Hong Kong's waste challenges.

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