

## Executive Summary

The quantity of Municipal Solid Waste (MSW) in Hong Kong has increased more than 40% over the past 26 years, from 2.7 million tonnes in 1991 to 3.92 million tonnes in 2017, (According to the Environmental Protection Department's report "Monitoring of Solid Waste in Hong Kong - Waste Statistics for 2017").

The amount of waste has subsequently caused growing concern and increased awareness amongst the general public. This is especially so due to the harmful effects of the overwhelming levels of waste in our city and landfills. It has also brought a huge challenge to our solid-waste management system, which still mainly relies on the three landfills located in Ta Kwu Ling, Tseung Kwan O and Tuen Mun.

In a small and densely populated city like Hong Kong, landfills are not a sustainable measure. In addition to the level of waste itself, it also directly impacts the surrounding environment. As such recycling should be an important part of our waste-management system, as indicated in "Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022". Unfortunately, statistics show that the overall recycling rate actually dropped from 52% in 2010, to 32% in 2017. The recycling rate of domestic waste is even lower than the overall recycling rate, which was only 23% in 2017.

Whilst there may be just a tiny difference between resource and waste, the key still lies in the environmental awareness of the general public. To encourage waste reduction and recycling, the Environmental Bureau submitted to the Legislative Council, its Waste Disposal Bill (Charging for MSW) in October 2018. Other regional cities, Seoul and Taipei, have also faced the same difficulties in waste reduction and recycling. These cities have made improvements after establishing a charging scheme in 1995 and 2000 respectively. The government estimated that MSW charging could be implemented in Hong Kong by Dec-2020 at the earliest.

As the inheritors and leaders of our future society, young people (who also play an important role in driving social development) ought to contribute their insights to help guide the government's waste reduction and recycling

policy-making.

Therefore, the experiences of other cities in promoting waste reduction and recycling and the views of Hong Kong's younger generation were investigated in this study. Possible solutions will be highlighted that, it is hoped, would help promote waste reduction and recycling in Hong Kong.

In conducting this research in February 2019, data were collected for analysis through a survey of 520 young people (aged 15-34); 20 young people participating in focus-group interviews; and interviews with seven experts or academics.

## Main Discussion

- 1. Given the persistently high disposal rates of waste in recent years, it is urgent for the government to have more measures to address the problem of waste reduction and recycling.**

Since 2011 (According to the Environmental Protection Department), Hong Kong's per capita disposal rates of MSW has continued to rise steadily. It reached a record daily high of 1.45kg per capita in 2017, an increase of more than 10% within 7 years. It also failed to reach the interim target stated in "Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022" of 1kg per person per day by 2017.

In recent years the overall recycling rate has also dropped continuously, from 52% in 2010 to 32% in 2017. The recycling rate of domestic waste is even lower than the overall recycling rate (Only 23% of domestic waste was recycled in 2017).

With increasing levels of waste in Hong Kong, the government should be more active in addressing the problem of waste reduction and recycling. At the same time, it should also formulate relevant policies by reviewing current difficulties in waste reduction and recycling.

**2. Promoting waste reduction and recycling is beneficial for developing a sustainable society; and helping to limit both global warming and the negative impacts on our bodies.**

In this survey, 358 youth (out of total 520 respondents) stated they had “frequently” or “occasionally” recycled plastic, paper, or metal cans (within one month prior to the interview). The major reasons for participating in recycling were: “reducing the damage to the environment” (64.5%); and “avoiding the waste of resources” (50%).

As indicated in the interviews with experts, encouraging the general public to participate in waste reduction and recycling would help to relieve the burden on landfills and thereby limit the damage to people’s physical health as well as reducing the impact of global warming.

In summary, promoting waste reduction and recycling in Hong Kong helps our whole society to achieve a win-win situation: it relieves the burden on waste management; benefits society by making it more sustainable in the long run; and limits the negative impacts on human health and global warming.

**3. Environmental regulations in Hong Kong are inadequate and lag behind other cities.**

The interviewed experts believed that inadequate environmental regulations are a leading factor in the recent continuing growth of waste in Hong Kong.

Seoul, Berlin and Taipei have implemented a mandatory waste-separation policy since 1992, 1999 and 2001 respectively. A producer-responsibility scheme in Taipei and Seoul has been applied to more than 30 different types of products. In Hong Kong, however, the producer-responsibility scheme only applies to plastic shopping bags and waste electrical and electronic equipment. Other products, such as glass beverage or plastic product containers are either still in the consultation process or the legislation is still being

prepared.

In light of the above existing real-world examples, the government needs to put more effort into environmental regulation. Legislation could, for example, include widening the scope of the producer-responsibility scheme to include more products. The government should consider the possibility of implementing mandatory waste separation in Hong Kong to increase long-term participation in waste reduction and recycling.

#### **4. The local recycling industry faces serious difficulties in operating their business.**

The role of the recycling industry is critical if there is to be any real improvement in the overall recycling rates in Hong Kong. The experts indicated that the recycling industry faces difficulties in operating their business. High costs of rental, human resources and transportation, as well as declines in the global prices of recyclables, are increasing the challenges of running a recycling business.

Recycling operators had been making good profits by exporting local waste to other places. However, some of our regional neighbours have gradually banned or tightened the import of waste materials in recent years. This has included the mainland government who implemented a prohibition on foreign garbage in 2017. With measures such as these the hardship of operating in the recycling industry has been further aggravated.

High operating costs, decline in the global prices of recyclables and over-reliance on exporting local waste are the main difficulties being faced by the local recycling industry. These have also played their part in affecting Hong Kong's overall recycling performance. In order to increase the recycling rates in Hong Kong, the government ought to strengthen its support for the recycling industry by providing financial assistance, locating new export countries, and assisting in technical transformation.

**5. The government should improve the convenience and suitability of recycling facilities, according to the young people surveyed.**

In this survey, young people who had “never” or “rarely” recycled (within one month before the interview), highlighted the major reason was “it is inconvenient to recycle” (63.6%). Whereas respondents who had “frequently” or “occasionally” recycled (41.3%) mentioned “the recycling facilities are convenient”; encouraging them to recycle. It can be clearly seen that the relative convenience of such facilities has a significant effect on the willingness of young people to participate in recycling.

To increase the general public’s and young people’s participation in recycling, the convenience of recycling should be improved as the primary task. The relevant authorities should also put more effort in enhancing recycling facilities and procedures, and support more innovative waste reduction and recyclable products. By doing so, it will enable the general public to quickly develop good recycling habits.

**6. The youth questioned the effectiveness of waste-charging schemes. Yet overseas experience shows that the charging scheme has encouraged waste reduction and recycling in the long run.**

As shown in the on-site interview, 36.5% of the youth agreed the charging scheme would encourage them to more actively reduce waste and begin recycling. However, 22.9% of them did not agree and 35.0% were undecided. In the focus group interviews, many young people also held different views as to the effectiveness of a waste-charging scheme in reducing waste and enhancing recycling.

However, many experts and academics in the interviews agreed that the government should implement the charging scheme as soon as possible. As reference to the experiences in Seoul and Taipei, the quantity of domestic waste decreased significantly after the charging scheme was implemented. The average waste generation rate in Taipei of 1.04kg per person per day in 1997, had dropped to 0.77kg in 2017. In Seoul, it was 1.3kg in 1995, dropping to 0.94kg in

2016. Meanwhile, the recycling rates in Taipei had increased from 53% in 1997 to 72% in 2017. By 2016 at 68%, Seoul's recycling rate had increased by over 3 times more than in 1994.

Based on the above overseas examples, the government should make use of these experiences to adopt a charging scheme as a measure to encourage the public to reduce waste and recycling. To ensure its effectiveness over time, any implementation of this policy should be reviewed periodically and revised as necessary to close any loopholes.

## Recommendations

The following recommendations are proposed in this study:

- 1. Improve the legislation and policy on waste reduction; including the producer- responsibility and waste-charging schemes.**

This research suggests the government should extend the producer-responsibility scheme to other products (such as metal cans, paper-packed products and other packing materials) at an early date. Through the "polluter pays" principle, relevant parties could share the responsibilities of recycling, recovery, and processing the waste products. At the same time as implementing the waste-charging scheme, relevant departments should step up their enforcement effort. The details of the implementation should also be reviewed periodically and revised accordingly to plug any loopholes.

- 2. The government should explore the full implementation of mandatory waste separation in the long run through a pilot scheme.**

This research suggests the government should implement a pilot mandatory waste-separation program in some public estates, villages, shopping malls, public agencies and/or schools. In the long run, the government should also put mandatory separation into the blueprint as a measure for future waste reduction and

recycling.

**3. Enhance the public's motivation for recycling by increasing and improving recycling facilities.**

The government ought to further motivate recycling by increasing the quantity, and improving the quality, of recycling facilities. With the twin aim of reminding and educating the public, guidelines showing the right recyclable items and recycling procedures should also be clearly put next to recycling facilities. In addition, relevant authorities should also increase the quantity of Reverse Vending Machines. This would help to encourage the general public to cleanly and properly participate in recycling by providing a financial incentive.

**4. Strengthen the local recycling industry by making better use of the Recycling Fund, providing subsidies to, and improving the recyclable and recycling industries.**

In order to develop a sustainable recycling industry in Hong Kong, and referring to overseas experience, this research recommends the government to allocate the revenue from an environmental charging scheme (such as the plastic shopping bag fee and the future MSW charging) to the Recycling Fund. The sustainable revenue of this fund could provide a stable support for local recycling operators.

To address operating difficulties, the government should provide subsidies to recyclers in accordance with a pre-determined subsidy rate. This would help stabilize the prices of recycled materials by reducing or eliminating market fluctuations in the short term.

The government should continue to support the local recycling industry by leasing more land to the recycling and manufacturing factories in EcoPark. In the long run, the government should aim at "local use, local recycle, and local manufacture" so that all local collected recyclables would be manufactured or recovered to make new products in Hong Kong.

**5. Encourage industry players to participate in environmental product development and innovation.**

The government could provide financial incentives through the Innovation and Technology Fund for Better Living. The aim is to encourage industry players to participate in environmental products development and innovation. With innovative, environment-friendly products, the public could more easily adopt environmental protection and “green-living” ideas into daily life and habits.

**6. Promote waste reduction and environment-friendly lifestyles by establishing “Plastic-Free Days”.**

Another recommendation is for the government to establish “Plastic-Free Days” as an opportunity for students and the general public to practise and build up a waste reduction and environmental living style.

Apart from the awareness, the correct recycling knowledge should also be included in the government’s education and promotion strategy. Most importantly, to rebuild public confidence that recycling is being taken seriously, the government needs to ensure the entire process of recycling is properly managed.