

- 4.1** Driven by environmental and economic concerns, some overseas jurisdictions have introduced charging schemes for MSW as well as other kinds of waste. Having reviewed the experiences of selected international cities, the charging mechanism can be divided broadly as follows –

Approach 1: Quantity-based System

- 4.2** A **Quantity-based** system is one in which the waste charge is assessed on the basis of waste quantity. It establishes a *direct link* between the charge and the quantity of waste requiring treatment or disposal, and is regarded as the most effective means for waste reduction. There are several modes of implementation under this broad charging approach –

- (a) the waste quantity could be determined by volume, weight or other mechanisms (e.g. collection frequency);
- (b) the waste charge could be assessed and collected from individual establishments (e.g. households) or collectively from a building, with varying degrees of “directness” insofar as the impact on waste producers is concerned; and
- (c) the charge could be imposed through different means including mandatory use of pre-paid garbage bags² and by weight at the disposal facilities such as landfills or refuse transfer stations (“RTS”) (also known as “gate fee”).

² Pre-paid garbage bag: By “pre-paid”, we refer to the waste charge being collected before the disposal of waste through the sales of the designated garbage bag and the price is associated with the size of the bag. Such pre-paid waste charge is therefore directly linked to the quantity of waste generated.

4.3 Taipei City is one of those cities that have adopted a Quantity-based system where a per-bag MSW charging scheme has been implemented since 2000. Their MSW charging system is premised upon the “Keep Trash Off The Ground” policy³, which features the following key requirements –

- (a) MSW generated from households and small commercial establishments⁴ has to be handed over to the municipal waste collection fleet in designated garbage bags at designated times and venues.
- (b) In multi-storey buildings, households may use ordinary garbage bags but waste generated by households in the same building (in ordinary garbage bags) has to be bundled together and put into large designated bags by cleansing service operators for collection by the municipal service at designated times and venues.

In Taipei City, coupled with other measures, the implementation of quantity-based MSW charging has resulted in a decline in domestic waste generation from 1.10 kg per person per day in 1999 to 0.88 kg in 2009; domestic waste disposal has dropped from 1.08 kg per person per day to 0.41 kg in the same period. A similar charging system has been implemented in South Korea (including Seoul) since 1995. Save for certain minor variations, it is also based on a designated garbage bag requirement. Waste reduction of a similar magnitude was also achieved in Seoul.

4.4 The direct link between the charge and the waste quantity under a Quantity-based system on the one hand could create economic incentives for minimization of MSW but on the other hand it might induce littering or fly-tipping. This could be effectively enforced against if the source of waste could be easily traced to the waste producers who are liable to pay the waste charge. Otherwise, a policing mechanism may need to be developed. In Taipei City and Seoul, neighbours and property management have been mobilized to perform intense surveillance and policing against illegal dumping⁵. Issues of privacy and neighbourhood relations might emerge. Taipei City has gone farther to have progressively closed the conventional refuse collection points (“RCPs”) and withdrawn public litter bins so as to avoid illegal dumping. In the case of Hong Kong, following suit might require members of the public to sacrifice some degree of convenience and perhaps to live with some degradation in

³ Under the “Keep Trash Off The Ground” policy, no waste is allowed to be left on the conventional RCPs unattended.

⁴ In Taipei City, commercial establishments are regarded as “small” in the context of MSW charging if the waste they dispose of is no more than 30kg per day. Other C&I establishments must engage licenced private waste collectors for waste disposal.

⁵ Citizens in these two cities are encouraged to report non-compliance to the relevant authority and upon successful prosecution, are eligible for a monetary award (as a fraction of the fines sentenced in the reported cases, 20% in Taipei City and up to 80% in Seoul).

environmental hygiene. At the same time, RCPs are receiving over 15% of all MSW generated in Hong Kong and this involves an issue of practicality which has to be addressed through adjustments to our waste collection system.

Approach 2: Proxy System

- 4.5** A **Proxy** system links the waste charge to an indirect indicator of waste generation, i.e. a proxy. Water consumption is a common proxy because it can reflect the level of human activity in a household, which in turn is associated with waste generation to some extent. Charges are then levied regardless of the quantity of waste actually generated. A Proxy system has been adopted by Zhongshan of Guangdong Province and the majority of municipalities in Taiwan, though such charging is mainly for cost recovery rather than waste reduction.
- 4.6** Using an existing payment collection system such as water bills, a Proxy system is relatively easy to implement and administer if strictly taken as a charging mechanism. If successfully implemented, it might also encourage conservation of the selected utility at the same time. But the validity of the chosen proxy could be an issue. Arguably, water consumption is not necessarily proportional to waste disposal. It could be best illustrated in the C&I sector where laundry shops and saloons consume a lot of water but do not generate much waste. Following such arguments, this approach might fall short of creating economic incentives for minimizing MSW. Since the charge would not be directly linked to the amount of waste generated, one might perceive it as unfair.

Approach 3: Fixed Charge

- 4.7** A **Fixed Charge** system is not linked to the quantity of waste generated. Each waste producer within the same category (e.g. residents of the same district) pays an identical rate regardless of how much waste they produce. Singapore and Beijing have adopted this approach for charging in the domestic sector. The analysis on the Proxy System is by and large applicable to a Fixed Charge system. Without any linkage to the actual amount of waste generated, it in essence serves the purpose of cost recovery. It is subject to clear limitations as a policy tool to promote waste reduction.

Approach 4: Partial Charging

- 4.8** Internationally, it is common that waste producers in the C&I sector are held responsible for handling their own waste through engaging private waste

collectors. A charge at the gate (or “gate fee”), assessed with reference to the weight of waste, usually applies when the waste is delivered to the disposal facilities. A gate fee system has been adopted for C&I waste in the United States, Canada, most European countries, Japan, South Korea and Singapore. Accordingly the norm for the C&I sector is a quantity-based charging system. This holds true even for jurisdictions that do not have a similar system in place for the domestic sector resulting in this fourth approach of partial charging that is applicable to only a defined group of waste producers.

- 4.9** The key advantage of a partial charging system is the flexibility with which we might first put in place MSW charging in those sectors where implementation of such charging is more feasible. Accordingly we might materialize the waste reduction benefits that might come about at an earlier opportunity before a full charging scheme is developed. But in the context of Hong Kong, we have some 11 000 composite buildings where both domestic and commercial premises are located in the same neighbourhood. Some degree of mixing between domestic waste and C&I waste is common. There could be operational issues when implementing partial charging (applicable to C&I establishments) in these buildings.

Junk or Bulky MSW Items

The charging arrangement for bulky waste varies across jurisdictions. For example, Taipei City and New York City offer free collection and disposal service for bulky waste but in some jurisdictions such as Seoul, Singapore and London, a disposal charge applies normally on a per piece or per collection basis. In Hong Kong, Food and Environmental Hygiene Department (FEHD) now provides free bulky waste collection service to residential buildings and public RCPs. Whether such service should continue to be provided free of charge in future could be further deliberated when there is a consolidated consensus within our community on the way forward on the broader MSW charging issue.

- 4.10** Annex A briefly sets out relevant examples in international cities that have imposed charging along the above approaches. Of note is that: notwithstanding that MSW charging is being implemented in some international cities, there are also cases in which a charging system on domestic waste is not implemented after due consideration of the local constraints and challenges. For instance, back in the early 2000s, New York City deliberated extensively on whether it should implement quantity-based waste charging under a proposed scheme known as Pay-As-You-Throw (“PAYT”). The city, however, decided to shelve the concept after considering the pros and cons. About 60% of its 8.4 million population lives in multi-storey, multi-tenant buildings and it was considered generally impossible to administer a quantity-based waste charging at the household level in such an environment. Stringent policing of non-compliance is also difficult, especially in buildings installed with refuse chutes. Such practical constraints were cited as the key reasons why PAYT was not adopted. As of now, there is no direct charge for waste collection and disposal service for domestic premises at New York City.