

## **Information Note**

### **Bills Committee Formed on 16 October 2020 to Study the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018**

### **Waste Reduction and Recycling Complementary Measures Launched by Environmental Protection Department and their Progress**

#### **Purpose**

This paper aims to report on waste reduction and recycling complementary measures launched and planned by the Environmental Protection Department (EPD) since June 2020 and their progress.

#### **(1) Various Pilot Schemes of Collection Service on Recyclables**

##### *Waste Paper Collection and Recycling Services*

2. The EPD has launched a number of pilot schemes of centralized recycling service to enhance public participation in waste separation and recycling. In recent years, the local waste paper recycling industry has been facing great challenges due to the downturn of the external recycling market. The declining market demand and price fluctuations have seriously affected the overall performance of local waste paper recycling. The EPD has launched territory-wide waste paper collection and recycling services for the first time this year, aiming to maintain the entire operation chain so that the local waste paper recycling can be sustained. The services also aim to maintain and enhance the quality and quantity of local recycled waste paper, promote the sustainable development of the local waste paper recycling industry and complement green recovery and circular economy in Hong Kong. After an open tender, the EPD has engaged 17 contractors under service contracts. The contractors have commenced services progressively from 18 September 2020 to collect waste paper (including cardboards, newspapers and office papers) from street corner recycling shops, mobile recyclers and frontline collectors, etc. across the territory. The contractors will then carry out processing work including screening, sorting and baling, etc. locally, before exporting the waste paper to the Mainland or overseas

(e.g. Southeast Asia) markets for recycling into paper products, thus turning waste into resources.

3. Under the service contracts, the contractors and their associated street corner recycling shops and mobile recyclers etc. are required to purchase waste paper that meets the specified quality standard, i.e. not contaminated by water and mixed with other impurities, from frontline collectors and other waste paper producers at a price which is not less than the designated recovery price of waste paper (not less than \$0.7/kg in the first six months of the contract period, and from then on the price will be adjusted every three months according to the actual export price of waste paper in the market). This aims to maintain or enhance the overall quality and quantity as well as market competitiveness of local waste paper, thereby supporting the waste paper recycling industry and job opportunities in the industry, in particular, jobs for frontline collectors.

4. Initial observations show that the waste paper recycling market is active and receptive to the service after its commencement. The frontline recovery price of waste paper dropped to a level of \$0.2 to 0.3/kg earlier, but gradually recovered and rose to about \$0.8 to \$1/kg after the Government launched the centralized recycling service, which is higher than the minimum requirement of \$0.7/kg as stipulated in the contracts which can stabilize the income of frontline collectors. The quantity of waste paper collected for the first month was approximately 1,600 tonnes per day on average, which represented an increase of about 5% as compared with the average daily collection quantity in the first half of this year. It is believed that the overall quantity and quality of waste paper collected will be further enhanced when the industry adapts to the operation.

#### *Pilot Scheme on Collection and Recycling Services of Plastic Recyclable Materials*

5. Due to the low density, great variety and bulky volume of plastic materials, the costs of collection, sorting, storage and transportation of waste plastics are high but their economic value and recyclability are relatively low. Besides, local recycling mainly focused on waste plastic bottles and the collection mode in the community was also relatively scattered in the past. To complement efforts on public education and promote behaviour changes and improve the recovery rate of waste

plastics in a more effective manner, the EPD has launched a “Centralized Waste Plastics Collection” pilot scheme this year to collect on a larger scale all types of waste plastics for free from non-commercial and non-industrial (non-C&I) sources for proper handling. A wide range of plastic recyclables are collected, including plastic bags, plastic containers, plastic tableware, plastic straws, fruit sleeve nets, Compact Discs and other plastic packaging materials, etc.

6. The EPD has commenced a two-year Pilot Scheme on Collection and Recycling Services of Plastic Recyclable Materials in the Eastern District in January, and Sha Tin and Kwun Tong in July this year respectively to provide free collection service for waste plastics from non-C&I sources such as public and private housing estates, schools, public institutions, Recycling Stations (previously referred to as Community Green Stations) and Recycling Stores etc. in the districts for further processing into recycled raw materials or products to be exported or supplied to the local market so as to ensure that the waste plastics collected are properly handled. As of October this year, altogether over 370 premises, including 171 public and private housing estates (covering all public rental housing (PRH) estates in the districts), 54 single-block buildings, eight rural villages and 140 schools or public institutions etc. have registered to take part in the three pilot districts. The contractors organise about 30 collection sessions every week via mobile collection points in the districts to facilitate public participation. The service area currently covers about 42% to 67% of the population in the three districts, and a total of about 280 tonnes of plastic recyclables has been collected which is in line with the planned target. The service fees for the contractors are based on the weight of the recycled raw materials or products produced to ensure the collected waste plastics are properly handled and facilitate industrialization of the recycling industry.

7. Actions are also in hand to step up the promotion of the pilot scheme in the three districts, which include placing advertisements at MTR stations and on green minibuses and working with Green Outreach (please refer to paragraph 15 below) to conduct on-site promotion so that more members of the public in the districts can learn more about the pilot scheme and practise recycling proactively. The contractors will also continue to collaborate with non-profit-making organizations to liaise and invite more housing estates and buildings in the community to participate in the pilot scheme and increase the quantities of recyclables collected proactively. Subject to the experience and effectiveness of the pilot

scheme, we will consider expanding the service to the whole territory gradually.

#### *Pilot Scheme on Food Waste Collection Service*

8. The EPD has launched the Pilot Scheme on Food Waste Collection Service since July 2018 to collect food waste generated from the commercial and industrial (C&I) sector and public institutions with a view to identifying and ascertaining the major operational and logistics arrangements for the collection and delivery of food waste to the O.PARK1 which has commenced operation in the same month. So far, a total of 70 public premises have taken part in the pilot scheme. In addition, 120 establishments voluntarily collect, source-separate and deliver their food waste to the O.PARK1 for recycling. The EPD has also provided free food waste collection service for primary and secondary schools through school lunch suppliers since April 2019. The average quantity of food waste collected under the pilot scheme in 2019 was about 100 tonnes per day. The pilot scheme has received positive and active feedback since its launch, which participants are willing to continue to support and partake.

9. We plan to roll out the second phase of pilot scheme with a larger scale in the beginning of 2021 and will progressively expand it to cover domestic food waste. Some additional 150 premises have expressed interest in taking part in the second phase as compared to the first phase. Furthermore, we will invite some public and private housing estates to participate in the pilot scheme and continue to solicit support of and participation from the C&I sector. We expect that the quantity of food waste collected will gradually reach 250 tonnes per day in 2022.

#### *Pilot Scheme on Reverse Vending Machines (RVMs)*

10. To pave way for the producer responsibility scheme on plastic beverage containers in future, the EPD will roll out a one-year pilot scheme to test out the application of RVMs in Hong Kong. Under the pilot scheme, a total of 60 RVMs will be installed in phases at locations such as public places or government facilities with relatively high foot traffic, with the provision of instant rebate via e-payment platform to encourage the public to return their used plastic beverage containers. Relevant preparatory work is in progress and the first batch of RVMs are

expected to be in service before the end of 2020. A photo of a RVM and guidelines on using RVMs are shown at **Annex 1**.

## **(2) Enhanced Community Recycling Network and Support**

### *Community Recycling Network*

11. The EPD has commenced the provision of regularised funding support since October 2020 for community recycling centre projects previously subsidised by the Environment and Conservation Fund (ECF). Eligible non-profit-making organisations have been engaged through contracts to set up and operate Recycling Stores with a new image. Additional resources have been allocated to expand the service coverage from 15 districts to all the 18 districts across the territory and the number of Recycling Stores have been increased from 17 to 22. Their services have been upgraded, including increasing the types of recyclables collected from originally three types (i.e. plastics, glass containers and small electrical appliances) to eight types (i.e. waste paper, metals, plastics, glass containers, regulated electrical equipment, small electrical appliances, fluorescent lamps and tubes, and rechargeable batteries) and increasing both the service hours and days etc. The 22 Recycling Stores with a new image have commenced services progressively since October and will play a more active role in promoting waste reduction and recycling in the community. A Recycling Store with a new image is shown at **Annex 2**. In addition, starting from mid-October this year, the EPD has also progressively set up about 100 Recycling Spots across the territory for receiving different types of recyclables at designated locations on a weekly basis. The above recycling facilities, together with the nine Recycling Stations (previously referred to as Community Green Stations), have greatly enhanced the existing community recycling network and provided convenience for members of the public to practise recycling. The distribution map of Recycling Stations, Recycling Stores and Recycling Spots across the territory is at **Annex 3**.

### *Pilot Programme on Smart Recycling System*

12. To tie in with smart city development and further develop community recycling network, the EPD has launched a Pilot Programme on Smart Recycling System in September this year which introduces progressively smart community recycling facilities for trying out the local

applications of such system. During the initial phase of the Pilot Programme, a Community Smart Recycling Vehicle (CSRV) has been installed with such system to try out the collection of the most common types of recyclables, namely, waste paper, plastics and metals. The CSRV has been touring around various districts since mid-September for the public to try out the smart recycling system. As of end October, around 5 500 members of public have visited the CSRV. Photos of the CSRV are shown at **Annex 4**. The CSRV will subsequently commence operation as a smart mobile recycling point to provide collection service for recyclables to the public. Moreover, the EPD will also carry out technical trials of smart recycling system in some recycling facilities under the community recycling network. An electronic participation incentive scheme “Green\$” will also be put on trial to facilitate members of the public to earn bonus points and redeem gifts.

#### *Management of Recycling Bins in Public Places and New Recycling Bins*

13. To increase public confidence in proper handling of recyclables, the EPD has taken over the management of waste separation bins (recycling bins) in public places (such as near pedestrian walkways) from the Food and Environmental Hygiene Department (FEHD) since 1 October 2020. The EPD introduced a series of new requirements under the new contracts for recyclables collection services and made some improvements on the recycling bins, including changing the original litter compartments to collect recyclables, so as to increase the collection capacity and reduce the chance of misplacement of litter into recycling bins by the public, with a view to improving the cleanliness of recyclables. Moreover, recycling bins are affixed with new labels with QR codes and a hotline number to facilitate the public to report incidents such as overfilling and damage of recycling bins, etc. The contractor has established a rapid follow-up mechanism to enhance the service efficiency. The EPD has also strengthened its monitoring on the recyclable collection services including the collection, transportation and sorting processes of recyclables as well as the downstream recycling capabilities, etc. so as to ensure that the collected recyclables would be properly handled. The new recyclable collection services have been conducted smoothly since commencement. Some members of public have reported overfilling of recycling bins and related matters through the QR codes on recycling bins, and the contractor has taken follow-up actions in accordance with the relevant contractual requirements.

14. To facilitate members of the public to practise recycling and address occupational safety and health needs of frontline collection personnel, the Steering Group on the Modification of Recycling and Refuse Collection Facilities in Public Places has recommended new design of recycling bins and litter containers in public places. The EPD has conducted a public engagement exercise in July and August this year to collect public views on the newly designed recycling bins and litter containers through roving exhibitions. Members of the public generally welcomed and supported the new design and the functional improvements made to protect occupational safety and health. Relevant departments are fine-tuning the design having regard to the feedback collected and plan to conduct field trials at selected locations gradually starting from next year. Conceptual design of the newly designed recycling bins and litter containers is at **Annex 5**. The newly designed recycling bins and litter containers are expected to be rolled out and replace the existing ones gradually from 2022, with a view to further facilitating members of the public to practise clean recycling and frontline personnel to collect waste and recyclables.

#### *Green Outreach*

15. To strengthen on-site support for recycling, the EPD has begun to set up of Green Outreach (綠展隊) in end 2018 to provide outreaching service, and establish and maintain direct connections with different stakeholders such as property management companies (PMCs), residents' organisations and local representatives, etc. Through on-site inspections, the Green Outreach assesses the situation of and difficulties encountered by housing estates and residential buildings in their recycling programmes, assists in establishing and improving the efficiency of recyclable collection and helps identify suitable recycling outlets. Through on-site guidance and hands-on demonstrations, the Green Outreach educates the public on the importance of waste reduction at source on a long-term and regular basis, disseminates latest information on clean recycling, and assists members of the public to practise source separation of waste and clean recycling. The Green Outreach also plays a coordinating role between community recycling network and other recycling programmes under the EPD (for example the pilot scheme on collection and recycling services of plastic recyclable materials as mentioned from paragraphs 5 to 7 above) to provide recycling support to suitable housing estates and residential buildings, and coordinates environmental education and promotion activities, such as free bartering

activities, exhibitions, seminars, workshops, regular Recycling Spots at designated locations, etc. The EPD has completed the recruitment exercise for the Green Outreach and there are currently around 180 staff. Training and field practices for Green Outreach are underway. The Green Outreach has launched pilot outreaching service in three districts (Eastern District, Kwun Tong and Sha Tin) during the initial period. Outreaching service has been progressively extended to other districts in the past few months with a view to covering all the 18 districts across the territory within 2021.

16. As of October 2020, the Green Outreach has conducted about 47 000 visits, covering PRH estates, private housing estates/buildings and rural villages, etc. It has established connections with more than 1 300 PMCs and resident/village organizations and offered recommendations to enhance waste reduction and recycling measures with reference to actual circumstances. Moreover, the Green Outreach has also carried out about 550 educational and promotional activities in different forms including promoting the CSRV, and conducting training and workshops for property management staff, residents or district organisations, etc. Relevant education and promotion activities have attracted over 48 000 participants so far.

#### *“Reduce and Recycle 2.0” Campaign*

17. Waste reduction and carbon emission reduction are global trends. The EPD have been promoting waste reduction at source through different channels. In June this year, the Environmental Campaign Committee and the EPD launched the “Reduce and Recycle 2.0” Campaign. Apart from continuing to promote waste reduction at source, the Campaign encourages the public to “Use Less, Waste Less” and practise green living in order to support green recovery and circular economy. For the purpose of the Campaign, a new character, Greeny, was introduced to partner with the Environment Bureau’s ambassador Big Waster to promote the message “Save More, Recycle More”, and disseminate knowledge and latest information about waste reduction and recycling.

18. “Reduce and Recycle 2.0” Campaign promotes various themes in phases, such as introducing the eight types of recyclables including the three traditional types of recyclables (i.e. waste paper, metal and plastic bottles) and the community recycling network collecting these



recyclables (please refer to paragraph 11 above); raising public awareness of plastic-free living and encouraging the avoidance of single-use plastic tableware, packaging materials and more at source. The Campaign will also focus on the promotion of food waste recycling at a later stage to tie in with Hong Kong's new milestone of converting food waste into energy.

### **(3) Other Pilot Schemes to Facilitate Implementation of Municipal Solid Waste (MSW) Charging in Future**

#### *MSW Charging Trial Projects*

19. To encourage waste reduction and recycling and enable the community to prepare for the implementation of MSW charging, the EPD has partnered with some 20 relevant departments and organisations to launch MSW charging trial projects in different sectors (including PRH estates, rural areas, shopping malls and the catering trade, etc.) to allow participants to get first-hand experience of the quantity-based charging arrangements. Among others, the trial project in PRH estates has commenced since the end of 2018 and will be expanded to cover around 150 PRH buildings across the territory in phases starting from the fourth quarter of 2020. During the trial project, PRH residents can try out the use of dummy designated garbage bags for waste disposal. Meanwhile, publicity and public education activities are carried out to encourage residents to practise waste reduction at source and separate waste properly.

#### *Community Involvement Projects*

20. The EPD continues to implement "Waste Separation Projects to Pave the Path for MSW Charging" funded by the ECF. The project allows non-profit making organisations and bodies to conduct waste separation projects in different types of premises so as to educate the public on the importance of reducing waste at source and promote the culture of "Use Less, Waste Less", whilst enabling different stakeholders to try out MSW charging in actual settings and practise proper source separation of waste and clean recycling. So far, over 130 projects involving more than 800 premises have been approved covering various sectors and the total funding support involved is around \$110 million. The 6th batch of applications will be vetted by the ECF soon. Approved

projects of this batch are expected to commence progressively in the first quarter of 2021.

*Pilot Scheme on Recycling Spots and Solar-Powered Mobile Refuse Compactor (SMRC)*

21. Design constraints and lack of management in some old tenement buildings in urban districts lead to environmental and hygiene problems. In order to promote waste reduction and recycling, and enhance support for collection of recyclables and waste for residents of “three-nil” buildings<sup>1</sup> so as to improve local environmental hygiene and building management services and prepare for the implementation of MSW charging in future, the EPD and the FEHD have recently launched a pilot scheme in Tsuen Wan starting from the fourth quarter of this year. The pilot scheme features the setting up of Recycling Spots at designated times and locations to receive different types of recyclables (please refer to paragraph 11 above) in order to reduce waste disposal and the installation of SMRC to educate and facilitate residents of “three-nil” buildings to have their domestic waste disposed of properly. Waste collected will be sent off every night. A photo of SMRC is at **Annex 6**. Relevant departments will continue to work closely to educate and facilitate residents of “three-nil” buildings to promote waste reduction and recycling as well as enhance support for collection of recyclable and waste. They will also maintain close liaison with Resident Liaison Ambassadors with a view to addressing the problem together.

*Pilot Scheme on Collection and Recycling of Construction and Demolition (C&D) Wastes*

22. As regards efforts to combat illegal dumping of C&D wastes, the EPD has set up four additional dedicated enforcement teams comprising a total number of 16 staff to conduct proactive patrols against waste disposal at various districts and handle relevant complaints. It helps expedite collection of evidence and referrals to relevant departments for waste clearance. In addition, the EPD has extensively applied Geographic Information System (GIS) technology and launched the “Fly-tipping Spotter App” in March this year. Field inspectors can report abandoned C&D wastes via the app during their patrols while

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<sup>1</sup> “Three-nil” buildings refer to buildings which do not have owners' corporations or any form of residents' organisations, or do not engage PMCs.

photos and locations of the abandoned C&D wastes can be captured and uploaded onto the GIS platform instantly. This facilitates case referrals to the relevant departments for prompt clearance. The table below shows the comparison on the total amount of C&D wastes illegally disposed of over the past few years.

	2017	2018	2019	2020 (from January to June)
Total amount of C&D wastes illegally disposed of (tonnes)	8,998	4,964	3,804	1,128
As compared with 2017	--	-45%	-57%	Based on half year figures -75%

Note: Government departments involved in clearance include the Highways Department, Lands Department, FEHD, Agricultural, Fisheries and Conservation Department and Drainage Services Department.

23. To improve the situation of illegal dumping of C&D wastes, we will address the problem at source and launch a trade-led pilot scheme on collection and recycling of C&D wastes at district level with the support of the Recycling Fund. Through the setting up of convenient collection points for C&D wastes and the application of smart skips, the pilot scheme will adopt smart technologies (e.g. mobile apps for booking the service) to collect C&D wastes generated from small-scale renovation works so as to provide convenient, efficient and cost-effective collection service for C&D wastes and further improve illegal dumping situation of C&D wastes. Proactive preparatory work is well underway and the pilot scheme is expected to be rolled out in Sham Shui Po in January 2021.

*Pilot Scheme for Provision of Necessary Equipment for “Plastic-free” School Lunch*

24. The EPD has also established a new pilot scheme under the ECF, which has earmarked \$4.5 million to subsidise some 50 primary and secondary schools to acquire refrigerators, steam cabinets, dishwashers and disinfection machines (collectively known as the “Four Treasures”). The pilot scheme aims to encourage students to bring their own lunch

using reusable food containers in accordance with their eating amount so as to reduce food waste and avoid using disposable lunch boxes and tableware. The application period of pilot scheme targeting all primary and secondary schools has started in September 2020. The implementation timetable of the above mentioned pilot scheme will be subject to the exact timing of the resumption of lunch arrangements in schools.

### *Yard Waste Processing Centre*

25. The EPD is developing a Yard Waste Processing Centre (the Centre) which is expected to be commissioned for operation in early 2021. We expect that the Centre will initially receive and handle yard waste mainly generated from Government departments and public works, which will be expanded gradually to handle other local yard waste. The scope of services of the Centre includes screening, sorting and processing of received yard waste, and production of different useful materials. The estimated handling capacity of the Centre is around 11 000 tonnes in the first year, which will gradually increase to an annual average of around 22 000 tonnes.

### **Conclusion**

26. Overseas experiences show that the implementation of MSW charging is effective in encouraging the public to participate in waste reduction and recycling. In this light, we have adopted a multi-pronged approach and launched the various measures as mentioned above to complement the implementation of MSW charging so as to achieve effective waste reduction. The above various measures and pilot schemes serve to provide more facilitation, motivation and incentives for different sectors in the society to practise “Use Less, Save More”, waste reduction at source and recycling which will help lay the foundation and enhance the preparedness for the implementation of MSW charging in future. At present, new green policies are being proactively planned around the world and it has become a global trend to pursue green recovery. Launching various waste reduction and recycling measures (including MSW charging) will help reduce carbon emission and waste, and facilitate the development of a circular economy. It will also promote sustainable development of the recycling industry and create

green job opportunities in the process, thereby leading to a “win-win” situation.

27. Members are invited to note the various waste reduction and recycling complementary measures and their progress above.

**Environmental Protection Department**  
**November 2020**

### Reverse Vending Machine (RVM) #



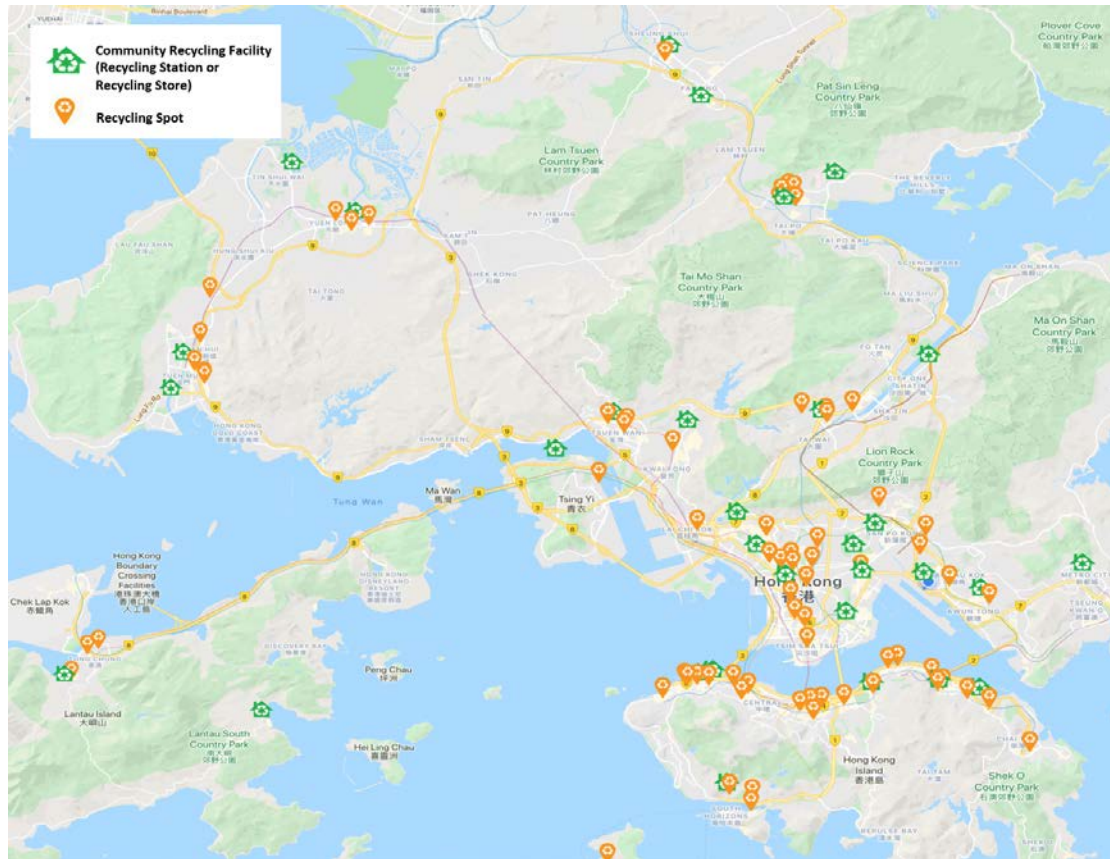
### Guidelines on using RVMs

# The first batch of RVMs will commence service by the end of this year.

## Recycling Store with a New Image



## Distribution Map of Recycling Stations, Recycling Stores and Recycling Spots in Hong Kong





### Community Smart Recycling Vehicle





**Newly Designed Recycling Bins and Litter Containers #**

Roadside



Indoor



Recycling Corners  
(This type of recycling bins will be provided at recycling corners near refuse collection points in rural areas.)

(1) 660L



(2) 240L



Large Scale Events

(1) 660L



(2) 240L



# Simple and clear infographics and texts will be affixed on recycling bins and litter containers to provide relevant information.

## Solar-Powered Mobile Refuse Compactor

