

**For discussion on
27 September 2021**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Community Waste Reduction and Recycling Support

PURPOSE

This paper briefs Members of Environmental Protection Department's (EPD) latest strategies and progress on strengthening of waste reduction and recycling support at community level.

BACKGROUND

2. The EPD supports community waste reduction and recycling through different initiatives.

3. In 2005, the EPD rolled out a Programme on Source Separation of Waste (the SSW Programme) via the Environment and Conservation Fund (ECF) to encourage stakeholders of residential premises, including property management companies (PMCs), incorporated owners' committees (IOCs), etc. to set up recycling programme in the premises with a view to promoting source separation of waste and clean recycling. The SSW Programme was subsequently expanded to cover commercial and industrial (C&I) premises in 2007. Through the Environmental Campaign Committee under the ECF, the Government has also been providing support to premises participating in source separation of waste for setting up recycling bins to collect waste paper, plastic bottles, and metals since 2008.

4. As single block buildings (SBBs) in older districts usually do not have PMC for managing recycling programmes and in quite a lot of cases these buildings also lack communal space for setting up recycling bins, the EPD provided funding support to non-government organisations (NGOs) through the ECF from 2009 to 2020 for projects to set up 17 Community Recycling Centres (CRCs), and two mobile community recycling (i.e. community recycling vehicles) projects, in districts with clusters of these buildings to accept source-separated and clean recyclables, which were mainly low-value plastics, waste

glass containers, and small electrical appliances, from residents living in these buildings.

5. To further strengthen the support on waste reduction and recycling at community level, the EPD has set up community recycling facilities, namely Community Green Stations (CGSs, now known as Recycling Stations), and appoint non-profit-making organisations (NPOs) to operate the facilities through open tender exercise since 2015, with the aim of instilling a green living culture in the community. The Recycling Station operators proactively connect with residents of residential premises in the local community to establish a recycling service network and organise green education activities. Currently, there are 11 Recycling Stations in operation collecting more types of recyclables, such as various types of waste plastics, regulated and non-regulated waste electrical and electronic equipment (WEEE), rechargeable batteries, fluorescent lamps and tubes, waste glass containers, paper, metals, etc.

6. With the passage of the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 (the Amendment Bill) by the Legislative Council in August this year, the Government has commenced a preparatory period of 18 months as a basic arrangement to enable the Government, various sectors in the community, and the public to get prepared for the implementation of municipal solid waste (MSW) charging. Reducing waste at source and practising recycling are the most effective ways to minimise payable amount under MSW charging. The preparatory period will be an opportune juncture to gear up the public as well as business sectors to shift to waste reduction and adopt green living habits. To meet the increasing demand from the public on waste reduction and recycling support at community level, the Government has devoted additional recurrent resources starting from financial year 2019-20 to strengthen support for waste reduction and recycling. The Government also undertake to increase the amount to no less than \$800 to \$1,000 million starting from the financial year in which MSW charging is to be implemented and would be commensurate with the estimated gross revenue to be generated from MSW charging so as to achieve the effect of “dedicated-fund-for-dedicated-use”.

THE NEW COMMUNITY RECYCLING NETWORK AND GREEN OUTREACH

7. To promote waste reduction and recycling as well as resource circulation, the Government has progressively launched Producer Responsibility Schemes (PRS) for various types of products, including plastic shopping bag, regulated electrical and electronic equipment and glass beverage containers, and planned to take forward the PRS on plastic beverage containers. Among which,

the Government has provided collection services for waste electrical and electronic equipment and waste glass containers. We have also rolled out the Reverse Vending Machines (RVM) Pilot Scheme to collect plastic beverage containers. Recently, the Government has also taken a leading role in rolling out central collection services of waste paper and pilot scheme on collecting all types of waste plastics from non-C&I sources. At community level, upgrading the community recycling network (CRN) (such as one-stop reception of various types of recyclables) to enhance recycling support and establishment of an outreaching team under the EPD to provide on-site support to different community stakeholders to promote source separation of waste and clean recycling are two important areas of work.

The New Community Recycling Network

8. Since October 2020, the EPD has appointed NPOs, through open tenders with regularised funding support, to set up and operate a network of 22 new Recycling Stores, which are conveniently located, to replace the ECF funded CRCs. Compared with CRCs, the Recycling Stores provide wider coverage on recycling services to all 18 districts across the territory. The recycling services have also been greatly enhanced, such as accepting at least eight types of common recyclables as mentioned in paragraph 5 above, extending the operating hours and days, introducing night-time self-recycling service, etc. At the same time, the EPD has also established more than 100 Recycling Spots over the territory to provide recycling services at fixed locations on a weekly schedule to receive different types of recyclables. These new Recycling Stores and Recycling Spots, together with the 11 Recycling Stations, constitute a new generation of CRN, GREEN@COMMUNITY. We are also preparing to set up 10 more Recycling Stores, which are expected to progressively commence services starting from end of this year/early next year.

9. Rebranding the image of GREEN@COMMUNITY helps to popularize the recycling services at community level. The new Recycling Stores with neat and new design are well received by the public. Altogether, the some 140 recycling points of the new CRN are currently receiving over 200 000 visitors per month to practise clean recycling, including individuals of different ages, nationalities and social profiles, as well as those individuals and family visitors with less recycling experience.

The Green Outreach

10. To strengthen on-site support to waste reduction and recycling at community level, the EPD has progressively established an outreaching team, namely Green Outreach, since 2018. The outreaching service was launched in

three pilot districts (including Eastern, Kwun Tong and Sha Tin) initially in late 2018. With reference to the practical experience gained, the Green Outreach has extended the service to all 18 districts since mid-2021.

11. The Green Outreach strives to establish a direct and effective liaison network with various community stakeholders such as IOCs, PMCs, frontline cleansing workers, resident organisations, rural village representatives, etc., and to support their waste reduction and recycling work. The Green Outreach offers practical advice for enhancement of their current recycling effort, and provides assistance in identifying proper outlets for recyclables. The Green Outreach also organises promotional events and activities to educate and encourage the public to practise source separation of waste and clean recycling, and to promulgate the latest information on waste reduction and recycling to the public.

A HOLISTIC STRATEGY FOR COMMUNITY WASTE REDUCTION AND RECYCLING SUPPORT

12. We have developed a holistic strategy to provide community recycling facilities and outreaching service to support and facilitate residents in different dwellings/living places to practise at source separation of waste and clean recycling :-

- (a) the Green Outreach, in collaboration with district/community stakeholders, to assist those residential premises which already have their own recycling programme to enhance their programme through education, publicity and technical support, including in particular the securing of reliable downstream recyclers for proper recycling of clean recyclables into resources. For larger estates, the Green Outreach also promote the expansion of their recycling programme (such as inclusion of waste glass containers and small electrical appliances, etc in addition to the three traditional types of recyclables) to cover all types of recyclables accepted by the CRN, and assist in connecting these estates with the CRN housing collection service for relatively low-value recyclables;
- (b) for clusters of residential premises without their own recycling programme, we will make the best use of the new generation of CRN to support residents in practicing clean recycling, through one-stop reception services of the above mentioned eight types of recyclables, particularly those of relatively low market value;
- (c) for relatively scattered residential premises such as those in the

rural areas, we will provide kerb-side recycling bins in public spaces;

- (d) to strengthen the role of Recycling Stations to serve as regional environmental protection hubs for recycling support and green living education; and
- (e) to make use of smart recycling technologies to encourage and facilitate wider adoption of clean recycling practice.

The progress in various fronts is set out in the ensuing paragraphs.

SSW Programmes and the Green Outreach

13. As at early 2021, over 2 300 estates/buildings have registered with the SSW Programmes, covering over 80% of the places where Hong Kong residents live and work. In addition to the three traditional types of recyclables (i.e. paper, metals and plastic bottles), quite a lot of the estates/buildings have started collecting other types of recyclables (e.g. waste glass containers, WEEEs, rechargeable batteries, fluorescent lamps and tubes). Based on the information provided by the participating estates/buildings, the quantity of recyclables collected in 2019/20 under the SSW Programmes was about 69 000 tonnes.

14. Since the launch of the pilot outreaching service in late 2018, the Green Outreach has conducted more than 87 000 visits and established connections with about 2 600 property management offices and residents' organisations. The Green Outreach also organised about 1 300 publicity and promotion activities, attracted more than 97 000 people to participate.

Recycling Support by the GREEN@COMMUNITY

15. Since the progressive commencement of service in late 2020, the 22 Recycling Stores have collected more than 4 500 tonnes of recyclables with an overall monthly average exceeding that of the previous CRCs by 2.5 times as of June 2021. The current CRN has a coverage of over 65% of the SBBs around the territory.

16. Since the commissioning of the first facility in 2015, the network of Recycling Stations has received over 2.1 million visitors, collected over 13 000 tonnes of clean recyclables, and organised around 8 000 environmental education activities. In view of positive feedback from the community on the services of the Recycling Stations, there has been an emerging need to regularise the provision of such facilities to meet on-going community needs.

Strengthening of downstream processing of recyclables

17. To support the participating premises of the SSW Programmes and the CRN recycling points, the EPD has continuously enhanced downstream recyclables collection and recycling operation, particularly those recyclables with lower market value:

- (a) Since the implementation of the Producer Responsibility Scheme on WEEE (WPRS) on 1 August 2018, the WEEE Treatment and Recycling Facility (WEEE·PARK) operator has handled over 600 000 collection service requests (including the statutory removal service and non-statutory free collection service) and processed more than 70 000 tonnes regulated WEEE. In addition, since the disposal of regulated WEEE at landfills or refuse transfer stations is prohibited under the legislations, if regulated WEEE is found on street, staff of the Food and Environmental Hygiene Department (FEHD) will temporarily place such regulated WEEE at designated refuse collection points, and then notify the WEEE · PARK operator to collect and deliver it to WEEE · PARK for proper treatment and recycling. Over the past few years, no fly-tipping of large quantities of regulated WEEE has been found by the EPD.
- (b) With the commencement of services of the Glass Management Contracts since January 2018 and the concerted efforts of the CRN operators, there are now about 4 000 glass container collection points over the territory, including around 1 900 housing collection points. Up to June 2021, over 53 000 tonnes waste glass containers have been collected.
- (c) We have commenced progressively since January 2020, a two-year pilot scheme on waste plastics collection and recycling in Eastern District, Kwun Tong and Sha Tin. All types of waste plastics from non-C&I sources will be collected for proper handling and recycled locally. We will further expand the pilot scheme from the three districts at present to a total of nine districts¹ from the end of 2021.

¹ The nine districts are Central and Western District, Eastern District, Kwun Tong, Sai Kung, Sha Tin, Sham Shui Po, Tai Po, Tsuen Wan and Tuen Mun.

Recycling Bins in public places

18. The EPD has taken over the management of recycling bins in public places (such as pedestrian walkways) from the FEHD since October 2020. Refinements have been made to the recycling bins by increasing the reception capacity for recyclables and establishing a new QR code system to facilitate the public to report incidents such as overfilled and damaged recycling bins, etc. Meanwhile, the contractor has also established a rapid follow-up mechanism to enhance the service efficiency. Since then, the number of public reports about full or damaged bins has dropped significantly by about 60%.

19. At present, there are about 1 800 sets of recycling bins in public place being managed by the EPD over the territory. Among which, about 1 000 sets of recycling bins are in urban area while the other 800 sets are in rural areas. The EPD have reviewed the conditions in different areas. It is found that both the quality and quantity of recyclables collected in residential areas and rural villages are, in general, better than that in commercial or mixed commercial/residential areas. On the other hand, as contamination of recyclables by refuse or other non-recyclables has been a major problem affecting the effectiveness of downstream recycling, the EPD has been making suitable adjustments to relocate recycling bins in commercial or mixed commercial/residential areas to pure residential areas and rural villages, so as to enhance the overall efficiency in recycling service. We will continue to adjust the kerb-side recycling bin network along with the development of CRN service network.

Application of Smart Recycling Technologies

20. To support smart city development, the EPD launched a Pilot Programme on Smart Recycling Systems (the Pilot Programme) in September 2020 for a 12-month technical trial on application of smart recycling technologies and associated facilities in its community recycling network with a view to assessing the local application of such systems. The smart recycling facilities typically involve the application of Internet of Things (IoT) technology, by which different equipment as well as their users and service providers are connected together. For instance, recycling transactions of individual users and operation data of smart recycling bins are collected and integrated into a big data system. With backend analysis and timely communication of these data among various parties, it provides ample opportunities to enhance the recycling services and support to individuals, as well as the operational efficiency and cost-effectiveness of the public services. In longer term, through development and application of artificial intelligence (AI) in differentiation of various types of recyclables and vigorous analysis of the complex behavior of the public in

community recycling, it is expected that smart recycling systems can bring about improvement in quality of recyclables received, and provide members of the public with more personalised services and new recycling experience.

21. Riding on the Pilot Programme, the EPD introduced a GREEN\$ electronic participation incentive scheme (ePIS) in November 2020. On submission of clean recyclables at any of the recycling points of the CRN, the public can earn GREEN\$ (Greeny Coins) for redemption of gift items, including daily necessities, groceries and environmentally friendly products, etc. Since its launch, the GREEN\$ ePIS has been receiving very positive responses from the public. As of end August 2021, about 90 000 GREEN\$ cards have been issued. Around 150 tonnes of recyclables are being received in each week under the GREEN\$ ePIS. The number of recycling and gift redemption transactions under the GREEN\$ ePIS has reached about 90 000 in each week. For those recycling points installed with smart bins and gift redemption machines, around 13-38% recyclable collection and around 54-71% gift redemption are conducted via these smart equipment among the respective overall numbers of transactions.

22. In addition, we launched a one-year RVM Pilot Scheme in the first quarter of 2021, installing 60 RVMs at different locations across the territory with the provision of rebate of \$0.1 for each container instantly through e-payment platform, to assess their application and performance at different venues and allow the public to get hands-on experience on their operation. As at mid-September 2021, the pilot scheme has recovered over 8.8 million plastic beverage containers for recycling.

PLANNING AHEAD

23. The EPD will provide resources to strengthen the community waste reduction and recycling support, including:

- (a) to rebrand the existing Recycling Stations under the new brand of GREEN@COMMUNITY and prepare for their use as regional environmental protection hubs for regular green living education and community recycling support;
- (b) to set up 10 additional Recycling Stores in districts with relatively less coverage of CRN facilities;
- (c) to encourage the public to recycle various types of recyclables as mentioned in paragraph 5 through the Green Outreach promotion "Save More, Recycle More" over the territory;

- (d) to expand the Pilot Programme on Smart Recycling Systems and the RVM Pilot Scheme; and
- (e) to keep in view the mode of operation of the community recycling network so as to provide stronger recycling support at community level, with a view to preparing for the implementation of MSW charging.

Environmental Protection Department
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