

February 2021

# WASTE BLUEPRINT

for Hong Kong

2035



環境局  
Environment  
Bureau

# WASTE REDUCTION RESOURCES CIRCULATION ZERO LANDFILL



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# Preface

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Using less, wasting less and facilitating the circulation of our resources form an integral part of waste management. In 2013, the Environment Bureau unveiled the *Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022*, taking the lead to tackle waste challenges from a resources circulation perspective. Over the years, we have been proactively implementing and promoting measures in the blueprint, and carried out additional measures beyond to keep abreast of the latest situations. We also encouraged the public to join hands in reducing waste, which helps reduce carbon emissions to combat climate change.

Yet, the waste challenge in Hong Kong is still very acute. The recycling performance around the world, including Hong Kong, has been hard hit by the recent downturn in the external recycling market. Despite immense difficulties, we are striving to rise to the challenges and turn them into opportunities. The Government has put in more resources and assumed a proactive role in additionally providing the community with free collection services for recyclables. For instance, collection services for food waste, waste paper and waste plastics have been progressively rolled out to support the local recycling process, thereby promoting the sustainable development of the recycling chain.

Waste reduction and recycling is our shared responsibility. Yet, driving behavioural and cultural changes is easier said than done. Municipal solid waste (MSW) charging is able to provide a more comprehensive incentive to members of the public and businesses to practise waste reduction and recycling. At the same time, we have already reformed and expanded the community recycling network and our on-site support at community level. The Recycling Stores and GREEN\$ redemption card are some innovative projects, for instance, to further encourage clean recycling with the aim of nurturing a green lifestyle in the community.

Looking at other Asian cities with similar economic development as Hong Kong, we note that many of them have replaced over-reliance on landfills with the development of highly efficient waste-to-resources/energy infrastructure to make good use of valuable land resources and technology, at the same time transformed waste into various useful resources, thereby achieving a “multi-win situation”. As compared to these cities, Hong Kong’s per capita waste disposal rate is high. Although we have already made significant breakthroughs in the past few years with many sizable facilities commencing operation gradually or under construction such as T•PARK, WEEE•PARK, O•PARK1, O•PARK2, Y•PARK and I•PARK, we still fall short of sufficient environmental infrastructure.

Upon the basis of by “Use Less, Waste Less”, we advocate a more aggressive vision of “Waste Reduction • Resources Circulation • Zero Landfill” in the *Waste Blueprint for Hong Kong 2035*. Looking ahead, to complement Hong Kong’s target to strive for achieving carbon neutrality by 2050, we must proceed with low-carbon transformation more aggressively, develop more comprehensive supporting facilities for turning waste into resources or energy, build up a circular economy and support green employment opportunities. With these, we would be able to reduce both waste and carbon emissions through a more comprehensive transformation of waste into resources in the long run.

**WONG Kam-sing**  
Secretary for the Environment  
February 2021



# .....Waste Blueprint for Hong Kong 2035 .....>

## Summary



### Waste Reduction



### Resources Circulation



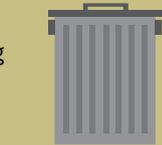
### Zero Landfill



### New Targets

#### 1 Medium-term Target

By implementing charging for disposal of MSW, to gradually reduce the per capita MSW disposal by 40-45% and increase the recovery rate to about 55%



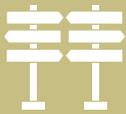
↓40-45%



↑~55%

#### 2 Long-term Target

By developing adequate waste-to-energy facilities, to move away from the reliance on landfills in the long run



### Six Major Areas of Action

To achieve the vision of “Waste Reduction • Resources Circulation • Zero Landfill”, we will take forward our actions under the following six major areas:

1



### Waste Reduction

2



### Waste Separation

3



### Resources Circulation

4



### Industry Support

5



### Innovation and Cooperation

6



### Education and Publicity

# 1 Retrospect and Prospect

Our new vision is to achieve  
Waste Reduction  
Resources Circulation  
Zero Landfill



## Retrospect

### Use Less, Waste Less & Awareness Building

The *Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022* issued in May 2013 put forward a vision to “Use Less, Waste Less”. After eight years, people have become much more aware of the importance of waste reduction and recycling. Members of our community, particularly among the young generation, have gradually understood the importance for sustainable development, and hence progressively developed a green living culture promoting reduction in waste and carbon emissions.

### Actions Above and Beyond

The Blueprint in 2013 set out 21 key actions for achieving the target of reducing the per capita disposal rate of MSW from 1.27 kg per day in 2011 to 0.8 kg by 2022. Of the 21 key actions, 20 have been carried out with good progress, except that the MSW Charging Bill is being examined at the Legislative Council (LegCo). Several additional important initiatives have also been introduced to keep abreast of the latest situation in recent years. These include the Recycling Fund, measures to stabilise waste paper recycling, the central collection service for waste plastics, as well as the pilot scheme of using innovative technology for anaerobic co-digestion of food waste with sewage sludge at sewage treatment works.

### Downturn in Global Recycling Market

The macro-data in the past 10 years indicates that the MSW generation in Hong Kong reduced by 18% from 6.93 million tonnes in 2010 to 5.67 million tonnes in 2019. However, as the global market prices of many recyclables (e.g. waste plastics and paper) have declined substantially and the Mainland has tightened up the import control of recyclables, the amount of MSW recycled in Hong Kong reduced from 3.6 million tonnes in 2010 to 1.64 million tonnes in 2019. As a result, the corresponding MSW being disposed of at landfills increased from 3.33 million tonnes to 4.04 million tonnes. The per capita disposal rate also increased to 1.47 kg per day.

The Government, businesses and the general public must join forces and work together on the pursuit of waste reduction and eco-transformation.



## Prospect

### Bring our Blueprint Up-to-date

In view of the changes in the external recycling market environment, the Government has taken a number of supportive actions in the past few years to support local recycling industry and help enhance both the quality and quantity of local recycling. With views exchanged with major stakeholders, we have consolidated the experiences gained and assessed the situation critically. It is time to update the waste management strategy, to step up on waste reduction, and turn waste into useful resources or energy in a more visionary manner.

Through updating the strategy, we will promote the gradual development of a circular economy and progressively move away from the reliance on landfilling for waste disposal. A holistic action plan is required to pave the way for these goals. Our new vision is to achieve “Waste Reduction • Resources Circulation • Zero Landfill”.

### Circular Economy & Green Employment

To realise the new vision, we need to establish a more comprehensive recycling chain by, among other things, supporting the collection of recyclables in the upstream operation, and facilitating the development of downstream waste-to-resources/energy infrastructure. We also need to make the best use of innovative and new technologies and establish suitable conditions for building up continuous market demand for renewable resources or energy.

In the course of achieving the new vision, we can create jobs and attract talents, thereby strengthening a green economic recovery after the epidemic as well as helping achieve re-industrialisation in Hong Kong.

### Waste Reduction • Zero Landfill

The vision can bring multiple benefits. Less over-reliance on landfilling will enable optimal use of local land resources. Waste reduction and waste-to-resources/energy can also help reduce carbon emissions, contributing to Hong Kong’s pursuit of the goal of carbon neutrality.

This waste blueprint proposes the new strategies and actions required to achieve the vision. The Government, businesses and the general public must join forces and work together on the pursuit of waste reduction and eco-transformation.

## Major Work Progress in the Past Eight Years

### Waste Reduction

Premised on the principles of “polluter pays” and “sharing eco-responsibility”, three bills to implement Producer Responsibility Schemes (PRS) on plastic shopping bags (PSB), regulated electrical equipment and glass beverage containers were passed by the LegCo between 2012 and 2017. The next target is to implement a PRS on plastic beverage containers.

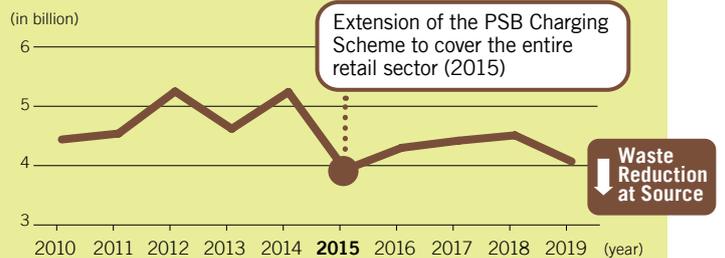


#### PSB Charging Scheme



The total number of PSB disposed of in 2015 (i.e. within the first year of full implementation of the Scheme) reduced by 25%.

FIG 1: Number of PSB Disposal

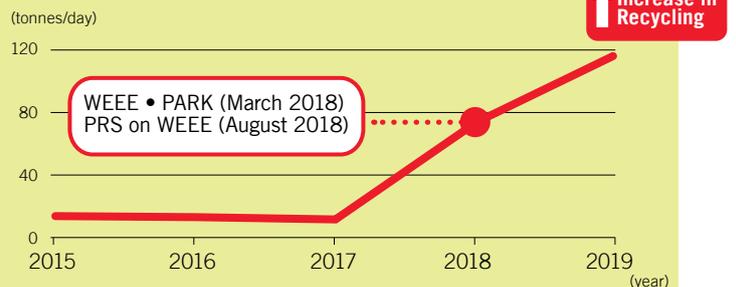


#### PRS on Waste Electrical and Electronic Equipment (WEEE)



With the implementation of PRS on WEEE in 2018, underpinned by the full operation of WEEE•PARK in the same year, the amount of WEEE recovered locally increased by six folds as compared with that in 2017.

FIG 2: Amount of WEEE Recovered

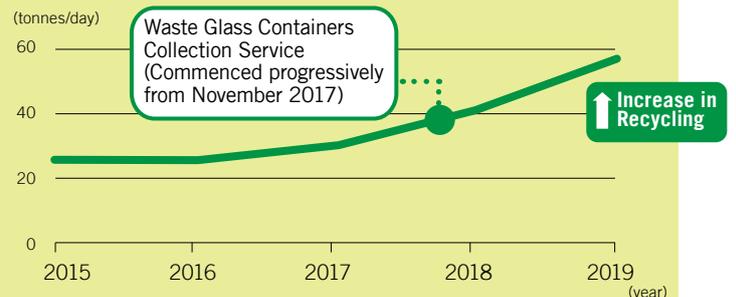


#### PRS on Glass Beverage Containers



To dovetail with the implementation of the PRS on glass beverage containers, we have progressively started to provide collection and treatment service of waste glass containers since November 2017. Up to 2019, 27 600 tonnes of glass containers have been collected and treated.

FIG 3: Amount of Waste Glass Containers Recovered



#### PRS on Plastic Beverage Containers



A three-month public consultation on the introduction of a new PRS on plastic beverage containers will be conducted shortly. A pilot scheme has been rolled out in January 2021, with a total of 60 reverse vending machines installed by phases at locations with suitable foot traffic to facilitate the return of used plastic beverage containers by the public, in support of clean recycling and to reinforce the concept of nature conservation.



## Industry Support

The recent downturn in external recycling market has adversely affected local recycling performance. To support the operation of the recycling industry and upgrade their operational capability, the Government endeavours to support the recycling industry on various fronts.



### Recycling Fund



The \$1 billion Recycling Fund was launched in 2015 to provide funding support to the recycling trade. About \$600 million has been approved to support recycling projects and procurement of equipment with a view to improving the trade's operational efficiency and supporting their upgrade and transformation. These projects involve the recycling of waste paper, waste metal, waste plastics, food waste, yard waste, etc. The Fund has also provided one-off subsidy to help the industry ride out the difficult times during the epidemic. Over 1000 recycling enterprises have been benefited by the Fund so far.

### EcoPark and short-term sites

The Government also leases out the land in the 20-hectare EcoPark as well as other short-term sites designated exclusively for recycling use to recycling operators at affordable prices. Over 180 000 tonnes of recyclable materials were processed and recovered by EcoPark tenants in 2019.

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## Education and Publicity

Waste reduction and recycling campaigns have been organised on all scales and at all levels to mobilise different sectors of the community to support “Use Less, Waste Less”.

### Food Wise Hong Kong Campaign



Launched in 2013, the Campaign has been successful in soliciting public support, with the Big Waster mascot created to encourage the public to reduce food waste at source. The domestic food waste disposal has been reduced by 17% from 0.37 kg per person per day in 2013 to 0.30 kg in 2019. The Campaign has also gained strong support from public institutions and the business sector. More than 950 organisations from both public and private sectors have signed the Food Wise Charter and are committed to reducing food waste at source, while over 1 000 eateries have enrolled in the Food Wise Eateries Scheme.



Per capita domestic food waste disposal



### “Reduce and Recycle 2.0” Campaign

Launched in June 2020, this two-year territory-wide promotional campaign aims to encourage the public to practise waste reduction and recycling. The first phase of the Campaign focuses on introducing the eight types of recyclables and the community recycling network. Various social media platforms have been used to reach people of all ages. An easy-to-play augmented reality game has been developed to educate the public about different types of recyclables in a fun way while a new Chatbot function has been launched to help provide quick information regarding our local recycling network. More publicity initiatives to promote recycling of plastics and food waste will be rolled out under other phases of the Campaign.



### Go “plastic-free”!

Two territory-wide promotional campaigns on reducing the use of disposable plastic tableware, namely “Plastic-Free Takeaway, Use Reusable Tableware” and “Plastic-Free Beach, Tableware First”, were launched in 2018 and 2019 in collaboration with about 700 local eateries of different sizes. About 2.4 million sets of disposable plastic tableware were saved during the campaigns.

### Green Outreach



Since December 2018, we have been progressively setting up an outreaching team of 200 staff, named “Green Outreach”, to provide on-site support at community level and foster partnership and collaboration with key stakeholders such as residents’ organisations, property management companies, etc. Services have been rolled out in three pilot districts (Eastern, Kwun Tong and Sha Tin Districts), and will soon be extended across the territory.

## Waste Separation

We aim to provide every district with more adequate recycling outlets to facilitate waste separation at source and recycling by the public. The Government's community recycling network, named **Green@Community** and consisting of three scale levels (large, medium and small) covering all districts in Hong Kong and operated by non-governmental organisations, currently comprises –



### Recycling Stations

**A total of nine stations**, in chronological order of commencement, namely Green@ Sha Tin, Green@ Eastern, Green@ Kwun Tong, Green@ Yuen Long, Green@ Sham Shui Po, Green@ Tuen Mun, Green@ Kwai Tsing, Green@ Tai Po, and Green@ Islands, collect different types of recyclables, in particular those with relatively low market values, and educate the public on clean recycling.



Green @ Kwun Tong



Green @ Sha Tin



Green @ Eastern

### Recycling Stores

**A total of 22 stores** across all 18 districts of the territory provide the general public with recycling outlets near their neighbourhood. They are located in densely populated areas, especially those where single-block buildings and “3-nil buildings”<sup>1</sup> are located. To sustain the ongoing operation of these recycling stores, we have regularised the funding support to the operators since 2020 to replace the previous funding model through the Environment and Conservation Fund on project basis.



The new look of Recycling Stores



Members of the public put the recyclables into the collection boxes of Recycling Stores



The GREEN\$ smart card which allows the public to redeem gifts by earning GREEN\$

### Recycling Spots

**Over 100 spots** operate as kerb-side collection booths on a weekly basis at designated time and locations, with a view to complementing the coverage of the Recycling Stations and Recycling Stores flexibly with extended locations to support community recycling.



EPD sets up over 100 recycling spots over the territory on a weekly basis at designated time and locations since the fourth quarter of 2020

### Community Smart Recycling Vehicle

The Community Smart Recycling Vehicle, launched in September 2020 under a pilot programme, tours around various districts to promote waste reduction messages such as our community recycling network, smart recycling system and clean recycling for more types of recyclables.



1. By “3-nil buildings” we are referring to those residential buildings without owners' incorporation, any form of residents' association, or engagement of a property management company.

Since early 2010s, many non-governmental organisations have initiated projects to operate “Community Recycling Centres” with the support of the Environment and Conservation Fund. Due to resources constraints, these centres can only provide the community with essential service and outlets for recyclables of relatively low values (e.g. plastics, small household appliances, glass bottles, etc.).

With the Government’s funding support regularised since 2020, and publicity campaigns and outreaching service launched to encourage more people to practise clean recycling, these Community Recycling Centres have undergone a facelift and re-branding. Now called “Recycling Stores”, they form part of Green@Community — the Government’s community recycling network, covering all 18 districts in Hong Kong. Their services have also been enhanced by accepting almost all common types of recyclables and operating longer hours.

Webpage: <http://www.6green.hk>  
 Mobile App : “Waste Less”



Recycle more at our brand new Recycling Stores!



“ With a view to enhancing recycling performance and supporting the recycling industry in the face of various new challenges of the recycling market, the Government plays a proactive role by progressively introducing a number of targeted recyclables collection and treatment services. ”

<b>Food Waste</b> 	<b>Waste Plastics</b> 	<b>Waste Paper</b> 
<p>The first phase of the pilot scheme on food waste collection commenced in July 2018, covering 70 public venues, some schools and about 120 private institutions. An average of about 100 tonnes of food waste are collected under the scheme daily for transforming into energy, and compost as a by-product.</p> 	<p>A two-year pilot scheme covering the Eastern, Kwun Tong and Sha Tin Districts commenced progressively since January 2020 to collect non-commercial and non-industrial waste plastics for producing recycled raw materials or products for export or supply to the local market. A pilot scheme on reverse vending machines was also launched in January 2021 to encourage the public to return used plastic beverage containers.</p> 	<p>The territory-wide waste paper collection and recycling services commenced in September 2020, through which waste paper collected is further processed and then sold to other markets for recycling into paper products.</p> 



## Resources Circulation

We have built a number of large-scale waste management infrastructure to support the aforementioned waste separation work and facilitate the transformation of waste into resources.



O•FARM - the rooftop of O•PARK1 is used to grow spice and herbs with the compost produced from food waste



### T • PARK

Opened in 2015, T•PARK adopts advanced incineration technology to treat up to 2 000 tonnes of sewage sludge from sewage treatment works each day. Apart from self-sustaining the operation of the facility, surplus electricity is exported to the power grid, supporting the electricity need of about 4 000 households annually. Nearly 2 million tonnes of sewage sludge have been treated so far.



Daily treatment capacity of sewage sludge for turning into electricity:

**2 000** tonnes



Number of households supported by surplus electricity each year:

**4 000**



### WEEE • PARK

Commenced full operation in March 2018, WEEE•PARK can treat up to 30 000 tonnes of regulated WEEE (including air-conditioners, refrigerators, washing machines, televisions, computers, printers, scanners and monitors) annually, turning them into valuable secondary raw materials. So far, more than 50 000 tonnes of regulated WEEE have been processed.



Annual treatment capacity of WEEE:

**30 000** tonnes



Accumulated number of electrical appliances (which would have been disposed of) repaired and donated to people in need:

**3 500+**



### O • PARK 1

Commenced operation in July 2018, O•PARK1 adopts anaerobic digestion technology that can convert 200 tonnes of food waste into electricity each day. Apart from self-sustaining the operation of the facility, surplus electricity is exported to the power grid, supporting the electricity need of about 3 000 households annually. Around 85 000 tonnes of food waste have been recovered for transforming into energy so far.



Daily treatment capacity of food waste for turning into electricity:

**200** tonnes



Number of households supported by surplus electricity each year:

**3 000**



## Y · PARK

The service contract to operate Y•PARK has been awarded. Y•PARK is expected to commence operation in 2021, with a handling capacity of around 11 000 tonnes of yard waste in the first year (i.e. 30 tonnes per day), which will be gradually increased to an annual average of around 22 000 tonnes (i.e. 60 tonnes per day). The yard waste collected will be screened, sorted and treated for transforming into various useful materials such as compost. Some wood materials will also be provided to relevant industries to support their operations.



Daily treatment capacity of yard waste:

The 1st year:  
**11 000 tonnes**

Subsequent years (annual average):  
**22 000 tonnes**



## O · PARK 2

Currently under construction and scheduled to commence operation by 2023, O•PARK2 can transform up to 300 tonnes of food waste into electricity each day. Apart from self-sustaining the operation of the facility, surplus electricity is exported to the power grid, supporting the electricity need of about 5 000 households annually.



Daily treatment capacity of food waste for turning into electricity:

**300 tonnes**



Number of households supported by surplus electricity each year:

**5 000**



## I · PARK (Integrated Waste Management Facilities)

Construction works of I•PARK has commenced and it is anticipated that it can come into operation by 2025. I•PARK is a waste-to-energy facility that adopts advanced incineration technology to treat 3 000 tonnes of MSW daily. Electricity will be generated from the heat energy produced during the process, thereby contributing to the reduced use of fossil fuel for electricity generation, and avoiding methane generation by waste decomposing in landfills, thus helping to reduce local greenhouse gas emission to combat climate change.



Daily treatment capacity of MSW:  
**3 000 tonnes**



Number of households supported by surplus electricity each year:

**100 000**

If you would like to learn more about our major work progress on waste management and the milestones of the waste-to-resources/energy infrastructure in Hong Kong, please refer to **Annexes**.



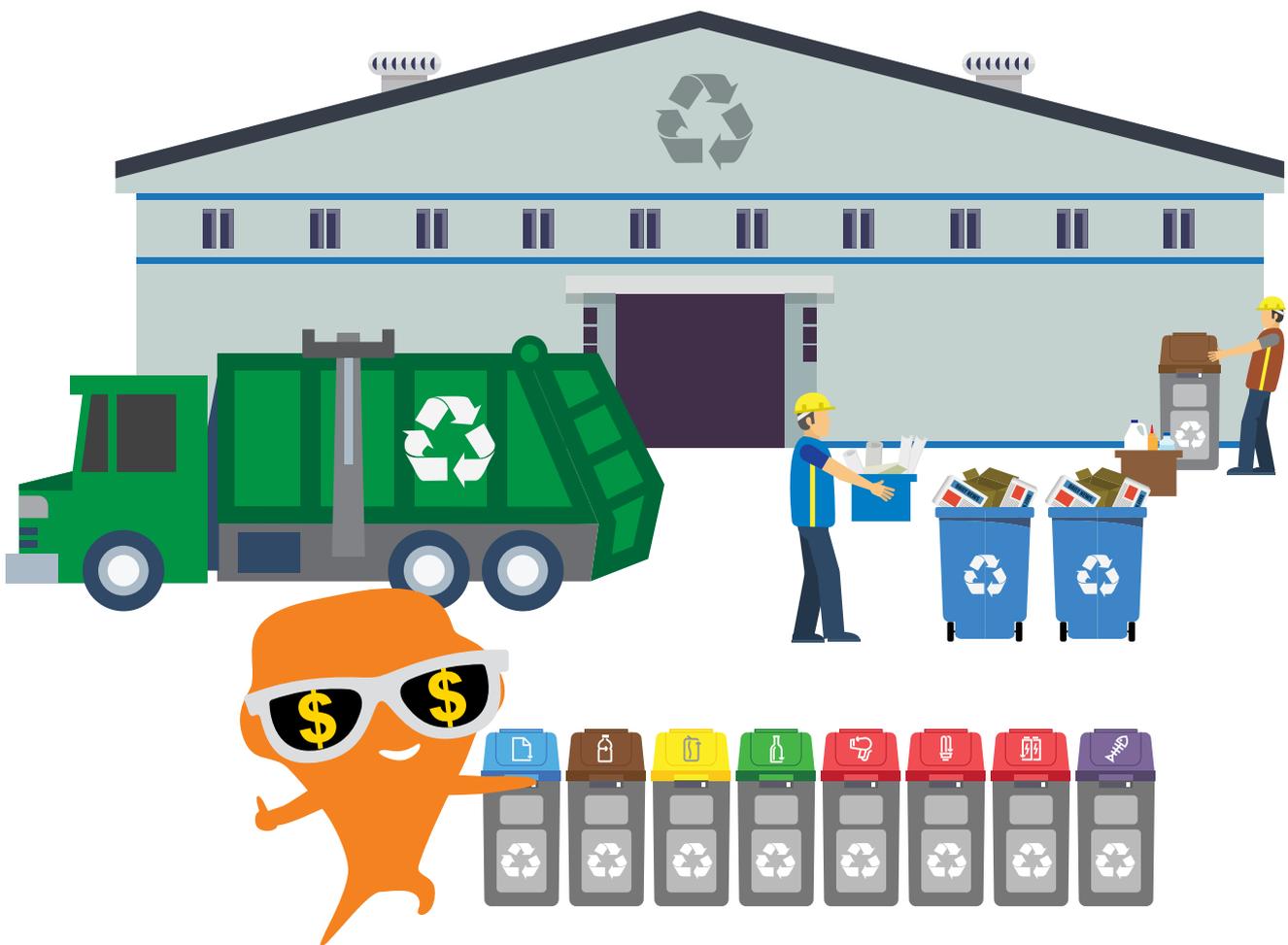
## 2 | Challenges and Opportunities

### Resources Circulation, Paving Way for Circular Economy

#### Values of Waste

Hong Kong produces over 15 000 tonnes of MSW per day, consisting roughly 4 200 tonnes of waste paper, 2 500 tonnes of waste plastics and 3 500 tonnes of food waste. The value of pulp produced from waste paper can be up to HK\$2,400 per tonne. If half of the waste paper is transformed into pulp for export, the total value can be as high as HK\$1.8 billion per annum. For waste plastics transformed into recycled pellets or other raw materials, depending on the type and quality of materials, the value will range from HK\$1,200 to HK\$15,000 per tonne. If a quarter of the waste plastics are turned into recycled plastic materials of high quality, the total value can reach up to HK\$1 billion per year.

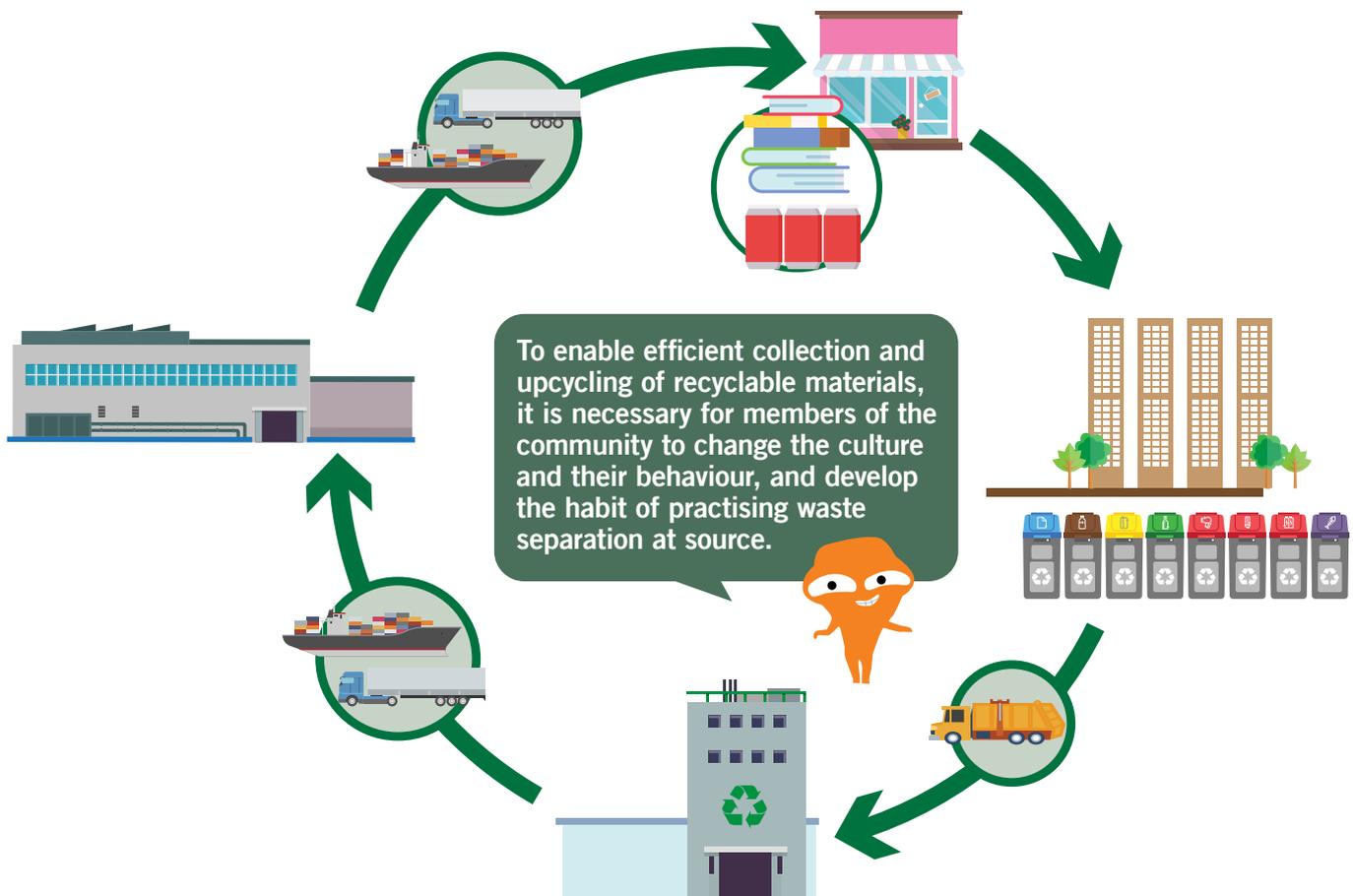
As for food waste, O●PARK1 is able to transform 200 tonnes of food waste per day into 14 million kilowatt hour of surplus electricity per year, which is sufficient to support the electricity need of about 3 000 households. If half of the food waste in Hong Kong is transformed into electricity, it can support the need of about 27 000 households. Transformation of food waste into other products using biotechnology can generate even higher returns.



### Turning Risks into Opportunities

In 2019, Hong Kong exported 1.44 million tonnes of recycled materials at a total value of HK\$5.8 billion. Nearly 90% of the recycled materials (i.e. about HK\$5 billion in terms of the export value) were metal, while the remaining 10% approximately, of about HK\$700 million, was mainly waste paper sold to various markets. Waste plastics and other recyclables only accounted for about 0.3%. We may explore new business opportunities by transforming waste paper into pulp and waste plastics into quality raw materials. However, it is necessary to overcome three major barriers before a sustainable recycling chain can be achieved.

- The recycling market is faced with different stumbling blocks affecting its operation. For instance, the costs of collecting small amounts of waste plastics and food waste from widely distributed sources are relatively high. It is necessary for the Government to take proactive actions to provide collection services and support for the recycling industry in order to maintain its operation.
- Stable market outlets and sufficient capabilities to transform recyclables into useful resources are essential for the recycling industry. Despite the introduction of a number of initiatives by the Government in the past years to support the recycling trade, the overall recycling quantities of waste plastics and waste paper have declined in recent years due to the downturn in the external market. Overcoming this barrier also requires the Government’s assistance in facilitating the construction of recycling facilities, steering the market towards higher value-added products, and identifying stable market outlets.
- Another key factor is the behaviour and habits of our community. To enable efficient collection and upcycling of recyclable materials, it is necessary for members of the community to change the culture and their behaviour, and develop the habit of practising waste separation at source. International experience shows that putting quantity-based waste charging into practice is the most effective tool to drive behavioural change.



## Government's Intervention

The Government has already taken actions for the three largest waste categories – waste paper, waste plastics and food waste. Seventeen contractors have been engaged for the territory-wide collection of waste paper for sale to other markets after processing. The Government also plans to tender for the development of a local modern pulping facility to recycle part of our local waste paper. The pilot scheme on the central collection of waste plastics has commenced in three districts and will be extended to other districts in phases. Contractors are required under the contracts to not only collect waste plastics but also transform them into quality recycled raw materials, thereby establishing a stable upstream collection network while expanding the downstream recycling capabilities.

The second food waste treatment facility is being developed, and the food waste/sewage sludge anaerobic co-digestion trial scheme at sewage treatment works has been kicked off. The use of bio-technology to transform food waste into high value products is being further explored. In addition, the construction of I•PARK (the first integrated waste management facility) is underway. Upon its completion, non-recyclable MSW can be transformed into electricity.

The Government will further strengthen the supporting recycling network, provide stable collection service and enhance the local capability of transforming waste into resources/energy, thereby laying the foundation for the progressive development of a circular economy. We will also support the recycling trade to strengthen their operational capability with innovation and technologies, so that they can withstand the impacts brought about by market fluctuations. For the types of recyclable waste with stable returns such as metals, the market shall continue to operate freely.



**The Government will further strengthen the supporting recycling network, provide stable collection service and enhance the local capability of transforming waste into resources/energy, thereby laying the foundation for the progressive development of a circular economy.**



## Polluter Pays

Implementation of a quantity-based waste charging scheme is indispensable in facilitating resources circulation in Hong Kong. Such system is proven successful in driving social behavioural change in reducing and avoiding waste generation, and providing impetus for waste separation and recycling. Moreover, the money collected can be used for supporting various waste reduction and recycling programmes. Therefore, the Government introduced the legislative proposal on MSW charging into the LegCo in late 2018.



Pilot scheme on central collection service of waste plastics

## Multiple-pronged Approach to Move Towards “Zero Landfill”

### Scarcity of Land Resources

Land resources are scarce and extremely precious in Hong Kong. The after-use of closed landfills, even with restoration, is limited. Due to continual landfill gas generation, the relatively unstable ground condition and uneven settlement, restored landfills are unable to support multi-storey buildings or other important uses.

## Transforming Waste into Energy

For waste that cannot be recycled, it still requires treatment. In this regard, transforming waste into energy is in line with the principle of sustainable development. Modern waste-to-energy technologies can reduce the bulk size of waste by 90%. Drawing on the experience of other places, the ash residue can be used for cement production or other construction purposes. Transforming waste into energy can also reduce the use of fossil fuels for electricity generation, thereby reducing carbon emissions to combat climate change.

In the waste-to-energy process, with the use of advanced technologies for stringent emission control, the air quality will not be affected. Moreover, a lot of overseas modern waste-to-energy facilities are often integrated with public leisure amenities to benefit the nearby community. The first example in Hong Kong is T•PARK, a waste-to-energy facility which integrates advanced technologies with recreational, educational and ecological features.



In the waste-to-energy facility, T•PARK, fenders from the former Wan Chai Ferry Pier were refurbished and upcycled to become furniture at T•CAFE, as a showcase of upcycling



In T•PARK, you can experience the benefits of “waste-to-energy” by enjoying leisure time at the three spa pools with different temperatures at T•SPA, warmed by the heat energy generated in the sewage sludge transformation process



Artist's impression of I•PARK

## Timely Transformation

Our three existing landfills are expected to be filled up one by one in the coming few years. Their extension parts are under different stages of development with a view to serving the essential need of Hong Kong. Currently, the West New Territories (WENT) Landfill handles about half of MSW in Hong Kong and is the only landfill with marine access. Its coastal location is highly strategic. We are pressing ahead the extension of the landfills. The LegCo has earlier granted approval to the extension projects of the South East New Territories (SENT) Landfill and the North East New Territories (NENT) Landfill, which are taken forward in an orderly manner. We have also been conducting the consultancy study on the extension of WENT Landfill as approved by the LegCo. In view of the scarcity of land in Hong Kong, we need to formulate more decisive plans to move away from our over-reliance on landfills in long run, and transform waste into energy in a high-tech manner as the alternative for treating non-recyclable MSW. Under the original plan, the land required for the WENT Landfill extension is about 200 hectares. If sufficient waste-to-energy facilities can be in place by 2035, we can consider reducing the land requirement, enabling Hong Kong to move away from the over-reliance on landfills for direct disposal of MSW.

Construction waste remains a major challenge for waste management. Even though 92% of the construction waste generated in 2019 was received by the public fill reception facilities or delivered to other projects for direct reuse, there is still a large amount of construction waste being disposed of at landfills every day. We have to further our sorting work to reduce the disposal of construction waste at landfills. However, the screening and sorting of construction waste requires sizable land situated in the coastal area to facilitate water transport. We need to overcome the challenges. On one hand, we will encourage the construction industry to carry out source separation. On the other hand, we have to develop construction waste sorting facilities so as to recycle and reuse the materials more efficiently, thus reducing reliance on landfills. Furthermore, the Government will continue to encourage and support the construction industry to adopt construction methods that are conducive to sustainable development, such as the modular integrated construction (MiC) method which can reduce construction waste at source. I•PARK under construction has adopted the innovative MiC method to build the concrete seawall units which weigh several thousand tonnes each as well as the whole mechanical and electrical building, with a view to enhancing quality control, reducing construction waste and speeding up the progress.

## Other Challenges

### Producers have a Role

Commercial and industrial waste in 2019 increased by more than 50% when compared with 2010, constituting about 40% of MSW. The business sector plays a crucial role in the production chain. Many environmentally conscious enterprises, large, medium and small, start to take further steps in incorporating elements reflecting their environmental responsibility in their operations, and invest in technologies and production methods that facilitate decarbonisation, waste reduction, waste separation at source or waste-to-resources/energy. Simple packaging, food waste separation, food donation, production with recyclable materials, take-back schemes, etc., are all actions that show support in “Use Less, Waste Less” at different extents.



### “Plastic-free” for All

Plastics are common in our daily life because they are relatively cheap, lightweight and durable. However, plastics can remain in the environment for a long time, posing severe threat to the environment and ecology. In particular, they can be decomposed into microplastics, and after being drifted into the sea, they will affect marine ecosystem and enter the food chain. The practices of reducing the use of plastic materials, especially single-use plastic products, and using other alternatives have been explored and adopted around the world in the recent years. In Hong Kong, the most common plastic waste includes shopping bags, disposable tableware, beverage containers and other sorts of packaging materials. We need to explore our policy directions to reinforce going “plastic-free”, and join hands with the international community to minimise the use of plastics, which includes promoting “plastic-free” at source, and finding suitable alternatives and progressively regulating single-use plastics.

### Waste Free Seas

As a coastal city, Hong Kong has a world-renowned harbour and beaches. We must strive to minimise waste from entering the marine environment and enhance protection to the marine ecosystem. Public engagement is thus necessary for actively practising waste reduction at source, clean recycling and abiding by “Leave No Trace” for outings.



# 3 | Targets and Actions

## Targets

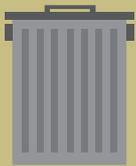
Considering the current high level of waste disposal, downturn in the external recycling market and scarcity of local land resources, we must step up our efforts to mobilise the whole community to reduce waste and implement measures for achieving waste reduction and recycling on a larger scale such that waste can be transformed into resources. Not only does this help build a circular economy, it also creates job opportunities and reduces carbon emissions to combat climate change. In the long run, we also need to formulate strategies to gradually move away from the over-reliance on landfills.

It is a journey to realise our vision of achieving “Waste Reduction • Resources Circulation • Zero Landfill”. This vision and the targets of promoting low carbon lifestyle and achieving carbon neutrality should complement each other.



### 1 Medium-term Target

By implementing charging for disposal of MSW, to gradually reduce the per capita MSW disposal by 40-45% and increase the recovery rate to about 55%



↓ 40-45%



↑ ~55%

To effectively delink the close relationship between the amount of waste disposal and economic growth, hence achieving a significant reduction in disposal and increase in the amount of recycling, the society as a whole must support the implementation of bold policies and legislation to achieve the target. MSW charging is the cornerstone for promoting waste reduction and recycling. The Government is determined to take the MSW Charging Bill through the legislative process.

The Government will take a proactive role in enhancing the recyclables collection network, which includes

expanding a series of Government-funded collection services and their coverage areas; extending the Green@Community recycling network to all districts across the territory so as to provide the public with a quality recycling service; and broadening the coverage areas of Green Outreach teams so as to offer on-site support on source separation and clean recycling in each district of Hong Kong. We will also sustain our continuous efforts in formulating relevant policies and legislation, as well as rolling out publicity and public education campaigns to instil a green living culture in Hong Kong.

The recycling trade is our important partner in promoting waste-to-resources transformation. We will continue to provide them with financial support through the existing Recycling Fund and the newly established Green Tech Fund, as well as land support through EcoPark, etc. We will also support the recycling trade in applying technologies and shifting to higher value-added products, promoting the sustainable development of the recycling industry.

Upon the implementation of MSW charging, together with the launch of other policies and legislation, waste reduction and recycling initiatives, as well as publicity and educational campaigns, the per capita MSW disposal is expected to progressively reduce by 40-45%. Together with the development of waste-to-resources/energy facilities, the MSW recovery rate will be increased to about 55%.

2

## Long-term Target

By developing adequate waste-to-energy facilities, to move away from the reliance on landfills



To achieve the goal of “Zero Landfill”, we need more waste-to-energy infrastructure. As such, we will plan for the development of new waste-to-energy facility, and examine the feasibility of co-locating it with other waste management facilities to create a synergy effect, while reserving space for public enjoyment and environmental education. We will also enhance our capacity for treating food waste by sustaining our efforts in expanding O•PARKs, conducting food waste/sewage sludge anaerobic co-digestion at suitable sewage treatment works, and exploring other innovative technologies to handle food waste, all in all to transform waste into energy/resources.

Assuming that aforementioned waste-to-energy infrastructure with adequate treatment capacity can be in place by around 2035, we will no longer need to rely on landfills for direct disposal of our MSW. By then, only a small amount of waste that is non-combustible and cannot be recycled or reused will be directly sent to the landfills. Therefore, support from the entire society is required for timely start of these waste-to-energy facilities, such that we can attain the target of “Zero Landfill”. For the treatment of construction waste, we should also develop screening and sorting facilities at an early date, with proactive efforts to promote waste separation at source, recycle/reuse of construction waste and wider use of MiC and other innovative methods in the industry. We have to work with a multi-pronged approach for moving towards the goal of ceasing the development of new landfills.

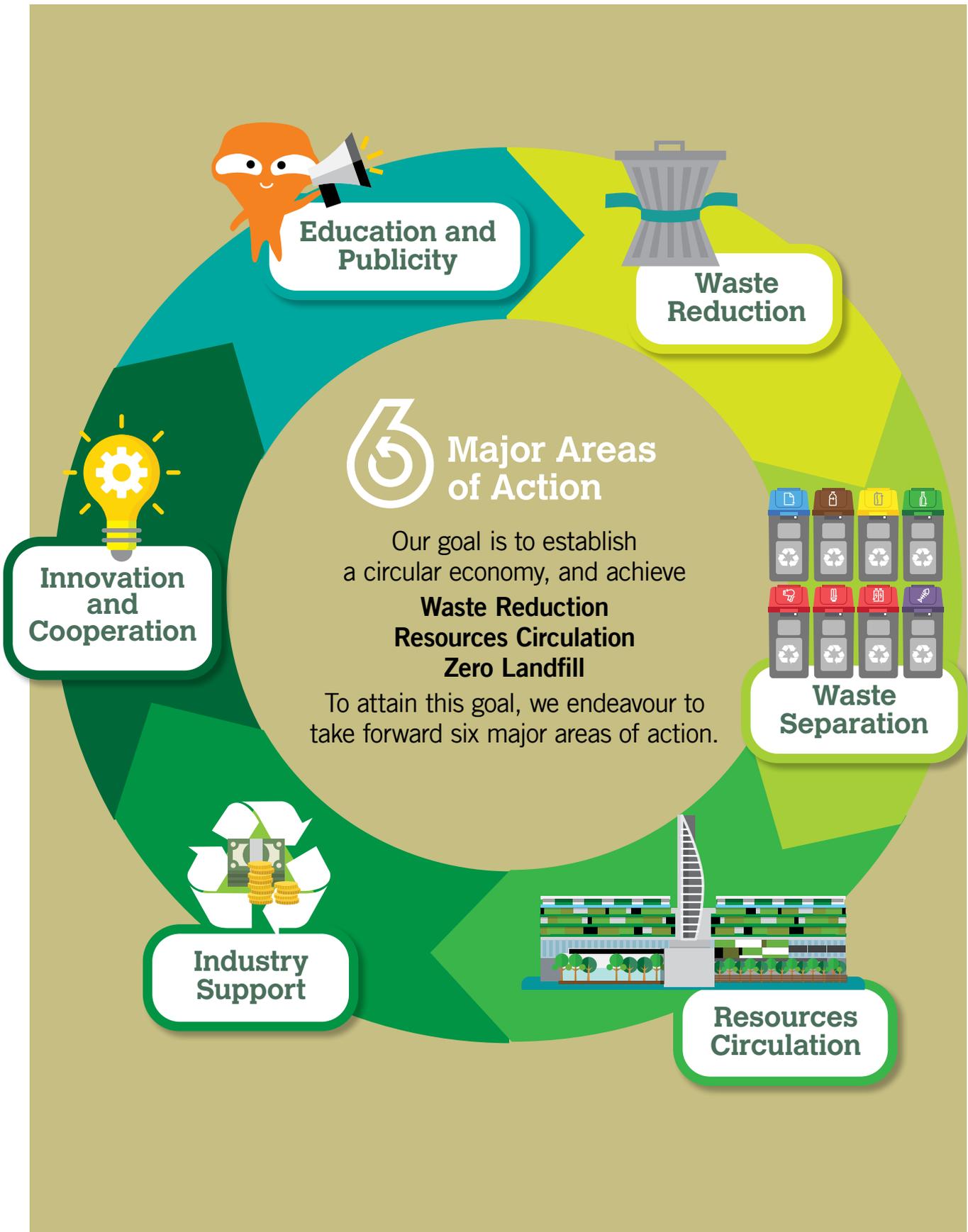
However, even with the society’s support to immediately kick start the further development of waste-to-energy infrastructure, the process still takes time for carrying out feasibility studies, environmental impact assessment and relevant construction works, etc. As a stop gap measure, we still need to increase the capacity of the landfills on a limited scale to meet the actual demand in the coming decade. If the development of new waste-to-energy facilities is well supported, we will have room to consider reducing the land requirement of the WENT Landfill extension by a certain scale from the original plan of about 200 hectares.



Assuming that aforementioned waste-to-energy infrastructure with adequate treatment capacity can be in place by around 2035, we will no longer need to rely on landfills for direct disposal of our MSW.



Whether the above targets can be achieved as scheduled will depend on a number of factors, including the participation and support of members of the public and different sectors of our society. In order to realise the vision and keep abreast of the latest situation, we plan to conduct periodic review of and even update our strategies and targets roughly every five years to make timely adjustments and meet the prevailing community needs.



### Waste Reduction

- Implement MSW charging
- Fully implement PRS on glass beverage containers
- Implement PRS on plastic beverage containers
- Regulate the use of disposable plastic tableware by phases and explore the need of handling other single-use plastics

### Waste Separation

- Strengthen the community recycling network
- Expand food waste collection and recycling
- Implement waste paper collection and recycling
- Expand waste plastics collection and recycling

### Resources Circulation

- Enhance waste-to-energy and food waste treatment capability
- Facilitate the setting up of paper pulping facility
- Develop Y • PARK to recycle yard waste
- Develop construction waste sorting facility

### Industry Support

- Enhance the operation of the Recycling Fund
- Expand EcoPark
- Expand green procurement
- Support green employment

### Innovation and cooperation

- Set up Green Tech Fund
- Promote application of innovative technologies to enhance efficiency of waste reduction and recycling
- Explore adoption of innovative technologies to treat food waste more effectively
- Exchange with other Greater Bay Area cities on development of "zero waste city"

### Education and Publicity

- Launch educational and promotional campaigns on waste reduction and recycling
- Extend Green Outreach service to all districts
- Promote "plastic-free" culture to reduce the use of disposal plastic tableware
- Collaborate with the trade in reducing the use of plastic packaging materials

Waste Reduction	
<b>Implement MSW charging</b>	MSW charging is the main driving force behind waste reduction which helps drive enterprises and the public to practise waste reduction and recycling proactively. We will actively cooperate with the LegCo on the legislative work for MSW charging. To facilitate the community to adapt to MSW charging and change their behaviour gradually, the Government plans to put in place a preparatory period of about 12 to 18 months after the passage of the relevant Bill to allow the Government, different stakeholders and the public to get prepared for the implementation of MSW charging.
<b>Fully implement PRS on Glass Beverage Containers</b>	The Government is implementing the PRS on glass beverage containers progressively, and has appointed glass management contractors to provide regional waste glass containers collection and treatment services. The drafting of the subsidiary legislation to provide for the operation details of the PRS has been completed. Depending on the progress of LegCo's scrutiny and the social circumstances, it is expected that the PRS may be fully implemented by 2022 the earliest.
<b>Implement PRS on Plastic Beverage Containers</b>	The Government will take forward the PRS on plastic beverage containers that requires relevant stakeholders to jointly share their eco-responsibilities. Subject to the views collected in the public consultation and the legislative procedures required for putting forward the final proposal, it is expected that the PRS may be implemented by 2025 the earliest. The Government has also commenced a one-year pilot scheme on reverse vending machines, and will decide the way forward of the application of reverse vending machines in Hong Kong after taking into account the outcome of the pilot scheme and the relevant data collected.
<b>Regulate the use of disposable plastic tableware by phases and explore the need of handling other single-use plastics</b>	<p>The Government plans to consult the trades and stakeholders on the phased regulation of disposable plastic tableware. Subject to the views received and the ensuing legislative procedures, we hope that the first phase of regulation can be implemented in around 2025.</p> <p>The Government will also explore the need to handle other single-use plastics.</p>
Waste Separation	
<b>Strengthen the community recycling network in 18 districts</b>	We would put in place more Recycling Stations, Recycling Stores and mobile Recycling Spots in the coming years to further increase the coverage of their services. To ensure the proper recycling of those recyclables with relatively lower market value, the community recycling network would also strengthen its on-site collection services for estates enrolling in the Source Separation of Domestic Waste Programme.
<b>Continue to expand food waste collection and recycling service</b>	The Government will roll out the second phase of the pilot scheme on food waste collection in 2021 on a larger scale, which includes collection of domestic food waste progressively, with a view to achieving the target of collecting 250 tonnes of food waste per day by 2022. Looking ahead, with the progressive commissioning of more food waste recycling facilities, the Government will continue to expand the collection service for food waste, enhance the collection network, and assist the commercial, industrial and domestic sectors in practising food waste separation at source for turning waste into energy.
<b>Continue to implement waste paper collection and recycling service</b>	To enhance the quality and quantity of local waste paper recyclables and promote the sustainable development of the local waste paper recycling industry, EPD launched the territory-wide waste paper collection and recycling services in September 2020. The service contractors would process the waste paper locally, including screening, sorting and baling, etc., and then sell them to various markets for recycling into paper products. Following the implementation of the services together with other waste reduction initiatives and educational and publicity programmes, we expect the overall waste paper recovery quantity and quality can be further enhanced.
<b>Extend waste plastics collection and recycling service to the whole territory</b>	To complement public education, drive behavioural changes and improve the recovery rate of waste plastics, EPD has commenced progressively since January 2020, a two-year pilot scheme on waste plastics collection and recycling in Eastern District, Kwun Tong and Sha Tin. Under the scheme, all types of waste plastics from non-commercial and non-industrial sources will be collected for proper handling. The Government is planning to extend the pilot scheme from the existing three districts to nine districts progressively in 2021 and 2022, which is expected to cover more than half of the population in Hong Kong. Subject to the experience and effectiveness of the pilot scheme, we will progressively extend the service to cover the entire territory.

Resources Circulation	
<b>Enhance our waste-to-energy and food waste treatment capability</b>	<p>To achieve the target of “Zero Landfill”, the Government will continue to develop the O•PARKs and optimise the use of sewage treatment works for carrying out food waste/sewage sludge anaerobic co-digestion, as well as explore other innovative food waste treatment technologies, with a view to enhancing the overall food waste treatment capability in Hong Kong. Our target is to largely equip Hong Kong with adequate facilities by mid-2030s to handle the amount of food waste expected to be collected (i.e. around half of the daily food waste disposal) for transforming into energy or resources.</p> <p>The Government will also prepare for the development of a new waste-to-energy facility, which will handle non-recyclable MSW with advanced technology. We anticipate that the facility can be commissioned in 2030s.</p>
<b>Facilitate the setting up of a paper pulping facility</b>	<p>To provide more diversified outlets for local waste paper and having regard to the limited land resources in Hong Kong, the Government will turn waste paper into resources in a more efficient and cost effective manner. The Government will invite open tender in the first half of 2021 for the development of a modern pulping facility in EcoPark, Tuen Mun. The pulping facility is expected to commence operation by 2024 with an annual treatment capacity of not less than 300 000 tonnes of local waste paper. The Government will also explore ways to promote the development of more advanced waste paper treatment facilities with a view to building up capacity to process waste paper collected locally in the long run.</p>
<b>Develop a yard waste recycling facility, Y•PARK</b>	<p>We will promote the experience of Y•PARK in recycling yard waste, and work with relevant departments in searching suitable land for developing a large-scale yard waste recycling facility in the long run. We will also study various technologies on yard waste recycling, for instance, the trial production of biochar from yard waste, with a view to turning yard waste into energy and resources, thereby reducing waste as well as carbon emissions.</p>
<b>Develop suitable construction waste sorting facility</b>	<p>The Government will further encourage the construction industry to practise source separation as far as possible in order to minimise the disposal of construction waste at landfills. In the long run, subject to availability of suitable conditions and technologies, the reuse of construction materials can be enhanced by developing appropriate sorting facilities for construction waste. We will examine the possibility on this front closely.</p>
Industry Support	
<b>Enhance the operation of the Recycling Fund</b>	<p>To promote the sustainable development of the recycling industry and to assist the trade to cope with the instability in the international recycling market and upgrade their operations, the Government will continue to provide the local recycling industry, comprising mainly small to medium enterprises, with financial support. The Government will enhance the operation of the Recycling Fund to support the recycling industry, promote circular economy, and upgrade the industry to move towards advanced industrial development supported by technologies and mechanics.</p>
<b>Reserve land for the expansion of EcoPark</b>	<p>To support the sustainable development of the recycling industry, in addition to the 20 hectares of land currently designated for recycling use in EcoPark, Tuen Mun, the Government will actively identify more land for the longer term. For instance, the Government would consider reserving land in the new development areas for developing multi-storey buildings for use by the recycling industry, and reserving land for the expansion of EcoPark.</p>
<b>Expand Green Procurement</b>	<p>The Government spent a total of over \$2 billion on procurement of green products and services in 2019. To further enhance green procurement, the Government will further expand its green procurement list from the existing 150 items to 183 in 2021, with updates on relevant green specifications and the provision of more easy-to-use green purchase tips. The Government will also enhance promotion to the public and private sectors, and encourage more trade associations and organisations to formulate green procurement guidelines. With concerted efforts of the Government and the community in implementing green procurement, we hope to boost the market demand of green products for supporting the recycling industry, thereby promoting the development of a circular economy.</p>
<b>Support green employment</b>	<p>Thousands of job opportunities have been created by various waste management facilities as well as waste reduction and recycling initiatives under EPD. Looking ahead, thousands of green jobs covering different sectors can be further created with the Government’s further implementation of waste reduction and recycling initiatives, for example, the continued expansion of the community recycling network in 18 districts, strengthening of central collection services for recyclables, enhancement of waste-to-resources/energy capability, etc.</p>

Innovation and Cooperation	
<b>Set up Green Tech Fund</b>	The Green Tech Fund which has been established with a \$200 million Government allocation provides better and more focused funding support to research and development projects which can help Hong Kong decarbonise and enhance environmental protection. The amount of funding for each project ranges from \$2.5 million to \$30 million. We welcome and encourage research and development institutes to apply for the Fund to conduct research on the development of circular economy, the reuse and the recycling of different types of wastes, as well as the recycling and treatment of non-inert construction wastes, etc, with a view to promoting cooperation and innovation, and facilitating the application of technology in resources circulation.
<b>Promote the application of innovative technologies to enhance the efficiency of waste reduction and recycling</b>	The Government will further promote the application of innovation and technology with a view to facilitating community recycling work and enhancing operational efficiency, at the same time bringing enjoyment of smart recycling to the community. The gradual introduction of the aforementioned smart recycling system, as well as the exploration and promotion of the application of reverse vending machines are some of the examples.
<b>Explore the use of innovative technologies to treat food waste more effectively</b>	The Government will explore the installation of food waste grinders in new development areas and housing projects to provide an additional management option for treating household food waste. Furthermore, the Government is planning to introduce advance biological technologies to treat organic waste, for instance, turning organic waste from chicken farms into insect protein, which is a source of animal feed. Depending on the effectiveness of a pilot scheme, it is possible to expand the application of such technology in treating organic waste from pig farms and food waste in MSW.
<b>Exchange with other Greater Bay Area cities on the development of “zero waste city”</b>	<p>The Central Government announced in late 2018 the work plan on the pilot program on “zero waste city”. To date, there are 16 pilot cities and regions undergoing the phase of practical implementation. “Zero waste city” refers to an urban development model that aims at reducing solid waste generation at source, promoting transformation of waste into resources, reducing landfilling as far as possible, and minimising the environmental impact of solid waste by advocating the principles of innovation, collaboration, green, openness and share use.</p> <p>The Government will strengthen exchanges and training with cities in the Greater Bay Area which are implementing pilot projects for “zero waste city” (such as Shenzhen), and jointly promote management models of advanced green city.</p>
Education and Publicity	
<b>Launch educational and promotional campaigns on waste reduction and recycling</b>	EPD will continue to join hands with the Environmental Campaign Committee to promote waste reduction and recycling information to the public, step up publicity effort on disseminating the message of “Save More Recycle More”, and encourage members of the public to practise green living. EPD will also continue to reach people of all ages through traditional and social media platforms, with a view to increasing public engagement in waste separation and clean recycling, and encouraging citizens to cultivate green living habits and environmental awareness and cherish resources.
<b>Extend the Green Outreach service to all districts</b>	The Government will continue to expand the geographic coverage of the outreaching services provided by the Green Outreach, with a view to covering all 18 districts in 2021. With the on-site support of the Green Outreach, we expect an enhancement of the recycling performance of those estates participating in the Source Separation of Domestic Waste Programme, with a view to enhancing the waste recovery rate of the territory.
<b>Promote “plastic-free” culture to reduce the use of disposable plastic tableware</b>	The Government will continue to take forward various “plastic-free” campaigns to promote reducing the use of disposable plastic tableware, with a view to encouraging more members of the public and eateries to practise “plastic-free”. We will also step up publicity and promotional efforts to complement the plan of phased regulation of disposal plastic tableware.
<b>Collaborate with the trade in reducing the use of plastic packaging materials</b>	The Government will continue to liaise with the retail industry and other key stakeholders to jointly explore and implement practical measures to promote the reduction of plastic packaging materials. At the same time, we will continue to promote simple packaging, waste reduction at source; and encourage green business and consumption through publicity, education and other various means.

# Concluding Remarks

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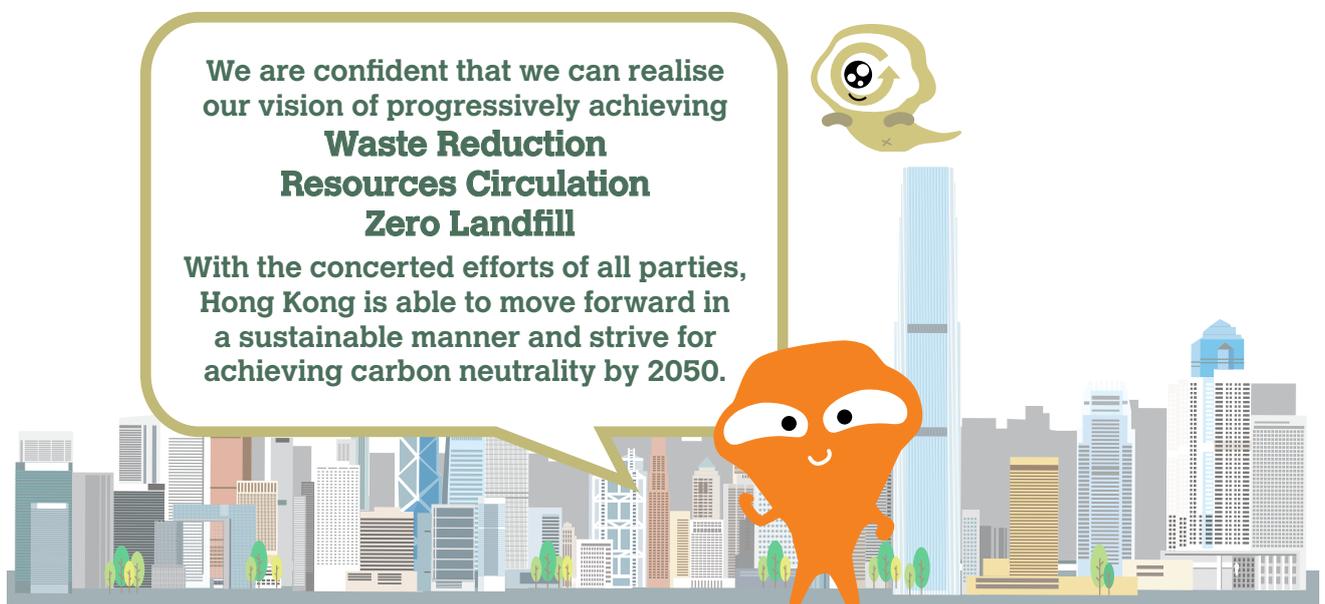
One of the key actions for Hong Kong to achieve sustainable development is to turn suitable waste into resources or recover energy. Given that land is precious in Hong Kong, while we are striving to reduce waste, we must also take action to move away from our over-reliance on landfills in the long run, both posing formidable challenges to us. Apart from implementing the necessary plans and providing support in all aspects, the Government also requires strong support from members of the public in changing their behaviour and habits in their daily life so as to step up waste reduction. In respect of the resources required to implement various plans, everyone should adhere to the “polluter pays” principle and take on their eco-responsibilities.

With limited land and a small manufacturing base in Hong Kong, we need to capitalise on the synergy from cooperation with all local trades, put into practice any new ideas for more effective and efficient management of waste and recycled materials of higher value, and explore new market outlets for recyclables. The Government will establish closer partnerships with the trades and provide them with various support to encourage innovation, meanwhile creating green employment opportunities.

To tap into the opportunities brought about by the development of the Guangdong-Hong Kong-Macau Greater Bay Area, we can share views with other Greater Bay Area cities on the development of a “zero waste city” and explore room for developing a regional “circular economy”. These include adopting an innovative, green and low-carbon development model, and leading the industrial sector to adopt eco-design and cleaner processes in their production (including their production base in the Mainland).

The market, technologies and opportunities are ever-changing. We have to take more steps to keep pace with the times by timely reviewing our actions and goals in a pragmatic manner. To this end, we expect to review and update our strategies and targets roughly every five years to keep us on the right track towards our vision.

As long as the Government, members of the public and people from all sectors work together, we are confident that we can realise our vision of achieving “Waste Reduction • Resources Circulation • Zero Landfill” progressively. With the concerted efforts of all parties, Hong Kong is able to move forward in a sustainable manner and strive for achieving carbon neutrality by 2050.



# Annex 1

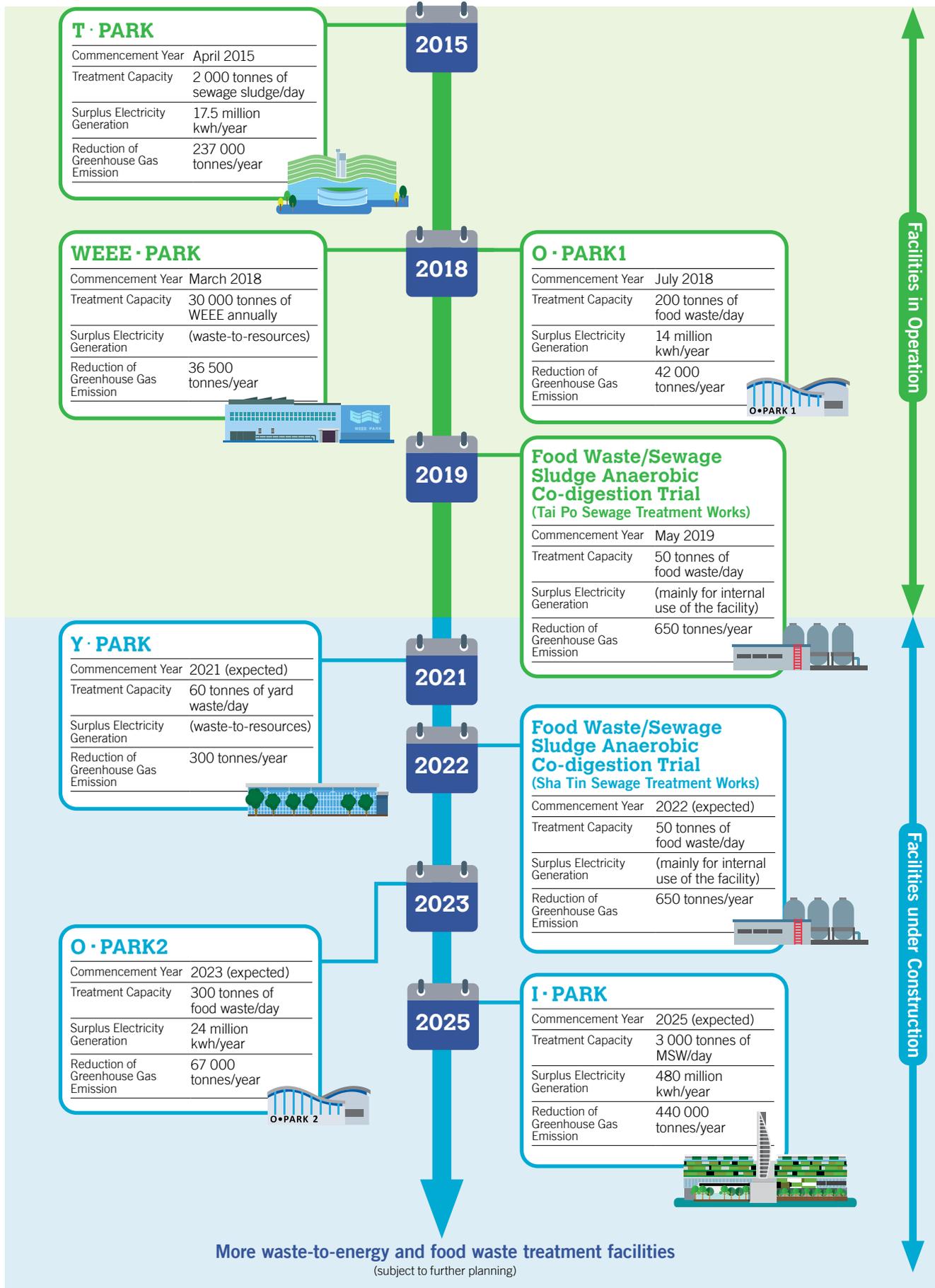
## Major Work Progress in the Past Eight Years (mid-2013 to early 2021)

Year (since/on)	Events
<b>Waste Reduction</b>	
April 2015	<b>PSB Charging Scheme</b> fully implemented to cover the entire retail sector, under which retailers are required to charge customers not less than 50 cents for each PSB.
May 2016	Enabling legislation for introducing the <b>PRS on Glass Beverage Containers</b> passed by the LegCo.
April 2017	Disposal charges under the <b>Construction Waste Disposal Charging Scheme</b> raised after a review. Since the charge increment, the construction waste being disposed of at landfills has dropped by 6%.
November 2018	The <b>Bill on MSW charging</b> introduced into the LegCo, with additional resources allocated to strengthen the support on multi-pronged waste reduction and recycling initiatives with the aim of preparing for and complementing the implementation of MSW charging after the relevant Bill is passed by the LegCo.
December 2018	<b>PRS on WEEE</b> fully implemented to control the recovery, treatment and disposal of regulated WEEE, with disposal licensing control, import and export permit control, and landfill disposal ban imposed in respect of abandoned regulated WEEE.
<b>Industry Support</b>	
July 2015	<b>Green Procurement List</b> expanded to cover 150 products and services purchased by various Government bureaux/departments with green specifications; and the trial of green products has also been encouraged.
October 2015	The <b>\$1 billion Recycling Fund</b> launched to support the recycling industry to upgrade their operational capabilities. About \$600 million has been approved so far to support projects involving waste paper, waste plastics, food waste and other recyclables.
January 2019	<b>Enhancement measures under the Recycling Fund</b> rolled out progressively subsequent to a review, including enlarging the scope of eligible applicants, to better support the operation of the recycling trade.
Ongoing	Continued land support with the 20-hectare <b>EcoPark</b> provided to the recycling trade at affordable price since its commencement of operation in 2007.
<b>Education and Publicity</b>	
May 2013	<ul style="list-style-type: none"> <li>• <b>Food Wise Hong Kong Campaign</b> launched with the Big Waster mascot created to instil food-wise culture in the community.</li> <li>• <b>Food Wise Charter</b> launched to encourage businesses/organisations to adopt food waste reduction measures, with more than 950 organisations signed so far, pledging to reduce food waste.</li> </ul>
November 2015	<b>Food Wise Eateries Scheme</b> launched to encourage eateries to reduce food waste, with over 1 000 eateries enrolled so far.
February 2017	<b>Green Lunar New Year Fairs</b> organised to encourage stall operators and the general public to practise waste reduction and recycling as well as resources sharing during festive celebrations, now as a regularised annual project.
December 2017	<b>Green Event Guidebook</b> published to provide organisations with environmentally friendly and waste reduction guidance in organising events. More than 240 organisations have made the <b>“Green Event Pledge”</b> to commit to making reference to the Guidebook and integrating green concepts into their events.
February 2018	<ul style="list-style-type: none"> <li>• More <b>water dispensers in government venues</b> with public access installed progressively to inculcate “bring your own bottle” and “use less, waste less” culture.</li> <li>• <b>Sale of plastic bottled water of 1 litre or less</b> at the automatic vending machines of government premises ceased progressively. About 1 300 units (over 80%) of automatic vending machines have already ceased the sale.</li> </ul>
November 2018 to August 2019	<b>“Plastic-Free Takeaway, Use Reusable Tableware”</b> and <b>“Plastic-Free Beach, Tableware First”</b> launched in collaboration with about 700 eateries to encourage the community to reduce the use of disposable plastic tableware. More than 2.4 million sets of disposable plastic tableware were saved during the two campaigns.
December 2018	<b>Green Outreach’s</b> services rolled out progressively in three pilot districts (Eastern, Kwun Tong and Sha Tin Districts) to provide on-site waste reduction and recycling support, and foster partnership and collaboration with key stakeholders at community level.
January 2019	The Government took the lead to <b>cease the provision of plastic straws and polyfoam food containers</b> in canteens mainly serving government employees.
June 2019	<b>Plastic-free Fun Fair</b> organised under the theme of “Go Plastic-free” on World Environment Day to cultivate “plastic-and-disposable-free” habits in the community.
June 2020	A two-year <b>large-scale “Reduce and Recycle 2.0” Campaign</b> launched to further raise public awareness of various waste reduction and recycling initiatives.

Year (since/on)	Events
<b>Waste Separation</b>	
May 2015	The first <b>Community Green Station</b> (now known as <b>Recycling Station</b> ) commenced operation. A total of nine Recycling Stations are now in operation, together collected about 8 000 tonnes of recyclables, organised over 6 000 educational events, and attracted about 1.45 million visitors.
January 2016	<b>SENT Landfill</b> designated to accept construction waste only.
December 2016	<b>Natural Christmas trees and peach blossom trees</b> collected after festive seasons.
November 2017	<b>Waste glass container collection and treatment service</b> commenced progressively across the territory to complement the PRS on Glass Beverage Containers.
July 2018	The first phase of the <b>pilot scheme on food waste collection</b> commenced, covering 70 public venues, some schools and 120 private institutions.
November 2018	<b>Tree waste</b> generated by typhoons collected and processed into useful materials for upcycling or reuse.
January 2020	<b>Pilot scheme on waste plastics collection and recycling</b> commenced progressively in three pilot districts (Eastern, Kwun Tong and Sha Tin Districts) to collect a wide range of waste plastics from non-commercial and non-industrial sources.
September 2020	<ul style="list-style-type: none"> <li>• Territory-wide <b>collection and recycling service on waste paper</b> commenced. Waste paper collected would be further processed for sale to other places for recycling into paper products.</li> <li>• <b>Community Smart Recycling Vehicle</b> launched under a pilot programme to promote the smart recycling system.</li> </ul>
November 2020	<ul style="list-style-type: none"> <li>• Twenty-two new <b>Recycling Stores</b> (formerly known as Community Recycling Centres) commenced operation progressively, covering all 18 districts in the territory.</li> <li>• Over 100 mobile <b>Recycling Spots</b> rolled out at designated time and locations to provide recyclables collection service to the community on a weekly basis.</li> </ul>
January 2021	<b>Pilot scheme on Application of Reverse Vending Machines</b> launched to encourage the return of used plastic beverage containers and to provide rebate.
<b>Resources Circulation</b>	
April 2015	<b>T•PARK</b> commenced operation with a daily treatment capacity of 2 000 tonnes of sewage sludge generated from local sewage treatment works.
November 2017	Contract for designing and building <b>I•PARK</b> (which is scheduled for operation in 2025) with a daily treatment capacity of 3 000 tonnes of MSW awarded.
March 2018	<b>WEEE•PARK</b> commenced full operation with an annual treatment capacity of 30 000 tonnes of regulated WEEE.
July 2018	<b>O•PARK1</b> commenced operation with a daily treatment capacity of 200 tonnes of food waste.
May 2019	<b>Food Waste/Sewage Sludge Anaerobic Co-digestion Trial Scheme</b> commenced at Tai Po Sewage Treatment Works, with a daily treatment capacity of 50 tonnes of food waste.
August 2019	Contract for designing and building <b>O•PARK2</b> (which is scheduled for completion in 2023) with a daily treatment capacity of 300 tonnes of food waste awarded.
October 2020	Contract for designing and building the <b>Yard Waste Recycling Centre (Y•PARK)</b> , which is scheduled for completion in 2021) with a daily treatment capacity of 60 tonnes of yard waste awarded.

# Annex 2

## Milestones of Waste-to-resources/energy Infrastructure in Hong Kong (2015-2025)



# Abbreviations

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LegCo	Legislative Council
MiC	Modular Integrated Construction
MSW	Municipal Solid Waste
NENT	North East New Territories
PRS	Producer Responsibility Scheme
PSB	Plastic Shopping Bag
SENT	South East New Territories
WEEE	Waste Electrical and Electronic Equipment
WENT	West New Territories



**Waste  
Reduction**



**Resources  
Circulation**



**Zero  
Landfill**