

**For discussion on
28 December 2020**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS
2020 POLICY ADDRESS
POLICY INITIATIVES OF ENVIRONMENT BUREAU:
ENVIRONMENTAL PROTECTION**

PURPOSE

This paper sets out the major policy initiatives of the Environment Bureau (ENB) and the Environmental Protection Department (EPD) in relation to environmental protection and relevant issues in the 2020 Policy Address.

KEY INITIATIVES

Improving Air Quality

2. The Government has all along been actively promoting and implementing various emission reduction measures to improve air quality continuously and safeguard public health. Over the past three years, the ambient concentrations of the four major air pollutants (including respirable suspended particulates, fine suspended particulates, nitrogen dioxide and sulphur dioxide) have dropped by 5 to 38%, indicating the further effect of the emission reduction measures implemented in recent years.

Clean Air Plan for Hong Kong and Roadmap on the Popularisation of Electric Vehicles

3. To formulate a comprehensive strategy to improve air quality, the Government published in 2013 the first Clean Air Plan for Hong Kong. The Plan outlined the challenges Hong Kong had been facing, as well as the policies and measures in improving air quality. A progress report was released in 2017. The Government is now actively preparing to update the Plan, and will set long term goals and devise measures to further improve air quality, with a view to continuing reducing emissions of air pollutants from

various sources. We expect to complete the relevant work in the first half of 2021.

4. The Government will also formulate Hong Kong's first roadmap on the popularisation of electric vehicles (EVs) in the first quarter of 2021 to set forth long term policy objectives and plans to promote the use of EVs and their associated supporting facilities. The roadmap will prepare a target for banning the sales of conventional fuel propelled private cars, and the Government will take the lead to enhance adoption of EVs in its fleet. This will demonstrate the Government's commitment to expediting EV adoption in the society and establishment of more charging facilities and points, in order to speed up the improvement of roadside air quality.

Review the Eighth Technical Memorandum for Allocation of Emission Allowances for Power Plants

5. The Government has issued eight Technical Memoranda (TMs) under the Air Pollution Control Ordinance (Cap. 311) since 2008 to progressively tighten the emission caps of three major air pollutants (i.e. sulphur dioxide, nitrogen oxides and respirable suspended particulates) for power plants from 2010 to 2024 and beyond. Compared with the First TM, the Eighth TM issued in November 2019 will reduce the emission caps of the abovementioned air pollutants by around 70% to 90%. The Government will review the Eighth TM in 2021 with a view to further tightening the emission caps for power plants from 2026 onwards.

Tighten the Volatile Organic Compound (VOC) Content Limits of Architectural Paints

6. VOCs are one of the air pollutants that could contribute to the formation of photochemical smog, which will elevate levels of ozone and particulates in the air. The Government has been striving to reduce VOC emissions at source, including the implementation of a regulation in 2007 to regulate the VOC contents of specific products.

7. To continuously reduce VOC emissions, we plan to tighten the VOC content limits of the regulated architectural paints, and have collected views from architectural paint suppliers, trade associations and government works departments. We will take into account local circumstances and trade views, and set out a proposal on their control in the coming year.

Waste Reduction and Recycling

8. In recent years, our recycling industry has encountered huge challenge due to a downturn of the external recycling market, which affects our local overall recycling performance. With a view to enhancing the quality and quantity of local waste paper recyclables, and promoting the sustainable development of the local waste paper recycling industry, EPD has launched the collection and recycling services on waste paper for the first time. EPD has already awarded service contracts to 17 contractors through open tendering and services have progressively commenced since September this year.

9. To diversify the recycling outlets for local waste paper, we are also planning to invite tender for developing a modern pulping facility in the EcoPark in Tuen Mun. Comparing with conventional paper production process, the latest waste paper pulping technology better fits our local situations and is able to transform waste into resources more effectively. For example, the facility is more land-efficient with energy and cost saving in operation. We will commence the tender invitation in the first half of 2021, and the pulping facility is expected to commence operation by 2024.

10. Apart from waste paper recycling, we have also progressively commenced the pilot schemes on collection and recycling of food waste and waste plastics since July 2018 and January this year respectively, complementing our public education programmes and facilitating waste-to-energy/resources. Looking ahead, we will expand the pilot schemes gradually to cover more districts or target groups. At the same time, we will also explore other means of handling food waste, including the use of undersink food waste grinders in new development areas and housing projects.

11. In view of the latest circumstances and demand of the market, it is high time to review the current strategies and formulate long-term and comprehensive strategies on waste management. Following our recent engagement sessions with relevant stakeholders, we are preparing to promulgate a long-term strategy blueprint on waste management, with a view to supporting circular economy and transforming waste into resources.

12. Our local recycling industry is an important partner in our waste management work. We will continue to provide them with financial and land support through the Recycling Fund, the EcoPark and short-term tenancy land. The government will continue to monitor closely the operation of the Fund and consider supplementing resources if needed in accordance with the established mechanisms, so as to continue providing support to the recycling industry to increase its processing capacity and capability, as well as upgrade its operations to cope with latest needs of the local and overseas markets.

Combating Climate Change

13. According to the target set out in Hong Kong's Climate Action Plan 2030+, by 2030 Hong Kong's carbon intensity should be 65% to 70% less than that in 2005. With the implementation of various decarbonisation measures, our per capita emission was reduced to 5.4 tonnes in 2018, and the carbon intensity was about 36% lower than that in the baseline year of 2005.

14. Looking beyond 2030, our country has said it would endeavor to achieve carbon neutrality before 2060. The Council for Sustainable Development also considers that Hong Kong should progressively advance to net zero carbon emissions by 2050, and has put forward 55 recommendations across eight key areas to support this vision.

15. The Policy Address has announced that the HKSAR would strive to achieve carbon neutrality before 2050. To this end, we will update Hong Kong's Climate Action Plan in the middle of next year to set out more proactive strategies and measures to reduce carbon emissions.

16. The Green Tech Fund, established with a \$200 million Government allocation, was open for applications in December this year. This will give new impetus to deep decarbonisation and the development of green technologies. In respect of public education, the Environment and Conservation Fund (ECF) has, since the 2017-18 financial year, earmarked \$25 million for local non-profit making organisations to carry out environmental education and community action projects with climate change as the theme, and will continue to support these projects in the future.

17. Furthermore, to achieve deep decarbonisation, the Government has seen to it that the two power companies use cleaner fuel for electricity generation. In their last and current development plans spanning ten years, the two power companies' investment in major decarbonisation projects amounts to some \$39 billion. Coal only accounts for about one quarter of the fuel mix for electricity generation in 2020, substantially lower than its share in 2015 which was about 50%. In the next decade, the two power companies will continue to replace coal-fired generating units with gas-fired ones. As more natural gas will be used for electricity generation in Hong Kong, the two power companies are building an offshore liquefied natural gas terminal to help with the sourcing of gas, so that they can purchase natural gas at a more competitive price to meet their need for fuel supply, and hence relieve the pressure on tariff adjustment.

Energy Efficiency and Carbon Reduction

18. The 5-year target to save 5% of electricity in government buildings was reached one year ahead of schedule in 2019. It will result in an annual saving of about 70 million kWh of electricity, or about \$85 million savings in electricity bill per year. The new Green Energy Target announced last year is to improve the overall energy performance of government buildings and infrastructure by a further 6% in the coming five years, through energy audits, retro-commissioning, use of innovative technology, and renewable energy, etc. The annual saving in energy cost would then be about \$200 million. To sustain the community's momentum in energy saving and decarbonisation, the Government will tighten the statutory building energy efficiency standards every three years, expand the scope of the Mandatory Energy Efficiency Labelling Scheme, promotes retro-commissioning and implement district cooling systems, etc.

Green Schools 2.0

19. To facilitate schools in developing a group of Green Prefects (GPs) with leadership skills and deeper understanding of environmental issues, we have introduced a GP Programme to all primary and secondary schools in the 2020/21 school year. GPs can help enhance their peers' environmental awareness through encouragement and supervising their green habits on campus, and thus contribute to the uplift of their schools' overall

environmental performance.

20. Further, at no cost to the schools, we will retrofit energy-efficient lighting and air-conditioners, and install real-time energy monitoring systems for them, motivating teachers and students to practise low-carbon living. Some 110 schools have applied to join the programme. Online seminars have also been held to promote retro-commissioning in tertiary education institutions.

Nature Conservation

21. With regard to nature conservation, the Government designated the Southwest Lantau Marine Park on 1 April 2020 and is planning to designate two more new marine parks¹. Adding to the five marine parks and one marine reserve originally, the total sea area of marine park/reserve will be increased by 150% from 3 400 to around 8 500 hectares. The Agriculture, Fisheries and Conservation Department (AFCD) will step up patrol and law enforcement in marine parks, including the flexible deployment of staff for dedicated law enforcement on the sea and the plan to procure three patrol vessels (including two new ones and replacement of an existing one) to further combat illegal fishing and other unauthorised activities in marine parks. The estimated non-recurrent cost for the three patrol vessels is \$45 million, and the recurrent cost is around \$3 million. The Government will seek funding from the Legislative Council (LegCo) for the proposed procurement of the patrol vessels in accordance with the established mechanism.

22. In addition, to better conserve the endangered Green Turtles, the Government consulted the Panel on Environmental Affairs on 23 November 2020 on the proposed expansion of the Sham Wan Restricted Area on Lamma Island from the sandy beach to the adjoining waters and the proposed extension of the restricted period. The proposal was supported by Panel Members. The amendment notice was gazetted and then tabled before the LegCo on 16 December 2020, with a view to implementing the new measure by the start of the next breeding season of Green Turtles on 1

¹ The Government has commenced the statutory process for designation of the proposed South Lantau Marine Park (SLMP) this year, including the preparation of draft map for the proposed SLMP and the public consultation, as well as preparation work for the proposed marine park for the Three-Runway System of the Hong Kong International Airport.

April 2021.

23. AFCD is exploring the use of video analytic robotics and artificial intelligence to enhance the accuracy of the existing hill fire detection system to assist in the early detection of hill fires in country parks with a view to reducing damage to the nature environment by hill fire. AFCD has selected the Pat Heung Fire Lookout to install the advanced artificial intelligence surveillance system for real time monitoring of hill fire as a trial. The project is expected to complete within 2021 and will be used to upgrade the existing hill fire detection system at the Tin Fu Tsai Lookout.

24. The Countryside Conservation Office (CCO) under the Environmental Protection Department launched the Countryside Conservation Funding Scheme (CCFS) in October 2019 to provide funding support to non-profit making organisations for implementing conservation and revitalisation projects in the remote countryside². The CCO expanded the funding scope of the CCFS in May 2020 to cover a broader spectrum of conservation programmes, including natural environment/habitats, non-graded built heritage, cultural and historic assets, etc. Since the launch of the CCFS, a total of 10 projects have been approved involving a total funding support of over \$60 million.

25. To support eco-tourism, better serve visitors and help revitalise desolate villages, the CCO will work with relevant bureaux/departments to jointly develop a set of licensing requirements and procedural guidelines designed especially for guesthouses and catering business in countryside areas, making reference to the special nature and restrictions of rural settings. Not only will this enhance the level of service in eco-tourism, but will also improve the environment of villages and provide new economic opportunities.

² Funding support for conservation activities or projects in Lantau are covered by the Lantau Conservation Fund under the Sustainable Lantau Office, and thus Lantau is not covered under the CCFS.

Enhancing Water Quality

26. To enhance the water quality in Victoria Harbour and mitigate its nearshore odour problems, we will plan for some concurrent measures of installing compact and high-efficiency dry weather flow interceptors in the box culverts in Hung Hom, Causeway Bay Typhoon Shelter, Wanchai East, Tsuen Wan Bay and Shau Kei Wan Typhoon Shelter; deploying of new technique for screening pollutant at sources of stormwater discharge; and collaborating with research institutions to develop new odour abatement method for testing inside stormwater system at different districts.

27. In addition, a total of 13 projects³ will commence construction this year to support regional development and improve living environment in rural areas. We are also planning to consult the Panel on Environmental Affairs of the Legislative Council for six projects covering two village sewerage schemes for the Islands district; construction and rehabilitation of sewage rising main in Yuen Long, Tai Po and Yau Tong; and sewerage system upgrade for North East New Territories.

Environment Related Funds

28. To make fuller use of the funds set up by the ENB, we will increase allocations of the ECF, Sustainable Development Fund, Countryside Conservation Funding Scheme and Green Tech Fund by a total of about \$200 million to create more job opportunities and step up the promotion of community participation in low-carbon living and environmental protection covering sustainable development areas such as energy conservation, waste reduction, nature and rural conservation, air quality, water quality and clean shorelines.

³These projects include the Yuen Long Effluent Polishing Plant, San Shek Wan and Cheung Chau sewage treatment works, dry weather flow interceptors at Tsuen Wan and Kwai Chung, upgrading of West Kowloon and Tsuen Wan sewerage, Phase 2 rehabilitation of sewer and stormwater drain in collaboration with Development Bureau and village sewerage projects in Sai Kung, Tolo Harbour, Lantau Island, North District and Tuen Mun.

OTHER ON-GOING INITIATIVES

29. We will also continue to take forward a wide range of other on-going initiatives. A summary is at **Annex**.

Environment Bureau
December 2020

2020 Policy Address
Policy Initiatives of Environment Bureau:
Environmental Protection

On-going Initiatives

Area	Progress
Improving Air Quality	
Review of the Air Quality Objectives (AQOs)	<ul style="list-style-type: none"> ● The Government has assessed and reviewed the air quality improvement progress for 2025 and the scope for tightening the AQOs, and has conducted a public consultation. Taking into account the public views and various considerations, we proposed tightening three AQOs for sulphur dioxide and fine suspended particulates. The Government will proceed with the legislative procedures to tighten the AQOs. ● The Government is also making preparation for the next AQO review, with a view to identifying further measures to improve air quality, and assessing the scope for further tightening the AQOs in 2030.
Green Transport	<ul style="list-style-type: none"> ● About 79 000 pre-Euro IV diesel commercial vehicles (DCVs) were phased out under an \$11.4 billion scheme which was completed in end June 2020. Roadside air quality has improved significantly. ● To further improve roadside air quality, the Government has mandated the retirement deadlines of Euro IV DCVs and launched an ex-gratia payment scheme, to progressively phase out about 40 000 Euro IV DCVs by end 2027. Application for ex-gratia payment started on 19 October 2020.

Area	Progress
	<ul style="list-style-type: none"> <li data-bbox="647 208 1398 768">● The Government has also implemented a \$2 billion pilot subsidy scheme, namely the EV-charging at Home Subsidy Scheme, to subsidise eligible car parks of existing private residential buildings to install EV charging-enabling infrastructure, with a view to facilitating EV owners to install chargers to charge their EVs at home. The subsidy scheme was open for application on 21 October 2020, and is expected to cover roughly 60 000 parking spaces in private residential buildings. <li data-bbox="647 831 1398 1149">● The Government has completed reviewing the scope of the Pilot Green Transport Fund and injected an additional \$800 million to support the wider use of new energy transport technologies. The Fund has also been renamed as the New Energy Transport Fund. <li data-bbox="647 1211 1398 1771">● The Government also plans to launch a pilot scheme for electric public light buses (e-PLBs) to subsidise a trial for about 40 e-PLBs running on different routes for 12 months. The Government has developed the basic requirements and specifications for the e-PLBs and their charging facilities that suit Hong Kong’s environment, and will commission a consultant to assist in evaluating the performance of the e-PLBs and their charging facilities under the pilot scheme. <li data-bbox="647 1834 1398 2056">● To further improve the roadside air quality of the Franchised Bus Low Emission Zones, the Government has tightened the emission requirements of the zones from 31 December 2019. Franchised bus

Area	Progress
	<p>companies are required to deploy low emission buses meeting Euro V or above emission standards to routes running through the zones.</p> <ul style="list-style-type: none"> ● The Government has tightened the emission standards for first registered motorcycles to Euro 4 from 1 October 2020, and will tighten the emission standards for first registered light buses (with a design weight of more than 3.5 tonnes) and buses (with a design weight of not more than 9 tonnes) to Euro VI from 1 March 2021. ● The Government has earmarked \$350 million to carry out a pilot scheme for electric ferries to test the operation of electric ferries in in-harbour ferry routes. We expect to commence the trial operation in 2022-23.
Emissions of Marine Vessels	<ul style="list-style-type: none"> ● To enhance regional collaboration on the establishment of a domestic marine emission control area in Mainland waters, the Air Pollution Control (Fuel for Vessels) Regulation (Cap. 311AB) came into effect on 1 January 2019 requiring vessels to use compliant fuel (including fuel with sulphur content not exceeding 0.5%) within Hong Kong waters. ● When designing and procuring new vessels, the Government will consider adopting green transport technologies to further enhance the performance of government vessels with regard to air quality and environmental protection.

Area	Progress
Regional Collaboration	<ul style="list-style-type: none"> <li data-bbox="647 208 1401 577">● The Government will continue to collaborate with the Guangdong Government to introduce air quality improvement measures under the Regional Air Quality Management Plan. The focus of the measures will be on reducing emissions from power plants, vehicles, vessels and heavily polluting industrial processes. <li data-bbox="647 633 1401 913">● The Guangdong and Hong Kong Governments are conducting a joint study on post-2020 regional air pollutant emission reduction targets and concentration levels, with a view to formulating emission reduction targets beyond 2020. <li data-bbox="647 969 1401 1910">● The monitoring results of the Pearl River Delta (PRD) regional air quality monitoring network show that the concentrations of pollutants such as SO₂, nitrogen dioxide (NO₂) and RSP have decreased significantly in recent years. However, the ozone problem still needs to be improved. We are working with the Governments of Guangdong and the Macao Special Administrative Region to gradually implement the routine monitoring of Volatile Organic Compounds (VOC) in the PRD regional air quality monitoring network, and conduct a joint study “Characterisation of photochemical ozone formation, regional and super-regional transportation in the Greater Bay Area” that will last for 3 years (2021-2024), to better understand the causes of ozone pollution and help develop effective preventive control strategies.

Area	Progress
	<ul style="list-style-type: none"> ● Targeting at the high air pollution days in the PRD region, the Guangdong and Hong Kong Governments will seek to hold air quality forecasting meetings at the technical level so as to jointly study the development and causes of high air pollution days and formulate and adopt appropriate preventive measures in advance.
Cleaner Production Partnership Programme (the Programme)	<ul style="list-style-type: none"> ● Since its launch in 2008, the Programme had, by the end of March 2020, subsidised about 3 300 projects and contributed to an annual reduction of over 38 000 tonnes of pollutant emissions, 19 million tonnes of effluent discharge and 1.74 million tonnes of carbon dioxide emission. An overall saving of over 18 000 tetra-joules of energy and over \$2 billion of production cost had been achieved. In light of the sustained environmental benefits brought about by the Programme, the Government committed \$311 million in the financial year 2020-2021 to extend the Programme for five years until March 2025.
Waste Management	
The Plastic Shopping Bag Charging Scheme	<ul style="list-style-type: none"> ● We have largely completed the review of the Plastic Shopping Bag (PSB) Charging Scheme that has been in place for over a decade. In particular, we have explored how to further reduce the use of PSB, having regard to local situation, from the perspectives of the scope of exemption, the number of PSB that can be distributed for exempted uses, etc. We will consult the public on our proposals in due course to map out the way forward.

Area	Progress
<p>Producer Responsibility Scheme on Waste Electrical and Electronic Equipment (WPRS)</p>	<ul style="list-style-type: none"> ● The WPRS has been fully implemented since 2018. The Waste Electrical and Electronic Equipment (WEEE) Treatment and Recycling Facility (WEEE-PARK), developed by the Government to underpin the WPRS has also commenced full operation since March 2018 and treated over 50 000 tonnes of regulated WEEE so far.
<p>Producer Responsibility Scheme on Glass Beverage Containers (GPRS)</p>	<ul style="list-style-type: none"> ● EPD is implementing GPRS progressively. Following the commencement of regional waste glass containers collection and treatment services provided by the two contractors, over 13 000 tonnes of waste glass containers were collected in 2018, representing an increase of over 60% as compared with the amount collected through relevant voluntary recycling programmes in 2017. In 2019, the contractors have recovered a total of about 21 000 tonnes of waste glass containers, which is a further increase by nearly 60% as compared with 2018. ● We have completed the drafting of the relevant subsidiary legislation to provide for the operation details of the GPRS and will submit it to the LegCo for scrutiny in due course.
<p>Producer Responsibility Scheme on Plastic Beverage Containers (PPRS) and Reverse Vending Machine Pilot Scheme</p>	<ul style="list-style-type: none"> ● The Government is prepared to take forward the PPRS and will soon consult the public. Meanwhile, we will continue to maintain close contact with relevant stakeholders in order to formulate detailed arrangements for the future PRS.

Area	Progress
	<ul style="list-style-type: none"> ● To pave the way for the PPRS, EPD will roll out a one-year Reverse Vending Machine (RVM) Pilot Scheme to assess the application of RVMs in Hong Kong. Under the pilot scheme, we will install 60 RVMs in phases at public places or government facilities with relatively high foot traffic, with the provision of instant rebate via e-payment platform to encourage the public to return their used plastic beverage containers. Depending on the situation of the pandemic, it is hoped that the first batch of RVMs would be in service by January 2021.
Packaging Waste Reduction	<ul style="list-style-type: none"> ● EPD will continue to liaise with the retail industry to jointly explore and implement some practical measures to promote the reduction of plastic packaging materials.
Municipal Solid Waste (MSW) Charging	<ul style="list-style-type: none"> ● The Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 (the Bill) was introduced into the LegCo in November 2018. We welcome the setting up of a new Bills Committee by the Legislative Council to study the Bill. The Government will actively co-operate with the Bills Committee in the scrutiny process to facilitate an early passage of the Bill.
Food Wise Hong Kong Campaign	<ul style="list-style-type: none"> ● We will continue to promote the “Food Wise and Waste Less” culture and appeal to the community to adopt behavioural change to reduce food waste through various publicity and educational programmes. We will also promote good practices on food waste reduction, source separation and recycling for commercial and industrial (C&I) sectors, and facilitate their surplus food donation to

Area	Progress
	<p>charitable organisations.</p> <ul style="list-style-type: none"> ● About 950 organisations have signed the Food Wise Charter and over 1 000 eateries have enrolled in the Food Wise Eateries Scheme so far. ● We have also rolled out the “Pilot Programme on Provision of Small Food Waste Composters at School” to assist schools to cultivate the “Food Wise” culture among teachers and students, and demonstrate the recycling of food waste into compost for use in planting in campus.
Installing Smart Water Dispensers in School Premises	<ul style="list-style-type: none"> ● EPD is working on a pilot scheme to provide smart water dispensers with their exteriors designed by students to about 80 primary and secondary school premises through contractor, at the same time of supporting schools to carry out educational and experiential activities to convey green messages such as waste reduction at source and clean recycling to students, encouraging students to inculcate a “bring your own bottle” living habit. ● We have received applications from more than 80 schools so far. The scheme is expected to commence progressively starting from 2021.

<p>Reducing Disposable Plastic Tableware</p>	<ul style="list-style-type: none"> ● Starting from January 2019, the Government has taken the lead in ceasing to provide plastic straws and polyfoam food container in food premises serving mainly government employees. About 160 government food premises have implemented “plastic-free” measures so far. It is expected that 90% of government food premises would suspend all disposable plastic tableware by the end of 2021. ● EPD is conducting a study over the control of the use of disposable plastic tableware. We will consult the public on the consultant’s recommendations in 2021 with a view to mapping out the way forward.
<p>Green Procurement</p>	<ul style="list-style-type: none"> ● We have largely completed the study on the further expansion of products and services to be covered in the Government’s green procurement list. The relevant green requirements would be updated, and the number of products and services on the list would be further increased by the end of this year. We will also continue to encourage wider adoption of green procurement both within the Government and in the private sector.
<p>Pilot Scheme on Food Waste Collection</p>	<ul style="list-style-type: none"> ● EPD launched the scheme on food waste collection since July 2018 to collect food waste generated from the C&I and public sectors to complement O•PARK1 which commenced operation in the same month. In 2019, we collected about 100 tonnes of food waste under the scheme each day.

	<ul style="list-style-type: none"> ● We plan to roll out the second phase of the scheme on a larger scale by early 2021, under which domestic food waste would also be collected progressively.
<p>Pilot Scheme on Collection and Recycling Services of Waste Plastics</p>	<ul style="list-style-type: none"> ● EPD launched a two-year pilot scheme to provide free collection service of non-commercial and non-industrial waste plastics in three districts (namely the Eastern District, Kwun Tong and Sha Tin) progressively from January 2020. Waste plastics collected will be further processed into recycled plastic raw materials or products to ensure that they are properly handled. ● As of October 2020, over 280 tonnes of waste plastics had been recycled.
<p>Waste Paper Collection and Recycling Services</p>	<ul style="list-style-type: none"> ● EPD has launched the territory-wide waste paper collection and recycling services since September this year. The waste paper collected would be screened, sorted and baled locally before exporting to the Mainland or overseas (e.g. Southeast Asia) markets for recycling into paper products to turn waste into resources. ● From our initial observation, the waste paper recycling market is active and the trade's response over the collection service has been positive. After the launch of the collection service, the frontline market price of waste paper has increased from the previous \$0.2 to 0.3 per kg, to about \$0.8 to \$1 per kg, stabilising the income of the frontline collectors.

<p>Management of Yard Waste</p>	<ul style="list-style-type: none"> ● EPD issued guidelines to all government departments in September 2019, requiring suitable tree trunks and branches from public works be shredded into wood chips or delivered to recycling facilities for handling. We have also engaged a consultant to review and unify the standards of using compost in existing government tender/contract documents so as to facilitate contractors to accord higher priority in using compost derived from yard waste and other organic waste in their vegetation maintenance and public works. ● We will develop yard waste recycling centre to turn yard waste into useful materials such as wood chips and wood boards for using as compost, mulch for gardening and mushroom cultivation materials. The centre is expected to commence operation in early 2021 with a handling capacity of about 11 000 tonnes in the first year, which will be gradually increased in the subsequent years. ● We have started a study to develop a pilot plant convert suitable yard waste into biochar. The pilot plant is expected to commence operation in early 2022, with an estimated daily handling capacity of 15 to 20 tonnes of yard waste for production of not less than 3 tonnes of biochar.
<p>O•PARKs</p>	<ul style="list-style-type: none"> ● O•PARK1 located in Siu Ho Wan, Lantau has commenced operation since July 2018, with a treatment capacity of 200 tonnes of food waste per day. O•PARK1 has treated over 75 000 tonnes of food waste so far.

	<ul style="list-style-type: none"> ● O • PARK2 located in Sha Ling, North District is under construction and is expected to be commissioned in 2022 with a treatment capacity of 300 tonnes of food waste per day. We will make some technical amendments to the Waste Disposal (Designated Waste Disposal Facility) Regulation in 2021 to include this facility in the appropriate schedule of the Regulation.
<p>“Food Waste/Sewage Sludge Anaerobic Co-digestion” Trial Scheme</p>	<ul style="list-style-type: none"> ● The Food Waste Pretreatment Facility at the Tai Po Sewage Treatment Works commenced operation in May 2019. Currently, the facility handles about 15 to 20 tonnes of food waste per day. Depending on the progress of the trial, we would gradually increase the treatment capacity to a maximum of 50 tonnes per day. ● We are also exploring to extend the trial to Sha Tin Sewage Treatment Works for commissioning in 2022, with a daily treatment capacity of about 50 tonnes.
<p>Integrated Waste Management Facilities Phase 1</p>	<ul style="list-style-type: none"> ● We awarded the Design-Build-Operate contract in November 2017, and the facility is expected to commence operation in 2025.
<p>Restored Landfill Revitalisation Funding Scheme</p>	<ul style="list-style-type: none"> ● Under the first batch of the scheme, the Tung Wah Group of Hospitals will develop an E-co Village campsite at Tseung Kwan O Stage I Landfill. We plan to seek funding approval from the LegCo Finance Committee in 2021.

<p>Landfill Extensions</p>	<ul style="list-style-type: none"> ● The extension works of the South East New Territories Landfill commenced in late 2018 and it is expected that the extended portion will start receiving construction waste by 2021. ● Contract procurement for the extension of the North East New Territories Landfill (NENTX) is underway and it is expected that the extension works will commence in 2021. To tie in with the commissioning of NENTX, both the Waste Disposal (Designated Waste Disposal Facility) Regulation and the Waste Disposal (Charges for Disposal of Construction Waste) Regulation will need some technical amendments in 2021, in order to update the landfill boundary drawing at suitable time. ● In addition, we are taking forward the consultancy study for the engineering design and site investigation for the extension of the West New Territories Landfill.
<p>Setting Up Green Outreach (Waste Reduction and Recycling Outreaching Teams)</p>	<ul style="list-style-type: none"> ● The EPD launched a pilot outreaching service in three districts (i.e. Eastern District, Kwun Tong and Sha Tin) in end 2018 to educate the public about the importance of waste reduction at source, and to provide on-site technical support for recycling programmes. We are extending the service progressively to all districts starting from 2020. The Green Outreach will collaborate with district stakeholders to encourage and support the public to practise clean recycling.

Climate Change and Energy

Renewable Energy (RE)

- We encourage Government departments to develop RE systems at suitable locations. Given the successful experience of implementing pilot projects of floating solar energy generation systems at Shek Pik Reservoir and Plover Cove Reservoir, the Water Supplies Department plans to install a larger floating solar energy generation system at the Plover Cove Reservoir. The EPD will also implement a pilot solar energy generation project at the South East New Territories Landfill in Tseung Kwan O. Moreover, we have earmarked \$2 billion for Government departments to install small-scale RE systems. So far, about 80 projects have been approved with an estimated annual electricity generation of about 8 million kWh.
- For the private sector, we have introduced Feed-in Tariff to provide the public with financial incentives to develop RE. The response to the Feed-in Tariff Scheme has been enthusiastic. As at end September 2020, the two power companies had received more than 11 000 applications in total. It is estimated that about 150 million kWh of electricity can be generated each year by some 10 000 projects already approved for installation. We have also introduced a series of facilitation measures, such as suitably relaxing the restrictions on installation of solar energy generation systems on the rooftops of New Territories Exempted Houses (i.e. “village houses”), introducing Solar Harvest to install solar energy generation systems for eligible schools and welfare non-governmental organisations for free, introducing legislative

	<p>amendments so that individuals who have installed RE systems on their residential premises need not apply for business registration or file profits tax returns for the FiT payments they receive, etc. Through the above-mentioned and other relevant measures, the total RE generated can meet the electricity demand of some 45 000 households, roughly equivalent to the total number of households in Aberdeen, Ap Lei Chau and Wong Chuk Hang. Citizens and organisations can purchase such electricity in the form of renewable energy certificates to show their support for using clean energy.</p>
<p>Energy Efficiency and Carbon Reduction</p>	<ul style="list-style-type: none"> ● The Government promulgated the Energy Saving Plan (ESP) for Hong Kong's Built Environment 2015~2025+ in 2015, which sets a target of reducing energy intensity by 40% by 2025, using 2005 as the base. The Government has taken a multi-pronged approach to this end. Measures include raising statutory building energy efficiency standards, promoting green building, introducing tax concession, constructing district cooling systems, employing innovation and technology, promoting retro-commissioning, etc. ● Compared to 2005, Hong Kong's energy intensity has been reduced by more than 30%. Upon completion of all energy saving measures in the ESP, the estimated annual reduction in CO₂ emission will be about 1.7 million tonnes, equivalent to 4% reduction of carbon emission, using the emission level in 2016 as the base.

Carbon Audit	<ul style="list-style-type: none"> ● Bureaux and departments have started to conduct regular carbon audits on major government buildings since 2017-18, and disclose the results after completing the audits. The carbon auditing work involves over 300 major government buildings of different sizes and uses.
External Lighting	
Measures to Manage External Lighting and Future Developments	<ul style="list-style-type: none"> ● The Working Group on External Lighting appointed by the Government is assisting in the review of the effectiveness of the Charter on External Lighting. ● The Working Group aims to complete the review in early 2021. The Government will consider the next step having regard to the studies and recommendations of the Working Group.
Nature and Countryside Conservation	
Biodiversity Strategy and Action Plan	<ul style="list-style-type: none"> ● We will continue to implement the Biodiversity Strategy and Action Plan, provide funding support to multiple research and public education programmes and conduct relevant promotion and education activities to encourage non-governmental organisations and other stakeholders to work together to promote biodiversity knowledge and foster a culture of nature appreciation.
Enhancing Facilities in Country Parks	<ul style="list-style-type: none"> ● We completed the consultancy study on enhancement of the recreation and education potential of country parks and special areas and the related enhancement proposals in 2019, and opened three new viewing platforms for public use in the same year. AFCD will implement the proposals in stages with regard to their complexity. These include setting up more campsites,

	<p>improving hiking trails with natural materials, providing more viewing platforms, as well as organising guided tours with themes on biodiversity and cultural heritage, etc in the short term.</p>
<p>Implementation of New Fisheries Management Strategy in Marine Parks⁴ (new strategy) and Strengthened Enforcement Against Illegal Activities in Marine Parks</p>	<ul style="list-style-type: none"> ● AFCD implemented the new strategy on 1 April 2020 to enhance conservation of the coral communities and overall fisheries resources in Hong Kong. To implement the new strategy and strengthen enforcement against illegal activities in marine parks, AFCD plans to procure three patrol vessels⁵, in order to step up patrol and law enforcement in marine parks to further combat illegal fishing and other unauthorised activities⁶.
<p>Improve the Near-shore Water Quality</p>	
<p>Improve the Near-shore Water Quality</p>	<ul style="list-style-type: none"> ● The 19 approved sewerage projects worth about \$32 billion have been rolled out in the period from 2018-2020. They include sewerage improvement schemes for various districts in Kowloon, Tsuen Wan and Tai Po; village sewerage works at Lei Yue Mun, Peng Chau, Sai Kung, Tolo Harbour, Lantau

⁴ Under the new strategy, local fishing vessels registered under the Fisheries Protection Ordinance (Cap. 171) is allowed to continue commercial fishing in the Brothers Marine Park (BMP), Southwest Lantau Marine Park (SWLMP) and new marine parks to be designated in the western waters (i.e. the proposed South Lantau Marine Park (SLMP) and the proposed new marine park for the Three-Runway System). At the same time, after the expiry of a two-year transitional period (i.e. starting from 1 April 2022), commercial fishing will be banned in four specified marine parks, namely the Hoi Ha Wan Marine Park (HHWMP), Yan Chau Tong Marine Park (YCTMP) and Tung Ping Chau Marine Park (TPCMP) in the eastern waters and the Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP) in the western waters.

⁵ The three patrol vessels to be procured are 16.5m-aluminum alloy patrol vessels with inboard engine, requiring an estimated non-recurrent cost of \$45 million. The estimated cash flow requirement is \$4.5 million in 2021-22, \$9 million per year during the three-year period of 2022-25 and \$13.5 million in 2025-26. We plan to invite tender for the three patrol vessels in the second half of 2021, start the construction in early 2022 and deliver the vessels in the third/fourth quarter of 2025 after construction.

⁶ To tie in with the strengthened patrol and law enforcement operations, one of the new patrol vessels will be deployed to assist patrolling in the TPCMP, YCTMP and HHWMP in the eastern waters and the other one to assist patrolling in the SWLMP and the proposed SLMP in the southwestern waters. The third one will replace an existing patrol vessel which has already reached its expected service life and is responsible for assisting patrolling work in the SCLKCMP and BMP in the western waters.

	<p>Island, North District and Tuen Mun; construction and expansion of Shek Wu Hui Effluent Polishing Plant; Yuen Long Effluent Polishing Plant; sewage treatment works at San Shek Wan, Sha Tau Kok and Cheung Chau; and dry weather flow interceptors at Tsuen Wan and Kwai Chung. The project of Shek Wu Hui Effluent Polishing Plant will be completed in projects between 2025 and 2034 and other works will be completed during the period of 2022-2027.</p> <ul style="list-style-type: none"> ● We are planning for the installation of compact and high-efficiency dry weather flow interceptors in the box culverts in Hung Hom, Causeway Bay Typhoon Shelter, Wanchai East, Tsuen Wan Bay and Shau Kei Wan Typhoon Shelter; deployment of new technique for screening pollutant at sources of stormwater discharge; and collaboration with research institutions to develop new odour abatement method for testing inside stormwater system at different locations.
Safe and Quality Living Environment	
<p>Rehabilitation of Aged Stormwater Drains and Sewers</p>	<ul style="list-style-type: none"> ● We are conducting comprehensive investigation in phases to identify aged stormwater drains and sewers at high risk of structural failure and arrange for rehabilitation works. ● The Government has already got about \$3.6 billion approved by the Legislative Council to complete the rehabilitation of about 26 kilometres of sewers and condition surveys of about 75 kilometres of sewers throughout Hong Kong in the period from 2021-2025, including about \$1.5 billion approved in the period from 2018-2020 under 3 projects

Tackling Marine Refuse

Keep the Shorelines Clean

- We will continue to take forward the three-pronged strategy including reducing waste generation at source, reducing the amount of refuse entering the marine environment, and removing refuse from the marine environment; and endeavor to leverage concerted effort in protecting the marine environment through the Clean Shorelines Liaison Platform established for sharing, communicating and interacting with members of the public and organisations to coordinate and promote shorelines cleanup actions.
- We commenced a project in 2020 to deploy aircraft system to monitor the cleanliness condition of remote coastal sites. We will continue to explore the application of advanced and smart technologies for comprehensive monitoring of the shoreline conditions, so as to achieve more effective utilisation of resources in expanding the coverage of cleanup operations. We will also enhance communication and co-operation with neighbouring cities to combat marine refuse pollution at regional level.

Environmental Noise

Further the Trial Application of Low Noise Road Surface

- To alleviate traffic noise impact and to promote sustainable resource management, thereby contributing to a liveable city, EPD and Highways Department have already resurfaced 27 local road sections with “thin surfacing material” to further the trial application. Re-surfacing with low noise road surface will continue to commence and the government prepares to resurface 10 more local road sections with “thin surfacing

	material” in 2021.
Adopt Innovative Noise Mitigation Designs	<ul style="list-style-type: none"> ● To alleviate traffic noise impact on residential developments, EPD has drafted professional practice note on acoustic window and conducted a consultation session with environmental noise consultants in August 2020. We also invited comments from relevant professional institutions and government departments on the draft professional practice note on acoustic window in October 2020. The practice note was issued in the end of November 2020. ● EPD has conducted a series of seminars to a total of about 900 professionals to introduce and promote innovative noise mitigation designs to the industry. In these seminars, application of “4D Virtual Reality” technology were demonstrated to help architects, engineers, etc. to understand the application of noise mitigation designs in planning residential developments and designing residential units.
Taking Forward the Ecological Civilisation Construction in the Greater Bay Area (GBA)	
Taking Forward the Ecological Civilisation Construction in the GBA	<ul style="list-style-type: none"> ● The Government attaches great importance to regional cooperation in ecological and environmental protection, and has been striving to take forward the strategies stated in the “Outline Development Plan for the Guangdong-Hong Kong-Macao GBA” in collaboration with the Governments of the Guangdong Province and Macao. ● The Hong Kong, Guangdong and Macao sides have achieved good results in promoting energy saving in buildings, monitoring and improving air quality, and

	<p>reducing vessel and vehicle emissions. To implement the “Outline Development Plan for the Guangdong-Hong Kong-Macao GBA”, we will maintain close liaison with the Ministry of Ecology and Environment, the Department of Ecology and Environment of the Guangdong Province and the Macao Environmental Protection Bureau to explore ways to deepen regional cooperation in ecological and environmental protection, and press ahead with the ecological civilisation construction in the GBA.</p>
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