



33/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
香港灣仔告士打道5號稅務大樓33樓

ACE Paper 13/2018
For discussion on 5 November 2018

2018 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 2018 Policy Address.

KEY INITIATIVES

Improving Air Quality

Improving Roadside Air Quality

2. Improving air quality at the roadside to better protect public health has always been a key environmental priority of the Government. Commercial vehicles (CVs), including goods vehicles, buses, light buses and taxis, are key emission sources of air pollutants at the roadside, accounting for about 95% of the total vehicular emissions of respirable suspended particulates (RSP) and nitrogen oxides (NO_x) in Hong Kong. Hence, CVs have all along been a major target of the Government's measures to improve roadside air quality. As a result of a series of vehicle emission control measures implemented in recent years, including phasing out pre-Euro IV diesel commercial vehicles, strengthening emissions control on liquefied petroleum gas and petrol vehicles and retrofitting old franchised buses with emission reduction device, etc., the concentrations of key air pollutants at the roadside, namely RSP and nitrogen dioxide (NO₂), have reduced by around 30 per cent over the past five years. In spite of the improvements, the annual average NO₂ concentration at roadside is still double the relevant Air Quality Objectives (AQO). To keep up our momentum to further bring down air pollutants levels at the roadside, we plan to introduce a number of new control measures.

Phasing out Euro IV Diesel Commercial Vehicles (DCVs)

3. DCVs (including goods vehicles, light buses and non-franchised buses) are one of the key roadside air pollution sources. The Government launched in March 2014 an incentive-cum-regulatory programme to progressively phase out about 82 000 pre-Euro IV DCVs by the end of 2019, with \$11.4 billion set aside as ex-gratia payment to help the affected vehicle owners. As at end of August 2018, about 79% of the eligible vehicles were retired under the scheme.

4. To further improve the roadside air quality, the Government plans to enhance the control by launching a programme in 2021 to progressively phase out about 40 000 Euro IV DCVs by the end of 2023. It is estimated that the new programme would reduce about 1 250 tonnes NO_x and 70 tonnes RSP (about 15% and 20% respectively) of total vehicular emissions by 2024. We are working out the implementation details and will consult the trade in due course.

Trial of Retrofitting Euro IV and Euro V Franchised Buses with Enhanced Selective Catalytic Reduction (SCR) Systems

5. Retrofitting existing old diesel bus models with emission reduction devices such as SCRs is an effective means to reduce their emissions. The Government fully subsidised the franchised bus companies (FBC) to retrofit 1 030 Euro II and III double-deck buses with SCR to bring their emission performance to Euro IV or above levels. The programme ended in end 2017.

6. We note that the London Government has been subsidising their local public bus operators to retrofit their Euro IV and V buses with enhanced SCR systems since mid 2017 in order to reduce NO_x emissions of the existing public bus fleet. Drawing reference from this experience, the Government will fully subsidise FBCs to conduct a trial of retrofitting enhanced SCR systems on about 60 Euro IV and V double-deck dominant bus models, with a view to confirming its technical feasibility and emission reduction performance under local environment. Subject to satisfactory trial results, the Government intends to fully subsidise FBCs to retrofit about 3 900 eligible Euro IV and V double-deck buses¹ with enhanced SCR systems.

Review of the Pilot Green Transport Fund (PGTF)

7. The Government has put in place a \$300 million PGTF since March 2011 to encourage the transport sectors to test out green innovative transport technologies. The public transport sectors (including taxis, public light buses, buses and ferries), charitable/non-profit making organisations providing transport services to their clients, as well as goods vehicles operators (including special purpose vehicles), are eligible for application. As at end August 2018, 135 trials were approved, amounting to a total subsidy of about \$138 million. Of them, 70 and 57 were on electric vehicles (EVs) and hybrid vehicles respectively, involving a total of 100 commercial EVs (*three taxis, three light buses, 21 single-deck buses, 72 light goods vehicles (van type)*

¹ The 3 900 buses comprise about two third of the whole franchised bus fleet.

and one medium goods vehicle (tractor)) and 89 commercial hybrid vehicles (48 light goods vehicles (non-van type), 28 medium goods vehicles, 11 light buses and two single-deck buses). Others involve trials of one set of solar air-conditioning system for bus, four sets of electric inverter air-conditioning systems for buses, three diesel-electric propulsion systems for ferries and one seawater scrubber for ferry.

8. The Government will review the current scope of the PGTF and explore ways to further facilitate the transport sectors' wider use of green innovative transport technologies, including encouraging the wider use of technologies that have been proved by the PGTF trials as suitable for adoption locally.

Tightening Emission Standards for First Registered Motorcycles (MCs) to Euro IV

9. It has been the Government's standing policy to tighten motor vehicle emission standards with reference to the international developments and the supply of compliant vehicles to Hong Kong.

10. For MCs, the European Union (EU) and Taiwan tightened the emission standards to Euro IV in January 2017. Japan also implemented Japan 2016 emission standards (equivalent to Euro IV emission standards) in September 2017. Mainland China will implement China IV emission standards (equivalent to Euro IV emission standards) in July 2019. Following the implementation of Euro IV or equivalent emission standards for MCs in these other places, there are now about 130 Euro IV compliant MC models type-approved by the Transport Department. Considering the adequate local supply of Euro IV compliant MC models², we are consulting the trade on our plan to tighten emission standards for first registered MCs to Euro IV starting from 2020.

Promote the Wider Use of New Energy Vehicles

11. To further reduce emissions of air pollutants from private cars, the Government will continue to encourage the public to use new energy vehicles in the hope that all newly registered private cars in Hong Kong will ultimately become new energy vehicles in the long run. As the first step, we may consider ceasing the first registration of diesel private cars subject to consultation with stakeholders.

Review the Seventh Technical Memorandum for Power Plants

12. Emissions of air pollutants from power plants have to comply with the emission caps stipulated in the Technical Memorandum (TM) issued by Environmental Protection Department under the Air Pollution Control Ordinance (APCO). The Seventh TM was issued on 15 November 2017 which specified the emission caps of power plants from 2022 onwards. The Government approved the new 5-year Development Plans of the two power companies in July 2018. The two power companies plan to construct two additional new gas-fired generating units targeting for commissioning in 2022 and 2023 respectively for replacing the existing coal-fired

² Most popular MC brands in Hong Kong are from Japan, Taiwan and Europe.

generating units which have been operating for over 30 years. Together with the three gas-fired generating units currently under construction, the portion of gas-fired electricity generation of the two power companies will increase from the present level of about 26-34% to about 50-70% by 2023. The Government will review the Seventh TM with a view to further tightening the emission caps of power plants from 2024 onwards.

Regional Collaboration to Improve Regional Air Quality

13. The Hong Kong and Guangdong Governments have been collaborating to implement air quality improvement measures in order to improve the air quality in Pearl River Delta (PRD) Region. In December 2017, the two governments announced the results of the mid-term review on the emission reduction targets of air pollutants in the PRD region. The review concluded that emission reduction targets for 2015 have been achieved and finalised the reduction targets for 2020. To continuously improve regional air quality, the two Governments are discussing the regional air pollution reduction collaboration beyond 2020, including the launch of a study on post-2020 air pollutant emission reduction targets and concentration levels for Hong Kong and Guangdong.

14. The monitoring results of the PRD Regional Air Monitoring Network show that the concentrations of pollutants such as sulfur dioxide, NO₂ and RSP have decreased significantly in recent years but the ozone problem still needs to be improved. We are working with the governments of Guangdong and Macao SAR to incorporate Volatile Organic Compounds (VOC) as a routine monitoring parameter in the PRD Regional Air Monitoring Network to better understand the causes of ozone pollution and help develop effective control strategies.

Waste Reduction and Recycling and Marine Conservation

Municipal Solid Waste (MSW) Charging

15. In view of the continued increase of the per capita disposal rate of municipal solid waste (MSW) in recent years, it is imperative to intensify our efforts in promoting the “use less, waste less” message, and strengthening support to waste reduction and recycling.

16. The Government will continue to work in full steam to implement the Hong Kong: Blueprint for Sustainable Use of Resources 2013 – 2022. Sitting at the centre of our overall waste reduction strategy is the implementation of MSW charging, which will provide the necessary financial incentives to drive behavioural and cultural change, and to encourage the commercial and industrial (C&I) sectors and members of the public to proactively practise waste reduction at source and clean recycling. It is a very challenging task to successfully implement this important policy initiative. For some time in the past, we have consulted the public and the relevant trades on this policy and the implementation arrangements with a view to fostering a consensus in the community. We will introduce the amendment bill into the Legislative Council

(LegCo) for scrutiny shortly. After the passage of the legislation, there will be a preparatory period of about 12 to 18 months to allow the Government, various stakeholders and the public to prepare for the implementation of MSW charging. We will also significantly step up public education and publicity to deepen the community's understanding of waste reduction arrangements.

17. To complement the implementation of MSW charging, the Government is ready to provide recurrent resources to strengthen our work on waste reduction and recycling. We will provide an additional provision of around \$300-400 million for the 2019-20 financial year to start with, which would be further increased from the financial year when the MSW charging is to be implemented. The amount of this annual provision would be commensurate with the estimated gross revenue to be generated from MSW charging. Such waste reduction and recycling work includes the setting up of outreaching teams across the territory to provide on-site assistance to the community, thereby putting waste reduction and recycling and MSW charging into practice; provision of free collection service in respect of waste plastics from non-C&I sources and food waste from C&I sources subject to the outcome of the pilot schemes to be implemented; and implementation of a pilot scheme to assess the effectiveness of applying reverse vending machines in recycling plastic beverage containers. We would also engage stakeholders and the community on how to optimise use of additional resources to promote waste reduction and recycling.

Producer Responsibility Schemes

18. The producer responsibility scheme (PRS) on waste electrical and electronic equipment (WEEE) commenced operation by phase starting from 1 August 2018. Sellers of regulated electrical equipment (REE) are required by law to arrange for consumers a statutory free removal service to collect an equipment of the same class abandoned by the consumer. The next phase of the scheme on the control over disposal, import and export of abandoned REE will come into effect on 31 December 2018. Meanwhile, the Government has appointed glass management contractors to provide regional glass container collection and treatment services across the territory. We are also preparing the subsidiary legislation related to the PRS on glass beverage containers for submission and scrutiny by the LegCo.

19. As regards plastic product containers, we commenced in October 2017 a consultancy study on how to implement a PRS targeting plastic beverage and personal care product containers. The consultant has affirmed the feasibility to introduce a PRS on plastic beverage containers, and is of the view that we should take forward the PRS on these two types of plastic product containers by phases, targeting first at plastic beverage containers. About one-tenth of the overall waste plastics in Hong Kong are plastic containers, of which 60% are plastic containers carrying beverages. With reference to the experience of other places and the local situation, plastic beverage containers are of a higher recyclable value and are relatively easy to be cleansed for proper recycling. The consultant will consult different stakeholders and thereafter submit its detailed proposal to the Government. As mentioned above, we will also implement a pilot scheme on the application of reverse vending machine to assess its effectiveness in collecting waste plastic beverage containers. In addition,

given the plastic shopping bag charging scheme has been operating for some time, we would conduct a review on the scheme to enhance its effectiveness on waste reduction.

Reducing the Use of Disposable Plastic Tableware

20. The impact of disposable plastic items on the marine environment has raised concern worldwide. There is a pressing need to go “plastic-free” and “disposable-free”. In view of the potential impact of disposable plastic tableware on Hong Kong and even the worldwide marine environment and ecology, we will commence a study in financial year 2018-19 on the feasibility, scope and mechanism of controlling or banning disposable plastic tableware. The study is expected to be completed in 2020. To gain experience and pave way for the eventual phase out of disposable plastic tableware, the Government will take lead to stipulate the requirement for restaurant operators in suitable government venues to, where circumstances permit, avoid using disposable plastic tableware when awarding new or renewing existing contracts/tenancy agreements. The new arrangement will take effect starting from the first quarter of 2019, with plastic straws and poly-foam food containers to be banned first in premises mainly serving government staff. To inculcate a “bring your own bottle” culture and reduce the consumption of plastic bottled water, the Government will also install more water dispensers / filling stations at existing government venues accessible to members of the public. The initial target is to install 500 water dispensers / filling stations within three years, so that the total number of water dispensers/ filling stations provided at government venues for public use would increase to 3200 units. Meanwhile, the Government will work with the food and beverage industry to promote and encourage using less disposable plastic tableware, with a view to establishing habitual changes in people’s daily lives.

Tackling Marine Waste

21. The Government has adopted a three-pronged strategy - reducing waste generation at source, reducing the amount of refuse entering the marine environment, and removing refuse from the marine environment. The Government has implemented various measures for improving the cleanliness of our waters and shorelines. In January this year, the Inter-departmental Working Group on Clean Shorelines set up in November 2012 was revamped and renamed as Inter-departmental Working Group on Marine Environmental Management in order to focus the discussion and handling of marine refuse and marine environmental incidents and to strengthen the inter-departmental cooperation, and two task forces have been set up under it, namely the Task Force on Marine Refuse and Task Force on Emergency Response to Marine Environmental Incidents.

22. The Government will step up actions on the clean-up of the shorelines, strengthen effort on the handling of sites with marine refuse accumulation problem, protect the marine environment and deploy human resources flexibly for cleaning up the seashores and beaches. Furthermore, the Government will continue to reduce marine refuse through implementing marine patrols and enforcement actions, providing on-shore support and facilities, and organising and providing funding support for publicity and education activities on caring for the ocean. The

Government will also collaborate with the Guangdong authorities through the platform of Hong Kong-Guangdong Marine Environmental Management Special Panel to enhance the alert and notification mechanism for floating refuse and jointly monitor the regional marine environment.

23. There are many organisations and volunteers who wish to play a role in keeping the shorelines clean. We will establish a Clean Shoreline Liaison Platform with different media and channels for coordinating and promoting shoreline cleanup actions, providing appropriate support and assistance to related activities and sharing the cleanup results. We also plan to cooperate with various District Councils in organising relevant publicity work with a view to encouraging active participation by the public.

Combating Climate Change

24. The Paris Agreement, which came into force in November 2016, applies to the Hong Kong Special Administrative Region (HKSAR) as well. Pursuant to the Paris Agreement, all Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies by 2020. As part of China as well as a responsible member of the global community, the HKSAR needs to draw up our own long-term decarbonisation strategies up to 2050 by 2020. To this end, the Government has invited the Council for Sustainable Development (SDC) to conduct in 2018/19 a public engagement (PE) exercise. Through a bottom-up approach with active participation by stakeholders, the PE could help arouse public awareness of the impact of carbon emission and gauge the views of the community in developing Hong Kong's long-term decarbonisation strategy.

25. The SDC has conducted six focus group meetings with stakeholders and experts from the relevant sectors to solicit their views on the strategy and direction for the PE exercise. The SDC is now preparing the PE document with reference to stakeholders' views, and plans to issue the PE document in early 2019. This will be followed by a series of public interaction events for different sectors of the community. Having regard to the views collected, the SDC aims to formulate its recommendations and submit its report to the Government in the second half of 2019. Taking into account the recommendations of the SDC, the Government will conclude by the end of 2019 or early 2020 the development of Hong Kong's long-term decarbonisation strategy up to 2050, and submit it to the Central People's Government, which will then put forward the strategy to the secretariat of the United Nations Framework Convention on Climate Change.

Renewable Energy

26. Promoting the development of renewable energy (RE) is an important and integral part of mitigating climate change. We will continue to introduce RE in a more systematic manner with the Government taking the lead so as to help reduce local carbon emissions.

27. For the private sector, we have introduced Feed-in Tariff (FiT) to provide incentives for individuals and non-Government bodies to invest in RE. The two power companies have introduced/will introduce their FiT Schemes in October this year and January next year respectively and have been receiving applications for the schemes. The initial response from the community has been positive with around 500 applications received by the two power companies in total by end September. Applications involving installation of RE systems at residential and non-residential premises each accounts for about half of the applications.

28. Apart from providing financial incentives, we will also provide further support and facilitation to individuals and organisations who/which wish to develop RE. We will, subject to the fulfilment of specified conditions, relax the height restriction to 2.5 metres in relation to installation of photovoltaic systems at the rooftop of New Territories Exempted Houses such that residents may continue to use their roofs for legal purposes while combating climate change. Similarly, we will consider making appropriate relaxations for other private buildings, in particular the low-rise ones. We will announce the detailed arrangements shortly.

29. Meanwhile, we will introduce legislative amendments to exempt individuals from the requirements to apply for business registration and file profits tax returns in respect of their participation in the FiT Scheme by installing RE systems at their residential premises. We will submit the legislative amendment proposal to the LegCo next year.

30. In addition, we will introduce a new programme to assist schools (except government and profit-making schools) and non-governmental welfare organisations in installing small RE systems. Financial and technical support will be provided to the installation of small RE systems, such as conducting site visits and providing technical assessments, as well as installation and testing of the systems. We will announce the detailed arrangements of the programme next year.

31. For the public sector, the Government will continue to take the lead in developing RE, including large-scale RE projects. Taking into consideration the experience of the Water Supplies Department's two pilot floating solar photovoltaic systems at the Shek Pik and Plover Cove Reservoirs, we will explore the installation of large scale floating photovoltaic systems at suitable locations in reservoirs. We will also consider installing solar photovoltaic systems at suitable landfills.

Energy Efficiency and Conservation

32. The Government has been leading by example to promote energy efficiency and conservation (EE&C) in both new and existing buildings. We have reserved over \$600 million to implement energy saving projects in over 300 Government buildings. Following completion of these projects by 2020, the estimated total electricity saving would reach 2.2 billion kWh a year compared with 2013, equivalent to the total annual electricity consumption of about 470 000 households. We have achieved about 3% of electricity saving for Government buildings so far, and are on track to achieve our 5% electricity saving target from 2015-16 to 2019-20.

33. We have been promoting retro-commissioning as a systematic and cost-effective way to more energy-efficient operations of electrical and mechanical installations in existing buildings. We are making preparations for conducting retro-commissioning progressively in suitable major Government buildings to demonstrate our commitment. We will also launch an online resource centre and continue our partnership with organisations such as the Hong Kong Green Building Council to promote this measure to the private sector.

34. On the regulatory front, we will tighten the energy efficiency standards under the statutory Building Energy Code (BEC) by end of this year. This will lead to an 8% increase in energy efficiency and bring about an estimated electricity saving of 24 million kWh, equivalent to the total annual electricity consumption of about 5 000 households, when its full effect realises in 2023.

35. District cooling systems (DCS) not only offer energy-efficient air-conditioning services but also mitigate the heat island effect and avoid other environmental issues associated with cooling towers. The DCS at the Kai Tak Development is implemented in phases for full commissioning by 2025. The estimated electricity saving upon completion of all three phases of the DCS at Kai Tak Development will amount to 85 million kWh a year (equivalent to the total annual electricity consumption of about 18,000 households). In line with the Government's commitment to low-carbon development, we will consider the provision of DCS in new development areas (such as the Tung Chung New Town Extension and the Kwu Tung North New Development Area).

External Lighting

36. At the recommendation of the Task Force on External Lighting (the Task Force), the Government launched the Charter on External Lighting (the Charter) in 2016. There are nearly 5,000 participants who have signed up to the Charter, pledging to switch off lighting installations with decorative, promotional or advertising purposes that affect the outdoor environment during preset times (i.e. 11pm or midnight to 7am the following day). Our on-site compliance check shows that over 99% of the participants have been able to meet their pledge.

37. The Task Force also recommended that a review on the effectiveness of the Charter should be conducted about two years after its implementation. The Government appointed a Working Group on External Lighting in August 2018 to take forward this task. Having regard to the findings, we will consider the next step, including whether legislation should be introduced to control nuisance caused by external lighting.

Nature Conservation

38. The Agriculture, Fisheries and Conservation Department continues its preparatory work for the designation of Government land of about 495 hectares at

Robin's Nest in Sha Tau Kok, New Territories as a country park for conservation, recreation and education purposes. Together with the adjacent nature reserves in Shenzhen, the area will form an ecological corridor which promotes ecological conservation through propagation of plants and animals in adjoining areas. The scenic Robin's Nest has high ecological value and recreational potential. Its designation as a country park will facilitate further development of, inter alia, recreational activities and eco-tourism there, thereby upgrading the overall landscape, ecology and anthropological conservation of the area for the enjoyment of the public and tourists. In addition, the Government will also explore ways to step up the protection of enclaves in Lantau, including examining the feasibility of incorporating the enclaves into country parks, with a view to enhancing conservation of sites of high ecological value there.

39. On the other hand, to strengthen the protection of endangered green turtles, we plan to expand the Sham Wan Restricted Area in the Lamma Island to include the waters off the beach where the green turtles nest and breed so as to minimise the disturbance in the bay area.

Countryside Conservation

40. The Countryside Conservation Office (CCO), tasked to co-ordinate conservation projects and promote sustainable development of remote countryside, was established in late July this year. The Government has earmarked \$1 billion for implementing minor improvement works in countryside areas as well as supporting non-governmental organisations (NGOs) to interact and co-operate with villagers in organising diverse and innovative conservation activities and revitalisation projects. As a priority, the CCO will implement enhanced countryside revitalisation in Lai Chi Wo and ecological conservation work in Sha Lo Tung. The CCO is currently liaising and co-ordinating with relevant government departments, NGOs and stakeholders to discuss and study the feasibility of some minor works proposals, in a bid to implement appropriate works to improve the public facilities in these areas as soon as possible. The CCO will review the implementation and effectiveness of these initiatives from time to time, with a view to extending the initiatives progressively to other remote areas in the countryside.

41. In addition, the CCO is actively preparing for the establishment of the Countryside Conservation Advisory Committee (Advisory Committee). The Advisory Committee will examine applications on conservation and revitalisation projects (not including minor improvement works) submitted by NGOs and monitor the implementation of approved projects and proposals. Members of the Advisory Committee will include non-government stakeholders from relevant sectors. Meanwhile, the CCO is also drawing up guidelines for the funding scheme.

Water Quality

42. With the full commissioning of Stage 2A of the Harbour Area Treatment Scheme in December 2015, the water quality of Victoria Harbour has considerably improved. We will also strive to enhance the quality of the coastal waters and

mitigate the nearshore odour problems. For instance, the construction works for dry weather flow interceptors for West Kowloon and Tsuen Wan are already well underway, and more similar facilities are being planned in other coastal areas of the Victoria Harbour. The upgrading of Sha Tau Kok sewage treatment works and sewerage systems in Central and East Kowloon and Tai Po, the village sewerage works at Sha Tau Kok, Lei Yue Mun and Peng Chau will commence this year. In the coming years, we will continue to develop projects to further upgrade our sewerage infrastructure and extend our public sewage collection network to more villages. In addition, the consultancy study to further enhance the nearshore water quality and the general environment of Victoria Harbour has substantially been completed. We will formulate and implement progressively more targeted pollution control measures and engineering solutions in accordance with the study recommendations.

43. We will continue to collaborate with the Development Bureau to implement a comprehensive risk based “Rehabilitation Project for Aged Storm Drains and Sewers” for investigating and rehabilitating aging sewers in an orderly manner, and will also commence the first phase of sewer rehabilitation and conditional survey works throughout the territory this year.

Implementation of the Minamata Convention on Mercury

44. The Minamata Convention on Mercury (“the Convention”) is an international treaty with the objective to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. China is a Party to the Convention and the Convention entered into force in China, including the HKSAR, on 16 August 2017. The Convention stipulates the obligations of all Parties on controlling the entire life cycle of mercury from its supply, trade, use, storage, release and disposal. To ensure effective discharge of obligations under the Convention in the HKSAR, the Government proposes to introduce new legislation to regulate import and export of mercury, manufacture, import or export of specified mercury-added products, the use of mercury or mercury compounds in specified manufacturing processes, and the storage of mercury and mercury compounds. The Government has just completed a consultation exercise on the legislative proposal in early October this year. We are considering the views received and plan to introduce the proposed legislation for vetting by the LegCo in around mid-2019 for promulgation in 2020.

OTHER ON-GOING INITIATIVES

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

Environment Bureau
October 2018

2018 Policy Address
Policy Initiatives of Environment Bureau:
Environmental Protection

On-going Initiatives

| Area | Progress |
|--------------------------------------|---|
| Improving Air Quality | |
| Review of the Air Quality Objectives | <ul style="list-style-type: none"> ● The prevailing Air Quality Objectives (AQOs) took effect from 1 January 2014. The Air Pollution Control Ordinance requires the Government to conduct a review of the AQOs at least once in every five years and submit to the Advisory Council on the Environment (ACE) a report of the review. We embarked on a review of the AQOs in mid-2016 by forming a working group comprising relevant stakeholders, non-official experts and representatives from relevant Government Bureaux and Departments (B/Ds). The working group has completed deliberations of possible new air quality improvement measures and the practicability of their implementation on or before 2025. We shall assess air quality improvements arising from the implementation of possible new measures, Government's ongoing and planned initiatives to explore possible scope for further tightening the AQOs. We aim at reporting to the ACE and the EA Panel the review findings and recommendations to update the AQOs by end of this year. We will then consult the public on the review findings |
| Green Road Transport | <ul style="list-style-type: none"> ● Since the launch of an incentive-cum-regulatory scheme in March 2014, about 64 500 pre-Euro IV diesel commercial vehicles (DCVs) (i.e. about 79% of the target vehicles) have been scrapped under the scheme as at end August 2018. The Government has stopped the renewal of vehicle licences for pre-Euro DCVs from 1 January 2016, Euro I DCVs from 1 January 2017 and Euro II DCVs from 1 January 2018. ● The Government has fully subsidised franchised bus companies to procure 36 single-deck electric buses (28 battery-electric buses and eight supercapacitor buses) for trial. 26 battery-electric |

| Area | Progress |
|------|--|
| | <p>buses and two supercapacitor buses have commenced the two-year trial. Most of the remaining electric buses are expected to be put into service progressively by the end of 2018.</p> <ul style="list-style-type: none"> ● The Government has been actively promoting a wider use of electric vehicles (EVs) by offering the first registration tax concessions for EVs, allowing 100% profits tax deduction for acquiring EVs, providing subsidy for trials of EVs under the Pilot Green Transport Fund (PGTF), granting concessions on gross floor area for EV charging-enabling car parks in new buildings, enhancing the public EV charging network and establishing a dedicated team and hotline to provide relevant information and technical support in setting up chargers. ● The number of EVs in Hong Kong has grown from 96 in 2010 to 11 207 by end of July 2018. There were 251 EVs in the Government fleet by end of August 2018. 13 EVs will be delivered to respective departments for use in 2018. ● The Government and the commercial sector will continue to enhance the public charging network for EVs. The Government has upgraded 370 public standard chargers to medium chargers at government car parks from 2014 to 2018. These medium chargers can reduce charging time up to 60% as compared to standard chargers. ● The Government has tightened the vehicle emission standards for newly registered vehicles (except for diesel private cars, buses with a design weight of not more than 9 tonnes, light buses with a design weight of more than 3.5 tonnes, motorcycles and tricycles) from Euro V to Euro VI in phases according to vehicle classes starting from 1 July 2017 and for newly registered diesel private cars from California LEV II to LEV III starting from 1 October 2017. ● Since 1 September 2014, we have been deploying remote sensing equipment to identify petrol or liquefied petroleum gas vehicles with excessive |

| Area | Progress |
|---|--|
| | <p>emissions. The owners of vehicles emitting excessively are required to repair their vehicles within a prescribed period to rectify the emission problem. As at end of August 2018, about 2.55 million vehicle counts were monitored under this programme. The Government issued about 14 000 emission testing notices and cancelled about 500 licences of vehicles.</p> |
| Emission Control of Marine Vessels | <ul style="list-style-type: none"> ● We have tabled the Air Pollution Control (Fuel for Vessels) Regulation to the LegCo requiring vessels to use compliant fuel (including fuel with sulphur content not exceeding 0.5%) within the waters of Hong Kong. It is anticipated that the implementation of the new regulation can help reduce further the emissions of sulphur dioxide and particulates from ocean-going vessels by about 76% (5,830 tonnes) and 71% (750 tonnes) respectively, compared with 2016 emission levels. If approved by the LegCo, the new control will take effect on 1 January 2019. ● An Inter-departmental Working Group comprising relevant Government B/Ds has been formed to take forward a pilot scheme on green ferry. ● We are also working with the relevant Government departments to explore the adoption of green technologies (e.g. electric propulsion system, diesel-electric propulsion system, hybrid propulsion system, etc.) in the design and procurement of new Government vessels. For instance, EPD is planning to build a new vessel for monitoring water quality using green technologies to replace an existing vessel which has reached its service life. |
| Control of Volatile Organic Compounds (VOC) | <ul style="list-style-type: none"> ● To further reduce VOC emissions for better air quality, we will continue to study other feasible measures such as tightening the VOC limits of regulated architectural paints and setting VOC limits of consumer products which are not regulated under the Regulation and collect views from relevant trades and stakeholders. |
| Regional Collaboration | <ul style="list-style-type: none"> ● We will continue to collaborate with Guangdong on scientific air quality studies as well as improvement |

| Area | Progress |
|--|--|
| | <p>measures under the Regional Air Quality Management Plan which focuses on power plants, vehicles, vessels and the heavily polluting industrial processes.</p> <ul style="list-style-type: none"> ● Results of the Pearl River Delta regional air quality monitoring network from 2006 to 2017 show that the annual concentration levels of SO₂, NO₂ and RSP in the region decreased by 77%, 26% and 34% respectively. |
| Waste Management | |
| Pilot Scheme on Collection and Recycling of Waste Plastics | <ul style="list-style-type: none"> ● EPD will expand the central waste plastic bottles collection service to include all kinds of waste plastics from non-commercial and non-industrial sources. A two-year pilot project will commence, progressively from mid-2019, to provide free waste plastics collection service in two to three districts to study the feasibility of providing a territory-wide services in the long run. |
| Setting Up Outreaching Team | <ul style="list-style-type: none"> ● EPD will set up outreaching team by end of the year to provide on-site public support on clean recycling and implementation of waste reduction measures. The new outreaching service will be piloted in three different districts and gradually extended to all districts in Hong Kong to complement the implementation of municipal solid waste charging. |
| Food Waste Collection and Delivery to Organic Resources Recovery Centres (ORRCs) | <ul style="list-style-type: none"> ● We commenced a study in 2017 to examine and explore the collection and delivery of food waste from domestic, C&I premises, as well as academic and government institutions with a view to drawing up practical and effective modes of food waste collection and delivery for Hong Kong. We expect to complete the study by year 2018/19. ● We are making active preparations for introducing a pilot trial to provide free food waste collection service for C&I sectors, with a view to encouraging source separation of food waste. |
| ORRCs | <ul style="list-style-type: none"> ● ORRC Phase 1 at Siu Ho Wan of Lantau has a treatment capacity of 200 tonnes of food waste per day. Since July 2018, the facility has started receiving food waste and undergoing testing of the |

| Area | Progress |
|---|--|
| | <p>equipment. It has been handling 100 tonnes of food waste every day.</p> <ul style="list-style-type: none"> ● ORRC Phase 2 in Sha Ling of the North District has a treatment capacity of 300 tonnes of food waste per day. To expedite project delivery, we have adopted parallel tendering arrangement and will seek funding approval from the LegCo as soon as possible, with a view to commencing the construction works in early 2019 for commissioning in 2021. ● ORRC Phase 3 in Shek Kong has a treatment capacity of 300 tonnes of food waste per day. We have started the engineering feasibility study and environmental impact assessment in mid-2018. ● We will continue to identify land to develop the remaining phases of ORRCs. |
| “Food Waste / Sewage Sludge Anaerobic Co-digestion” Pilot Trial | <ul style="list-style-type: none"> ● We will commence the “Food waste / sewage sludge anaerobic co-digestion” pilot trial in 2019 by making use of the existing sewage anaerobic sludge digestion system at the Tai Po Sewage Treatment Works to recycle up to 50 tonnes of food waste per day into energy. We are also exploring to expand the pilot trial to cover the Sha Tin Sewage Treatment Works. |
| Food Waste Recycling Projects in Housing Estates | <ul style="list-style-type: none"> ● We will continue to implement food waste recycling projects in housing estates through funding support by the Environment and Conservation Fund (ECF), with a view to promoting food waste reduction at source and converting the unavoidable food waste into useful compost. Up to September 2018, a total of 34 housing estates have been supported by the ECF, with a total of \$36 million approved. About 4 200 households have registered for the food waste recycling projects, and messages on food waste reduction have reached some 78 000 households. Over the last five years, about 1 700 tonnes of food waste have been recycled. |
| Provide professional support to schools and tertiary institutions for | <ul style="list-style-type: none"> ● We will continue to provide appropriate professional support to primary and secondary schools and tertiary institutions for practising |

| Area | Progress |
|---|---|
| on-site treatment of food waste | <p>on-site treatment of food waste at suitable venues, with a view to promoting and enhancing the “Food Wise” culture among teachers and students.</p> <ul style="list-style-type: none"> ● We rolled out the “Pilot Programme on Provision of Small Food Waste Composters at Schools” in 2018 to assist primary and secondary schools to cultivate the “Food Wise” culture among teachers and students, and demonstrate the recycling of food waste into compost for use in planting on campus. We have so far received confirmation of participation from 90 schools and we expect to commence the programme in the fourth quarter of 2018. |
| Food Wise Hong Kong Campaign | <ul style="list-style-type: none"> ● We will continue to promote the “Food Wise” culture and appeal to the community to adopt behavioural change to reduce food waste through various publicity and educational programmes. We will promote good practices on food waste reduction, source separation and recycling for C&I sectors, and facilitate surplus food donation to charitable organisations. As of September 2018, around 780 organisations have signed the Food Wise Charter and another 790 eateries have enrolled in the Food Wise Eateries Scheme, 40% and 60% of which have been awarded with Gold class and Silver class respectively. |
| Recycling Fund | <ul style="list-style-type: none"> ● We will launch "solicitation scheme(s)" under the Recycling Fund which includes recycling of food waste. We have also included the equipment for recycling of waste metals and food waste as fundable items under the Recycling Fund. |
| Enhancing the Environmental Performance of Events | <ul style="list-style-type: none"> ● We will strengthen co-operation with district councils and district-based stakeholders, reinforce the promotion of waste reduction at source and clean recycling, and continue to promote the “Waste Reduction Guidebook for Large Scale Event Organisers” to support government B/Ds, quasi-governmental bodies, C&I sectors, schools, youth and community organisations to enhance the environmental performance of their events continuously by practising waste reduction and recovery measures. |

| Area | Progress |
|--|---|
| Community Green Stations | <ul style="list-style-type: none"> We are taking forward the Community Green Stations (CGSs) projects across the territory to strengthen recycling support and environmental education at the district level. The CGSs in Sha Tin and Eastern District have been serving the public since 2015, and the ones in Kwun Tong, Yuen Long and Sham Shui Po commenced operation in 2017. The Tuen Mun CGS started services in September 2018 and the Kwai Tsing CGS will commence operation this November. Other CGSs projects are at different planning, construction or site selection stages. |
| Regulation of Waste Cooking Oils | <ul style="list-style-type: none"> Since the Waste Cooking Oils (WCO) Recycling Administrative Registration Scheme was launched by EPD in February 2016, over 160 WCO collectors, processors and recyclers have registered under the scheme. We will continue to work closely with the Food and Environmental Hygiene Department to ensure that the WCO generated from local restaurants and other food premises is channeled to proper outlets for recycling. |
| Green Procurement | <ul style="list-style-type: none"> We have expanded the Government's green procurement list from original 103 to 150 items of products and services with updated green specifications. We will continue to keep in view the market development and expand the list as appropriate. We will continue to encourage wider adoption of green procurement within the Government and in the private sector. |
| Integrated Waste Management Facilities Phase 1 | <ul style="list-style-type: none"> We awarded the Design-Build-Operate contract in November 2017. We expect to commission the facilities in 2024. |
| Planning of Future Waste Management and Transfer Facilities | <ul style="list-style-type: none"> We commenced the study in 2015 to identify additional bulk transfer and solid waste treatment facilities to meet Hong Kong's needs up to 2041. We plan to complete the study in end 2018 / early 2019. |
| Restored Landfill Revitalisation Funding Scheme (the Scheme) | <ul style="list-style-type: none"> The Steering Committee of the Scheme selected Tung Wah Group of Hospitals (TWGHs) and Christian Family Service Centre to develop |

| Area | Progress |
|--|--|
| | detailed proposals to revitalise Tseung Kwan O Stage I Landfill and Ma Yau Tong Central Landfill respectively under Batch 1 of the Scheme. We are working closely with these organisations with a view to taking forward the projects as soon as possible. Approval-in-principle has been granted to TWGHs to implement its proposed project. |
| Landfill Extensions | <ul style="list-style-type: none"> We are working on the contract procurement for the extension of North East New Territories Landfill, as well as carrying out the consultancy study for the engineering design and site investigation for the extension of West New Territories Landfill. In addition, the extension works of the South East New Territories Landfill will commence by end 2018. We will continue to implement the landfill extension projects. |
| Renewable Energy | |
| Small-scale Government renewable energy (RE) projects | <ul style="list-style-type: none"> We have earmarked \$1 billion to support the development of small-scale RE projects by B/Ds. We will continue to follow up and explore with different Government departments the feasibility of installing RE systems at the latter's premises. |
| Combating Climate Change | |
| Carbon Audit | <ul style="list-style-type: none"> Commencing 2017-18, B/Ds have started conducting annual carbon audits on major government buildings and will disclose their audit results after completing the audits. The carbon auditing work involves over 300 major government buildings of varying sizes and different nature. |
| 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 and to organise the annual Hong Kong Biodiversity Festival, with a view to providing a platform to promote biodiversity and foster a culture of nature appreciation together with non-governmental organisations and other stakeholders. |
| Beautifying the Victoria Harbour | |
| Continue to plan and progressively implement projects for reducing the | <ul style="list-style-type: none"> The Government already obtained \$1 billion from LegCo to construct or modify 52 dry weather flow interceptors (DWFI) at priority locations in |

| Area | Progress |
|--|---|
| discharge of pollutants from either side of Victoria Harbour to protect the environment along its coastlines and address near-shore odour problem, thereby making further improvements in the water quality and cleanliness of the Harbour. | West Kowloon and Tsuen Wan by 2022. We are now investigating the feasibility of installing compact and high efficiency DWFI for Hung Hom and Wanchai East. |
| Safe and Quality Living Environment | |
| Continue with the comprehensive investigation on ageing pipelines in phases for timely identification of pipelines at high risk of structural failure; and strive to implement a risk-based programme for rehabilitation of aged stormwater drains and sewers. | <ul style="list-style-type: none"> ● The Government already obtained \$3.6 billion from LegCo to rehabilitate about 20km of sewers throughout Hong Kong and conduct conditional surveys of another 75km within the next five years. |
| Environmental Noise | |
| Mitigating Road Traffic Noise | <ul style="list-style-type: none"> ● We will further the trial application of low noise road surfacing to address traffic noise impact. Apart from “thin surfacing” asphalt materials which effectively reduce noise, we will also further the trial application of rubberised asphalt with small quantities of waste tyre crumb rubber added, thereby turning waste into resources. |