

**For discussion on
23 January 2017**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**2017 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 the 2017 Policy Address.

KEY INITIATIVES

Combating Climate Change

2. In December 2015, 195 countries including China adopted the first-ever universal, legally binding global deal to combat climate change in Paris (the Paris Agreement)¹. The Paris Agreement, already came into force in November 2016, applies to Hong Kong as well. In light of this latest development, the Steering Committee on Climate Change (SCCC), chaired by the Chief Secretary for Administration and comprising all 13 Policy Secretaries, has examined experience outside Hong Kong in combating climate change and reviewed the scope for enhancing our mitigation, adaptation and resilience actions. Taking into account these and views collected in 2016 from various stakeholders and the public on Hong Kong's long-term climate strategy, the SCCC

¹ The key points of the Paris Agreement include:

- (a) a commitment to keep the average rise in global temperature well below 2 degree celcius compared with pre-industiral times, while striving to limit it even to 1.5 degree celcius;
- (b) countries to prepare their own greenhouse gas emissions reduction targets from 2020 and revise these targets every five years;
- (c) to reach global peaking of greenhouse gas emissions as soon as possible and undertake rapid reductions thereafter; and
- (d) to achieve carbon-neutrality globally sometime after 2050 but before 2100.

recommended setting a target to reduce our carbon intensity by 65-70% by 2030 compared with the 2005 level, which is equivalent to an absolute reduction of 26-36% and resulting in a per capita emission of 3.3-3.8 tonnes in 2030. The SCCC also recommended a number of measures to achieve the target. The Chief Executive accepted the SCCC recommendations the gist of which were covered in his Policy Address on 18 January 2017.

3. The Government will release on 20 January 2017 the Hong Kong's Climate Change Action Plan 2030+, an enhanced climate change work plan, setting out in greater detail the new target and key measures on mitigation, adaptation and resilience to combat climate change. To enhance public understanding, we will also release on the same day a leaflet, an Announcement in the Public's Interest, short videos, a poster and a new climate change website to raise public awareness of the importance of combating climate change; and the relevant measures that the Government will undertake itself and in conjunction with various stakeholders. ENB shall continue to coordinate the efforts of various bureaux and departments in implementing the enhanced climate change work plan.

4. As electricity generation accounts for almost 70% of our carbon emissions, to achieve the new target, we need to phase down coal-fired electricity generation, i.e. replace the majority of the coal-fired generation units which are due to retire by cleaner energy sources by 2030 to reduce carbon emissions. This approach will have significant tariff impact. A consensus in society will be required for us to achieve the carbon reduction target for 2030. In addition, the Government will further promote the development of renewable energy (RE) as well as energy saving. These efforts are further elaborated in paragraphs 6 to 9 below.

5. Apart from the above, the Government will support non-profit-making organisations to carry out public education activities and demonstration projects on climate change. Regular carbon audit on major Government buildings will also be conducted with a view to exploring room for further carbon reduction. The Government will proactively take forward measures to combat climate change and work

with various sectors and the general public to pave the way for low carbon living.

Renewable Energy

6. The Paris Agreement has highlighted the need for wider promotion of RE. There is a general international consensus on the need to make a quick shift to cleaner energy sources, and RE is being adopted worldwide at an accelerating pace. The Government will apply RE on a wider and larger scale in the immediate years ahead based on mature and commercially available technologies with the public sector taking the lead, and to create the conditions to enable the private sector to consider adopting RE. For new Government buildings, we will increase the target of RE provision in new schools and educational buildings as well as new open space and public park projects. As for existing Government buildings, we require such buildings undergoing major retrofitting and/or renovation works to seek to incorporate RE technologies if and where technically and financially practicable, and have earmarked \$200 million for provision of RE installations at Government buildings, venues and facilities.

7. Apart from Government projects, we are discussing with the two power companies in the context of the new Scheme of Control Agreements (SCAs) introduction of new measures to further promote the development of RE in the community.

Energy Saving

8. Buildings account for some 90% of electricity consumption and over 60% of greenhouse gas emissions in Hong Kong. Raising the energy performance of buildings is an important measure to mitigate the negative effect of climate change. The Government pledged in the 2015 Policy Address to reduce electricity consumption by 5% for Government buildings in five years from 2015/16 to 2019/20 under comparable operating conditions, using the electricity consumption in 2013/14 as the baseline. In this connection, we have already completed energy audits for over 200 major Government buildings with comparatively high annual electricity consumption to identify energy management opportunities and

will complete energy audit of the remaining around 150 major Government buildings later this year. To help Bureaux and Departments implement electricity saving projects identified in the energy audits, we have earmarked at least \$500 million² to gradually implement the relevant energy saving projects to help reduce electricity consumption.

9. As regards the private sector, the Government has established a partnership with major stakeholders in the built environment under the 4Ts framework, namely target, timeline, transparency and together, to operationalise the Paris Agreement. The 4T partners have been encouraged to set their energy saving targets and timelines and to share their existing and planned energy saving measures. The Government is also discussing with the power companies on ways to further promote energy saving in the context of the new SCAs.

Nature Conservation

Phasing Out Local Trade in Ivory

10. The Government already made a policy announcement on 21 December 2016 to introduce a three-step plan to phase out local trade in ivory and impose heavier penalties on smuggling and illegal trade of endangered species. The first step is to ban the trade on elephant hunting trophies on the effective date of the legislative amendments, followed by a ban on import/export of pre-Convention (Convention on International Trade in Endangered Species of Wild Fauna and Flora) ivory three months afterwards, and finally a ban on domestic trade as well by end of 2021. We are preparing the enabling legislation for submission to the Legislative Council around mid-2017.

Biodiversity Strategy and Action Plan

11. The Government has announced the first city-level Biodiversity Strategy and Action Plan (BSAP) for Hong Kong on 21 December 2016.

² The funding will be included and reflected in the draft Estimates of the relevant accounts starting from 2017-18.

The BSAP outlines the strategy and actions to be taken in the next five years for conserving biodiversity within and outside Hong Kong as well as supporting sustainable development. The Government will implement the BSAP and take forward a series of measures to strengthen conservation of biodiversity, such as conducting various studies, carrying out exercises to enhance public awareness, and promoting the mainstreaming of biodiversity issues and values across all sectors of the community. The Government has already earmarked \$150 million for these initiatives in the first three years.

Enhanced Efforts to Conserve Areas with High Ecological Value

12. Country parks are precious assets for their leisure, recreational, sports and conservation values. In the past few years, we have incorporated a number of enclaves, such as Sai Wan, into country parks, increasing the total area of designated country parks and special areas by 38 hectares. Looking forward, we will designate Robin's Nest with about 500 hectares as a new country park. With high ecological and recreational value, the scenic Robin's Nest will also serve as an important ecological corridor between Hong Kong's country parks and Shenzhen's nature reserves. The Government will also establish a Long Valley Nature Park with an area of about 37 hectares as part of the development of the Kwu Tung North and Fanling North New Development Areas. In addition, for the purpose of the long term conservation of Sha Lo Tung, we are actively considering a non in-situ land exchange involving the private land with high conservation value in Sha Lo Tung and the Government land in Shuen Wan Restored Landfill, with a view to putting conservation areas in Sha Lo Tung under Government's active management for the benefit of the community.

13. The Government is committed to environmental protection and ecological conservation, while endeavoring to strike a right balance between our commitments and the community's development and housing needs. We will continue to identify suitable sites for incorporation into the country park area. In parallel, we will strive to enhance the conservation management of the country parks, as well as their leisure, recreational and educational values for public enjoyment.

Conservation of Rural Areas

14. In recent years, the Government has been adopting a flexible approach in supporting and promoting the conservation of rural areas through harnessing community efforts. The conservation efforts at Lai Chi Wo, an established “walled-village” with Hakka culture dating back to over 300 years ago and nature conservation value, serve as a good example. To further promote the revitalization of remote rural areas, the Government will, for the purpose of setting up a conservation fund, establish a preparatory committee to study the ambit and modus operandi of such a fund, as well as the legislation and resources required, taking into account relevant local and overseas experience.

15. To support the efforts in sustainably developing and conserving Lantau, the Government will implement rural conservation pilot projects in areas such as Tai O, Shui Hau and Pui O etc., under which different Government and community resources will be deployed to take forward various rural conservation initiatives, including nature conservation and education, revitalisation of old village buildings, as well as promotion of ecological and cultural tourism.

Air Quality

Review of the Sixth Technical Memorandum for Power Plants

16. Power plants have to comply with statutory emission caps set by a Technical Memorandum (TM) issued under the Air Pollution Control Ordinance by the EPD. The latest TM (i.e. the Sixth one) was promulgated on 23 November 2016 for setting the emission caps for 2021 onwards. When undertaking the upcoming review in 2017, EPD will take account of the new gas-fired generating units being constructed by the two power companies bearing in mind increasing use of natural gas for electricity generation could lead to lower emissions, giving us room to impose more stringent emission caps on power companies for 2022 onwards.

Tightening Vehicle Emissions Standards for Newly Registered Vehicles

17. It is our standing policy to tighten the vehicle emission standards for newly registered vehicles in line with international developments when there is an adequate supply of compliant vehicles in Hong Kong. The prevailing vehicle emission standard for most types of vehicles is Euro V, which has been in force since 2012³. The European Union (EU) started in December 2013 the progressive adoption of Euro VI emission standard. Compared with their Euro V counterparts, Euro VI heavy duty⁴ diesel vehicles emit about 80% less nitrogen oxides (NOx) and 50% less respirable suspended particulates while Euro VI light duty diesel vehicles emit about 55% less NOx. We consulted this Panel about our initial proposal to adopt Euro VI emission standard on 27 November 2015. With the support of this Panel, we then consulted the relevant trades. We reported to this Panel on 19 December 2016 on the consultation findings and our revised proposal⁵, which had taken account of the consultation findings. Members generally supported the revised proposal. We are now preparing the effecting legislative amendments for introduction to the Legislative Council in the first quarter of 2017.

Implementation of a Domestic Marine Emission Control Area in Pearl River Delta Waters

18. The Ministry of Transport issued an implementation plan for controlling marine emissions in three major regions including the Pearl River Delta (PRD) region in December 2015. Under the plan, a domestic marine emission control area (DECA) will be established in the PRD waters on 1 January 2019 such that all vessels, excluding military vessels, sport vessels and fishing boats, in the DECA will be required to use low sulphur fuel (with sulphur content not exceeding 0.5%). We already signed an agreement with the Mainland authorities in December 2016 to jointly promote the establishment of the DECA. A working

³ Emission standard for diesel private car is California LEVII, implemented since 2006, and that for motor cycle and tricycle is Euro III, implemented since 2007.

⁴ EU defines heavy duty vehicles as vehicles of design weight more than 3.5 tonnes, irrespective of their fuel types. Smaller vehicles are called light duty vehicles.

⁵ Our revised proposal also included our plan to tighten the emission standard for diesel private car to California LEV III.

group with representatives from EPD, the Marine Department and the Guangdong authorities was formed to collaborate on the implementation of the PRD DECA.

Victoria Harbour Water Quality

19. With the full commissioning of Stage 2A of the Harbour Area Treatment Scheme (HATS) in December 2015, the water quality of Victoria Harbour has shown further improvement in 2016. In terms of the key parameters of water quality, the unionised ammonia nitrogen and bacterial (i.e. *E. coli*) levels have reduced by 15% and 70% respectively in the past year as compared with 2011 to 2015. We have also commenced in January 2016 a two-year consultancy study which includes visual and odour patrol, field survey, water sampling and laboratory analysis to identify the sources of residual discharge into the Victoria Harbour. Targeted pollution control measures and engineering solutions will be developed to further improve near shore water quality.

20. As a number of trunk sewers in Kowloon have been used for decades, we will rehabilitate these trunk sewers in 2017 which will help reduce and prevent pollution leakage. At the same time, we will construct dry weather flow interceptors at critical locations in Kowloon and Tsuen Wan to divert the residual polluted discharge to the foul sewerage for proper treatment. These projects will help ameliorate the odour problems along these coastlines.

Waste Management

Policy and Legislation

21. We will continue to undertake multiple and concurrent actions set out in the Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022 to drive behavioural change to reduce waste at source. On the policy and legislative side –

- (a) based on the implementation framework recommended by the Council for Sustainable Development, we have been undertaking the necessary preparatory work on various

fronts for introducing municipal solid waste (MSW) charging in consultation with different stakeholders. We plan to introduce the enabling legislation into the Legislative Council in this session. Meanwhile, the Environment and Conservation Fund has earmarked \$50 million for funding community involvement projects to prepare different sectors and stakeholders for the implementation of MSW charging. More than 30 community involvement projects have been approved so far;

- (b) following the enactment of the enabling legislation for the producer responsibility schemes (PRSs) on waste electrical and electronic equipment (WEEE) and glass beverage containers last year, we have been making the necessary preparation with a view to bringing the two schemes into operation by phases in 2017 and 2018. Among other things, we would be introducing the subsidiary legislation to provide for the operational details and the WEEE Treatment and Recycling Facility is scheduled for commissioning in mid-2017. We also plan to invite tender for the provision of collection and treatment services for the recycling of glass containers later this year. In addition, we will commence a feasibility study to explore how to implement a PRS for suitable plastic containers, which would mainly involve plastic bottles carrying beverages or personal care products; and
- (c) we also attach much importance to the handling of construction waste, which accounts for nearly one quarter of the daily MSW disposed of at landfills. With the passage of the relevant legislative amendment last year, the disposal charges will be increased with effect from 7 April 2017, which would help maintain their effectiveness in reducing waste. Meanwhile, we are drawing up the regulatory regime and preparing the legislation required for mandating the use of Global Positioning System on construction waste

collection vehicles to enhance our efforts in combating illegal depositing of construction waste.

Food Waste Reduction

22. We will continue to develop Organic Waste Treatment Facilities (OWTFs) network in phases for recovery of energy and nutrients from food waste that cannot be avoided. The construction of Phase 1 of OWTFs at Siu Ho Wan of Lantau will be completed in the second half of this year in furtherance of the waste-to-energy efforts in Hong Kong. The Government has also commenced tendering for Phase 2 of the OWTFs situated at Sha Ling in the North District for commissioning in 2021.

23. To encourage the commercial and industrial sectors to recycle and handle food waste properly, the Government will implement a pilot project to source separate and collect food waste from wet markets and cooked food centres managed by the Food and Environmental Hygiene Department, as well as wet markets and shopping malls managed by the Hong Kong Housing Authority, for delivery to the upcoming OWTFs for treatment.

24. In addition, we will provide tertiary institutions and primary/secondary schools with suitable support for on-site treatment of food waste, with a view to enhancing awareness of “food wise” culture among teachers and students.

OTHER ON-GOING INITIATIVES

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

Environment Bureau
January 2017

2017 Policy Address
Policy Initiatives of Environment Bureau:
Environmental Protection

On-going Initiatives

Area	Progress
Air Quality	
Cleaner Production Partnership Programme	<ul style="list-style-type: none"> ● The Hong Kong-Guangdong Joint Working Group on Cleaner Production was set up in February 2015 to strengthen co-operation in promoting cleaner production to enterprises in the region. By the end of 2016, over 2 700 funding applications had been approved under the Cleaner Production Partnership Programme since the Programme's launch in 2008. In addition, the Hong Kong-Guangdong Cleaner Production Partners Recognition Scheme encourages enterprises to demonstrate efforts in pursuing cleaner production. As at end 2016, 342 enterprises were holding valid commendations.
Collaboration with the Mainland	<ul style="list-style-type: none"> ● We will continue to collaborate with Guangdong on scientific air quality studies as well as improvement measures under the Regional Air Quality Management Plan which focuses on power plants, vehicles, vessels and the heavily polluting industrial processes. ● Results of the Pearl River Delta regional air quality monitoring network from 2006 to 2015 show that the annual concentration levels of sulphur dioxide, nitrogen dioxide and respirable suspended particulates in the region decreased by 72%, 28% and 34% respectively.

Area	Progress
	<ul style="list-style-type: none"> ● Both the HKSAR and Guangdong Provincial Governments started the joint mid-term review in February 2015 to conclude the emission reductions for 2015 and finalize the emission reduction targets for 2020. The results will be announced in 2017.
Green Road Transport	<ul style="list-style-type: none"> ● The Government set up franchised bus low emission zones (LEZs) at three busy corridors in Causeway Bay, Central and Mong Kok on 31 December 2015. All franchised bus companies (FBCs) have confirmed that they have deployed low emission buses at the LEZs since April 2016. ● FBCs are being subsidized to retrofit selective catalytic reduction devices to their Euro II and III buses with a view to reducing their emissions. The project will complete by end 2017. ● The Government has also fully subsidized FBCs to procure six double-deck hybrid buses and 36 single-deck electric buses for trial. All the hybrid buses have been in operation since late 2014. The first batch of five electric buses have been in operation since December 2015 while the remaining ones would be put into service progressively in 2017. ● The Government has been actively promoting a wider use of electric vehicles (EVs) by waiving their First Registration Tax, allowing 100% profits tax deduction for acquiring EVs, providing subsidy for trials of EVs under the Pilot Green Transport Fund, 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

Area	Progress
	<p>hotline to provide relevant information and technical support in setting up chargers. The number of EVs has grown from 96 in 2010 to 7 231 by end of December 2016.</p> <ul style="list-style-type: none"> ● There were 249 electric vehicles in the Government fleet by end of December 2016. 15 EVs were ordered in 2016 and will be delivered in 2017. ● The Government will continue to enhance the public charging network for EVs by upgrading more standard chargers to medium chargers. In 2014, the Government completed the installation of 100 medium chargers at 16 government car parks. By end March 2017, we will further upgrade 174 standard chargers to medium chargers at seven government car parks. These medium chargers can reduce charging time up to 60% as compared to standard chargers. ● As at end December 2016, the Pilot Green Transport Fund approved 87 trials with a total subsidy of about \$81 million to test out various green transport technologies including electric taxis, buses and trucks as well as hybrid trucks. ● Since the launch of an incentive-cum-regulatory scheme in March 2014, about 49 800 pre-Euro IV diesel commercial vehicles (DCVs) (i.e. about 61% of the target vehicles) have been scrapped under the scheme as at end December 2016. The Government has stopped the renewal of vehicle licences for pre-Euro DCVs from 1 January 2016 and Euro I DCVs from 1 January 2017.

Area	Progress
Review of the Air Quality Objectives	<ul style="list-style-type: none"> ● We are reviewing the Air Quality Objectives (AQOs) with the help of a working group comprising members from air scientists, health experts and professionals, chambers of commerce, professional bodies, the relevant trades, green groups as well as Government representatives to identify practicable measures to further improve air quality and assess scope to further tighten the AQOs.
Victoria Harbour Water Quality	
Harbour Area Treatment Scheme Stage 2A	<ul style="list-style-type: none"> ● With the full commissioning of the Harbour Area Treatment Scheme Stage 2A in December 2015, all the sewage (about 2 000 000 m³/day) generated in the Victoria Harbour catchment is now transferred to the Stonecutters Island Sewage Treatment Works for treatment.
Waste Management	
Sludge Treatment Facilities – T Park	<ul style="list-style-type: none"> ● The Sludge Treatment Facilities started operation on 1 April 2015 and is now treating nearly 1,200 tonnes of sludge each day. Its Environmental Education Centre (EEC) has been open to the public since 29 June 2016. The EEC has been well received by the public, and the number of visits paid by local and overseas visitors has exceeded 44 000.
Food Waste/Sewage Sludge Anaerobic Co-digestion Pilot Trial	<ul style="list-style-type: none"> ● The pilot trial will make use of the existing sewage sludge anaerobic digestion system at the Tai Po Sewage Treatment Works to recycle up to 50 tonnes of food waste per day into energy. We plan to invite tenders for the pilot project in the first half of 2017 and commission the facilities in 2018-19.

Area	Progress
Integrated Waste Management Facilities Phase 1	<ul style="list-style-type: none"> ● We completed the prequalification exercise in 2015 and issued tender invitation for the Design-Build-Operate contract from pre-qualified tenderers in November 2016. We plan to commission the facilities in 2023-2024.
Landfill Extensions	<ul style="list-style-type: none"> ● Following the approval of funding for the extensions of South East New Territories (SENT) and North East New Territories (NENT) landfills, as well as the consultancy for the extension of West New Territories (WENT) Landfill, EPD has commenced the contract procurement procedures for the SENT and NENT extension projects, and the engineering design and site investigation studies for WENT extension. ● With the extensions of the SENT Landfill and NENT Landfill in place, it is estimated that the landfill space could cope with the local waste disposal needs up to late 2020s. ● The engineering design and site investigation studies for the extension of WENT Landfill are in progress.
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. The study will also draw up action programme and develop relevant planning guidelines for the identified waste facilities. We plan to complete the study in 2017.
Restored Landfill Revitalisation Funding Scheme	<ul style="list-style-type: none"> ● Applications for use of the restored landfills will be invited in batches. Batch 1 of the Restored Landfill Revitalisation Funding Scheme, which includes Ma Yau Tong Central Landfill in Kwun

Area	Progress
	<p>Tong, Pillar Point Valley Landfill in Tuen Mun and Tseung Kwan O Stage I Landfill in Sai Kung, was open to applications from 27 November 2015 to 29 April 2016. A total of 27 applications were received at the close of the application period. To enable the Steering Committee on Restored Landfill Revitalisation Funding Scheme (Steering Committee) to take into account the views of the local communities on the proposed uses of the respective restored landfills, we will conduct an additional round of consultation with the District Councils concerned in mid-January 2017 before the Steering Committee proceeds to assess the applications in accordance with the established assessment criteria.</p>
Recycling Fund	<ul style="list-style-type: none"> ● Since the launch of the \$1 billion Recycling Fund in October 2015, a total of 55 applications have been approved, involving a total of around \$65 million of funding. The EPD, together with the Fund Secretariat, will continue to explore the need for and feasibility of introducing further measures to facilitate the industry to make use of the Recycling Fund to address its needs and to attract more applications which are worthy of support.
Regulation of Waste Cooking Oils	<ul style="list-style-type: none"> ● Since the Waste Cooking Oils (WCO) Recycling Administrative Registration Scheme was launched in February 2016, over 130 WCO collectors, processors and recyclers have registered under the scheme. We will 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.

Area	Progress
Food Wise Hong Kong Campaign	<ul style="list-style-type: none"> ● Under this territory-wide campaign, we have been promoting food waste avoidance and appealing to the community to adopt personal and domestic behavioral change to reduce food waste through various publicity and educational programmes. We will continue to draw up and promote good practices on food waste reduction for commercial and industrial establishments, and facilitate donation of surplus food from the establishments to charitable organisations in the community.
Clean Recycling	<ul style="list-style-type: none"> ● We have sought support from the Environmental Campaign Committee to spearhead the Clean Recycling Campaign, with a view to increasing the quality, quantity and value of the source separated recyclables, thereby turning more waste into resources. We have engaged three NGOs in September 2016 to carry out educational and promotional activities on clean recycling at over 100 housing estates.
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.
Community Green Stations	<ul style="list-style-type: none"> ● The development of Community Green Stations (CGSs) is making good progress. CGSs in Sha Tin and Eastern District started providing services to the public in 2015, and the ones in Kwun Tong, Yuen Long and Sham Shui Po would commence operation in succession in early 2017. Eight other CGSs projects are at different planning and

Area	Progress
	construction stages and we will continue with site selection for the remaining five CGS projects.