
Chapter 5

Environment and Conservation

Preamble

Sustainable development is premised on a proper balance among environmental protection, heritage conservation, economic development and provision for social needs.

The current-term Government has mapped out clear targets and work plans for improving air quality, waste management, energy conservation and biodiversity in four published blueprints. We are committed to achieving the targets in the blueprints through implementation of various measures and programmes in proactive partnership with various sectors.

For waste management, we will continue with the preparation for implementation of quantity-based municipal solid waste (MSW) charging, and will submit the legislative proposal on its implementation to the Legislative Council (LegCo) for deliberation. We will also implement, in phases, the mandatory producer responsibility schemes (PRSs) on waste electrical and electronic equipment (WEEE) and glass beverage containers, including the commissioning in mid-2017 of the WEEE Treatment and Recycling Facility. To reduce food waste, we will continue with the Food Wise Hong Kong Campaign and development of the network of Organic Waste Treatment Facilities (OWTFs), phase 1 of which will be completed in the second half of 2017 for treatment of food waste. We will also encourage organisations

such as tertiary institutions, and primary and secondary schools to adopt on-site treatment of food waste.

To further protect elephants in Africa, we will take forward a series of measures, including initiating legislative procedures to phase out local trade in elephant ivory, imposing heavier penalties on smuggling and illegal trading of endangered species, and stepping up law enforcement.

To further promote revitalisation of remote rural areas, we will form a conservation fund preparatory committee with the participation of the Government and stakeholders of various sectors to study the ambit and modus operandi of such a fund, as well as the legislation and resources required.

To combat climate change, we have introduced various initiatives to achieve higher energy efficiency, promote renewable energy (RE) and green building, and encourage a low carbon lifestyle in our community. To deliver our pledge made in 2015 to reduce electricity consumption by 5% for government buildings in five years' time, the Government will take the lead in promoting energy efficiency; and provisions will be earmarked for energy saving projects for government buildings. By setting higher targets for government buildings in the use of RE and earmarking necessary provisions, we will further enhance the use of RE in government buildings and venues. Furthermore, we will discuss with the two power companies ways to further facilitate building energy saving and development of RE under the new Scheme of Control Agreements (SCAs). All bureaux and departments will also strengthen their carbon management and start conducting regular carbon audits on major government buildings. Meanwhile, we will

further enhance the city's walkability and promote walking as an important part of Hong Kong as a sustainable city.

To make Hong Kong a better city for all, we will continue to enhance our infrastructure to provide a safe and quality living environment. At the same time, we will further promote the adoption of a holistic approach to formulate urban forestry strategies, develop proper urban arboricultural practices, enrich vegetation diversity and enhance place ecology for sustainable development of our cityscape.

We wish to preserve the city's charm while respecting the need for development. We have set up the Built Heritage Conservation Fund to provide subsidies for public education, community involvement and publicity activities, as well as academic research. The fund also subsidises certain existing government measures and initiatives on built heritage conservation.

New Initiatives

We will:

Air Quality

- Review the Sixth Technical Memorandum in 2017 with a view to further tightening the air pollutant emission caps for power companies from 2022 onwards. (ENB)

Combating Climate Change and Energy Conservation

- Propose to set aside \$10 million from the Environment and Conservation Fund to subsidise non-profit-making organisations to carry out publicity and education activities and demonstration projects with climate change as the theme, with a view to strengthening publicity and public education to encourage the community to make concerted efforts to combat climate change. (ENB)
- Request all bureaux and departments to enhance carbon management by starting to conduct regular carbon audits on major government buildings and disclosing their carbon emission information, with a view to exploring room for carbon reduction. (ENB)
- Earmark \$200 million for the Government to install RE facilities in government buildings, venues and facilities to promote the development of RE, reduce carbon emissions and mitigate the impact of climate change. (ENB)

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- Consider the provision of district cooling systems in new development areas, including the topside development at the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities and the Tung Chung New Town Extension. (ENB)
 - Earmark not less than \$500 million to implement various energy saving projects for government buildings to reduce their electricity consumption, with a view to achieving the target of reducing electricity consumption by 5% for government buildings in the financial years 2015-16 to 2019-20. (ENB)
 - Foster the concept of “Walk in HK” with a view to tackling the challenges posed by climate change; promoting sustainable development of Hong Kong; encouraging a healthy lifestyle; strengthening community interaction; and building an age-friendly environment. In the light of the unique environment of Hong Kong, we will implement a series of new measures along four themes: “Make it smart” by providing user-friendly information on walking routes; “Make it connected” by enhancing our pedestrian networks; “Make it enjoyable” by making walking a pleasant experience; and “Make it safe” by providing a safe and quality pedestrian environment. Examples include selecting two areas in Hong Kong for pilot study to test out innovative measures for a comfortable walking environment; and exploring relaxing the existing requirements for adding covers to public walkways as stipulated in the Transport Planning and Design Manual. We will continue to take forward the various hillside escalator links and elevator systems (HEL), and also commence a study at the end of 2017 to review and improve the assessment mechanism for proposed HEL projects. We will join hands with stakeholders such as the MTR Corporation Limited to promote “Walk in HK”. (THB)

Enhancing Waste Management

- Introduce into LegCo the legislative proposal for the implementation of MSW charging. (ENB)
- Commence a feasibility study on introducing mandatory PRS for suitable plastic product containers. (ENB)
- Introduce legislation to mandate the use of Global Positioning System on construction waste collection vehicles to facilitate enforcement action against fly-tipping of construction waste. (ENB)
- Launch trial schemes on source separation and collection of food waste generated 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 and treatment by phase 1 of the OWTs, which will be commissioned in the second half of 2017, with a view to encouraging the commercial and industrial sectors to recycle food waste properly and achieving the waste-to-energy purpose. (ENB)
- Provide appropriate professional support for organisations such as tertiary institutions, and primary and secondary schools with suitable venues for on-site treatment of food waste, so as to reduce food waste disposal at landfills and at the same time enhance teachers' and students' awareness of the food waste problems and food wise culture. (ENB)

Promoting Nature Conservation

- Initiate legislative procedures to phase out local trade in elephant ivory, impose heavier penalties on smuggling and illegal trade of endangered species, and continue to step up law enforcement against the smuggling and illegal trade of ivory. (ENB)
- Carry on with the preparatory work to designate Robin's Nest as a new country park. (ENB)
- Form a conservation fund preparatory committee to study the ambit and modus operandi of such a fund, as well as the legislation and resources required, to further promote revitalisation of remote rural environment. (ENB)
- Take places such as Tai O, Shui Hau and Pui O on Lantau as the pilot areas for implementing rural conservation policies, under which Government and community resources will be deployed to take forward, as appropriate, various rural conservation initiatives including nature conservation and education, revitalisation of old village buildings, village life experience enhancement and promotion of ecological and cultural tourism, to support the efforts in developing and conserving Lantau. (ENB/DEVB)
- Implement the first Biodiversity Strategy and Action Plan for Hong Kong in the next five years to step up nature conservation efforts and support sustainable development. We will take forward a series of measures to strengthen conservation of biodiversity, such as conducting various studies and exercises to enhance public awareness and formulating a species-specific action plan for incense tree to conserve this native tree species, from which Hong Kong got her name. (ENB)

Green Building

- Review the current arrangement under which a development project is only required to register for Building Environmental Assessment Method (BEAM) Plus as a prerequisite for application for gross floor area concession for amenity features, with a view to further promoting green buildings in the private market. (DEVB)

Urban Forestry

- Formulate an urban forestry management strategy and develop proper urban arboricultural practices with a holistic approach. Develop sustainable urban landscape and promote vegetation diversity, and draw up a practice note on urban arboriculture. (DEVB)
- Raise public awareness on urban forestry through publicity and education. (DEVB)
- Promote capacity-building for the arboriculture and horticulture industry and assist the Arboriculture and Horticulture Industry Training Advisory Committee in developing a qualification framework. (DEVB)

Safeguarding Drinking Water Quality

- Continue to press ahead to follow up the recommendations put forward by the Commission of Inquiry into Excess Lead Found in Drinking Water to address the grave public concern about the incidents of excess lead in drinking water in public rental housing estates and other premises and to restore public confidence in the quality of drinking water. These measures include:

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- studying overseas practices with a view to developing drinking water standards and water sampling protocols suitable for Hong Kong; further enhancing the Water Safety Plan of the Water Supplies Department; and developing templates for Water Safety Plan for buildings;
 - consulting the International Expert Panel appointed by the Development Bureau on the various items of follow-up work;
 - reviewing the Waterworks Ordinance and its Regulations for submitting some of the amendments, including those defining the duties of licensed plumbers and plumbing workers and updating the standards for plumbing materials in the inside service, to the LegCo for deliberation in the 2016-17 legislative session; and
 - stepping up the regulation of pipe materials and fittings of the inside service. (DEVB)

Water Resources Management

- Continue to strengthen enforcement action against leakage cases in order to minimise water loss caused by the lack of proper maintenance or prolonged repairs of the inside service. In the meantime, we also collaborate with other government departments to take forward the Pilot Scheme for Leakage Detection for underground water pipes and will promote leakage detection and maintenance for private underground water pipes. (DEVB)

Enhancing the Water Safety Regime for Hong Kong

- Develop a holistic plan for safeguarding drinking water quality and put forward proposal on introducing legislation on drinking water safety, which include developing a set of drinking water standards suitable for the local situation and a water quality regulatory framework, as well as putting in place a comprehensive programme for monitoring the safety and quality of drinking water from the source to the consumers' taps. (DEVB)

Building Information Modelling Technology

- Actively seek to apply the Building Information Modelling (BIM) technology in the design of major government capital works projects from 2018 onwards. Consultants and contractors undertaking the design and construction work for these projects will be required to use the BIM technology. (DEVB)

Safe and Quality Living Environment

- Conduct investigations and, where necessary, carry out rehabilitation works for aged drainage systems to minimise flooding risk and safety hazards arising from pipe collapse. (DEVB)

On-going Initiatives

We are:

Improving Air Quality

(a) Greening Road Transport

- Encouraging the transport sector and non-profit-making organisations to test out green and innovative transport technologies through the Pilot Green Transport Fund. (ENB)
- Providing funding support for franchised bus companies to retrofit Euro II and III franchised buses with selective catalytic reduction devices to reduce roadside air pollution. (ENB)
- Continuing to implement an incentive-cum-regulatory scheme to phase out progressively by the end of 2019 some 82 000 highly polluting diesel commercial vehicles which only comply with pre-Euro or Euro I to III emission standards to improve roadside air quality. (ENB)
- Running hybrid buses and electric buses on a trial basis. (ENB)
- Continuing to enhance the charging network for electric vehicles to promote their wider use. (ENB)
- Taking forward the tightening of vehicular emissions standards for newly registered vehicles in accordance with appropriate international standards. (ENB)

(b) Regional Co-operation

- Continuing to implement the Pearl River Delta Regional Air Quality Management Plan together with the Guangdong Provincial Government to keep improving regional air quality. (ENB)
- Conducting a mid-term review with the Guangdong Provincial Government to assess the achievements made in emission reduction of air pollutants in the two places in 2015 and finalise the emission reduction targets for 2020. (ENB)
- Conducting a study with the governments of Guangdong and Macao on fine suspended particulates (PM_{2.5}) for the Pearl River Delta region to provide a robust scientific basis for mapping out the strategies for further improvement in regional air quality. (ENB)
- Co-operating with the Guangdong Provincial Government to foster exchanges and trainings in the two places in respect of regional air pollution forecasting technology. (ENB)
- Implementing the Cleaner Production Partnership Programme in collaboration with the Guangdong Provincial Government to continue to promote cleaner production technologies and practices among Hong Kong-owned factories in Guangdong and Hong Kong to enhance energy efficiency and reduce pollutant emissions, thereby improving quality of the regional environment. (ENB)

(c) Others

- Continuing with the review of the Air Quality Objectives (AQOs), consulting via a working group the stakeholders' views about continuous improvement to air quality, and exploring the further tightening of the AQOs. (ENB)

Enhancing Waste Management

(a) Reducing Waste and Promoting Recycling

- Continuing with the preparation for implementation of quantity-based MSW charging and supporting extensive community involvement projects with funding from the Environment and Conservation Fund. (ENB)
- Continuing to encourage public participation in waste reduction at source and improve the recycling facilities to increase the recovery rate of waste materials, thereby alleviating the pressure on landfills and facilitating the sustainable development of the recycling industry. (ENB)
- Promoting the development of the recycling industry through the Recycling Fund, green procurement, infrastructural support, support for manpower training of the industry and implementation of a registration system. (ENB)
- Promoting and implementing the measures and action plan under A Food Waste & Yard Waste Plan for Hong Kong to reduce, recycle and treat food waste and yard waste. (ENB)

- Continuing to mobilise the community to engage in the food wise culture under the Food Wise Hong Kong Campaign and Food Wise Eateries Scheme to prevent and reduce food waste at source, and continuing with the food waste recycling and reduction projects at housing estates and giving more support to non-governmental organisations in collecting surplus food for donation to the needy, with a view to achieving the win-win objective of waste reduction and caring for the needy. (ENB)
 - Continuing to implement administrative regulatory measures to require that waste cooking oils produced by local licensed food premises be recycled through legitimate means, and considering amendments to the Waste Disposal Ordinance to strengthen the regulation of waste cooking oils. (ENB/FHB)
- (b) Practising the “Polluter Pays” principle and implementing Producer Responsibility Schemes
- Continuing with the preparatory work for the two mandatory PRSs on WEEE and Glass Beverage Containers for phased implementation of the schemes. (ENB)
- (c) Developing Waste Treatment and Disposal Facilities
- Pursuing extension of landfills. (ENB)
 - Continuing to take forward the phase 1 project of the OUTFs, monitoring its progress and working out the operational arrangements for the facilities to convert food waste collected into RE and compost products. (ENB)

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- Commencing the tendering exercise for the phase 2 project of the OWTFs. (ENB)
 - Inviting tenders for the Food Waste/Sewage Sludge Anaerobic Co-digestion Pilot Trial and commencing construction works. (ENB)
 - Conducting the tendering exercise and assessing tenders for the phase 1 project of the Integrated Waste Management Facilities for MSW treatment. (ENB)
 - Continuing with the study for the planning of future waste management and transfer facilities to establish the requirements for additional waste facilities for bulk transfer and treatment of solid waste to meet Hong Kong's needs up to 2041. (ENB)

Energy

- Continuing to discuss with the two power companies the terms of the new SCAs as the current ones will expire in 2018. We will take into account the views received during the Public Consultation on the Future Development of the Electricity Market in finalising the new SCAs. (ENB)

Combating Climate Change and Energy Conservation

- Co-ordinating and following up the various measures in the enhanced climate change work plan put forward by the Steering Committee on Climate Change. (ENB)

- Continuing to implement the Charter on External Lighting to encourage owners or persons-in-charge of external lighting installations to switch off external lighting of decorative, promotional or advertising purposes at the preset time, and organising educational and publicity activities to enhance public awareness of issues associated with external lighting. (ENB)
- Continuing to achieve the target of reducing electricity consumption by 5% for government buildings in the financial years from 2015-16 to 2019-20 under comparable operating conditions (taking the 2013-14 financial year as the baseline). (ENB)
- Continuing with the “Energy Saving for All” Campaign to promote energy saving for combating climate change. Our efforts include inviting various sectors to sign up for the Energy Saving Charter to pledge to maintain the average indoor temperature at their premises between 24 and 26 degrees Celsius during mid-summer, switch off electrical appliances when they are not in use and procure energy-efficient appliances. (ENB)
- Expanding the scope of the Mandatory Energy Efficiency Labelling Scheme to cover more types of electrical appliances so as to help the public choose more energy-efficient electrical appliances for energy conservation. (ENB)
- Continuing with the review of the Total Water Management Strategy to ensure sustainable use of precious water resources and timely introduction of new initiatives to strengthen our resilience and preparedness against challenges brought about by climate change. The related work is expected to be completed in 2017. (DEVB)

Improving Water Quality

- Continuing to monitor and assess the progress of improvement in the water quality of Victoria Harbour. (ENB)
- Exploring various practicable options under a consultancy study commenced in January 2016 to enhance the water quality of the near-shore waters of Victoria Harbour, and constructing dry weather flow interceptors and rehabilitate trunk sewers in Kowloon and Tsuen Wan to reduce residual pollutants discharged from various urban activities, misconnection of sewers to storm drains and leakage of aged/broken sewers into Victoria Harbour to further improve water quality and reduce odour problems. (ENB)

Development of Desalination

- Continuing with the design work for the desalination plant at Tseung Kwan O and seeking to complete the design of its associated infrastructure as early as possible. (DEVB)

Water Intelligent Network

- Taking forward gradually the establishment of a comprehensive Water Intelligent Network to continuously monitor the health condition of the water mains network. The work includes continuous installation of sensors in the water distribution network for establishing District Metering Areas (DMAs); undertaking design for the remaining DMAs; and preparing a tendering exercise for an intelligent network management computer system for analysing the data collected from the sensors. We are also preparing to commission a consultant to use data mining technique to predict the possibility of water main bursts for early identification of defective water mains and follow-up actions. (DEVB)

Water Conservation and Reclamation

- Continuing to adopt a multi-pronged approach and more proactive strategy to step up the promotion of water conservation in Hong Kong. In respect of promotion, the Water Conservation Week 2016 was launched in mid-November 2016. Through this large-scale public event, we engaged different sectors of the community, including education, environmental protection, catering, hotels and property management, to promote water conservation. On the education front, the “Cherish Water Campus” Integrated Education Programme was introduced to primary schools at the start of the 2015/16 school year. To date, over 200 primary schools have joined the programme. Furthermore, the design work for the Water Resources Education Centre at Tin Shui Wai for replacing the existing temporary centre has commenced. As regards high water consumption industries, we have developed best practice guidelines for water usage in the catering and hotel industries and encouraged the private sector to conduct review on water usage. (DEVB)
- Continuing to take forward the initiative of the use of reclaimed water for toilet flushing and other non-potable purposes in the north-eastern part of the New Territories (including Sheung Shui and Fanling). The design of advance infrastructure works is almost completed while the study on the financial and legal framework for the supply of reclaimed water is currently underway. (DEVB)

Green Construction

- Implementing measures for low carbon construction, emission reduction and use of recycled materials in public works projects, including:
 - continuing to promote the use of electric vehicles in works projects;
 - continuing to use biodiesel as fuel for construction machineries in construction sites;
 - continuing to adopt green site offices; and
 - continuing to conduct trials on the use of waste glass as fill materials for reclamation. (DEVB)

Supporting Community Green Actions

- Enhancing community participation in environmental protection through district-based environmental education, promotion and publicity programmes, as well as collaboration with District Councils in organising promotion activities on “Use Less, Waste Less” and “clean recycling” at district level. (ENB)
- Continuing with the development of Community Green Stations in phases in each of the 18 districts. (ENB)

Promoting Green Economy

- Actively applying green specifications in government procurement as well as cleansing and vehicle hiring service contracts. We also seek to widen the scope of green procurement in public works projects. (ENB)

- Supporting the local environmental industry in participating in environmental exhibitions, trade missions and related events to promote the industry and explore business opportunities in the Mainland and overseas markets. (ENB)
- Continuing to encourage the public and the business sectors to adopt green procurement practices, suggesting professional bodies, industry groups and trade associations appeal to their members to adopt green procurement practices as far as possible. (ENB)

Promoting Nature Conservation

- Implementing the Convention on Biological Diversity and the Cartagena Protocol on Biosafety. The Government announced the first Biodiversity Strategy and Action Plan for Hong Kong in December 2016. (ENB)

Greening, Landscape and Tree Management

- Delivering higher quality landscape planning and design in the upstream by adopting a multi-pronged approach and proactive strategy for enriching vegetation diversity and enhancing place ecology, while undertaking more diligent vegetation management and maintenance in the downstream. (DEVB)
- Further promoting the concepts of lifecycle planning and life expectancy for trees and continuing to enforce “Right Tree, Right Place”. (DEVB)
- Continuing to improve the current risk management strategy and handle trees in the urban areas according to priorities. (DEVB)

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- Implementing a more effective risk management strategy for stonewall trees. (DEVB)
 - Strengthening co-ordination amongst departments and communication with stakeholders and the public. (DEVB)
 - Continuing to consider how the Handbook on Tree Management published by the Development Bureau in April 2016 should be incorporated into the Code of Practice issued under the Building Management Ordinance (Cap. 344). (HAB)

Heritage Conservation

- Taking forward progressively new funding schemes for public engagement projects and thematic research under the new Built Heritage Conservation Fund, which has also expanded the scope of the Financial Assistance for Maintenance Scheme and raised the grant ceiling for each works project. (DEVB)
- Continuing to work closely with the selected non-profit-making organisations to implement the first four batches of projects under the Revitalising Historic Buildings Through Partnership Scheme which now falls within the funding scope of the Built Heritage Conservation Fund. (DEVB)
- Taking forward the assessment work for Batch V of the Revitalising Historic Buildings Through Partnership Scheme. (DEVB)
- Taking forward the conservation and revitalisation of the Central Police Station Compound in partnership with the Hong Kong Jockey Club. (DEVB)

Safe and Quality Living Environment

- Continuing with the Landslip Prevention and Mitigation Programme to:
 - upgrade and landscape government man-made slopes;
 - mitigate the landslide risk of natural terrain with known hazards; and
 - conduct safety screening studies for private slopes. (DEVB)
- Completing the River Flood Study and putting in place progressively the flood warning systems and mitigation measures for flood-prone rivers in the rural areas. (DEVB)
- Continuing with phase 2 construction works of an underground stormwater storage tank in Happy Valley to relieve further the flood risks in the district and adjacent areas. (DEVB)
- Continuing to review the Drainage Master Plans of Sha Tin, Tai Po, Sai Kung, North Hong Kong Island, Lantau and the outlying islands to assess the flood risks in these districts and formulate improvement measures. (DEVB)
- Continuing with the reconstruction and rehabilitation works of the Kai Tak River to alleviate the flood risks in the areas concerned. (DEVB)
- Continuing with the design of the improvement works for the Yuen Long Town Centre Nullah to enhance the quality of the local environment and the ecological value of the nullah. (DEVB)

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- Continuing with the consultancy study for exploring the practicable options for applying the concept of revitalising water bodies to nullahs and river channels when carrying out large-scale drainage improvement works and drainage planning for new development areas. Apart from achieving efficient drainage, such objectives will promote greening, biodiversity, beautification and water friendliness; build sustainable drainage facilities; and provide a better living environment. (DEVB)
 - Continuing the implementation of the Restored Landfill Revitalisation Funding Scheme for early conversion of the restored landfill sites for recreational, sports, environmental protection and other appropriate community uses. (ENB)

Conservation of Marine Living Resources

- Following up the drafting of legislation to set up a control scheme for the trading of toothfish in Hong Kong to meet the requirements of the Convention on the Conservation of Antarctic Marine Living Resources. (FHB)