

For discussion on
26 June 2017

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Hong Kong's Climate Action Plan 2030+

PURPOSE

This paper briefs Members of the 2030 carbon reduction target for Hong Kong and other key measures as set out in Hong Kong's Climate Action Plan 2030+ ("Action Plan") including the promotion of renewable energy (RE), energy efficiency and conservation (EE&C), and other recent developments in combating climate change.

BACKGROUND

2. In December 2015, 195 countries including China adopted the Paris Agreement with a view to containing global temperature rise to well below 2°C compared with pre-industrial times, while striving to limit it even to 1.5°C¹. 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 recommended setting a target to reduce our carbon intensity² 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

¹ The other key points of the Paris Agreement include:

- (a) countries to prepare their own greenhouse gas emissions reduction targets from 2020 and revise these targets every five years;
- (b) to reach global peaking of greenhouse gas emissions as soon as possible and undertake rapid reductions thereafter; and
- (c) to achieve carbon-neutrality globally sometime after 2051 but before 2100.

² Carbon intensity is calculated by dividing our total carbon emission by Gross Domestic Product. The Central People's Government has committed to reducing its carbon intensity by 60-65% by 2030, whereas our own target for 2020 is to reduce our carbon intensity by 50-60% using 2005 as the base.

SCCC recommendations, the gist of which were covered in his 2017 Policy Address.

3. The Government released the Action Plan in January 2017, setting out in greater detail the key measures on mitigation, adaptation and resilience to combat climate change and the carbon reduction target for 2030. The full text of the Action Plan can be downloaded from: https://www.climateready.gov.hk/files/report/en/HK_Climate_Action_Plan_2030_booklet_En.pdf.

MEASURES ON COMBATING CLIMATE CHANGE

4. In line with international practice, our efforts to combat climate change have been focusing on three major aspects, namely, mitigation, adaptation and resilience. These measures are summarised in **Annex** and some of the key measures are highlighted in the ensuing paragraphs.

(A) Mitigation

Phasing down of coal fired electricity generation

5. As electricity generation accounts for around 70% of our carbon emissions, the most effective vehicle for reducing carbon emission will continue to come from changing our fuel mix. As the power companies will install new gas-fired generating units to replace largely coal-fired generating units in the next few years, it is anticipated that we will be able to meet our carbon intensity reduction target of 2020, with the carbon emission of Hong Kong peaking before 2020 as a result.

6. To achieve the new target of reducing our carbon intensity by 65-70% by 2030, 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.

7. The Government entered into the post-2018 Scheme of Control Agreements (SCAs) with the two power companies on 25 April 2017. The Government has taken into account its environmental targets, namely the commitment to reducing energy intensity by 40% by 2025 when compared with 2005 as set out in the Energy Saving Plan for Hong Kong's Built Environment 2015~2025+ as well as to combating climate change, in drawing up the new SCAs. The new SCAs will last till 31 December 2033. The roughly 15-year term will provide a relatively stable and certain environment for the power

companies to make long term investments especially in the second half of the next decade to replace the retiring coal plants with generating units using natural gas and non-fossil fuel sources to meet our electricity demand, and also our 2030 carbon intensity reduction target to combat climate change.

Promotion of Renewable Energy

Feed-in Tariff and RE Certificates

8. On the development of RE, the Government will introduce Feed-in Tariff (FiT) under the new SCAs to encourage the private sector and the community to consider investing in distributed RE as the power generated can be sold at a rate higher than the normal electricity tariff rate to the power companies to cover the cost of their investments in the distributed RE systems and generation. At the same time, RE certificates will also be sold by the power companies for electricity from RE sources such that buyers can claim that they have consumed electricity generated from clean energy source and their operation or activities are carbon free. The revenue from the sale of RE certificates will be used to alleviate the overall tariff impact of the FiT scheme for all consumers. The Government has also reached agreement with the power companies to facilitate and improve the distributed RE grid connection arrangements. In addition, the Government will put in place incentive schemes to encourage the power companies to develop RE and facilitate the development of distributed RE.

Enhanced RE Targets for New Government Buildings

9. For government buildings, the Government has raised the RE target this year for new schools and educational buildings, new open space and public park projects and the roof space of government buildings. Besides, existing government buildings undergoing major retrofitting and/or renovation works are required to seek to incorporate RE technologies if and where technically and financially practicable.

10. Where appropriate, display panels should be installed to show the amount of RE generated at prominent locations in new schools and educational buildings, as well as open spaces and public parks to promote the concept of RE to the public.

Designated Funding for Small Scale RE Projects

11. To support the development of RE projects, \$200 million has been earmarked from 2017-18 for bureaux and departments (B&Ds) to implement small scale RE projects costing less than \$30 million each.

Floating Photovoltaic (PV) Panel

12. To explore the feasibility of developing floating PV panel system in local reservoirs and assess its effectiveness, the Water Supplies Department (WSD) has set up a pilot project at Shek Pik Reservoir. A similar pilot project will be conducted at the Plover Cove Reservoir in the third quarter of 2017. One of the objectives of the pilot projects is to assess whether the floating PV panels can help reduce evaporation as well as improve the water quality. WSD has also engaged a consultant to conduct a feasibility study on large-scale implementation of floating solar farms at the impounding reservoirs.

Promotion of Energy Saving

13. Buildings account for some 90% of electricity consumption and over 60% of greenhouse gas (GHG) emissions in Hong Kong. Raising the energy performance of buildings is an important measure to mitigate the negative effect of climate change.

14. Under the new SCAs, existing incentive schemes in relation to promotion of EE&C will be expanded while new elements will be introduced. More funds will be available under the energy efficiency funds (EEFs) of the power companies to support the carrying out of retrofitting and retro-commissioning³, including the implementation of building-based smart/IT technologies to enhance the energy efficiency of a wider coverage of buildings. The power companies will also set up a new fund with part of the incentives they earned from achieving targets under energy audits, saving from energy audits and EEFs-related work to further support other EE&C programmes, such as encouraging customers to upgrade their electrical appliances to more energy-efficient models, as well as other programmes to support green building initiatives, the use of RE and disadvantaged groups. A new five-year energy saving target will be set based on the power companies' achievement in relation to energy saving measures under the new SCAs. The power companies will also introduce demand response programmes to help reduce maximum demand.

³ Retro-commissioning is a systematic process to periodically check an existing building's performance. The process identifies operational improvements that can save energy and thus lower energy bills.

15. In the public sector, the Government has been taking the lead to reduce electricity consumption in government buildings. As announced in the 2015 Policy Address, the Government has set the target to reduce the electricity consumption of government buildings by 5% from financial year (FY) 2015-16 to 2019-20 under comparable operating conditions, using FY2013-14 as the base. We have introduced a series of measures, including the conduct of energy audits for major government buildings with comparatively high annual electricity consumption and more electricity saving potential to identify energy management opportunities. About 350 major government buildings which consume about 90% of the electricity of all government buildings have been audited since 2015. As announced in the 2017 Policy Address, at least \$500 million has been earmarked from FY 2017-18 onwards to help B&Ds implement energy saving projects.

District Cooling System (DCS) in New Development Areas

16. Air conditioning accounts for 30% of Hong Kong's electricity consumption on average. To improve the environment and conserve energy in Hong Kong, one of the major Government's initiatives is to reduce energy consumption on air-conditioning in buildings.

17. The DCS is an energy-efficient air-conditioning system as in general it consumes 35% and 20% less electricity as compared with traditional air-cooled air-conditioning systems and individual water-cooled air-conditioning systems using fresh water cooling towers respectively.

18. The DCS in the Kai Tak development is the first of its kind in Hong Kong with an estimated 85 million kWh annual saving in electricity consumption, or 59 500 tonnes annual reduction of carbon dioxide emission. DCS obviates the need for roof top chiller plants, allowing greater flexibility in designing the building envelope and provision of green building features, and reduces heat island effect and noise impact. Environment Bureau (ENB), with assistance of relevant departments including Electrical and Mechanical Services Department (EMSD) and Civil Engineering and Development Department (CEDD), will continue to consider the provision of DCS in New Development Areas (NDAs) and redevelopment areas (RAs) with regard to factors such as cooling demand, environmental impact, financial viability and feasibility. Initial feasibility studies on provision of DCS are being conducted for Tung Chung New Town Extension, and topside development at the Hong Kong Boundary Crossing Facilities Island of the Macao-Zhuhai-Hong Kong Bridge.

The studies on provision of DCS at other NDAs and RAs will be arranged as and when appropriate.

Carbon Management

19. From 2017, B&Ds are required to enhance carbon management by conducting regular carbon audits on major government buildings with annual electricity consumption of more than 500 000 kWh with a view to exploring room for carbon reduction and disclosing their carbon emission information. In parallel, ENB has published a set of nine carbon audit guidebooks covering different types of premises⁴ to provide guidance to B&Ds and the private sector to carry out carbon audits. In the next few months, ENB will co-organise with the Hong Kong Exchanges and Clearing Limited (HKEX) a carbon audit seminar for listed companies at the Eco Expo Asia 2017.

Transport

20. GHG emissions from transport make up about 16% of the total emissions in Hong Kong. The Government has been mitigating GHG emissions from transportation through various means, a key element of which is the expansion of the railway network. We are also promoting use of electric vehicles which can help improve roadside air quality and reduce GHG emissions. Going forward, we will continue to foster a green community by promoting cycling and walking for short-distance commuting between public transport stations and living places or offices, thereby minimising the need for mechanised transport for “first mile” and “last mile” connections.

21. Owing to road safety considerations, the Government does not encourage cycling as a mode of transport in urban areas. Instead, the Government fosters a “bicycle-friendly” environment in new towns and NDAs where the traffic density is generally lower and where there are more comprehensive cycle track networks. The Transport Department (TD) has commissioned a consultancy study on improving the cycle track networks in nine new towns⁵ and on reviewing the feasibility of relaxing existing bicycle prohibition zones. The first batch of improvement works involving around 100 sites (including provision of additional bicycle parking spaces and enhancement of safety at

⁴ Covering offices, schools, sports centres, swimming pools, public markets, healthcare facilities, fire stations, postal facilities and community halls. See <https://www.carbon-footprint.hk/node/347>

⁵ The nine new towns are Shatin / Ma On Shan, Tai Po, Sheung Shui / Fanling, Yuen Long, Tin Shui Wai, Tuen Mun, Tsuen Wan, Tung Chung and Tseung Kwan O.

cycle tracks) have started since 2016 for completion in two years. TD and the Highways Department (HyD) will work on the remaining 800 sites.

22. As regards walkability, our vision is to enhance the walkability of our city for Hong Kong people to commute, to connect and to enjoy, making walking an integral part of Hong Kong as a sustainable city. Under the “Walk in HK” initiative, TD will conduct a “Consultancy Study on Enhancing Walkability in Hong Kong”. The Government has set aside about \$22 million for this study. It will review and update the relevant planning standards and design in relation to pedestrian environment and facilities, study how to relax the requirements for adding covers to public walkways as stipulated in the Transport Planning & Design Manual, and enhance accessibility of pedestrian networks so that at-grade footways, footbridges and subways will be joined up in a coherent manner. Two pilot areas will be selected to test out innovative measures for a comfortable walking environment.

23. The Government is also pressing ahead with the implementation of a total of 205 items under the Universal Accessibility Programme. As at end-May 2017, 57 items are completed, 124 items are under construction, and 11 items are anticipated to commence in 2017-18. The remaining items will commence as soon as possible upon completion of detailed design and other related work.

24. As at end-May 2017, of the 18 ranked hillside escalator links and elevator systems proposals, two are completed and opened for public use, one is partly completed and opened for public use, two are under construction, and one is about to commence construction. Seven proposals are at different stages of study and design. In particular, the Government is now seeking funding approval from the Legislative Council within this legislative session to take forward the construction works for the Lift and Pedestrian Walkway System between Tai Wo Hau Road and Wo Tong Tsui Street. The Legislative Council Panel on Transport was consulted in April 2017 and supported the project.

(B) Adaptation

25. Adaptation is the response to reduce the vulnerability to climate change, especially extreme weather events and sea level rise. In the local context, Hong Kong is most likely to face more extreme heat and storms and the associated risks, such as landslides and flooding, as well as the occasional extreme cold and possible droughts.

Climate Change Working Group on Infrastructure

26. Climate change has profound effect on our infrastructure. In order to tackle the impact on infrastructure within the ambit of works departments more holistically, a “Climate Change Working Group on Infrastructure” (CCWGI) chaired by CEDD with representatives from the Architectural Services Department (ArchSD), the Drainage Services Department (DSD), EMSD, HyD, and WSD was formed in June 2016. It has made good progress in aligning the design standards and enhancing the resilience of infrastructure under works departments:

- (a) the review on the projections of rainfall and sea level rise together with the related design standards for infrastructure is on-going and targeted for completion by end 2017;
- (b) a consultancy study on design considerations of infrastructure under extreme temperatures is planned to be completed by 2018; and
- (c) a strategic study on the resilience of existing critical infrastructure under the effect of climate change and extreme weather is being undertaken for completion by end 2018.

Stormwater Management

27. DSD has been developing a number of initiatives for enhancing resilience against climate change including identifying concrete lined river channels with high potential and opportunity for revitalisation, following the concept of “sponge city” which mimic a natural water cycle, and exploring the feasibility of applying the concept of “floodable area”. It will also continue to carry out drainage improvement works⁶ and conduct research with a view to developing long term plans, guidelines and regulations for revitalisation of water bodies and “blue-green infrastructure”.

Total Water Management

28. Apart from protecting our local water resources and extending our seawater network for toilet flushing, WSD has been taking forward multi-faceted measures in respect of water conservation including promotion and education programmes for different sectors and groups in the community, water loss management initiatives such as the Water Intelligent Network and local yield

⁶ One example is the Happy Valley Underground Stormwater Storage Scheme which has been completed recently.

maximisation projects like the inter-reservoirs transfer scheme undertaken by DSD. It has also been developing alternative water resources including seawater desalination, reclaimed water and grey water reuse.

Hong Kong 2030+

29. The “Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030” (“Hong Kong 2030+”) formulated by the DEVB and Planning Department (PlanD) has recommended a smart, green and resilient (SGR) city strategy to respond to climate change such as extreme weather, flooding and sea level rise. The SGR city strategy spans across land use planning, transport, infrastructure and the built environment.

30. Besides, “Hong Kong 2030+” continues to pursue an integrated land use-transport-environment approach to promote more sustainable urban mobility with lower carbon emission. One of the key strategic directions of “Hong Kong 2030+” is to reshape the travel pattern to reduce vehicle-based commuting needs through spatial planning. More employment-related uses would be planned in the NDAs and outside the main urban areas to bring jobs closer to homes. Moreover, population and activities would be planned within the catchments of public transport nodes, with the promotion of walking and cycling to reduce vehicle-based travel and hence carbon footprint.

Promoting Green Building

31. Since 2011, registration for certification under BEAM Plus Assessment conferred by the Hong Kong Green Building Council has been amongst the prerequisites for an applicable project to be eligible for gross floor area (GFA) concessions for its green and amenity features. In order to further promote green building in the private sector, the Buildings Department (BD) will commission a consultancy study in 2017 to review the current arrangement. The study will, among others, explore the feasibility of tightening the prerequisite by requiring a project to meet certain minimum environment standard before being eligible for GFA concessions for its green and amenity features, and adopting a performance-based or site-specific approach for determining the cap for GFA concession.

Monitoring of Disease

32. The Centre for Health Protection of the Department of Health has maintained the Public Health Information System, Communicable Disease Information System and different surveillance systems to monitor various diseases, including those with epidemiology which may vary with climate

change, such as heat-related diseases, food poisoning and mosquito-borne diseases.

(C) Resilience

33. Resilience covers capacity building for the community and even individuals to cope and grow in the face of climate change and extreme weather.

Contingency Planning and Emergency Response

34. Under the Government Emergency Response System, the Director of Home Affairs is the Disaster Relief Coordinator who is supported by the Headquarters Emergency Coordination Centre (HQECC) of the Home Affairs Department (HAD) and the District Emergency Coordination Centres (DECCs) of the 18 District Offices. HQECC acts as a channel of communication with DECCs, other B&Ds and the Emergency Monitoring and Support Centre of the Government Secretariat. It has a hotline to answer public enquiries.

35. HAD will also liaise with local communities on emergency evacuation and provision of temporary shelter (e.g. in flood prone areas) and working with districts on risk-proofing.

36. The Security Bureau (SB) will continue to work with Hong Kong Observatory (HKO) and other relevant departments to review and update the Contingency Plan for Natural Disasters as appropriate, in view of more frequent and more severe extreme weather events.

37. Under the initiative of the Task Force on Emergency Preparedness set up by the DEVB, a Geographic Information System (GIS)-enabled ‘Common Operational Picture (COP)’ is currently under development by CEDD to enhance the emergency information sharing and support mechanism for dealing with multiple hazards. COP is a new map-based common IT platform with GIS functions for sharing real-time emergency information on landslides, flooding and major road incidents handled by various departments. It will incorporate related information such as weather information and status of temporary shelters to provide a comprehensive platform for emergency responses.

Financial Sector

38. On green finance, the Financial Services and the Treasury Bureau (FSTB) will keep in view the global and national development in green finance and strengthen efforts to promote our competitive capital market, highlight our

edge in developing green financial products, and encourage the participation of the financial sector.

39. FSTB will also ensure the adequacy of the contingency plans so that important financial infrastructure, the monetary system, the settlement system, as well as the securities and futures trading markets will continue to function in an orderly manner, and minimise any impact on Hong Kong's financial industry arising from extreme climate events.

Occupational Safety and Health

40. The Labour Department (LD) is concerned about the occupational safety and health of outdoor workers under inclement weather, in particular the risk of heat stroke for employees working in a hot environment. They have formulated and launched measures with a view to preventing heat stroke at work. They will continue to enhance the safety awareness of employers and employees on work under other inclement weather situations (including rainstorms and cold weather).

Climate Projection

41. HKO completed a Hong Kong-specific climate projection study on extremely warm-and-humid days in the 21st century and published its findings on its website in May 2017 to enhance public awareness of the implication of climate change on Hong Kong⁷. The projections show that the annual number of extremely warm-and-humid days and the annual maximum number of consecutive extremely warm-and-humid days in Hong Kong are expected to increase in the 21st century.

PUBLICITY AND PUBLIC EDUCATION

42. To raise public awareness of the importance of combating climate change, and to highlight the key measures that the Government will introduce to combat climate change, ENB released a leaflet, an Announcement in the Public's Interest (API), short videos, a poster and a new climate change website⁸ on 20 January 2017. By the end of May 2017, the new website has attracted more than 37 000 visits and the various short videos have earned over 2 000 000 views through various channels including the social media such as Facebook and

⁷ http://www.weather.gov.hk/climate_change/proj_hk_wet_bulb_e.htm

⁸ <https://www.climateready.gov.hk>

YouTube. Meanwhile, the Environment and Conservation Fund Committee approved in February 2017 the Government's proposal to set aside \$10 million for subsidising non-profit-making organisations to carry out public education activities and projects with the theme of climate change.

43. ENB launched the 2017 Energy Saving for All Campaign in May this year. Apart from the Energy Saving Charter which encourages signatories to maintain the average indoor temperature at their premises between 24°C and 26°C during the mid-summer months and has been signed by over 3 300 organisations, a new 4Ts Charter has also been introduced. Over 1 000 premises have pledged to set an energy saving target with a timeline, ensure transparency to track the energy saving result, and encourage their staff and contacts to work together on the energy saving target. The Campaign also comprises the Energy Saving Championship Scheme 2017, which aims to give recognition to exemplary organisations with outstanding performance in the application, planning and promotion of energy saving.

44. The Education Bureau (EDB) launched an Inter-school Cross-curricular Project Competition on Climate Change between October 2016 and May 2017. The Competition was well received with participation from a total of 103 primary and secondary schools. As a follow-up event to the Competition and to enhance teachers' and students' awareness of climate change, EDB is planning to invite local and overseas experts, government departments, green groups and local schools to organise a series of seminars, workshops, visits and field studies on climate change. EDB is also planning to develop climate change learning and teaching resource packages for Hong Kong schools. EDB issued a circular on "Environmental Policy and Energy Saving Measures in Schools" to all schools in April 2017 to remind schools of the importance of formulating a school-based environmental policy and implementing measures for energy saving, and provide updates on the related information and resources.

45. HKO launched in November 2016 an on-line virtual tour of the "Climate Change • Our Response" Exhibition to further strengthen public education on climate change. Moreover, a 13-episode weekly radio programme "Climate Watcher", which was a collaboration between HKO and Radio Television Hong Kong (RTHK), was broadcast on RTHK Radio One from 1 April to 24 June 2017, to promote public understanding on climate change and enhance preparedness to meet climate change challenges.

46. To commemorate the World Environment Day, the Environmental Campaign Committee launched its first ever outdoor "Zero Carbon Fun Fair" on 11 June 2017. The event, with the theme "Climate Ready and Green Living",

was a conglomerate of local communal activities related to the environment and about 40 non-government organisations, green groups, public utilities and schools jointly promoted environmental awareness among the public.

WAY FORWARD

47. The Government will continue to 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.

ADVICE SOUGHT

48. Members are invited to note the 2030 carbon reduction target and the key measures of the Action Plan.

Environment Bureau
26 June 2017

Key mitigation, adaptation and resilience measures

(a) Mitigation

Revamping Fuel Mix for Electricity Generation

- Phase down coal-fired generating units as they reach their normal retirement life and replace them with gas units or generating facilities using non-fossil fuels.

Wider Use of Renewable Energy (RE)

- Set higher targets for new government buildings in the use of RE.
- Allocate \$200 million for provision of RE installations at existing government buildings, venues and facilities starting from 1 April 2017.
- Take forward RE projects at government infrastructure, including the pilot schemes of installing solar power devices at selected pumping stations / sewage treatment works, and reservoirs.
- Explore the use of suitable existing sewage treatment facilities for food waste-sewage sludge anaerobic co-digestion as an additional part of the network for organic resource recovery treatment.
- Work with power companies to promote the development of RE in the next Scheme of Control Agreement (SCA) period, including encouraging the development of distributed RE through the introduction of Feed-in Tariff (FiT) and RE certificates schemes, and improving the grid connection arrangements for distributed RE systems. In addition, the current incentive arrangement in relation to RE will be revamped under the new SCA period to incentivise the power companies in developing RE and facilitating their customers to do so.
- Conduct a study on the potential of photovoltaic development in Hong Kong taking into account possible constraints, and another study to review the adoption of co-generation / tri-generation in other cities and the key enablers such as supporting policies, legislation, finance, technical and other institutional arrangements.

Promotion of Energy Efficiency and Saving

- Set the target of reducing Hong Kong's energy intensity by 40% by 2025.

- Continue to make use of the dialogue platform to encourage stakeholders to pursue energy saving in buildings under the “4Ts” framework (i.e. targets, timelines, transparency and together).
- Set the target of 5% saving in the electricity consumption of government buildings in five years from 2015/16 to 2019/20 under comparable operating conditions, using the electricity consumption in 2013/14 as the base.
- Earmark not less than \$500 million for B&Ds to take forward energy saving projects from 2017/18 to 2021/2022.
- Conduct a consultancy study on retro-commissioning to gauge the energy saving potential for several existing government buildings and publish guidelines for reference by departments as well as private developers and property management companies alike.
- Under the new SCAs, incentive schemes under the current SCAs will be expanded while new elements will be introduced to further encourage the power companies to promote energy efficiency and conservation.
- Promote energy saving and enhance energy efficiency via a new round of “Energy Saving for All” Campaign in 2017. The Campaign comprises, among others, a new 4Ts Charter which aims to promote energy saving under the 4Ts approach: setting an energy saving “target” with a “timeline”, ensuring “transparency” to track the energy saving result, and encouraging people to work “together”. Up to now, over 1 000 premises including shopping malls, office / commercial / industrial buildings, housing estates / residential buildings, offices, shops / restaurants / supermarket, non-governmental organisations, schools, hotels, hospitals, etc. have pledged to join the Charter.
- Continue to consider the provision of District Cooling Systems in the NDAs and redevelopment areas to foster low carbon development.
- Encourage departments to apply for BEAM Plus certification for existing buildings and interior renovation to showcase Government’s commitment to green building.

Transport

- Develop railway transport to reduce the reliance on road-based transport, alleviate road congestion and lessen vehicle-induced air pollution.
- Continue to rationalise franchised bus services.
- Continue to promote electric vehicles (EV) and strengthen EV charging facilities.

- Foster a “bicycle-friendly” environment in new towns and new development areas.
- Promote walking as a commuting mode.

Carbon Audit

- Conduct regular carbon audits on major government buildings with annual electricity consumption of more than 500 000 kWh a view to exploring room for carbon reduction.

(b) Adaptation

Planning, infrastructure, stormwater management, and water saving

- Set up a Climate Change Working Group on Infrastructure to review overseas experience in combating the effect of climate change on infrastructure; oversee the revision of design standards by works departments; and examine the scope of enhancement works necessary for strengthening the resilience of infrastructure under works departments.
- Strengthen the stormwater management and continue to carry out drainage improvement works, explore the feasibility of applying the concept of “floodable area” to improve Hong Kong’s resilience, and revitalise water bodies.
- Investigate the increased use of “blue-green infrastructure” to further improve the flood resilience of the city.
- Actively promote water conservation in the community and develop alternative water resources which are capable of withstanding the impact of climate change, including the exploration of seawater desalination, reuse of reclaimed water and grey water, introduction of water intelligent network, and implementation of inter-reservoirs transfer scheme.
- Recommend in “Hong Kong 2030+” a city strategy based on smart, green and resilient principles to respond to climate change; and a conceptual spatial framework with better home-job balance to reduce vehicle-based commuting needs.

Finance

- Enhance the assessment of climate change risks, and encourage local insurers to develop and launch appropriate extreme climate insurance solutions.

Health, food and agriculture

- Monitor various diseases including those with epidemiology which may vary with climate change, such as heat-related diseases, food poisoning and mosquito-borne diseases.
- Fund projects or research work that will help increase agricultural productivity or output, thereby enhancing the overall competitiveness of the agricultural industry under the Sustainable Agricultural Development Fund.

Climate change projection, biodiversity, and R&D

- Examine the scope for enhancing forecast of high impact weather, extended weather outlooks and climate projections, with a view to providing scientific inputs to support B&Ds and stakeholders (e.g. public utilities) in policy making and action planning.
- Promote enrichment of diversity of urban vegetation assets.
- Promote research and development on smart technologies which could help combat climate change.

(c) Resilience

- Liaise with local communities on emergency evacuation and provision of temporary shelter (e.g. in flood prone areas).
- Coordinate Government's information dissemination to the public via the media and other communication channels on the impact of climate change and extreme weather events; advising the public what action they should take to protect their lives and properties.
- Continue to review and update the Contingency Plan for Natural Disasters.
- The Inter-departmental Task Force on Emergency Preparedness to develop a Geographic Information System (GIS)-enabled "Common Operational Picture (COP)" to enhance the emergency information sharing and support mechanism for dealing with multiple hazards and for sharing emergency information on landslides, flooding and major road incidents.
- Continue to enhance the occupational safety awareness of employers and employees under inclement weather situations.
- Assess the needs of the vulnerable / disadvantaged groups and render them assistance so that they may get better prepared for cold spells and heat waves.