For Information on 28 April 2014

# LEGISLATIVE COUNCIL PANEL ON ENVIRONMENTAL AFFAIRS

### Report of Public Consultation on Hong Kong's Climate Change Strategy and Action Agenda

#### PURPOSE

This paper informs Members of the feedback from the public consultation on Hong Kong's climate change strategy and action agenda, as well as Government's response and actions in taking forward the strategy and action agenda.

#### BACKGROUND

2. The Environmental Protection Department (EPD) commissioned a consultancy study in 2008 to assess the impacts of climate change in Hong Kong, and to recommend long-term strategies and measures to reduce greenhouse gas (GHG) emissions as well as to adapt to the unavoidable effects of climate change. The study recommended the adoption of a carbon intensity reduction target of 50% to 60% by 2020 when compared with the 2005 level. To achieve the proposed target, the study also recommended the adoption of an action agenda comprising various GHG mitigation and climate change adaptation actions.

3. On 10 September 2010, the Government launched a public consultation on the proposed strategy and action agenda. The public consultation period ended on 31 December 2010. While we were consolidating the views received upon conclusion of the public consultation, the Fukushima nuclear incident took place as a result of the earthquake and tsunami hitting northeastern Japan. We had reviewed the fuel mix proposal and launched the public consultation exercise on fuel mix in mid-March

#### 2014.

4. We are now in a position to announce the results of climate change strategy and action agenda public consultation.

#### **KEY FINDINGS OF PUBLIC CONSULTATION**

#### Overview of Public Responses

5. A total of 1 226 written submissions were received during the consultation period. These included 1 116 submissions from individuals and 110 submissions from groups/organizations. In addition, two green groups, namely the Greenpeace and WWF-Hong Kong, had each prepared a standard letter/e-mail for the general public to support their views on no nuclear power and on improving energy efficiency. A total of 2 343 and 4 198 such standard letters/e-mails prepared by these two organizations respectively were received during the consultation period.

6. We set out nine questions on key consultation points in the consultation document to solicit specific views of the community on our proposed strategy and action agenda. Summaries of analysis of responses to these questions are given in <u>Annex A</u>.

7. The feedback in general showed that Hong Kong community was concerned about climate change. Almost all respondents considered that climate change was affecting us, and they were positive about taking actions to reduce our carbon footprint and agreed that the community should conserve energy and use greener transport to reduce local GHG emissions. The majority of the respondents agreed that Hong Kong should adopt a carbon intensity target to control our GHG emissions, and they agreed to adopt the proposed carbon intensity reduction target of 50% to 60% by 2020 when compared with the 2005 level. Also, almost all respondents agreed that we should strengthen regional co-operation in the Pearl River Delta Region in moving along the low carbon pathway and aspire to become one of the greenest cities in China.

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8. On the proposed action agenda for achieving the proposed carbon intensity reduction target, the majority of respondents indicated support to the proposal. Also, almost all respondents expressed that they were prepared to make changes to their lifestyle to help combat climate change.

9. On awareness of climate change, almost all respondents noticed occurrence of more extreme weather in Hong Kong, and some respondents considered that their knowledge on climate change was not enough.

#### Key Comments and Suggestions on the Action Agenda

10. Apart from the responses to those key consultation points set out in the consultation document, there were also comments and suggestions received in connection with the proposed mitigation action agenda and adaptation options. The key comments and suggestions are summarized below.

#### (a) Maximising Energy Efficiency

Many of the respondents suggested that the Government should further tighten the Building Energy Codes and take the lead to improve energy efficiency in our buildings. It was also suggested that the Government should put more effort to improve energy efficiency in existing building stocks, such as by providing incentives. Moreover, some expressed that the Government should expand and encourage the use of district cooling system, review the existing overall thermal transfer value (OTTV) standards, expand the Energy Efficiency Labelling Scheme to all electrical appliances and commercial electrical appliances, etc.

#### (b) Greening Road Transport

Most of the respondents opined that the Government should encourage the use of electric vehicles (EVs) and facilitate expansion of charging facilities for EVs. In addition, some suggested that the Government should adopt the use of more environmentally friendly engines for conventional motor vehicles, and develop more pedestrian schemes and facilitate cycling as a means of green transport.

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#### (c) Promoting Use of Clean Fuels for Motor Vehicles

Many of the respondents suggested that the Government should legislate petrol and diesel to be blended with ethanol or biodiesel, and should take the lead to use biodiesel in the Government's fleet.

#### (d) Waste-related Issues

Many of the respondents expressed that the Government should further encourage waste reduction at source, waste separation and recycling; and the Government should legislate to implement the polluter-pays principle through municipal solid waste charging.

### (e) Revamping Fuel Mix for Electricity Generation

While a majority of the respondents<sup>[1]</sup> supported the then proposed fuel mix, respondents also suggested that the Government should consider possible safety improvements on increasing the use of nuclear energy and should conduct detailed assessment of using more nuclear energy. Moreover, the Government should assess the impact on electricity tariff of using more nuclear energy. There were views suggesting that the Government should encourage the use of renewable energy.

11. On adaptation options and measures, many of the respondents<sup>[2]</sup> suggested that the Government should consider and prepare for water resources and flood risks. Some suggested that Hong Kong should promote more greening, as well as conserve biodiversity. There were also views that the Government should secure energy supply, set up a good database and research system for health effects, and strengthen contingency plans to respond to the emerging climate crisis.

#### Feedback of Advisory Bodies

12. We consulted a number of advisory bodies including the Advisory Council on the Environment, the Energy Advisory Committee, the Council

<sup>&</sup>lt;sup>1</sup> Please refer to the summary of responses to Question 4 in Annex A.

<sup>&</sup>lt;sup>2</sup> Please also refer to the summary of responses to Question 9 in Annex A.

for Sustainable Development, the Small and Medium Enterprises Committee and the Digital 21 Strategy Advisory Committee. Members of these advisory bodies were in general supportive of the proposed strategy and action agenda. Some members advised that it was important to work out a series of response strategies on demand-side management. They also opined that education and public awareness were of vital importance in mobilising concerted community-wide efforts in combating climate change and promoting green living. Some members expressed concern about the electricity tariff of increasing the use of natural gas in fuel mix proposal.

# IMPLEMENTATION OF THE CLIMATE CHANGE ACTION AGENDA

13 Taking into account the comments and suggestions received in the public consultation, the Government has been pursuing measures for reducing GHG emission and adaptation to climate change in the proposed action agenda. An Inter-departmental Working Group on Climate Change has been set up to, among other things, monitor the implementation of these measures. A more detailed account of the implementation of these measures is at <u>Annex B</u>. On the supply side, taking into account the latest developments, the Government launched a 3-month consultation in mid-March 2014 on the future fuel mix for electricity generation. We will chart the way forward having regard to the outcome of the consultation.

#### WAY FORWARD

14. It is clear from the public consultation that there is a broad-based public support to the proposed Hong Kong's climate change strategy and action agenda for the coming decade, including our proposal on a carbon intensity reduction target for Hong Kong by 2020. We will continue to work on achieving the 50% to 60% carbon intensity reduction target by 2020, as compared with 2005 level.

Environment Bureau April 2014

#### Annex A

### Summaries of Analysis of Responses to the Questions on Key Consultation Points

We have carefully examined the 1 226 written submissions received and views collected during the public consultation. These included 1 116 submissions from individuals and 110 submissions from groups/organizations. Analysis of the responses to the nine questions on key consultation points in the consultation document on climate change strategy and action agenda are summarized in below:

#### Question 1

# Do you notice more extreme weather in Hong Kong, such as more hot days and heavier rainfall? Do you think climate change is affecting us?

Almost all the respondents noticed more occurrence of extreme weather in Hong Kong, such as hotter summer and heavier rain, and they considered that climate change is affecting us.

#### Question 2

### In the light of international and national developments, do you agree that Hong Kong should adopt a carbon intensity target to guide our future actions to control GHG emissions?

The majority of the respondents agreed Hong Kong should adopt a carbon intensity target to guide our future actions to control GHG emissions. However, some suggested Hong Kong should consider a target on absolute GHG emissions reduction as Hong Kong was a well developed economy.

#### **Question 3**

# Do you agree that the community should conserve energy and use greener transport to reduce local GHG emissions? What do you think you could do as an individual or as a business enterprise?

Almost all respondents agreed the community should conserve energy and use greener transport to reduce our GHG emissions. As an individual, some respondents suggested turning off electrical appliances when they were not in use, recycling all recyclable materials, taking a quick shower, making more trips on public transports, etc. As a business enterprise, some respondents suggested purchasing energy efficient electrical appliances with energy labels, setting air-conditioners at 25.5°C, using as little paper as possible, etc.

#### Question 4

Will you agree to the proposed strategy of reducing use of coal and increasing use of natural gas and non-fossils in meeting local electricity demand? Do you think the proposed fuel mix is appropriate for Hong Kong in 2020, with regard to such considerations as better environment, availability, reliability and cost?

The proposed strategy of reducing use of coal and increasing use of natural gas and non-fossils in meeting local electricity demand was supported by the majority of the respondents. However, some respondents expressed concern about high cost of using natural gas and the stability and availability of natural gas and non-fossil fuels. There were also views that natural gas was a non-renewable energy and it would also emit air pollutants and carbon dioxide.

The majority of the respondents agreed that the proposed fuel mix was appropriate for Hong Kong in 2020. Some of the respondents, including the two green groups, Greenpeace and WWF-Hong Kong, which prepared standard e-mails/letters<sup>[3]</sup> for the public to support their views, held different views that the Government should consider the safety of using nuclear energy, as well as the life cycle of nuclear plant, particularly the handling of spent nuclear fuels. There was also suggestion that Hong Kong should use more renewable energy and actively promote energy conservation to reduce carbon intensity, and the fuel mix proposal should be implemented before 2020 or as early as possible.

#### Question 5

# To build Hong Kong as a green city, do you agree to the proposed target to reduce the carbon intensity of Hong Kong by 50-60% by 2020?

The majority of the respondents agreed that the Government should adopt the proposed carbon intensity reduction target of Hong Kong by 50-60% by 2020. On the other hand, some considered that our reduction target should focus on absolute

<sup>&</sup>lt;sup>3</sup> Two green groups, namely the Greenpeace and WWF-Hong Kong, had each prepared a standard letter/e-mail for the general public to support their views. A total of 2 343 and 4 198 such standard letters/e-mails prepared by these two organizations respectively were received during the consultation period.

GHG reduction, and some considered that the time frame was too short for achieving the target.

#### Question 6

# Do you support the Government's proposed direction and action agenda in achieving the proposed carbon intensity reduction target?

The majority of the respondents supported the Government's proposed direction and action agenda with a view to further considering energy efficiency and expanding the use of renewable energy in Hong Kong. On the other hand, some considered that we should not increase the use of nuclear energy. Some expressed that the Government should have a more concrete implementation plan.

#### Question 7

# Do you agree that we should strengthen regional co-operation in the Pearl River Delta Region in moving along the low carbon pathway, and aspire to become one of the greenest cities in China?

Almost all respondents agreed that strengthening regional co-operation in the Pearl River Delta (PRD) Region was vital and Hong Kong should aspire to be one of the greenest cities in China, as well as a great green city of the world. Some expressed that being closely connected with PRD Region, the emission in PRD would influence Hong Kong greatly and we could create more comprehensive strategies and contribute to low carbon development.

#### Question 8

# Do you think that as an individual, you know enough about climate change? Are you prepared to make changes to your lifestyle to help combat climate change? If so, how do you think you can contribute?

Only some respondents responded to the first part of this question. Many of them expressed that climate change was a complex and intricate issue and some respondents considered that their knowledge on climate change was not enough. Some suggested the Government should enhance education and promotion through seminars or exhibitions. Almost all those who responded to this question expressed that they were prepared to make changes to their lifestyle to help combat climate change, such as by using more public transports, reducing the use of air conditioning, recycling waste and reusing paper, refusing the use of disposable utensils, etc.

#### Question 9

# How do you think climate change will impact the vulnerable areas as identified in this consultation paper? What are your views on the proposed framework of adaptation options?

Many of the views cut across different areas and sectors. There were views that the Government should formulate corresponding solutions and action plans for the proposed framework of adaptation options. Some respondents however considered that the proposed framework of adaptation options was too general and there was insufficient information about how the vulnerable areas would be affected, and the timeframes for implementing the proposed options.

#### Annex B

#### **Implementation of Climate Change Action Agenda**

#### Part 1 Greenhouse Gas Reduction Measures

#### (a) <u>Maximising Energy Efficiency</u>

(i) Expanding the scope and tightening the requirements of the Building Energy Codes

1. The Code of Practice for Energy Efficiency of Building Services Installation (or Building Energy Code (BEC)) is regularly reviewed at 3-year intervals, with a view to further tightening the minimum energy performance standards required of major building services installations. The design standards of lighting installations in the BEC were tightened by 10% to 15% in February 2014 while the comprehensive review of the design standards of the whole BEC will be completed by 2015.

 (ii) <u>Reducing energy demand in new buildings by various means such as</u> <u>tightening the OTTV standards and promoting wider adoption of</u> <u>green roofing</u>

2. To save electricity consumption in air-conditioning for hotels and commercial buildings, the Building (Energy Efficiency) Regulation and relevant guidelines require external walls and roofs of these buildings to be designed and constructed with suitable overall thermal transfer value (OTTV). The Buildings Department (BD) is currently exploring the expansion of OTTV standards to cover residential buildings.

3. The Government has also promulgated a set of Sustainable Building Design Guidelines under which developers may obtain gross floor area (GFA) concessions in new buildings if sustainable design elements are adopted and energy consumption information are provided. We have also promoted the Building Environmental Assessment Method (BEAM) Plus system by requiring all new private buildings to register for BEAM Plus certification for the granting of GFA concessions for certain green features.

 (iii) Improving energy efficiency in commercial buildings through good housekeeping, information technology products and intelligent building environmental management system

4. Since June 2012, the Government has launched a territory-wide campaign "Energy Saving Begins with Us" to encourage energy conservation and to instigate behavioural change in the community. As a start, an energy saving charter for shopping malls was launched. In June 2013, we extended the Energy Saving Charter on Indoor Temperature to shopping malls, shops, office premises and offices, aiming to reduce electricity consumption through air conditioning. In 2014, we are planning to further such initiative through engaging more stakeholders in different sectors to sign up for the charter. We have also launched the Energy Saving Charter on "No Incandescent Light Bulbs (ILB)" to expedite the replacement of energy inefficient ILB with more energy efficient lighting products. Good housekeeping is also promulgated through the campaign.

5. The Buildings Energy Efficiency Ordinance came into operation in September 2012. It requires commercial buildings and commercial portion (e.g. shopping centers) of composite buildings to carry out energy audits once every ten years.

(iv) Expanding the use of district cooling or water-cooled air conditioning

6. The Government has implemented the district cooling system at Kai Tak Development which is the first of its kind in Hong Kong. It has been providing district cooling services to Kai Tak Cruise Terminal building and Ching Long Shopping Centre since 2013, and will provide service to other developments in the district in accordance with the development schedule of Kai Tak Development. The experience in operating district cooling system at Kai Tak Development can serve as a reference for other bureaux/ departments responsible for the planning of new development areas. In parallel, wider use of more energy efficient water-cooled air-conditioning systems with fresh water cooling towers will continue to be promoted through the Fresh Water Cooling Towers Scheme.

# (v) Expanding the scope and tightening the energy efficient electrical appliance standards for domestic use

7. The Mandatory Energy Efficiency Labelling Scheme (MEELS) requires prescribed products to carry energy labels which aim at enabling consumers to make informed purchase decisions. The Scheme currently covers five types of electrical appliances. A technical proposal for upgrading the energy efficiency grading standards of air-conditioners, refrigerators and washing machines has been drawn up for consultation with the trade in January 2014 with a view to revising the existing gazetted Code of Practice by the end of 2014. For extension of coverage under MEELS which involves amendments to Cap. 598, a second-stage proposal will be formulated to consult the trade in the second half of 2014.

(vi) Looking into the issue of energy wastage of external lighting as well as how to promote more efficient lighting systems, such as progressively restricting sale of incandescent light bulbs, with a view to formulating detailed proposals for public engagement at a later stage

8. To encourage early action to minimize light nuisance and energy wastage, the Government issued the "Guidelines on Industry Best Practices for External Lighting Installations" (the Guidelines) in January 2012. The Guidelines have been distributed to relevant stakeholders including the green groups, the tourism industry, professional bodies, chambers of commerce, the retail industry, property management associations, etc.

9. With the support of the Legislative Council Panel on Environmental Affairs, the Government has adopted a two-pronged approach in expediting the phasing out of ILB. An Energy Saving Charter Scheme was launched in early 2013 to encourage relevant suppliers and retailers to stop selling energy-inefficient ILB by the end of 2013. We have also stepped up public education on the benefits of using more energy-efficient lamps.

### (b) Greening Road Transport

(i) <u>The Government will continue to invest in the mass transportation</u> <u>systems and improve public transport to maintain a low carbon</u> <u>contribution from transport sector</u>

10. Railway is the backbone of our passenger transport system. We are taking forward five railway projects - the West Island Line (WIL), the South Island Line (East) (SIL(E)), the Kwun Tong Line Extension, Shatin to Central Link and the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. Upon their completion between 2014 and 2020, our railway network will cover areas inhabited by over 70% of the population in Hong Kong. We are also conducting a review of our Railway Development Strategy to map out Hong Kong's long-term railway development blueprint beyond 2020.

11. The Transport Department (TD) and the franchised bus companies have pursued bus route rationalisation more vigorously, including through a new "Area Approach"<sup>[4]</sup>, since 2013.

12. TD will also pursue rationalisation plans of franchised buses and green minibuses as and when new railways lines are commissioned. Public consultation for the rationalisation proposals is underway. The target is to finalise the proposals for WIL by the second quarter of 2014 and for SIL(E) by end-2014.

(ii) <u>Access to public transportation will be stepped up, and pedestrian</u> <u>areas and covered walkways, etc. will be set up to reduce transport</u> <u>needs</u>

13. TD has been implementing pedestrian schemes with the support of District Councils and local communities in several areas since 2000.

<sup>&</sup>lt;sup>4</sup> Under this approach, bus service is reviewed holistically for a district as a whole, rather than on a route-by-route basis.

#### (iii) <u>Wider use of motor vehicles running on alternative fuel</u>

14. To promote wider use of electric vehicles (EVs), the Government has set up a Steering Committee on the Promotion of Electric Vehicles chaired by the Financial Secretary in 2009.

15. As at end February 2014, there were 611 units of EVs in use on the road, up from less than 100 in end 2010 and 242 in end 2011. These include 465 private cars, 57 motorcycles, 35 light goods vehicles, 2 medium goods vehicles, 5 light buses, 41 taxis and 6 buses (including 1 franchised bus). There are about 1 000 standard charging points, some 500 set up by the private sector, another 500 set up by the Government at public car parks and about 10 quick chargers at strategic locations to support the use of EVs.

16. The Government also funded the full cost of procuring six hybrid buses and 36 electric buses for trial by the franchised bus companies to assess their operational efficiency and performance under the local conditions. The two-year trials are expected to commence progressively starting in the second half of 2014.

17. Moreover, a \$300 million Pilot Green Transport Fund (Pilot GTF) was launched in March 2011 to support transport operators and goods vehicle owners in testing green and innovative transport technologies including electric, hybrid and alternative fueled vehicles. As of end of March 2014, the Pilot GTF has approved the trial of 72 EVs (24 electric taxis, two light buses, 11 buses and 35 electric goods vehicles) and 53 hybrid goods vehicles (41 goods vehicles and 12 light buses), the retrofitting of four buses engines and one solar air-conditioning system.

18. The Government has been encouraging major EV manufacturers and agents around the world to introduce a greater variety of EVs to Hong Kong, and collaborating closely with other organisations to expand the charging network for EVs. As at end of February 2014, there were 26 EV models available in the market from seven countries including seven private car models, eight motorcycle models and 11 commercial vehicle models.

#### (iv) <u>Promotion of more energy efficient vehicles</u>

19. The Government launched an incentive scheme in April 2007 to promote the use of environment-friendly petrol private cars with low emissions and high fuel efficiency, which when compared with that in 2007, the current requirements are 5% to 38% more energy efficient, by reducing 30% of their First Registration Tax (FRT), subject to a cap of \$50,000 per vehicle. The FRT reduction rate under this scheme has been raised to 45% and the cap has been increased to \$75,000 per vehicle since mid 2011.

#### (c) <u>Promoting Use of Clean Fuels for Motor Vehicles</u>

 (i) <u>Reliance on fossil fuels for motor vehicle use may be further reduced</u> by 2020 by requiring petrol and diesel to be blended with 10% of ethanol and biodiesel respectively

20. The Air Pollution Control (Motor Vehicle Fuel) (Amendment) Regulation 2009, which introduced specifications for motor vehicle biodiesel, has come into effect on 1 July 2010. It stipulates, among others, that conventional diesel in blends with 5% or less biodiesel can be sold as conventional diesel without additional labelling. To promote the use of biodiesel as motor vehicle fuel, pure biodiesel is duty-free. Also, the Air Pollution Control (Motor Vehicle Fuel) Regulation allows the containing of up to 5% of ethanol in the unleaded petrol.

21. To take lead by example, the Government has since January 2012 commenced a pilot scheme to use B5 diesel (a blend of 95% Euro V diesel and 5% biodiesel) in government vehicles, vessels and machinery. In view of the good result, the Government has started a second phase of the pilot scheme in May 2013 to expand the use of B5 diesel in more government departments. Seven departments participate in the second phase of this scheme with an estimated total consumption of about 8 million litres in two years. We also organized sharing sessions on the experience of using B5 diesel with major users of diesel outside the Government to promote awareness and understanding of the use of B5 diesel.

#### (d) <u>Turning Waste to Energy</u>

#### (i) <u>Development and operation of waste-to-energy facilities</u>

22. Between 2015/16 to 2022, we expect Hong Kong will be able to generate from its waste about 1% of its energy needed.

#### Part 2

#### Adaptation to Climate Change

23. In adaptation to climate change, there has been a wealth of adaptive measures from bureaux and departments. Key measures in five categories of adaptation options are as follows:

#### (a) <u>Monitoring</u>

24. On biodiversity and nature conservation, the Agriculture, Fisheries and Conservation Department and the Environment Bureau are undertaking an exercise to develop a biodiversity strategy and action plan for Hong Kong. On food resources, there are existing systems to monitor the import situation of wheat flour, rice, major fresh food and to ensure a stable supply of key foodstuff in Hong Kong. On human health, the Hong Kong Observatory (HKO) is implementing several monitoring and warning systems to alert the public of severe weather conditions like very hot and cold weather; the Department of Health (DH) and the Food and Health Bureau (FHB) have put in place public alert systems of extreme weather conditions. DH has also maintained various surveillance systems to monitor infectious diseases transmitted through food, mosquitoes and other vectors, and to take necessary control actions. On flood monitoring, the Drainage Services Department (DSD) sets up flood warning system and gauging stations at major rivers, channels and flood prone low-lying areas to closely monitor water levels at all times.

#### (b) Institutional Strengthening and Capacity Building

25. On built environment and infrastructure, the works departments have

periodically updated construction related codes, guidelines and design standards for buildings and infrastructure to cope with extreme weather events. The Planning Department (PlanD) completed the Urban Climatic Map and Standards for Wind Environment – Feasibility Study in end 2012. Through promoting an urban climatically-conscious approach in planning and design, the study recommendations will help shape future development practice in Hong Kong. On water resources, the Water Supplies Department (WSD) has promulgated Total Water Management Strategy since 2008, and continued to monitor and regularly review the effectiveness of initiatives undertaken in the Total Water Management Strategy. On flood prevention, DSD has progressively carried out Drainage Master Plan Review studies over the territory to assess flood risk and formulate necessary drainage improvement works for implementation.

26. EPD has, in 2012, organised capacity building workshops on climate change adaptation for the built environment and infrastructure area, tailored for works departments of the Development Bureau, including the Architectural Services Department, the Civil Engineering and Development Department (CEDD), DSD, WSD and the Highways Department. Two other workshops have been tailored each for PlanD and the Hong Kong Housing Authority.

#### (c) Disaster Management and Emergency Planning

27. For business and industry, the financial regulators under the purview of the Financial Services and the Treasury Bureau have put in place procedures, guidelines and continuity plans to cater for emergency circumstances including incidents caused by extreme weather events. On food resources, FHB has been proactively broadening food sources with a view to diversifying food types and reducing risk of unforeseen food shortages. WSD has also reviewed the drought contingency plan from time to time to ensure water security to meet the basic need of Hong Kong.

28. On flood disaster management, DSD jointly established early storm surge alert systems with HKO and the Home Affairs Department for six coastal low-lying areas to timely alert respective departments and local residents to take flood preventive measures to address potential sea flooding during typhoon.

29. On slope safety, the Geotechnical Engineering Office of CEDD, with support from HKO, continues to strengthen landslide emergency preparedness in Hong Kong. CEDD is carrying out an updating study on Probable Maximum Precipitation estimate to model more accurately the extreme rainfall conditions and extreme landslide scenario, and has operated a recently developed Natural Terrain Landslip Alert Criteria for improving emergency preparedness planning for widespread natural terrain landslides during very severe rainstorms.

30. The Security Bureau has put in place Emergency Response System and Contingency Plan for Natural Disasters to cope with effective deployment of resources to handle emergency arising from natural disasters.

31. The Fire Services Department has operational guidelines and procedures (OGP) and contingency plans (CP) which set out the operational principles/procedures, action plan and resource deployment for dealing with different incidents such as natural disasters arising from extreme weather conditions.

#### (d) <u>Research and Investigation</u>

32. On built environment and infrastructure, CEDD commissioned a consultancy study to investigate the trend of sea level rise caused by climate change and its implications on the design of costal structures. CEDD has also set up and led an international task force on implications of climate change on slope safety with a view to consolidating state of knowledge and establishing good practice in landslide risk management and emergency preparedness to combat extreme events. On food resources, foods and fish tank samples are examined at various levels along the food supply chain under surveillance programme of FHB and the Food and Environmental Hygiene Department (FEHD), so that climatic impacts on foods resources are monitored. On water resources, WSD regularly reviews waterworks infrastructure to ensure their adequacy for maintaining reliable water supply,

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and the department is conducting a planning and feasibility study for a desalination plant in Tseung Kwan O in providing a new potable water resource.

33. On human health, HKO has been collaborating with various stakeholders to study the effect of climate on health as well as impacts of extreme weather on vulnerable groups.

#### (e) <u>Education and Public Awareness</u>

34. HKO has utilized various channels to promote and strengthen climate change education, including website, online quiz, educational package, school and public talks etc.

35. On human health, FHB and FEHD have provided food safety programmes on prevention and control of foodborne diseases relating to climate change through publicity and education activities. WSD has also been promoting water conservation through education centre, campaign and community reach-out programmes.

36. To raise the financial sector's awareness of the climate change risks posed to business operation and investments, EPD has in collaboration with Business Environment Council organised a climate change adaptation workshop for the financial services sector in March 2013, with the participation from local companies, trade associations, regulatory bodies and a mainland delegation led by the Guangdong government departments.