

For information

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**Public Consultation on  
Hong Kong's Climate Change Strategy and Action Agenda**

**PURPOSE**

This paper informs Members of a 3-month public consultation being conducted by the Administration starting from 10 September 2010 on Hong Kong's climate change strategy and action agenda for the coming decade. The consultation paper is at **Annex**.

**BACKGROUND**

2. Climate change is an important environmental issue that is affecting global sustainability, and the Government has been very concerned about its impact. It has been widely accepted that the global increases in greenhouse gas (GHG) concentration are primarily due to human activities, e.g. use of fossil fuels and change in land use. As evident from increases in global average air and ocean temperatures, rising global mean sea level, increase in the frequency of extreme weather, the earth system is experiencing an unprecedented change.

3. Hong Kong Observatory (HKO) has been making systematic observations of local climatic variables, and relevant data show that there have been observable changes in many weather patterns within the last 60 years. They corresponded to the changes experienced by many global climatic systems observed over the same period. For instance, the annual mean temperature has been increasing at the rate of 0.12 °C per

decade. The number of cold days has decreased by 2.3 days per decade, and the average annual rainfall has increased by 51 mm per decade. Looking into the future, HKO forecasts that the rising trend in temperature in Hong Kong is likely to continue. The number of hot days is projected to increase, and conversely the number of cold days is going to fall dramatically. In addition, there is likely to be greater variability in rainfall patterns, i.e. intense rainfall, extremely wet years and extremely dry years are expected to become more frequent for the rest of the century.

4. The Environmental Protection Department commissioned a consultancy study in 2008 to review and update the local inventories of greenhouse gas emissions and removals; assess the impacts of climate change in Hong Kong; and recommend long-term strategies and measures to reduce greenhouse gas emissions as well as to adapt to the unavoidable effects of climate change. The Consultants have carried out a series of topical studies and taken into account views of major stakeholders expressed at technical workshops. The consultation paper presents the proposals drawn up from the consultancy study.

## **HONG KONG'S CLIMATE CHANGE STRATEGY**

5. It is considered that Hong Kong has to adopt a proactive strategy in tackling climate change. The **proposed** strategy should -

- (a) direct at local GHG emission characteristics;
- (b) be forward-looking so as to demonstrate Hong Kong as a leading global financial centre, and that we are committed and contributing to the international efforts in combating climate change;
- (c) draw together participation and support from various sectors of our community to promote low-carbon lifestyle. This will allow Hong Kong to continue to go along the pathway of sustainable development; and

- (d) identify the potentials of low carbon economy, promote energy conservation and enhance Hong Kong's competitive advantage. It should also aim to strengthen the cooperation with the Pearl River Delta region by playing a pivotal role in realizing the vision of transforming the region into a quality living area with Hong Kong as the greenest city in the region.

## **REDUCING GHG EMISSIONS**

6. In 2008, the GHG emissions of Hong Kong is about 42 million tonnes, which accounts for about 0.1% of the global emissions. Per capita GHG emissions in Hong Kong is around 6 tonnes and is lower than most developed economies. This notwithstanding, based on the findings of the consultancy study, we believe there is scope for Hong Kong to do better to reduce our carbon footprint, and that we should join in the international efforts to combat climate change.

7. Our major considerations are as follows : -

- (a) Hong Kong is an international city and we should act responsibly with the international community to address the challenge of climate change;
- (b) Hong Kong is a highly advanced economy and we should take actions that befit our position;
- (c) use of waste-to-energy technologies, cleaner fuels and green transportation will bring complementary benefits. The use of clean energy will bring cleaner air and making better use of "waste" will help alleviate the pressure on our landfills;
- (d) going low-carbon will generate new economic opportunities in green and energy efficient technologies and applications, which could be a promising economic growth area in the coming decade; and
- (e) many measures that reduce GHG emissions, such as enhancing

the energy efficiency of building installations, will drive down household electricity bills and commercial operating cost, and hence possibly rendering cost savings in the long term, achieving a “win-win” situation.

8. The electricity generation sector is the largest source of local GHG emissions, accounting for more than 67% of our total emissions. This is followed by the transport sector (about 18%), and other emission sources including waste treatment (about 5%), industrial processes and agriculture, etc. We have taken into account and being focused on these emission characteristics. The following comprehensive action agenda is proposed for implementation :

- (a) **Maximising energy efficiency:** in particular to improve energy efficiency at buildings, including reducing energy demand of air conditioning and other major electrical equipment;
- (b) **Greening road transport:** including promoting use of electrical vehicles and implementing energy efficiency standards for vehicles;
- (c) **Promoting use of clean fuels for motor vehicles:** such as biofuels;
- (d) **Turning waste into energy:** to explore the potential of renewable energy through development of integrated waste management facility, organic waste treatment facilities and sludge treatment facility, etc.;
- (e) **Revamping fuel mix for electricity generation<sup>1</sup>:** to increase the use of non-fossil, clean and low carbon fuel for electricity generation. It is proposed that by 2020, coal will account for no more than 10% of the fuel mix, natural gas to account for around 40%, renewable energy to make up about 3-4% and the balance of about 50% would be met by imported nuclear power.

9. In seeking to improve the fuel mix, we will continue to uphold our energy policy objectives to ensure reliable, safe and efficient energy

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<sup>1</sup> In 2009, coal accounted for about 54% in the fuel mix for electricity generation in Hong Kong, natural gas for about 23%, and nuclear electricity imported from the Mainland for about 23%.

supplies at reasonable prices, while minimising the environmental impact caused by the production and use of energy. Amongst the various fuel components, coal assumes the highest carbon emission factor, and is a primary source of air pollution. On the other hand, natural gas has lower GHG emission when compared to other fossil fuels, and the Mainland has also undertaken and assured its adequate supply for Hong Kong. Nonetheless we need to be mindful that its fuel cost is higher and on the rising trend. Compared with natural gas, nuclear power is generally less expensive and more reliable, and emits no GHG during the electricity generation process. The increase in the import of nuclear energy would help achieve a more balanced fuel mix, which helps avoid over-reliance on natural gas as the largest single source of fuel supply. The Government will continue to promote the use of renewable energy (e.g. wind and solar energy, and waste-to-energy). Their wider application however depends on a number of factors, including suitable locations with adequate access to wind power, land and other related resources; reliability of energy supply; commercial viability; affordability and the level of community acceptance, etc.

### ***Reduction Target***

10. To reduce Hong Kong's GHG emissions and transform our city to be low-carbon and green, the community has to act collectively towards a common goal and vision. The Government **proposes** to adopt a voluntary carbon intensity reduction target of **50% - 60%** by 2020 as compared with 2005 level (the Proposed Target) through the implementation of the proposed action agenda outlined above.

11. If the Proposed Target is achieved, our carbon intensity level will be reduced to 0.012 - 0.015 kg CO<sub>2</sub>-e/HK dollar GDP in 2020. The GHG emissions level in Hong Kong is also expected to reduce from 42 million tonnes in 2005 to 28 - 34 million tonnes in 2020. This represents a real reduction in GHG emissions of 19% - 33% from the 2005 level.

## ***Vulnerability and Adaptation***

12. The consultants have identified the following key areas of vulnerability in Hong Kong -

- (a) biodiversity and nature conservation
- (b) built environment and infrastructure
- (c) business and industry
- (d) energy supply
- (e) financial services
- (f) food resources
- (g) human health
- (h) water resources

13. The consultancy findings suggest that Hong Kong possesses significant adaptive capacity to climate change impacts and has many systems in place which could be used to adapt to the physical impacts of climate change<sup>2</sup>. It is likely that some of the policies and facilities, may need to be up-scaled in the following aspects -

- (a) monitoring
- (b) institutional strengthening and capacity building
- (c) disaster management and emergency planning
- (d) research and investigation
- (e) education and public awareness

## **PUBLIC CONSULTATION**

14. The public consultation will end on 10 December 2010. The consultation paper is available at the offices of the Environmental Protection Department (EPD), Public Libraries and the Public Enquiry

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<sup>2</sup> For example, the Security Bureau is responsible for the Government's overall contingency plan in coping with different disasters or emergency situations. Various government departments and service providers have also developed monitoring or emergency response mechanisms to deal with landslides, flooding, or handle matters related to dangerous buildings, banking, telecommunications, public transport services, and energy and food supply at times of bad weather. In addition, the relevant authorities have been closely monitoring the ecosystem or species, pest situation under their monitoring programmes.

Service Centres of the Home Affairs Department, and can be downloaded from the EPD website. The Government will also consult the relevant advisory committees, professional bodies, and major business and trade associations.

**Environment Bureau**  
**10 September 2010**