

20 August 2016

Mr. Wong Kam-sing, GBS, JP,  
Secretary for the Environment  
HKSAR Environment Bureau  
Central Government Office, Tamar, Hong Kong

Views and Recommendations for Environmental Bureau on Combating Climate Change

Dear Mr. Wong,

The Environmental Bureau of the Government of Hong Kong Special Administrative Region is soliciting views from the public on combating climate change. The Canadian Chamber of Commerce in Hong Kong, the “Chamber”, would like to submit its views for your consideration.

The Chamber agrees that climate change poses a threat to the global community and Hong Kong in particular due to its coastal development, widespread use of reclaimed land and a high population density in the likely affected areas. The Chamber aims to educate and facilitate our members, and the wider Hong Kong community, in mitigating and reducing carbon emissions in line with the global objective of stabilizing the atmospheric concentration of carbon dioxide to 550 ppm between now and 2050 to limit the effects of global warming.

The complexity and scale of change needed to combat climate change dictates that efforts must be coordinated between the Hong Kong community, the business sector and the government. Combating climate change will require mitigation of greenhouse gases (“GHG”), adaptation to a changing global environment and resilience in face of those changes. If effectively delivered, these changes can bring social, economic and environmental benefits to Hong Kong which will underpin its sustainable development.

The most direct way to combat climate change in Hong Kong is to reduce carbon emissions with a focus on the (1) energy, (2) transport, (3) waste and (4) industrial sectors. While agriculture is a GHG contributor, this economic sector plays a minor role in Hong Kong. With this in mind, we request that the Environment Bureau immediately publish the carbon emitted from these four

sectors and include a road map for reducing these carbon emission in these sectors, including specific targets which can be measured over time. In addition, despite steps globally taken to reduce GHG emissions, it is a near certainty that some climate change has already have occurred. Adaptation and resilience to the consequences of climate change is necessary and of particular importance to Hong Kong, a coastal city which is highly dependent on its energy, transport and communications infrastructure.

## **MITIGATION**

### *Increase the overall energy efficiency of buildings and transport*

Buildings consume the majority of the city's electricity with air-conditioning being the largest end-use followed by lighting and office equipment. The Chamber supports the government's Energy Savings Plan and encourages efforts in enabling and incentivizing stakeholders to invest and undertake energy efficiency and conservation measures in an integrated manner involving policymakers, property developers, architects, building managers and building users.

Energy savings priorities should focus on building design, the use of energy efficient appliances and changing user behaviour with appropriate consideration on the differences in making changes to the existing building stock versus new buildings.

- The challenge for the existing stock of buildings is encouraging and aligning stakeholders to adopt and invest in energy savings since the benefits and costs accrue differently across various stakeholders such as the tenant, the landlord and the building management office. This can be done through a combined effort of education, energy audits, building and appliance energy efficiency standards, regulatory incentives and support through the appropriate energy efficiency financing and funding mechanisms.
- Technology will also play an important role in encouraging and enabling the reduction of energy use in buildings. Technologies such as smart meters are able to provide meaningful information on energy consumption to make informed decisions on their energy use.



- New building stock should be constructed with the goal of reducing of carbon emitted from the building on a full lifecycle basis. This includes policy initiatives to reduce carbon emitted in the production of raw materials, construction of the building and the design of building itself should incorporate features that allow for the reduction of carbon emissions during the life of the building. This can be accomplished through revised building codes and incentives for the use (or reduction) of certain materials.

In addition, carbon emissions can be mitigated by increasing the energy efficiency of the transport sector through electrification of vehicles and reducing road congestion through measures such as electronic road pricing, optimizing public transport routes and streamlining cross-harbour tunnel traffic.

*Reduce the carbon intensity of power generation and energy used for transport*

The Chamber supports the government's proposed 2020 electricity fuel mix to move to around 50% natural gas, 25% nuclear and the remaining 25% from coal, renewable energy and gains from energy efficiency. Reducing the carbon intensity of Hong Kong's electricity generation has a direct and material impact on carbon emissions due to its role in powering buildings (cooling and lighting), transportation (MTR, trams and electric vehicles) and industry (datacentres, industrial parks, etc.).

The government should consider further longer-term options to reduce the carbon intensity of the city's electricity power generation.

- Given the ability for natural gas to provide the same grid stabilizing benefits as coal fired power plants but with lower carbon emissions, the government should explore further methods to reduce the use of coal by increasing the use of natural gas for power generation. To minimize the commercial and gas supply security risks, the government should be closely working with the power companies to explore new sources of gas supply by installing the required infrastructure to meet the challenges.
- Hong Kong's dense urban morphology and lack of space limits options for renewable energy generation but such projects should be pursued where sensible as long as costs are

communicated and managed, and the reliability and safety of the electricity supply is not compromised.

### Reduction of GHG from waste by reducing overall waste and optimising use of landfill gas

The disposal and treatment of waste can produce emissions of several types of GHGs with the most significant being methane which is released during the breakdown of organic matter. Waste prevention and recycling can reduce the volume of landfilled materials and as a result, a reduction of GHG emitted. When combined with the urgent need to establish sustainable solutions for waste management in Hong Kong, the Chamber sees waste prevention and recycling as an important area of focus which can provide multiple benefits. The Chamber supports the government's initiatives to achieve waste reduction set out in the Blueprint for Sustainable Use of Resources – 2013-2022, and notes that there is still much to do to achieve the desired results. As the three existing landfills will be materially full within 5 years, there is a pressing need to expedite the extension of landfills, the development of planned waste-to-energy facilities and the organic waste treatment facilities.

A waste charging system (wherein waste removal would carry an economic cost), with respect to municipal solid waste and any other sectors, should be introduced to provide an incentive to change behaviours. Simultaneously, funding for the development of the recycling industry needs to be implemented urgently. Public education and promotion should also be undertaken to increase support for waste reduction and recycling behaviours while working closely with stakeholders to address sustainable waste management as a priority and responsibility of all stakeholders.

### Sequestration of Carbon Dioxide

By increasing the amount of vegetation and vertical greening on buildings and structures, Hong Kong can increase the amount of carbon sequestered. The Chamber understands that the government has required new projects with a site area greater than 1000 m<sup>2</sup> to plant vegetation on no less than 20% of the site area, and 30% of the site area if the project is located within the Kai Tak redevelopment area. Although laudable, increasing vegetation in individual projects is not sufficient and does not provide a comprehensive approach to carbon sequestration in the city. Government land which falls outside of project areas, such as our streets and other leftover spaces, has the potential to be leveraged for carbon sequestration purposes. The Chamber



suggests that the government study ways to increase the level of vegetation and greening in the city. This is particularly relevant in the urban areas where vegetation and vertical greening can reduce the energy needed to cool buildings and structures.

As a connective discussion, the biodiversity study being pursued by government will contribute to carbon sequestration and government may consider adding this subject to its biodiversity study.

### Overall

We request that the government provide a realistic and quantified road map, on a sector by sector basis, on how Hong Kong can meet its future carbon reduction targets along with meaningful incentives to encourage both corporate and individual participation in this roadmap. For clarity, the roadmap should including an analysis of the current carbon emissions status of each industry, as well as tangible targets which the government believes is achievable. We note that while Hong Kong's per capita carbon emissions have mostly remained level over the past few years, the absolute amount of carbon has been increasing, driven by population growth. Thus, any government roadmap should consider the impact of population growth on future carbon emissions and aim to reduce carbon emitted on an absolute basis. We further note that reducing greenhouse gas emissions brings the additional benefit of improved air quality. As such, we recommend that any targets for carbon reduction take into consideration the Hong Kong Air Quality Objectives which are reviewed every five years.

### **ADAPTATION AND RESILIENCE**

To date, Hong Kong has fared well in building increased resilience in the face of natural hazards such as strong winds and typhoons. For example, the government has made progress on addressing the risk of landslides across Hong Kong and a Drainage Master Plan has helped expand storm water run-off measures. Early warning systems for extreme weather events are well-implemented and The Sustainable Building Design guidelines have integrated innovative design measures to help address heat island impact. The challenge for both businesses and the government is to continue preparation for the risks posed from climate change and the increasingly extreme weather conditions that are expected to accompany it going forward.



**The Canadian  
Chamber of Commerce  
in Hong Kong**

La Chambre de Commerce Canadienne à Hong Kong  
香港加拿大商會

### Overall

We request the government complete a comprehensive adaptation study to identify additional projects to be pursued which may include aspects affected by climate change such as water supply security, drainage, flood and extreme heat management. We also propose that the government leads a coordinated study and/or exercise with major government departments and businesses that provide essential public services such as buses, MTR, utilities and telecommunications, to ensure that the city is prepared in the event of extreme climate conditions such as a heat wave, exceptionally strong typhoon, heavy rain, etc. This initiative should also cover Hong Kong's food supply (since we import the bulk of it) and any potential public health risks (from extreme heat, infectious diseases or pests) that may be caused by, or aggravated by, climate change. Our city's experience from the SARS outbreak has strengthened its capabilities for responding to epidemics and these valuable lessons should be applied to build resilience to climate related shocks.

We thank you for considering our views.

Yours sincerely,

Lawrence Nutting, Chairman,  
The Canadian Chamber of Commerce in Hong Kong

cc: Executive Committee, The Canadian Chamber of Commerce in Hong Kong