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### **Hong Kong's Climate Change Strategy and Action Agenda**

The Swedish Chamber of Commerce and the Danish Chamber of Commerce (jointly the "Scandinavian Chambers") are pleased to submit the following response to the Environmental Protection Department's Consultation Document on climate change (the "Document").

With a combined membership body of 200 ordinary (corporate) members, 67 individual members, and 137 "Young Professional"/student members, the Scandinavian Chambers represent a wide range of Scandinavian and Scandinavian-related businesses and professionals in Hong Kong. The Scandinavian Chambers take a pro-active approach to environmental issues of concern to Hong Kong. The Scandinavian Chambers believe that they among their members possess a deep pool of expertise on matters that fall under the government's climate change action agenda (the "Action Agenda"), and would therefore welcome any opportunities to assist with the implementation of the Action Agenda.

As the government gets ready to implement its climate change policy, the Scandinavian Chambers are hopeful that this will at the same contribute to a net improvement of the air quality in Hong Kong. With that being said, the Scandinavian Chambers wish to point out that the deteriorating air quality in the opinion of their members remains the territory's most serious environmental challenge. In that context, the Scandinavian Chambers eagerly await an update from the government on the process of revising Hong Kong's air quality objectives.

The Action Agenda consists of initiatives in five different areas: (a) Maximizing energy efficiency, (b) Greening road transport, (c) Promoting use of clean fuels for motor vehicles, (d) Turning waste to energy; and (e) Revamping fuel mix for electricity generation. In the following, the Scandinavian Chambers give their feedback on the Action Agenda.

In summary, in the areas of Greening road transport and Promoting use of clean fuels for motor vehicles, the Scandinavian Chambers would propose that the government considers more carefully "greening" opportunities based on conventional engine technologies that can be implemented and have a substantial impact immediately, without the need for extensive infrastructure investments. In the area of Turning waste to energy, the Scandinavian Chambers believe the government should broaden its perspective somewhat and look at even more opportunities involving biogas. For example, the Scandinavian Chambers believe imported liquid biogas could play an important role in Hong Kong's future fuel mix.

#### Maximizing energy efficiency

The Scandinavian Chambers believe tighter regulation within the Building Energy Codes is required in order to force developers to adopt international best practices within the area of building energy efficiency. With a high profile real estate industry, and many spectacular landmark buildings, Hong Kong should take the lead in also being at the forefront of introducing green building technologies.

#### Greening road transport and Promoting use of clean fuels for motor vehicles

The Document sets out a goal to increase the portion of electric vehicles ("EVs") on the roads of Hong Kong. The Scandinavian Chambers wish to point out that, even with an increasing portion of Hong Kong's energy needs in the future coming from renewable sources, EVs will still have a substantial carbon footprint associated with the (still) substantial portion of energy generated from coal and gas (approximately 50% of total fuel mix by 2020 as per the Document). With that being said, the Scandinavian Chambers consider EVs an interesting option when it comes to the greening of road transport, but only one of several such options. Considering the extensive and costly challenges that have to be met in order to make EVs a viable mass-market alternative (building an infrastructure of charging stations and a system for the handling of used batteries), EVs may not even be appropriate as one of the centerpieces of the government's GHG strategy.

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While mature EV technology is still some way away, Hong Kong has the option to adopt policies designed to improve the GHG and clean air footprint of the vast majority of vehicles that will operate on conventional fuels for the foreseeable future. Low emission diesel vehicles produce less GHGs per kilometer for a given transport task than most other solutions (including, most likely, an EV in today's Hong Kong, given the still heavy reliance on coal fired power stations). The Scandinavian Chambers therefore propose that Hong Kong sets out to "catch up" with the "Euro 5", and soon "Euro 6", emission standards required in Europe and then also allows the use of the latest low emission diesel cars. SwedCham would therefore view favorably the introduction of (i) more progressive regulatory requirements in the area of emission standards, matching those in Europe and (ii) more aggressive subsidies aimed at encouraging vehicle owners to switch to newer, cleaner, cars, buses, and trucks. When defining the grant of such subsidies, the government should avoid defining technologies but use calculations that take into account the CO<sub>2</sub> and local emission levels per kilometer all the way through from "fuel" source to vehicle use.

In addition, the Scandinavian Chambers have identified a specific opportunity to encourage the scrapping of older heavy duty trucks, see [Annex A](#). This opportunity focuses on the import of "Euro 4" and "Euro 5" trucks from the UK and Ireland (i.e. two other right hand drive locations). Currently such imports are not commercially feasible due to regulatory requirements that lack any functional basis. A scrapping of said regulatory requirements would in all likelihood lead to the replacement of "pre-Euro", "Euro 1", and "Euro 2" trucks at a much higher pace than suggested by the current trajectory.

#### Turning waste to energy

The Scandinavian Chambers strongly support the proposal in Section 5.21 of the Document regarding full utilization of landfill gas and the completion of three integrated/organic treatment facilities and one sludge treatment facility. This will maximize the energy generated from waste within Hong Kong, as well as support a solution for the equally important challenge of minimizing the need for land fill space. In addition to the specific proposals made by the government in the Document, the Scandinavian Chambers would like to propose and highlight the following issues:

- **Biogas should be considered as an important future fuel source for road vehicles and water vessels in Hong Kong.** Biogas is one of the commonly accepted green, renewable vehicle fuels that are increasingly being used in green cities around the world. For example, in Stockholm, the capital of Sweden, a large portion of city buses and taxis are fuelled by biogas. The popularity of biogas is the result of public and private incentives. For example, certain Swedish companies require their staff to travel in taxis operated by renewable fuels.
- **Waste as a source of energy is not limited to the amount of waste being generated within Hong Kong.** It is today economically feasible to transport biogas as liquid biogas (similar to Liquid Natural Gas –LNG). This means that biogas can be produced on one site, potentially outside Hong Kong, and transported to filling stations where it makes the most sense to use it. The Scandinavian Chambers would encourage the government to start looking into liquid biogas as a potential substantial future energy source for Hong Kong.
- **As an alternative to larger incineration plants, the Scandinavian Chambers would propose that the government considers the introduction of smaller "Syngas" plants.** "Syngas", short for "synthetic gas" is a more flexible output, which can either be used as gas for electricity generation, or be converted into different derivatives, for example biogas. These smaller plants typically have a return on investment which is at least in line with, if not superior to, any conventional incineration plant. A helpful case study in this area is provided by Gothenburg Biomass Gasification Project ("GoBiGas"). Gothenburg, the second largest city in Sweden, considers biogas as its single most important source of energy for the future.

#### Revamping fuel mix for electricity generation

It is, as identified in the Document, necessary to reduce Hong Kong's reliance coal fired power stations. With an increased reliance on nuclear energy, the Hong Kong government will have to take an increased level of responsibility for the safe production of such energy and the storage of spent fuel rods. Although the Daya Bay plants are located outside the territory of Hong Kong, they are still in close proximity of Hong Kong; any incidents at the Daya Bay plants could have a very serious impact on the health and safety of Hong Kong and its residents.



#### Other areas

While Hong Kong, as reported by the Document, compares favorably to many of its peer “developed nations” when it comes to the GHG intensity of its economy, it is at the same time true that many companies based or listed in Hong Kong own and operate plants elsewhere in the Pearl River Delta and beyond. If these plants were taken into account when measuring GHG intensity, the outcome would not be as flattering to Hong Kong. The Scandinavian Chambers would therefore as a first step encourage the government to promote efforts designed to increase the transparency of the total GHG footprint of Hong Kong companies.

Cycling and walking are examples of “zero carbon” modes of transportation as pure as they come. The major urban areas of Hong Kong are, in large parts, not very friendly for pedestrians and cyclists. By adopting aggressive measures to promote cycling and walking, Hong Kong could reduce the emission of GHGs while at the same time achieving meaningful public health benefits resulting from increased physical exercise among the population. Such initiatives would be consistent with trends in major world cities like New York and London, as well as in Stockholm and Copenhagen. Appropriate focus areas for Hong Kong should include the building of more bicycle and pedestrian pathways and the introduction of bicycle renting facilities.

We thank you for the opportunity to get involved in the climate change consultation process and look forward to a continued constructive dialogue in this and other matters related to Hong Kong’s environment.

Yours faithfully,

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Swedish Chamber of Commerce

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## Annex A

### Proposal for speeding up the scrapping of older heavy duty trucks

#### Background

- There are two distinct types of heavy truck purchaser – those that buy and operate new trucks and those that buy and operate used trucks.
- It is very rare for a purchaser of used trucks to buy a new truck due to a number of factors, the main one being the price.
- Hong Kong truck operators tend to keep their trucks longer than European operators which results in limited late model used trucks being available in the market. Those that are available usually have engines meeting older emission standards.
- There is an availability in the UK and Ireland of used right hand drive trucks with Euro4 and Euro5 emissions standards.
- If these trucks could be made available to Hong Kong operators they would replace older pre-Euro, Euro1 and Euro2 trucks.
- The Euro4 and Euro5 testing and certification procedure includes a “deterioration factor”. This is included so as to require the manufacturer to ensure the engine can keep within the emission limits for at least five years or 700000 kilometres.
- Most Euro4 and all Euro5 engines are required to have an on-board system that will reduce the engine output in case the NOx emissions exceed certain parameters (“NOx control”). When activated, this makes the truck impossible to use normally, forcing the operator to have the fault causing the excessive NOx to be rectified.

#### Current situation

- Under the current legislation any truck being registered in Hong Kong for the first time must meet the legislated emission standard which, at the moment, is Euro4.
- When a used truck is imported into Europe, the original emission certificate is accepted as evidence of the emission standard. However, in Hong Kong the interpretation of this regulation requires the engine in each used truck to be removed and undergo a full Euro4 certification test. Such a test is very expensive and makes the sale of imported used trucks commercially impossible.
- The logic behind this interpretation is that each truck must be shown to be meeting the emission standard at the time of registration in Hong Kong. Unlike Europe, the original type approval certificate with deterioration factor is not accepted as adequate proof.
- Importation and registration of these lower emission used trucks is therefore effectively blocked.

#### Proposal

- If the legislation can be softened then the importation of late model used trucks can be made possible.
- In line with European practice, we suggest the original type approval certificate showing compliance with the legislated emission standard be accepted as evidence of meeting the Hong Kong regulations.
- It would be reasonable to require the manufacturer’s official agent to certify that NOx control is fitted as original equipment and is fully operational. This will ensure that any truck that has a problem with the engine causing high NOx emissions will not be possible to operate.
- With these requirements there is an extremely low possibility of a truck being registered in Hong Kong that does not meet the required standard.
- The availability of these used trucks will result in much faster removal from the roads of older trucks with higher emission levels.

#### Conclusion

- The operators of older trucks that are the most polluting on Hong Kong’s roads will not buy new trucks and there is a shortage of used trucks with later, low pollution engines.
- With no cost to the taxpayer there is the opportunity to encourage replacement of these older trucks with Euro4 and even Euro5 trucks resulting in significant reductions in polluting emissions.
- All that is required is to match the European practice of accepting the type approval certificate as proof of emissions standard compliance.