



Hong Kong Green Strategy Alliance

香港綠色策略聯盟

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Council for Sustainable Development
46/F, Revenue Tower
5 Gloucester Road
Wan Chai, Hong Kong

Email: comments@susdev.org.hk

Dear Sir/Madam,

Response to Hong Kong's long-term decarbonisation strategy

Hong Kong Green Strategy Alliance (HKGSA) is a non-profit making organization founded in 2012 by a group of professionals and stakeholders who are visionary and wish to undertake the responsibility on the issues of environmental protection and sustainable development. Through active participation, discussions and exchange of views in green issues, projects and technologies etc., HKGSA would offer our professional opinions and solutions to tackle green issues in Hong Kong and neighbouring region.

HKGSA would like to submit views related to the long-term decarbonisation strategy. Please find enclosed our submission in Appendix for your perusal.

Should you have any queries, please feel free to contact me at 9032 3816 (drwklo@gmail.com) or our Honorary Secretary Ir Kenny Wong at 2788 5647 / 9482 3227 (irkennywong@gmail.com).

Yours sincerely,

Ir Dr. Hon LO Wai Kwok, SBS, MH, JP
Chairman, Hong Kong Green Strategy Alliance

C.c. Mr WONG Kam-sing, JP, Secretary for the Environment

Encl.

Response to Hong Kong's long-term decarbonisation strategy

HKGSA welcomes the public engagement exercise on long-term decarbonisation for Hong Kong undertaken by the Council for Sustainable Development (SDC).

Carbon Reduction Targets: The SDC has identified three potential paths to decarbonisation by 2050, following on from the Paris Agreement: a 60% reduction over 2005, an 80% reduction or aiming for net zero carbon. Amid the extreme weather conditions arisen in recent years, other developed countries and world cities are generally pursuing ambitious decarbonisation targets of 80% reduction or above. Hong Kong should also share its climate responsibility. A 60% reduction should only be considered as minimum for the initial target setting, with a long-term goal of uplifting it to 80% reduction or more as we grow our capability in various decarbonisation technologies and the community commitment is consolidated.

Change of Individual's Lifestyle: Deep decarbonisation is a major challenge as it will drive many changes for our city. While every individual's lifestyle changes will help reduce the carbon footprint of our community, technological development is also an important enabler. It could also present a good opportunity for our engineering and environmental professionals especially the young generations to exercise their talents and skills in these aspects. However, it needs more collaborations with different and wider disciplines as well as continual integration of innovative technologies and digitalisation.

Currently electricity accounts for 65% of the greenhouse gas emissions in Hong Kong. To decarbonise electricity, we need to tackle both the demand side and supply side.

Demand Side: Reducing electricity consumption will lead to a lower fossil fuel consumption in electricity generation and reduce energy costs for business. Buildings account for 90% of the electricity consumption in Hong Kong. Significant enhancement of building energy efficiency for electricity and all other fossil fuels used in buildings is therefore essential. Energy efficiency standards for new buildings must be uplifted as they could adopt the state-of-the-art building technology for the entire building lifecycle. While a carbon neutrality requirement for new buildings is becoming an emerging trend in some developed countries, Hong Kong may be constrained by the local circumstances to follow suit. But it should not hinder Hong Kong to pursue the highest possible building environmental standards, which should become mandatory to drive the investment and engineering skills development needed by the industry.

Existing buildings comprise the majority of our building stock. While the practice

and knowhow of energy audit, building retrofit and retro-commissioning are already well known, it is time to move on to the effective implementation of the best practice energy efficiency improvement measures, otherwise the energy efficiency level achieved would not change much without real benefits being realised. Legislation of the relevant energy efficiency standards, complemented by extra transitional financial support from the government to speed implementation, should be considered the way forward.

Supply Side: Even with the best energy efficiency, our city will continue to rely heavily on electricity. Reducing carbon emission in the remaining electricity supply is critical. Although the government assessed the realisable renewable energy (RE) potential in Hong Kong is only 3 - 4% by 2030, we should endeavour to harvest it at 3 levels: (1) individual business, institution, home, etc. with the financial incentive to develop practicable projects in the form of feed-in tariff scheme; (2) large scale RE projects by the power companies in suitable sites; (3) RE projects in government's facilities. Local RE development could raise the community awareness and motivate their active participation to the climate actions. As the RE scale is growing in Hong Kong, more engineering consultants, suppliers and contractors would enter the market. Cost of RE would potentially drop and new technologies may also be introduced to Hong Kong, creating a sustained momentum in the RE development.

However, bound by the resource and land constraints in Hong Kong, local RE cannot be expected to be a major electricity source for us in the foreseeable future. As pointed out by the Council, if Hong Kong, as a developed city, aims to achieve a more audacious carbon reduction targets, Hong Kong should have at least 80% of electricity from zero-carbon source while the remaining will need back-up from local generation sources. Except those countries with abundant RE resources, in many places, a multipronged approach and strategy is necessary to increase zero-carbon energy sources, including local RE, waste-to-energy, sustainable bioenergy, import of zero-carbon power from the Mainland, as well as support from emerging technologies such as carbon capture and storage, zero-carbon hydrogen, energy storage, etc. Hong Kong should consider a proper mix of these technologies suitable for our circumstances to achieve a deep decarbonisation of electricity supply, and most importantly maintain the high reliability our city needs through the proper design of the cross-boundary transmission infrastructure for transmitting the zero-carbon electricity from the Mainland to Hong Kong on competitive terms. Again, consideration should also be given to the development of the relevant industries and manpower, providing opportunities for our next generation.

The Scheme of Control Agreement (SCA) provides a framework for the Government to monitor the power companies' financial affairs and operating performance, and has well demonstrated to drive the power companies to provide reliable, safe and environmental friendly electricity supply at a reasonable price in Hong Kong over the past several decades. To accommodate the increased complexities with the cross-boundary operations, HKGSA supports the use of the proven and existing SCA regime to take up the challenges arisen from the possible market change in future.

Transport: Transport is responsible for 18% of carbon emissions. The Government should speed up the transition towards new energy vehicles, particularly electric light duty vehicles, which is a mature technology. This would reduce carbon emission and also roadside air pollution. As electricity supply is further decarbonised, the carbon benefit of electric vehicle (EV) would be more prominent. However, higher cost of EV and insufficient charging facilities are hindering its growth in Hong Kong. While the government is providing (albeit limited) financial support for EV purchase, a well-established EV charging network is prerequisite for EV purchase, and it should cover both public and private charging facilities. The very high population density in Hong Kong may not allow each EV to have its own private charging arrangement. It is expected that quite some EVs would still rely on public chargers. As such, the government should re-double its efforts on developing public charging facilities, while facilitating the private charger development through legislative measures.

Similar to other developed countries/cities, HKGSA supports Hong Kong to set a timeframe with a reasonable target of banning the sale of fossil fuel vehicles, which should be in line with the timeline when the deep decarbonization of fuel mix materializes. In the meantime, the Government should conduct a full scale stakeholder engagement with the relevant business sectors to ensure that the transformation is conducted in a fair, open, just and manageable manner and the required infrastructure for the change has already been in place.

Advanced Technologies: Existing industrial plants that use coal, oil, etc., for high temperature industrial combustion are very hard to decarbonise. In addition to what mentioned above, latest development technologies such as carbon capture & storage (CCS), higher efficiency and low emissions plant, zero-carbon hydrogen technologies, etc. may provide the next decade or more engineering solution. Furthermore, it is critical to embrace technology and regulatory change with innovation, for example, by using big data and machine learning. Under this context, all become a cross-sector consideration. The government should evaluate them holistically for Hong Kong, and the latest technology development and its

application especially for coal-fired power stations and “waste to energy” facilities should be further reviewed. From stakeholder engagement point of view, relevant sectors and professional bodies should be consulted as early as possible.

Promotion and Education: More encouragement and promotions should be given to the wider community to foster a resource conservation culture for example waste reduction (e.g. plastic waste reduction) and take on a sustainable lifestyle. High profile public education campaigns by government in introducing consumers to lower-carbon products and services would not only help to reduce direct carbon emissions but those embedded in all the products we import. Green procurement by different business sectors should also be motivated, and then progressively legislated as the practices are established.

Conclusion: HKGSA shows strong support to the SDC’s public engagement approach in addressing climate change. Through promotion and education, every citizen in Hong Kong should learn that they have a role to play for making contribution by changing the lifestyle, adopting the advanced technologies and exercising their talents. For the power sector, HKGSA also supports the Government’s strategy to increase the use of gas for power generation in the short to medium term while at the same time to engage the stakeholders to explore the opportunity for regional cooperation to import zero carbon power in the longer term, with due consideration of supply reliability and reasonable prices under the proven SCA regime. HKGSA also sees the positive impact on increasing the energy efficiency of buildings to reduce carbon emissions. In the absence of charging infrastructure support, HKGSA also realises that it is very challenging for the transport sector to go for decarbonisation through the widespread introduction of EVs and the phasing out of fossil fuel vehicles.

All in all, HKGSA highly appreciates the opportunity to engage with the SDC when SDC finalises its recommendation to the Government. Thereafter, HKGSA is also pleased to work closely with the Government on the implementation of all the recommendations and move forward hand in hand for a sustainable and greener city.

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