



Hong Kong Green Strategy Alliance

香港綠色策略聯盟

Unit G, 7/F, Century Centre, No. 33-35 Au Pui Wan Street, Fotan, Shatin, N.T., Hong Kong.

15 September 2021

The Hon Carrie Lam
The Chief Executive
Hong Kong SAR Government

Dear *Carrie*,

**Suggestions to prominent environmental issues
for the 2021-22 Policy Address Consultation**

The Hong Kong Green Strategy Alliance (HKGSA) would like to share our views and comments regarding the prominent environmental issues for the 2021-22 Policy Address. Please find enclosed our submission in Appendix A for your perusal.

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.

Should you need any further information, please feel free to contact me at 9032 3816 (drwklo@gmail.com) or our Honorary Secretary Ir Kenny Wong at 9482 3227 (irkennywong@gmail.com).

Yours sincerely,

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

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

Encl.

Recommendations from the Hong Kong Green Strategy Alliance to 2021-2022 Policy Address

The Hong Kong Green Strategy Alliance (HKGSA) proposes the following views for the Government's consideration.

General

1. Since the outbreak of COVID-19 in early 2020, the world is facing the most challenging crisis ever since. The Delta variant imposes even greater threat on public health for its high transmissibility. The unprecedented pandemic, however, presents both an enormous challenge and tremendous opportunities for achieving the 17 Sustainable Development Goals (UNSDGs) promulgated in the United Nations' 2030 Agenda for Sustainable Development published in 2015. The UNSDGs aim to address the global challenges including those related to good health and wellbeing, environmental degradation, climate change, etc. and to achieve them all by 2030. HKGSA previously suggested the Government to take the leading role and integrate UNSDGs consideration in policies formulation, decision-making and project implementation processes with a view to transforming Hong Kong into a sustainable and healthy city. The suggestions include setting the UNSDG targets for individual Government Departments and their policies and projects, demanding the contractors to set the UNSDG targets for the companies themselves if they want to bid for the Government projects. Like other developed cities, we look forward to the actions taken by the Government in response to the progress and regular reporting to achieve the UNSDGs.
2. According to a report released by the National Oceanic and Atmospheric Administration, July of 2021 was the hottest on record globally since records began 142 years ago. On top of that, it was reported in August 2021 that it rained at the highest location on Greenland's Icecaps for the first time in its recorded history. Climate change is widespread, rapid, and intensifying with some trends becoming irreversible. The averaged global temperature over the next 20 years is expected to reach or exceed 1.5°C of warming, faster than expected according to the latest much-anticipated Intergovernmental Panel on Climate Change (IPCC) report released in August 2021. Following the report on Hong Kong's long-term decarbonisation strategy submitted by the Council for Sustainable Development, the 2020 Policy Address announced that Hong Kong would strive to achieve carbon neutrality before 2050. HKGSA looks forward to the early release of the updated Hong Kong's Climate Action Plan, with which the policy framework and its roadmap outlining the long-term absolute carbon reduction targets for 2050 and beyond could be established for the public, thereby contributing to the global decarbonisation efforts as a corporate citizen of the Earth. Carbon emissions in Hong Kong from the power sector account for more than 60% of its total emissions. While the gradual increasing use of natural gas to replace coal for power generation according to the retirement schedule of coal-fired units can reduce the carbon footprint in the coming decade, Hong Kong, as a developed city, should pursue efforts to achieve a more audacious carbon reduction targets of limiting to either 1.5 degree C or 1.5 degree C to 2 degree C by sourcing the clean and non-carbon energy (i.e. nuclear/renewable energy (RE)) through regional collaboration. With the advancement of RE technologies in recent years, HKGSA supports the erection of the commercial scale offshore wind farms previously proposed by two local power

companies in the medium term before 2030. To achieve carbon neutrality by 2050 as the long-term target, HKGSA suggests that the Government would look for ways to import reliable and affordable zero-carbon energy for HK across the border through regional collaboration from other places or develop those clean energy sources that have potential but not yet market ready such as hydrogen. For the regional collaboration, the transmission system should be constructed in a way to ensure a high level of reliability while the power supply system will need to be a back-up from local generation sources. HKGSA also suggests the Government to establish a regular communication mechanism with the relevant Central ministries and the governments of Guangdong Province and Macao, so as to coordinate the implementation of carbon reduction initiatives in the Guangdong-Hong Kong-Macao Greater Bay Area, thereby matching the national target of achieving carbon neutrality before 2060. There are less than 30 years to go before 2050 and time is really running short. The Government is seriously suggested to develop the necessary technologies and expertise in building a hydrogen economy for example, which is essential to cultivate a low carbon and resilient economy.

3. We fully support the mission of the Innovation and Technology Bureau to develop Hong Kong into a knowledge-based economy and an innovation hub for technology and its application in the region. With the advanced progress of technologies (such as internet of things, wide application of mobile apps and drones, virtual reality, artificial intelligence, chatbots, big data analysis, etc.), HKGSA has previously made repeated requests that the Government should reform outdated legislations with a view to promoting innovation and technological advancement. Only when outdated legislations are phased out, the collaborative consumption or sharing of economies such as car sharing service, which aims to reduce waste of both physical materials and resources and carbon emission, can be realized. HKGSA wishes to be updated of the progress of the work.
4. To meet the high demand for housing and strong desire for quality living environment, the Chief Executive has announced the reclamation in the Central Waters for developing the Kau Yi Chau Artificial Islands under the Lantau Tomorrow Vision in her previous Policy Addresses. HKGSA is pleased to learn that a consultancy agreement for the study on the artificial islands in the Central Waters has been awarded. HKGSA reiterates that the Lantau Tomorrow Vision is a viable solution to increase the supply of land to meet the long-term housing, social and economic development needs of Hong Kong, under which the artificial islands would link Lantau Island and Hong Kong Island together with power supply from two local generation sources. HKGSA suggests the Government to conduct the stakeholder engagements to collect views on the engineering design during the planning and engineering study stages.

Solid Waste

5. Since the launching of the "Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022", the generation rate of Municipal Solid Wastes (MSW) has gradually increased from 1.33 kg/capita in 2013 to 1.47 kg/capita in 2019. While a slight decrease was observed compared to the same figure in 2018 (1.53kg/capita), likely due to reduced community activities during COVID, this rising trend is still every alarming.

6. HKGSA is very pleased to see the passage of the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 at the LegCo on 26 August 2021 after decades in the making. We believe that once this charging scheme is officially in force, the entire “landscape” of MSW management in Hong Kong will evolve and be reshaped, ranging from citizens’ consumption / disposal behavior, commercial activities on recycling of various commodities, food waste management and treatment, application of latest recycling / sorting technologies, etc. all for the betterment.
7. We also fully support the objectives and directions set forth in the “Waste Blueprint for Hong Kong 2035” announced in February 2021, including “Waste Reduction”, “Resources Circulation” and “Zero Landfill”. While the MSW charging scheme is certainly a very key achievement, this shall not be the only tool to be relied on. Indeed it is just one of the many instruments to uphold a sustainable waste management strategy in Hong Kong.
8. Various Producer Responsibility Schemes (PRS) are either in place or under consultation / deputation, including plastic shopping bags, WEEE, glass / plastic beverage containers, disposable plastic tableware, single use plastics, etc. However, focusing on the issues induced by COVID, more attention should be paid to other types of wastes such as used masks and take-away food containers, especially it appears that COVID would be here to stay for some time, in one way or another.
9. “Avoiding” is always better than “Curing”. While we are glad to see that the funding application for WENT Landfill Extension was approved on 10 September 2021 and understand that the Government does have or will be constructing, state-of-the-art hardware for waste management such as landfill extensions, IWMF(s), O-Parks, Y-Park and T-Park, etc., the source of waste must be properly managed. End-point treatment shall be used for the “inevitable” only.
10. Now with the MSW Charging Scheme in place, HKGSA would respectfully highlight the following aspects which we believe are keys to successful waste reduction and resource management:
 - i. Food Wastes
We shall be expecting to see a surge collection rate in food wastes once the MSW Charging Scheme is officially in force, and believe it is now a good time to plan holistically ahead taking the opportunity of this grace period.

Food wastes decompose very quickly, together with its valuable (organic) content. This also explains the environmental nuisance associated (mainly smell and attraction of rats, etc.) with its collection. Long-haul transportation will increase costs of overall treatment, as well as risks of potential environmental nuisance. While centralized processing plants are sensible from an obvious economy-of-scale reason, smaller scale, decentralized, food waste plants shall also be explored and encouraged on a regional basis. Large scale commercial and residential developments shall be good candidates as “trials” of decentralized systems. HKGSA believes the overall food waste management regime shall comprise not only of mega infrastructures, but also some unique, discrete, local and talented smaller scale facilities, which were not “feasible” previously without the MSW

charging scheme. Technically, these smaller systems may generate some electricity and / or heat for own use, and even a small amount of compost for self-gardening and planting purposes.

The Government should also provide resources and technical support to the Food & Beverage Trade to actively conduct food waste minimization, surplus food donation as well as source separation (such as sorting table at fast food chains like Korea), collection and recycling of food waste. HKGSA suggests the Government to allocate adequate resources to adopt innovative and cost-effective ways of collecting and transporting food waste from commercial sectors and households to tackle the long-lasting problem of segregating and storing food waste in Hong Kong.

ii. Mobilizing the General Public on Recycling

On a general public perspective, HKGSA believes that most of the citizens agree that recycling shall be carried out. HKGSA opines the keys to successful public participations will be a combination of (a) “clear, simple-to-understand, transparent and auditable results of recycling efforts by the public” e.g. weight or volume recycled and, if applicable, some measures on their “incarnated useful” life, (b) “encouragement rather than punishment”.

The government shall realize that this is more an art than a science, and shall be prepared to “evolve” along the way. Apart from increasing the “visibility” and promoting positive imagines towards recycling, HKGSA believes that the government will gain wider public recognition on its tremendous efforts on various sustainable waste management and recycling initiatives, all of which shall be well deserved and respected.

iii. Recycling Industries and Facilities

The MSW charging scheme will change the “landscape” of the recycling market, and encourages more recycling activities which were previously not workable, to be re-evaluated and implemented.

In this regard, the government shall initiate more collaboration with the industries to re-industrialize, to process and to upgrade recyclables. The key constraints associated with recycling industries and facilities included (a) unavailability of the required land for recycling facilities, (b) availability of cost-effective recycling / sorting technologies, and (c) commercial viability / end product marketization of recycled products.

We do not run short of small parcels of lands in Hong Kong, either under short term tenancy or are being evaluated for further development. Further, available spaces in active or closed landfills and even transfer stations shall be considered to accommodate these facilities. Without land, no recycling facility can be established, ruining the original intention of the MSW charging scheme.

When MSW charging is in place, the amount of collected recyclables should be increased significantly, which makes the adoption of latest recycling/ sorting technologies possible and cost effective even the capital cost is higher than the old fashion and inefficient manual operation. We are pleased to learn that the

Government has injected a further \$1 billion into the Recycling Fund to provide the increased support to the local recycling industry.

For the commercially-viable recycled products, the Government shall consider proactively promoting and certifying (e.g. by using green labels) these commodities to gain wider recognition and confidence in the international market. On the other hand, the government needs to realize that in the real commercial world, not all recycled (but otherwise environmentally harmful) products contain viable commercial values by themselves. While quantities are important (e.g. recycling of paper), the environmental hazards associated with other kinds of wastes if not properly treated or recycled shall not be negated, but be considered in the overall waste management regime. Eventually, there will always be some recycled products which can never be commercially viable by themselves, but must be dealt with from an environmental standpoint. The government shall consider providing long-term support and subsidies to these recycled commodities.

11. HKGSA previously suggested the Government to reduce the use of plastic products. We are pleased to know that the Government has conducted or will conduct public consultation on major types of single use plastics in 2021. We urge the Government to formulate holistic policy on the control of these items at suitable pace according to their functional need, availability and cost of replacement materials, recyclability, etc.

Air Quality

12. Compared with the current AQOs which that took effect on January 1, 2014, it used a total of eight years to complete the whole process for the Air Pollution Control (Amendment) Ordinance 2021 tightening the three AQOs which would come into operation on January 1, 2022. HKGSA suggests the Government to review why it has taken such a long time to go through the process. With the next AQOs review to explore the scope for further tightening such objectives to be completed by 2023, HKGSA requests the Government to work out the plan to complete the review properly.
13. HKGSA is pleased to note that the Clean Air Plan for Hong Kong and its progress report from 2013 to 2017 have been updated as the Clean Action Plan for 2035. This Plan covers the six major areas, namely green transport, liveable environment, comprehensive emissions reduction, clean energy, scientific management, and regional collaboration to further improve the regional air quality. In reducing roadside air pollution and shipping emissions for improving air quality in Hong Kong, HKGSA supports the pilot scheme for electric ferries and light buses, the use of electric construction equipment/machinery and the review of the new energy transport fund, the ex-gratia payment scheme for phasing out Euro IV diesel commercial vehicles. The Government should organize workshops for sharing the successful testing results of innovative green transport technologies with the public. It is encouraging to see that no new registration of fuel-propelled private cars including hybrid vehicles would be allowed in 2035 or earlier according to the Hong Kong Roadmap on Popularisation of Electric Vehicles released by the Government in March 2021.
14. HKGSA is of the view that smart low emission transport and avoidance of congestion are important to provide a healthy and clean Hong Kong. We understand that the

Government has conducted the electronic road pricing (ERP) Pilot Scheme in Central in 2020. We strongly urge the Government to wrap up the issues including the charging mechanism and technology with adequate protection of privacy as soon as possible.

15. It is noted that the growth of EV has slowed down as a result of the revised tax concession on the purchase of EV. On the other hand, the no. of newly registered vehicles continues to increase. This worsens the local road side air quality in Hong Kong. HKGSA urges the Government to review the taxation system so that the use of EV with consideration of more brand names, could be widely promoted, while at the same time, the overall growth of new vehicles running on the road is tightly controlled. In view of wider use of EVs in long term in Hong Kong, end-of-life EVs and the waste arising from the associated retired components would be a future concern. We are pleased to note that PRS for retired EV batteries would be formulated to address this issue. Apart from EV batteries, the Government should also formulate strategy to tackle the associated end-of-life waste such as vehicle tyres.
16. HKGSA supports diversifying the sources of natural gas supply with the use of floating storage and regasification unit (FSRU) in the offshore LNG terminal to improve fuel security and to enhance bargaining power in the international market for gas supplies. HKGSA urges the Government to work closely with the power companies to ensure that FSRU could be put in service tentatively in 2022. According to the Clean Air Plan for Hong Kong 2035, the Government intends to widely use LNG in ocean-going vessels. HKGSA supports the Government's proposal to explore the use of this offshore LNG terminal as a bunkering facility for ocean-going vessels and the plan for LNG bunkering areas by formulating technical requirements and related safety regulations and requirements for offshore LNG bunkering in Hong Kong.

Climate Change and Energy Efficiency

17. Hong Kong, as a developed city, should continue to increase the portion of renewable energy (RE) in fuel mix. HKGSA welcomes the implementation of feed in tariff (FiT) scheme as an incentive which is limited to RE coming from wind and solar powers under the new Scheme of Control Agreement. However, in order to encourage development of different kinds of RE for promoting innovation, HKGSA suggests that the Government can consider expanding the FiT Scheme to cover other types of RE generation other than wind and solar power with similar financial incentive.
18. Regarding the use of biodiesel, it seems that only one franchised oil company in Kowloon side sells 5% biodiesel blend product for customers. At present a total of three petrol stations are supplying biodiesel in Hong Kong International Airport, Tai Po and Tsing Yi. HKGSA previously suggested the Government to review with the oil companies to see whether they could sell biodiesel in the whole territory of Hong Kong. We look forward to seeing an update on the progress.

Biodiversity Strategy

19. The Biodiversity Strategy and Action Plan (2016-2021) was formulated to step up biodiversity conservation. HKGSA understands that the action plans and their

effectiveness have been reported to the Advisory Council on Environment in 2020. It is time to update the action plans and establish new ones in 2022 with available baseline data for flora and fauna, (marine in hand?) and advanced technologies. It is hoped that Hong Kong people could make concerted effort to protect flora and fauna, marine and endangered species.

Fresh Water Supply

20. In the face of climate change, fresh water would undoubtedly become scarce in the future. Given that there is over reliance on imported water, HKGSA welcomes that the Water Supply Department had completed a review on the total water management strategy in 2019. In the review, the forecast of water demand and supply methodologies and projections up to 2040 have been updated. While multiple criteria (viz. resilience, economics and sustainability) is adopted, key initiatives of containing fresh water demand include further promotion of water conservation, water loss management and expansion of use of lower grade water for non-potable purposes. To build resilience in fresh water supply, the design and construction of the desalination plant in Tseung Kwan O has commenced in December 2019 for operation in 2023 with a water production capacity of 135 000 cubic metres per day. While there is no update on the above information from the public domain, HKGSA suggests the Government to regularly report the status so that Hong Kong people can be involved to save fresh water.
21. For the use of lower grade water, the Government should encourage the developers to widely adopt lower grade water for non-potable applications through rainwater harvesting or grey water recycling system installed on-site treatment and recycling facilities. While black water recycling is still relatively few in Hong Kong, more government recognition, promotion and support on this direction will encourage more technologies and users, which will lessen the reliance on the precious fresh water supplies.

Marine Water Quality

22. As for the odour caused by the expedient connections along the coast of Victoria Harbour, HKGSA previously suggested the Government to speed up the proposed work for improving the performance of the stormwater drainage systems such as dry weather flow interceptors in Tuseen Wan and West Kowloon with growing populations along their coastal areas and to rectify all the mis-connected foul water to storm drains from buildings to the public sewers network, As a trial, the Government has worked with academic institutions to investigate the application of "odour-control hydrogel" to inhibit odorous gas emission in the drainage system. Since the odor issue has dragged on for years, HKGSA suggests the Government to propose the timeline to completely solve the problems and regularly report the progress for the benefit of the public.

Review and Development of Water Quality Objectives (WQO)

23. WQOs serve as an indicator of how good the Government is doing in protecting water body. The current WQOs have been adopted for decades, it is necessary to review the objectives in the light of new scientific and technological advances in understanding and monitoring water quality. HKGSA understands that review and development of WQO include two stages of public engagement. The first stage on the review methodology has been completed more than ten years ago in 2010. The second engagement on any proposed changes has not yet been kicked off. Given that review of WQO will certainly protect marine waters of high ecological values, HKGSA previously suggested the Government to speed up the process and wishes to know the progress.

Sustainable Development/Environmental Industry

24. Given the Mainland Government's widely publicized determination to improve environmental quality for the whole nation, there is a great demand for environmental services/ products/ technologies. We also understand that China has gradually released the requirements of working permits in China to facilitate Hong Kong people to work in our mother land. Hence, the development of a vibrant local environmental industry is definitely contributory to job creation and economic growth. In order to facilitate the development of environmental industry, we have previously requested the Government to:

- set up an advisory body to recommend, plan and monitor the environmental industry development;
- establish platform to facilitate the transfer of advanced environmental technologies;
- develop a centre for the independent verification of environmental technologies; and
- facilitate the build-up of brand names for environmental services/products.

HKGSA would like to know the progress.

25. It is the Government's tendering practice to utilize proven technology. However, many innovative technologies developed by Hong Kong owned enterprises may not be widely used, and thus would be difficult to meet the Government's tender requirement. Innovation is essential for advancing the economy. HKGSA previously recommended the Government to consider adopting innovative environmental technologies/applications as the criteria in evaluating the tender submissions and would like to know the progress.

26. The Belt and Road Initiative is an important strategy for China's external and internal development, involving over sixty countries and emerging economies. There are numerous infrastructure projects in progress, including railway, highway and harbours, etc. Hong Kong engineering and environmental industry can provide the consulting service and be involved in the construction, operation management, meeting the needs of high-end service industry and promoting sustainable development and green lifestyle at the same time. We noted that the Government continued to conduct a series of government-to-government webinars to explore ways to capture business opportunities and collaboration initiatives this year in the context of the COVID-19 outbreak. We

suggest the Government to invite the experts from the engineering and environmental industry to share our expertise in the webinars.

27. HKGSA is pleased to know that the Smart City Blueprint for Hong Kong 2.0 has been released in December 2020, which covers over 130 initiatives to enhance and expand existing city management measures and services. We also note the wide use of innovation and technology in combating COVID-19. On the other hand, the work of the Multi-functional Smart Lampposts Technical Advisory Ad Hoc Committee has ended. The Government are now refining the applications and implementation arrangements of the pilot scheme in accordance with the Committee's recommendations on the use of smart lampposts and would further seek relevant District Councils' support for continuing with the implementation of the pilot scheme. We suggest the Government to work closely with the District Councils to materialize this initiative in view that multi-functional smart lampposts are a key digital infrastructure for promoting smart city development and facilitating 5G mobile network implementation in Hong Kong. Apart from installation of LED lighting, meteorological sensors, air quality sensors, thermal detectors as well as radio-frequency identification tags, Geo-QR codes and Bluetooth beacons to identify a lamppost's geo-location, etc., the lampposts could be equipped with camera for monitoring illegal waste dumping to facilitate the implementation of MSW Charging scheme in future. With the ageing population in Hong Kong, the lampposts can also help identify the location of senior citizens suffering from dementia.
28. No one will deny that new types of skill for developing new technologies including but not limited to AI, big data analytic, robot and among others for environmental protection and decarbonisation will be required. The Government should review the workforce required to make sure that Hong Kong could gain all possible benefits of the economic transformation due to environmental protection and sustainability. HKGSA welcomes the allocation of HK\$200 million to set up the Green Tech Fund (GTF) which aims to support the research and development and application of decarbonisation and green technologies. It is good to kick start the application process with a webinar to introduce the application procedures and priority themes of the GTF in early 2020. However, there is no update on the application status on the GTF. HKGSA suggests the Government to provide the public with more information about the GTF so that the development of the green tech such as carbon removal technologies and hydrogen economy for achieving carbon neutrality could be kept track of.

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13 September 2021