



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.

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Mr John KC Lee, GBM, SBS, PDSM, PMSM

The Chief Executive

Hong Kong SAR Government

Dear *John,*

Suggestions to prominent environmental issues
for the 2022-23 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 2022-23 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 TSE Chin-wan, Secretary for the Environment and Ecology

Encl.

Recommendations from the Hong Kong Green Strategy Alliance to 2022-2023 Policy Address

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

General

1. A heatwave sweeping every corner of the world this summer has sent temperatures soaring, as the highest record, and escalated the threat of bushfires and drought. China is facing power supply threat from drought in Sichuan at the time of writing. Hong Kong is not alone. According to the Hong Kong Observatory, July has become Hong Kong's hottest month ever, breaking 11 hot weather-related records. Our underprivileged people seriously bore the brunt of a sweltering heatwave. The IPCC report 2022 warned that the world is set to reach the 1.5°C level within the next two decades and said that only the most drastic cuts in carbon emissions from now would help prevent an environmental disaster. HKGSA welcomes the release of Hong Kong's Climate Action Plan 2050 in October 2021, outlining the four major decarbonisation strategies and measures, namely net-zero electricity generation, energy saving and green buildings, green transport and waste reduction. With the advancement of Renewable Energy (RE) technologies in recent years, the HKGSA supports the installation of the commercial scale offshore wind farms proposed by two local power companies in the medium term before 2030. HKGSA suggests the Administration to work closely with the power companies to ensure that two commercially scale wind farms could be put in operation as planned. To achieve carbon neutrality by 2050 as the long-term target, HKGSA suggests that the Administration 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 Administration to establish a regular communication mechanism with the relevant Central ministries and the Administrations 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 28 years to go before 2050 and time is really running short. The Administration 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.
2. President Xi inspected innovation and technology development in Hong Kong on 30 June 2022, demonstrating the important and expanded role of the Innovation, Technology and Industry Bureau. 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 Administration should reform outdated legislations with a view to promoting the development of innovation and technology. Only when outdated legislations are phased out, the collaborative consumption or sharing of economies such

as car sharing service, which aims to reduce wastage of both physical materials and resources, as well as to reduce carbon emission, can be realized. HKGSA wishes to know the progress of the work.

3. To meet the high demand for housing land and improve quality living environment, the Administration would explore ‘all options’ on land supply, including use of green belts. While the EIA process for the reclamation in the Central Waters for developing the Kau Yi Chau Artificial Islands under the Lantau Tomorrow Vision as a long term housing, social and economic development of Hong Kong has been kicked start, HKGSA looks forward to for the early release of the EIA report which would take into account the views of various stakeholders. HKGSA holds the view that the Administration has to seek to strike a new balance between urban development and ecological conservation. For any large housing development, HKGSA suggests the Administration to conduct the stakeholder engagements to collect views on the engineering design during the planning and engineering study stages.

Solid Waste

4. In the recent years, the Administration has published many policy documents focusing on environmental issues such as, amongst others, “Hong Kong’s Climate Action Plan 2050”, “Clean Air Plan for Hong Kong 2035” and “Waste Blueprint for Hong Kong 2035”, all revolving around the themes of “Sustainability”, “Green Living”, “Carbon Neutrality” and responsible use and management of resources. Apart from the ripples of Post-COP26, these issues have raised an ever-increasing level of public awareness in Hong Kong. Though “solid waste” is not the most eye-catching element amongst other carbon-associated emissions in Hong Kong, its proportion is certainly not small. Further on a macro perspective, the proper management of solid waste does play a vital role in achieving the above objectives set forth by the Administration.
5. Apart from the potential fugitive emission (namely CH₄) into the atmosphere if decomposed anaerobically, the transportation of solid waste, for it being landfilled now and later on being incinerated, is still intensive and does not appear to have accurately accounted for at present. This is similarly true for other products in general during their processes of “production” from virgin materials and “recycling” of recovered / unwanted incarnations. The scientific quantum and metrics have certainly been well established on activities of this sort, and shall be used to quantify the “bigger picture” for presentation to the public.
6. With the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 passed in 2021 and scheduled for implementation in 2023, HKGSA sees ample time and huge opportunity to have these metric reviewed and consolidated. The “pre-” and “post-” implementation metrics shall then be openly presented to the public, sharing and emphasizing the key achievements of this long-awaited green initiative led by the Administration. Apart from gaining wider public recognition and confidence in the Administration’s effort, this sort of “good news” and “positive energy” is also something everyone in Hong Kong is eager for.

7. HKGSA is also pleased to see many Product Responsibility Schemes (PRS) being progressively implemented or under consultation. With the Administration's policy support (and subsidy / funding at times), we shall aim at driving some fundamental changes in citizens' behavior towards consumption, from the former "efficient consumption / cleansing for hygiene / convenience" to a future mindset of "only use what you really need" and "think about the environmental consequences".
8. Coupled with the ongoing education efforts in schools and to the general public, HKGSA believes that this goal can be achieved by progressive "change in mindset", and maybe even more so by "peer pressure", though understandably every change will take time.
9. On a micro and more focused manner, HKGSA would put forth the followings for the Administration's consideration:
 - (a) Recycling efforts shall be recorded, recognized, transformed into easy-to-understand figures and announced. It is understood that not all recycled materials can be "profitable" or associated with a monetary value, but such activity must result in "environmental good" (no matter absolute or relative) to some degree. Now with the re-structuring of several major Administration bureaux and departments completed, HKGSA is positive and keen to see a more streamlined and efficient Administration in action workings towards those key objectives set forth in the above-mentioned policy documents.
 - (b) While Hong Kong citizens are getting ever more ready to recycle and "become green", HKGSA has been repeating that insufficient land is available for recycling operations. Sensibly, some operations are more appropriate to be "mega" scale while others may be smaller, decentralized and localized. While we already have a framework to site any mega recycling facilities in the making, the Administration shall explore other smaller and available parcels of land for decentralized and localized recycling operations, such as closed and restored landfill sites, unused Administration land or inactive schools / institutional premises, etc. Cooperation with local community organizations, schools, NGO and professional associations, etc. shall be proactively sought. The tenure of such tenancy can vary as well.
 - (c) Amongst the wastes generated daily, food wastes do make up a significant portion. Apart from the mega facilities like O-Parks in operation, under construction or in the planning, a similar decentralized and localized philosophy shall be applied to the management of food wastes, especially considering its "volatile" nature (e.g. quick generation of smell, as well as equally quick "loss" of its renewable potential). So far, anaerobic treatment of food wastes resulting in biogas production for, say, electricity generation appears to be one of the more technically mature and economically attractive options. However, its level of "economic attractiveness" hinders significantly upon the ability to temporarily store this "green" and low-pressure biogas, especially knowing that the food waste process is typically not around-the-clock. However, it has been

an “inherent” and even “impossible” barrier for project proponents to overcome in numerous opportunities, as the current regulations (under jurisdiction of different Administration departments) are simply not designed to cater for facilities of this sort. The current regulations and inter-Administrational responsibilities shall be reviewed and updated to “welcome” this sort of green and renewable initiatives, and to align with the Administration’s objectives at large.

- (d) As briefly mentioned in our suggestion last year, the upcoming MSW charging scheme is expected to completely alter the “landscape” and “ecology” of the local recycling industry, from source disposal, transportation and logistics, industrial operations to endpoint marketization. We strongly advise the Administration, in consultation with related industrial practitioners and professional associations, to have an early start to plan for this changing, yet “unknown”, landscape to ensure that the MSW charging scheme will function and perform as intended and designed, and more importantly not to unfortunately become “mis-perceived” by the general public later on.
- (e) The Administration should lead the way by putting priority to purchase product derived from locally recycle materials as a way to support the local recycling industry to foster circular economy.

10. HKGSA welcomes and is very pleased to see these Key Environmental Objectives being laid down solidly in various precise policy documents. As always and as evident in the past decade and more, HKGSA is more than ready to render our support and provide our unbiased and professional opinions, joining hands with the Administration in achieving the key and meaningful environmental objectives set forth the long-term betterment of Hong Kong and our future generations.

Air Quality

- 11. Compared with the current AQOs which that took effect on January 1, 2014, it took 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 Administration to review why it has taken eight years to complete the whole process. With the next AQOs review to explore the scope for further tightening such objectives to be completed by 2023, HKGSA requests the Administration to work out the plan for undertaking a series of assessments and discussions to evaluate the air quality improvement and set the AQOs to be attained in 2025 with an aim to ensure that the new AQO will take effect in 2025.
- 12. The Clean Air Plan for Hong Kong 2035 released in June 2021 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 g 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 Administration should organize

workshops for sharing the successful testing of green innovative transport technologies with the public.

13. HKGSA is pleased 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 Administration in March 2021. We are pleased to learn that the government has recently injected another \$1.5 Billion into the EV-charging at Home Subsidy Scheme, making it a total of \$3.5 Billion. However whether the target of 140,000 parking spaces in about 700 car parks of the existing private residential buildings could meet the demand on existing buildings are doubtful, as Hong Kong has much higher number of private vehicles. Furthermore, HKGSA supports the Administration to proactively promote the development of other new energy public transport and commercial vehicles, including working with franchised bus companies to conduct trials of hydrogen fuel cell buses, with a view to formulating a specific roadmap and timetable for the use of new energy public transport in 2025. HKGSA is looking forward to the roadmap and timetable.
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 Administration has conducted the electronic road pricing (ERP) Pilot Scheme in Central in 2020. Since then, there is no update on this scheme. We support the ERP Pilot Scheme which helps reduce emissions in the congested area, and strongly urge the Administration to wrap up the issues including the charging mechanism and technology with adequate protection of privacy as soon as possible.
15. With the Administration's measures to promote the use of EVs, the total number of EVs slowly increases to 3.6% of the total number of vehicles as at end of June 2022. HKGSA urges the Administration to implement more favorable measures for users in coming ten years to achieve the target of no new registration of fuel-propelled private cars by 2035. In view of wider use of EVs in long term in Hong Kong, end-of-life EVs and the associated retired components would be a future waste concern. We are pleased to note that the policy direction of the introduction of a producer responsibility scheme (PRS) has been set to ensure the proper handling of retired EV batteries, and are looking forward to the early legislation of PRS to address the issue. Apart from EV batteries, the Administration should also formulate strategy to tackle the associated end-of-life waste such as 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 Administration to work closely with the power companies to ensure that FSRU could be put in service in 2023. According to the Clean Air Plan for Hong Kong 2035, the Administration intends to widely use LNG in ocean-going vessels. HKGSA supports the Administration's proposal to explore the use of this offshore LNG terminal as a bunkering facility for ocean-going vessels. To plan and develop LNG bunkering in Hong Kong, HKGSA urges the Administration to formulate a regulatory framework that covers all round of aspects such as licensing, safety, personnel competence, environment and sustainability, and simultaneous operations. The Administration shall kick off the work of introducing relevant policies that would incentivise and attract LNG-fueled ships to berth and bunker in Hong Kong with a view

to transform Hong Kong SAR as a hub port and expedite the decarbonisation of its shipping sector.

Climate Change and Energy Efficiency

17. Given hydrogen emitting no carbon or other pollutants to the atmosphere, is an environmental-friendly and inexhaustible energy supply for the future. The hydrogen economy is something about a new economic structure in which green hydrogen is widely used as an energy carrier if it is derived from renewable energy without carbon emission. The hydrogen can be stored and used in a fuel cell to generate electricity, with heat as a byproduct that could be directed to heating or other applications. HKGSA requests the Administration to formulate a taskforce inviting experts to formulate the strategy and framework as part of the measures to achieve carbon neutrality.
18. Hong Kong, as a developed city, should continue to increase the portion of renewable energy (RE) in fuel mix. HKGSA welcomes the successful 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 previously suggests that the Administration can consider expanding the FiT Scheme to cover other types of RE generation other than wind and solar power with similar financial incentive. However, there is no feedback from the Administration.
19. 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 repeatedly suggested the Administration to review with the oil companies and see whether they could sell the biodiesel in the whole territory of Hong Kong including Hong Kong Island. It is not environmentally friendly for consumers on Hong Kong Island particularly drive to Kowloon and New Territories side for consuming biodiesel.

Biodiversity Strategy

20. 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. Since then, there is no report on the progress. HKGSA urges the Administration to update the action plans and establish new ones in the session of 2022-2023 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

21. 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 and the desalination plant is expected to commence 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 Administration to regularly report the status so that Hong Kong people can be heavily involved to save fresh water. For domestic bills, HKGSA suggests the Administration to revise them to include green information such the carbon emission per cubic meter of water consumption and the average water consumption as a benchmark for the consumers to compare. The format of electricity bills can be referred to for green information.
22. For the use of lower grade water, the Administration should encourage the developers or the Administration should take the lead 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 Administration recognition, promotion and support on this direction will encourage more technologies and users, which will lessen the reliance on the precious fresh water supplies. However, there is not much report of the green initiatives.

Marine Water Quality

23. For marine odour nuisance caused by the discharge of wastewater from buildings into the sea through the stormwater system instead of public sewers network, HKGSA previously suggested the Administration to speed up the proposed work for improving the performance of the stormwater drainage systems such as dry weather flow interceptors and the use of odour-control hydrogel. The Administration recognizes that these measures could not completely resolve the odour problem at Tsuen Wan Bay. In the long run, the Administration was planning to install large-scale dry weather flow interception facilities at downstream locations of the box culverts. As the area near Tsuen Wan waterfront was densely populated, HKGSA urges the Administration to endeavor to complete the projects as early as practicable

Review and Development of Water Quality Objectives (WQO)

24. WQO have served as an assessment of how the Administration is doing in protecting water body. It is necessary to review the objectives in the light of new scientific and technological advances in understanding and monitoring water quality. Since the water quality situation is directly associated with the WQO which have been adopted for

decades, 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 Administration to speed up the process. However, there is no report of the review progress.

Sustainable Development/Environmental Industry

25. Given the Central Administration's widely publicized determination to achieve improvement in 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 the economy. In order to facilitate the development of environmental industry, we have previously requested the Administration 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 buildup of brand names for environmental services/products.

HKGSA would like to know the progress.

Furthermore, to materialize the development of career in environmental sustainability, HKGSA suggests the Administration to ease restrictions on travel and entry into China and will facilitate travel for Hong Kong environmental experts.

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

27. Regarding the Belt and Road Initiative, 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 Administration continued to conduct a series of Administration-to-Administration webinars in the context of the COVID-19 outbreak. According to the latest data, the Administration correspondingly adjusted isolation and quarantine arrangements for inbound persons. HKGSA supports the face to face meeting to be organized, in which the experts from the engineering and environmental industry would be invited to share their expertise.

28. 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 Administration 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 previously suggested the Administration to work closely the District Councils to materialize it 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 incorporate the waste dumping monitors with cameras to facilitate the possible municipal charging scheme in future. With the increasing ageing population in Hong Kong, the lampposts can also help identify the location of senior citizens suffering from dementia. HKGSA suggests the Administration to comprehensively review the Blueprint and update it for the sake of continuity as appropriate.
29. No one will deny that new types of skill for developing new technologies including but not limited to AI, big data analytic, block chain, robot and among others for environmental protection and decarbonisation will be required. The Administration should closely 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 is pleased that additional funding of \$200 million was into the Green Tech Fund (GTF) in 2022-2023 budget, with a view to further promoting decarbonisation and enhancing environmental protection in Hong Kong. While the continuous injection of GTF in the coming budget is welcomed, HKGSA suggests the Administration to provide the public with more information about the GTF so that the development of the green technologies such as carbon removal technologies and hydrogen economy which are pressing issues for Hong Kong to achieve carbon neutrality could be kept track of.
30. The Administration should support for wider adoption of ESG practices within the business community. Currently public listed company would need to report their ESG initiative, but smaller business adoption is low. HKGSA is of the view that education and promotion is needed to encourage adoption in ESG for SME in Hong Kong.

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