

By Hand and Email at policyaddress@csso.gov.hk

30 September 2022

The Honourable John KC Lee, GBM, SBS, PDSM, PMSM
The Chief Executive
Hong Kong Special Administrative Region
People's Republic of China
c/o Policy Address Team
26/F, West Wing
Central Government Offices
2 Tim Mei Avenue
Tamar, Hong Kong

Dear Mr LEE

**Views from The Hong Kong Institution of Engineers to the Chief Executive for
Formulation of the 2022 Policy Address**

On behalf of the Institution, I am pleased to present to you our views and suggestions as set out in the enclosure for your kind consideration on the captioned subject.

With our expertise and experience, the Institution welcomes the opportunity to work with the Government on the area of concern for the benefits of the profession and the general public as a whole.

Thank you.

Yours sincerely



Ir Aaron BOK Kwok-ming
President, The HKIE

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In the past few years, Hong Kong has met unprecedented challenges occasioned by the pandemic. Besides causing casualties and heavy burden for the medical institutions and services, it is also generating a very heavy burden driving against the revival of our economy. Yet, it is evident that the engineering profession stands ready at all times to support the governance of Hong Kong and help maintain its public health, safety, stability and prosperity under all situations. A good example is the implementation of the various quarantine and community isolation facilities on an unprecedentedly stringent time-scale to meet the society's needs.

2. With the gradual recovery from the pandemic, we see the Administration is committed to resolving many of our deep-rooted problems like the acute shortage of land and housing supply, tardiness of the integration into the national development, need for new growth impetus etc. All this represents huge opportunities as well as challenges to the engineering community. As a professional body championing engineering excellence, the HKIE is committed to continuously offering our expertise and advice to help combat challenges, make changes and construct a better future for Hong Kong. This is particularly so when we are in a new term of the Government. In this light, we would like to put forth our views on the following major areas to the Administration and hope that this would be of value for the formulation of the forthcoming Policy Address.

Procurement Policy Review and Augmenting Manpower

3. In March and April this year, the HKIE issued two separate study reports on procurement policy review¹ and augmenting engineer manpower to cope with foreseeable surge in demand². The first report made suggestions to the Government to curtail tenderers from making significantly low bids which could lead to poor working environments for engineering professionals, especially the younger ones, thus deterring them from joining the profession; as well as affecting project programmes and triggering quality, health and safety issues. These results are not in the best interest of

¹ https://www.hkie.org.hk/docs/research_procurement_policy.pdf

² https://www.hkie.org.hk/docs/HKIE_Research_on_Manpower.pdf

the public. The second report made suggestions to cater for the anticipated significant shortage of human manpower to meet the boost in infrastructure development and the uplifting of Hong Kong's status as a technology and innovation hub. It needs the joint efforts of the Administration and the industry stakeholders to curtail the vicious circle that affects the profession for years and threatens the succession of the industry. In particular, we advocate the view that the Administration should review the curricula of secondary school and university as well as the university admission policy to promote students' interest and motivation in pursuing engineering to support the development that the city needs.

4. The two reports had been published and also submitted to the Chief Executive and the relevant Government authorities for reference. It is the wish of The HKIE that the Administration will take swift actions with a view to rejuvenating the procurement system and evaluating and resolving the imminent human resources gap to manage the upcoming heavy construction workload.

Streamlining Building Works and Infrastructure Development Process

5. Hong Kong has a very comprehensive and robust system in overseeing the planning, design and construction of buildings and associated works, aiming therewith to protect public safety and property. We see however there is scope for streamlining the submission, checking, supervision and approval processes with the objective of expediting the building and associated infrastructure development. The HKIE has thus submitted a third report³ recently in which suggestions were made on streamlining building works and infrastructure development process to help fast track the whole development cycle, mainly focusing on the downstream submission and approval process during the design and construction stages of projects/developments and supplementing studies conducted by the Administration that concern mainly the upstream planning and statutory parts. The key recommendations concern permitting coordination and parallel actions across various government departments, thus saving much precious time during development.

³ https://www.hkie.org.hk/docs/HKIE_streamline_processes.pdf

6. Another major suggestion for the Administration is to clearly spell out to the working level of the approval authorities that apart from shouldering the regulatory duties while scrutinising the development submissions, they shall also take up the facilitator's role to provide advice for project proponents on how the latter can achieve progress, all under the premises of not foregoing any safety, quality and statutory requirements and in a fair and open manner. Bureaux and Heads of Departments should clearly convey this to their officers to ease their worry about receiving complaints through being misperceived as offering privilege.

7. The HKIE also suggested a new implementation mechanism for fast-tracking the production of public housing by vesting the design and construction responsibilities for selected suitable sites (but not all sites) in one single entity. Currently, the works are split between the Government and Housing Authority in terms of land formation/infrastructure provision and the subsequent building works. Entrusting the respective works to a single entity where possible will reduce interfaces and enhance the workflow and efficiency; thus, the construction time will be compressed significantly for suitable sites. More details can be found in our report entitled "Recommendations on Streamlining Building Works and Infrastructure Development Processes".

Land Supply

8. In solving one problem, we shall not create another one, let alone sacrifice Hong Kong's current valuable assets. There have been overwhelming debates on options of land supply over the years. It is time for action. To break through the bottleneck of land supply, we consider that the early implementation of reclamation at the Harbour Metropolis is a vital step in view of its strategic location, its location in an ecologically non-sensitive areas, and its provision of a large amount of new land supply suitable to be developed as the city's smartest development area and our third Core Business District without having to resettle any existing land users. Further years of debates will thus be avoided. The Institution suggests fast-tracking the planning, design and construction stages to speed up the provision of land parcels. One possible step is to commence the reclamation works in advance of the completion of the town planning process, provided that the statutory procedures for the reclamation part under Environmental Impact Assessment Ordinance and Foreshore Seabed Ordinance are

completed. There have already been clear assessments and demonstrations on the financial viability of the project by comparing the construction cost with the premium gained through land disposal to the market. The whole development process of Harbour Metropolis may take years to complete; and hence, dispersing the works projects over a slightly longer period can facilitate a more stable supply of manpower and materials, hence optimising the development cost, schedule and quality. The HKIE recommends setting out a more detailed infrastructure blueprint that specifies the key milestones of delivery of land parcels and important infrastructure works. In the longer term, a rolling land reserve (land bank concept) shall be developed to sustain Hong Kong's commercial, industrial, residential, logistic and diversified development for the future.

9. Utilising the potential of existing land, the Northern Metropolis can become another major source of land supply in the coming decade provided that the development in those ecologically sensitive areas in the Districts is avoided as far as it is practical to save repeated years of debates. The Administration should continue with the rezoning of different sites for residential or other uses with thorough consideration of their respective effectiveness, reaping in particular on their strategic locations that can support our city's new economic engine on innovation and technology (I&T) industry; thus fostering a greater integration of Hong Kong's development into the Greater Bay Area's and developing the metropolis into an ideal area fit for people to live in, work and travel. Green belts, abandoned farmlands, suitable brownfields and even fringes of country park areas with low ecological value and with sufficient proximity to existing transport infrastructure can be considered for development.

10. With the ageing of urban districts, such as Yau Ma Tei, Mong Kok and Tsuen Wan, there is a growing demand for new land to which residents from these old communities may relocate, thus facilitating the implementation of urban renewal projects, which in turn will generate more units that offer better living conditions for the residents, as well as space for other purposes essential to the city's sustainable and smart development. We therefore believe that active development of the Harbour Metropolis and Northern Metropolis will provide the much-needed solution spaces for this purpose.

11. Time is of essence when the Administration presses ahead with land development. To timely and effectively address the land supply and development issues, the

Administration is urged to follow through in reviewing the procurement policy, manpower augmentation and then streamlining government procedures and regulations, approval mechanisms in land, town planning, engineering, building, landscaping and architectural submissions. On this front, our three reports as mentioned in paragraphs 3 to 7 above are particularly relevant.

Housing Development

12. Public Rental Housing (PRH) is a proven tool to alleviate the problems faced by less privileged households. The Institution supports the Advance Allocation Scheme in selected PRH for the applicants on the waiting list while supporting facilities are underway, provided that the essential amenities are available. Regarding the planning standard, facilities such as transportation and government, institutional and community (GIC) facilities, should be made available with the growth of population residing in the public housing projects. The applicants on the PRH waiting list may consider moving in earlier to shorten their waiting time. Despite the shortening of waiting time, the Government will still need to strike a balance between the deferred provision of social amenities, commercial activities and housing demand to avoid creating isolated communities which are commonly labelled as “city of sadness”. The Institution also recommends separating GIC facilities from the residential blocks for some suitable sites in contrast to integrating them into the basement or platform, so that the sole block of residential flats can be built by Modular Integrated Construction (MiC) method to further compress the construction time.

13. MiC has increasingly been adopted especially during the pandemic period for the construction of quarantine facilities. Standardised modules enable shorter production time when compared with traditional construction methods. As the Administration is planning to increase the usage of MiC in public housing, the HKIE considers it a good timing to study the feasibility of setting up local MiC factories and prefabrication yards to partly address the local needs. The setting up of such facilities would encourage local employment and further application of MiC, and more importantly enhance the supply chain efficiency and stability. Since most of the modules originate now from the Mainland and are then delivered to Hong Kong, quality control, logistics arrangement, storage, and the potential financial and time burden in case the modules are to be customised locally are some of the major difficulties and hindrances for the

industry to apply MiC. Despite shortage in land supply in Hong Kong, the HKIE suggests the Administration consider strategically the future and long-term demand of modules. The new development areas being conceived such as the Northern Metropolis, reclamations in Lung Kwu Tan may be considered as appropriate locations for housing the facilities; though there are also competing demands on industrial land use for concrete plant, asphalt plant and storage warehouse, etc. The HKIE suggests the Administration makes a holistic planning on the long-term provision of such industrial land use.

14. The introduction of private entities to the construction of public housing is also recommended to the Administration. Private Sector Participation Scheme (PSPS), which had once been adopted in House Ownership Scheme (HOS) until 2003, and the design-and-build (D&B) procurement model can help speed up public housing construction. The Institution supports reactivating the PSPS and expanding the adoption of the D&B procurement model. To make full use of the market force, the Administration may expand the PSPS to other subsidised housing, such as Green Form Subsidised Home Ownership Scheme and the subsidised units developed by the Hong Kong Housing Society, so as to encourage capable tenants in PRH to move to other affordable units with a better living environment and increase the supply of different types of housing on the property ladder. The Administration is therefore suggested to seek ways to encourage the participation of private developers by fast-tracking the approval process and offering stronger incentives.

15. The HKIE supports extending the minimum flat size requirement to all Government land sale, railway property development projects, projects of the URA and lease modification and land exchange applications by private developers to enhance living space and respond to the society's wishes.

Innovation and Technology

16. Hong Kong ranked 5th in the IMD World Competitiveness Ranking 2022, rising from last year's 7th, but the innovation and technology (I&T) industry experience is not telling the same story despite its capacity and potential. As the planner and facilitator, the Administration is urged to strengthen and expand our talent pool. By implementing a competitive and open policy, Hong Kong can attract more elites from

the world to join us. The HKIE is delighted to see the Government investing in innovation proactively, with the result that some categories, such as Artificial Intelligence (AI) and bio-medical technology, are showing rapid growth. It takes years to turn an innovative concept into a marketable product; the investment and subsidy of the Administration are essential to pushing the industry forward. The Institution suggests streamlining the procedures of the funding application, relaxing the requirements and subsidy ratio as well as shortening the application and approval time to help small and medium enterprises.

17. The demand of products and market is the important driving force for startups to continuously upgrade their products. Local institutes develop groundbreaking research, but there are various constraints on the road to marketing them. To further encourage the transfer of academic research to the manufacturing industry, the Administration shall consider modifying the requirements of the funding scheme and provide incentives for both the academia and private sector to achieve mutual success: the academia can receive fundings from the private sector to support their research whereas the private sector can obtain top-notch solutions to elevate themselves into more value-added business.

18. The HKIE is delighted to see the Administration facilitating the process of re-industrialisation to develop a more diversified economy. Notwithstanding this, additional investment in I&T infrastructure to boost the development of the industry is worth considering. Hardware infrastructures such as data centre and networking, and software infrastructure such as cloud server and Internet of Things (IoT), are all essential to re-industrialisation. The Institution wishes to see further input from the Administration to promote Hong Kong as an international I&T hub and give I&T practitioners and future generations the confidence to devote themselves to working in this sector.

Integrating into the Greater Bay Area

19. The Greater Bay Area provides an extensive market and much more opportunities for our engineers to explore. The HKIE executed a Mutual Recognition Agreement (MRA) with the Guangdong Society for Electrical Engineering in December 2021, being the first mutual qualification recognition with a provincial institution in the

Mainland. More MRAs regarding other engineering disciplines are being explored with our counterparts in the Guangdong province. To create more opportunities such as this for Hong Kong engineers in the Greater Bay Area, the Institution recommends that the Administration take the lead to strengthen the cooperation and promote more dialogues to expand the mutual recognition of professional qualifications into more engineering disciplines in the area, while making good use of Hong Kong's status of an internationally acclaimed open city and economy.

20. Development of the Lok Ma Chau Loop will certainly deepen cooperation between Shenzhen and Hong Kong. To facilitate its development, the Institution supports further opening of the Joint Policy Package to encourage the flow of talent, scientific research, data, etc. among different industries. The Institution is aware of the need to enhance the transportation network for the Loop and would like to see the early implementation of the Northern Link Spur Line in this regard. The Administration is also urged to closely follow through with the construction progress for the whole Loop in order to reap the benefits that could be generated from the cooperation Package as soon as possible.

Transportation

21. Transportation infrastructure creates capacity for new development areas. We support the idea of infrastructure-led development. The developments at the Northern Metropolis and Harbour Metropolis will invariably depend on an overall review of the transportation network for Hong Kong. Whilst there are a number of railway and road extensions packages being introduced, like the Tuen Mun South Extension, new Science Park/ Pak Shek Kok Station, Northern Link Eastern Extension, Route 11, etc, we strongly urge the Administration to conduct a comprehensive transport study (CTS) now in view of the various planned developments at the Northern Metropolis and Harbour Metropolis. We recall that the last CTS was undertaken more than ten years ago. It is perhaps high time for the Administration to review and brush up the overall local and cross-border transportation networks and strategies for Hong Kong given the latest strategic development.

22. With the operation of the third runway of the Hong Kong International Airport, Hong Kong's status as an air transportation and logistics hub, as well as a maritime

centre, is expected to rise to new heights once the pandemic is over. The Institution is eagerly looking forward to the relaxation of quarantine measures and the resultant deployment of such logistics capacity. To shift the development of logistic and maritime transportation towards a higher value-added position, the Administration shall proactively take forward and expand the intermodal code-sharing services, which offer much convenience to travellers taking different means of land and sea transport and enhance Hong Kong's position of regional and international hub. The Institution is ready to share its professional experience in constructing a high-end logistics network with automated just-in-time operation.

Education

23. Education forms a solid foundation for Hong Kong to develop and sustain itself as an international advanced economy. However, our earlier study revealed a widening gap between the supply and demand of engineering professionals, which will be worsening with the implementation of upcoming megaprojects. Quick actions, in particular a review on the school curricula and university entry requirements, are therefore necessary to strengthen the interest of students in studying physics and extended modules of mathematics and promote the engineering profession to the general public and improve engineers' working environment and conditions. The HKIE will continue its mission of striving to promote the unique nature of engineering-related careers and make engineering youngsters' dream job once again.

24. It is hoped that the Administration's announced emphasis on STEAM education can arouse students' interests in science and engineering. The idea of what engineering is about can be cascaded to the teaching of different subjects in primary and secondary school curriculum, such as the arts and Personal, Social and Humanities curricula, in order to engage students with different interests in STEAM-learning experiences. The Administration is urged to extend utmost efforts to stimulate students, especially those in junior high schools, to develop interest in science subjects. Of equal importance, the Administration has to illustrate to students the importance of a solid knowledge base in science in the future world in order to help them make well-informed decisions on their study and career. The HKIE is in collaboration with the Education Bureau on the promotion of our One School/One Engineer 一校一工程師 Scheme, where volunteer engineers will support over 50 primary and secondary schools

in the first phase as ambassadors by illustrating the work of engineers, promoting STEAM education, and most importantly inspiring students' interest in the field.

Smart and Sustainable City

25. The Administration sets out the Smart City Blueprint, as well as a revised 2.0 version, to expand existing city management measures and services towards Smart City. Review of associated regulations, such as noise control and smart technology applications, has to be accelerated in order to boost the development of smart and sustainable city. More concrete details of encouraging public-private partnership should also be worked out to engage enterprises with different expertise to join hands with one another.

26. Combating climate change is a global challenge. With the announcement of Hong Kong Climate Action Plan 2050, the Administration has responded proactively to our country's commitment of reaching peak emission before 2030 and carbon neutrality by 2060 by setting out clear goals to reduce carbon emissions, in particular in electricity generation and the transportation industries, which contribute significantly to them. To achieve net zero transition around 2050, the Institution further recommends engaging engineers in formulating climate strategies and policies, as well as adopting carbon capture, utilisation and sequestration technology, which will help pave the way to carbon neutrality. Continuous efforts to press for more renewable energy (RE) and waste-to-energy projects must be boosted up. To this end, the HKIE would like to reiterate its advocacy in similar submissions earlier of devoting more efforts to facilitating on-grid connection of large-scale public and private RE installations, such as solar panels on reservoirs or rivers, and effective collection of the city's food waste for co-digestion with the abundantly available sewage sludge for turning waste to clean energy.