

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

30 September 2020

The Honourable Carrie LAM CHENG Yuet Ngor GBM GBS
The Chief Executive
c/o Policy Innovation and Co-ordination Office
26/F, West Wing, Central Government Offices
2 Tim Mei Avenue, Tamar
Hong Kong

Dear Mrs LAM

**Views from the Hong Kong Institution of Engineers to the Chief Executive for
Formulation of the 2020 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 in the preparation of the 2020 Policy Address.

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

Thank you.

Yours sincerely



Ir Prof P L YUEN
President
The Hong Kong Institution of Engineers

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PLY/SW



相信·可·看見
創新·成·蛻變
Believing is Seeing
Innovation for Transformation

**Views from the Hong Kong Institution of Engineers
to the Chief Executive for Formulation of 2020 Policy Address**

The Hong Kong Institution of Engineers (HKIE) as an engineering organisation par excellence has been actively engaged with the Administration to strive for the advancement of the engineering profession through which we have devoted to enhancing the well-being of every individual in the society of Hong Kong. Confronting the unprecedented challenges arising from the regional and global environment, the society demands prompt, pertinent and effective measures against the adverse socio-economic conditions, including the most recent impact arising from COVID-19. Therefore, the HKIE by virtue of its obligation to the society would like to put forth our views on the focus on economic recovery and livelihood improvement, social aspects and at the same time advocate to set up forward-looking policies on Innovation and Technology (I&T) area that support sustainable development in Hong Kong.

2. The outbreak of COVID-19 presents both an enormous challenge and at the same time a tremendous opportunity for the World including Hong Kong as a citizen of the planet to reach the United Nations' 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (SDGs). The HKIE suggests the Administration to grasp this opportunity to take the leading role and integrate United Nations SDGs into policy formulation as an appropriate measure fighting against COVID-19 and transform Hong Kong into a sustainable and healthy city.

3. The Administration is also urged to embed the concept of sustainable development goals promulgated by the United Nations into the policy-making process and project implementation. It is recommended to start with a feasibility study on the applicability of the goals on various kinds of public-funded projects. The HKIE can facilitate and provide the expertise on developing the brief of such a study. This will help put into practice the goals of assuring balanced development in social, economic and environmental conservation/protection dimensions, and at the same time to enhance Hong Kong's international image in striving for sustainable development.

Land & Housing

4. The land is one of the most significant resources for long-term social and economic developments and Hong Kong is facing a tough challenge of land shortage that inevitably leads to a series of socio-economic predicaments. The HKIE supports the recommendations of the report conducted by the Task Force on Land Supply (TFLS)¹, which consolidated and reflected the mainstream views within the community, that multi-pronged approach of land searching should be adopted as well as the eight land supply options proposed for priority studies and implementation should be expedited.

5. As a forward-thinking mega project to address the issue of land shortage and for long term development, the HKIE supports the Lantau Tomorrow Vision and believes that creating artificial islands in the Central Waters connecting Lantau Island and Hong Kong Island together is a technically feasible way for increasing land supply. The Administration is suggested to conduct early relevant studies offering scientific and objective information for the later public consumption

¹ The Task Force on Land Supply, *Striving for Multi-pronged Land Supply, Report of the Task Force on Land Supply (December 2018)*. Retrieved from [https://www.landforhongkong.hk/pdf/Report%20\(Eng\).pdf](https://www.landforhongkong.hk/pdf/Report%20(Eng).pdf).

and deliberation, especially for the town planning, traffic and transport, various environmental and hydraulic assessments, the method of reclamation, identification of fill sources, the engineering techniques to address the concerns on any storm surges and wave impact, etc. Concerning maximising use of land produced, the HKIE advocates the development of three-dimensional land-use planning to unlock the potential of the underground space as a source of land supply. For transportation network planning, the HKIE supports the Administration to conduct a comprehensive study under the proposed “Strategic Studies on Railways and Major Roads beyond 2030” and/or to study an update of Comprehensive Transport Study or Railway Development Strategy. Furthermore, to foster consensus among the different voices in the community, the Administration is recommended to conduct detailed assessments on various aspects, including environmental, financial and social risk and benefit, and to communicate with the public.

6. To address the pressing need for more land resources in the short-to-medium term, the HKIE welcomes the prevailing policy of developing brownfield sites and the efforts on the Brownfield Study and the Multi-storey Buildings Studies to formulate strategies and measures for tackling issues relating to brownfield sites development in the New Territories. The Administration is suggested to assist the eligible brownfield operators in relocating their operations through comprehensive planning and arrangements to ensure the smooth resumption of brownfield businesses in the new location, which may need to be on new reclamation land.

7. The HKIE backs the land resumption for First Phase Development of Hung Shui Kiu/ Ha Tsuen New Development Area (HSK/HT NDA) and urges the Administration to accelerate the HSK/HT NDA project which is expected to provide homes for approximately 218,000 residents and to monitor the development by taking account of the demand of infrastructural and other required facilities within the area to create a sustainable living, working and business environment.

8. Regarding public-private partnership recommended in the report conducted by the TFLS, the HKIE supports the Administration to realise the potential of private land and initiates the Land Sharing Pilot Scheme which complements government-led planning of private land for specified public purposes. It is suggested to provide more resources for the Land Sharing Office to facilitate the collaboration among different governmental departments to work effectively on the three-stage implementation so as to shorten the development time frame.

9. In terms of tapping the opportunity arising from the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) and leveraging on the Hong Kong-Shenzhen-Guangzhou Express Rail Link and Hong Kong-Zhuhai-Macao Bridge to create the “one-hour living circle”, the Administration is proposed to study the feasibility of borrowing land where is close to Hong Kong to relocate the existing large-scale facilities in Hong Kong such as container terminals for re-development.

10. Also, to maintain a steady land supply for housing and socio-economic development needs in the future, we advocate the Administration to study and promote the concept of land reserve by exploiting all feasible and cost-effective options; to shorten or hasten the relevant procedure or proceedings for the sale of government sites; as well as to study the market conditions regularly so that the amount of land supply could be adjusted to accommodate the demand on a timely basis. On the land reserve concept, one possible option is to identify provisional reclamation area which can also serve as fill bank to absorb the surplus public fill generated in Hong Kong each year.

11. The overall expensive housing market in Hong Kong is another immediate problem that needs to be addressed. The HKIE is aware of the Administration’s striving to enrich the housing ladder

and to address the needs of families in different income brackets. Regarding Starter Homes programmes that are targeted at the middle-income families, we support the Administration to launch the second pilot project for a private residential site in Kwun Tong and suggest that the Administration further promotes this programme to other locations with the design of sufficiency of as well as efficiency in infrastructure and facilities provided in order to assure the living quality of the residents and minimise the possible impacts on adjacent neighbourhoods.

12. As at the end of June 2020, there were approximately 155,800 general applications for public rental housing, with the average waiting time of 5.5 years². In response to shortening of the average waiting time, it is suggested to speed up the study of the feasibility and map out the schedule of redeveloping individual factory estates under suitable conditions to increase the supply of public housing.

13. To relieve the financial stress of lower-class families who are awaiting public housing, the implementation of transitional housing is one of the suitable solutions. The HKIE supports the formation of Assessment Committee of the Funding Scheme to support Transitional Housing Projects led by non-government organisations and facilitate the planning and approval for construction projects of transitional housing to close the housing gap between rich and poor.

14. The HKIE recommends the Administration to take the lead in the provision of additional idle sites for transitional housing as well as the promotion of the innovative construction technologies such as Modular Integrated Construction (MiC) by optimising the procedural efficiency of application for in-principle acceptance of MiC system under the pre-acceptance mechanism to expedite the utilisation of MiC in construction projects. The recent example of developing large numbers of temporary quarantine units in Penny's Bay within months in help combating the COVID 19 perfectly demonstrates the beauty of the MiC technology on this front of transitional housing.

15. Infrastructural support is an essential element of urban planning to achieve sustainable development. The HKIE supports the Railway Development Strategy 2014 and advises the Administration to facilitate the implementation of the railway projects through more comprehensive planning on engineering, human resources, environmental requirements, etc., to mitigate the risk of uncertainties that would possibly occur and subsequently cause quality issues and delay of the project. Regarding the transportation network connecting Hong Kong and cities in the GBA, the Administration is suggested to hold regular dialogue with the Mainland authorities to enhance the infrastructural support in stations along with the national high-speed rail network.

16. To improve living conditions of the built environment and infrastructure in old urban districts, the HKIE echoes the Urban Renewal Authority's adoption of a holistic approach in urban renewal projects where more comprehensive planning of the project sites and their vicinity would bring long-term benefits of extracting the full developmental potential of the districts as to fulfil the needs of future socio-economic development. We urge the Administration to expedite the three strategic studies namely the Yau Mong District Study, the Study on New Strategy on Building Rehabilitation, and the Sustainability Study, to draw up directions for the rehabilitation of Hong Kong's aged building incorporated with the mainstream acceptance among the community.

² The Hong Kong Housing Authority (2020), *Number of Applications and Average Waiting Time for Public Rental Housing*. Retrieved from <https://www.housingauthority.gov.hk/en/about-us/publications-and-statistics/prh-applications-average-waiting-time/>.

17. Apart from urban redevelopment, building rehabilitation is an effective way for exploiting the potential of the existing land resources as one of the measures for buying time to explore potential land resources for housing development, pressuring to call for redevelopment and tackling urban decay. The Administration is proposed to formulate a comprehensive plan to accelerate the progress of building rehabilitation work for raising the safety level of buildings and enhancing the living environment.

Economy & Innovation

18. Hong Kong economy is undergoing a difficult time with the sudden outbreak of COVID-19, the HKIE urges the Administration to undertake measures to revive the economy and facilitate public services and business to operate as usual, which will help to soothe the employment challenges. In times of economic downturn, investment in infrastructure is one of the most common means to help to contain the damage and restore the economic momentum. We urge the Administration to continue investing in infrastructure projects that are vital for Hong Kong long term development. We also suggest the Administration to conduct research on the enhancement of digital readiness of various walks of life in Hong Kong and provide subsidies for enterprises to set up technologies for supporting remote work, e.g., virtual private networks (VPNs), virtual meetings, and cloud technologies. In the long run, the Administration is proposed to take the lead and develop technologies to meet the trend of work from home environment which would cause surging data traffic in the future; but at the same time could help reduce daily office-home traffic on the busy road corridors, thereby improving the environment.

19. The announcement of new measures under the Interim Guidelines for the Management of Hong Kong Engineering Construction Consultant Enterprises and Professionals Starting Business and Practising in the Guangdong-Hong Kong-Macao GBA Cities (Interim Guidelines) guides current and future cooperation, as well as the development of Hong Kong and cities in GBA. The HKIE welcomes the new measures, at the forefront of the GBA development, including the establishment of a simple registration system to facilitate eligible enterprises and professionals to start business, practice and bid on projects in the GBA as laid down in the Interim Guidelines on a five-year trial basis. It would enable our members to extend their areas of services to the Mainland and to support infrastructural construction in the GBA.

20. With a view to refining as well as to extending the coverage the pre-existing mutual recognition arrangement, the Administration is suggested to deepen collaboration between the professional institutions within the GBA and set up a shared registration system for the professionals, especially for the engineering profession to match the growing demand of infrastructural development in the GBA. Furthermore, the Administration should continue to keep close communications with the professionals on the opportunities in the GBA and is proposed to provide resources on continuing professional development courses which prepares the professionals in Hong Kong with specified knowledge for practising in the GBA.

21. International connections and experiences in collaborating with multi-national corporations are the distinct advantages for Hong Kong's financial competitiveness. The HKIE supports the Quality Migrant Admission Scheme and suggests enriching the scope of the Scheme with a shift of focus on attracting overseas engineering talents to meet the rapidly growing demand of infrastructural development in the GBA and to facilitate I&T exchange. The Administration is also suggested to offer preferential financial arrangements for start-ups of I&T industry to put down roots in Hong Kong that plays the role as international I&T hub to promote the regional technological development and the cultivation of innovative businesses in the GBA.

22. A sustainable pace is important to I&T development in Hong Kong. Apart from the financial incentive, the HKIE suggests the Administration to support the engineering profession in its endeavours in working with the Innovation and Technology Bureau in promoting and help realising innovative ideas and in turn contributing to the sustainable development of the industry and the society as well as the growth of the economy. The HKIE also suggests that building an open environment with all-rounded support for business initiation, relevant infrastructural developments, a public-private partnership on I&T projects, e.g. data sharing of smart lampposts, and academic and industry collaboration for applied engineering and technology researches and applications, would encourage the private sector including multi-national companies to invest in I&T industry and actively apply new technology in their operations and products.

23. The HKIE welcomes the setup of the Committee on I&T and Re-industrialisation to advise the Administration on matters relating to the promotion of I&T development and re-industrialisation in Hong Kong and the implementation of a series of schemes targeting to help the manufacturing sector in Hong Kong, e.g., the Small and Medium Enterprises (SMEs) Loan Guarantee Scheme, the Dedicated Fund on Branding, Upgrading and Domestic Sales etc. Furthermore, apart from the aforementioned SMEs inclusive initiatives, the HKIE urges the Administration to aid the innovation journey of local innovators by offering innovation support in terms of ease for funding supports for individual or group of inventors. To encourage the industry to adopt advanced technologies such as intelligent automation, algorithms and robotic technology for smart manufacturing, the Administration is suggested to take further steps to publish a blueprint for the development of high-end production lines in Hong Kong by outlying the resources which are currently available and will be made available in the future for technology-related projects and upgrades of the traditional manufacturing industry with the streamlining of the application and approval process for the related funds.

24. The HKIE concurs with Administration's policy of the adoption of Building Information Modelling (BIM) technology in public work projects and entrusted projects within Government departments to enhance the design, construction process, project management, asset management along the building life cycle and improve the overall quality and productivity of the construction industry. We urge the Administration to allocate additional resources for the Construction Innovation and Technology Fund to encourage the companies in the private sector to use BIM technology through the provision of financial assistance and technical support to the companies on BIM training and procurement of BIM software and hardware for practical use and BIM adoption into the projects.

25. The HKIE welcomes the review of the Building (Construction) Regulations (B(C)R) that have been in use for some thirty years and the new B(C)R that aims to implement a performance-based building control system and enhances the standards on the design and construction of buildings, streets, building works and street works to provide design flexibility. We suggest that the Administration communicates the guidelines regarding the new B(C)R with industry practitioners before the implementation. Facing the rapid advancements in building technology, the Administration is advised to conduct review regularly to synchronise with the developments in international building codes and standards and to assure the engineering quality and resolve safety issues by closely monitoring the efficiency and performance of the construction methods utilised in projects.

Education & Research

26. To ensure the growth in the industry is innovation-led and dynamic, the collaboration between the industry and the education and research sector would enhance the transfer of technical knowledge, skills and experiences necessary to perform well into the future. The HKIE is delighted to note the Administration's investment in research and development (R&D) initiatives and introduces various schemes such as Mainland-Hong Kong Joint Funding Scheme and Partnership Research Programme to engage such collaborations. We suggest the Administration increases the resources progressively and sets middle-to long-term funding allocation on R&D-related education. Furthermore, we opine that it is of utmost importance for the Administration to lay down a strategic plan including regular evaluation, review, revision on learning outcomes, project implementation to foster and sustain a quality R&D education to nurture future talents.

27. The HKIE is pleased to observe the introduction of Deduction for Expenses of Self-Education and the enhancement of the Continuing Education Fund (CEF) as a financial incentive to encourage continuing education. Accordingly, the Administration is recommended to continue exploring means in this regard to promote their pursuit of continuing professional development through the provision of subsidies and tax allowance. According to the Statistics on the CEF Scheme³, the reimbursed courses/examination fees under Engineering and Technology among all the sectors is meagre, i.e., 0.02%. The HKIE suggests that the Administration considers extending the range of courses covered under the CEF by including more courses relating to engineering and construction industry as to offer more diversified choices in terms of modes of teaching, qualification levels, subjects and disciplines.

28. Noting the importance of I&T culture in Hong Kong, we concur that the Administration should encourage and assist the private sector in upgrading its technological level by supporting their employees to participate in relevant training schemes, including but not limited to engineering graduate training scheme, apprenticeship training scheme, etc., with the aims to incorporate new technology and design thinking elements to foster I&T culture among young talents and technical staff at different levels.

29. The HKIE recognises the policy objective to enhance Hong Kong's status as a leading centre for international legal and dispute resolution services in the Asia-Pacific region. Since the nature of construction projects involves sophisticated handling of legal and engineering obligations, the Administration is suggested to provide resources for the training to engineers regarding dispute resolution skills that could offer well-informed personnel with both legal and engineering knowledge as to arbitrate in a dispute more efficiently. The Administration is suggested to provide financial incentives such as subsidies and tax allowance to encourage more engineers to pursue continuing training in arbitration.

Quality and Smart City

30. The HKIE supports the second 10-year Hospital Development Plan which will increase hospital bed capacity and additional hospital facilities to meet the projected service demand mainly resulted from the ageing population in the coming decades. According to the 2016 Population

³ The Working Family and Student Financial Assistance Agency, *Statistics on the Continuing Education Fund (CEF) Scheme (Position as at 31.08.2020)*. Retrieved from <https://www.wfsfaa.gov.hk/sfo/en/cef/4.2.htm>.

By-census, conducted by the Census and Statistics Department⁴, the number of elderly persons aged 65 and over is projected to increase from 1.16 million in 2016 to 1.82 million in 2026. It will further increase to 2.37 million in 2036, which will reach 31% of the total population. Other than the hardware enhancement, we suggest that the Administration explores a broader and wiser application of smart health technologies for public healthcare, including but not limited to the application of cloud computing, virtual and augmented reality solutions, artificial intelligence, and utilisation of predictive analytics.

31. The HKIE is delighted to recognise the Administration's commitment to developing Hong Kong into a smart city by using I&T to build a world-famed Smart Hong Kong characterised by a strong economy and high quality of living, and would introduce Smart City Blueprint 2.0 after the review of the Smart City Blueprint that was launched in 2017. Given the unprecedented outbreak of COVID-19, we advise the Administration to allocate resources to drive the initiatives in making use of I&T to support healthcare in priority to address the severe urban challenges. The Administration is recommended to provide more resources to promote the application of high-end technologies such as MiC to hospital projects to enhance construction efficiency to cope with possible abrupt demand for negative pressure system in isolation wards.

32. The HKIE supports the development of Common Spatial Data Infrastructure (CSDI) which underpins the smart city development. The Administration is suggested to provide resources to expedite CSDI implementation and the development of common standards and guidelines for compliance by bureaux and departments releasing data onto the CSDI portal, and the standards are critical to assure the quality of spatial data that are shared being up-to-date, transparent and highly-accessible for consumption and further analysis. Moreover, the Administration should regularly review regulations and legislation on big data usage in response to privacy concerns and data securities.

33. Information infrastructure of data sharing is the product of ongoing and gradual evolution of information technologies, and the HKIE is glad to observe the continuing improvement of the Electronic Health Record Sharing System to share the patient's electronic health records in the appropriate electronic format within the sharable scope for facilitating the diagnoses. Similar initiatives could be reinforced by the Administration to offer subsidies and technical support as well as to bring about the partnership between hospitals and academic institutions to enhance the quality and efficiency of public healthcare service.

Environment

34. Regarding the Paris Agreement, Hong Kong plays a part to help to fulfil the obligations that China has under it. Moreover, President Xi has announced in the recent UN General Assembly that China will reach carbon neutral by 2060. It will be a new challenging task for Hong Kong to meet the carbon neutral commitment by 2060 if not earlier. Noting that decarbonisation is crucial to halt climate change, the HKIE looks forward to the early release of the views collected from the public on the long-term decarbonisation strategy study conducted by the Council for Sustainable Development last year, with which the policy framework along with the timeline, road map and feasible actions to achieve the targets of decarbonisation. Furthermore, the HKIE suggests the Administration to invest in the advancement of renewable energy technologies to explore reliable and affordable zero-carbon energy and speed up the pace of switching from coal to gas in power generation. The investment in commercial-scale wind farm projects in the medium term between

⁴ The Census and Statistics Department, *Hong Kong Population Projections 2017-2066 (2017 edition)*. Retrieved from <https://www.statistics.gov.hk/pub/B71710FA2017XXXXB0100.pdf>

2020 and 2030 is also a substantial step for achieving Hong Kong's 2030 carbon reduction target and pave the way for the local power sector which accounts for around two-thirds of greenhouse gas emissions in Hong Kong to achieve carbon neutrality by 2050.

35. Promotion of electric vehicles (EVs) is one of the means to reduce carbon emission in Hong Kong. The HKIE advocates that the Administration to set a timetable in phasing out fossil fuel vehicles to go all electric over next 20 years in the local market, provide financial incentives for EVs purchase and also keep pace with the growth of EVs in Hong Kong by boosting the construction of additional EV charging stations. Besides, the unification of charging standard among various electric public transport and commercial EVs and adoption of latest charging technology such as ultra-fast high-power charges are recommended to proceed as to achieve a synergy effect of, better interoperability on, and higher utilisation rate of the charging infrastructure.

36. The HKIE supports the promotion of alternative energy usage in various industries to reduce air pollution, e.g., pilot scheme for electric ferries and light buses, the use of electric construction equipment or machinery, and awaits the updated progress report of the Clean Air Plan up to 2020 as well as requests the Administration to make the reviewed Air Quality Objectives legitimate as soon as possible. We recommend the implementation of the use of green ferries technologies for the in-harbour and outlying islands routes to minimise the environmental impacts brought by local ferry services and operation.

37. Noting the promotion of renewable energy is vital to the sustainable development of energy consumption, the HKIE recognises the active promotion of solar power by the Administration in schools and it is recommended further to promote solar energy usage in all government buildings. We appreciate the Feed-in Tariff Scheme that encourages the use of solar photovoltaic or wind system and the Scheme is recommended to extend its coverage to the installation expenses of other forms of renewable energy.

38. Along with carbon emission, waste disposal is another prompt environmental issue faced by Hong Kong. It is noted that the long awaited municipal solid waste (MSW) charging scheme could not be passed in the last LegCo session partially because of the economic downturn. The HKIE suggests the Administration to get well prepared for making it legitimate in future because the scheme is a good driver for behavioural change to reduce waste generation. Given that about one third of the MSW sent to landfill sites come from food waste every day in Hong Kong, the Administration should keep up the pace in diverting food wastes from landfilling. The HKIE suggests that the Administration to allocate more resources to Food Waste Recycling Group in developing and testing viable waste-to-value solutions for food waste, such as co-digestion of sewage sludge and food waste. As it takes time for the construction of food waste collection and treatment facilities, the Administration is proposed to reserve land and expedite the construction of the organic resources and recovery centres as well as co-digestion facilities. It should also provide financial incentives to attract the private sector to bring in new technologies and set up food waste treatment facilities as well as to facilitate research on the effective methods for food waste collection and transportation.

39. The HKIE affirms the Lantau's exclusive historical, cultural, socio-economic and ecological values and believes only by widely consulting and broadly accommodating ideas would the development generate values and harmony and achieve sustainability. In this regard, we support the Lantau Development Advisory Committee and similar Committees should be established in other projects to monitor and develop environmental-friendly and sustainable construction methods for the development.