

By hand, by email at budget@fstb.gov.hk and by fax at 2147 5770

13 February 2023

Mr Paul CHAN Mo Po, GBM, GBS, MH, JP
Financial Secretary
c/o Budget Consultation Support Team
24/F, Central Government Offices
2 Tim Mei Avenue, Tamar
Hong Kong

Dear Mr CHAN

**Views from The Hong Kong Institution of Engineers to the Financial Secretary for
Formulation of the 2023-24 Budget**

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.

For the development of the profession as well as the welfare of the community as a whole, the Institution is looking forward to working with the Government on all areas of concern by offering our expertise and experiences.

Thank you.

Yours sincerely



Ir Aaron K M BOK
President

The Hong Kong Institution of Engineers

Enc

Cc: Mr Algernon YAU Ying Wah, JP, Secretary for Commerce and Economic Development
(By Fax) Ms Bernadette LINN Hon Ho, JP, Secretary for Development
Dr CHOI Yuk Lin, JP, Secretary for Education
Mr TSE Chin Wan, BBS, JP, Secretary for Environment and Ecology
Mr Christopher HUI Ching Yu, GBS, JP, Secretary for Financial Services and the Treasury
Miss Alice MAK Mei Kuen, SBS, JP, Secretary for Home and Youth Affairs
Ms Winnie HO Wing Yin, JP, Secretary for Housing
Ir Prof Dong SUN, JP, Secretary for Innovation, Technology and Industry
Mr Chris SUN Yuk Han, JP, Secretary for Labour and Welfare
Ir LAM Sai Hung, GBS, JP, Secretary for Transport and Logistics

AB/CKH/SS

Enclosure

Views from The Hong Kong Institution of Engineers (HKIE) to the Financial Secretary for the Formulation of the 2023-24 Budget

Hong Kong is on her way of rebound from the pandemic and economic recession. With the uncertainty brought by the external economic environment, the Government shall take up an active role by increasing investment into the society as well as safeguarding the economic/financial strength of Hong Kong to withstand upcoming challenges.

2. As a professional body of engineering excellence and by virtue of its obligation to the society, the HKIE would like to put forth our views in the following areas to the Administration for the formulation of the 2023-24 Budget in the hope of helping the economic rebound of Hong Kong.

Competing for Talents

3. STEAM Education lays a good foundation for students who are interested to study engineering. The engineering industry has been experiencing serious shortage of talents for years and we are also facing fiercer competition from other sectors. This shortage had been highlighted in HKIE's report on "Manpower forecast"¹ promulgated in April last year which was supported by CIC's latest report² released on 8 February 2023 with quantifiable figures. In our earlier report, we highlighted that the curricula of secondary schools, as well as university intake requirements, should be reviewed in order to provide incentives for and attract bright students to study STEAM subjects and engineering degrees so that more will join the engineering profession. It is beneficial to the whole community that the education system in Hong Kong be reviewed and revised to accommodate the societal and developmental needs. The Institution urges the Administration to urgently review the curricula and university intake requirements with a view to nurturing the local engineering talent pool which will benefit the society in long run.

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

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[https://www.cic.hk/files/page/56/Construction%20Manpower%20Forecast%20Results%20\(Eng\)_2023_0207.pdf](https://www.cic.hk/files/page/56/Construction%20Manpower%20Forecast%20Results%20(Eng)_2023_0207.pdf)

4. Engineers, particularly those at mid-career, constitute a substantial portion of the sandwich class in Hong Kong. Their status as such renders them ineligible for most existing governmental support schemes and entitled only to welfare benefits and compensation that are not commensurate with those enjoyed by some other professions. In view of the forthcoming manpower shortage in the engineering sector, however, it stands to reason that the well-being of these engineers, who are vital for the city's advancement, must be well provided for, in accordance with the Administration's policy to address the overall manpower demands partly through a retention of talents. The HKIE has promulgated a report on "Review on Public Works Procurement Policy"³ in March last year suggesting means to curb public works contracts/consultancies bidders from making significantly low bids. We fully appreciate that actions had been taken by the Administration in respect on consultancy side which we saw signs of improvement, but we hope that similar actions would be taken immediately on the works contract arena. It is suggested that the Administration's earliest action on this front will help avoid further brain drain in this important sector, so that the engineering industry may remain a sustainable field for growth and the vision and commitments formulated in the development blueprint may be delivered as promised.

5. The HKIE also believes that the plan to trawl for talents first laid out in the Policy Address must include provisions for supporting young, aspiring engineers on their journey to pursue their career. Being the professional body overseeing the professional training and development of engineers in Hong Kong, fresh graduates entering HKIE Formal Training Schemes (Scheme "A" / AM Training) as trainees will certainly be encouraged and benefit from an increase of governmental subsidy to engineering companies joining the scheme. The existing government subsidy has been maintained at HK\$5,610 for each trainee for more than 20 years and the HKIE recommends that it be adjusted to HK\$10,000 or above to provide those companies with a stronger incentive to offer trainees a higher starting salary. To attract engineering talents from abroad, we also urge the Administration to consider offering two-year subsidies of approximately HK\$10,000 each to companies that employ overseas graduates. It is our view that these provisions, apart from assisting young practising engineers, would also be instrumental in attracting students to study

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

engineering at a tertiary level.

6. In the visions for society set out in the Government's Hong Kong Innovation and Technology Development Blueprint, special emphasis has been put on New Industrialisation. The streamlining of manufacturing processes as envisioned depends heavily on the contributions of engineering professionals and supportive personnels specialising in design, Research & Development, and innovative technologies such as new materials, artificial intelligence, Internet of Things (IoT), and smart automation. Nevertheless, apart from professional engineers, the manpower shortage of technicians and paraprofessionals in these industries is just as dire as in the engineering and other professional sectors. The HKIE urges the Administration to consider allocating more resources to the cultivation and attraction of the relevant talents, for example by foregrounding vocational training, in its policymaking.

Well-planned Infrastructure Development

7. We believe that investment in infrastructure is an effective means to boost the economy and provide the much-needed job opportunities for the community. The mega projects in the pipeline including the Northern Metropolis, the reclamation of Kau Yi Chau Artificial Islands, and large-scale infrastructures such as major roads and railways will all be carried out within the few coming decades, bringing opportunities of development yet also challenges to the industry. A detailed infrastructure blueprint setting out the priority and timeframe, with suitable construction periods, of each infrastructure project for the coming two decades or so is essential to successful implementation. With reference to the "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030", "Strategic Studies on Railways and Major Roads beyond 2030" and other strategic planning roadmaps, relevant authorities should coordinate and prioritise the projects according to cost-effectiveness, demand, capability to address existing societal issues etc. as to best allocate and utilise the available resources.

8. In particular, the Northern Metropolis will create tremendous impetus for the economic development of the northern New Territories and become the second engine of the city's economic growth. Its geographical proximity to Shenzhen poses excellent opportunities to create liveable, metropolitan communities for young people

from both sides of the border to settle themselves in, thus leveraging the strengths of the GBA for Hong Kong's talent development especially by virtue of the area's intended function as Hong Kong's new innovation and technology hub. It also utilises the developmental capacity of the land resources in the area and will assist in resolving the shortage of housing land. The Kau Yi Chau Artificial Islands Development will fuel future economic growth and be a major source of new land supply. It also strengthens the connection between the mainland, the Northern Metropolis, and Hong Kong Island West, which makes it possible to connect with the major developed areas without bringing extra burden to existing road networks, especially in Kowloon. The HKIE supports the development and urges the Administration to release more details for public discussion. The Institution is open to offering professional views to assist in the development of the artificial islands.

9. Three strategic railways and three major roads recently proposed by the Government may go forth in the future. In fact, there are also other railway projects (i.e. those proposed under the RDS 2014) which are still in different stages of implementation. We support the transport infrastructure-led concept and would urge the Administration to speed up implementation of those projects already in the pipeline which are behind the actual development. As regards the implementation model for strategic railways, we expect that the Administration will rigorously review the previous experiences and bring about improvements with a view to guarding against recurrence of serious underperformance.

Land and Housing Supply

10. Land and housing supply directly affects economic activities and people's livelihood. To boost the supply of public housing in the next five years and bring prompt relief to those living under poor housing conditions in Hong Kong, the HKIE welcomes the launch of Light Public Housing and hopes for more details to come in order to address concerns from some sectors of the society. To deal with the insufficient housing supply and to best utilise the resources, the Institution also suggests transforming the isolation facilities into transitional housing or Light Public Housing. Potentially it can provide thousands of units within a short period of time.

11. As already indicated in the above, the HKIE supports the Northern Metropolis and Kau Yi Chau Artificial Islands which can create capacity and build land reserve for future development of Hong Kong. To meet the challenges of the everchanging world, we need solution spaces and spade-ready sites by which the Administration can kick off development at a much faster pace instead of spending time on seeking and forming suitable sites. From bitter experience, land formation takes years even with the streamlined development processes. Indeed, we are in dire need of green field sites for solving many social problems, including the much-needed urban redevelopment to cater for the aging buildings in the downtown areas.

12. Prudent financial arrangement for infrastructure projects is important to the sustainable development of Hong Kong as well as the engineering and construction industry. However, the costs of such projects do not necessarily have to be only chargeable to the public purse. We are agreeable to the suggestion of, launching infrastructure financing securitisation products apart from the fiscal reserve. Whilst we consider the foreseeable financial returns for projects likely Kau Yi Chau Reclamation would likely make the suggestion feasible, it also helps promote Hong Kong as an international financial centre and infrastructure financing hub and at the same time reduces the short-term financial burden of the Administration.

13. On the development of the Kau Yi Chau Artificial Islands, the HKIE agrees to the "three-island" design to cope with the impact of reclamation on water quality and ecology while reducing urban heat island effect. To facilitate public understanding on benefits of the design, the Administration is suggested to elaborate on the coastal design and explain the possible enhancement to the bio-diversity and coastal resilience of the area.

14. The HKIE welcomes the creation of a work-live-play CBD3 at Kau Yi Chau, encompassing commercial activities, housing, culture, creative arts, fashion and entertainment, popular sports and facilities related to daily living as well as a large amount of quality public space. It is worth studying a pedestrian or cycle network that links up the entire CBD to enhance walkability and liveability. In addition to the current development plan, the Administration may also consider adopting floating structures at suitable locations to provide extra space for public enjoyment.

15. On the subject of Kau Yi Chau reclamation, surplus public fill generated over the years can be used as good construction materials for the reclamation. As we are aware, surplus public fill has been delivered to Taishan in Guangdong Province for disposal for more than a decade since the diminution of local reclamation. Using such public fill locally is an environmentally responsible step to remove the carbon footprint generated by transporting the materials to Taishan; handling the construction debris generated locally by ourselves rather than relying on other administrations; and also creating a new development cluster at a prime location. The Institution understands the public concern over the schedule, cost and environmental issues arising from the artificial islands development. However, we believe such concerns can be properly addressed by the Administration and eventually the social and economic benefits brought by the development will surely outweigh any associated costs so arising. The HKIE is ready to work with other professional institutes to engage professionals, especially young professionals, to share their views and ideas on development of the artificial islands into a liveable and smart city for the upcoming generations.

Streamlining Development Processes

16. The HKIE is delighted to see suggestions made in our previous Research Reports (https://www.hkie.org.hk/docs/HKIE_streamline_processes.pdf) have been taken into consideration and the progress in streamlining the development processes made by the Administration. To speed up the administrative process without sacrificing procedural justice is the core idea of the streamlining proposals. The Government is suggested to step up the assistance to applicants who satisfy certain necessary criteria in order to speed up the development process. The emphasis should be shifted towards government officials being also “facilitators” instead of just being “regulators”. The recent unprecedented speed in establishing the various Community Isolation Centres within weeks or months demonstrates the importance of “facilitation”. The Institution believes that the land and housing provision, together with other infrastructure projects, can be accelerated upon the implementation of the proposals.

Innovation and Technology Development

17. With respect to the New Industrialisation Strategy proposed in the Innovation and Technology Blueprint, we propose to provide subsidies for those Hong Kong companies

employing local engineers and technologists. The Institution saw subsidy for hiring research and development (R&D) staff in previous programme. However, new industrialisation demands a lot of local engineers, technologists and technicians. Such incentives will drive more new labour force to join the industry. We believe a better package for the local and young people will be beneficial to, and healthier for, the long-term development of the industry in terms of talent retention.

18. Moreover, due to the decline in student population, emigration and the ageing population, Hong Kong is facing a serious manpower shortage of skilled technologists, technicians and craftsmen in all fronts including construction and engineering related industries. In order to support the Government's policy on Innovation and Technology including New Industrialisation Strategy, we need to quickly fill the manpower gap. Currently, only non-local graduates of undergraduate programmes are allowed to apply to work in Hong Kong under the immigration arrangements. To attract prospective students from Mainland and overseas to study in Hong Kong, we propose to allow the Mainland and overseas graduates of the local Higher Diploma/sub-degree programmes to work in Hong Kong so as to build up an immediate skilled talent pool to fill the said manpower gap at the technician level.

19. The Government aims to develop Hong Kong into a world-class smart city. To boost the development and accelerate Hong Kong's transition towards a smart city, land provision for data centre development will make a difference. The data centre business is growing rapidly in past years but is hindered by the limited land provision. The HKIE urges the Government to allocate additional land for data centre development to enhance both the capacity and capability for Hong Kong to become the data centre hub and the bridge between mainland and foreign countries.

20. Facing the trend of power costs to achieve "zero-carbon emissions", Information Technology & Telecommunications companies have difficulties in the infrastructure development that consumes higher electricity power. The Government should consider subsidising the Information Technology & Telecommunications industry in transforming the heat generated from chips in data centre into a new source of energy to help cover its electricity costs on the technical infrastructure development, such as 5G network, data centre and technology development etc. Some European countries are exploring such a transformation model and seeking data centres to recycle the heat

to satisfy domestic heating demand.

21. The HKIE welcomes the Administration's introduction of leading companies in new strategical industries, such as new energy vehicles and semiconductor chips. The Government should assist the development of local firms in these areas at the same time to avoid vicious competition. The technologies of leading companies can be a good role model for locals to follow, whereas local enterprises can provide technical support with their full understanding of local market. It can be a "win-win" situation for both overseas and local companies.

Building a Smart, Green and Resilient City

22. With taxation allowance and expansion of charging facilities, electric vehicle has become much more common in Hong Kong. The bottleneck of the development rests in the shortage of charging facilities. The Government has set a target of providing 7,000 additional parking spaces with chargers in the coming three years. Together with encouraging private sector to build more charging facilities, the Institution urges the Administration to set a role model by speeding up the installation of quick charger facilities for electric vehicles, which better suits Hong Kong's fast pace and high-density city landscape. Besides, it is suggested that the Administration shall reserve space for electric vehicle chargers in new development areas and public transport interchange to promote the usage of electric vehicles.

23. Hydrogen vehicle is another potential new energy vehicle with potential of being introduced into real life applications. However, with the constraints in local ordinances, hydrogen vehicle is not allowed to access roads, whether for testing or commercial purposes. The Institution calls for the Government's further action on relaxing such restriction in order to facilitate the development of hydrogen vehicle. Besides, the development of hydrogen vehicle or ammonia vehicle is still new to the world. We see the Government's efforts in boosting the development of innovation and technology. It will be a good chance for Hong Kong to take lead if the relative law restrictions could be loosened with a "sandbox" mode: relaxing the test and usage of hydrogen vehicle in designated area under the overriding principle of ensuring public safety.

24. Waste reduction is critical in the smart city development process. The Institution sees the Administration's plan to use incineration facilities to replace landfills, which we see as a wise choice for Hong Kong. Waste reduction needs the cooperation between citizens, the recycling industry, non-governmental organisations and the Government: citizens reduce consumption of unnecessary goods; waste with higher value shall be tackled by the recycling industry; the Government, as gatekeeper, handles the waste with lower value directly or indirectly through subsidising recycling industry or non-governmental organisations. It reduces the financial burden of the Government and facilitates the growth of the recycling industry at the same time.

25. The HKIE wishes to stress the need to set aside financial resources, for example dedicated funding, interest-free loans, rent and rate relief and tax concessions to incentivise and stimulate businesses for the recycling industry. The Government should also consider expanding the land provision for the recycling industry. Other than Eco Park and other official sites, the Government shall consider releasing some vacant tenure with longer term for the recycling industry. Instead of relying on the government policy, market force should be well used to promote the development of recycling industry for long-term sustainability.

26. The HKIE concurs with the Administration that Municipal Solid Waste (MSW) Charging will exert a salutary effect on citizens' behavioral patterns in the disposal of waste. We believe that the psychological effect brought about by the policy will substantially help in reducing waste generation and the promotion of waste minimisation measures such as recycling reuse and ease thereby relieving the burden on our three existing landfills. The Administration is urged to use their best endeavors to speed up on implementation of MSW Charging Scheme, which is already suffering delays. Moreover, the unlikelihood of the landfills being further expanded, in view of Hong Kong's land scarcity, is viewed by the HKIE as providing a strong incentive for the Administration to consider making early plans for installing new Integrated Waste Management Facilities (IWMF).

Leveraging Opportunities in the GBA

27. With the removal of all restrictions on cross border activities, engineers and other professionals will seize the opportunity to enhance the communication with the

mainland professional bodies and private sectors. The HKIE has been working closely with the engineering societies in the mainland and striving for further mutual recognition in different disciplines. We hope that the Government could take the lead in discussing qualification benchmarking and professional practice with mainland authorities with a view to allowing more engineers to practise in the mainland via CEPA or other related agreements.