香港工程師學會
THE HONG KONG INSTITUTION OF ENGINEERS

Enclosure

Legislative Council
Panel on Development and Panel on Environmental Affairs
Views from the Hong Kong Institution of Engineers
on the subject of "Green Buildings"

General

The Hong Kong Institution of Engineers (HKIE) refers to the Administration's contemplated measures on expediting inclusion of green features to improve air ventilation, greening, energy efficiency etc in building developments.

2. To cope with the global trend of awareness in sustainable development and low carbon living environment, the Institution is in support of promoting a systematic and locally relevant approach to assess and enable the environmental performance in respective aspects and parameters of any developments in Hong Kong.

3. The HKIE also concurs with the Government that the urgent pursue of mandatory implementation of Building Energy Codes (BECs) to supplement market driven changes is obligatory, as to meet the global trend requiring buildings to comply with the minimum energy efficiency standards by means of legislation.

4. While fostering higher energy efficiency and better green designs and features in buildings are favourable, the HKIE advocates the importance of the adoption of engineering tools and knowledge in conducting scientific assessments to produce feasible and realistic solutions. The contributive inputs from engineering professions would have a significant and convincing support towards the successful launch and implementation of any greening schemes and policies.

Joint Practice Notes (JPN) on Protection and Improvement of the Built and Natural Environment

5. The HKIE considers that the incentives on GFA Concessions for developers to provide recreational facilities and green features should not merely be based on the JPN without other controls or conditions.

6. To effectively encourage and implement the greening benefits, we opine that each development should undergo a "Green Building Labeling" assessment based on commonly recognized assessment methodology in order to evaluate the green standards and environmental friendliness of the development. Subject to the assessment result and the awarded grade or standard, GFA Concessions may then be granted accordingly to the development on the provision of specific green features or amenities. This mechanism can realistically eliminate the abusive use in GFA Concessions and the potential disputes and arguments so arising. By this means, any gain in building floor area will be accompanied by effective and measurable green features which would enhance the indoor environmental quality and thus conducive to healthy and low-carbon living.

7. On top of the link up mechanism between "Green Building Labeling" assessment and GFA Concessions, the HKIE was in support of striking an overall balance by setting a cap on GFA Concessions for green features or amenities, so as to facilitate innovative and neighborhood-friendly architecture. In our opinion, the Administration and relevant departments shall have the authority to introduce Green Features either currently subject to GFA Concessions or otherwise as mandatory in future.

Car Parks

Provision

8. A mature transportation network planning is of paramount importance for convenient city residence. The rapid development of mass transportation and road network over the past few decades have earned Hong Kong a reputation in the infrastructure and the public transport development. Notwithstanding the existing transport achievement, yet the transportation network of Hong Kong is still being kept on improving and expanding, therefore the HKIE recommends a full-scale re-examination of the car parking requirements under the existing Hong Kong Planning Standards and Guidelines (HKPSG), particularly for developments near MTR stations and convenient road access and network. The HKIE believes that there could be appreciable room for reduction in carpark space provision, given the efficient and effective public transportation system we currently enjoy in Hong Kong.

9. On the other hand, the HKIE recognizes the free market choices and suggests the provision of car parking facilities at certain locations should not be granted the same extent of GFA Concessions. To achieve this, a higher use of public transport system shall be promoted as far as possible. In addition, any public transport convenience, which could foster non-pollution, induced transport and green environment shall be encouraged. This may be achieved by introducing more infrastructure and installations supporting the popular use of electric vehicles.

Construction

10. If car parks are to be built upon approval, careful considerations should be given to the actual design in the local context. Above-ground multi-storey car park has the tendency to inhibit street-level ventilation in the local area. On the other hand, basement car park is comparatively non environmentally friendly as it requires extra works in excavation, rock breaking, diaphragm wall concrete work, more complex ventilation systems etc, which all in all will result in much more energy waste/use and carbon emission no matter in short term or even in the long run. In addition, energy consumption would be higher for underground car parks. The actual appropriate solution is dependant on the conditions in the vicinity or neighborhood of the proposed development.

Plant Rooms

11. The Institution defends the provision of reasonably spaced plant rooms, which are proportional to the size of buildings under normal circumstances, as plant rooms of a considerable size help to promote efficiency in equipment performance and effectual machinery maintenance by stationary engineers or technicians.

12. However, to avoid any abusive use of plant rooms space or disputes of over provided facility, the HKIE suggests the Government and relevant departments to promptly introduce a set of clear official guidelines or best practices on plant rooms provision to the industry for compliance.

Building Energy Codes

13. To witness more immediate effects on energy conservation, the HKIE advocates promoting an extensive BECs implementation, of which this energy code is basically to ensure a better and efficient application of energy for its intended functions.

14. With the present application of BECs, the HKIE opines that the codes should be regularly reviewed and updated with flexibility to extend coverage in more areas as long as their operational characteristics are recognized.

15. On the other hand, deficiencies concerning the existing codes of practices (2007 edition issued under the voluntary scheme) should also be confronted and accordingly adjusted. The HKIE firmly believes that the existing BECs drafted with voluntary participation should be enforced as mandatory with appropriate Code of Practice to support its implementation. To help promoting the mandatory implementation, the HKIE is currently contributing in various task forces under EMSD for these Code of Practice developments.

16. To better achieve the aim of energy efficiency in buildings for the sake of green buildings, the HKIE recommends that the BECs shall be extended to integratively include the overall scope and review of energy use of a development. In the past, frequently the term "Energy Audit" is being vaguely used that it may vary from a causal walk-through audit to a serious and detailed audit. To improve this situation, the BECs shall be comprehended and repositioned as an "Energy Efficiency Assessment" for new and existing developments to help achieve a higher energy efficiency and green building features. In such way, the Energy Efficiency Assessment can become a holistic energy plan of development, which will be much comprehensively different from the current BECs as a compliance check.

17. On implementation side, energy can be saved more for the society if the mandatory energy codes are also applied to the existing buildings. However, as a start, new regulations can be enforced on new developments first, and then gradually extend the application to the existing buildings. In such way, hopefully the old buildings can be phased out or enhanced in energy use during major renovations.

Air Ventilation Assessment (AVA) and Building Height

18. The HKIE urges again the government to conduct compulsory and all-inclusive Air Ventilation Assessment (AVA) for benchmarking environmental performance of buildings in any large-scale governmental projects.

19. Given it due and proper focusing on the pertinence, the HKIE strongly adheres to the conviction that scientific engineering tools should be adopted and utilized for carrying out assessments with the generation of sound conclusions based on valid evidences.

20. To foster a cohesive standard and provide transparent information for the industry and the general public to rely on, the HKIE recommends the Government and relevant departments to collaboratively investigate and produce clear official guidelines on height restriction on a urban planning perspective level for clarify and compliance of the public and industry. The clear information on height restriction will help green design of developments as well as Air Ventilation Assessment as the consideration of air ventilation and greening efficiency can be more accurately mastered and designed. This would favour the realization of building up a greener city of Hong Kong.

Conclusion

21. Promoting design and construction of Green Buildings is the first and crucial step towards a sustainable built environment and city plan which would have better air ventilation, green features and energy performance. Continual improvement to the design guidelines and legislation is necessary. The HKIE supports the promotion of green buildings and have made a series of suggestions and recommendations above for the Administration's consideration.

22. The HKIE shares the common desire of the public and of the Administration for urgent improvements to our building design and energy codes. We believe that through the joint efforts of the community stakeholders, a low-carbon and environmentally friendly development strategy can be fostered and achieved for the city and its future generations.