

FINALISED**Enclosure**

**Views from the Hong Kong Institution of Engineers
on Mandatory Implementation of the Building Energy Codes**

General

1. The Hong Kong Institution of Engineers (HKIE) refers to the Administration's proposal on the mandatory implementation of Building Energy Codes (BECs).
2. HKIE concurs with the Government that there is a need to pursue mandatory implementation of BECs to complement market driven changes. HKIE also concurs it is also a global trend and international practice requiring buildings to comply with minimum energy efficiency standards by means of legislation.
3. HKIE agrees with the proposal that energy efficiency in buildings is an area where significant energy savings can be made in Hong Kong with more immediate effect.
4. Needless to say HKIE holds a positive view on such proposal as it not only brings positive impact to the environment at large, and if administered properly, it could also enhance the health of the general public and safety of building equipment.
5. HKIE, however, wishes to point out the existing codes drafted with voluntary participation in mind may not be entirely suitable for a long termed adoption. For one, the targeted energy saving and emission reduction felt short of that of the Kyoto Protocol. Under these premises, HKIE is pleased to provide views and comments on what the legislation should ultimately address as below.

Underlying Fundamentals

6. An energy code is basically a control of the use of energy, electricity in our case, so that it could be more efficiently applied for its intended functions.
7. The aggravated parameter of performance is a sum of the choices of equipment and their functional roles assigned in the system from an underlying design to their installations.
8. To this end, a set of minimum values for equipment and commodities must be established. Direct employment of such by end users or designers should discharge any liability. Customers relying on the trade information provided by the manufacturers should not be penalised if the performance does not tally with the labels.
9. The present prescriptive BECs of lighting, air-conditioning, electrical, and lift and escalator installations are taking the same approach for this purpose. It is also noted periodical updating with consultations from stakeholders could be effected to ensure the future BECs incorporating the latest technology advancement for setting up

more stringent standards.

10. Desirable performance of a particular installation varies according to its intended functions.

11. The present BECs largely limit its application to communal areas so as to readily establish a more agreeable criteria under all circumstances without resolving the need to address different parameters that may be required either due to the characteristics of the premises or occasional demands for certain specific purposes.

12. The proposal is based on this abridged approach. HKIE opines the Performance-based Code could be suitably expanded to cover more areas as long as their operational characteristics are recognised. It is also desirable to have different sets of criteria, or a range of them, for different usage or intended functions of installations.

13. To ensure a continual performance according to the designed value, it would require routine maintenance, no less due observation of the proper operation of the installation.

14. The code hence should also give credit to acknowledge good house keeping management so that more equipment could be put in place to meet periodical or peak time needs for competitive edge, making a self induced incentive available for commercial establishments.

15. HKIE also proposes certain credit or recognition be awarded to operators for ensuring proper operation and maintenance between audit intervals in addition to a structured penal mechanism.

16. HKIE acknowledges albeit all the above are desirable for a more comprehensive coverage, the need to combat deteriorating environment is also imminent.

17. In this connection, HKIE supports an earlier introduction of control based on the existing BECs, provided that provisions are made to allow a more flexible approach and a wider coverage in future. The followings are HKIE's particular comments for this instance.

Buildings Coverage

18. For immediate effect and after taking into account the practical considerations, such as variation of the functional use; affected parties' ability of compliance; freedom of choice and enforcement issues, HKIE agrees that the implementation should cover all the indoor communal areas of commercial, residential as well as industrial buildings. There is also a need to identify a responsible party is being available for such enforcement.

19. In light of different types of functional use within the selected categories of buildings, HKIE opines that certain buildings might have to be exempted from the mandatory scheme for the time being in order to expedite the enactment.

20. HKIE proposes that major retro-fitting works in the existing residential and industrial buildings should also comply with the relevant building energy efficiency standards. Where work covers more than 50% of the gross floor area would be a good guideline for this requirement. Despite this, HKIE opines there might be circumstances that certain buildings processing their own originality in design and structure may require respective or different criteria.

Compliance

21. In consideration of the compliance procedures, the proposal allows a 2 months period after the issue of occupation permits by the Building Authority (BA) for final submission to the Electrical and Mechanical Services Department (EMSD). HKIE finds such a short period of time impractical and recommends extending the period to at least 6 months.

22. HKIE wishes to caution the mandatory implementation of BECs should not become another potential factor causing delay to occupation of the buildings, issuance of occupation permits for such is basically a matter of safety.

Continuous Uplifting

23. HKIE concurs that the EMSD should review and update the BECs at least once every 5 years.

24. The proposal also states that energy audits will be conducted once every 10 years. HKIE is of the view that such energy audits should be made mandatory and the period is overlong. HKIE suggests a 5-year audit cycle to coincide with the full rated load test of lift under the Lifts and Escalators (Safety) Ordinance as well as keeping paces with 5-years standards updating exercise.

25. For those building owners (or Incorporation Owners) who aim to achieve much better than the minimum requirements as set out in the BECs, HKIE believes an incentive scheme should be introduced as encouragement and appreciation of their effort and to attract a stronger support and participation from the public. This may be incorporated under a hybrid two-tier arrangement, a clear demarcation of which with two distinctive tiers HKIE would object as in health and safety, there are no Class A and Class B Health or Safety.

Registered Professional Engineers

26. HKIE concurs that verification of the design and results of the installations must be carried out by Registered Professional Engineers of relevant and appropriate disciplines. Equally the same requirement of employing professionals should apply to the preparation of the energy audit report so as to avail the owners an opportunity for system uplift at optimised costs and to assess and verify whether there is any need to modify the system design matching its evolved usage.

Safety and Health

27. With the introduction of the BECs and its energy audit requirement, it may be necessary that a certain amount of facilities/equipments will be disposed before total outage, generating negative impact to the environment if not administrated properly. HKIE opines that the Environmental Protection Department (EPD) should give due consideration on the disposal of these materials and work with relevant government departments in mapping out appropriate measures to uphold the community's health and safety.

Conclusion

28. HKIE hopes the proposal is the first positive step forward to ensure buildings in Hong Kong attaining better energy performance. Noting the present requirements of BECs is quite minimum in terms of criteria and premises coverage, HKIE strongly advocates the mandatory implementation should be further developed into a more comprehensive program in a not so distant future. HKIE is pleased to participate for such enhancement.

29. After its enactment, HKIE also suggests a transit period of 12 months be granted for the industry to examine and implement the new legislation for preparation, planning and execution.