



Mandatory Building Energy Codes

Introduction

1. Since the oil crisis in the 1970s, many developed countries have introduced legislations to govern the minimum energy efficiency requirements for buildings. In the recent years, energy conservation has become an issue in view of growing concerns on global warming, poor air quality and escalating energy cost.
2. Therefore, the Hong Kong Institute of Surveyors is in principle supportive of the proposed mandatory implementation of the Building Energy Codes via legislation in order to improve energy efficiency and conservation in buildings.

New buildings

3. The types of buildings to be covered by the proposed legislation should include not only commercial buildings (i.e. office, hotel and shopping complex) and communal areas of residential and industrial buildings as proposed in the consultation paper, but also government buildings, schools, universities, hospitals, serviced apartments, car parks, community and recreational usage. As a matter of principle, it is not logical that commercial buildings are to include both internal and communal areas, but not for residential and industrial buildings.
4. While elderly homes, churches and NGO usage can generally be exempted from the proposed mandatory scheme, it may not be practicable to list out all special uses that can be exempted from the proposed legislation. Therefore, the Director of Electrical and Mechanical Services Department can be authorised to grant exemption, with or without conditions, for certain uses if the building owner is able to submit a justifiable reason to his satisfaction.

Energy efficiency standards

5. The building energy efficiency standards should be regularly reviewed and updated so that it is in line with prevailing international standards. However, it is noted that energy efficiency performance of most lighting, air conditioning, electrical, lift and escalator installations, once installed, would not be easily improved without replacement of some major components of these installations.



Therefore, a tiered system can be introduced to overcome the problem. Basically, all buildings to be covered should comply with the minimum energy efficiency standards as specified in the Building Energy Codes, and if any of these buildings can attain higher energy efficiency standards than the specified minimum requirements, certain recognition or incentive can be given for these buildings in order to encourage better environmental performance.

Compliance procedures

6. A self-declaration system, certified by an authorized person/registered professional engineer, can generally be adopted in order to simplify the administrative compliance procedure. The detailed design of lighting, air conditioning, electrical, lift and escalator installations are normally carried out at a later stage of the design process, although the building service engineer also gives certain design inputs on the general building plans. From a practical point of view, it would be more appropriate for the self-declaration to be submitted before commencing construction of super-structure. This allows more time for the engineer to carry out the design of relevant building service installations. Indeed, it would only be meaningful for the authorized person/registered professional engineer to "declare" the relevant designs that have been considered and designed in detail.

7. Testing and commissioning of lighting, air conditioning, electrical, lift and escalator installations may take considerable time particularly in large and complex buildings. The final self-declaration, together with relevant test reports and supporting documents, may not be available within two months after the issue of the occupation permits by the Buildings Authority. Therefore, each installation (i.e. the lighting, air conditioning, electrical, lift and escalator installations) can be submitted separately (where necessary) in the final self-declaration for EMSD's inspection where required. In addition, where there is any phased completion of the building as shown in the general building plans and approved by the Buildings Authority, the same phased arrangement should also be applicable to the relevant building service installations.



8. Primarily, it should be the building owners' or incorporated owners' duty (not the property management company) to comply with the proposed legislation. They should also be responsible for any installations subsequently added or modified by the occupants.
9. The penalty system can generally be linked to the amount of energy that could be saved, but not properly saved due to the non-compliance with the Building Energy Codes.

Existing buildings

10. If one accepts the aspiration that Hong Kong should achieve more energy efficiency gains in buildings in line with the international standards, all existing buildings should be required to improve their energy efficiency performance in accordance with the Building Energy Codes; otherwise, the proposed legislation could only be able to resolve a small portion of the entire problem.
11. While it would be more convenient for an existing building to comply with the latest Building Energy Codes when carrying out major fitting-out works, criteria for triggering the proposed legislation is not clear. "Major retro-fitting works", "major components of the types of installations" and "50% of the gross floor area of the building" as stated in the consultation paper are sometimes difficult to define (for instance, the non-accountable and bonus gross floor area). A building owner (or its property management company) may easily split the whole fitting-out and renovation works into various sections to avoid triggering application of the proposed legislation.
12. It is therefore suggested that existing buildings to be covered should comply with the Building Energy Codes after a reasonable transitional period; this would be implemented in the same way as the two Fire Safety Ordinances which also have retrospective effect and are applicable to existing covered buildings. Alternatively, if the Government wishes to minimize the possible social impact, the proposed legislation can be implemented in phases according to the building ages similar to the proposed Mandatory Building Inspection Scheme (MBIS). Existing buildings aged over 30 years should firstly start to improve relevant building service installations in compliance with the minimum energy efficiency standards.



This can also be synchronized with the implementation plan under the proposed Mandatory Building Inspection Scheme.

Financial assistance

13. Similar loan schemes currently provided by the Buildings Department, Urban Renewal Authority and Housing Society should be made available to those buildings owners who need financial assistance in order to improve its buildings in compliance with the proposed legislation. In addition, Government should consider providing financial incentives (such as grant, rate deduction and property tax exemption) for existing building owners.

A Holistic Approach

14. While Government would implement the minimum energy efficiency standards for lighting, air conditioning, electrical, lift and escalator installations, the overall environmental performance of buildings might still be far from satisfaction. Ideally, the building itself should be designed to use less energy such as utilising natural lighting rather than artificial lighting, natural ventilation rather than air-conditioning. A holistic environmental assessment for the whole building life cycle should be adopted.

The Hong Kong Institute of Surveyors

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