



THE HONG KONG INSTITUTE OF
SURVEYORS

31 March 2008

BY FAX & POST
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Your ref.: EP 86/08/64(07)

Energy Division (2)
Environment Bureau
46/F., Revenue Tower
Wan Chai, Hong Kong

Dear Sir

**A Proposal on the Mandatory Implementation
of the Building Energy Codes**

We refer to your letter dated 28 December 2007 and would like to thank you for inviting the Institute to give its views on the proposed mandatory implementation of the Building Energy Codes.

We have pleasure in enclosing herewith our views on the proposal.

Should you have any enquiries about our views, please feel free to contact us.

Yours faithfully

Margaret Yung
Manager

Encl.



Views on the Consultation Document on Mandatory Implementation of 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. 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

2. It is considered that 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.
3. As it may not be practicable to list out all special uses that can be exempted from the proposed legislation, it is thus suggested that 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

4. 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

5. It is considered that for a new building project, the self-declaration or certification system by the relevant building professionals can be adopted in order to simplify



the administrative compliance procedure. However, the authorized person oversees the design of the whole project including the architectural design to achieve the performance-based standards. He/she is in a better position to make the required self-declaration after vetting the relevant building services designs by the registered professional engineer. Indeed, a check-and-balance can thus be built into the self-declaration system which will benefit the building owners/developers (as compared with the proposed self-declaration by a registered professional engineer only). This approach is being used in the certification of the OTTV design. The authorized person, together with the registered professional engineer, can make the self-declaration within a reasonable time after the approval of the general building plans by the Buildings Authority, but not later than the commencement of the super-structure. This allows sufficient time for the authorized person and registered professional engineer to carry out the relevant designs in detail.

6. Testing and commissioning of the 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. 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. Again the authorized person, together with the registered professional engineer, should be the persons responsible for the final self-declaration.
7. Primarily, it should be the building owners' and incorporated owners' duty (not the property management company) to comply with the proposed legislation in respect of their own properties and building common areas respectively. However, it is unfair for the building owner or incorporated owner to be responsible for the tenant's area particularly in some large spaces such as superstore, Chinese restaurant and cinema, etc. because the tenants may install their own lighting, air conditioning, electrical and escalator installations. The concept of the "owner of the relevant building service systems" can be used in the proposed legislation.
8. 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

9. 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. Taking into account the practical difficulties in existing buildings particularly those multi-owned strata-titled buildings, a relatively lenient standard of Building Energy Codes can be adopted.

10. 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, the criteria for triggering the proposed legislation is not clear. "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 in a precise matter (for instance, the non-accountable and bonus gross floor area). A building owner (or its property management company) may easily replace a major building service component without informing the EMSD Department. They can also split the whole fitting-out and renovation works into various sections to avoid triggering the application of the proposed legislation. Therefore, to a certain extent, the proposed two criteria may not be properly enforceable.
11. In parallel with the proposed two criteria, it is also suggested that the proposed legislation should be implemented in phases according to the building ages. This is similar to the proposed Mandatory Building Inspection Scheme (MBIS). Existing buildings aged over 30 years should firstly start to improve the 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

12. The low participation rate from the private sector under the voluntary scheme indicates that more financial incentives would be desirable. The current loan schemes provided by the Buildings Department, Urban Renewal Authority and Hong Kong Housing Society should be made available to those buildings owners who need financial assistance in order to improve their buildings in compliance with the proposed legislation. Same as some overseas countries, Government should also consider providing financial incentives (such as grant, rate deduction and property tax exemption) for existing building owners.

A Holistic Approach

13. While Government would implement the minimum energy efficiency standards for the lighting, air conditioning, electrical, lift and escalator installations, the overall environmental performance of buildings would still be far from satisfaction when compared with many developed countries. Both the building and its building services installations should be designed in an environmental friendly and sustainable manner, for instance utilising more natural ventilation rather than air-conditioning. A holistic approach should be adopted to benchmark the **overall** environmental performance of buildings in respect of its site considerations,



material usage, energy usages, water consumption, indoor environmental quality and innovations, from inception planning to construction and throughout its life cycle. The UK Building Research Establishment Environmental Assessment Method (BREEAM), the US Green Building Council Leadership in Energy and Environmental Design (LEED), the Green Building Consortium Green Building (GB) Tool, the HK Building Environmental Assessment Method (BEAM) and Comprehensive Environmental Performance Assessment Scheme (CEPAS) can be considered as the appropriate environmental assessment tools.

14. Other energy sources consume half of the total energy consumption in Hong Kong. In order to uphold its commitment on environmental protection and energy conservation, the Government should also establish and implement similar energy codes to control the efficiency performance of other energies such as gas, LPG, diesel, etc.

Submitted by
The Hong Kong Institute of Surveyors
31 March 2008