

# **Sustainable Building Development – A Regulator’s Perspective**

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Mr Chairman, distinguished guests, ladies and gentlemen.

I am delighted to have the opportunity to participate in this international conference and share with you my experience on sustainable building development.

## **Introduction**

Activities in and associated with buildings are accountable for nearly half of the energy we consume everyday. It is paramount that we plan, design, construct and manage building developments with sustainability in mind. In fact, building a more sustainable environment is a worldwide movement.

The Buildings Department of the Hong Kong Special Administrative Region Government is charged with the responsibility to ensure that the quality, health and safety of private building developments are maintained. All these contribute to sustainable building developments. We have developed strategies that contribute towards sustainable building developments, including green building initiatives, modernisation of rules and regulations, and timely maintenance. In this paper, I would like to focus on the green building and timely maintenance aspects.

## **Green Building Policy**

A few years ago, we initiated the ‘Green Building Movement’ to promote green and innovative buildings with the aim to bring forth a quality and healthy built environment. I am very pleased to report that the movement is bearing fruit. This is evident in the number of building plan submissions and enquiries embracing the concept of environmentally friendly design that we have received. Moreover, we have seen steady growth in awareness and interest on environmental issues in the construction industry.

## ***Incentives***

Prior to the turn of the millennium, we witnessed a gradual emergence of green buildings in Hong Kong. Although the building industry was ready both in mindset and technology to join the green building movement, time and cost implications often deterred designers and developers from adopting environmentally friendly features in building developments. To kick-start this relative inertia, the Buildings Department together with the Lands Department and the Planning Department, issued Joint Practice Note (JPN) No. 1 three years ago and JPN No. 2 two years ago. These JPNs provide incentives in the form of

exemptions from gross floor area and/or site coverage calculations for eleven specific types of green features in new buildings. These features are balconies, wider common corridors and lift lobbies, communal sky gardens, communal podium gardens, acoustic fins, sunshades and reflectors, wind catchers and funnels, non-structural prefabricated external walls, utility platforms, mail delivery rooms, and noise barriers.

Since the issue of the JPNs, we have given approval to 129 building proposal submissions with one or more green features. We note that some features are more popular than others. Balconies are by far the most popular green features, 91% of the 129 projects have balconies, 44% have wider common corridors and lift lobbies, and 36% have utility platforms. As many of these projects are still at the design or construction stages, we envisage that an increasing number of buildings with these green features will emerge in the next couple of years.

It is very encouraging to see that the industry has taken up the green concept beyond the scope of the JPNs. The wider use of precast concrete is a vivid example. Although precast concrete has been adopted in public housing projects since the 1980's, the uptake of this environmentally friendly construction method has been slow in the private sector. Since the issue of JPN No. 2 which provides incentive for non-structural prefabricated external walls, the adoption of precast concrete is gaining momentum. Apart from the use of precast concrete facades, nearly 60% of the projects approved using precast concrete also adopt elements such as precast stairs, semi-precast slabs and precast structural elements, which do not attract GFA exemption.

As a facilitating regulator, the Buildings Department provides a conducive and flexible environment as a kick-start mechanism. The developers, building professionals and the industry as a whole let the idea flourish by taking up the challenge to invest, design, and produce buildings that benefit not just the occupants but the public at large.

### ***Guidelines***

In addition to the JPNs, we have also issued a number of Practice Notes for Authorized Persons and Registered Structural Engineers relating to environmentally friendly design and construction. They include issues such as the use of pulverised fuel ash, management of construction and demolition waste, use of recycled aggregate in concrete, and the performance based approach on lighting and ventilation requirements.

In addition, we have just issued a Code of Practice on Precast Concrete. This code provides guidance to professionals and other stakeholders on the design, construction and quality control of both structural and non-structural precast concrete elements. As the Code provides deemed-to-satisfy requirements on relevant statutory provisions, it will assist in clarifying uncertainties that the professionals may have before. Therefore, we envisage the Code will inject further impetus to the use of precast concrete construction in Hong Kong.

Since the Buildings Department is responsible for setting health and safety standards for private building, it is imperative that we keep abreast with the latest

technological developments. We have established channels to meet and consult the industry on a regular basis. Where appropriate, we also commission consultancy studies to review our standards and explore new technologies..

### **Proper Management and Maintenance**

Whilst the design and construction stages determine the inherent qualities of building developments, the operation stage is the longest and can have major implications on the sustainability of a building. Proper management and maintenance are not only important to the sustainability of buildings; they can also critically influence the safety and hygiene standard of buildings and the city at large. Indeed, safety and hygiene are vital issues, especially because of the deteriorating trend of the aging building stock in Hong Kong. The situation is further accentuated by the threat of highly contagious diseases like SARS.

The Buildings Department has always emphasised the importance of proper management and maintenance. We have a number of initiatives on building safety and timely maintenance, including removal of unauthorised building structures, strengthened law enforcement, loan scheme, and publicity and education campaign.

### ***Clearance of Unauthorised Building Works***

When we promote proper maintenance, we must address the dire situations posed by over 700,000 unauthorised building works (UBW) that exist in Hong Kong. To this end, we have intensified our enforcement action since year 2000 with the aim to remove 150,000 to 300,000 UBW within a period of 5 to 7 years. So far, we have already removed around 120,000.

Large-scale clearance operations have proved to be effective and have greatly improved the rate of compliance with our removal orders by building owners by 2 to 3 folds. Besides, we have established a 24-hour hotline to receive complaints on illegal works in progress. This helps to stop the erection of new illegal building works right from the start in order to break the backbone of the problem.

To help building owners to help themselves, the Buildings Department together with 6 other government departments launched a pilot Co-ordinated Maintenance of Buildings Scheme on 550 target buildings. This scheme adopts a one-stop-shop approach and Buildings Department undertakes the co-ordinating role to ensure efficiency, cost effectiveness and minimal inconvenience to owners and owners' corporations. We conduct surveys on the target buildings, which are laden with UBW and in a state of disrepair, and provide advice to owners on maintenance and repair. We also assist those in need to apply for low interest loans. Moreover, the Home Affairs Department also advise owners and owners' corporation on management matters and assist them in resolving management problems. To date, 56 buildings have been removed from the target building list after the completion of repair and improvement works and the clearance of UBW.

### ***Loan Scheme***

We are mindful that some building owners will need financial assistance in carrying out maintenance works. A loan fund of HK\$ 700 million was created to allow building owners to apply low interest loans to carry out a wide range of works including improvements to structural and fire safety of buildings, removal of unauthorised building works, and maintenance and repair of slopes and retaining walls. Owners of all private buildings may apply for the loan to finance works carried out voluntarily or in compliance with statutory orders. Since the implementation of the scheme some two and a half years ago, we have approved some 6000 loan applications amounting to HK\$ 200 million.

### ***Publicity & Education***

Publicity and education play an essential part in our promotion of building management and maintenance. We strive to cultivate a new building care and safety culture via TV advertisements, quizzes, seminars, exhibitions etc. We have also issued the Building Maintenance Guidebook to provide information on various aspects of building maintenance, from basic rights and responsibilities of building owners to technical issues of building repair and maintenance. The Guidebook, written in layman's terms, has been distributed to owners' corporations, management companies, professional institutions, and academic to ensure that the concept of proper management and maintenance is spread far and wide.

### **Way Forward**

Our measures on green buildings and timely maintenance are reflections of our efforts towards a quality built environment. Whilst we continue with our endeavour in the current policies, we must explore new initiatives to transform our living environment. In establishing our way forward, we must recognise the fact that more than 30% of the buildings in Hong Kong are over 30 years old. It will approach 50% in ten years' time. The aging building population together with multiple ownership and a general lack of a building care culture have built up a great challenge for creating a sustainable built environment in the future.

### **Building Management and Maintenance**

To attain a healthy living environment and bring Hong Kong one step forward towards a sustainable city, active participation of all parties is needed to foster a building-care culture. The public consultation document on "Building Management and Maintenance" issued by the Secretary of Housing, Planning and Lands recently highlighted the pressing need of a new building-care culture in view of the daunting building neglect problems in Hong Kong. Making building maintenance an integral part of building management can provide a sustainable solution to building neglect. The crux of the matter is to establish a consensus on who should shoulder the maintenance responsibility and who should pay for the cost.

In a multi-storey, multi-ownership built environment, we also need to consider the need for a simple, effective and efficient system, with adequate legal backing, to resolve the

many disputes amongst building owners, management agents, owners' corporations and others.

### ***Green initiatives***

The incentives on green building features served as catalysts to spark off momentum and desire for environmentally friendly building developments. We are fully aware that simply adding a green feature or two alone does not necessarily render a building development green. To make further progress towards sustainability, we need to provide a systematic and comprehensive strategy covering the whole life cycle of a building. Therefore, we are reviewing the effectiveness of the JPNs towards sustainability. At the same time, we have commissioned a consultancy study to produce a Comprehensive Environmental Performance Assessment Scheme (CEPAS) for rating and benchmarking the environmental performance of building developments in Hong Kong. CEPAS will be tailored made to suit local characteristics. We anticipate the draft scheme will be ready this year for consultation.

### ***Classification of buildings***

In parallel with CEPAS, we have commissioned a consultancy study to compile a Building Classification Scheme to entice private building owners to conduct assessment on their buildings on a voluntary basis. The ultimate objective is to promote proper management and timely maintenance. The proposed scheme involves assessing existing buildings on seven elements, namely UBW, external, structural, fire safety, building services, building management and others.

### **Conclusion**

As a facilitating and supportive regulator, we have introduced a wide range of measures to encourage and facilitate the various stakeholders of the building industry in providing a green and sustainable built environment. However, to achieve sustainability in the long run, it is paramount to nourish a building care and management culture, and each stakeholder should duly bear his responsibility and perform his role.

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