

# Buildings Department Environmental Report 2001

## 1. Environmental Policy

1.1 The Buildings Department (BD), through administering and enforcing the Buildings Ordinance (BO), has the responsibility to promote building safety, set and enforce building standards and improve the quality of private building developments. Under the leadership of the Director of Buildings who is the Building Authority, we take a proactive role to support the Government's objective of achieving the sustainable development of Hong Kong.

1.2 In addition to enforcing the required safety and health standards, we take a leading role and advocate a joint effort with the building professions and other government departments or agencies to promote a green built environment in Hong Kong.

1.3 Internally, we always implement good practices of green management in our workplace.

## 2. Green Measures Adopted in 2001

### **2.1 Working Group on Construction Efficiency and Environment**

The Working Group on Construction Efficiency and Environment, chaired by the Director of Buildings and with members comprising building professionals, developers, contractors and government officials from various departments, was tasked to review building and construction practices so as to identify opportunities to reduce construction and demolition wastes and to protect the environment through enhancement of construction efficiency.

Its sub-group on 'Lean Construction' had identified prefabrication as a method of lean construction and looked at various aspects of precast construction in terms of design, approval under the building regulations and construction. The sub-group considered that the use of precast construction would be feasible and practical on many occasions in Hong Kong and therefore recommended that prefabrication should be promoted in the private sector as an alternative means of environmentally friendly construction method.

At the end of 2001, we commissioned a consultancy study for drafting a code of practice for precast concrete construction. The code would provide guidelines for best practices in the design, construction and quality control of precast concrete construction. This initiative was in support of the promotion of green and innovative buildings. With precast concrete construction, construction waste could be greatly reduced and construction quality further enhanced.

## **2.2 Green Buildings**

Our Building Innovation Unit was tasked to promote the concept of green buildings and to put forward initiatives to encourage the design and construction of buildings with the following features: -

- (a) Adopting a holistic life cycle approach to planning, design, construction and maintenance;
- (b) Maximizing the use of natural renewable resources and recycled/green building materials;
- (c) Minimizing the consumption of energy, in particular those non-renewable types; and
- (d) Reducing construction and demolition waste.

We, in collaboration with the Planning Department and the Lands Department, issued the first joint practice note on 27 February 2001 to encourage the adoption of green features in buildings. Incentives, in the form of exemption from calculation of floor area or site coverage, were provided for the construction of environmentally friendly features including balconies, wider common corridors and lift lobbies, communal sky gardens, podium gardens, acoustic fins, sunshades and reflectors, wing walls, wind catchers and wind funnels. The incentives were welcome by the building industry.

Following the success of the first joint practice note, we continued to work jointly with both the Planning Department and the Lands Department for the second package of incentives for the promotion of green buildings. These incentives, which would be included in the second joint practice note scheduled for issue in early 2002, would aim at promoting the construction of communal sky gardens in non-domestic buildings, precast external walls, utility platforms, mail delivery rooms and noise barriers.

In 2001, we started the groundwork for the commissioning of a consultant to design a comprehensive environmental performance assessment scheme. This scheme was intended to provide a common yardstick for the measurement of the environmental performance of buildings in Hong Kong.

### **2.3 Review of Sanitary Fitments, Plumbing and Drainage Provisions for Buildings in Hong Kong**

A consultant was appointed in mid 2001 to review the standards on drainage provisions in buildings. In the review, cognizance would be taken of the built environment, special local factors, environmental and material conservation, life styles, environmental sciences, building services engineering, human behaviour and technology. The study will be completed in 2002. Based on the outcome of the study, new standards on drainage provisions will be introduced.

### **2.4 Review of Lighting and Ventilation Requirements for Buildings in Hong Kong**

The consultancy study on the lighting and ventilation requirements of buildings continued in 2001. The consultant had the following findings and recommendations.

#### *Daylight for Domestic Buildings*

Buildings in Hong Kong are typically spaced much closer than those in other cities of the world. Local occupants would therefore expect a different level of daylight performance for their buildings compared with those of others. The consultant had carried out a survey to determine the acceptable level of daylighting for domestic premises in Hong Kong.

Based on the results of the survey, the consultant formulated recommendations on the performance requirements of daylight for both kitchen and habitable rooms in domestic premises. The consultant also developed two design tools for the assessment of the technical requirements.

#### *Ventilation for Domestic Buildings*

For ventilation in kitchen, the consultant recommended the adoption of a 5 air-change per hour as the performance standard. It also recommended that mechanical ventilation be accepted as a supplement to natural ventilation.

For windows in habitable rooms, the consultant proposed natural ventilation having 1.5 air-change per hour as the performance standard. The consultant also proposed relaxation to the current requirements for natural ventilation in such rooms to allow greater design flexibility.

### *Lighting & Ventilation for Non-domestic Buildings*

The consultant established that mechanical ventilation and artificial lighting were adopted in lieu of natural means of lighting and ventilation in most types of non-domestic premises in many overseas cities. Following the findings, the consultant proposed to retain the existing minimum window requirements for offices and to adopt specific mechanical ventilation and artificial lighting requirements based on the collation of the international standards for other types of non-domestic buildings in Hong Kong.

We expect that the consultancy study will be completed in 2002.

## **2.5 Comprehensive review of the Buildings Ordinance**

We continued the exercise on the comprehensive review of the BO in 2001, which was aimed to modernize the legislation to facilitate innovative and environmentally friendly design. With a view to replacing the prescriptive standards by performance-based requirements, where possible, the review was divided into several packages. The first package of the review would involve the revision of the Building (Planning) Regulations, which was scheduled for introduction to the Legislative Council in the 2002/03 legislative session.

## **2.6 In-house green measures**

During 2001, we made continued efforts to increase the awareness of our staff on green management. These included placing recycled paper boxes on each floor, circulating information/documents by electronic mail, printing on both sides of paper, minimizing use

of hardcopies of documents and reducing the use of greeting cards. The introduction of the in-house computer software programmes for leave applications and booking of meeting venues had also eliminated the use of paper for record and statistical purposes.

In 2001, we commenced the installation of the Building Condition Information System which would include a document management system for minimizing the need of duplicating paper documents and paving the way for implementing a paperless office. The system was scheduled for operation in 2002.

Effective use of the local area network of the Department (BD LAN) for posting of notices and circulars was adopted to save paper. Office instructions and manuals were also uploaded to the BD LAN to reduce large-scale printing. Circulation of reference materials such as minutes of various committee meetings, practice notes of allied departments were uploaded to the BD LAN.

The Government Office Automation system, which was also connected to the Government Communication Network to enable electronic mail communication with other policy bureaux and departments connected all workstations in the Department. The system not only enhanced the efficiency of communication among bureaux and departments, but also reduced the use of paper.

### **3. Way Forward**

3.1 In 2002, on the public front it will continue to be one of our priorities to help improving the built environment for Hong Kong people by introducing more green initiatives to encourage innovative building design. Our comprehensive review of the BO will continue with a view to introducing more flexibility in the design and construction of buildings conducive to a green built environment.

3.2 In our workplace we will strive to provide a green environment for our staff. Increased use of computers as a means of internal communication will further minimize the use of paper. We will also encourage our staff to suggest green initiatives for improving the environment within our workplace as well as for the society.

