

Legislative Council Panel on Housing

Energy Saving Measures in Existing Public Rental Housing Estates

Purpose

This Paper is to brief Members on energy saving measures taken in previous years and new energy saving measures to be implemented in coming years for the domestic blocks in existing public rental housing (PRH) estates of the Hong Kong Housing Authority (HA).

Background

2. The HA has been implementing a number of energy saving measures to reduce energy consumption in the PRH estates. Through continuous effort, the total annual electricity consumption on the communal portions of the PRH domestic blocks has been successfully reduced. The annual energy consumption of communal areas per rental flat (i.e. in kWh/flat/year) has dropped from 877 kWh in 2001/02 to 751 kWh in 2010/11 (see Annex), i.e. a drop of 14.4% in ten years.

3. According to a survey result released by a green group in June 2010, the annual electricity consumption of communal areas per domestic flat (i.e. in kWh/flat/year) for some private domestic premises in Hong Kong as a whole range from 918 kWh to 6 834 kWh, whereas the average consumption for HA rental blocks was only 751 kWh in 2010/11.

4. In order to re-examine and verify the energy performance of the 1 200 PRH blocks, the HA has commissioned an Energy Audit ^{Note 1} conducted by independent consultants for 34 typical PRH blocks in 2010 and 2011. The result confirmed that the overall energy performance of these typical blocks is satisfactory.

Note 1 : The Energy Audit had been conducted in accordance with Guidelines on Energy Audit issued by the Electrical and Mechanical Services Department, with an objective of identifying the means to achieve energy efficiency and conservation.

Energy Saving Measures Already Taken

5. Lighting and lifts account for 83% of overall electricity consumption in communal areas of a PRH domestic block. We have adopted a number of energy saving measures on lightings and lifts as follows -

- (a) adoption of higher energy efficient lamp sources, i.e. using light fittings with compact fluorescent tubes and/or discharge lamps;
- (b) retrofitting of existing exit signs (with T8 fluorescent tubes) by the higher efficiency T5 fluorescent tubes;
- (c) full utilization of daylight by re-arrangement of lighting circuits and optimization of operation period of artificial lighting;
- (d) switch-off of excessive fittings permanently; and
- (e) replacement of older lifts with higher energy efficiency ones under the Lift Modernization Programme.

Energy Saving Measures To Be Implemented

6. To further enhance the efficiency and effectiveness of energy performance in PRH blocks, the following energy saving initiatives are to be implemented -

(a) **Retrofitting of Light Fitting – Adoption of Electronic Ballasts**

A four-year light fitting retrofit programme by electronic ballasts will be implemented from April 2012. It is estimated that a light fitting equipped with electronic ballasts could reduce around 20% of the energy consumption.

(b) **Compliance with the New Building Energy Efficiency Ordinance (BEEO)**

The new BEEO will be effective in September 2012 with mandatory requirements on the minimum energy efficiency standard for all major building services installations in a new building or for the major retrofitting activities in existing buildings. The HA will strictly follow this new BEEO in all new construction and retrofit projects.

(c) LED Lighting Fitting

LED light fittings have high potential to become the major lighting source in the future. The HA has conducted a trial use of this new type of fittings in three PRH estates. The performance of these fittings is being closely monitored.

From the trial result so far, the LED light fittings are still at a development stage such that the unit price is relatively high, light output is unstable and glare is significant. The HA will adopt LED light fittings in the existing buildings progressively when the LED lighting technology matures and the technical performance / reliability have been confirmed.

(d) Continue the Lift Modernisation Programme

We will continue to replace lifts aged over 25 years with higher energy efficiency ones under the on-going lift modernisation programme.

Education

7. In order to further promote PRH residents' awareness of energy conservation and building energy efficiency as well as to gain their support on the energy saving measures implemented in PRH estates, educational activities such as fun fair, road show, promotional programmes through the Housing Channel, and in collaboration with environmental concern groups will be implemented as appropriate.

8. Members are invited to note the energy saving measures in the existing PRH estates.

**Transport and Housing Bureau
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Averaged Energy Consumption in Communal Areas of PRH Estates

