

Energy Efficiency (Labelling of Products) Bill

The Administration's Response to Views and Questions raised at the Bills Committee meeting on 15 May 2007

Electricity Consumption and Penetration Rates of Products under the Voluntary Energy Efficiency Labelling Scheme (EELS)

The electricity consumption of the various products under the voluntary energy efficiency labelling scheme are set out below -

	Electricity consumption (GWh) (2005)	Electricity consumption in residential sector (%)
Room coolers	3 372	34%
Lighting (including compact fluorescent lamps and other lighting appliances)	2 154	22%
Refrigerators	1 425	14%
Television sets	731	7.3%
Electric storage water heaters	572	5.7%
Washing machines	569	5.7%
Electric rice cooker	207	2.1%
Electric clothes dryers	29	0.3%
Other appliances (including dehumidifiers, computers, LCD monitor, etc.)	889	8.9%
Total electricity consumption in residential sector	9 948	100%

2. The market penetration rates of the products under the voluntary EELS are set out below -

	Market penetration of voluntary EELS (on sales quantity)
Room coolers	82%
Refrigerators	65%
Compact fluorescent lamps	14%
Multifunction devices	50%
Electric storage water heaters	35%
Dehumidifiers	25%
Photocopiers	20%
Washing machines	15%
Laser printers	15%
Television sets	< 15%
Domestic gas instantaneous water heaters	< 10%
Electric rice-cookers	< 5%
Petrol passenger cars	< 5%
LCD monitors	< 5%
Electronic ballasts	< 5%
Fax machines	< 5%
Electric clothes dryers	0%
Computers	0%

Second Phase of the Mandatory EELS

3. We propose to include three products, namely room air conditioners, refrigerating appliances and compact fluorescent lamps in the initial phase of the mandatory EELS, as these three products together account for about 70% of the electricity consumption in the residential sector. They are also products that have been included since the early stages of the voluntary EELS and have relatively high market penetration rates.

4. We will further consider the priority of products to be included in the second phase of the Mandatory EELS and the corresponding timeframe. We will need to duly consult the community and the relevant trade on our future expansion proposals. The results of the initial phase of the mandatory EELS, such as the acceptance of the public and the energy saving achievements, should also be taken into account when deciding the priority and timeframe of

the second phase of the Scheme.

Overseas Experience and Approaches of Mandatory EELS

5. Over 40 overseas countries, such as Australia, Canada, European Union, South Korea, and the United States, have imposed mandatory requirements for EELS for various types of products. Examples of overseas mandatory EELS are set out at Annex A.

6. Most of the mandatory EELS implemented in overseas countries (including Canada, the United States and member states of the European Union) adopt a self-testing system similar to the proposed Scheme in Hong Kong, where the manufacturers / importers are required to conduct tests on the energy efficiency performance of their products. The overseas experience also indicates that proper monitoring and enforcement measures are required to ensure the electrical appliances in the market are in compliance with the claimed energy performance.

Electricity Consumption of Commercial and Residential Sectors

7. The electricity consumption in residential, commercial, industrial and transport sectors are set out below -

	Electricity Consumption (GWh) (2005)	Percentage
Residential	9 948	25%
Commercial	24 600	61%
Industrial	4 066	10%
Transport	1 434	4%
Total	40 048	100%

8. The Electrical and Mechanical Services Department (EMSD) conducted benchmark surveys on the energy efficiency performance of selected groups of buildings and used the findings to develop energy consumption indicators and benchmarks. The electricity consumption of typical commercial premises is set out below -

Commercial premises	Electricity consumption indicator (kWh/m ² /annum)
Private offices - with central air conditioning supply	342.5

9. The average electricity consumption of residential household is set out below -

	Electricity Consumption (kWh/household/annum)
Residential premises	4 532

The EMSD has no readily available information on the residential household electricity consumption on a per square meter basis. However, since the operational needs of commercial and residential premises are different in nature, we consider it inappropriate to make a direct comparison between the electricity consumption of commercial and residential premises of the same size.

Compliance of Building Energy Codes in Commercial Sector

10. The EMSD launched the Hong Kong Energy Efficiency Registration Scheme for Buildings in 1998. It is a voluntary Scheme mainly intends to provide recognition for the compliance of the Building Energy Codes (BECs) in commercial and office buildings. The cumulative number of registration certificates issued by the EMSD in the past five years is set out below-

Year	Cumulative Number of Registration Certificates Issued
2002/03	151
2003/04	318
2004/05	597
2005/06	1 446
2006/07	1 824

As at mid May 2007, the EMSD issued 1 856 certificates to 760 buildings under the Hong Kong Energy Efficiency Registration Scheme for Buildings. Though the overall percentage of the commercial buildings registered under the voluntary Scheme is still relatively low, the EMSD observes that most Grade A office buildings completed in the last 5 years have actually complied with the BECs at large. We will continue to strengthen the promotion of voluntary compliance of the BECs through organising promotional activities and seminars. We will also consider the proposal of turning the existing voluntary Scheme into a mandatory one, and will duly consult the relevant stakeholders in the process.

Use of Heat Pumps in Hong Kong.

11. Heat pump is a device that could deliver both heating and cooling. In premises which have both heating and cooling needs (such as schools, hotels, hospitals and club houses where hot water is required for swimming pools, shower rooms, changing rooms, laundry, etc.), heat pump consumes less electrical energy than using convention electrical appliances such as conventional electric space heaters or water heater. The Government issued a technical circular in November 2005 to require all works departments to apply energy-efficient features in new government buildings and retrofit projects where feasible. Examples of heat pump applications in government venues are at Annex B. EMSD is also undertaking a study on heat pumps with a view to further promoting the use of heat pumps in Hong Kong.

Environmental Protection Department
Electrical and Mechanical Services Department
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Examples of Mandatory Energy Efficiency Labelling Schemes in Overseas Countries / Economies

Countries	Year of Implementation	Products covered	Control mechanism
Australia	1986	Air conditioners, clothes dryers, clothes washers, dishwashers, refrigerators and freezers	Registration
Canada	1978	Clothes dryers, clothes washers, dishwashers, electric ranges, room air conditioners, integrated over/under washer-dryers, refrigerators and freezers	Pre-market submission of information, verification of energy efficiency by accredited certification organizations
Member states of European Union	1992	Air conditioners, clothes washers, clothes dryers, integrated washer-dryers, dishwashers, electric ovens, lamps, refrigerators and freezers	Post-market surveillance

Countries	Year of Implementation	Products covered	Control mechanism
Japan (Top Runner Programme)	1979	Passenger vehicles, freight vehicles, air conditioners, electric refrigerators and freezers, electric rice cookers, microwave ovens, fluorescent lights, electric toilet seats, TV sets, video cassette recorders, DVD recorders, computers, magnetic disk units, copying machines, space heaters, gas cooking appliances, gas water heaters, oil water heaters, vending machines, transformers	Manufacturers and importers have to ensure that the average (sales weighted) efficiency of all their appliances meet the target standard value of each category by a specified date
Mainland China	2005	Household refrigerators, air conditioners, clothes washers	Post-market filing

Countries	Year of Implementation	Products covered	Control mechanism
South Korea	1992	Automobiles (passenger cars), air conditioners, ballasts for fluorescent lamps, washing machines, drum washing machines, compact fluorescent lamps, dishwashers, fluorescent lamps, household gas-fired hot water boilers, incandescent bulbs, kim-chi fridges, refrigerators and freezers , rice cookers, water dispensers, dish dryers, vacuum cleaners, electric fans	Registration, require testing at designated test laboratories
United States	1980	Air conditioners, ballasts, boilers, clothes washers, dishwashers, refrigerators and freezers, furnaces, heat pumps, lamps, water heaters (electric, gas, oil)	Pre-market submission of information
Singapore	to be implemented in July 2007	Air conditioners, refrigerators	No information available yet

Annex B

Examples of Heat Pump Applications in Government Venues

Government Venue	Heat Pump Installed Capacity (kW)
Airport District Police Station	60
Braemar Hill Fire Station	280
Butterfly Beach Laundry	140
EMSD Headquarters	23
Hammer Hill Road Leisure Pool	1 200
Sheung Shui Slaughter House	2 000
Shing Mun Valley Swimming Pool	900
Tai Kok Tsui Complex	700