

# HONG KONG, CHINA

## 1. GOALS FOR EFFICIENCY IMPROVEMENT

### 1.1. Overall Energy Efficiency Improvement Goals

Reduction of energy intensity by 25% by 2030 from 2005 levels

### 1.2. Sectoral Energy Efficiency Improvement Goals

Not applicable

### 1.3. Action Plans for Promoting Energy Efficiency

Since the adoption of the Sydney Declaration, the Hong Kong, China (HKC) Government has been stepping up efforts in energy efficiency and conservation monitoring and reporting by means of an end-use energy database<sup>1</sup>. Action plans include:

- The promotion of building energy efficiency through legislation for mandatory implementation of Building Energy Codes, and the provision of subsidies under Building Energy Efficiency Funding Schemes
- The implementation of the first phase of the Mandatory Energy Efficiency Labelling Scheme and a move to legislate amendments for rolling out the second phase of the scheme
- The provision of incentives in the post 2008 Scheme of Control Agreements with power companies to encourage investment in renewable energy facilities and enhance energy efficiency
- To enhance utilisation of landfill gas for town gas production
- To implement a district cooling system at the Kai Tak Development to supply chilled water to buildings in the new development area for centralised air-conditioning
- To promote environmental protection and energy conservation in government buildings through setting targets in various environmental aspects of new government buildings and through identifying demonstration projects
- To promote environmental protection and energy conservation in government buildings through setting targets in various environmental aspects of new government buildings and through identifying demonstration projects to promote the replacement of incandescent light bulbs by compact fluorescent lamps through various means, including consultation on progressively restricting the sales of incandescent light bulbs.

### 1.4. Institutional Structure

#### a) Name of organisation

Energy Efficiency Office (EEO) of Electrical and Mechanical Services Department under the directive of the Environment Bureau (ENB) which is the energy policy maker

#### b) Status of organisation

ENB as the policy maker and EEO as the regulator and implementer

#### c) Roles and responsibilities

The government (ENB and EEO/EMSD) is responsible for promoting energy efficiency both within the government and in the community as a whole. The government works with professional bodies, tertiary institutes, related industries and the general public to promote energy efficiency in the community through voluntary and mandatory programs.

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<sup>1</sup>HKEEUD (2009).

**d) Covered sectors**

Public and private sectors

**e) Established date**

ENB was established in 2007 and EEO was established in 1994

**f) Number of staff members**

There are 46 employees of EEO

**1.5. Information Dissemination, Awareness-raising and Capacity-building****a) Information collection and dissemination**

For major energy efficiency policies, public consultation and business impact assessments may be conducted. Information is mainly disseminated through the media and via press releases and websites.

**b) Awareness-raising**

HKC organise and/or participate in various exhibitions, seminars, and workshops to promote energy efficiency within various sectors. There are also websites to promote energy efficiency and renewable energy.

Technical information related to energy efficient products is promoted and disseminated through publication of information leaflets and technical guidelines, and posting the information for the public via dedicated websites—HK EE Net (<http://ee.emsd.gov.hk>), HK RE Net (<http://re.emsd.gov.hk>) and HK GBT Net (<http://gbtech.emsd.gov>)—and media programs.

HKC also launch publicity programs and campaigns to promote awareness of energy efficiency in particular regarding specific measures (e.g., Energy Efficiency Labelling Scheme, Building Energy Efficiency Funding Schemes, etc.).

**c) Capacity-building**

Capacity-building is achieved by organising strategic and specific briefings, presentations and workshops for industry and the general public. Professional bodies and educational institutions are also involved in sharing experience and providing training to build up the necessary capacity in the concerned sectoral areas.

**1.6. Research and Development in Energy Efficiency and Conservation**

In order to evaluate and review the application of new energy efficiency and conservation technologies, the HKC government promotes applied research and development activities including energy efficiency projects through university research grants and dedicated technology funds. Examples of projects include:

- Installation of Energy Efficiency and Conservation Technologies in Government Facilities for Application Studies
- Energy efficiency demonstration projects
- Projects funded by the Innovation and Technology Fund, Environment and Conservation Fund and General Research Fund.

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**2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS****2.1. Government Laws, Decrees, Acts:****a) Name**

- 1) Energy Efficiency (Labelling of Products) Ordinance (Chapter 598)

- 2) Building (Energy Efficiency) Regulation (Chapter 123M).

**b) Purpose**

- 1) To facilitate the choice of energy efficient appliances and raise public awareness on energy saving in electrical appliances
- 2) To regulate the design and construction of external walls and roofs of buildings in order to achieve an appropriate overall thermal transfer value such that the energy consumption of commercial buildings and hotels can be controlled.

**c) Applicable sectors**

- 1) All sectors
- 2) Commercial buildings and hotels.

**d) Outline**

- 1) The Energy Efficiency (Labelling of Products) Ordinance, enacted on 9 May 2008, provides the basis for implementation of the Mandatory Energy Efficiency Labelling Scheme. The scheme requires that the energy label be shown on prescribed products to inform consumers of the products' energy performance. The first phase covers room air conditioners, refrigerating appliances and compact fluorescent lamps. There are plans to include washing machines and dehumidifiers in the second phase of the scheme.
- 2) The Building (Energy Efficiency) Regulation, enacted in 1995, regulates the design and construction of external walls and roofs of buildings to have a suitable overall thermal transfer value such that the energy consumption of commercial buildings and hotels can be controlled and thus the emission of greenhouse gases from power generation can be reduced.

**e) Financial resources and budget allocation**

No information available

**f) Expected results**

- 1) Products with lower energy efficiency to be driven out by market forces
- 2) Commercial buildings and hotels achieve better energy performance in overall thermal transfer requirements.

## 2.2. Regulatory Measures

See 2.1. (d)

## 2.3. Voluntary Measures

**a) Name**

- 1) Voluntary Energy Efficiency Labelling Scheme
- 2) Scheme for Wider Use of Fresh Water in Evaporating Cooling Towers for Energy-efficient Air Conditioning Systems
- 3) HK Energy Efficiency Registration Scheme for Buildings (HKEERSB)<sup>2</sup>.

**b) Purpose**

See 2.1. (d)

**c) Applicable sectors**

All sectors

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<sup>2</sup>[www.emsd.gov.hk/emsd/eng/pee/eersb.shtml](http://www.emsd.gov.hk/emsd/eng/pee/eersb.shtml).

**d) Outline**

- 1) EMSD operates a voluntary Energy Efficiency Labelling Scheme for appliances and equipment used at home and at the office as well as for vehicles to make it easier for the public to choose energy efficient products. The scheme aims to save energy by informing potential customers of a product's energy performance, which enables buyers to take these factors into consideration when making their purchasing decision. The scheme now covers 18 types of household appliances and office equipment. Ten of these types are electrical appliances including refrigerators (voluntary scheme), washing machines, non-integrated type compact fluorescent lamps, dehumidifiers, electric clothes dryers, room coolers (voluntary scheme), electric storage water heaters, television sets, electric rice-cookers, and electronic ballasts. The seven types of office equipment include photocopiers, fax machines, multifunction devices, laser printers, LCD monitors, computers and hot and cold bottled water dispensers. There is one type of gas appliance (domestic gas instantaneous water heaters). The scheme has also been extended to cover petrol passenger cars. With the full implementation of the Energy Efficiency (Labelling of Products) Ordinance on 9 November 2009, the Voluntary Energy Efficiency Labelling Scheme for room coolers (voluntary scheme) and household refrigeration appliances (voluntary scheme) will cover only those products not regulated under the ordinance. Details can be found at: [www.emsd.gov.hk/emsd/eng/pee/eels\\_vlntry.shtml](http://www.emsd.gov.hk/emsd/eng/pee/eels_vlntry.shtml).
- 2) The 'Pilot Scheme for Wider Use of Fresh Water in Evaporative Cooling Towers for Energy-efficient Air Conditioning Systems' was launched in 2000 to promote the wider use of energy-efficient water-cooled air conditioning (WACS) and facilitate the territory-wide implementation of WACS.
- 3) Over the years, the number of designated areas of the scheme has been expanded to 95. In November 2009, the scheme covered about 75% of the non-residential floor area of HKC. The scheme has been operating on a standing status from June 2008 and was re-titled as 'Scheme for Wider Use of Fresh Water in Evaporative Cooling Towers for Energy-efficient Air Conditioning Systems'.
- 4) The HKEERSB was launched in October 1998 to promote the application of the Building Energy Codes (BECs). The set of five codes cover lighting, air conditioning, electrical, lift and escalator installations, and stipulate the minimum energy performance standards of these installations. Adoption of the BECs is at the discretion of the designer. Designers, architects, building developers, property management agencies and so on can submit relevant details of their building for assessment of compliance with the BEC. The Scheme requires the certification of this information by a Registered Professional Engineer of the relevant discipline under the Engineers Registration Ordinance. A registration certificate will be issued to a building that successfully meets the individual BEC standards. In addition, a registered building can also use the Scheme's 'Energy Efficient Building Logo' on related documents to publicise the achievement on energy efficiency. As at November 2009, 2550 registration certificates were issued to 1080 building venues involving 2712 installations.

**e) Financial resources and budget allocation**

No information available

**f) Expected results**

- 1) To enable consumers to make a better choice when purchasing energy efficient appliances and reduce energy consumption
- 2) To save energy consumption in air conditioning systems in non-residential buildings

- 3) To enhance building energy efficiency.

## 2.4. Financial Measures Taken by the Government

### 2.4.1. Tax Scheme

For energy saving and conservation in the building sector, the Financial Secretary announced in the 2008-09 Budget Speech that the depreciation period for building service installations registered under the HKEERSB and renewable energy installations would be reduced from 25 years to 5 years.

### 2.4.2. Low-Interest Loans

#### a) Name

Building Safety Loan Scheme

#### b) Purpose

To provide loans to individual owners of all types of private buildings to carry out maintenance work for improving energy efficiency among other things

#### c) Applicable sectors

Industrial, residential and commercial buildings

#### d) Financial resources and budget allocation

No information available

#### e) Expected results

Energy saving and promoting energy efficiency

### 2.4.3. Subsidies and Budgetary Measures

#### a) Name

Buildings Energy Efficiency Funding Schemes (BEEFS)<sup>3</sup> and budgetary allocation for energy efficiency improvement work at government facilities and venues

#### b) Purpose

For energy saving and conservation and to reduce CO<sub>2</sub> emissions

#### c) Applicable sectors

Residential, commercial, industrial and government

#### d) Outline

BEEFS were launched in April 2009 to subsidise owners of residential, commercial and industrial buildings to conduct energy-cum-carbon audits and energy efficiency projects in private buildings. Resources have been allocated in the 2009-10 budgets to carry out minor work for improving the energy efficiency of government buildings and public facilities.

#### e) Financial resources and budget allocation

BEEFS—HKD 450 million

Energy improvement projects in government buildings—HKD 130 million

#### f) Expected results

To promote energy saving and conservation in buildings

### 2.4.4. Other Incentives

No information available

<sup>3</sup>Energy Wits, Issue No. 15 (May 2009), p. 2.

## 2.5. Energy Pricing

No information available

## 2.6. Other Efforts for Energy Efficiency Improvements

### 2.6.1. Cooperation with Non-Government Organisations

The government cooperates with the professional sector and non-government organisations on the promotion of energy efficiency and conservation.

### 2.6.2. Cooperation through Bilateral, Regional and Multilateral Schemes

To maintain close collaboration with the Chinese government to harmonise the adoption of appropriate energy efficiency standards and approaches.

### 2.6.3. Other Cooperation/Efforts for Energy Efficiency Improvements

There are some efforts for energy efficiency improvements:

- 1) To extend the coverage of the energy efficient public transport system, in particular the mass transit railway network and high-speed train system
- 2) To implement measures to promote wider adoption of electric vehicles
- 3) For the government to lead by example in implementing energy efficiency demonstration projects to showcase energy efficient designs and emerging technologies, and to adopt advanced energy saving products such as LED traffic lights
- 4) To mandate that government capital works projects and minor works projects incorporate various energy efficiency features into the projects
- 5) The Hong Kong Green Building Council (HKGBC), which was established in November 2009 to advance green building initiatives in HKC, is a professional organisation driving the promotion and creation of green, energy efficient buildings and standards throughout HKC and seeking to engage the community, industry and government in creating a more sustainable environment.

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## REFERENCES

HKEEUD (2009), *Hong Kong Energy End-use Data 2009*, issued by the Energy Efficiency Office of Electrical and Mechanical Services Department, [www.emsd.gov.hk/emsd/e\\_download/pee/HKEEUDB2009.pdf](http://www.emsd.gov.hk/emsd/e_download/pee/HKEEUDB2009.pdf).

HKEERSB, *Hong Kong Energy Efficiency Registration Scheme for Buildings*, issued by the Energy Efficiency Office of Electrical and Mechanical Services Department, [www.emsd.gov.hk/emsd/e\\_download/pee/hkeersb2007.pdf](http://www.emsd.gov.hk/emsd/e_download/pee/hkeersb2007.pdf).

Energy Wits, Issue No. 15 (May 2009), *Buildings Energy Efficiency Funding Schemes*, issued by Energy Efficiency Office of Electrical and Mechanical Services Department, [www.emsd.gov.hk/emsd/e\\_download/pee/Energy\\_Wits\\_15.pdf](http://www.emsd.gov.hk/emsd/e_download/pee/Energy_Wits_15.pdf).