

HONG KONG, CHINA

1. GOALS FOR EFFICIENCY IMPROVEMENT

1.1. Overall Energy Efficiency Improvement Goals

Reduction of energy intensity by 40% by 2025 (as compared to the 2005 level).

1.2. Sectoral Energy Efficiency Improvement Goals

No applicable sector level targets are in place.

1.3. Action Plans for Promoting Energy Efficiency

With the adoption of the Honolulu Declaration, the Hong Kong, China (HKC) Government continues to step up efforts in energy efficiency and conservation monitoring, as well as reporting, using an end-use energy database.¹ The action plan includes the following:

- To unveil the Energy Saving Plan for Hong Kong's Built Environment 2015~2025+.
- The promotion of building energy efficiency through legislation for mandatory implementation of Buildings Energy Codes.
- The implementation of the Mandatory Energy Efficiency Labeling Scheme.
- The provision of incentives in the post-2008 Scheme of Control Agreements with power companies to encourage investments in renewable energy facilities and enhance energy efficiency.
- To implement a district cooling system at the Kai Tak Development to supply chilled water to buildings for centralized air conditioning.
- To promote environmental protection and energy conservation in government buildings by setting targets in various environmental aspects of new government buildings and through identifying demonstration projects.
- To promote the replacement of incandescent light bulbs with more energy-efficient lighting products.
- To promote electric transport through lower taxation for electric vehicles and providing funds for electric buses.

1.4. Institutional Structure

a) Name of organization

The Energy Efficiency Office (EEO) of the Electrical and Mechanical Services Department (EMSD) under the directive of the Environment Bureau (ENB).

b) Status of organization

The ENB, as the policymaker, and the EEO of the EMSD, as the regulator and implementer.

c) Roles and responsibilities

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

d) Covered sectors

Public and private sectors.

e) Established date

¹HKEEUD (2015).

The EEO of the EMSD was established in 1994.

f) Number of staff members

There are 75 employees in the 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

The HKC Government organizes and participates in various exhibitions, seminars, outreach programs to schools, guided tours on education, and workshops to promote energy efficiency and conservation in various sectors. There are also websites and the Energy Efficiency Newsletter to promote energy efficiency and renewable energy.

Technical information related to energy-efficient products is promoted and disseminated through the publication of information leaflets and technical guidelines and the posting of information for the public via the following websites: HK EE Net (<http://ee.emsd.gov.hk>), HK RE Net (<http://re.emsd.gov.hk>), Energy Label Net (<http://www.energylabel.emsd.gov.hk>), and Energy Saving for All Portal (<http://www.energysaving.gov.hk>).

The HKC Government also launched publicity programs and campaigns to promote awareness of energy efficiency and conservation, particularly regarding specific measures such as the Energy Efficiency Labeling Scheme, the Buildings Energy Efficiency Funding Schemes, and the Energy Saving Charter on Indoor Temperature. In addition, it launched the Liberal Studies Education Kit for New Senior Secondary Curriculum, the New Energy New Generation Solar Car Competition, and the Youth Energy Saving Award to promote energy efficiency and conservation among students.

c) Capacity Building

Capacity-building is achieved by organizing strategic and specific briefings as well as presentations and workshops for both the industry and the general public. Professional bodies and educational institutions are also involved in sharing experiences 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.

2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS

2.1. Government Laws, Decrees, and Acts:

a) Name

- 1) Energy Efficiency (Labeling of Products) Ordinance (Chapter 598)
- 2) Building (Energy Efficiency) Regulation (Chapter 123M)
- 3) Building Energy Efficiency Ordinance (Chapter 610)

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 a minimum overall thermal transfer value and control the energy consumption of commercial buildings and hotels.
- 3) To regulate the building installations, including lighting, electrical, air conditioning, lifts, and escalators, in order to comply with the specified minimum energy efficiency standards and requirements.

c) Applicable sectors

- 1) All sectors.
- 2) Commercial buildings and hotels.
- 3) A total of 13 categories of public and private prescribed buildings are included, which are as follows: commercial buildings, hotels and guesthouses, residential buildings (common area only), industrial buildings (common area only), composite buildings (non-residential and non-industrial portion), composite buildings (common area of residential or industrial portion), educational buildings, community buildings, municipal buildings, hospitals and clinics, government buildings, airport passenger terminal building, and railway stations.

d) Outline

- 1) The Energy Efficiency (Labeling of Products) Ordinance, enacted on May 9, 2008, provides the basis for implementation of the Mandatory Energy Efficiency Labeling Scheme. This scheme requires that the energy label be shown on prescribed products in order to inform consumers of the products' energy performance. The first phase, covering room air conditioners, refrigerating appliances, and compact fluorescent lamps, has been in full implementation since November 9, 2009. The second phase extends the coverage to washing machines and dehumidifiers, and it has been fully implemented since September 19, 2011. The energy efficiency grading standards of room air conditioners, refrigerating appliances, and washing machines was reviewed in late 2014. The tightened grading standards of these products will be fully implemented in November 2015.
- 2) The Building (Energy Efficiency) Regulation, enacted in 1995, regulates the design and construction of external walls and roofs of buildings in order to maintain a suitable overall thermal transfer value and control the energy consumption of commercial buildings and hotels. Thus, the emission of greenhouse gases from power generation can be reduced.
- 3) The Buildings Energy Efficiency Ordinance for mandatory implementation of the Building Energy Code (BEC) and energy audit was enacted in December 2010, after which it was fully implemented on September 21, 2012. The ordinance requires compliance with the BEC in the design of new construction and major retrofitting works of prescribed buildings, especially regarding four types of installations (i.e., lighting, electrical, air conditioning, and lifts and escalators) as well as the implementation of energy audits for commercial buildings. Further energy savings will occur by requiring compliance with the BEC when major retrofitting works and energy audits are conducted in existing buildings.

e) Financial resources and budget allocation

N/A.

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.
- 3) Key installations of new prescribed buildings and major retrofitting works comply with the design standards of the BEC. In addition, energy management opportunities and energy utilization indices are identified from energy audits of commercial buildings.

2.2. Regulatory Measures

See Section 2.1.

2.3. Voluntary Measures

a) Name

- 1) Voluntary Energy Efficiency Labeling Scheme
- 2) Scheme for the Wider Use of Fresh Water in Evaporating Cooling Towers for Energy-Efficient Air-Conditioning Systems
- 3) Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB).²

b) Purpose

See Section 2.3 (d)

c) Applicable sectors

All sectors.

d) Outline

- 1) The EMSD operates a voluntary Energy Efficiency Labeling Scheme for appliances and equipment used at home and at the office as well as for vehicles in order to make it easier for the public to choose energy-efficient products. The scheme now covers 22 types of household appliances and office equipment of which 13 are electrical appliances, seven are office equipment, and two are gas appliances. Details can be found at http://www.emsd.gov.hk/emsd/eng/pee/eels_vlntry.shtml.
- 2) The Scheme for Wider Use of Fresh Water in Evaporative Cooling Towers for Energy-Efficient Air-Conditioning Systems was launched in 2000 as a pilot scheme after which it became a standing scheme in 2008 to promote the wider use of energy-efficient, water-cooled air conditioning (WACS), and facilitate the territory-wide implementation of WACS. It is also open for application by owners who plan to use freshwater cooling towers for air conditioning of non-domestic buildings in designated areas.
- 3) The HKEERSB was launched in October 1998 as a voluntary scheme to promote the application of the Building Energy Code (BEC). The BEC covers lighting, air conditioning, electrical, and lift and escalator installations, and stipulates the minimum energy performance standards of such installations. Under the scheme, if the designer/owner of a building submits an application to the EMSD, then a registration certificate will be issued to the building that successfully meets the individual BEC standards.

e) Financial resources and budget allocation

N/A.

f) Expected results

² www.emsd.gov.hk/emsd/eng/pee/eersb.shtml.

- 1) To enable consumers to make better decisions when purchasing energy-efficient appliances, which, in turn, helps 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

- a) For energy saving and conservation in the building sector, the depreciation period for building service installations (registered under the HKEERSB) and renewable energy installations would be reduced from 25 years to five years.
- b) Tax incentives for the promotion of electric vehicles. The scheme eliminates the tax imposed on new vehicle purchases for electric vehicles. Furthermore, the government supports the development of a network of charging stations.
- c) Financial support is provided for the purchase of electric buses with the goal of expanding electric buses to the entire public transport fleet.

2.4.2. Low-Interest Loans

N/A.

2.4.3. Subsidies and Budgetary Measures

N/A.

2.4.4. Other Incentives

N/A.

2.5. Energy Pricing

N/A.

2.6. Other Efforts for Energy Efficiency Improvements

2.6.1. Cooperation with Non-Government Organizations

The government cooperates with the professional sector and non-government organizations regarding 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 in order to harmonize the adoption of appropriate energy efficiency standards and approaches.

2.6.3. Other Cooperation/Efforts for Energy Efficiency Improvements

The following are some of the efforts for energy efficiency improvements:

- 1) For the government to lead by example in implementing energy efficiency demonstration projects in order to showcase energy-efficient designs and emerging technologies as well as adopt advanced energy-saving products.
- 2) To mandate government capital projects and minor projects for incorporating various energy efficiency features into such projects.
- 3) The Hong Kong Green Building Council, which was established in November 2009 to advance green building initiatives in the HKC Government, is a professional organization that supports the creation of green, energy-efficient buildings, and promotes standards throughout Hong Kong. In addition, it engages the community, industry, and government in creating a more sustainable environment.

REFERENCES

HKEEUD (2015), *Hong Kong Energy End-use Data 2015*, issued by the Energy Efficiency Office of Electrical and Mechanical Services Department, www.emsd.gov.hk/emsd/e_download/pee/HKEEUDB2015.pdf.