

HONG KONG, CHINA

ENERGY EFFICIENCY GOALS

1. GOVERNMENT POLICY ON ENERGY EFFICIENCY

To increase and sustain energy conservation and saving through a combination of educational, social, economic and regulatory means, especially for buildings and inhabitants to become highly energy efficient by 2025.

2. ENERGY EFFICIENCY STRATEGY

Hong Kong employs the following strategies to save energy, with a focus on government taking the lead by:

- Improving building energy efficiency for both new and existing buildings, which account for 90% of the city's electricity usage.
- Enabling companies, institutions and residents to make energy efficiency choices when they invest in electrical appliances and vehicles.
- Promoting energy saving practices and lifestyle for residents.

FUNDING

Funding is allocated annually and can be found in the government's estimates.

LINKS

Energy Saving Plan: <http://www.enb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf>

Energy Efficiency and Conservation Policy:

http://www.enb.gov.hk/en/about_us/policy_responsibilities/energy_efficiency.html

The 2017-18 Budget: <https://www.budget.gov.hk/2017/eng/estimates.html>

3. ENERGY EFFICIENCY ACTION PLAN

Key actions include:

- Economic: to take the lead in promoting energy saving and green building development by enhancing the green performance of government buildings, public housing and public sector developments, such as to set the target for all major new government buildings and new public housing to achieve at least BEAM Plus Gold and Gold ready respectively. To also achieve a 5 per cent electricity reduction target for government buildings by 2020 (2014 as base) and explore further reduction from 2020 to 2025 in 2019/20.

- Regulatory: to conduct periodic reviews to expand and/or tighten relevant energy-related standards including the statutory requirements under the Buildings Energy Efficiency Ordinance, the Building (Energy Efficiency) Regulation, and the Energy Efficiency (Labelling of Products) Ordinance.
- Educational: update schools and public education programmes and strengthen Government energy saving efforts by appointing Green Managers and Energy Wardens, and encourage public sector institutions to save energy.
- Social: support community campaigns through government funding schemes, and collaborate with key energy consumers in the commercial sector to develop sector-specific campaigns to promote energy saving. More importantly, the Secretary for the Environment will engage building sector leaders to accelerate green building adoption.

FUNDING

Funding is allocated annually and can be found in the government's estimates.

LINKS

Energy Saving Plan Press Release:

<http://www.info.gov.hk/gia/general/201505/14/P201505140408.htm>

Energy Saving Plan: <http://www.enb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf>

The 2017-18 Budget: <https://www.budget.gov.hk/2017/eng/estimates.html>

4. ENERGY EFFICIENCY, INTENSITY OR EMISSIONS REDUCTION TARGETS

Hong Kong to achieve:

- An energy intensity reduction of 40% by 2025 using 2005 as the base.
- Absolute carbon emissions reduction of 20% by 2020 and 26-36% by 2030 (compared to 2005).
- Carbon intensity reduction of 50-60% by 2020 and 65-70% by 2030 (compared to 2005).

LINKS

Energy Intensity: <http://www.enb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf>

Carbon emissions and intensity reduction:

<http://www.enb.gov.hk/sites/default/files/pdf/ClimateActionPlanEng.pdf>

5. SECTORAL ENERGY EFFICIENCY TARGETS

There is no energy efficiency target at sectoral level.

6. LEAD ENERGY EFFICIENCY INSTITUTIONS

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

INSTITUTIONAL SETTINGS AND RESPONSIBILITIES

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

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 public to promote energy efficiency through voluntary and mandatory schemes.

The EEO of the EMSD was established in 1994.

STAFF AND BUDGET

There are 90 employees in the EEO.

BUDGET USE

Funding is allocated annually and can be found in the government's estimates.

LINKS

Energy Efficiency and Conservation:

http://www.emsd.gov.hk/en/energy_efficiency/about_energy_efficiency_and_conservation/index.html

The Environment Bureau: <http://www.enb.gov.hk/en/top.html>

The 2017-18 Budget: <https://www.budget.gov.hk/2017/eng/estimates.html>

7. OTHER ENERGY EFFICIENCY AGENCIES

Not applicable

8. ENERGY EFFICIENCY INFORMATION 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.

LINKS

Energy Saving for All (Chinese/English): <http://www.energysaving.gov.hk/en/home/index.html>

ENB Press Releases: http://www.enb.gov.hk/en/news_events/press_releases/index.html

EMSB Press Releases: http://www.emsd.gov.hk/en/media/press_releases/current_year/index.html

ENB Policy and Consultation Papers:

http://www.enb.gov.hk/en/resources_publications/policy_consultation/index.html

9. ENERGY EFFICIENCY AWARENESS RAISING

The Hong Kong Government organises and participates in various exhibitions, seminars, outreach programmes 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, HK RE Net, Energy Label Net, and Energy Saving for All Portal.

The Hong Kong Government has also launched publicity programmes and campaigns to promote awareness of energy efficiency and conservation, particularly regarding specific measures such as the Energy Efficiency Labelling Scheme, the Energy Saving Charter, 4Ts Charter (4Ts means target, timeline, transparency and together) and Energy Saving Championship schemes. 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.

LINKS

HK Energy Efficiency Net: <http://ee.emsd.gov.hk>

HK Renewable Energy Net: <http://re.emsd.gov.hk>

Mandatory Energy Efficiency Labelling: <http://www.energylabel.emsd.gov.hk>

Energy Saving for All (Chinese/English): <http://www.energysaving.gov.hk>

10. GOVERNMENT SUPPORTED ENERGY EFFICIENCY TRAINING

Capacity building is achieved by organising strategic and specific briefings as well as presentations and workshops for both industry and public. Professional bodies and educational institutions are also involved in sharing experiences and providing training to build up the necessary capacity in relevant sectors.

LINKS

Education Path and School Outreach Programme:

http://www.emsd.gov.hk/en/energy_efficiency/publicity_and_public_education/guided_tour_on_education_path/index.html

Property Management Seminar:

http://www.emsd.gov.hk/en/about_us/public_education/conferences_and_seminars/property_management_seminar/index.html

11. PRIVATELY OPERATED TRAINING

Several organisations occasionally organise courses, seminars, talks, workshops and visits on energy saving and renewable energy.

LINKS

ENB Resources and Publications: <http://www.energysaving.gov.hk/en/resources/capacity.html>

12. GOVERNMENT SUPPORTED RESEARCH & DEVELOPMENT

In order to evaluate and review the application of new energy efficiency and conservation technologies, the Hong Kong Government promotes applied research and development activities, including energy efficiency projects through university research grants and dedicated technology funds.

LINKS

Innovation and Technology Fund (ITF): <http://www.itf.gov.hk/l-eng/about.asp>

Environment and Conservation Fund (ECF): <http://www.ecf.gov.hk/en/home/index.html>

ENERGY EFFICIENCY MEASURES

13. COLLECTION AND MONITORING OF ENERGY EFFICIENCY OUTCOMES

The Energy Efficiency Office (EEO) of the Electrical and Mechanical Services Department publishes annual sectoral energy end-use data. The Census and Statistics Department publishes the Hong Kong Energy Statistics Annual Report. The report describes energy supply and demand by fuel type and includes an overall energy balance.

LEGAL POWER

There is no legislation on mandatory submission of energy end-use consumption information. The EEO uses surveys to collect data. Trade statistics are the primary data source used in compiling The Hong Kong Energy Statistics Annual Report.

LINKS

Annual end-use data:

http://www.emsd.gov.hk/en/energy_efficiency/energy_end_use_data_and_consumption_indicators/hong_kong_energy_end_use_data/index.html

Energy Statistics Annual Report: <http://www.censtatd.gov.hk/hkstat/sub/so90.jsp>

14. EVALUATION OF ENERGY EFFICIENCY PROGRESS OR POTENTIAL

Annual evaluation of the reduction in energy intensity is compiled in the Hong Kong Energy End-use Data set.

LINKS

Hong Kong Energy End-use Data:

http://www.emsd.gov.hk/en/energy_efficiency/energy_end_use_data_and_consumption_indicators/hong_kong_energy_end_use_data/data/index.html

15. SELF-EVALUATION OF ENERGY EFFICIENCY PROGRAMMES

Energy efficiency programmes performance targets and indicators are reflected in the Controlling Officers' Reports in the government's Budget estimates.

16. CROSS-SECTOR ENERGY EFFICIENCY INITIATIVES

There is no cross-sector energy efficiency initiative.

17. INDUSTRY ENERGY EFFICIENCY INITIATIVES

There is no specific energy efficiency initiative for the industry sector.

18. TRANSPORT ENERGY EFFICIENCY INITIATIVES

Tax incentives for the promotion of electric vehicles

OBJECTIVE

The scheme covers first registration tax concessions on new vehicle purchases for electric vehicles. Furthermore, the government supports the development of a network of charging stations.

OUTLINE

The first registration tax for electric commercial vehicles (including goods vehicles, buses, light buses, taxis, and special purpose vehicles), electric motor cycles and electric motor tricycles is waived in full. However, there is a cap on first registration tax waiver imposed for private electric cars.

The government collaborates with power companies and the commercial sector to develop a network of charging stations.

LINKS

Promotion of Electric Vehicles in Hong Kong:

http://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/promotion_ev.html

19. BUILDING ENERGY EFFICIENCY INITIATIVES

Mandatory Energy Efficiency Labelling Scheme - enacting Energy Efficiency (Labelling of Products) Ordinance (Chapter 598)

OBJECTIVE

To facilitate the choice of energy-efficient appliances and raise public awareness on energy saving in electrical appliances.

OUTLINE

The Energy Efficiency (Labelling of Products) Ordinance, enacted in May 2008, provides the basis for implementation of the Mandatory Energy Efficiency Labelling Scheme. This scheme requires that prescribed

products have an energy label shown in order to inform consumers of the product's energy performance. The first phase, covering room air conditioners, refrigerating appliances, and compact fluorescent lamps, has been in full implementation since November 2009. The second phase extends the coverage to washing machines and dehumidifiers, and was implemented in September 2011. The energy efficiency grading standards of room air conditioners, refrigerating appliances, and washing machines were reviewed in late 2014 and tightened standards introduced in November 2015.

LINKS

Mandatory Energy Efficiency Labelling Scheme:

http://www.emsd.gov.hk/en/energy_efficiency/mandatory_energy_efficiency_labelling_scheme/index.html

Building (Energy Efficiency) Regulation (Chapter 123M)

OBJECTIVE

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.

OUTLINE

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, reducing energy consumption and therefore the emission of greenhouse gases from power generation.

LINKS

Building Energy Efficiency Regulation Programme:

<http://www.bd.gov.hk/english/documents/pnap/signed/APP067se.pdf>

Buildings Energy Efficiency Ordinance (Chapter 610)

OBJECTIVE

To regulate building installations, including lighting, electrical, air-conditioning, lifts, and escalators, in order to comply with the specified minimum energy efficiency standards and requirements.

OUTLINE

The Buildings Energy Efficiency Ordinance for mandatory implementation of the Building Energy Code (BEC) and energy audit was fully implemented in September 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 (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 on existing buildings. The first comprehensive review of the codes commenced in the third quarter of 2014. The BEC 2015 for newly constructed buildings and existing buildings has taken effect on 11 June and 11 September 2016 respectively.

LINKS

The Buildings Energy Efficiency Ordinance: <http://www.beeo.emsd.gov.hk/>

Fresh Water Cooling Towers Scheme (FWCT Scheme)

OBJECTIVE

To promote the use of more energy efficient water-cooled air conditioning systems (WACS) using fresh water-cooling towers.

OUTLINE

The FWCT Scheme – initially launched as a pilot scheme in 2000 before becoming a standing scheme in 2008 – aims to promote the wider use of energy-efficient, WACS using fresh water-cooling towers, and facilitate the territory-wide implementation of WACS. It is a voluntary scheme open for application by owners who plan to use fresh water for evaporative cooling for non-domestic usage within designated areas.

LINKS

FWCT Scheme: http://www.emsd.gov.hk/en/energy_efficiency/fwct_scheme/index.html

Energy Saving Charter and 4Ts Charter

OBJECTIVE

Hong Kong launched the Energy Saving Charter and 4Ts (target, timeline, transparency and together) Charter schemes to solicit the support of various sectors in the community to work together to reduce energy consumption with a view to gradually achieving the target of energy intensity reduction of 40 % by 2025 using 2005 as the base.

OUTLINE

Over the past decade, air-conditioning electricity consumption has accounted for about 30 per cent of total power consumption in Hong Kong. The Government launched the Energy Saving Charter on Indoor Temperature in 2012 and invited the building and property management sectors to sign up to the Charter by pledging to maintain the average indoor temperature at their premises between 24 and 26 degrees Celsius during the mid-summer months of June to September to reduce electricity consumption on air-conditioning. For the Energy Saving Charter 2017, the invitation list was expanded to include restaurants, hotels and hospitals in an effort to engage staff and students to adopt the energy saving practices together. Apart from calling for the maintenance of the appropriate indoor temperature, the Charter also included pledges for switching off appliances when not in use and procuring energy-efficient appliances. Over 3 300 organisations have signed up to the Energy Saving Charter 2017.

Hong Kong also launched the 4Ts Charter that aims to promote energy saving by following the 4Ts of 'target', 'timeline', 'transparency', and 'together': setting a target with a timeline, ensuring transparency to track the energy saving result, and encouraging people to work together on the energy saving target. Over 1 000 organisations have signed up to the Charter.

LINKS

Energy Saving and 4Ts Charters: <http://www.energysaving.gov.hk/esc2017>

Energy Saving Programme for government buildings

OBJECTIVE

Hong Kong has set an electricity saving target and timeline for government buildings so that staff of government bureau & departments (B&Ds) can work together to reduce electricity consumption through implementation of electricity saving projects and housekeeping measures. B&Ds' electricity saving results will be published in their environmental performance reports.

OUTLINE

As announced in the Policy Address 2015, Hong Kong has set a new target of 5% saving in electricity consumption for government buildings from 2015 to 2020 compared with a business as usual scenario with a base year of 2013-14. Energy audits are conducted for over 300 government buildings with annual electricity consumption exceeding 500 000 kWh required to identify energy management opportunities for enhancing energy-saving performance and green building measures. As announced in the Policy Address 2017, Hong Kong has earmarked at least \$500 million to implement energy saving projects identified by audits with a view to gradually achieving the target of energy saving.

LINKS

Policy Address 2015 (Paragraph 176): <https://www.policyaddress.gov.hk/2015/eng/p173.html>

Policy Address 2017 (Paragraph 135): <https://www.policyaddress.gov.hk/2017/eng/p134.html>

Implement a District Cooling System (DCS) at the Kai Tak Development (KTD)

OBJECTIVE

District Cooling Systems consume 35% and 20% less electricity than traditional air-cooled air-conditioning systems and individual water-cooled air-conditioning systems using cooling towers, respectively.

OUTLINE

DCS is a large scale centralised air-conditioning system that utilises seawater to produce chilled water at the central plants and distributes the chilled water to consumer buildings in the KTD through an underground water-piping network. Upon full development, the annual savings in electricity consumption will be up to 85 million kWh, with a corresponding reduction of 59 500 tonnes of carbon dioxide emissions per annum.

LINKS

District Cooling at the Kai Tak Development:

http://www.emsd.gov.hk/en/energy_efficiency/district_cooling_system_at_kai_tak_development/introduction/index.html

Promote retro commissioning for existing buildings

OBJECTIVE

To improve the energy efficiency of existing buildings in Hong Kong

OUTLINE

Retro commissioning is a cost-effective and systematic process to periodically check an existing building's performance. The process identifies operational improvements that can save energy and thus lower energy bills. It can be performed alone or with a retrofit project, such as adjust set point of Central Building Services Installations and fitting meters to measure operations.

Technical Guidelines on Retro-commissioning (RCx) were developed to clarify the RCx process and focus on providing clear energy-saving improvement proposals for building owners and the building industry.

LINKS

Retro commissioning: http://www.energysaving.gov.hk/en/retro_commissioning_rcx/index.html

Tax concessions provided for environmental protection facilities

OBJECTIVE

To encourage the businesses to adopt environmentally friendly machinery and equipment.

OUTLINE

In order to encourage businesses to adopt environmentally friendly machinery and equipment, the 2008/09 Budget introduced a 100% profits tax deduction for capital expenditure on such equipment in the first year of purchase. For environmentally friendly installations mainly ancillary to buildings, the depreciation period has also been shortened from the usual 25 years to five years.

LINKS

Inland Revenue Department Hong Kong: http://www.ird.gov.hk/eng/pdf/e_dipn05.pdf

20.ENERGY EFFICIENCY COOPERATION

COOPERATION AGREEMENTS WITH OTHER ECONOMIES OR ORGANISATIONS

The Hong Kong Green Building Council, which was established in November 2009 to advance green building initiatives in the HKC Government, is a professional organisation that supports the creation of green, energy-efficient buildings, and promotes standards throughout Hong Kong.

BILATERAL, REGIONAL OR MULTILATERAL COOPERATION AGREEMENTS

Hong Kong maintains close collaboration with the Chinese Government in order to harmonise the adoption of appropriate energy efficiency standards and approaches and participates in the APEC Energy Working Group.

LINKS

Hong Kong Green Building Council: <https://www.hkgbc.org.hk/eng/>

Regional and International Activities:

http://www.emsd.gov.hk/en/energy_efficiency/regional_international_activities/index.html

21. OTHER ENERGY EFFICIENCY EFFORTS

Promoting the replacement of incandescent light bulbs with more energy-efficient lighting products.

Encouraging power companies to invest in renewable energy facilities and enhance energy efficiency through provision of incentives in the post-2008 Scheme of Control Agreements. Incentives will be revamped to better encourage power companies' performance in promotion of energy efficiency and conservation as well as the development of renewable energy in the post-2018 Scheme of Control Agreements.

Assist the public in choosing energy efficient products through a Voluntary Energy Efficiency Labelling Scheme. 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.

Promoting the application of BEC, The Hong Kong Energy Efficiency Registration Scheme for Buildings launched in October 1998. Under the scheme, if the designer/owner of a building submits an application to the EMSD that successfully meets the individual BEC standards, then a registration certificate is issued to the building.

LINKS

No Incandescent Light Bulbs:

http://www.energysaving.gov.hk/no-ilb/en/charter/about_charter/index.html

Power Company Control Agreements:

<http://www.info.gov.hk/gia/general/201704/25/P2017042500763.htm>