

6. SINGAPORE

6.1 Energy Policies and Actions

Since 1998, Singapore has concerned over the increasing energy consumption of Singapore and recommended policy measures to improve energy efficiency in the country.⁸¹ In 2006, Singapore has joined the Renewable Energy and Energy Efficiency partnership (REEP), which is an international alliance of governments, non-government organisations and businesses dedicated to accelerate and expand the global markets for renewable energy and energy efficient technologies.⁸²

The National Climate Change Committee (NCCC) has launched programmes to promote energy conservation such as:

- Energy Labelling Scheme - a voluntary scheme established in 2002 for household electrical appliances to help household select energy efficient models. The scheme has become mandatory in June 2006.
- Fuel Economy Labelling Scheme - for new passenger vehicles
- Energy Smart Building Scheme - for office buildings
- Energy Audit Scheme - for large consumers of energy
- Energy Efficiency Improvement Assistance Scheme - for manufacturing and building sector⁸³

In 2006, Singapore's plan to accede to the Kyoto Protocol was also announced. NCCC is responsible to cover climate change issues. Climate change was addressed by:

- promoting greater energy efficiency and less carbon-intensive energy in key sector;
- raising awareness amongst the people, private and public sectors on the impacts and opportunities arising from climate change, and the actions they can take;
- building competency in Singapore to better respond to climate change such as through promoting research and development of low-carbon technologies;
- understanding Singapore's vulnerability to climate change and facilitating the adaptation actions needed.⁸⁴

Singapore's National Climate Change Strategy

The government has developed National Climate Change Strategy (NCCS) as a sign of further commitment towards addressing climate change after becoming a party to the Kyoto Protocol. The future climate change plans are set out in the following areas:

- Vulnerability and adaptation - study climate change impacts on Singapore and put in place adaptation measures.
- Mitigation - improve energy efficiency and use less carbon-intensive fuels and

⁸¹ Referenced to the web site of Singapore National Environment Agency, http://app.nea.gov.sg/cms/htdocs/category_sub.asp?cid=71

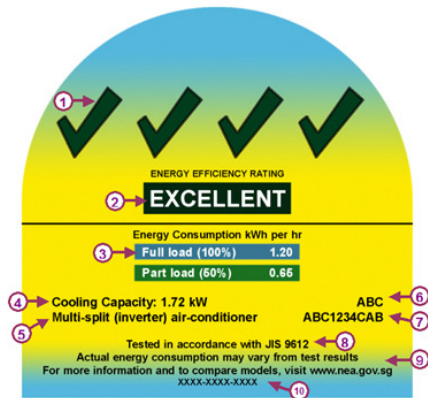
⁸² Referenced to the web site of Singapore National Environment Agency, <http://app.nea.gov.sg/cms/htdocs/article.asp?pid=2746>

⁸³ Referenced to the web site of NCCC, <http://www.nccc.gov.sg/main.shtm>

⁸⁴ Referenced to the web site of Singapore National Environment Agency, http://app.nea.gov.sg/cms/htdocs/category_sub.asp?cid=71

target of improving carbon intensity by 25% from 1990 to 2012.

- Competency buildings - promote climate-related R&D in Singapore and help companies to gain from the economic opportunities from climate change action.
- Public awareness - inform the public of the effects of climate change and simple habits they can adopt that save energy, save money and help to mitigate climate change.⁸⁵



Energy Label ⁸⁶



Examples of photovoltaics installations in Singapore ⁸⁷

⁸⁵ Referenced to the web site of the Ministry of the Environment and Water Resources, <http://www.mewr.gov.sg/nccs/introduction.htm#singaporeNCCS>

⁸⁶ Source: <http://app.nea.gov.sg/cms/htdocs/article.asp?pid=2844>

⁸⁷ Source: <http://www.nccc.gov.sg/renewables/PVInstallations.shtm>

6.2 Environmental Evaluation/SEA in Singapore

In Singapore, a legislative framework for the control of environmental pollution is provided by the Environmental Pollution Control Act (EPCA)⁸⁸, which came into operation on 1 April 1999 and amended and renamed as the Environmental Protection of Management Act (EPMA) in June 2007. It consolidates those previous separate laws on air, water and noise pollution and hazardous substances control.⁸⁹ Environmental Impact Assessment (EIA) is also implemented through the requirements stipulated in the EPCA.⁹⁰ However, no formal provision or administrative framework has been made for a national system of SEA of policies, plans or programmes.

In Singapore, while the EPMA is one of the instruments of policy to implement EIA, SEA has not been integrated into one of requirements during decision making on developing any policy, plan and programme.

⁸⁸ Details of the Act can be found at

http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/SINGAPORE_EPCA_2002.doc

⁸⁹ Referenced to the web site under Energetic Materials Research Centre of the Nanyang Technological University, a section of Environmental Pollution Control Act,

<http://www.ntu.edu.sg/emrc/Environment%20S&H/Legislation%20Materials/Legislation.htm#E>

⁹⁰ Referenced to "Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements - Practices and Lessons Learned in East and Southeast Asia" by the Environment and Social Development Unit (EASES), April 2006,

<http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/EIA&SEA-regional-review.pdf>, pages 59-61 - Annex 10 Singapore

6.3 Environmental Evaluation/SEA on Energy Policies and Actions in Singapore

In Singapore, there is no formal provision or administrative framework for a national system of SEA of policies, plans or programmes including the energy sector. There is only the EPCA which is one of the instruments of policy to implement EIA. Details should refer to section 6.2.

A summary table for the energy policies and actions and SEA status in Singapore is presented in **Exhibit SG-1**.

Exhibit SG-1 Summary of Energy Policies and Actions and SEA Status in Singapore	
(a) Energy Policies and Actions	
Energy Policies and Actions	Policies: <ul style="list-style-type: none"> ● National Climate Change Strategy Actions: <ul style="list-style-type: none"> ● Energy Labelling Scheme ● Fuel Economy Labelling Scheme ● Fuel Economy Labelling Scheme ● Energy Smart Building Scheme ● Energy Audit Scheme ● Energy Efficiency Improvement Assistance Scheme
Guidance/Legislations for Energy	N/A
(b) Environmental Evaluations / SEA Status in Energy Policies and Actions	
Type of Assessment	N/A (No formal provision or administrative framework for a national system of SEA of policies, plans or programmes)
Requirement Mechanisms	
Legislation for Environmental Evaluation / SEA	
Applications	

6.4 Analysis and Conclusions

Singapore government has recommended policy measures to improve energy efficiency as the energy consumption is increasing year by year. Singapore expands the global markets for renewable energy and energy efficient technologies. Besides, programmes have been launched to promote energy conservation such as the Energy Labelling Scheme.

For Hong Kong, one of its energy policy aims is to promote energy conservation and efficiency. Similar to Singapore, there is the Energy Efficiency Labeling Scheme in Hong Kong. This voluntary-based labeling scheme aims to save energy by informing potential customers of the electrical product's level of energy consumption and efficiency rating, so that buyers can take these factors into consideration when making their purchasing decision. In order to further promoting the efficient use and conservation of energy, the Government proposes to introduce a mandatory Energy Efficiency Labelling Scheme. Three kinds of products, namely room air conditioners, refrigerating appliances and compact fluorescent lamps, will be included in the initial phase of the mandatory scheme.

In Singapore, SEA has not been integrated into one of requirements during decision making on developing any policy, plan and programme.

While Singapore has no formal provision for SEA, Hong Kong has already two systems for SEA in Hong Kong, including an administrative requirement and a statutory requirement under Schedule 3 of the EIA Ordinance. Nevertheless, it would be better for Hong Kong to continuously improve its system on SEA by making reference to other countries, as well as to extent the application of SEA by enhancing its SEA system and providing specific SEA guidelines.

6.5 Examples of Energy Policies /Actions or their Environmental Evaluation/SEA

Example SG-1 Energy Smart Building Labelling Programme⁹¹	
Description of Programme	The Energy Smart Building Labelling Programme aims to grant recognition for building energy efficiency best practices in Singapore. The Energy Smart Building Label serves as a sign of excellence and can create value to buildings. It enables facility managers to set target and work towards improving energy efficiency by effectively employing the resources.
Programme Mechanism	The label will be granted on a scientific and objective basis. Buildings whose energy performance are among the nation top 25% and maintain a healthy and productive indoor environment can qualify to attain the label. However, the labelling scheme also serves to work as a benchmark and checking scheme for buildings which may not completely fulfill the criteria.
Benefits of Programme	<p>The benefits of having the label for a building are given below:</p> <ul style="list-style-type: none"> ● It can assist in tracking the building progress over time; ● It enables facility managers to set target and work towards improving energy efficiency in the long run by effectively employing the resources; ● It creates value for buildings. The label can be displayed prominently in the buildings. This will signify lower operating energy costs and project an environmentally responsible image for the occupant organizations; ● It helps to reduce CO₂ emission and consumption of fossil fuels within the building sector through improved energy efficiency. This also results in lower pressure on infrastructural demand and cost; ● It helps to achieve tremendous energy savings at the national level.

⁹¹ <http://www.esu.com.sg/research2.html>

Example SG-2 Energy Efficiency Improvement Assistance Scheme⁹²	
Description of Scheme	The Energy Efficiency Improvement Assistance Scheme (EASe) is a co-funding scheme administered by NEA to incentivise companies in the manufacturing and building sectors to carry out detailed studies on their energy consumption and identify potential areas for energy efficiency improvement.
Scheme Mechanism	<p><u>Grant Quantum:</u></p> <ul style="list-style-type: none"> • Funding would be provided for up to 50% of the qualifying cost of engaging an expert consultant or Energy Service Company (ESCO) to conduct investment grade energy appraisals and recommend specific measures that can be implemented to improve energy efficiency. • Over a 5-year period, the maximum amount of funding to any single facility or building is capped at \$200,000. <p><u>Energy Appraisal:</u></p> <ul style="list-style-type: none"> • The detailed energy appraisal must not have commenced at the time of application. • The detailed energy appraisal should cover the whole plant, facility, or building. Manufacturing equipment and processes may be excluded from the appraisal. For large facilities or buildings, a partial appraisal covering a complete system or part of the facility or building may be considered.

⁹² <http://app.nea.gov.sg/cms/htdocs/article.asp?pid=2536>