Singapore

EE&C Policy and Support Measures Towards Carbon Neutrality

1. Climate Change Initiatives

1-1. Name of the initiatives, competent ministries/agencies, and the outline of the initiatives

Singapore has committed to achieving net zero emissions by 2050 (Long-Term Low-Emissions Development Strategy [LEDS]) and reduce 2030 emissions to 60 MtCO2e after peaking emissions earlier (2030 Nationality Determined Contribution [NDC])

Despite the challenging geographical constraints faced, Singapore will continue to find innovative ways to accelerate the low-carbon transition for industry, economy and society through four key thrusts (https://go.gov.sg/ph5njv):

- 1) Catalysing business transformation
- Sustainable energy and chemical hub in conjunction with industry
- Grants for energy efficiency and emissions reduction
- 2) Investing in low-carbon technologies
- Carbon Capture Utilisation and Storage
- Low-carbon Hydrogen
- Solar and energy storage systems
- 3) Pursuing effective international cooperation
- International carbon markets with high quality carbon credits
- Regional power grids for green energy
- 4) Adopting low-carbon practices.
 - Green commutes via public transport. Walk-Cycle-Ride & cleaner energy vehicles.

These key thrusts are supported by carbon tax (https://go.gov.sg/a2d722) as a key enabler of this transition.

1-2. Specific contents of the climate change initiatives

- 1) Solar
- 2) Regional Power Grids
- 3) Natural Gas Switch
- 1. Singapore is expected as a promising base for expanding into neighboring countries and a financing market to expand the use of renewable energy.
- 2. As one of the renewable energy power generation, Singapore has set a goal to raise the output of solar power generation to 2GWp (Gigawatt peak) by 2030.
- 3. Raise the renewable energy ratio of power generation to 8%.
- 4. Singapore plans to import 2-3 GW of low carbon electricity by 2030 and 4 GW by 2040, making up 30% of Singapore's energy supply by 2035.
- 5. Singapore launched \$55 million Low-Carbon Energy Research Funding Initiative that will support research, development and demonstration projects in low-carbon energy technologies such as hydrogen; and carbon capture, utilisation and storage (CCUS) over the next five years.

1-3. Laws/regulations related to climate change measures, by name and year of introduction/revision

- 1) Carbon Pricing Act 2018 (revised 2020)
- 2) Environmental Protection and Management Act 1999 (revised 2020)
- 3) Sewerage and Drainage Act 1999 (revised 2020)
- 1-4. Climate change action targets (NDC)
 - The government passed an electric vehicle charging bill to promote the introduction of electric vehicles (EVs).
 - COP26 Statement: Launched the Singapore Green Plan 2030; aim to quadruple our solar deployment by 2025 from 2020 levels; opened one of the world's largest floating solar farms; importing up to 4 gigawatts (GW) of low-carbon electricity by 2035; aim to phase out internal combustion engine vehicles by 2040; aim to restore nature back into our city through the planting of more than one million trees across Singapore by 2030; greening 80% of their buildings by 2030; have implemented a carbon tax; will phase out unabated coal power generation completely by 2050; joined the Global Methane Pledge; joined the Greening Government Initiative (GGI) to deliver on ambitious sustainability goals by the public sector; joined the Agriculture Innovation Mission for Climate (AIM4C); catalyse green finance to support Asia's decarbonisation drive; shared their experiences with more than 132,000 government officials from over 180 countries; committed S\$5 million over five years, from 2018 to 2022, through the ASEAN Specialised Meteorological Centre (ASMC); jointly established the Southeast Asia Disaster Risk Insurance Facility (SEADRIF). Target to increase solar deployment to 2 GWp by 2030 to meet 3% of electricity demand. All new car and taxi registrations to be cleaner energy models from 2030. Deploy 60,000 EV charging points by 2030. All vehicles to run on cleaner energy by 2040
 - COP27 Statement: Submitted enhanced LEDS with goal to achieve NZ by 2050 and updated our 2030 NDC to reduce our emissions to 60 MTCO2e in 2030 after peaking our emissions earlier. Put in place the policy framework for International Carbon Credits. High environmental standards and Article 6 compliance are some of the requirements to address concern over additionality, permanence and double-counting. Put in place a National Hydrogen Strategy, to develop hydrogen as a major decarbonisation pathway in hard-to-abate sectors such as power generation, industrial, maritime, and aviation sectors.
 - COP28 Statement: SG carbon tax covers around 80% of its nation GHG emissions and will raise carbon tax to \$25 in 2024 and progressively to \$50-80 by 2030. Mandated zero vehicle population growth since 2018 and vision for all vehicles to run on cleaner energy by 2040. Developing a SAF supply ecosystem for SG. Stronger emission standard for the power sector will require all new and repowered NG power plants to be 10% more efficient and atleast 30% vol H2 compatible. Halfway towards reaching target of 2 GWp of solar deployment by 2030. SG announced Financing Asia's Transition Partnerships (FAST-P), a new blended finance initiative that aims to mobilise up to US\$5 billion in finance. FAST-P will bring together public and private sector partners to de-risk and finance transition and marginally-bankable green projects in Asia. SG announced plans to import ~4 GW of low-C electricity from Cambodia, Indonesia and Vietnam by 2035.

The Singapore Exchange (SGX) requires all listed companies to provide climate reports starting in FY2022. Climate reporting will also become mandatory for issuers in the financial, agriculture, food, forest products, and energy industries beginning in fiscal year 2023. Those in the materials, building, and transportation industries will need to comply starting in 2024.

Paris Agreement: Peak emissions to reach 65 MTCO2e around 2030 and 33 MTCO2e by 2050. Second update to SG's first NDC: Singapore intends to reduce emissions to around 60 million tonnes of carbon dioxide equivalent (MtCO2e) in 2030 after peaking its emissions earlier.

[Goals toward carbon neutral

- Reduce emissions intensity by 36% by 2030 on a 2005 basis. Emissions will be stabilized with the aim of reaching a peak around 2030.
- Recycle 70% of waste by 2030.
- Improve energy intensity by 35% by 2030, based on 2005 levels.
- By 2030, 80% of Singapore's buildings will be Green Mark rated
- Plan to make at least 20% of schools carbon neutrality by 2030

1-5. Budgetary measures for climate change initiatives

- Enhanced Resource Efficiency Grant for Emissions
- Expanded Energy Efficiency Grant
- Enhanced Climate Friendly Households Programme (CFHP)

2. Measures toward Carbon-Neutral

2-1. Carbon tax initiatives

[Outline] CPA (Carbon Pricing (Amendment) Act)

[Target] The carbon tax is applied to all industrial facilities with an annual direct GHG emissions of 25,000 tonne of carbon dioxide equivalent (tCO2e) or more.

[Budget minister] National Environment Agenc

Carbon tax rate will increase from current \$5/tonne to \$25/tonne in 2024-2025 and further to \$45/tonne in 2026-2027, moving towards \$50-80/tonne by 2030.

2-2. Carbon credit and carbon trading initiatives

From 2024, taxable facilities will be allowed to use high-quality international carbon credits to offset up to 5% of their taxable emissions under the carbon tax.. Carbon Pricing (Amendment) Bill No. 27/2022

2-3. Trend of new technologies for climate change measures

2-3-1. Hydrogen

- 1. Singapore has a National Hydrogen Strategy to guide hydrogen deployment. This involves efforts like pilot projects, R&D, international collaborations, infrastructure planning and workforce development.
- 2. Singapore on 6 Aug 2024 called for a study to develop a framework of laws and policies, which could cover areas such as hydrogen imports, the ownership and operation of hydrogen infrastructure, as well as incentive and financing schemes.

2-3-2. Fuel ammonia

- 1. Singapore to assess the feasibility of developing an end-to-end solution for ammonia procurement, import, storage, distribution, and end-use for both power generation and bunkering.
- 2. Singapore to further study viability of ammonia for power generation and bunkering

2-3-3 CCUS

Singapore is exploring potential CCUS deployment pathways including use of captured CO2 for synthetic fuels or building materials. For Jurong Island, the aim is to achieve at least 2 million tonnes CO2 equivalent of carbon capture annually by 2030, and achieve more than 6 MtCO2e of carbon abatement per annum by 2050.

Currently does not have a legal and regulatory framework specifics to CCS. Singapore's existing environmental, gas and marine pollutions laws may provide a potential framework for regulating CCS activites, however, the current regime is under-developed across many aspect of the CCS project.

2-3-4. Biofuel

Developing a SAF supply ecosystem for SG.

2-3-5. Renewable Energy

-Singapore has limited domestic renewable energy resources. However, the country has been focusing on promoting clean energy through international collaborations and investments.

-The government supports the deployment of renewable energy in the region and explores partnerships for renewable energy procurement. The SolarNova Program is a government-led initiative that aims to accelerate the deployment of solar PV systems in Singapore, including for industrial consumers. Under the program, the government collaborates with industry stakeholders to identify suitable sites for solar PV installations and facilitates the development process. Industrial consumers can participate in the SolarNova Program by installing solar PV systems on their rooftops or through the adoption of shared solar projects.

-Green Mark Scheme: This scheme includes provisions for renewable energy installations in buildings, including industrial facilities, such as the requirement for solar-ready rooftops.

2-3-6. Nuclear power

Current conventional nuclear technologies are not suitable for Singapore. But given advances in civil nuclear technology, we need to stay abreast of breakthroughs in this rapidly evolving field

2-3-7. Storage battery

SG achieved its target to deploy atleast 285 MWh of ESS 3 years ahead of its target in 2023.

2-3-8. Initiatives for Smart City

The ASEAN Smart Cities Network (ASCN) was established at the 32nd ASEAN Summit in 2018. ASCN is a joint platform to work toward the common goal of smart and sustainable urban development, and its action plan is outlined below as 26 cities from 10 ASEAN member countries are participating as pilot cities.

Vision: Transform Singapore through technology.

Focus areas: digital government, digital economy, and digital society.

Strategic Goals: Develop next-generation digital infrastructure, maximize the value of data, build a digitally-enabled workforce, build digitally-enabled industries and a strong ICT sector, invest in research and innovation, and strengthen cybersecurity efforts.

City Project 1: Provide an electronic payment platform and cashless payment options.

City Project 2: National Digital Identity (NDI) will be a nationally available means for individuals to prove their legal identity in the digital realm. It will be issued to all residents and can be used for secure transactions in both the public and private sectors. It is expected to be operational with a phased trial of digital signatures to facilitate paperless transactions.

The Centre for Liveable Cities (CLC) and the Urban Redevelopment Authority (URA) have launched the City Network for the Lee Kuan Yew World City Prize (LKYWCP Network) to facilitate global knowledge exchange on building liveable and sustainable cities, and to contribute towards improving the lives of citizens globally.

2-3-9. Initiatives for Smart Grid

- 1. electrification rate: 100%
- 2. Smart grid plan: Yes
- 3. Smart Meter Deployment Goal: Intelligent Energy System (IES) project of 2,000 smart meters in Housing and Development Board (HDB) estates with household displays
- 4. current smart grid activities: the Intelligent Energy System (IES) project, a \$30 million investment funded by A Power and the Singapore government, is the first major deployment to collect feedback on the electricity distribution network.
- Advanced metering and communications infrastructure
- Demand response management system
- Distributed Energy Source Management System
- Experimental Power Grid Center
- Ubin Island Microgrid

2-3-10. Initiatives for demand responsse

The Energy Market Authority incentivizes consumers to reduce their electricity demand when needed through demand response aggregators.

Large consumers can participate directly in wholesale markets by submitting bids to reduce demand at different price points. Participants receive 1/3 of the savings from reduced electricity prices as incentive payments.

Singapore also has an Interruptible Load Scheme targeting large consumers since 2005. It pays consumers the clearing price for contingency reserves when they reduce consumption during high demand periods.

Consumers must install a monitoring and load-shedding device that can be activated remotely by the grid operator during peak events. The duration of load curtailment is typically 30 minutes to 2 hours.

2-3-11. Others

Emerging Low-Carbon Alternatives

2-4. Key Points to Promote and Support Climate Change Measures

From 2024, a transition framework will be introduced to give emissions-intensive trade-exposed companies more time to adjust to a low-carbon economy and avoid carbon leakage.

Allowances will be determined based on efficiency standards and decarbonization targets set by the Economic Development Board.

3. Energy Conservation initiatives

3-1. Name and outline of energy policies, and ministries/agencies in charge of the policies.

Under the strategy of boosting our resource efficiency

- Pricing energy appropriately
- Providing information for better decisions
- · Boosting energy-efficient industry designs, processes and technologies
- Building capabilities in renewable energy
- Promoting resource-efficient buildings
- Promoting public transport

3-2. Name and outline of energy efficiency and conservation(EC) policies, and ministries/agencies in charge of the policies.

-Industrial Sector: Incentivise investment in energy efficiency, promote good corporate energy management practices and build capability.

-Building Sector: Greening more than 80% of buildings by 2030, improve energy efficiency of building tenants, improve energy efficiency of data centres. 2020 will focus on the Super Low Energy Building Implementation

-Transport Sector: Achieve 75% use of public transport by 2030, encourage cycling and walking, improve vehicle fuel efficiency.

-Household Sector: Review and raise Minimum Energy Performance Standards (MEPS) for household appliances currently covered under the Act. Going forward, MELS and/or MEPS will be introduced for more appliances, encourage adoption of efficient appliance models, and introduce smart home technology.

3-3. Specific contents of EC policies

-Industrial Sector: Incentivise investment in Energy Efficiency (Grants to subsidise energy audit and energy efficiency retrofits, tax incentives), Introduce & continuously improve energy management regulation (Energy Conservation Act) and build capability (e.g. Singapore Certified Energy Manager training programme).

-Building Sector: Raise energy efficiency standards, support on-site generation of solar energy (e.g. SolarNova programme), Green Mark Incentive Scheme for Existing Buildings (GMIS-EB)

-Transport Sector: Increase public transport mode share, encourage walking and cycling, Vehicular Emission Scheme (VES) and the Commercial Vehicle Emission Scheme (CVES), Phasing out ICE Vehicles, Fuel Switching to EV (SGP30 EV Roadmap, BlueSG Programme, EV Charging infrastructure deployment plan) and hybrid vehicles

-Household Sector: Raise energy efficiency of household appliances (Minimum Energy Performance Standards), promote energy saving behavoir (Mandatory Energy Labelling Scheme)'

3-4. Name and year of introduction/revision of laws/regulations related to EC measures

©Energy Conservation Bill : Bill No. 17/2017

Industry, Transport and Household Sectors: Energy Conservation Act 2012

Building Sector:Building Control (Environmental Sustainability) Regulations 2008 and Code for Sustainability of Buildings, 2012 Energy Conservation (Amendment) Act was gazetted on 2 Jun 2017

Energy Conservation (Energy Management Practices) (Amendment) Regulations 2021

3-5. EC goals

To reduce Singapore's 2030 emmissons intensity by 36% from 2005 levels by 2030, and stabilise greenhouse gas (GHG) emissions with the aim of peaking around 2030 to 60 MtCO2e after peaking emissions earlier. Achieve bet zero emissions by 2050.

3-6. Green (EC) building Code

- Mandatory Minimum Environmental Sustainability Standards under the Building Control Act 2012 Amendment
- 3-yearly energy audits on their air-conditioning systems
- Greenmark Labeling Certification
- Greenmark Super Low Energy Building Programme

3-7. Display system for EC performance of the building

NA

3-8. Items based on EC Law

3-8-1. Designation criteria of designated business operator

Companies in the industrial sector with energy conusmption of 54 TJ / year or more, with two categories- (i) existing industrial facilities, and (ii) new industrial facilities and major expansions

Either an EnMS report or an accredited ISO 50001 certification (*) for the applicable assessment cycle must be submitted at the following timing, based on either a three-year assessment cycle, beginning with the approval of the first EnMS report, or the certification cycle for accredited ISO 50001 certification.

3-8-2. Number of designated business operators

Number of designated business operators: 200

3-8-3. Obligations which designated business operator shall comply with

a)Existing Industrial Facilities/ RCs:

i.Appoint an energy manager

ii.Monitor and submit the annual report on energy use

iii.Submit EE improvement plans every year

iv.Implement and submit an energy management system report or submit a valid and accredited ISO 50001 certification

v.Conduct an EEOA and submit the assessment report to National Environment Agency (NEA)

vi.Submit the first report that demonstrates the operating chilled water system performance meets MEES, for every industry that installs Water-Cooled Chilled Water Systems. Then, shall submit the periodical report of the operating system performance.

b) New Industrial Facilities and Major Expansions (New Ventures):

i.Conduct EEOA and submit the EEOA report to investigate and develop the energy efficiency opportunities that economically viable. ii.Conduct EPM and report its total energy consumption as well as energy performance indicators of the main energy-consuming systems. Hence, it is suggested for the owners to install instruments at systems that consume at least 80% energy every year of the facility. iii.Conform its water-cooled chilled water systems comply with the MEES level.

3-8-4. Contents of energy management system

Designated entities should comply the oblication as stated in the EC Act, need to appoint SCEM certified energy managers, submit annual report, and EE improvement plans; and Energy Efficiency Opportunities (EEO) Assessor Certification

The EnMS report should comprise of the following

- Leadership & Commitment
- Energy Management Team
- Energy Review
- Operational Planning and Control
- Performance Evaluation & EnPIs based on measured data
- Management Review
- Non-conformity and Corrective Action

3-8-5. Contents of energy manager system

Legal Framework for the Implementation of Energy Management Training

- 1) Energy Conservation Act (ECA) 2012 (amended on July 2, 2017)
- 2) Mandatory Energy Management (MEM) practices under ECA: 2013 & 2014
- 3) Supplementary Law on Energy Managers (SL): 2014
- 2) Energy Conservation (Energy Management Practices) Regulations 2013

The subsidiary legislation of the ECA states that no person may be employed as an energy manager unless he:

- holds a Singapore Certified Energy Manager (Professional Level) certificate issued by the Institution of Engineers, Singapore; or
- holds alternative qualifications, a degree and relevant experience, approved by the Director General, that allow him to perform duties of an energy manager
- Number of certified energy mangers: Professional 1,441, Assosiate 272, registered EEO Assessors 85
- '-16 credits are required for renewal of certification.
- Accredition Organization : NEA, Institution of Engineers Singapore (IES)

Training Institute for Energy Managers

IES Academy

Sustainable Energy Association of Singapore (SEAS)

Accreditation Body for EM Training Institutes

Institution of Engineers, Singapore (IES)

Sustainable Energy Association of Singapore (SEAS)

Validity period of Energy Manager: 3 years

'- Energy Efficiency Opportunity (EEO) Assessor Evaluator Certification System

It was jointly launched in 2018 by the National Environment Agency (NEA) and the Institution of Engineers Singapore Institute of Technology (IES).

Become qualified to conduct Energy Efficiency Opportunities Intensive Industrial Facility Assessment (EEOA).

3-8-6. Contents of the periodic report system

In terms of periodic reporting system, the energy manager shall submit the report endorsed by the chief executive every 30 June through the Emissions Data Monitoring and Analysis System (EDMA) website

 $3-8-7.\ Energy\ saving\ regulation\ for\ equipment\ "MEPS":\ "Name\ of\ applicable\ equipment"\ and\ classification\ of\ "mandatory/voluntary"$

Energy Conservation Act - mandatory MEPS for regulated goods

-Minimum Energy Performance Standards (MEPS) are implemented for air-conditioners, refrigerators, clothes dryers, motors, televisions and lamps

Revision of tick rating in 2014 from 4 to 5 ticks

Mandatory MEPS for electrical equipment which regulated under the Energy Conservation (Prescribed Regulated Goods) Order 2017 and Energy Conservation (Regulated Goods and Registered Suppliers) Regulations 2017 of the ECA. Since October 2018, the energy performance standards for electrical motors in Singapore has been enacted which all single speed, three phase 50Hz induction motors should have a minimum energy efficiency level of IE3 (Premium Efficiency).

MEES for Water-Cooled Chilled Water Systems in industrial facilities were also set by NEA to enhance EE in Singapore industry, which the requirements are in effect since 1 December 2020.

increase MEPS for Air Conditioners, Refrigerators, and Clothes dryer taken effect until December 31, 2022.

-Transport: Vehicular Emmision Scheme (VES) and Commercial Vehicle Emission Scheme (CVES)'

3-8-8. Energy-saving "labeling" system: "Name of applicable equipment" and classification of "mandatory/voluntary"

Mandatory Energy Labelling (MELS) was introduced for registrable goods since 1 January 2008. Under the Energy Conservation Act (Cap. 92C), all registrable goods (air-conditioners, refrigerators, clothes dryers, televisions, motors, lamps. And three-phase VRF air conditioners were added in 2021) must carry energy labels.

Transport: Vehicular Emmision Scheme (VES) and Commercial Vehicle Emission Scheme (CVES) [mandatory]

3-8-9. MEPS, labeling: Name of "certification body"

The steering committee of the SCEM is co-chaired by the Institution of Engineers, Singapore (IES) and NEA and consists of members from industry associations, tertiary institutions, and government agencies.

NEA is the certifying body for MEPS energy label for regulated goods.

3-8-10. MEPS, labeling: Is there "performance evaluation agency" and if so, its name?

A list of testing laboratories accredited by national accreditation bodies is available to carry out the test in accordance with the relevant test standards.

NEA conducts verification testing (VT) on registered models.

NEA will verify the data submitted in energy use report and energy efficiency improvement plans of companies regulated under the ECA

3-8-11. Status to create restrictions by "benchmarks".

Mandatory Energy Labelling Scheme (MELS) was introduced for regulated goods to help consumers compare the energy efficiency and make more informed purchasing decisions. The objective of setting Minimum Energy Performance Standards (MEPS) is to raise the average energy efficiency of regulated goods in the market.

There are no items based on EC Law (Energy Conservation Act) but registered Corporations under the ECA are required to report the specific energy consumption for their key energy consuming systems that consume at least 80% of the total energy consumption of the facility and also for their business activity at the premises in the energy use reports submitted by 30 June every year. This allows for benchmarking of energy performance of energy consuming systems.

3-8-12. Status to create "EC guideline" and "EC manual"

Results of studies relating to EE and best practices are available for various manufacturing sectors.

3-9. EC propelling measures

3-9-1. Financial support(Subsidies, Tax incentives, Low-interest loan, Funds)

1)Subsidies : [Outline]

i) Energy Efficiency Fund & Resource Efficiency Grant for Emissions

ii) Energy Efficiency Grant

[Budget minister]

Economic Development Board, National Environment Agency and Enterprise Singapore

Appliances: NIL

Equipment and systems: Grant for Energy Efficient Technologies (GREET)

Energy efficiency grant (EEG)

The Energy Efficiency Grant (EEG) aims to support businesses in their sustainability journey by co-funding investment in energy efficient (EE) equipment.

Transport: Vehicular Emission Scheme (VES), Commercial Vehicle Emission Scheme (CVES), Early Turnover Scheme (ETS), EV Early Adoption Incentive (EEAI), and EV Common Charger Grant

2)Tax incentives: Investment Allowance: Administered by the Singapore Economic Development Board, this scheme allows companies to claim up to 100% of their qualifying fixed capital expenditure (over a maximum qualifying period of 5 years) against taxable income, over and above the usual Capital Allowances for fixed capital expenditure

3)Low-interest loan: NA

4)Funds:

i) Energy efficiency fund (EEF):

Targets are energy conservation audits, investment in energy conservation new technology, etc.

- lii) Energy Efficiency Financing Scheme; 3 rd Party financier provides capital to finance installation of EE measures
- iii) Investment Allowance for Emission Reduction (IA-ER) Scheme;
- a)Encourages industry to invest in capital equipment so that they become more energy efficient
- b)Additional 30% allowance against taxable income on top of normal capital allowance for EE investment,
- vi) Singapore Certified Energy Manager (SCEM) Professional Program is eligible for SkillsFuture Singapore (SSG) Funding Training Grant;
- a) Targets engineering professionals who manage manufacturing facilities & buildings
- b) Co funds about 35 upto 70% of training cost of SCEM Professional Level course

Energy Efficiency Fund (E2F)

3-9-2. Supports for energy audit

-{Outline}

Energy Assessment grant support companies to conduct detailed energy audit to identify potential areas for energy efficiency improvements.

{Objects}

Energy audits in existing facilities

Target

- Company is a Singapore registered owner or operator of an existing/proposed industrial facility
- Company have not commenced the project (i.e. company have not signed contract(s) with consultants and/or suppliers
- Company is a partner of the Energy Efficiency National Partnership Programme. Companies who are not a partner can register

{Percentage}

Support up to 50% to carry out detailed energy audits in existing facilities

[Budget minister]

National Environment Agency

Energy Efficiency Fund (EEF); Targets include energy audits, investment in new energy saving technologies, low GWP (Global Warming Potential) refrigerant chillers, energy management, ect.

Enterprise Sustainability Grant: Enterprise Sustainability Program

Agri-food Cluster Transformation Fund

3-9-3. EC award system

[Outline]

'National Energy Efficiency Conference (NEEC)

[Budget minister]

National Environment Agency

No awards in particular except for recognition under the Mandatory Energy Labelling Scheme (MELS)

- 1. ASEAN Energy Award
- 2. Through the EENP Award (Energy Efficiency National Partnership), a company's efforts are awarded in the following five categories.
- 1) Energy management
- 2) Best practice
- 3) Energy Manager of the Year
- 4) Energy service provider of the year
- 5) Excellent energy saving cases in the public sector
- 1) Excellence in Energy, Greenhouse Gas (GHG) Management

This award recognises companies that have demonstrated a high level of commitment to excellence in energy and GHG (if applicable) management.

2) Outstanding Small and Medium Enterprise (SME)

This award recognises SMEs (in manufacturing or industrial business activities) that have demonstrated a high level of commitment to energy and GHG (if applicable) management.

3) Outstanding Energy, Greenhouse Gas (GHG) Manager

This award recognises outstanding energy and GHG managers who have demonstrated leadership in driving EE improvement and decarbonisation within their organisation.

4) Outstanding Energy Services Provider

The award recognises companies whose services to their clients have led to outstanding improvement in energy performance and other non-energy benefits, and contribute to the development of the energy efficiency industry's capability in energy efficiency and carbon abatement.

5) Best Practices

This award recognises energy efficiency improvement and carbon abatement (if applicable) projects which adopt best practices to

3-9-4. EC training center. And the name and activities if any.

(Outline)

- '1) BCA Academy
- 2) The Institution of Engineers, Singapore
- 3) Sutainable Energy Association of Singapore
- 4) Energy Efficiency Technology Center (EETC): A state-of-the-art innovation center supporting local small businesses

3-9-5. ESCO Business Support

ESCO Accreditation Scheme and SCEM program

3-9-6. Supports for R&D

National Electric Vehicle Centre (NEVC), R&D for Autonomous Vehicle, Smart Industry Readiness Index (SIRI), Industry

Transformation Maps, and Smart Nation Initiative, Energy Efficiency Technology Centre (EETC)
EENP (Energy Efficiency National Partnership) programme: Optional programs for human resource development

Singapore's National Research Foundation launches new Decarbonisation Programme to grow Singapore's capabilities in hydrogen utilisation, and non-fossil fuel-based pathways to produce sustainable aviation fuel and high-value chemicals in Jul 2024.

3-10. ESCO business deployment

ESCO Accreditation Scheme

22 Accreditted ESCO, 35 qualified energy service specialist

3-11. Subsidy for fuel

Fuel is not subsidised in Singapore

3-12. Subsidy for electricity bills

Electricity is not subsidised in Singapore

3-13. Name of the government organization which controls energy conservation matters

Power Generation: Energy Market Authority, National Environment Agency

Industrial Sector: Economic Development Board, National Environment Agency, Energy Market Authority Building Sector: Building and Construction Authority, Housing and Development Board and National Environment Agency

Transport Sector: Land Transport Authority, Maritime Port Authority, Civil Aviation Authority of Singapore

Household Sector: National Environment Agency, Building and Construction Authority and Housing and Development Board

3-14. Name of the EC promotion organization (private organization such as ECCJ)

Power Generation: Energy Market Authority, National Environment Agency

Industrial Sector: Economic Development Board, National Environment Agency

Building Sector: Building and Construction Authority, Housing and Development Board and National Environment Agency

Transport Sector: National Environmental Agency, Land Transport Authority, Maritime Port Authority, Civil Aviation Authority of Singapore

Household Sector: National Environment Agency, Building and Construction Authority and Housing and Development Board

Sustainable Energy Association of Singapore

Singapore Green Building Council

3-15. Cooperation related to energy conservation by Japan

METI / ECCJ: Dispatch of experts, acceptance of trainees

Multilateral cooperation: Japan-AMS (ASEAN Member States) cooperation
PROMEEC: Industrial sector, energy saving for business buildings, energy management foundation (2001-2011)

ASEAN-Japan Energy Efficiency Market Transformation with Information Provision Scheme (AJ-EMTIPS)

- ASEAN-Japan Energy Efficiency Market Transformation with Information Provision - ASEAN-Japan Energy Efficiency Partnership (AJEEP) Scheme 2(2012~)

- AJEEP Scheme 4,5 (2022~)

- Energy Conservation Workshop under AJEEP (ECAP)

3-16. Cooperation related to energy conservation by foreign countries except Japan

Singapore worked together with the International Energy Agency (IEA) to organise the Singapore-IEA Clean Energy Investments and Financing Training Programme in August 2018. The training aimed to build capacity of ASEAN in attracting financing for renewable energy and energy efficiency and conservation (RE and EE&C) projects. Over 100 participants from 16 countries attended the training.

3-17. Achievements of Joint Crediting Mechanism (JCM)

None