Thailand 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

【Outline】
'- Thailand's commitment to reduce GHG Emission during COP26
- In the process of legalizing Climate Change Act

Currently revising the national energy plan, including energy efficiency plans and alternative energy development plans.
- Thailand's commitment at COP26: to achieve carbon neutrality by 2050 and net zero greenhouse gas emissions by 2065.
- The Department of Climate Change and Environment (DCCE) was recently established under the Ministry of Natural Resources and Environment. The bureau is responsible for policy, greenhouse gas inventories, etc.
- Climate Change Act (in progress)

1. Fluctuations in energy prices due to world and political situations create uncertainty in project profits, resulting in lower project profits.
2. Renewable energy calculations differ due to climate change (e.g. annual humidity of biomass/solar radiation
3. The spread of biomass/RDF is difficult due to the distance from the raw material supply source to the plant.
4.Promoting GDP growth after COVID is prioritized, making it difficult to decouple energy and GDP, making it difficult to reduce energy consumption.

1-2. Specific contents of the climate change initiatives

- Currently revising national energy plan, including the energy efficiency plan and alternative energy development plan
- Recent establishment of the Department of Climate Change and Environment (DCCE), under the Ministry of Natural Resources and Environment. The department is responsible for policies, GHG inventory, and more.
- The Climate Change Act (work in-progress)
- EV policies - reducing import duty for electric vehicles and various financial incentives for manufacturers related to EV

1. The target of the raise for the utilization ratio of renewable energy in final energy was set from 14.4% (FY2018) to 30% by 2030. Thailand's renewable energy policy focuses on reducing its reliance on natural gas to strengthen energy security. With the cost reduction of renewable energy, traditional Thai power generation has begun to look for alternative power sources.
2. The use of renewable energy has a high goal. The goal is to use renewable energy not only for power generation but also for heating / cooling and transportation. Japan is also focusing on ocean energy, so it seems that Japan can support it.
3. The production of ethanol in Thailand primarily uses molasses, cassava, and sugarcane juice as raw materials. Thailand ranks as the world's 7th consumer and producer of ethanol. The main purpose of ethanol production in Thailand is to blend it with gasoline to produce Gasohol.

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

1. Enerugī anzen hoshō, tegorona kakaku, akusesu kanōsei, kyōjin-sei oyobi jizoku kanōsei wa,-koku no enerugī mokuhyō to dōyō ni jūyōdearu. 2. Kuni wa, denryoku no taiyōkō, baiomasu, baio gasu, fūryoku (rikujō nomi) no mokuhyō o motte imasu. Atsui Chū,-koku wa baiomasu to baio gasu no mokuhyō o motte imasu. 3. Samazamana enerugī no hashira o sasaeru koto ni kanren shite, ika no shihyō ga shiteki sa remashita. Aru. Sekiyu gasu denryoku no yunyū izon to enerugī-gen no tayō-ka b. Jūtaku no heikin enerugī shōhi-ryō to sō enerugī shōhi-ryō. C. Denki o riyō dekiru jinkō no wariai d. Denryoku fuka-ritsu (heikin/ pīku juyō) e. Sō enerugī kyōkyū-ryō to hatsuden-ryō ni shimeru shizen enerugī no wariai 4. Dōkoku wa, 2037-nen made ni TFEC ni okeru sai ene no shea o 30-pāsento ni suru to iu kokka mokuhyō o kakagete ori, setsubi yōryō ni shimeru sai ene no shea o sukunakutomo 50-pāsento ni suru koto o mokuhyō to shite imasu. 5. CCUS ni tsuite wa, 2022-nen 11 tsuki ni Tai ga kaitei shita `chōki teion-shitsu kōka gasu haishutsu kaihatsu senryaku (LT - LEDS)' ni oite, CCUS to datsu tanso-ka shien ni okeru CCUS no senzai-tekina yakuwari ni tsuite seishiki ni genkyū sa rete iru. Kokunai no CCS wa 2040-nen made ni kaishi sa reru yoteidesu. Genzai, Tai no hō seido wa, shōgyō kibo de no CCUS purojekuto no tenkai o shien suru ni wa fujūbun'na mamadesu. Genzai, taideha daitai enerugī kaihatsu keikaku o fukumu kokka enerugī keikaku no minaoshi ga susume rarete imasu.
さらに表示
602 / 5,000
'1. Energy security, affordability, accessibility, resilience and sustainability are as important as national energy goals.
2. The country has targets for electricity solar, biomass, biogas, and wind (onshore only). In the heat of the moment, the country has biomass and biogas goals.
3. The following indicators were pointed out in relation to supporting various energy pillars.
be. Dependence on oil, gas, and electricity imports and diversification of energy sources
b.Average energy consumption and total energy consumption of the house.
c. Percentage of population with access to electricity
d. Electricity load factor (average/peak demand)
e. Percentage of natural energy in total energy supply and power generation
4. The country has a national goal of increasing the share of renewable energy in TFEC to 30% by 2030, with the aim of increasing the share of renewable energy in installed capacity to at least 50%.
5. Regarding CCUS, CCUS and its potential role in supporting decarbonization were officially mentioned in Thailand's revised Long-Term Low Greenhouse Gas Emissions Development Strategy (LT-LEDS) in November 2022. ing. Domestic CCS is scheduled to start by 2040. Currently, Thailand's legal system remains inadequate to support the deployment of CCUS projects on a commercial scale.

Currently, Thailand is undergoing a review of its national energy plan, including an alternative energy development plan.

1-4. Climate change action targets (NDC)

- Aiming at reaching carbon neutrality in 2050, and Net Zero GHG Emissions in or before 2065.
- As a forward-looking strategy, Thailand has declared the Bio-Circular-Green economy model or BCG as our national agenda
- National Energy Plan 2022: EV 30 - 30 and 4D+1E (Digitalisation, Decarbonisation, Decentralsation, Deregulation, and Electrification). Enhance EV infrastructures including smart grid and charging station, Energy Storage System RE to EV.
[Goals toward carbon neutral
'- Increase nationally determined contributions (NDC) to 40% and net zero greenhouse gas (GHG) emissions by 2050 with international support. Carbon neutrality by 2050. Net zero emissions by 2065.
- Reduce GHG emissions by 30% (unconditional) and up to 40% (conditional) by 2030 on a BAU basis.
- By 2036, the share of electricity generated from renewable energy sources will be 20%; by 2036, the share of renewable energy in final energy consumption will be 30%.
- Reduce energy intensity by 25%, equivalent to a 20% reduction in energy consumption by 2030 on a 2005 basis.
- On a 2010 basis, a 30% reduction in energy intensity by 2036.
- Increase the forest cover in the country to 40%.
[National Energy Planning Framework].
Approved by the National Energy Policy Council (NEPC) in August 2021. The framework includes a policy policy aimed at a gradual transition to clean energy and achieving carbon neutrality from 2065 to 2070. In order to realize a low-carbon economy and society, the following efforts will be promoted in the energy sector
(1) Increase the ratio of renewable energy generation to more than 50% (taking into account the cost of installing long-term energy storage systems).
(2) Improve energy efficiency by at least 30% using modern innovations and technologies.
(3) Restructure the energy industry according to the following "4D1E" (4 D's and 1 E)
Decarbonization: Reduction of carbon dioxide (CO2) emissions in the energy sector
Digitalization: adoption of digital systems to manage energy
Decentralization: decentralization of power generation and infrastructure
Deregulation: Modernization of energy-related regulations
Electrification: use of electricity instead of fossil fuels

1-5. Budgetary measures for climate change initiatives

【Budget minister】
Office of Natural Resources and Environmental Policy and Planning (ONEP)

2. Measures toward Carbon-Neutral

2-1. Carbon tax initiatives

【Outline】
'- Excise tax on vehicles is based on engine size and GHG emission per km2
【Budget minister】
The Excise Department. Thailand's Excise Department is currently planning to impose a carbon tax on three sectors (energy, transport, and industry) and is expected to be completed by the end of the 2023.

2-2. Carbon credit and carbon trading initiatives

Thailand established the Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) in 2007 to oversee projects related to GHG emission reductions. In 2013, TGO initiated the Thailand Carbon Offsetting Program (T-COP) to promote the use of carbon credits to offset GHG emissions. Later, in 2015, Thailand partnered with the Japanese government on the Joint Crediting Mechanism project, allowing for carbon credit sharing benefits. In 2016, Thailand saw its first carbon credit trading under the Thailand Voluntary Emission Reduction Program (TVERS). Following this, Thailand developed the Premium Thailand Voluntary Emission Reduction Program (Premium T-VER), a high-standard carbon credit certification, aligning with Article 6 of the Paris Agreement. In 2023, TGO collaborated with the Federation of Thai Industries to develop the FTIX, a carbon credit trading platform aimed at promoting a fair and accessible carbon market.

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

2-3-1. Hydrogen

Currently, Thailand utilizes hydrogen in various forms. For instance, GE's gas turbines, used in the industrial sector, operate with fuel containing hydrogen blends. GE's H-Class gas turbines feature DLN 2.6e combustion technology, enabling them to use hydrogen at a 50% mix with natural gas. GE's HA gas turbines recently began operations at the Bang Pakong power plant of the Electricity Generating Authority of Thailand (EGAT), adding approximately 1,400 megawatts to the grid. Another project, the Lam Takhong Power Plant, incorporates a Wind Hydrogen Hybrid system, which uses wind turbines and energy storage technology to convert energy into hydrogen for storage. The stored hydrogen is then used in fuel cells to generate electricity during peak demand periods.

The Thai government is preparing for hydrogen integration by developing a short-term strategic plan for hydrogen use in the energy sector. A hydrogen task force has been established under the Energy Policy and Planning Office (EPPO), with the short-term plan (2021–2030) focused on hydrogen research and pilot technology deployment. The medium-term plan (2031–2040) and long-term plan (2041–2050) will follow as hydrogen technologies advance.

2-3-2. Fuel ammonia

2-3-3. CCUS

For CCUS, Thailand's revised Long-Term Low Greenhouse Gas Emission Development Strategy (LT-LEDS), in November 2022, includes formal mention of CCUS and its potential role in supporting decarbonisation. Domestic CCS is expected to commence by 2040. At present, Thailand's legal regime remains inadequate for supporting the deployment of CCUS projects at a commercial scale.

2-3-4. Biofuel

2-3-5. Renewable Energy

Under Thailand's National Energy Plan (NEP), there is a directive to increase the proportion of new electricity generation from renewable energy sources to no less than 50%. This target also includes consideration of integrating energy storage systems to enhance the stability and reliability of renewable energy in the power grid.

2-3-6. Nuclear power

2-3-7. Storage battery

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 collaborative platform working toward the common goal of smart and sustainable urban development, with 26 cities from 10 ASEAN member countries participating as pilot cities. Bangkok, Phuket, and Chonburi are participating cities in Thailand. The following is an overview of the action plans for Bangkok and Phuket.
Bangkok
Vision: To be a visitor-friendly international community with a new central district filled with a variety of attractions and infrastructure.
Focus areas: built infrastructure, quality environment, industry and innovation.
Strategic Goal: To develop a new Central Business District (CBD).
City Project 1: Develop a transportation hub in the Berneseau area. Provide new commuter rail lines to areas near the city center.
City Project 2: The Smart City Plan aims to make the New Central district an ideal place for visitors with its strong cosmopolitan community and full of attractions.
2. Phuket
Vision: Tourism accounts for 97% of the country's gross domestic product, and Phuket's smart city vision is to achieve sustainability in tourism development.
Areas of focus: civic and social aspects of tourism; industry and innovation to promote trade and commercial activities; use of security camera analysis to predict and prevent crime; 50% reduction in crime.
Strategic Goal: Improve utility management for environmental sustainability of water, waste, and electricity.
City Project 1: Build an urban data platform to better understand Phuket residents and tourists using real-time big data from sources such as free WiFi and security cameras.
City Project 2: Aim to maximize the coverage area of security cameras by inviting private companies and businesses to share the data generated by security cameras with the government.

2-3-9. Initiatives for Smart Grid

Completed a micro grid system of "72kWp PV + 266kWh ESS + 60kVA diesel generator" in Koh Jik Island, Thailand

1. electrification rate: 99%
2. Smart grid plan: Provincial Electricity Authority (PEA) Smart Grid Roadmap
3. Smart meter deployment goal: 110,000 smart meters installed in Pattaya pilot project
4. Main contents of smart grid plan: combination of smart energy, smart life, and smart community ① Stage 1 Laying the foundation (2012-2016) ② Stage 2 Large-scale integrated circuits (2017-2021) ③ Stage 3 Optimal stage (2022-) 2026） ④ Stage 4 Ultimate stage (2027-2031)
Current Smart Grid activities: (1) SAS (Substation Automation System) / DAS (Direct Attached Storage), SCADA (Supervisory Control And Data Acquisition) (i) MEA Smart Grid Roadmap, including EV-related business development and technical impacts (Metropolitan Electricity Authority) (ii) MEA Smart Grid Roadmap, including EV-related business development and technical impacts (iii) MEA Smart Grid Roadmap, including EV-related business development and technical impacts (iv) MEA Smart Grid Roadmap, including EV-related business development and technical impacts Mae Hong Son Smart Grid National Pilot Project ④ Renewable Energy Power Generation Development Project on Kudu and Maki Islands

2-3-10. Initiatives for demand responcse

In 2014, a demand response program was implemented to support maintenance of a gas transmission system. It successfully reduced peak demand by 70 MW out of a 200 MW target.
For the period 2022-2023, the Energy Policy and Planning Office and Metropolitan Electricity Authority initiated a new demand response program
The program aims to reduce peak load by 19.5 MW during specific afternoon and evening hours from January 2023 to December 2023.
The demand response operations have used interaction between machines without human interference, using the OpenADR standard for communication.
Electricity Generating Authority of Thailand developed its own demand response management system based on OpenADR 2.0b.

2-3-11. Others

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

3. Energy Conservation initiatives

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

-1. Energy security, affordability, accessibility, resiliency, and sustainability are equally important as the country's energy objectives.
2. The country has targets for solar, biomass, biogas, and wind (only onshore) in electricity. In the heat, the country has a target for biomass and biogas.
3. The following metrics were noted in relation to supporting different energy pillars,
a. Dependency on oil, gas, electricity imports and diversification of energy sources
b. Average residential energy expenditure and total energy expenditure.
c. % of the population with access to electricity
d. Electricity load factor (average /peak demand).
e. RE share in total energy supply and electricity generation.
4. For CCUS, Thailand's revised Long-Term Low Greenhouse Gas Emission Development Strategy (LT-LEDS), in November 2022, includes formal mention of CCUS and its potential role in supporting decarbonisation. Domestic CCS is expected to commence by 2040. At present, Thailand's legal regime remains inadequate for supporting the deployment of CCUS projects at a commercial scale.
5.The country has a national target of 30% RE share in TFEC by 2037 and plans to have a target of at least 50% of RE share to the installed capacity.

- Currently Thailand is revising national energy plan, including the alternative energy development plan.

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

Preparing Thailand's National Energy Plan (NEP2023):
In addition to increasing the use of renewable energy to more than 50%, reducing energy consumption by 30% in 2030 and 40% in 2050 to support net-zero carbon and greenhouse gas emissions targets The goal is to reduce It will also combine five action plans: gas plan, power development plan (PDP), alternative energy development plan (AEDP), oil plan, and energy efficiency plan (EEP).

3-3. Specific contents of EC policies

Energy Efficiency Plan 2015 (EEP2015). The goal is to reduce energy intensity by 30% by 2036 compared to the base year of 2010.
'- Energy Efficiency Plan (EEP2022): Aim for energy savings of 36% over the next 15 years, up from 30% in 2018. The aim is to reduce energy intensity (EI) by 40% and save 64,340ktoe by 2050.
The plan will be implemented with 14 measures under three strategies targeting five target groups: industry, buildings, households, agriculture, and transportation.
1. Compulsory measures
a) Energy conservation standard in designated factory/building - Mandatory Energy Management based on PDCA concept in Designated factory/building (electric meter >1000 kW, total energy consumption > 20 MJ/y, total installed transformers > 1,175 kVA). Required by law to submit annual energy management report to responsible government agency (DEDE)
b) Building Energy Code - New buildings or retrofitted buildings being constructed which have a total area of 2000 square-meters or more must be designed under specified requirements (building envelopes, lighting system, air-conditioning system, water-heating system)
c) Energy Standard and Labeling (HEPS/MEPS) - MEPS - Minimum Energy Performance Standard (MEPS) is set to prevent import and production of sub-standard equipment. HEPS – High Energy Performance Standard (HEPS) is given to equipment with high efficiency for promotion purposes. Labelling for HEPS/MEPS help promote awareness.
d) Energy Efficiency Resources Standard (EERS) - Utilities have obligations to help their customers reduce their energy consumption via various energy conservation measures.
2. Voluntary measures
a) Financial Incentive in the form of co-investing scheme, soft loan, tax incentive, direct subsidy
b) Promoting LED (Light Emitting Diode - replacing LEDs in government and streetlights as well as expedite lower cost of LEDs via price mechanism
c) Energy saving measures in transport sector - remove subsidies for fossil-fuel to let market prices reflect the true cost of the fuel, energy labelling for tires, CO2 emission-based excise tax for cars, Eco-Driving, logistic management, transportation infrastructure (double-track railway, elevated rapid transit system), pipeline transport for fuel
3.Complementary measures
a) Research in technologies and innovation relating to energy efficiency and renewable energy
b) Capacity building for all involved parties
c) Energy conservation awareness promotion

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

・ The Energy Conservation Promotion Act 1992 and its revised Act 2007
・Decrees：
Decree on designated building; 14/11/1995
Decree on designated factory; 8/7/1997
・Regulations：
Energy Management in designated buildings and factories;2009.11.20
Building Energy Code; 20/6/2009
Persons Responsible for Energy (PRE); 28/11/2009
High Energy Efficiency Standard for Equipments and Machinery; 8/4/2009
Energy Management Auditors; 7/11/2012

3-5. EC goals

Reduce energy intensity by 30% compared to base year 2010 within 2037
Aims to reduce energy intensity (EI) by 40% by 2050, conserving energy by 64,340ktoe.
The energy intensity in 2021 was 6.94 ktoe/ billion baht. This corresponds to a reduction of about 19%.

3-6. Green (EC) building Code

・Thailand's Building Energy Code, BE 2563 (2020), has been set under the Ministerial Regulation Prescribing the Type or Size of Building and Standards, Criteria and Procedures for Designing Buildings for Energy Conservation.
Target building: New construction / renovation with a total floor area of 2,000 m2 or more
Hotels, educational facilities, offices, condominiums, exhibition hall, theater, hotel, entertainment equipment, department store
Standards are set for six items.
Building envelope
Lighting system
Air-conditioning system
Hot water generating system
Renewable energy utilization
Whole building performance
For these, construction permission is granted by showing that the requirements are met with the standards at the time of building application.
・Thai's Rating of Energy and Environmental Sustainability (TREES) is a green building rating system which was developed in 2008 year by Thai Green Building Institute for green buildings.
・Draft Building code 2019 version; new construction and extension / renovation of a building over 2,000m2. OTTV, RTTV, LPD standard values are set depending on building types.

Implementation is being phased in: Starting in 2023 for buildings ≥ 10,000 sqm In 2024 for buildings ≥ 5,000 sqm In 2025 for buildings ≥ 2,000

sqm

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

There is a certification system called TREES run by an organization called TGBI, which is in a neutral position. Therefore, it can be said that it is a voluntary system.
This consists of those for new construction and large-scale renovation (TREES-NC) and those for existing buildings (TREES-EB). The evaluation consists of 4 ranks of platinum, gold, silver and certified.

3-8. Items based on EC Law

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

Group 2: 60 TJ or more or electric power meter 3,000 kW or more or total installed transformer 3,530 kVA or more
Group 1: 20 TJ or more or electric power meter 1,000 kW or more or total of installed transformers 1,175 kVA or more

3-8-2. Number of designated business operators

Number of designated enterprises: 6,299 Factories, 3,262 Building, total 9,561

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

Submission of periodic report, appointment of energy manager submission of medium- to long-term plan, implementation of energy audit, implementation of energy management, establishment of department in charge of energy-saving, instruction and order related to rationalization plan

3-8-4. Contents of energy management system

Regal Framework for the Implementation of Energy Management Training
EC Promotion Act: 1992, ECP Act rev. 2007
Designated Buildings Order: 1995
Designated Factories Order: 1997
Ministerial Decree (MR) on Energy Management (EM) in Designated Buildings and Factories: 2009
MR of PRE: 2009
MR for EM auditors: 2012
The designated building or factory shall appoint PREs and Conduct energy management system as decribed in regulation and submit annual report to DEDE

3-8-5. Contents of energy manager system

Miniterial Regulation on Person Responsible for Energy (PREs)
Conventional PREs (C-PRE) Senior PREs (S-PRE)
At least 1 PREs for Group 1
At least 2 PREs for group 2, in which one must be S-PRE.
Number of accredited energy managers (As of 2022.11.7)
Factories : c 8,932 s 3,820
Buildings : c 6,317 s 1,110
Total: 19,164
316 energy auditors (2022.7)
Organization certifying energy managers: DEDE (MOE)
Training organization for energy managers: DEDE (MOE)
Period of validity of energy managers: No expiration date

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

1. Preliminary Information
2. Energy Management Information
3. Initial Assesment of Energy Management Status
3. Energy Conservation Policy
4. Assesing Energy Conservation potential, including consumption Data (Electricity and Fuel)
5. Defining Goals and plans for Energy Conservation promotion
6. Implementation of the Energy Conservation Plan Inspection and analysis of compliance

Factory's owners submit energy report to energy auditor, energy auditors submit energy audit report to the client/factory's owner, factory's owners submit the energy report and energy audit report to DEDE every year within March

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

MEPS:
Standards are set up by DEDE, but they are regulated by TISI.
Voluntary 18 Products,
Mandatory 6: Refrigerator, Air-conditioner, Fluorescent light tube, Ballast-integrated light bulb, and diesel engine
washing machine was added
TIS 1462-2562 (2019) Clothes washing machines for household use

Electric Motors
Ministerial Regulations on High Energy Efficiency Standard for Equipments and Machinery (Effective from 08/04/2009)
•MEPS for electric motors: IE1/IE2
Scope: 0.73kW to less than 185kW; Test Standard: TIS 867-2550
•HEPS for electric motors: IE3/IE4 (Voluntary label)
Scope: 0.73kW to less than 185kW; Test Standard: (AS/NZS 1359.5:2004 Method B)

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

No. 5 Label by Electricity Generating Authority of Thailand
Energy Efficiency Equipment and Machinery by DEDE
EGAT is incharge of Erectric appliance : 21 products(Voluntary)
DEDE is incharge of Nonerectric appliance and industrial products : 19 Products (Voluntary)
Standards are set up by DEDE, and labeling programs are responsible by DEDE and EGAT

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

TISI

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

Performance measurement organization : EEI

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

In progress

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

EC Guidelines
A Steering Committee (SC) was formed to develop drafts of lighting systems, air conditioning systems, boilers, furnaces, electric heaters, and motors for factories. Briefing sessions were held for industry and academia (universities, etc.), and the results were reflected in the final version of the Draft EC Guidelines.
EM Manual
In order to develop and disseminate EM manuals to factories, a questionnaire survey was conducted and model factories were selected.

3-9. EC propelling measures

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

1)Subsidies : i) Energy Conservation Promotion Fund
ii) Direct Subsidy
•Eligible parties: Designated buildings and factories and SMEs
•Allocated fund: Subsidize for EE equipment and installation cost
- 20% for Designated buildings and factories
- 30% for SMEs
•Supports up to 1,500,000 baht per measure
•Payback period no longer than 7 years
For the 2017's project,
-494 Applicants, 724 Measures
-278 million baht subsidized
- Energy Saving 15 ktoe
2)Tax incentives :【Outline】
'- Tax benefits for import of efficient equipement/ESCO by Board of Investment (BOI) offering up to 8 years in tax holiday
【Target】
ESCO/Factories/Buildings
【Percentage】
8-year tax exemption, duty exemption
【Budget minister】
Board of Investment of Thailand
3)Low-interest loan :
4)Funds :【Outline】
'- Energy Conservation Fund *ENCON Fund" - providing funding on activities related to energy efficiency
【Target】: All Sectors
【Percentage】: Funding upto 100% of the project proposal
【Budget minister】: ENCON Fund committee

Revolving Fund

3-9-2. Supports for energy audit

【Outline】
'- Mandatory Energy Audit for designated factories and buildings as part of the required energy management
- Building Energy Code Audit for new/retrofitting buildings before construction
【Objects】
Large factories and buildings
【Target】
Business Operator
【Budget minister】
Department of Alternative Energy Development and Efficiency

Promotion of ESCOs, ISO 50001: Energy management

3-9-3. EC award system

【Outline】
'- Thailand Energy Awards/ASEAN Energy Awards for exemplary buildings/factories/energy managers on energy conservation
- BEC Awards - Exemplary building designs that perform beyond building energy code
【Objects】
Large factories and buildings
【Target】
Business Operator, Energy managers
【Budget minister】
Department of Alternative Energy Development and Efficiency

Thailand Energy Award
ASEAN Energy Awards

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

【Outline】
'- Mini-Plant: A training facility for energy managers appointed by designated factories and buildings as part of the required energy management system
【Objects】
Large factories and buildings
【Target】
Energy Managers (PREs)
【Budget minister】
Department of Alternative Energy Development and Efficiency

ENRGY CONSERVATION BUILDING IN HONOR OF HIS MAJESTY THE KING

3-9-5. ESCO Business Support

Government Revolving Fund:
Initial value 500 million baht
Sponsor DEDE
Project manager NESDB
Categorised based on the Authorised Capital of the company, as regulated by the Institute of Industrial Energy of The Federation of Thai Industries: Type S (possessing the authorised capital from THB 1-5 million), Type M (THB 5-20 million), Type L (THB 20-50 million), and Type XL (THB 50 million or higher).

3-9-6. Supports for R&D

【Outline】'- Energy Conservation Fund (ENCON Fund) provides funding for R&D on energy efficiency programs to various parties e.g. academic institution
【Objects】All relevant parties
【Budget minister】Ministry of Energy
Technologies Demonstration
・Energy Display Center
54 technologies showcased
- 37 Industrial sector technologies
- 10 Commercial building technologies
- 7 Residential sector technologies
- 20,000 visitors per year
・Advance Technology Demonstration Project Phase 3
A total of 3 technologies in 5 establishment
- Subsidize 40% of the cost
- Max subsidy = 6 million Baht
- Energy saving of at least 15% for manufacturing process or 20% for utility system

3-10. ESCO business deployment

ESCO Information center 2015-2017 number of measures 290 (breakdown: 134 factories, 156 buildings)
ESCO registered companies: 63 companies except under application.

3-11. Subsidy for fuel

【Outline】
Subsidize diesel - no more than 30 Baht/litre
【Budget　minister】
Ministry of Energy

3-12. Subsidy for electricity bills

【Outline】
Subsidize electricity price - reduce Fuel Adjustment Charge (FT charge) to 0.3972 Baht/kWh
【Budget　minister】
Metropolitan Electricity Authority

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

Department of Alternative Energy Development and Efficiency (DEDE), Energy Policy and Planning Office (EPPO)

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

Department of Alternative Energy Development and Efficiency (DEDE), Energy Policy and Planning Office (EPPO)

3-15. Cooperation related to energy conservation by Japan

METI/ECCJ: Dispatch of experts, Acceptance of trainees
1. Bilateral cooperation: Thai - Japan, such as Development of Energy Conservation Guidelines and Energy Management Manual
2. Multilateral cooperation: Japan-AMS（ASEAN Member States) cooperation
- PROMEEC (for commercial buildings 2001-2011
- ASEAN-Japan Energy Efficiency Market Transformation with Information Provision Scheme (AJ-EMTIPS)
- AJEEP Scheme 2,3 2012～
- AJEEP Scheme 4,5 2022～
- JICA：Funding Technical support, and support for establishment of energy manager certification system (including training equipment provision)

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

•AMS（ASEAN Member States)
•ASEAN+3 Mitigation Cooperation Programme with KEA
•ASEAN Low Carbon Energy Program (ALCEP) - collaboration between Thailand and UK
•Project on Renewable energy technologies in cities and urban planning for renewable energy applications in Thailand with ESCAP and IRENA
•GMS Workshop on Energy Efficiency　“Mainstreaming Energy Efficiency at Sectoral Levels and Local Government Authorities for GMS/ASEAN Countries”
EU
APEC

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

Implementation of JCM equipment subsidy project in 2022
1.Introduction of 1.6MW Solar Power System to Plastic Bottles and Cosmetics Factories (JCM Eco Lease Scheme)
2.Thermal Energy Supply and Methane Avoidance Project Utilizing Biomass mixed with Biogas from Wastewater in Fruit Processing Factory
3.Introduction of Gas Co-generation System and 22MW Rooftop Solar Power System to Tire Factory
4.Introduction of ORC Waste Heat Recovery Power Generation System to Flat Glass Factory
5.Energy Supply Project by 4.0MW Rooftop Solar Power System to Parts and Tools Factories
6.Energy Supply Project by 2.9MW Rooftop Solar Power System to Metal Factories and Refrigerating Warehouse
7.Energy Supply Project by 1MW Rooftop Solar Power System to Metal Recycling and Automotive Parts Factories