

Newsletter No. 210 (EN)

**Renewable Energy
in Thailand**

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Abstract

The following newsletter shall give an overview of the current situation on Thailand's energy sector (I.), in particular the Energy Plan 2036 (II.). The main focus of this plan – and accordingly of this newsletter – is on renewable energies. Besides the general importance of renewable energies for Thailand, the investment promotions provided by the Thai government shall be outlined in detail (III.). Furthermore, the restrictions applying to foreign investors and available exemptions are discussed under IV. Finally, the newsletter will give a brief outlook on future developments (V.).

I. Introduction

Thailand's total energy consumption tends to be increased every year, and the current energy consumption is mainly covered by fossil fuels, in particular gas and coal (non-renewable energy sources). Gas is produced in vast quantities within the country, and coal and oil are mostly imported. Due to the dependency on imports, Thailand's energy supply is highly subjected to regional political developments.

Apart from climate protection, renewable energy produced in Thailand is also interesting for political reasons and has thus gained the government's attention.

II. Energy Plan 2036

The Thai government's goal is to increase the ratio of renewable energies to the total consumption of 30% by 2036. Furthermore, the Thai prime minister has recently announced that the emission of greenhouse gases shall be reduced at least 7% by 2020 and by 20-25% by 2030.

1. Political Plans

To achieve these goals, the Thai government has developed the *Thailand Integrated Energy Blueprint* (“**TIEB**”), a comprehensive framework for the development of the energy sector by 2036. The TIEB has the following objectives:

- Renewable energies shall become a major part of the national energy supply in order to replace fossil fuels and oil imports
- Strengthening of the national energy security
- Establishing facilities for alternate energy production on the communal level
- Nationwide support for the production of renewable energy
- Promotion of competitiveness through research and development

The TIEB includes the following independent plans:

- the *Alternative Energy Development Plan 2015 – 2036* (“**AEDP**”)

- the *Power Development Plan 2018 – 2037* (“**PDP**”)¹
- the *Energy Efficiency Plan 2015 – 2036* (“**EEP**”)
- the *Gas Plan 2015 – 2036* (“**GP**”) and
- the *Oil Plan 2015 – 2036* (“**OP**”)

The government also plans to amend AEDP, EEP, GP, and OP to be in line with the new PDP.²

However, during the period of amendment and approval of other plans, the plans 2015-2036 remain in force.

The AEDP was adopted by the *National Energy Policy Council* on 17 September 2015 and defines goals for the increase of renewable energy from the current 7,300 MW to almost 20,000 MW by 2036. The following capacities are envisaged for the respective sectors:

- Waste-to-energy: 444 MW (household waste and industrial waste)
- Biomass: 3,376 MW
- Biogas: 546 MW
- Wind energy: 1,485 MW
- Solar energy: 10,000 MW
- Floating hydro-solar hybrid project: 2,725 MW (new scheme)

The PDP (aimed to be amended every 5 years) outlines the strategic goals for Thailand’s energy sector, namely

- security of supply
- profitability and
- eco-friendliness.

¹ The PDP 2018-2037 has been approved by the Cabinet on 30 April 2019.

² Announcement of the Energy Policy and Planning Office on 2 May 2019.

The EEP’s aim is to reduce the energy intensity (consumption divided by GDP) by 30% by 2036.

2. Authorities

The *Ministry of Energy* and the prime minister are in charge of decisions on energy policy and oversee the following authorities on the planning and implementation:

- *Energy Policy and Planning Office* (“**EP-PO**”) of the *Ministry of Energy*

The EPPO is responsible for the development of the energy sector’s basic strategies.

- *Department of Alternative Energy Development and Efficiency* (“**DEDE**”) of the *Ministry of Energy*

The DEDE is responsible for the promotion of renewable energies and investigates possibilities to use untapped potential.

- *Electricity Generating Authority of Thailand* (“**EGAT**”)

The EGAT is a state enterprise run by the *Ministry of Energy* and operates most of the power plants and energy infrastructure.

- *Energy Regulation Commission* (“**ERC**”)

The ERC serves as the regulatory and supervisory body for the Thai energy market.

- *Metropolitan Energy Authority* (“**MEA**”) and *Provincial Energy Authorities* (“**PEA**”)

The MEA and PEA purchase energy from the EGAT. The MEA provides energy to the Bangkok metro-

politan area, and the PEAs to the rest of the country.

III. Promotions

There are currently two promotion schemes available for producers of renewable energy:

Firstly, the so-called *Feed-in-Tariff* (“**FiT**”) provides that energy producers receive a fixed price for energy they sell to the MEA or PEA.³ The MEA or PEA conclude a so-called *Power Purchase Agreement* (“**PPA**”) with the energy producer which guarantees the FiT for a fixed period of time. This way, the investment in renewable energies can be secured.

Secondly, the *Board of Investment* (“**BOI**”) offers various investment promotions, e.g. the exemption of corporate income tax⁴ for up to 8 years, exemption from import duties on machines and raw materials, as well as the possibility for foreigners to own land and to facilitate the employment of foreign experts.

The following table gives an overview of selected incentives:

Promotion category	Exemption from corporate income tax	Exemption from import duties on		Non-tax incentives*
		Machines	Raw materials for the production of export goods	
A1	8 years (no cap)	✓	✓	✓
A2	8 years (cap)**			
A3	5 years (cap)			

* These include, amongst others, the possibility for foreigners to own land and easier employment of foreign experts.
 ** The amount of granted corporate income tax exemption is capped at the amount of total initial investment excluding cost of land and working capital.

³ The *FiT-Scheme* replaces the previous *Adder-Scheme* where a bonus on top of the regular price per kWh was paid.

⁴ The corporate income tax rate in Thailand is currently 20%.

Listed below are the respective promotion categories for the various kinds of renewable energies.

1. Solar Energy

Solar power is a resource abundantly available in Thailand but its potential is so far mostly untapped.

Currently, approx. 2,800 MW of commercial solar energy is being produced. According to the PDP2018 and AEDP, this amount shall be increased to 10,000 MW by 2036.

a) Feed-in-Tariff for Solar Energy

In 2013, the EPPPO decided to promote rooftop photovoltaic facilities with a total capacity of up to 200 MW, whereof 100 MW were reserved for industrial production and 100 MW for private buildings. A FiT of THB 6.85 per kWh is available for private rooftop photovoltaic facilities with a capacity of up to 10 MW peak performance (kilowatt peak or “kWp”), THB 6.40 for industrial facilities with a peak performance of 10 to 250 kWp, and THB 6.01 for industrial facilities with a peak performance between 250 and 1,000 kWp. Facilities in the Southern border provinces⁵ receive an additional bonus of THB 0.50 per kWh.

On 22 October 2014, the *Ministry of Industry* adopted a guideline whereby rooftop photovoltaic facilities no longer require a *Factory Permit* in order to reduce administrative restrictions especially for private investors.

⁵ Yala, Pattani, Narathiwat, as well as 4 districts in Songkla province.

b) BOI Promotion

Manufacturers of solar cells and/or related raw materials receive 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.⁶

The production of electricity from solar energy receives the same promotion.⁷

The manufacture of parts and/or equipment of solar-powered products receives corporate income tax exemption for 5 years, as well as exemption from import duties on machines and raw materials.⁸

c) Public Private Partnerships

Apart from the above mentioned rooftop photovoltaic facilities, special provisions apply to large-scale photovoltaic facilities, so-called *solar farms*. These regulations (Government and Agricultural Cooperatives) were approved in 2014 and announced by the ERC in 2016, and shall replace the previous promotion for solar farms (FiT and Adder Tariff). According to this *Governmental Agency and Agricultural Cooperatives Programme („Agro-Solar“)*, solar farms with a capacity of up to 5 MW each and a total capacity of 800 MW shall be built. These projects shall be carried out in cooperation between the private and public sector, so-called *Public Private Partnerships* (“PPP”).

⁶ Promotion category A2 according to *BOI Announcement No. 2/2557 (2014), List of Activities Eligible for Investment Promotion, Section 5.4.2.*

<http://www.boi.go.th/upload/content/newpolicy-announcement%20as%20of%202013.58.23499.pdf>

⁷ Promotion category A2 according to *Section 7.1.1.2.*

⁸ Promotion category A3 according to *Section 5.4.8.*

In order to receive the FiT of THB 5.66 per kWh, a PPA shall be concluded with the MEA or PEA which guarantees the power purchase and the FiT for 25 years.

The parties to the PPA are the MEA/PEA and the government authority or municipality who also acts as the project owner, whereas each authority or municipality shall only own maximum one project per district. Private investors can participate in the project through a PPP. Private investors must be companies registered in Thailand and can participate in more than one project (with a total capacity of 50 MW).

During the term of the PPA, a transfer of the project is only possible in limited cases and only with the approval of the ERC. In practice, this means that the PPP is committed for a period of 25 years, after which the project may be transferred to one of the partners, as is commonly the case with BOT projects (*Build-Operate-Transfer*).

2. Wind Energy

The total installed capacity of commercial wind energy in Thailand was 915 MW in early 2019. The AEDP envisages 1,485 MW by 2036.

a) Feed-in-Tariff

The FiT for small-scale producers of wind energy (capacity of up to 200 kW) is THB 6.06 per kWh, guaranteed for up to 20 years. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

b) BOI Promotion

The production of electricity from wind power receives 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.⁹

3. Hydropower

In 2019, facilities for the production of energy from hydropower with a total capacity of approx. 3,050 MW were installed in Thailand (including large power plants operated by the EGAT with a capacity of approx. 2,900 MW).

The AEDP foresees a capacity increase of small-scale hydropower plants from the current 150 MW to 376 MW by 2036. An increase of the existing large power plants is not planned.

a) Feed-in-Tariff

The FiT for small-scale producers of energy from hydropower (capacity of up to 200 kW) is THB 4.90 per kWh, guaranteed for up to 20 years. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

b) BOI Promotion

The production of electricity from hydropower receives 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹⁰

⁹ Promotion category A2 according to *Section 7.1.1.2*.

¹⁰ Promotion category A2 according to *Section 7.1.1.2*.

4. Waste-to-Energy

Currently, 320 MW of commercial energy are produced by *waste-to-energy* projects. This capacity shall be increased to 444 MW by 2036 according to the PDP2018 and AEDP (400MW from household waste and 44 MW from industrial waste).

a) Feed-in-Tariff

The FiT for small-scale producers of waste-to-energy (capacity of up to 200 kW) consists of a fixed amount between THB 2.39 and 3.13 (depending on capacity) per kWh, guaranteed for up to 20 years, as well as a variable part that is fixed at THB 2.72 to 3.25 (depending on capacity) per kWh until 2019 and shall be adjusted in accordance with inflation thereafter. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

b) BOI Promotion

Waste-to-energy projects receive 8 years of corporate income tax exemption (without being capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹¹

The production of fuel from agricultural waste receives 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹²

5. Biomass

Currently, approx. 3,000 MW of commercial energy is produced from biomass. This capacity shall be increased to 3,376 MW by 2036 according to the AEDP.

a) Feed-in-Tariff

The FiT for small-scale producers of energy from biomass (capacity of up to 200 kW) consists of a fixed amount between THB 2.39 and 3.13 (depending on capacity) per kWh, guaranteed for up to 20 years, as well as a variable part that is fixed at THB 1.87 to 2.24 (depending on capacity) per kWh until 2019 and shall be adjusted in accordance with inflation thereafter. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

b) BOI Promotion

The production of electricity or fuel from biomass receives 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹³

The production of biomass briquettes and pellets receives 5 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹⁴

¹¹ Promotion category A1 according to *Section 7.1.1.1.*

¹² Promotion category A2 according to *Section 1.16.2.*

¹³ Promotion category A2 according to *Section 7.1.1.2. and 1.16.2.*

¹⁴ Promotion category A3 according to *Section 1.16.3.*

6. Biogas

Currently, approx. 360 MW of commercial energy is produced from biogas. This capacity shall be increased to 546 MW by 2036 according to the AEDP.

a) Feed-in-Tariff

The FiT for producers of biogas from waste and wastewater is THB 3.76 per kWh, guaranteed for up to 20 years. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

The FiT for producers of biogas from plants consists of a fixed amount of THB 2.79 per kWh, guaranteed for up to 20 years, as well as a variable part that is fixed at THB 2.58 per kWh until 2019 and shall be adjusted in accordance with inflation thereafter. Facilities in the Southern border provinces receive an additional bonus of THB 0.50 per kWh.

b) BOI Promotion

The production of electricity from biogas and the production of biogas from wastewater receive 8 years of corporate income tax exemption (capped at the amount of total investment), as well as exemption from import duties on machines and raw materials.¹⁵

Project Category		Promotion Category
Solar	Production of solar cells and/or required raw materials	A2
	Production of electricity from solar power	A2
	Production of parts or equipment for solar-powered products	A3
Wind	Production of electricity from wind power	A2
Hydro	Production of electricity from hydropower	A2
Waste-to-Energy	Production of electricity from waste-to-energy	A1
	Production of fuel from agricultural waste	A2
Biomass	Production of electricity from biomass	A2
	Production of biomass briquettes and pellets	A3
Biogas	Production of electricity from biogas	A2
	Production of biogas from wastewater	A2

¹⁵ Promotion category A2 according to *Section 7.1.1.2. and 1.16.2.*

IV. Foreign Investment Law

Foreigners doing business in Thailand are subject to the restrictions of the *Foreign Business Act B.E. 2542 (1999)* (“**FBA**”). According to the FBA, foreigners are all natural persons not having Thai citizenship, juristic persons not registered in Thailand, and juristic persons registered in Thailand but having 50% or more of their shares held by the two aforementioned kinds of persons.

BOI-promoted companies can be exempted from most of the FBA’s restrictions and foreigners can hold 100% of the shares. In addition, foreigners can buy and own land (as far as required for the project). Apart from the BOI promotion, foreign companies only have this possibility if they are situated in designated *Industrial Estates*.

Furthermore, the employment of foreign experts (as far as required for the project) is facilitated and work permits will be granted hassle-free. Non-BOI-promoted companies must fulfil certain capital requirements in order to employ foreigners, i.e. having a registered and fully paid-up capital of THB 2 million for each work permit.

One possibility to operate without BOI promotion is entering into a joint venture with a Thai partner who holds the majority of the company’s shares. In such case, the restrictions of the FBA do not apply because the company will not be regarded as “foreigner”. If this is not an option, a *Foreign Business License* (“**FBL**”) for certain business activities can be applied for with the *Ministry of Commerce*.

V. Outlook

Renewable energy is currently an important topic in Thai politics due to its contribution to global climate protection on the one hand, and due to the goal to reduce dependencies from fossil fuels (and the import thereof) on the other hand.

The legal framework has rapidly been developed in 2015, which is particularly true for the AEDP that – originally drafted in early 2015 – was fundamentally revised and extended within half a year.

Besides the promotion of investments in renewable energies, the expansion of the power grid capacity will be crucial for the success of the current energy policy, especially the PDP2018, for which the EGAT has allocated a budget of THB 600 billion.

Against this backdrop, it remains to be seen if the ambitious goals of the Thai government can be realised. However, it is already obvious today that due to the extensive investment promotions and incentives, Thailand offers attractive possibilities, in particular for foreign investors. The BOI promotion remarkably reduces the usual obstacles of the foreign investment law which also opens the market to medium-sized enterprises.



*We hope that the information provided in this newsletter was helpful for you.
If you have any further questions please do not hesitate to contact us.*

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