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I. Setting up Solar Business in Thailand

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Private investment in the business of electricity generation in Thailand can be classified into three types based on the total electricity production capacity: (i) IPP (*Independent Power Producer*), (ii) SPP (*Small Power Producer*) and (iii) VSPP (*Very Small Power Producer*) which refer to a private power project generating and selling electricity with the total production capacity exceeding 90 MW, between 10 to 90 MW and less than 10 MW, respectively. What is of particular note in the Thai system is that Thai electricity supply industry is based on a state-owned scheme. Thus, a single buyer of power generated from the IPP and the SPP is the Electricity Generating Authority of Thailand (“**EGAT**”) whereas a single buyer of power generated from VSPP is the Provincial Electricity Authority (“**PEA**”).

Provided the bidding system utilized for selecting the project operator of the IPP, the bidders are typically driven to enter a low bid to be selected. Thereby, investment in the IPP is generally not as commercially profitable and hence not as prevalent among the investors as compared to the investment in the SPP. Similarly, the VSPP scheme is basically devised to accommodate the very small-scale private energy business, especially the operation of rooftop solar project; hence, overall, it is not as commercially profitable as the investment in the SPP. Therefore, most investment in the solar business in Thailand is made in the form of the SPP and this article hence mainly focuses on the SPP under the perspective of Thai laws and regulations.

1. Establishment of the SPP

The SPP is defined in the Regulation on Power Purchase from the SPP for the Electricity Generated from Renewable Energy A.D. 2007 (as amended) and the Regulation on Power Purchase from the SPP for the Electricity Generated under the Cogeneration System A.D. 2007 (as amended) as a project operated by a private or a state entity that generates electricity either from (a) non-conventional sources such as wind, solar and mini-hydro energy or fuels such as waste, residues or biomass, or (b) conventional sources such as natural gas, coal or oil by using cogeneration system.

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To apply for the license to operate the SPP for the electricity generated from renewable energy, including solar project, the applicant would be required to submit documents and relevant certificates such as company affidavit, piping and instrument diagram and requisite guarantee, together with a request and an offer to sell power to EGAT. Within 90 days from the date of document submission, EGAT would send a notification to inform the applicant whether or not the license is granted (i.e. whether EGAT would purchase power to be generated by the applicant). If the license to operate the SPP is granted, the Power Purchase Agreement (PPA) shall be concluded within two years therefrom; otherwise, the request and offer to sell power initiated by such applicant shall be deemed cancelled.

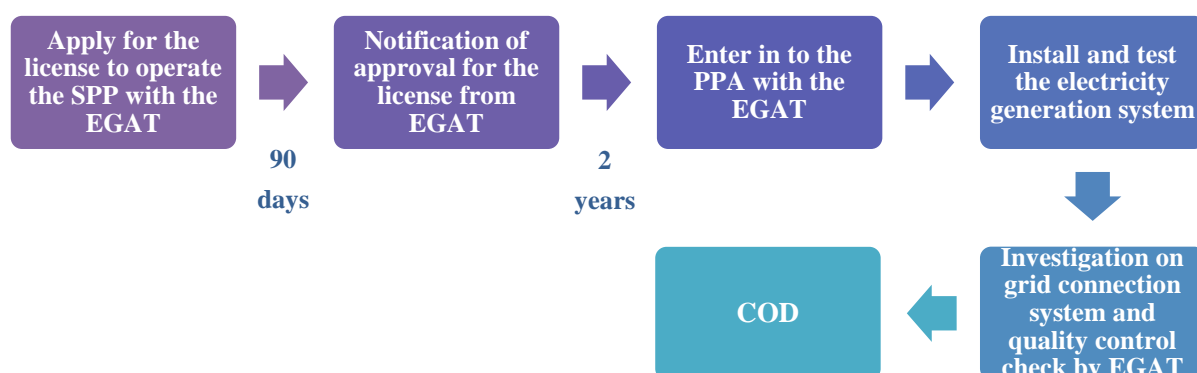


Figure: Process from applying for the license to operate the SPP until COD

After obtaining the license to operate the SPP from EGAT, the SPP operator shall fulfill the additional conditions as stipulated in the Regulation on Power Purchase from the SPP for the Electricity Generated from Renewable Energy before commencing the electricity transmission, which includes (i) submitting the Environment Impact Assessment Report at least 15 days before the conclusion of the PPA (if applicable), (ii) submitting the requisite licenses for the operation of the energy project, the examples of which are provided in the table below, at least ten days before the Commercial Operation Date (COD) set by EGAT and (iii) concluding the Sale Contract on Secondary Electricity, the Agreement on Electricity Security Service and the Agreement on Electricity Grid Connection along with other agreements required to be concluded with EGAT.

For your information, please find below examples of the licenses required to be submitted to EGAT for the operation of SPP.

Certificates and Licenses	Grantors
Factory License (Ror.Ngor. 4)	Department of Industrial Works
Certificate of Building Construction (if applicable)	The relevant local administration (e.g. Sub-district Administrative Organization or District Office) or the Industrial Estate Authority
Energy Industry Operation License	Energy Regulatory Commission
Controlled Energy Production License	Energy Regulatory Commission
Electricity Industry Operation License	Energy Regulatory Commission
Certificate of Electricity Quality	EGAT

The operation of the SPP can be categorized into two types; the so-called “non-firm and firm agreements”. Firm agreement refers to a long-term PPA with a term designated between 20 to 25 years, in which the project operator is required to provide electricity during the peak months to serve the high demand of electricity. On the other hand, the non-firm agreement refers to a short-term PPA with a term of not exceeding five years in which the project operator would not be required to provide electricity during the peak months,

but may receive payment for the electricity sold to EGAT in a lower rate than that paid to the project operator of the firm agreement.

The standard form of the PPA set by EGAT will be used for both firm and non-firm agreements entered into between EGAT and the project operator. For the firm agreement, EGAT would be entitled to curtail the power generated by the SPP in the case of force majeure with compensation for the project operator. On the other hand, the standard form of the non-firm agreement has no such provision that will enable the project operator to be compensated for the curtailment in the event of force majeure.

2. Energy Payment

Since 2007, the adder rate structure was employed by EGAT to calculate the electricity price paid to the project operator. Under such adder rate structure, the adder rate would be included in the energy payment on top of the prevailing wholesale price of electricity, which could be as high as 8 Baht per kW in the case of electricity generated from solar energy. Provided that the adder rate would be in fact fall on the consumers in the form of Ft rate included in the electricity price which varies according to the costs incurred to EGAT, it could put too much burden on the consumers. As a result, recently in 2015, the Energy Regulatory Commission has implemented the Feed-in-Tariff (FiT) policy to replace the adder rate structure for the purchase of electricity generated from renewable energy, which would be applicable particularly to the applicants whose applications for the license to operate the SPP have not yet been accepted under the adder rate scheme.

3. Promotion for Solar Business in Thailand

In December 2014, Thailand Board of Investment (BOI) has announced new incentives to promote the investment in renewable energy projects. Under the BOI's investment promotion scheme, solar business would be granted incentives of an eight-year corporate income tax exemption, accounting for 100% of the investment (excluding cost of land and working capital); exemption of import duty on machinery; exemption of import duty on raw or essential materials used in manufacturing export products for one year, which can be extended as deemed appropriate by the BOI; and other non-tax incentives.



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II. Recent developments on solar power policy and legislation in Vietnam

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The government of Vietnam has mostly focused its renewable energy plans on wind energy and biomass production but recently, solar energy is starting to take center stage, aptly so in a country with high solar irradiation levels.¹ According to the Asian Development Bank, the total technical potential for solar power generation in the country is around 13,000MW, but as of 2015, the total installed solar capacity for power generation is only about 4MW, used mainly in research and rural electrification.²

National targets

Starting 2015, there has been several key developments in the solar energy sector. On 18 March 2016, the Prime Minister approved the amendments to the *National Master Plan for Power Development in the 2011-2020 period with vision to 2030* under Decision 428/QD-TTg. For the first time, detailed targets on solar power were introduced in this legal document: capacity of 850 MW by 2020, 4,000 MW by 2025, and 12,000 MW by 2030; and share of solar power in total power generation to about 0.5% by 2020, 1.6% by 2025, and 3.3% by 2030.³

Draft decision on solar power development

On 11 May 2016, with the presence of Deputy Prime Minister Trinh Dinh Dung, key government officials met to discuss the draft decision to be promulgated by the Prime Minister on the mechanisms to support solar energy development (the “**Draft Decision**”).⁴ If the Draft Decision is adopted, this will be the first ever solar energy-specific regulation with detailed guidelines and incentives for the industry to be promulgated in the Vietnamese legislation system. At present, regulations on solar power are only incorporated in the general laws on energy, environment and renewable energy projects (e.g., Law on Electricity No. 28/2004/QH11 dated 03 December 2004; Law on Environmental Protection No. 55/2014/QH13 dated 23 June 2014; Decision on Development Strategy for Renewable Energy by 2030 with a vision to 2050 No. 2068/QD-TTg dated 25 November 2015).

The third version of the Draft Decision, which applies to power generation projects using photovoltaic (PV) method,⁵ grants investors incentives existing under current laws, such as:

- (a) Allowing investors to raise capital onshore and offshore to invest in solar power projects,⁶ and solar power projects shall enjoy preferences regarding State investment credit and export credit under current laws.⁷ At present, the maximum loan amount for each project (from the Vietnam Development Bank) is 70% of the total investment and the loan term is maximum 12 years. The preferential loan interest rate will be applicable.⁸
- (b) Exemption from import duties for imported goods forming the fixed assets of the projects, raw materials, supplies and semi-

¹ Asian Development Bank, *Renewable Energy Developments and Potential in the Greater Mekong Subregion* (2015), page 120, available at <http://www.adb.org/sites/default/files/publication/161898/renewable-energy-developments-gms.pdf>.

² Asian Development Bank, *Energy Sector Assessment, Strategy, and Road Map* (2015), pages 8 to 9, available at <http://www.adb.org/sites/default/files/institutional-document/178616/vie-energy-road-map.pdf>.

³ Article 3(a), Decision No. 428/QD-TTg dated 18 March 2016.

⁴ The Draft Decision (version 3) can be found at: <http://icon.com.vn/Portals/0/654-quyet dinh Thu tuong ve dien mat troi.doc> (in Vietnamese only).

⁵ Article 1.2, Draft Decision.

⁶ Article 11.1(a), Draft Decision.

⁷ Article 11.1(b), Draft Decision.

⁸ Articles 7 and 8, Decree 75/2011/ND-CP on State Investment Credit and Export Credit dated 30 August 2011. For the precise interest rate of State Investment Credit and Export Credit: (i) Interest rate of the investment credit loans granted by the State in Vietnam dong (VND) is 8.55% per year; (ii) Interest rate of the export credit loans granted by the State in VND is 6.9% per year (Article 10 of Decree 75/2011/ND-CP on State Investment Credit and Export Credit dated 30 August 2011; Articles 1 and 2 Circular No. 76/2015/TT-BTC providing the interest rates of the investment credit loans, export credit loans granted by the state and post-investment support for difference of the interest rates dated 19 May 2015).

finished products not available in Vietnam.⁹

- (c) Exemption or reduction on corporate income tax in accordance with investment incentives applicable for projects falling into investment incentives under existing tax laws.¹⁰

Solar power projects, transmission lines and substations connected to the national grid shall also enjoy exemption or reduction in land use fees and land rent in accordance with incentives applicable for projects entitled to investment incentives.¹¹

Purchase price

With respect to solar power projects connected to the grid:

Under the third version of the Draft Decision, the Electricity of Vietnam (EVN) or its authorized units is responsible for purchasing all electricity produced from solar power projects at the price of 11.2 US cents/kWh (which is the average of VND 1,800/kWh (around JPY 8.89/USD 0.8) and VND3,500/kWh (around JPY17.29/USD0.16), respectively, the minimum and maximum regular electricity rates prescribed under Decision No. 28/2014/QD-TTg on the structure of electricity retail tariff dated 07 April 2014). This rate only applies to the solar power projects connected to the grid having solar cell efficiency higher than 16% and capacity less than 100 MW.¹²

With respect to solar power projects installed on roofs:

For solar power projects installed on roofs and connected to the grid, the excess energy shall be purchased by EVN or its authorized units at the rate of VND 3,150/kWh (VAT excluded) (around 15 US cents). The price shall be adjusted according to fluctuations in the exchange rate between the Vietnamese Dong and the US Dollar.¹³

During the 11 May 2016 meeting, Deputy Prime Minister Dung requested the Ministry of Industry and Trade (MOIT) to consider the experience of other countries in establishing incentives for solar power development to learn from their experience. He also advised the MOIT and local authorities to identify areas for development of renewable energy resources in their planning to avoid conflict with other plans. With solar energy's untapped yet promising potential and investors flocking in this sector, it seems that the government is very keen to have this draft decision adopted immediately.

⁹ Article 11.2, Draft Decision.

¹⁰ Article 11.3, Draft Decision.

¹¹ Article 12.1, Draft Decision.

¹² Article 2.1 and Article 13.1, Draft Decision.

¹³ Article 13.2, Draft Decision.



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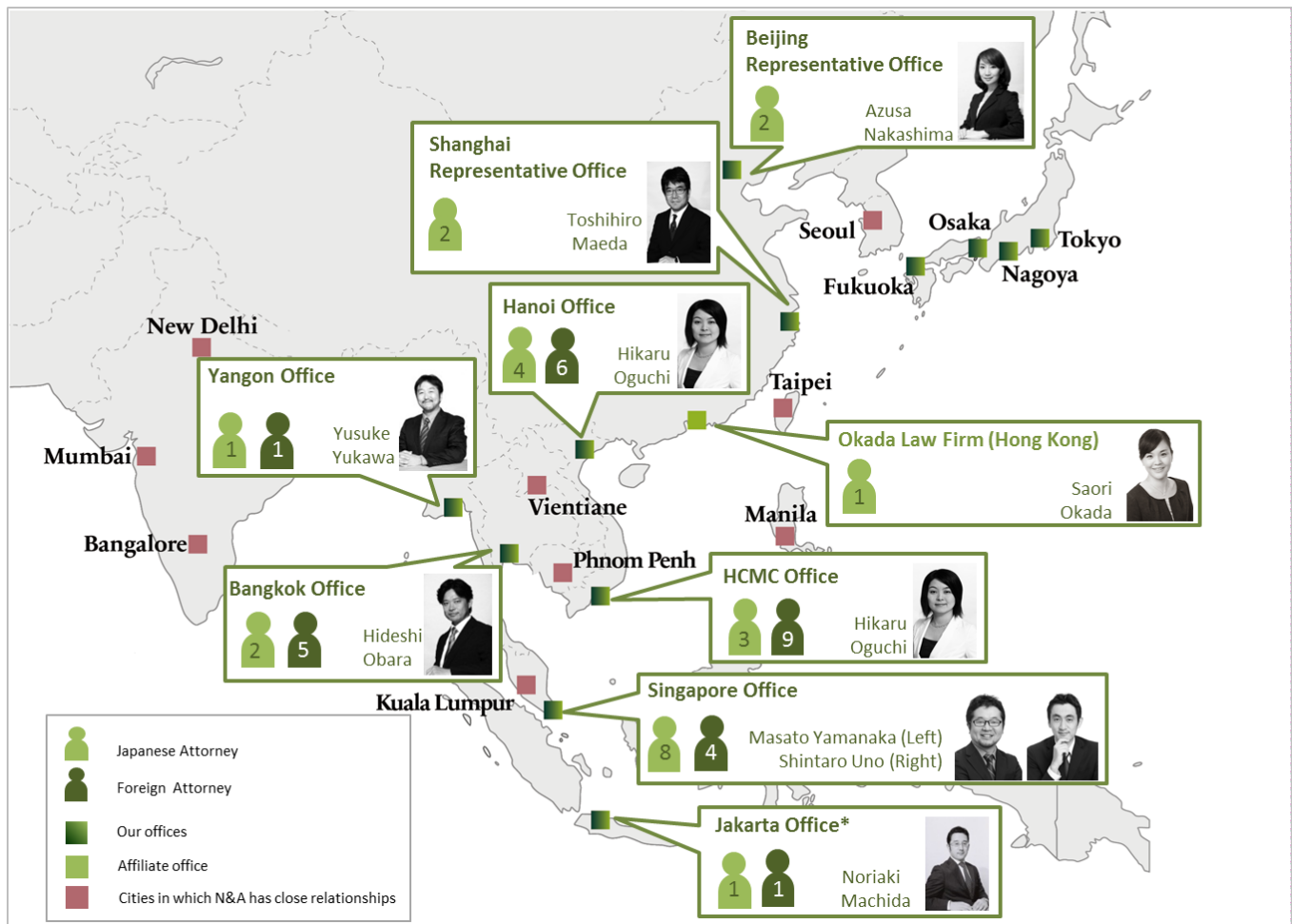


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