

# CHANDLER MHM

## Newsletter

### THAILAND ENERGY UPDATE – MARKET DRIVE TOWARD ROOFTOP SOLAR

#### Introduction

Thailand's power sector is in the midst of a transition towards greater reliance on renewable energy sources. One of the key technologies leading this shift is electricity generated from solar photovoltaic (PV) panels, which have become more affordable in recent years.

Although the Thai government has provided limited opportunities for new grid-scale projects over the past few years, the private sector has developed alternative business structures to take advantage of this newly available source of cheaper energy. By utilizing the space available on rooftops, corporate and industrial (C&I) customers can turn their business places to localized power plants.

#### Overview of business structure

There are a number of different business structures available to rooftop solar developers; however, structuring the project will generally be influenced by tax and regulatory considerations, as well as the commercial appetite to assume investment costs.

In Thailand, the most common business structure for rooftop energy projects is the so-called "corporate power purchase agreement ("PPA")" model. In essence, the C&I customer (the "Customer") will enter into a PPA with a solar developer (the "Developer"), which will sell electricity to the Customer over the course of a period typically ranging from 15 – 25 years. The Developer will assume all development and maintenance costs and will retain ownership of the solar equipment. The Developer will generally be responsible for procuring all permits, licenses and authorizations, either in its own name or in the name of the Customer.

The electricity generated by the rooftop solar installations is generally for self-consumption, with any surplus power being discharged to the grid. Most Customers will want to ensure a steady and reliable source of energy, meaning grid interconnection is still involved in small-scale rooftop solar projects. Thailand does not currently have a net metering program, meaning the surplus electricity which is dumped into the grid is effectively lost. As of yet, we have not seen significant incorporation of energy storage technology in the context of corporate PPA models.

The corporate PPA model is attractive for Customers, since they will not be required to incur any investment or development costs. Other than permitting solar PV panels and other equipment to be installed on the roof of their premises, the Customer has few obligations during the installation phase in the context of the corporate PPA model. However, the model presents certain implementation and logistical issues which need to be addressed, including contract management of the PPA. The Customer will likely not be familiar with the terms and provisions of a corporate PPA, as this is a specialized form contract which is usually distinct from the Customer's primary business activities. In this context, it is worthwhile to provide a brief overview of some of the key provisions to be considered in any corporate PPA.

#### *Payment Terms*

Payment terms will typically be governed by the overall creditworthiness of the Customer, as well as the Customer's expected energy demands. Some of the typical payment structures which we see are:

- i. *Take-and-pay.* the Customer will be responsible for paying for all electricity which is delivered to a fixed delivery point, generally at a fixed rate per kilowatt hour as set in the PPA. The Developer will assume the risk of surplus electricity which is lost to the grid.
- ii. *Take-or-pay.* the Customer commits to purchasing a set volume of electricity over a given period (typically, one month); if the Customer consumes less than this amount, it is still required to pay the

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committed purchase volume for that period. This structure offers the greatest amount of protection for the Developer, but will require the Customer to properly understand its anticipated energy needs, which may be difficult to do over the course of the entire term of the PPA.

- iii. *Discount off utility rate:* the Developer will offer a discount off the rate the Customer otherwise would have paid to the applicable government utility. This structure has great appeal to Customers, since it provides easily calculable savings. The Developer will be assuming the risk of changes to government policy, as well as the Customer's overall energy demand.
- iv. *Overall commitment:* the Customer will commit to purchasing an overall amount of electricity during the term of the PPA, either at a fixed or fluctuating discounted rate. The purpose for the Developer is to ensure it can realize its expected internal rate of return, regardless of periodic fluctuations of energy demand.

We commonly see hybrid payment structures, whereby the monthly tariff includes fixed charges (typically labelled as "capacity charges" or "connection charges") along with a variable charge which is subject to actual consumption.

The payment terms will determine the overall economic benefit that both parties will obtain from the project. Customers and Developers need to carefully consider that the payment structure they have selected is best suited for their particular project.

#### *Transfer and Consequences of Termination*

Since the Developer is the owner of the equipment, upon termination it will need to ensure that it is able to repossess its assets or demand adequate compensation for same. This point is complicated by the Developer's lack of physical access to the equipment, the difficulty in reusing or recycling the equipment, as well as the fact that the equipment may be fully depreciated and have a book value of zero at the time of repossession.

Typical remedies found in corporate PPAs include:

- i. In the event the Customer is relocating from the premises where the equipment is installed, there will generally be an undertaking by the Customer to procure the novation of the PPA to the third party transferee. The Developer will generally retain the right to approve the identity of the transferee.
- ii. A put option for the Developer to require the Customer to purchase the solar equipment. The price should be pre-agreed in the text of the PPA in order to ensure that the transfer price is not the subject of a dispute. As the Developer will often propose the depreciation schedule within its initial draft of the PPA, the Customer should consider the figures carefully.
- iii. A commitment by both parties to uninstall the equipment and re-install same at the Customer's new premises. In practice, this would create a number of difficulties, including determining how to allocate removal and reinstallation costs, suitability of the new premises, etc. Although this type of language is common in corporate PPAs in Thailand, it is not clear whether this remedy has ever been implemented in practice.
- iv. Repossession by the Developer. As mentioned above, however, this will present a number of practical difficulties and limitations.

#### *Performance Standards*

In many grid-scale PPAs, if the project does not achieve commercial operations by a planned date, the seller will be required to pay delay liquidated damages for each day of delay. These delay liquidated damages are generally set in reference to an overall contract price, and are generally capped at a percentage of that contract price. For a corporate PPA, delay liquidated damages are not always included in the text of the agreement. When delay liquidated damages are utilized, however, we see a percentage of approximately 0.1% of the anticipated contract price during the first year of the term for each day of delay, up to a maximum of 10% of that figure. This will effectively allow the Developer to delay for up to 100 days, though this would likely significantly impact the Developer's profitability during the first year of the term. The Customer will generally want to retain a termination right in the event the Developer delays for a period longer than 100 days; without this termination right, the Developer will have no further incentive to proceed with the project in a timely manner once the 100 day mark has been hit and no further delay liquidate damages would be payable.

Additionally, the corporate PPA may have minimum output requirements during the term. The output requirements are not met, the Developer will be required to pay a pre-agreed amount based on the shortfall. This will typically be subject to a cap on the amount payable per year, as well as an overall cap for the amount payable throughout the term.

#### *Forward Looking Clauses*

The rooftop solar business is still young in Thailand, and many rules and regulations have not caught up with business models constructed by private parties. The drafters of corporate PPAs in Thailand often take a forward-

looking approach, incorporating provisions which have no bearing on the parties on the day the agreement is signed but may have an impact in the future, depending on policy changes.

**Net metering.** As mentioned above, Thailand does not currently have a net metering system. Accordingly, investment calculations and payment structures made today may not take into account a net metering scheme. Since the contours of any future policy are unknowable, it is impossible to fully account for any scheme in the corporate PPA. Nonetheless, it is not uncommon for parties to include vague references to the Developer being permitted to sell excess electricity to a government utility.

**Carbon credits.** Thailand does not presently have an effective carbon credit trading market. However, many corporate PPAs include a general provision indicating that the Developer will acquire the benefit of any carbon trading scheme to be implemented at a future date. This appears logical, since the Developer would be better placed than the Customer to maximize returns on the trading of these credits; however, without knowing specifically how any future carbon credit schemes would work, the drafting in corporate PPAs appears to include a fair amount of guesswork.

### **Final Thoughts**

Recent developments have led to an increased use in corporate PPAs for rooftop solar projects in Thailand. In addition to the above points, developers also need to consider regulatory requirements relating to the contents of their PPA. For large-scale rooftop projects, the Energy Regulatory Commission already prescribed certain minimum standards for power purchase agreements, including corporate PPAs.

Although power purchase agreements are not nearly as common as supply agreements or service agreements, the structure of the agreement is becoming more familiar to practitioners. As the regulatory landscape changes and the market develops further best practices, new forms and templates of the corporate PPA are certain to present new issues to contend with.

If you have any questions in relation to the issues raised in this briefing, please contact the authors listed in the right-hand column.

