FINANCING ASEAN SOLAR PROJECTS: WHAT TO LOOK OUT FOR

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The Association of South East Asian Nations ("ASEAN") (1) has set a target of securing 23% of its primary energy needs from renewable resources by 2025. It has also projected a 4% annual growth in energy demand over the same period. If the above projections hold true, energy demand in ASEAN will double between 2015 and 2025 and ASEAN nations will be looking to renewable energy sources to meet a substantial part of this demand. An estimated US$290bn of investments will be required by 2025 to meet the above target (2).

The bulk of new renewable energy generation capacity in ASEAN is expected to come from photovoltaic power generation projects (including rooftop solar (3)), hydroelectric power (particularly for countries along the Mekong River such as Vietnam, Laos Thailand, Myanmar and Cambodia) and, for Indonesia and the Philippines, geothermal power.

Solar power's dominant position in renewable energy generation across ASEAN is not surprising. Most of ASEAN receives an annual global horizontal irradiance (GHI) of between 180-230 W/m2 (compared to the global annual average of 170 W/m2). Moreover, solar panel prices have dropped dramatically in the past decade and some experts predict that the price will decrease further to US$0.25/W within this decade.

The relative ease of capital deployment and lower construction risk profile (as compared to wind and other infrastructure projects) also increase the attractiveness of solar photovoltaic projects.

There is an increasing trend for developers (4) to fund ASEAN solar projects by way of project finance loan facilities. This briefing explores a number of key concepts that developers and financiers should bear in mind when looking to finance solar projects in ASEAN in such a manner.

FINANCIAL ENGINEERING AND RETURNS

While environmental policies and corporate social responsibility are the key drivers for the growth of renewable energy, developers must be sufficiently incentivised to fuel this growth by ensuring that their capital (both debt and equity) is efficiently deployed to generate returns that are stable and meet targeted internal rates of return.

Just as the cost of technology has reduced significantly in the past decade, so too have renewable energy tariffs. All stakeholders across the value chain from technology providers, developers, independent power producers and operators are acknowledging an increasing margins squeeze on recent solar projects. The days when internal rates of return hovered close to 20% are very much over (5).

The renewables business is increasingly concerned with careful financial engineering to ensure that despite lower tariffs, developer can generate sufficient returns to ensure that projects remain viable. Otherwise, the risks and costs of financing outstrip the returns, which creates a standoff between developers and regulators or, ultimately, unfeasible projects that will never materialise.

DIFFERENT LOCAL LEGAL FRAMEWORK, PRACTICES AND INCENTIVES

While ASEAN nations are broadly aligned in their desire to increase their levels of renewable power generation, the relevant national legal and regulatory frameworks, their implementation by the relevant government ministries and agencies and the receptiveness of incumbent utilities and/or grid owners to third-party solar power projects can differ greatly.

The incentives provided for solar projects in each nation also vary. Thailand, Malaysia, the Philippines, Vietnam and Indonesia, for example, have implemented feed-in tariffs to stimulate the growth of solar power generation projects (5) Malaysia, Indonesia, the Philippines and Singapore also have systems and regulations in place that allow for forms of “net metering”, while other countries, such as Thailand and Vietnam, do not.

Developers and financiers should therefore be alive to local legal issues and should conduct thorough due diligence at the early stage of any project, even if they have had prior experience with similar project in neighbouring ASEAN countries or jurisdictions. It is also worth noting that having a suitably experienced and reliable in- country partner is often important to resolve practical issues on the ground and help ensure a project’s success.

GOVERNMENT LICENCES AND PERMITS

The government licences and permits required for solar projects in ASEAN are largely jurisdiction specific.

While each ASEAN jurisdiction is different, the typical licences and permits required include:

- renewable energy developer licences (or equivalent);
- zoning clearance to use the site for the purposes of the project;
- for rooftop solar projects, any building permits for structural changes to be made to the project site for the installation of the photovoltaic equipment (the “PV Equipment”)
- constructions permits;
- electrical, mechanical, fire permits required for the installation of PV Equipment;
- connection licences for connection to the grid; and
- sale licences, electricity generation licences and/or electricity distribution licences (including factory licences in the case of Thailand).

It is also worth noting that in certain ASEAN jurisdictions, the licences and permits required for a solar project are still evolving and (in some cases) the practice of the relevant local government agency or office in granting such permits or licences may be inconsistent. Consulting a suitably experienced local counsel in the relevant jurisdiction will not necessarily avoid these issues – especially where the underlying law lacks certainty or the practice is inconsistent – but it will, at least, highlight these issues early on so that these risks can be mitigated.

Developers may also require the assistance of the site owner or, if different from the site owner, the off-taker/lessee to obtain some of these licences or permits. It is therefore important that the solar developer obtains a robust legal obligation from such counterparty to assist with obtaining the necessary government licences or permits.

LAND ISSUES

A developer's right to use the relevant site for the entire duration of a project is clearly critical to the success of any solar project.

It is, however, equally important to remember that a developer must have suitable rights of access (including easements and rights of way) *to get to and from* the relevant project site and that such rights will need to extend to any third-party engineering, procurement and construction ("EPC") or operation and maintenance ("O&M") contractors (and their subcontractors) as appropriate. The need for timely access to a site – including outside working hours – is particularly important for rooftop solar projects where access to the PV Equipment location will, necessarily, require a developer's (or the relevant contractor's) personnel to access other parts of the site.

A developer's land rights (i.e. rights relating to access to, the use of or (if relevant) ownership of the project site) (the "Land Rights") are a matter of local law. These Land Rights vary greatly between each ASEAN jurisdiction.

It is important to determine the documentary execution and registration requirements necessary to create and perfect the intended Land Rights and to create security over said rights. Land registries/offices in ASEAN nations commonly have prescriptive requirements regarding the form, method of execution, notarisation and the legalisation/confirmation of documents in such cases. Some registries also have translation requirements (or, in some cases, requirements for a document to be executed in the relevant local language). The practical effects of some of these requirements may prompt parties to execute the relevant documents within the relevant ASEAN jurisdiction.

Another challenge in developing countries for Land Rights is the ability to ascertain clean title. Where there is lack of uniformity or structure in land registration or proper record of land ownership rights, Land Rights become an ongoing development risk that must be managed during the lifetime of a project.

It is also important to ascertain and obtain the proper land use rights. Having the wrong land use rights could result in delays to a solar project.

The recent controversy surrounding the legality of developing wind farms on agriculturally designated land in Thailand between the Agricultural Land Reform Office and various developers shows the concern over ascertaining and obtaining proper land use rights.

PROJECT DOCUMENT BANKABILITY

While lenders often conduct bankability reviews of all project documents, they would commonly focus their attention on the relevant power purchase agreement ("PPA") or (if the parties have structured the project by way of an equipment lease) the equipment lease agreement (the "Lease Agreement") for the project.

In the context of a PPA or Lease Agreement, one of the main objective for lenders when conducting their review is to ensure: (i) certainty of payment in respect of the proceeds (including termination sums) payable by the off-taker/lessee to the developer; and (ii) the sufficiency of such payments to, at the very least, repay the financing costs of the project when these are due.

Lenders should also look to evaluate the risks and responsibilities taken on by developers (including any liabilities for subcontractor or third-party contractor actions or works, any change of law or tax risk and "knock for knock" indemnities) to ensure that these risks are appropriately allocated, mitigated and fit appropriately with any EPC and O&M arrangements relating to the project.

SECURITY STRUCTURE

The security package required by lenders will vary from transaction to transaction. Nonetheless, lenders of solar project finance facilities can be expected to require a comprehensive security package, which would typically consist of:

- asset security over PV Equipment;
- security over the developer's rights in respect of the project documents (including EPC and O&M contracts, land lease agreements or licences (or equivalent), PPA/Lease Agreement, (possibly) supplier warranties and, in each case, any related guarantees);
- where possible, direct agreements with the counterparties under the project documents;
- security over the receivables from the PPA/Lease Agreement, project insurance and, possibly, reinsurance;
- security over the lease rights/rights of access to the project site or (if the site is owned by the developer or its affiliate) possibly a land mortgage or equivalent over the site itself;
- account security over the project accounts; and
- share security over the shares of the developer/borrower.

The above security package is often supplemented by a suitable accounts/payments waterfall in respect of proceeds (including insurance proceeds) payable to the developer to ensure that these are applied in an order acceptable to the lenders and that generally prioritises the payment of financing costs over payment to sponsors.

WHAT NOW?

Solar power generation projects in ASEAN are likely to continue to grow for the foreseeable future. A key element supporting that growth will be the financing options available to developers.

In this regard, multilateral banks such as the Asian Development Bank (ADB) and International Finance Corporation (IFC) will have an increasingly important part to play in funding solar projects in ASEAN. The concessionary nature of the funding that such multilateral banks may be able to provide will be attractive to developers. The ADB, for example, announced in June 2017 that it is supporting a 100 MW national solar park programme in Cambodia. It also provided funding for the Bavet City power plant in that country (6) as well as for solar projects in Vietnam and Thailand.

Apart from the use of project finance structures, various other financing options can be used to fund a solar project. There is no "one-size-fits-all" financing structure, but this briefing highlighted some of the key matters that parties looking to finance solar projects in ASEAN should consider.

1 ASEAN member states are: Thailand, Indonesia, Vietnam, the Philippines, Malaysia, Singapore, Myanmar, Cambodia, Laos and Brunei.

2 IRENA & ACE (2016) *Renewable Energy Outlook for ASEAN a Remap Analysis.* International Renewable Energy Agency (IRENA), Abu Dhabi and ASEAN Centre for Energy (ACE) Jakarta. www.Irena.org/publications.

3 In the past eight years, the ASEAN region witnessed 62% compound annual growth in solar deployment.

4 In this briefing, references to the "developer" mean to the relevant joint venture or special purpose vehicle that will act as the project company for the relevant project and borrower under the loan facility rather than the sponsors.

5 Although some industry players still expect double digit returns, which is hard to achieve in Europe: see "Here comes the sun: investors increasingly hot on solar projects in S.E.Asia", Reuters, 7 June 2017.

6 The Singapore office of Watson Farley & Williams advised the sponsors on the Bavet city photovoltaic power plant project – Cambodia's first utility size solar power plant.