

Vietnam's mysterious solar market builds momentum



Southeast Asia | Concerns over Vietnam's power purchase agreement have not prevented a huge number of project deals being signed. Tom Kenning weighs up what progress is being made in putting one of Southeast Asia's most promising solar markets on the map

Few global solar markets are harder to get a consensus view on than Vietnam. One only needs to talk to a handful of people to realise that players looking seriously at this market have highly conflicting views about its current and future progress, what PPAs have and haven't been signed and who's trying to exit them, how many projects are getting financed and, most importantly, the level of risk involved in this fledgling market.

If one were to only take heed of the enormous number of EPC contract, power purchase agreement (PPA) and module supply deal signings being announced in recent months, one could easily infer that the Southeast Asian country's PV industry is flying. Though issues around the PPA have been called "a storm in a tea cup" by Eddie O'Connor, executive chairman of wind and solar developer Mainstream Renewable Energy, with a PPA as controversial as Vietnam's has been, gauging the health of

the market may not be as simple as just counting project announcements.

The seed of this discussion dates back to the Ministry of Industry and Trade's (MOIT) introduction of a solar feed-in tariff (FIT) of US\$0.0935/kWh last year. The market immediately garnered a huge level of interest that saw multiple gigawatts of project applications and potentially billions of dollars ready to be invested before the FIT deadline of June 2019. However, as the draft PPA was circulated, many potential investors started to think again. The Vietnam Business Forum (VBF), an umbrella group for all international Chambers of Commerce, went as far as to openly declare the PPA as "non-bankable".

Ultimately it comes down to an international developer's appetite for risk. Whether the frontrunners are industry leaders, players with deep pockets, or straight up cowboys, reports of the number of PPA signings suggest that its shortcomings

Debate has raged over whether Vietnam's PPA will act as a deterrent to solar developers

have not completely knocked the market on its head.

Oliver Massmann, general director at law firm Duane Morris, declared at the ASEAN Solar + Storage Congress, in Manila, the Philippines, in November, that 35 solar PPAs have been signed in Vietnam as of September 2018, accounting for 2,271MW of capacity. Although *PV Tech Power* was unable to get MOIT to confirm the numbers, other developers said it was reasonable to believe that the correct figure is around this level.

However, progress at the next step of raising financing is even more opaque and it's not clear which players are successfully raising finance and with whom – particularly as international banks see so many risks in the PPA as it stands. Another important insight from several industry insiders is that some players are actually trying to get out of their PPAs. Yet it's important to note that this worrying situation, if true,

comes against a backdrop of enormous optimism from a host of players – many of them heavyweights in the industry who are at very late stages of developing their projects. Renowned Singapore-based developer Sunseap Group, for example, has already started constructing a 168MW project in Ninh Thuan Province and this should give comfort to others.

Crystal ball

“It’s a bit of an unknown future, you need a crystal ball to figure out what exactly will happen, but what we can see now is that a similar trend is happening in Vietnam to what happened in the Philippines for example,” says Milan Koev, vice-president, international business development, at Sunseap. “The government did a great job by coming up with an attractive FIT and they’ve got more project applications than what they expected. We are seeing a short-term boom and I think going forward things will change, with either a lower FIT or an auctioning system and this will cool down a lot of investment aspirations for the country.”

In spite of the long lines of naysayers, some developers, including Sunseap’s Koev, believe Vietnam will be the biggest solar market in Southeast Asia and they have been impressed by government policy in recent months, having initially been taken aback by the PPA issues. Views from the one of the world’s largest PV module suppliers alongside perhaps the world’s largest solar EPC go some way to backing up this claim.

Firstly, Ku Jun-Heong, senior sales director Asia Pacific and Middle East, at Chinese PV manufacturer, Trina Solar, says: “For Asia Pacific, the higher demand we are seeing is coming from Vietnam right now, and Vietnam also has a sudden target of volume commissioning of projects by end of June 2019, so we are actually getting big volumes from customers.”

However, the challenge for Vietnam is that it has not done any utility-scale PV projects before, says Jun-Heong, and so the test of implementing its first few hundreds of megawatts of projects is that the typical local developer has no experience and there are difficulties with financing, as discussed later in this article.

Echoing Trina’s sentiment, Vikas Bansal, head of business development, solar international, at Indian EPC firm, Sterling & Wilson, says: “This year Vietnam has been a fantastic market. We were all expecting last year that Vietnam would open up but,



Sunseap CEO, Frank Phaun, and Vietnam prime minister Nguyen Xuan Phuc, shake hands over Sunseap’s 168MW PV power plant in Vietnam

finally, it has. We are constructing roughly 300MW of plants in Vietnam and even next year Vietnam is going to remain very active in PV.”

PPA prang

The debate about the PPA has been raging for more than 18 months now, with fears circulating around curtailment and compensation, dispute resolution without international arbitration and a lack of clarity over ‘take or pay’ agreements, to name a few. However, initial dislike of the parameters of the solar PPA has tempered somewhat, as investors come to terms with the fact that 2GW of PPAs for hydroelec-

economies in the world, is facing an energy crisis with demand projected to go up by 11.4% between 2016 and 2020. This means it is not in EVN’s interest to curtail power, although grid challenges are already surfacing.

The prime minister is intimately involved in the future of electricity in Vietnam, says Eddie O’Connor, which is a positive sign.

Nonetheless, the termination clause, under which EVN could unilaterally terminate the PPA without paying any compensation, is “a big one to swallow for bankers”, says Olivier Duguet, CEO of Singapore-based wind and solar developer Blue Circle. He describes the PPA as the “elephant in the room”, but given the 2GW of hydro signed under the same terms, the Vietnam government does not see a need to update the PPA, he says, while there is also consideration in supporting local developers over foreign ones at this early stage of the market and this is partly why the lawmakers lack urgency in amending the PPA.

Financing

“From an international bank point of view there’s a lot missing from the PPA,” says Raphael Chabrolle, senior vice president, Sumitomo Mitsui Banking Corporation (SMBC). “No compensation for grid curtailment means banks need to do big grid studies.”

Local banks are more relaxed and really the go-to option for financing, while

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tric power in Vietnam have been signed under almost exactly the same terms as the solar PPA over several years. Moreover, the state-run monopoly utility, Electricity Vietnam (EVN), has never defaulted on a PPA involving foreign invested IPPs, and Vietnam, one of the fastest growing

Credit: Sunseap

foreign financiers, for whom investment is more challenging, are looking at ways to share their risk before diving in, adds Chabrolle.

Thus, besides the PPA, financing is yet another hurdle.

"There are a lot of developers who are struggling with financing for Vietnam, but I'm not sure whether this is down to their ability to finance projects or if it is a country-specific issue," says Sunseap's Koev. "It is a very thin border between investment risk-taking appetite and developers' ability to convince those investors that projects are indeed bankable. Everyone knows the current PPA is troublesome, but there are a lot more other specific items on the agenda for every investor to look into during the project due diligence, and above all I believe the relationship with EVN and MOIT is what really matters beyond the numbers."

Trina's Jun-Heong says that it takes players a long time to get financing, and contrary to others' claims, he believes local banks do not see solar projects as having a good return on investment.

Big Vietnamese conglomerates like TTC group and Thai giants like B.Grimm Power are dominating development on the larger projects, but there's less visibility at the smaller scale.

Unlike Koev, who says market will be much smaller post 2020, Jun-Heong compares Vietnam to Thailand in its early days of 2011/12 when there was a steep learning curve for EPCs. After this round of project construction and commissioning by the end of June 2019, he expects that there will be a sizeable group of developers and EPC companies who will pick up the necessary experience and capabilities over this time to continue that momentum.

Patrice Clause, COO and head of international business, at growing Filipino firm AC Energy, believes that the government has handled the industry well so far and that the unfortunate lack of international financing appetite may only hit market deployment by hundreds of megawatts rather than gigawatts.

The hot provinces

For now though, much of the planned PV projects have been centred around just two provinces, Binh Thuan and Ninh Thuan, the latter of which has been granted a lengthy extension for its FiT up to December 2020. Binh Tuan has also called for an extension, according to local reports. These provinces have benefitted from having explicit PPA

policies and a significant chunk of development progress has been down to individual province policies rather than just central government incentives.

However, some steps of approval are opaque especially at provincial level and even just for doing a survey on the land, says Pranab Kumar Samah, CEO, UPC Solar Asia Pacific.

"If those things can be standardised, some of the development cost will be reduced significantly," he says. "So from there until to the time you get construction permit, if everything can be done through a single window system - some other countries are doing that - that will practically sort out a lot of the development cost."

Samah also claims that central and local governments are not working coherently and there are many arguments ongoing between them

Grid trouble

Clustering of projects is a big problem in Vietnam, nowhere more so than in Ninh Thuan province, which has a 2GW pipeline of solar projects but an existing grid capacity of just 650MW.

"Binh Thuan and Ninh Thuan are the main hotspots and this has created a huge issue of grid access," says Duguet. "Wind and solar are already fighting each other for access to grid, which is key to the FiT deadline."

He advises other developers not to put their eggs all in one basket and to consider developing projects in other provinces even if they have lower irradiation.

However, Eric Liu, GM of Vietnam, at China-based PV manufacturer and developer, Risen Energy is more upbeat: "Of course, there will always be problems, but there will always be solutions. Now the power grid capacity is not enough to support so many projects, so the key is to upgrade the EVN's power grid."

Post-FiT

The industry is watching closely and preparing for the next step, with much speculation on whether the FiT will be extended for more provinces than just Ninh Thuan, as well as whether the FiT will be reduced or if an auction system might be brought in.

"In my opinion I think the extension will only be for Ninh Thuan province because this is the poorest of the provinces in Vietnam and there's no other industry or any sectors that can be developed in this area - just only the energy," says Mai Van

The EPC challenges of building in Vietnam

Eric Liu, general manager for Vietnam at China-based PV manufacturer and developer, Risen Energy, which has bagged several hundred megawatts of EPC contracts in Vietnam in recent months, discusses the unique considerations of constructing a solar project in Vietnam.

What challenges are there for setting up in Vietnam's climate?

Eric Liu: Wind pressure, high temperate and high humidity needs to be taken into account. The salt and alkali resistance also needs to be considered.

What O&M challenges do you expect there to be?

The operation and maintenance period mainly relies on reasonable operation and maintenance plan and experienced human resources. Furthermore, the operators in Vietnam need to be trained to learn and experience more about PV station operation.

Do you see any module choice trends or expectations of which module technologies work best in this country?

Now the polycrystalline PV module is popular in Vietnam. However, because of the shortage of the land, high performance PV modules will be used in Vietnam more and more.

Trun, business development director at Vietnamese firm, SolarBK. "After June 2019 of course I think the FIT will decrease and anyone who misses deadline will have a lower FIT."

Corporate PPA and storage

A direct corporate PPA is being worked on for Q1 2019, says Massmann, and once that PPA comes in, it will be a huge opportunity, since commercial and industrial (C&I) projects are seen as more bankable in this climate.

Massmann says the government is working on a pilot programme for such a corporate PPA, but it is still at the research and study stage. There have been no final decisions on capacity, licensing process, participants, location, wheeling fee and contractual terms, he adds.

On the energy storage side, Samah notes that there have been some suggestions that upcoming projects should have a certain percentage of their capacity supported by intermittency storage requirements.

Both corporate PPAs and storage would be a boost for the country's clean energy goals, but with 120 solar projects approved by MOIT with a total capacity of more than 4.7GW, large-scale solar remains the dominant focus and the global sector will be watching closely to see how many projects are actually built on time as the potentially lucrative FiT hits its deadline midway through 2019. ■