Land of the rising shadows

Japan | At the end of 2018 the Japanese government caught solar developers by surprise with a raft of punitive regulatory changes. Tom Kenning reports on the short- and long-term impacts these could have on the country's PV industry

Credit: Sonnedix Japan

Renowned as a stalwart in stable policy making, Japan gave its solar industry the shock of its life towards the end of 2018. Having divvied out projects with some of the most generous feed-in tariff (FiT) subsidies seen across the globe starting in 2012, many winning developers had been happily biding their time as they navigated the traditional Japanese PV struggles of land acquisition and transmission. Alas, last November the government decided it had done enough waiting and took decisive and shocking action with its threat of cutting those existing subsidies, much to the anger of developers.

Nobody can predict how much contracted capacity will be junked by the regulatory change, but the expectations are that it will number in the gigawatts. A sense of panic around the FiT changes, combined with a disappointing round of auctions, caused by a gap between government and industry expectations, particularly over ceiling prices, has cast a grey mood over the sector. Not helping brighten things is the fact that bankruptcies among solar companies reached an all-time high in 2018, according to one research firm. Yet, as ever, not everyone is set to miss out, with plenty of vulture-like opportunities to grab hold of flagging projects at cutthroat prices.

Granted, there has already been an industry-wide shift from utility-scale to residential rooftop and self-consumption models in Japan over several years and the ensuing focus on energy storage particularly as well as electric vehicles (EVs) is in progress. Nonetheless, opportunities for large-scale solar are far from over despite the sector's current predicament, as the country continues its push for alternative energy sources in the wake of 2011 Fukushima disaster.

FiT shock

Last November's FiT announcement by the Ministry of Economy, Trade and Industry (METI) angered power producers and investors, who said the cuts would undermine their projects' profitability and violate earlier agreements. Previously, project rights holders with FiTs were allowed to keep those projects for as long as they desired, but METI mandated PV projects that had been granted permits between 2012 and 2014, under the FiT scheme, to submit applications to connect to the grid by March 2019. Players that fail to meet the deadline would have their tariffs cut by up to half from JPY32-40/kWh (US$0.29-0.36) to just JPY21/kWh (US$0.19).

The threat of reduced feed-in tariffs has added to a sense of gloom within Japan's solar industry

METI revealed that 23% of the capacity approved in 2012 was not yet operational, as well as 49% of the capacity awarded in 2013 and 59% from 2014. It also claimed that its move would be protecting consumers from higher costs of electricity, but the plan will no doubt result in legal disputes over what many have described as retroactive changes; reminiscent of, but not as destructive as those of the Spanish government in 2012.

In the aftermath of the announcement

and taking into account the pleas of the industry, METI decided to delay the deadline for projects of 2MW capacity or more to the end of September 2019, whilst also delaying the deadline for start of operations by six months to the end of September 2020. It also relaxed the rules so that projects that are already under construction would not be subject to the new regulation, significantly reducing the potential number of legal challenges.

"It's a very interesting moment, but it has really shocked and lots of people are panicking around the market here, especially the project rights holders with the higher tariffs," says Shinichi Kato, representative director and CEO, juwi Nippon Energy KK. METI jumped into the new rule, "retroactively damaging the rights holders" by threatening to cancel their rights without clarity on whether a project's construction had already started or was near completion, he adds.

For Kato, the government is so strong in its motivation to lower tariffs quickly that, given the cost being passed on to consumers, it is willing to press on despite the clear threat of legal challenges. Nonetheless, from the developers' point of view, the move is far too sudden and is extremely harmful, particularly to those who have already spent large amounts money on preparing permits or grid payments. Despite the relaxed rules, a number of in-development-stage projects, including some very large-scale projects of 50-200MW, will still find it difficult to proceed due to land or environmental issues, says Kato.

The rule that projects must be commissioned within one year of the grid connection permit or face a reduction of the FiT period is the real threat for Kato. It means that after the deadline, the longer the construction period takes, the shorter the FiT period is to be applied. Even rescued projects, that were expecting a three-year window, after another shock announcement from METI in April 2017, now face a one-year commissioning period; this while all in the face of classic Japanese headwinds such as requiring huge civil works to flatten land, building on mountains, or securing grid connection, all with high costs. Delayed projects may simply become economically unviable as a result says, Kato. Grid connections can be particularly time consuming and costly as the PV developers share the grid expansion with the utility, which all makes

Banks have become more cautious about providing loans for greenfield solar projects in Japan

Credit: Sonnedix Japan

projects not receiving the full 20-year FiT more likely.

"So 21 yen plus less than 20-year FiT price... almost all projects may not be economically viable anymore," Kato adds. "That's the reality."

However, Kato explains that rather than letting projects falter to zero value, an alternative option now is for affected developers to cash out by selling their in-development projects to new entrants who can come in and turn around a project's fortune, but price negotiations are likely to be very harsh.

"It's a new rule and it's really damaging, but on developers like ourselves who are newcomers here, we don't have any backlog or any projects already on our balance sheet," says Kato. "We try to capture any panicking sales guys with a deep discount negotiation and we try to pay as low an amount as possible to get the project rights cheaper because at the end of the day, the worst case, the 21 yen FiT, plus shorter FiT is really killing the project. That's why in order to be viable to revitalise the project, only a deep discount almost at dumping price is really making sense for us."

Given the new deadlines to receive the full FiT, time is of the essence and this means 100% cash equity purchases are more suitable than borrowing from banks right now, so as to speed up the financing process, adds Kato, who also claims that the market appeared as of early January to be already moving very fast in terms of projects rights holders trying sell.

"We have witnessed a reduction in players in the Japanese PV market as the FiT drops," says Kageyama Tomomichi, representative director of developer and asset manager Sonnedix Japan. "This has translated into short-term players assessing the Japanese market as less attractive, and therefore shifting to other sectors or technologies. Likewise, it has deterred other players for whom solar development is not their core business."

Sonnedix Japan currently has 14 projects in the country with a total capacity of nearly 500MW, of which nearly 200MW are under construction.

"The recently announced regulatory changes have added complexity especially to the development and financing of valid and well-managed projects. Even though we continue to meet our expected timescales to deliver these assets to completion, we believe that the change has increased uncertainty in the industry," adds Tomomichi.

Although it is understandable that the government wants to clear the slate in terms of project backlogs, Franck Constant, president of PV developer and investor, Constant Energy, notes that the rule changes were "quite harsh".

Debt dried up

The debt market in Japan for greenfield projects has all but ceased since the end of October, says Constant, so any projects that were about to get debt for start of construction were put on hold. The banks have been watching the rule changes closely before deciding what actions to take.

Japan has more than 60GW of solar deployed, with 20GW having rights to PPAs that are not yet built. Of this 20GW, Constant estimates that between 5-10GW

(25-50%) of the projects could be killed, with many yet to secure land or forestry permits.

Kato says the debt has not dried up completely, but the banks are ceasing to process loan transactions, and there is a fairly aggressive attitude prevailing of turning down every request. As a result it may take some time for banks to start lending to the market again.

"The project finance base or non-recourse base is difficult, so 100% equity is definitely a winning game," he says, expecting what he describes as low quality and low credit players to be eliminated from the market.

Litigation chances

Data from private research firm Teikoku Databank has shown that bankruptcies among solar-power firms reached an all-time high in 2018. A total of 95 firms went bankrupt last year, up from 88 in 2017, 67 in 2016, 38 in 2015, 20 in 2014 and 16 in 2013. Teikoku said the upwards trend was likely to continue, driven by the woes of the FiT cut.

Offering a legal perspective on the fallout, Hajime Kanagawa, founder, Kanagawa International Law Office, says that after METI announced its plan and was targeted by many lobbying efforts from developers and financiers, who thoroughly opposed it, the ministry's response was very stubborn as it was under big pressure from the government and politicians. Kanagawa says that even though the industry felt the move was too harsh, METI itself had actually pushed back against the original plans suggested by politicians, so their new rule was more of a middle way.

METI's reasoning was clear: that project developers were sitting on high FiTs while enjoying the swift reduction in solar module prices. Meanwhile, non-operational projects that had secured grid connection were causing a suspension in the development of grid capacities in Japan. Nonetheless the larger projects require a much longer time to start construction and financiers could see few positives in the changes, leading to a high potential of legal challenges.

Despite METI's relaxation of the rules after a few weeks of intense pressure from industry and mass media, many market players still feel this provision is not sufficient, but to some extent the litigation order has been mitigated and several projects will be saved under the new grace period, says Kanagawa.

Discussing the prospects of under-development project acquisitions, he adds that this is a good chance to obtain a new project at a cheaper price.

"Of course they have to be very careful whether those projects can be feasible or not," Kanagawa says. "Timing is very, very tight. My view is that as a result of the introduction of this new rule, many market players will focus on the secondary market."

Auction angst

Three solar auctions have been conducted to date, with an original plan to secure between of 1-1.5GW in capacity. However, the auctions faced drawbacks.

The first auction in November 2017 saw just 140MW awarded out of the 500MW on offer, with an average tariff of JPY19.6/kWh (US$0.18).

The second auction, in September 2018 saw 197MW of awarded capacity out of 250MW available with a lowest bid of JPY16.47, but this was higher than the JPY15.50/kWh ceiling price put down by METI.

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In the third, most recent auction in December 2018, another 196.6MW were awarded with an average price of JPY15.01/kWh (US$0.14) and a lowest of JPY14.25/kWh.

"Currently there is a gap between the government and the sector in terms of where the market actually resides and future expectations," says Tomomichi. "This is in terms of the bidding price and the process implemented (in terms of bonds and terms of withdrawal). All three rounds had a ceiling price (this figure was not disclosed for the last two), which is not necessarily in line with what the market sees today as a figure that economically makes sense for the Japanese market. This disparity resulted not only in the [lesser] amount of megawatts that were finally awarded but also in the number of bidders who withdrew from the process."

Sonnedix Japan has yet to participate for these reasons, but Tomomichi is confident that the government and the sector will find a common path ahead.

Despite the early disappointments in terms of trying to drive the price of solar down – the auction rates were higher than recent prices in parts of northern Europe – Kato thinks this model will eventually deliver the sought-after cost reductions.

Tomomichi is also optimistic that the Japanese government's priorities can be fulfilled while also reinforcing Japan's reputation for stability.

Some cause for hope

It was an unusual move from Japan because a lot of people were basing their investment on the steadiness of the regulation, compared to some southern European countries for example, says Constant. So regulatory risk perception has now increased in Japan. However, Spain's retroactive FiT changes back in 2012 were far more damaging and now developers are pouring back into Spain to invest in both wind and solar, with different corporate PPAs and going into the pool market, with different off-taker risk profiles.

"So it's unfortunate as there are still a lot of projects to be done, but it doesn't jeopardise the future of goals for renewable energy in Japan," adds Constant. "Japan will recover and there are a number of opportunities in decentralised solar development and storage in the future. Penetration of renewable energy will continue to increase and this creates all kinds of need for balancing tools, especially storage batteries, so I think there is still some bright future in Japan for deployment of solar, wind and battery storage."

Kato agrees that market expansion will slow down in the short term, but he has a less optimistic view in that he believes the METI move was about shifting the focus from solar onto other alternative energy sources such as wind and biomass, since the progress of overall solar deployment has actually been too fast rather than slow. Thus, the number of players in the market is likely to continue to decrease and competitive elements such as having EPC and O&M capabilities, as well as access to lower priced module makers, will become increasingly important. ■