MARKET WATCH

Back from the brink

Commercial solar | After a series of hammer blows, and against the backdrop of Brexit uncertainty, the UK solar industry appears to have found some joy offering long-term contracts and self-consumption systems to commercial clients, a sector it had previously found hardest to crack, writes John Parnell

Credit: Lyreco

Commercial solar is one of the few bright spots in the UK's beleaguered solar PV market

In its heyday, the UK solar industry employed more than 25,000 people. A generous feed-in tariff (FiT) created a residential market that remained steady, even after a series of cuts. Likewise, the Renewable Obligation, a certificate based scheme, was gradually closed to solar, first for projects over 5GW, with the last sites to be completed under the system next year.

The market segment that never quite got going was commercial-scale solar. This is despite a promise from the then energy minister Greg Barker, oft-quoted in our UK sister publications, to put "rocket boosters" under it. A few regulatory hurdles were cleared, the red-tape was reduced, but the shrinking subsidy support had appeared to kill the sector dead even before it had got going. Rumours of its death were, it seems, premature.

The commercial-scale market is now the most vibrant in the UK with three distinct models offering customers compelling reasons to pursue solar. Installers looking to scale up, and developers looking to scale down, are now competing for capacity and adjusting to the new conditions.

Businesses in the UK, like consumers, have faced rising electricity bills. The per-unit cost of electricity for business customers has risen 37% in five years. Meanwhile, National Grid's assessment of the amount of spare generating capacity on the network has been consistently shrinking. Fears over the security of supply are either very real or totally overblown depending on who you ask. But the fact the question is being asked is sufficient to make some nervous.

The UK's domestic climate policies, not affected by Brexit, also mean that decarbonisation is being encouraged via a number of taxes and other obligations placed on businesses and new infrastructure. Blue ticket British brands like Rolls Royce, Marks & Spencer, Bentley, Sainsbury's, Jaguar-Land Rover and British Telecom have already turned to solar as part of wider decarbonisation efforts.

This has all helped to create a receptive marketplace for businesses looking to reduce cost, risk and carbon.

The third-party finance approach

Office equipment retailer Lyreco decided to install solar, largely swayed by the green credentials that come with it. Jordan Mawbey of UK installer EvoEnergy, which delivered the system, explains the client's motivation.

"They have a carbon emissions target that they're trying to hit, and this is something they were looking at to satisfy that strategy," he says. "I think the electricity savings were a part of it, but it was more about however many tonnes of carbon the company were going to save during a given period of time. It was about who could give them the best solution to help them meet their targets. The PV solution alone isn't going to do that, but it's going to have a significant reduction."

The client didn't want to fund the system upfront and was, from the beginning, looking for a power purchase agreement (PPA) model.

"PPAs are starting to take off and get a bit of traction within the industry," Mawbey says. "When the cuts happened the external businesses thought it was technically dead and I think some people turned their back on solar for a little while. I think it was also a case of making the PPAs work with the funding companies. They had to almost remodel how a PPA could work. Prior to the FiT cuts, you could almost save 50% on people's current rate, but now you're lucky if it's even half a penny less than what they're paying, but that makes a massive difference."

"I think the market still needs to be educated on PPAs, and I think there are still a lot of people that aren't aware of them," he adds citing a recent experience at a trade show for the logistics industry where even some very large corporations were unaware of what a PPA could offer them.

Mawbey points out the use of a third-party finance partner means additionally stringent technical requirements. "They are very strict and very demanding on the type of technology we use. It's very important that we do use quality suppliers in all these installations."

Private wire

For those with larger energy consumption, a variation on the PPA model can offer further reductions in the unit cost of energy. A private wire project linking a larger ground-mounted project directly to the source of demand can offer more capacity than a rooftop can, literally, support. It also reduces losses through transmission and, in most cases, cuts down grid connection costs. The connection is done at the point of the customer's grid connection meaning they are typically responsible for its maintenance. UK

MARKET WATCH

grid connection charges for greenfield solar projects can hit seven figures and ultimately prove to be a limiting factor.

The crucial component is limiting the distance between the customer and the project. In 2014, a British Telecom research centre supplemented its own on-site array with a 20-year deal to acquire all the power from an 8MW solar farm just a stone's throw away.

Belfast Airport has a 25-year PPA that sees it take all the power from a nearby 4.83MW system. The developer and financer behind that project, Lightsource Renewable Energy, is aggressively pursuing opportunities in this space. Former energy minister Lord Barker has also been supportive saying that private-wire projects offer a unique opportunity in the absence of subsidy support. Lightsource has gone one further saying that it is the only way it can finance utility-scale solar in the UK under the new policies making it less a choice and more a necessity.

Self-consumption

In the absence of a compelling feed-in tariff and reduced export tariffs, the incentive to consume as much power on-site, instead of paying the going rate, is increased. With an upfront investment from the site owner and a responsible installer that can match their demand with the right system, attractive returns can be achieved.

The site's huge energy demand (it's a 1km-long warehouse with around 300 conveyor belts) is higher during the night. Designing a system based only on total consumption, and not time of demand, would have resulted in much of the electricity generated during the day being exported. The local grid operator, however, said it would need to severely curtail export.

"We used the positioning of the modules, allocated them optimally, to make sure we weren't overloading the model, and to provide constant electricity," says Nick Spicer, COO of Your Group. "So actually you've probably got a split of between 50% of the system being on the southerly aspect, and we used all aspects of the building to enable them to generate throughout the day. Rather than having a peak power time such as a solar farm, where in the middle of the day it's optimally producing, you're drawn to dissipate the generation throughout the day to offset as much electricity as possible. And that's how – through the design – we got to 97% on-site consumption."

The reduction in carbon contributes to the client's obligations under UK carbon reduction regulations. The return on investment is estimated at just over 13%.

Outlook

While the uncertainty created by the UK's vote to leave the European Union has done nothing for the appetite for renewable energy investment, assets backed by longer-term contracts are being viewed more favourably.

'Big Four' consultancy EY issued a bleak forecast for renewables investment in the wake of Brexit but said that the growing number of assets backed by long-term PPAs, which by their nature are stable, had buoyed the market.

Falling wholesale energy prices mean that PPAs can offer asset owners a better return than the market while end users, who tend not to have those whole price reductions passed down to them, can undercut traditional suppliers with a long-term solar deal.

The apparent ability of the PPA model to survive such uncertainty in a country offering negligible support should provide encouragement to other markets looking for a means to kick start business directly with commercial customers of all stripes. ■

The opportunities in the UK commercial solar sector will be one of the key themes of Clean Energy Live 2016 on 4-6 October in Birmingham, England. Organised by PV Tech Power's publisher Solar Media, the event is the new face of Solar Energy UK, the largest and longest running solar trade expo for the UK market. Further information on the event is available from cleanenergylive.co.uk

Inside Lightsource's Belfast Airport PPA

Credit: Lightsource Renewable Energy

Lightsource maintains direct PPAs such as its one with Belfast Airport is now the only route to market for large-scale PV in the UK

Speaking to PV Tech Power's UK sister website, Solar Power Portal, Nick Boyle, CEO of Lightsource Renewable Energy, explained the scale of the changes on his business. The company had been putting in place a commercial & industrial solar division but the UK subsidy cuts gutted the business model.

"We have laid off everyone in the C&I sector, simply because it doesn't work financially. If we can't get it to work it, because of our buying power and our market position, it would be a gutsy assumption to think that any, or many, other entities can get it to work," he said.

The company had grown off the back of its utility solar business but had been building both residential and commercial units at the time of the cuts.

"Our skillset is clearly in large-scale solar: the finding of, developing and building of large-scale solar. With no tariff [there is] an absolute inability to get a financial arrangement to work where we just plug it into the grid," he added.

Boyle was quoted by the government as having said on the record that utility-scale solar could work without the tariff.

"Despite the government quoting me as saying that, what I actually said is that hard-wiring large-scale projects behind the meter is doable for large, bankable counterparties where we can go and raise the finance to allow us to do that. The finance has to be at a competitive rate so the counterparty is important. How large that market is, is dictated by how many large, bankable counterparties there are and how many of them have large fields adjacent to their operations. It's a fairly small market," he explained.

Boyle also points out the additional complexity of negotiating each individual deal with each counterparty versus the more straightforward process of developing a site, connecting to the grid and claiming the applicable revenue and subsidies.