How Spain's post-subsidy surge is a sign of things to come for Europe

Europe | Subsidy-free solar is changing the fortunes of the Spanish solar market, which had experienced the deepest of slumps. All the signs suggest the rest of Europe will be next, regardless of how the trade row plays out, writes John Parnell

Credit: Getty/jinoqueron

The boom-bust cycles of solar have arguably been demonstrated most violently in Spain. In the space of a few years the government went from taking out newspaper adverts encouraging people to invest their pension pot in solar, to effectively criminalising self-consumption.

Feed-in tariffs were ditched retroactively, investors large and small were left stranded. The big beasts, including Masdar, E.On and RWE, went to the courts; the little guy went to the wall.

The investor and owner of one commercial rooftop plant famously ran the numbers, and sent the keys back to the bank, abandoning and literally stranding their asset.

The major utilities in the country were mothballing gas generators and were owed billions by the Madrid government. The global economic downturn had strangled growth and cut power demand forecasts. Jettisoning solar capacity helped to maximise the number of kWhs the incumbent utilities would need to sell.

After the dark days of the so-called sun tax, of protesters in prison stripes opposing fines capped at €60 million for self-consumption of PV, of levies designed to make systems not just unprofitable but unaffordable, now Spanish solar has something to cheer about.

But Spain remains a cautionary tale and the reaction to its recent revival speaks volumes about the direction solar is moving in more generally.

The government turned Spain's solar landscape upside down and its recovery is largely in spite of rather than because of the authorities in Madrid

Barge poles

On the sidelines of Solar & Storage Live, organised by *PV Tech Power*'s publisher Solar Media, a panel of infrastructure investors were chatting about their approach to European markets.

Spain had announced a round of gigawatt-scale tenders, keen to take advantage of the low power prices being realised elsewhere while also ensuring its commitments to Brussels would remain on track. A total of 3.9GW of solar was awarded a contract.

So would these London-based investors be keen to get involved with the tenders? 'We'll definitely be investing in Spain next year but we won't have anything to do with the tenders. We won't touch them,' was the message that very strongly came through.

The Spanish government's track record for flip-flopping from advocate to executioner has not been forgotten. It was between a rock and a hard place, tough decisions were required but the breadth and depth of the cuts, plus the hefty fines, have left a bad taste in the mouth.

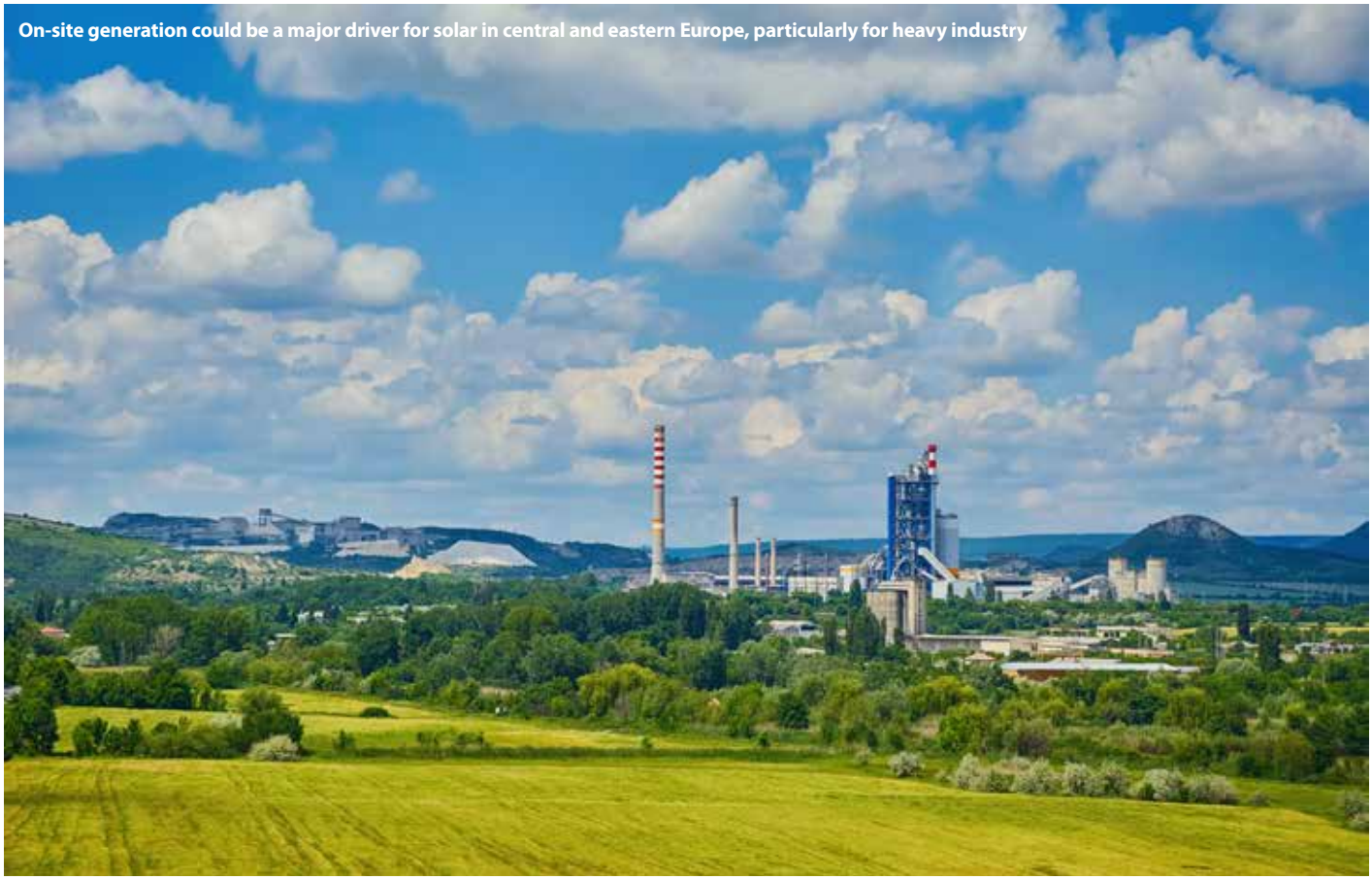
In the intervening years, solar has been chipping away at cost, improving efficiency and getting access to cheaper finance. With sufficient irradiation it is the cheapest power source and these iterative cost improvements are lowering the bar for grid parity. We've India, the Middle East, Portugal, Spain.

While the government's change in appetite for solar is welcome, the real driver of optimism is simple economics. Subsidy-free economics.

Pipeline

The scale of the opportunity is summed up by Jose Donoso, head of UNEF, Spain's PV trade association.

"The market has realised that they can expect very little from the government and



On-site generation could be a major driver for solar in central and eastern Europe, particularly for heavy industry

Credit: Rocter

they aren't going to wait around for a new support scheme," says Donoso. "The tender only gives the winners a floor price of €28.30MWh. With the degree of competiveness that solar has, we can go straight to the market on a merchant basis or we can look for PPAs [power purchase agreements], without any need for input from the government and this opens a new era in Spain when all the major players will start developing new installations.

"At this moment in Spain there are 29GW of solar projects in the planning process. One year ago we had no PPAs and now we have a PPA signed every week with big companies. All the major off-takers are in talks with different developers," adds Donoso.

If the numbers seem too large, consider the stream of deals announced in 2018 so far. Eco Energy World plans to develop 600MW. In April, BayWa r.e. and Statkraft signed a PPA for 170MW. Solar Ventures is planning 1GW of projects across in Spain and Italy, the UK-based developer Hive Energy has agreed a deal for 45MW with another 20 in the pipeline. Donoso's figures do not seem so unreasonable.

Spain developed an ecosystem of solar engineering and manufacturing, from modules and trackers to EPCs, many of which have carved out success overseas.

"Between direct and indirect employment we have around 12,000 people employed in solar with the market orientated to export. Now with a domestic market we expect to have a significant increase in the number of jobs and more importantly, stable jobs. We could have several thousand more jobs next year but without stability they could be lost again by 2020. We are not interested in that. We want an established market with stable jobs," says Donoso.

Spain and beyond

The happy ending for Spain, that appears to be approaching, is unlikely to be unique. The same conditions apply globally. In Europe, there is hope that the economics are now beginning to resonate with heavy industrial users who are free to build their own generation assets independently of the host nation's subsidy structure, or lack of.

"Companies will do business in Spain because they can get grid parity, not because they can get a small premium from the Spanish government, which it might change its mind about in a year," says James Watson, CEO of SolarPower Europe.

"It all comes down to grid parity and being able to get that PPA, a long-term contract with a guaranteed off-taker. This will be big for a lot of the southern European countries," he says adding that on-site generation is a second market that grid parity, or even near grid parity, will open up.

"One of our members, ENI, is planning to install 230MW of PV to power its refineries in Italy. That is half of what the entire country installed last year," he points out.

Using solar to power oil refineries might be ironic but it's not counter-productive. The refinery will run anyway to tease petrol and other chemicals from the black stuff. Solar might be helping an oil major to trim its costs but based on the growing tendency of the big traditional energy companies investing in power, especially solar (see p.34), the old viewpoint of 'us and them' is slowly eroding.

Watson points out that in Italy's case, another commitment of that scale would put the country back on the brink of being a gigawatt market.

In Europe's industrial heartlands, the case of on-site solar is strengthening too. Energy intensive industry such as cement production and iron and steel could be the next area of growth. Bulgaria's cement industry is known to be keen to cut its production costs with the addition of on-site, directly connected solar power.

"In central and eastern Europe where we

have very large industrial complexes we could see the market for on-site generation increase as quickly as PPAs do in other parts of Europe," adds Watson.

Looking at all of this, the number of gigawatt-scale markets in central and southern Europe could easily creep up.

Northern lights

In Europe's higher latitudes, subsidy-free solar requires a little more work. In the UK, which has a number of revenue streams open for energy storage, the key to grid parity is co-location. It's not subsidy-free solar in the purest sense but it's getting projects built and financed at a time when government support is in name only.

The UK's Contracts for Difference (CfD) programme has not been kind to solar thus far. Competition with onshore wind saw just five projects make it through the first round back in 2015. Of those, only two have been built. Solar would undoubtedly be more competitive now than in 2015 with most in the PV industry favouring a technology-neutral auction.

Fears that a rush of subsidy-free renewable projects could drive down wholesale power prices, cannibalising their own revenue in the process, are gaining more traction – another example of the increasing importance of intelligent regulation not legislation, for the future prospects of large-scale solar. It also reinforces the benefits of projects diversifying where that revenue is coming from by co-locating with energy storage.

"Nearly every planning application for new-build solar in the UK includes the possibility of including an element of energy storage at the time of construction but often, in the early stages of a proposal the details are not refined," says Finlay Colville, head of market research at Solar Media.

"At the moment we are seeing new screening applications being submitted for solar projects of 20-50MW with an element of storage included, which we would expect to turn into full planning applications later this year," says Colville. "If successful, these projects would make up the next wave of solar installations in the UK from 2019 onwards. Many of the prominent UK solar developers are also focussing on international projects or pure energy storage projects and it's not yet clear when they will return to UK solar," he adds.

Larger projects, including one of 350MW being developed by Hive Energy and Wirsol, are also in the works. The latter has its own 150MW pipeline of subsidy-free projects.

As the cost of solar falls and its competitiveness improves, PV reaches more northern latitudes. The boundary of viability for subsidy-free solar is chasing behind. In markets such as Sweden, lessons are being learned from the boom bust cycles of other markets. In July 2017, the trade association there urged the government not to increase the size of financial support for PV systems in order to avoid the "risk of a significant market crash". With subsidy-free markets a reality, it instead asked the government to focus on simplifying access to solar and opening the market up and putting the right tools in place to support organic growth.

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Minimum import price

The issue of the presence or removal of trade barriers could be a little clearer by the time the industry gathers in Munich for Intersolar Europe.

In the run up to previous editions of the exhibition, we have been anticipating milestones in the trade case on Chinese imports of solar cells and modules. Having extended the initial duties and the conditional price undertaking deal that goes along with them, the European Commission indicated that it was time to wind down the measures.

The minimum import price (MIP) on cells and modules is lowered each quarter and that direction of travel appears to have the support of the bureaucrats in Brussels. This was the first public indication from the Commission that it could make a political decision on the measures. Till that point it had either ploddingly followed procedure, or its hands were tied by European trade law. It depends who you ask.

By 3 June, EU ProSun, the SolarWorld-backed trade group that brought the request, will have to lodge a request for the Commission to review an extension of the measures. By 3 September the Commission has to decide whether to open a review or let the tariffs, and the price undertaking lapse.

The review is likely to take around a year. The tariffs and so the price undertaking would remain in place throughout. The quarterly degression of the MIP price would be on hold freezing prices at their July 2018 levels and locking the EU out of the benefits of any subsequent fall in the price of cells and modules.

With one expiry review already out of the way, a misconception remains among many in the industry who believe September 2018 marks the end of the European solar trade spat. Watson warns opponents of the tariffs not to get complacent.

"It is only formally over if there is no expiry review request by 3 June or the Commission rejects a request by 3 September," he stresses.

SolarWorld's second dip into administration in as many years does not impact its ability to represent the manufacturing industry. As Watson says, the closure of Jabil's facility in Poland back in February means the German company represents more than a quarter of all European solar manufacturing on its own.

In order to retain its legal standing as a European solar manufacturer in the eyes of the Commission, it must continue producing, its financial footing is of no concern.

"So as long as they keep turning out a few panels here and there they have the legal standing that they need," says Watson.

What is less clear, is how keenly an extension of the MIP would bite. Merchant and PPA projects are being built at existing prices and we still have one more downward adjustment to come before the potential expiry review locks in prices.

Happily, the loss of the MIP would be a bonus for the downstream sector and its continuation would be less keenly felt than its introduction was. The severity of its impact is now greatly diminished. This puts European solar developers in the enviable position of knowing that the economic case for solar appears strong enough to negate trade rows and subsidy u-turns.

US-based consultancy GTM Research recently pointed to an upturn in Europe's fortunes indicated by inverter shipments. These are growing at a faster pace than deployment in the continent signalling further good times ahead.

The wave of subsidy-free solar is washing across Europe and it is hard to envisage the good ship solar getting caught on those particular rocky outcrops once again. ■