

La Renaissance Solaire

France | With Europe in search of another PV poster child, an Emmanuel Macron-led France looks all but set to truly embrace the solar revolution. But will it learn from the mistakes of other boom markets that have preceded it? Liam Stoker reports

European solar has a habit of being driven largely by individual markets that hit a hot streak. Germany, Spain and, most recently, the UK have all had their years in the sun, so to speak, and now all the signs are it's the turn of France. Ambitious climate targets, political will to meet those targets and ideal generating conditions – particularly in the country's south – make France an ideal destination for a legion of financiers, developers and engineers in search of new opportunities.

But, much like Europe's boom countries that have preceded it, France isn't without its share of obstacles. Solar has had a rough ride previously with an up-and-down feed-in tariff, while grid constraints make negotiating a connection contract a tough job for even the most seasoned of developers. Coupled with a presidential election that proved to be more divisive than expected, and you'd be forgiven for erring on the side of caution.

France has a history with solar PV that stretches back beyond a decade but started deploying the technology in earnest in 2008. By the end of that year it had 104MW of capacity, a figure which had more than doubled by the succeeding year. The introduction of the country's first feed-in tariff in 2010 however caused a mini solar boom that piqued the interest of solar professionals across Europe, and by the end of 2011 almost 3GW had been deployed.

Marceau Leroux, business developer at German developer Enerparc and the firm's country lead for France, says the early years of France's solar market were "hectic", even before 2012's introduction of a tender process was put into place. "It then became very competitive to develop projects...and many companies were still in the market so it was difficult to get your piece of the cake," he adds.

That intense period of competition period proved to be somewhat short-lived. Cuts to the government's feed-in tariff scheme – warranted due to its having failed to adjust to falling



Credit: Neoen

component prices – cooled the market on previous years.

However those times appear to be over, and according to Paul-François Croisille, chief operating officer at IPP and solar developer Neoen, many companies are rushing back into the fold due in no small part to the visibility and predictability of its newly prepared tender regime.

In April 2017, France placed its aggregate solar capacity at around 7.1GW. The country has targeted an overall capacity of between 18 and 20GW by the end of 2023, meaning that deployment will have to ramp up to a pace unseen in the country previously, and one more akin to the UK and Germany in recent years.

Tom Heggarty, senior solar analyst at GTM Research, said: "France looks set to be the largest market in Europe over the next three to five years – demand will be driven by competitive reverse auctions for feed-in premiums, so not FiT-free as such, but a more market-based approach than we've seen in most European markets in the past. There are confirmed tenders for around 3.5GW of new capacity to be held between now and the end of 2019, for both ground-mounted and larger roof-mounted installations. We're anticipating around 1.7GW of demand in France this

France is now Europe's most active solar market and home to its large PV power plant, Cestas

year, up from less than 600MW last year."

To this end, a 3GW tender programme has been established which will take France out to 2019, with auctions of around 500MW held every six months for utility-scale solar. A separate award for self-consumption solar has also been arranged, while support for innovative projects such as solar roads is also on offer.

Developers submit for support based on the price they expect they can produce power at and other factors are taken into consideration, most notably the carbon emitted in the manufacture of the solar cells used. It's an interesting and all but unique design feature which allowed First Solar and its frameless modules – free from the extra carbon in the aluminium casings alternative modules possessed – to steal a march on competitor modules within France's earlier tenders. Speaking at Solar Power Europe's Solar Summit in March, First Solar's Stefan Degener said the firm had continued to enjoy a significant market share, being the module supplier of choice for between 30 and 40% of projects in the last tender. Another quirk is the necessity for the project application to originate from a France-based company, something which developers

achieve by establishing special purpose vehicles for these assets.

Such requirements have been enough to cause many developers a headache; however Croisille says the more recent programme is much improved on previous iterations. "When you read the rules of engagement of those tenders you need to understand what are the real objectives and play by those rules, and those rules might not make immediate business sense compared to what we see in other markets. But it must be said they have come a very, very long way since the first tender to simplify and to make sure the economic aspect has become the largest component of the grading of the projects. It's going the right way," he says.

These schemes have been further enhanced by France receiving European state aid approval – just days before the country's election – for a FiT scheme to support 2.1GW of small-scale rooftop solar. FiT payments will be linked to both the size of the system and the business model lying behind its design; either self-consumption or for export. At a cost of €190 million the FiT – and additional tariffs announced earlier this year – build on regulation in France passed in 2016 mandating all new public buildings to include either rooftop solar or a so-called 'green roof' in its plans.

Security and stability

France kicked off its new utility-scale programme in March this year when energy minister Ségolène Royal awarded

contracts to 79 projects. The country's maiden award generated an average strike price of around €62.50/MWh, a price which Leroux says reflected continuing downward trends in panel prices. In contrast, the first (and possibly last) projects to receive competitive funding in the UK under its Contracts for Difference mechanism were completed in 2016 at a strike price of £85.02, equivalent to around €100.

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A notable contributing factor towards that average price will however also be the location of projects. A healthy majority – 54 – of the 79 projects to receive support are located in the three regions that make up France's southern base – Nouvelle Aquitaine, Alpes Cote d'Azur and Occitanie – where solar irradiance is considerably higher.

Leroux argues that the design of the new tender scheme also happens to offer developers far more security than its predecessor as they know what to expect and, crucially, when to expect it. "Before, we had no perspective about the

frequency of the national tenders. We just heard it might be every year, but we didn't have any dates of submissions and the volume," he says.

But winning a tender is no mean feat. The first 500MW tranche was oversubscribed more than five times, attracting roughly 2.7GW of bids. Croisille says this has heaped pressure on developers to control costs as much as possible, both in relation to site selection and technical aspects. "There is no escape from needing to be good at what you do to come out on top. It's the normal way of doing business," he says.

There is also the suspicion that utilities and other large companies are better placed to win tenders in a process with such a heavy importance placed on price. Leroux says that while utilities are not necessarily favoured – as best evidenced by the fact they didn't win a single megawatt in the most recent round – the price focus does tell. "It's a system that is extremely focused on the price, so obviously there are economies of scale that make larger players much more competitive than others," he adds.

Eligibility criteria for subsequent tender rounds – submissions for the second round are to close around 1 June 2017 – are being tightened and Croisille expects that this will reduce the oversubscription from a ratio of 5:1 to 3:1, but that will not stop the underlying assumption that France could be deploying a considerable amount more solar than it is now, and at a compelling cost. Croisille says the industry is remaining patient for now. "There is obviously more room to grow and to produce more than 1GW in a year, but I think the balance is there. We would love to do more, but we – the rest of the industry – appreciate the fact that we now have some visibility on how we can invest in development."

But what – aside from an understood need to steady the flow of solar into an easily manageable trickle – is standing in the way? For most projects it would appear to be factors solar is all too familiar with.

Bureaucrats and politics

Prolific solar developers the world over – but especially those in Europe – will have come to dread the mere mention of the words 'grid constraints', and it's one factor France has not managed to avoid. France's grid is particularly, and predictably, congested in the south of



Credit: Wattway

The French government has offered support for innovative projects such as solar roads



Credit: Frederic de la Mure

Emmanuel Macron's victory in the presidential election augers well for PV in France

the country, with the south west region surrounding Bordeaux hardest hit. These localised grid constraints are compounded by regulatory and environmental red tape that so often shrouds promising projects in France's south eastern region.

Croisille says projects in these areas, which are for obvious reasons the most highly sought after, can take as long as three or four years to be green lit by the relevant authorities. And it's these reasons which place even greater importance on compelling economics. "It's quite long to develop a project in France because the authorisation process is quite meticulous and detailed, and we need to make sure that something that looks interesting under today's constraints will remain interesting in two or three years' time," Croisille adds.

Developers also bemoan the political desire, in true French, socialist fashion, to share the wealth. Projects submitting in the tender process are limited at around the 17MW mark and this makes it difficult for developers to both realise true economies of scale and gain any momentum.

France's market has been a highly nuanced one that developers have found difficult to get their heads around. It's perhaps why so many breathed such a heavy sigh of relief just after 7pm CET on Sunday 7 May 2017, when exit polls allayed their worst fears.

Macron economics

While Emmanuel Macron has not perhaps enjoyed the popularity other candidates have in the past, his victory in May's French election was undoubtedly viewed favourably given the contentious politics of his opponent, Marine Le Pen.

Macron has appeared wholly supportive of PV. In a video released not long after US president Donald Trump's proposals to row back on Environmental Protection Agency funding in February 2017, Macron appealed to American researchers, engineers and entrepreneurs working in climate change and renewable energy, offering them the chance to continue their work across the Atlantic.

"We may be at the onset of a French solar renaissance"

Politically charged, point-scoring rhetoric aside, Macron has backed up his sentiment with tangible pledges. Implementing the Paris Agreement is to be a priority under his government and he has promised to double solar and wind generation capacity in France by 2022, using state funds to mobilise private investment. Red tape will be removed to shorten the timeframes for deploying renewables. France's congested grids will also be strengthened with research and development ploughed into both battery storage and smart grid technologies.

It stands to reason, then, that France's ambitions for solar will not be negatively impacted by political developments, unlike other markets and most notably in Europe's former boom market, the UK. Under that country's now defunct Renewables Obligation more than 5GW of utility-scale PV was deployed in just three years, with as much as a further gigawatt expected to have been deployed in Q1 2017. This scheme was

scrapped all but overnight following the surprise majority victory of David Cameron's Conservatives in May 2015 and when the highly successful feed-in tariff regime was kneecapped six months later, UK solar all but ground to a halt. Under Macron there are no such rollbacks on the French horizon.

Speaking between the two election rounds Leroux regarded the vote as a "potential risk" for the industry, but saw no reason for immediate alarm. "As a minister of the economy [Emmanuel Macron] signed most of the decrees that were taken regarding renewables, so I don't see him going back on his word," he said.

Solar Power Europe, the trade association representing European solar's interests, regarded Macron's victory as one the whole of Europe could enjoy. "Macron is good news for French and European solar. [Macron's solar plans] would ensure France as one of the top markets for solar, and position France as a renewable energy leader in Europe," an SPE spokesperson said

"Macron has also confirmed that he will pursue the renewable energy objectives set in the 2015 energy transition law. This will increase investor confidence and ensure predictability for the French solar sector. We may be at the onset of a French solar renaissance."

European developers feel like they may also have dodged a bullet. One developer spoken to for this feature who did not wish to be named feared that a victory for Le Pen and her nationalist politics would have left international companies at risk of being excluded from future tenders in order to preserve domestic interests.

For now, the French market feels like it is riding the crest of a wave, picking up where other markets have left off. It has significant solar potential, ambitious targets to fulfil and, crucially, the political will to do so. Developers will however need to enter France in full knowledge of its quirks and accept that it's certainly not going to be flipped for a quick buck – with project lead times lasting longer than many other European countries' policies, France is more slow burner than quick earner. Which is perhaps why so many developers are so clearly excited about what French solar represents: a stable and secure market providing just the right levels of support to guide the technology towards grid parity. ■