

# France's improbable quest to revive EU solar makers

**Upstream** | Europe's centrist star Macron has ambitions to lead a continent-wide comeback of solar manufacturing. Can political will alone shatter the dominance of low-priced Asian rivals? Paris' plan is either Europe's second chance or a quest doomed to fail, depending on who José Rojo asks



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The vast to-do list assembled by Emmanuel Macron in his first two years as French president illustrates the 41-year-old centrist's appetite for insurmountable causes. Take his controversial structural reforms to breathe new life into France's stagnant economy, his proposals for an EU finance minister and Eurozone budget to fuel a "European renaissance", as well as his calls for a dedicated global bank to combat global warming.

However niche, or unnoticed beyond the PV ranks, the crusade his government launched this year to revive solar manufacturing could prove no less daunting. The pledge to bring back upstream "champions" home and abroad, part of a broader reindustrialisation blueprint, comes underpinned by a rather optimistic premise: European manufacturing could regain ground lost to Asia in recent years if only government and industry pushed together on policy and research.

Outside the confines of abstract policy-making, the day-to-day reality of European PV makers remains bleak, however. The phase-out of EU tariffs for Chinese imports devastated the ecosystem, and the intervening months have done little to improve matters. The dominance of JinkoSolar and

other Asian players over European peers was paraded in full view at this year's Intersolar. France-led or otherwise, has the quest to rescue European manufacturing come too late?

## The window of Europe's downstream boom

While bold in ambitions, France's plan is light on specifics. Led by ministers Bruno Le Maire (economy) and François de Rugy (environment), the government vows to foster French and EU legislation to unlock large-scale funding for PV manufacturing. From EDF to Engie and PhotoWatt, the industry chips in by mapping out best practices and disruptive technologies. Both sides commit to a dilated timeframe – 10 years – for the plan to deliver a tangible return of industrial champions.

The lack of small print has not stopped some from viewing France's plan positively. "I'm very pleased that France is taking the lead for Europe," says Dr. Andreas W. Bett, director of Fraunhofer ISE, who describes Macron's support as "very important" to the cause. Recent analysis by his employer revealed cost differences between Europe and Asia have become very small. "Europe lost the battle in the past but there's a

## France under its president, Emmanuel Macron, is looking to lead a revival of Europe's solar manufacturing industry

second race coming," he tells *PV Tech Power*. "It gives me hope."

Bett believes the current boom in Europe's solar downstream means 2019 is ideal to restart manufacturing. In this, he is mirrored by Walburga Hemetsberger, CEO of trade body SolarPower Europe (SPE). "Our figures point at 36% installation growth in 2018 and even faster deployment in years to come," she comments. "We really are in a new era of growth, and with demand spurring, we think it is a good basis for European manufacturing to gain ground."

Bett acknowledges European success will require size – a major PV maker supporting an initial 1GW or so would be essential, he agrees – but believes interest is building as the economic case of local production becomes clearer to investors. For her part, Hemetsberger too thinks investor attention is mounting and urges EU policymakers to boost the momentum with push measures. Tax incentives, lower administrative barriers and funding guarantees from EU bank EIB could all help, she says.

## A tough business to be in

Not all are equally convinced that Macron's upstream crusade will be successful, or at

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all desirable. “To be honest, I don’t think it makes sense to manufacture solar in Europe, I don’t see much of a strategic advantage to it,” Jenny Chase, solar analyst at BloombergNEF (BNEF), tells *PV Tech Power*. “PV manufacturing is not necessarily a high-technology sector any more. Does it really create the kinds of jobs that Europeans want?”

Asked whether France could deliver its blueprint if enough people rally behind it, Chase appears sceptical. “I mean, it’s probably feasible – if people put enough money into it perhaps it can succeed, but what is the point of putting in so much effort if it could be costlier than just importing the modules?” she ponders. “The other problem is solar manufacturing is a pretty dismal business to be in. Half the companies I’ve ever written about have gone bankrupt”

Recent events appear to underscore Chase’s bleak outlook. Switzerland’s ABB Group was so keen to part ways with solar inverters it agreed in July to pay US\$470 million to sell its unit to Italian maker FIMER. Contacted by *PV Tech Power*, ABB spokesperson Daniel Smith linked the decision to falling global inverter demand, coupled with “severe” price pressure from China. The firm’s retreat was likely hastened by its discovery of hundreds of millions worth of warranties owed to customers by Power-One, an inverter maker it had bought in 2013.

And yet – not all have pulled the plug. There is inverter maker SMA Solar, as well as module specialists SolarWatt and Enel’s 3SUN. RECOM, Europe’s self-styled largest solar manufacturer, is too ploughing on through cell factories in France and abroad. As Chase notes, Germany’s Wacker remains “hugely competitive” but is vulnerable, via the panel-making countries it exports its polysilicon into, to tariff impacts. Its 2018 financial results – with polysilicon

sales dropping by 27% where they rose by 10% for chemicals – were telling of the challenges ahead.

### A clean slate for Europe’s coal heartlands

By the time France arrived to the cause, another player had already spent months lobbying for the renaissance of European solar makers. Last September, Fraunhofer’s Bett and others launched the European Solar Manufacturing Council (ESMC) to refloat the industry after the minimum import price (MIP) debacle. At its heart lies a vision: the investment of €1.935 billion to set up a 10GW wafer-to-module production line in Europe that would create 7,500 new jobs across the continent.

Before it gets that far, the ambitious roadmap must confront the tough reality painted by statistics. The latest available figures from IRENA, going back three years, show that Chinese players vastly dominated their European peers even while the latter still operated from behind the safety of EU import duties: in 2016, China’s €6 billion solar net trade surplus vastly towered over that of Germany, while the UK actually ran a deficit.

That Germany was in the black at all, however small the margin, suggests that the original host of Intersolar should be central to any attempt to revive European manufacturing. France may be trying to lead the new push but Bett believes that all EU markets, big and small, could potentially play a role as hosts to the new industry. “I don’t have any preference for now as no single region will be the answer,” he says, adding that markets must be assessed on a case-by-case basis with investors.

Despite its country-agnostic take, Fraun-

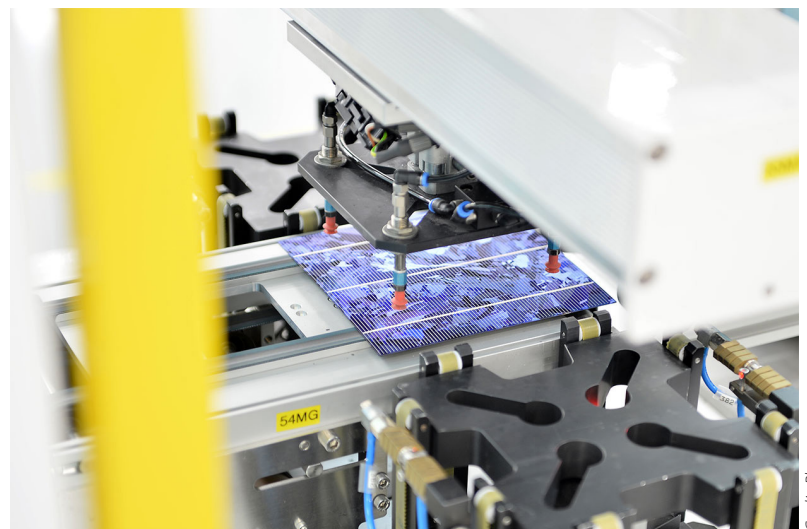
hofer ISE does maintain that a particular European ecosystem – that of its post-industrial regions – would make an excellent home to new solar factories. Croatia and Germany’s coal heartlands as well as France’s nuclear hubs all face upheaval and would benefit from a second chance. “Look at France’s Fessenheim, with a nuclear plant now nearing shutdown,” says Bett. “Filling the gap with new technology would be a nice side-effect.”

### Playing up R&D, green credentials

Perhaps the card Europe ought to play to restore its battered upstream solar industry is not size, but specialisms. The continent should, according to Fraunhofer ISE, capitalise on its present status as global PV’s R&D powerhouse via centres including Freiburg, INES, IPVF and ZSW. Research paragons such as the perovskite cell work of university spin-off Oxford PV, NexWafe’s kerfless wafering technology and Photowatt’s quasi-mono crystallisation process should all be nurtured going forward, the institute believes.

“Most innovation is already happening in Europe and there’s a good chance for the continent to step in again,” says Bett. “There’s still much research left to do around building-integrated PV for instance, which requires changing the technology and module design.” BNEF’s Chase points at Intersolar as an example of Chinese firms still choosing Europe to talk business and innovate. “Europe does lead in terms of O&M, EPC so it still has a lot to say,” she says. “But then again, of course, China does its own R&D too.”

At a time of rising concern for renewable supply chains – including silver-hungry solar PV panels – another avenue



Europe still leads the way in solar technology innovation, through companies such as EDF subsidiary Photowatt

Credit: Photowatt



for Europe to explore is, some say, green differentiation. The continent, Fraunhofer ISE feels, should remind its downstream players that Europe-made products face stricter emission rules and do not require shipping across the globe. "If you really want to follow the high-level goal of reducing emissions, then transport CO2 must be somehow reflected," says Bett. "If more carbon taxes are adopted worldwide, then it's a logical development."

Bett believes appetite for greener components could rise as more countries – first France, then the Netherlands – start factoring panel footprint into subsidies. Europe, he adds, could seize the window by supplying the sustainable solar products the world will want but so could China if it so wishes. SPE's Hemetsberger agrees the green avenue is an opportunity but urges Europe not to explore it via legislating for sustainability mandates. "Market-based, competitive solutions would still be the more sustainable approach, I think," she says.

For her part, BNEF's Chase notes green mandates are the most likely direction of future European solar trade tariffs but remains sceptical of their value. "If mandates are rolled out EU-wide, companies may spend their money on certification, on the paperwork, rather than on making better products – it would probably just make lawyers some money," she argues. Using France's existing carbon footprint rules as example, she notes certification is not impossible, but also not trivial, for foreign players. "It essentially acts as a back-door trade barrier into France," she adds.

**The revolution will be battery powered**

Those interviewed see Europe's solar manufacturing future tied to that of a partner sector. That energy storage may be a good bet is recognised by France – its plan vows to foster five to seven globally successful French battery specialists in five years – but also BNEF's Chase. "Solar panels are not rocket science but batteries are a bit more nascent and interesting. The complexity, the role of software, may create more potential to keep highly paid jobs in Europe," she says, noting this year's Volkswagen-Northvolt deal to build battery factories in Sweden and Germany.

Chase also sees potential in so-called entech ventures more broadly. "Europe is pretty much leader in software to manage things like energy consumption and yet it's



Credit: Engie

**Energy storage could be an important partner sector for future solar manufacturing in Europe**

all relatively early-stage," she argues. As an example, she points at a heat pump with a consumption monitor she herself owns. "None of it is optimised, the economics of it depend on whether I can move electricity use to when I'm generating it," she says. "I'm actually quite disappointed at the state of it – I feel like Europe is leading and yet is nowhere where it could be."

Fraunhofer ISE's Bett acknowledges

there is "strong interest" in European battery making, driven by the transport industry, and regrets that upstream solar does not enjoy the same political blessings. "When I talk to politicians they say 'bring an investor, do it yourself' but I wish there was a sense of urgency to having solar manufacturing in Europe," he says. "Our energy future will depend on these technologies and if we don't stay competitive in the long term, if we lose the knowhow, then we'll retain a political dependency on imports."