

# The changing face of European solar

**Finance |** Recent signs suggest that after several quiet years, large-scale solar is once again showing strong growth in Europe in spite of the steady withdrawal of subsidies. **PV Tech Power** caught up with six energy finance experts from the law firm Norton Rose Fulbright for their take on some of the market and financing trends that will shape European solar in the years to come

**PV Tech Power: Where would you identify as being Europe's key hot-spot markets and what are the drivers of what looks like being a new phase of solar growth in the continent?**

**Rob Marsh, partner, London:** The Spanish market is seeing a lot of renewed activity and investment, with new legislation and government support providing comfort, notwithstanding the previous retrospective cuts that we saw a few years back. We are also beginning to see the first wave of meaningful subsidy-free projects, often underpinned by corporate PPAs, in the UK and Ireland.

**Arnaud Bélisaire, partner, Paris:** France remains a focus under the current scheme, with high levels of solar irradiation and recently implemented economic incentives providing a great deal of potential for the French solar market. Coupled with the deployment of an ambitious schedule of solar calls for tenders, developers, investors and lenders currently see the French solar PV market as an attractive one.

**Dimitris Assimakis, partner, Athens:** A national support scheme introduced in late 2016 together with scheduled capacity auctions for the period 2018-2020 have given a new impetus to the Greek solar PV sector following a relatively long period of limited activity. There is unprecedented interest from foreign and domestic investors for the deployment of new projects. Greek authorities have also set ambitious renewable energy targets under the new National Plan for Energy and Climate which, amongst others, focuses on adding 4.3GW of new solar PV capacity by 2030.

**Felix Dinger, of counsel, Hamburg:** Germany remains an interesting jurisdiction for the solar sector. This is evidenced by the fact that each tender for German solar PV plants in the last four years was heavily oversubscribed (typically three to fourfold). The German government has also increased the tender volume for solar considerably for the 2019-2021 period, opening up the German solar market. Solar PV plants selling their electricity outside the existing remuneration regime through a PPA are not subject to a 10MW limit for overall plant size and they are not constrained by site restrictions that are part of the tender scheme.

**Matthijs van Leeuwen, of counsel, Amsterdam:** The Netherlands remains a key market for solar PV (both rooftop and ground-mounted) with a significant increase in new investors and developers. With the last subsidy round of 2018 significantly oversubscribed (by €1.7 billion compared to an available budget of €6 billion) for a total capacity of 3.7GWp and the subsidy scheme expected to remain in some shape or form over the next year, we



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expect the Netherlands to remain a key market for some years to come. The subsidy scheme, ever decreasing solar PV pricing and the need to accelerate renewable investments to meet the Dutch renewable targets are important drivers of this growth.

**Ginevra Biadico, senior associate, Milan:** Italy remains a key market for solar PV installations (both rooftop and ground-mounted). A new decree setting out the incentive regime for solar PV plants to be commissioned during 2019 to 2021 is expected to be enacted in the coming months. The new public subsidies that are expected, especially for ground-mounted installations in industrial areas and rooftop plants, combined with high level of solar irradiation and a lower cost of technology are the main drivers fostering a new era of developments of new large-scale projects.

**In this new post-subsidy environment we hear a great deal about the importance of corporate power purchase agreements (PPAs). How central are these to the future of solar in Europe and how sustainable are they as a route to market for developers?**

**Rob Marsh:** Corporate PPAs are certainly going to be important for the growth of the subsidy-free solar sector and lenders are increasingly getting comfortable with the concept, allowing projects to be leveraged. There remain challenges, with many corporates (particularly new entrants that have not previously entered into off-take arrangements of this nature) slow to move and having limited capacity they are seeking to fill. The advent of electric vehicles and an increasing requirement for clean power suggest

**Unsubsidised projects such as Clayhill in the UK are beginning to appear in the UK**



**The Norton Rose Fulbright interviewee panel, clockwise from top left: Rob Marsh, partner, London; Arnaud Bélisaire, partner, Paris; Dimitris Assimakis, partner, Athens; Felix Dinger, of counsel, Hamburg; Matthijs van Leeuwen, of counsel, Amsterdam; Ginevra Biadico, senior associate, Milan**

that other solutions will manifest in the medium term.

**Dimitris Assimakis:** In Greece corporate PPAs have not yet been considered by developers or corporates for a number of reasons, including a preference for the existing investment incentives and subsidies for renewable electricity, constraints in wholesale electricity market operations and financiers' preference for the national support schemes for renewables. We consider that grid parity, decreasing operating aid levels, and the need for predictability and affordability of properly sourced electricity costs for environmentally aware consumers on one hand and predictable project revenues for developers and their financiers on the other, can be expected to bring corporate PPAs into the mix in the near future.

**Felix Dinger:** In Germany, PPAs are not yet widespread due to the existing statutory revenue scheme, however it is expected that PPAs (corporate or other) will become increasingly more popular in the near future, particularly for solar PV plants. There has already been a notable reduction in the average price for solar projects in tenders from April 2015 to date, indicating that solar electricity generation is competitive and making it attractive for distribution through PPAs. One of the benefits of operating a solar PV plant outside the tender system is that the substantial site restrictions that are part of the tender scheme do not apply. At the same time solar PV plants with a PPA do still profit from the existing rules for preferential grid access and grid feed-in in Germany.

**From a project finance perspective, what is the view of the investment community of the emergence of corporate PPAs in Europe as the main route to market for solar, given the added risks that they entail? We reported recently that there is a fair amount of caution among investors vis-à-vis corporate PPAs – what is your view of the extent to which investors are prepared to back deals based on corporate PPAs?**

**Rob Marsh:** There is an increasing synergy between the investment community and the corporates that are active in these spaces. With technology and transport increasingly driving a requirement for green power, investors are finding like-minded dynamic corporates entering this space and providing interesting partners for projects, as well as a strong credit covenant.

**Arnaud Bélisaire:** In our view there will be prospects for investors in France to back deals based on corporate PPAs in the near future. The Paris team is currently participating in the elaboration of a standard corporate PPA with the French wind energy association,

France Energie Eolienne, in collaboration with a dedicated working group which includes many stakeholders in the sector to map out individual comments and proposals. This contract is intended to become the standard contract for the entire profession in France. It will primarily facilitate the financing of wind projects for which electricity will be sold through a corporate PPA within a standardised framework. This standardised framework could be adapted to the solar market.

**Ginevra Biadico:** Lenders generally want to see, amongst others, predictable cashflows with appropriately sized volumes, fixed pricing and robust default provisions. If no public subsidies are available, lenders' pressure on the PPA as the exclusive source of revenues will be high and the focus, from a lender perspective, will be on long-term PPAs that at least match the term of the facility agreement as well as an assessment of the corporate buyer's credit risk, track record and reliability.

To ensure the bankability of renewable energy projects in markets where public subsidies are no longer available, corporate PPAs may be a solution, but developers, investors and lenders should be open to agree on contractual innovations. Lenders may be available to offer loans for a shorter term which at their expiry require the project to refinance or face the inability to meet the balloon payment due on expiry of the loan. Developers may look at pricing models on a put and call basis to help mitigate price risk and insurance products could also help in mitigating volume and shape risks.

**Aside from PPAs, what other routes to market do you see as offering the greatest potential for underpinning future growth in European solar?**

**Rob Marsh:** The twin drivers of technology (notably in the form of data centres) and the requirement for sustainable urban environments will have an impact on the future growth of solar. The electrification of transport must be coupled with green energy, as must new urban developments and district heating networks. As technology and electric mobility drive infrastructure development and a new manufacturing sector, so captive (inside the fence) solar solutions increasingly make sense and the pool of off-takers will grow/change.

**Dimitris Assimakis:** Solar projects in Greece enjoy a fairly streamlined licensing and regulatory framework whilst sharing a common corporate and tax regime with other investment projects. However, while the licensing and regulatory regimes have been improving over the years, the general tax regime of Greece still remains complex.

**Felix Dinger:** In Germany tenders replaced the tariff system as the main source of revenue for solar in 2015. They are currently the standard revenue source for plants between 750kw and 10MW. The key issue with the existing tender system is that the capacities offered in the solar tenders were rather small.

However, the German government has decided at the end of 2018 to offer substantial additional capacity for solar plants through the tender system (1,000MW in 2019, 1,400MW in 2020 and 1,600 MW in 2021).

**What effect have the new market conditions had on the nature of project financing for solar? For example, we have reported in the past that with the shift from a subsidy-driven to post-subsidy market, debt finance is perhaps no longer the most efficient way to finance projects. What trends have you seen emerging in the way projects are being financed in the post-subsidy world?**

**Rob Marsh:** Project finance perhaps remains the dominant source of debt and the commercial banks are increasingly understanding the risks and methods through which these can be sufficiently mitigated to allow for limited recourse financing solutions. Green bonds and other forms of “green lending” are becoming increasingly popular and offer alternative sources of funding at a corporate level, while institutional debt continues to show an increased appetite for financing opportunities in the solar sector.

**Aside from the question of how developers are getting projects to market, what other policy-related risks do they face?**

**Rob Marsh:** Connection issues remain a challenge in certain jurisdictions, along with the risk of curtailment. Planning regimes and real estate laws could also be revisited to make development easier and remove some of the front end development risk. Battery storage has a role to play in the European solar story and policy and regulations to further enable this solution are required.

**Dimitris Assimakis:** Solar projects in Greece, similar to other renewable energy projects, enjoy a fairly streamlined licensing and regulatory framework whilst sharing a common corporate and tax regime with other investment projects. However, while the licensing and regulatory regimes have been improved during the years, the general tax regime of Greece still remains complex.

**Ginevra Biadico:** New developments in Italy may suffer from certain policy-related risks, such as: (i) delays in the issuance of new permits given the high number of applications filed in 2018; (ii) difficulties in finding large plots of lands free of landscape, archeological, historical and environmental restrictions; (iii) connection timing issues; (iv) risk of challenges from third parties in relation to the annulment of permits; (iv) risks of annulment or revocation of the permits as a result of an action in self-defence (azione in autotutela) by the public administration; and (v) requests from local authorities (especially municipalities) to compensate the impact of the project on the environment.

**Matthijs van Leeuwen:** Following the adoption of the Dutch Climate Act last year, a wide range of stakeholders are negotiating a climate accord that should provide a clear path to meeting an ambitious target for 2030 and beyond. Solar is expected to play an important role in meeting the targets. However, grid managers both at distribution and transmission levels are facing serious restraints in their respective networks that could have an impact on accelerated development of solar projects. We see a significant increase in alternative grid connection options being considered and implemented, ranging from direct delivery to cable pooling that have a specific impact on the project financing of the projects. In a densely populated country as the Netherlands, securing sufficient land rights for construction of ground-mounted projects

can also be considered a challenge, whereas significant availability of suitable rooftops for solar projects is an opportunity for solar developers.

**Overall, what is your assessment of the likely future growth trajectory of European solar?**

**Rob Marsh:** As a technology in its own right and in the context of the wider sustainable and tech-driven changes to our urban environments, solar continues to make sense and will remain the dominant renewable technology of the next decade. As the manufacturers of cells further develop the uses and potential applications of PV technology, it will have an increasing impact on our commercial and residential environments, as well as being developed at utility scale.

**Arnaud Bélisaire:** The Energy Transition Law (ETL) sets an ambitious target for renewable energy in France. By 2030, 32% of final energy consumption and 40% of energy production should come from renewables. To reach this target, the ETL provides for a multiannual energy plan (PPE), which assigns a compulsory installed capacity target for each generation technology, including solar energy. As of 31 December 2018, total installed capacity of French solar plants reached 8,527MW. The draft PPE circulated in February 2019 sets an objective of 20.6GW for 2023 and an objective between 35.6 and 44.5GW for 2028. To reach these ambitious objectives, the draft PPE notably provides that calls for tenders for ground-level solar panels with a capacity volume of 1GW per year will be launched as from the second half of 2019.

**Dimitris Assimakis:** Given the recent advance of photovoltaic projects in Greece under the new national support scheme for renewables and the improved economic conditions and investors' confidence in the country, we expect such progress to continue in the short to medium term. Future growth trajectory beyond 2021 cannot be easily assessed in advance in view of the multiple parameters that need be taken into consideration such as those briefly described above.

**Ginevra Biadico:** The goals set out by the 2017 National Energy Strategy for Italy include amongst other things: (i) achieving the target of a 28% share of renewable energy sources on total energy consumption by 2030; (ii) fostering low energy consumption initiatives having the best cost benefit ratio, so as to achieve 30% of energy savings by 2030 with respect to their trend in 2030 and give impetus to the Italian energy efficiency industry (e.g., construction of energy-efficient buildings and installation of energy-efficient facilities); and (iii) to speed up the decarbonisation of the energy system and to introduce measures spanning the entire energy process, thereby achieving significant environmental and health benefits, and contributing to the attainment of European targets.

For the renewable energy sector, the 2017 National Energy Strategy proposes long-term PPAs for new large-scale power plants and diversified support schemes for small-scale plants. We would expect that 2019 will be a year of transition from the era of secondary market transactions to an era of new developments of projects. We would expect that the first permits to new large-scale solar plants may be issued in the next months of 2019, and that such plants may be ready for connection and operation at the end of 2020 or at the beginning of 2021. ■