Black to gold: The oil & gas majors plotting a solar revolution

Business | The global decarbonisation agenda and still-tumbling costs are sending oil and gas giants and traditional energy majors into the PV market, and in a big way. Liam Stoker investigates what that means for the international solar market

Credit: Lightsource Renewable Energy

An unavoidable transition towards cleaner power solutions is occurring. And as that transition accelerates, the companies that have historically dominated global energy markets through fossil fuel exploration and extraction are having to move with it.

This has led to something of a tectonic shift, with solar now a priority destination for investment. Both Shell and BP have re-entered international solar markets after lengthy hiatuses and Statoil and DONG have been so reluctant to remain affiliated to oil and gas (O&G) that they've undergone significant rebrands.

Those changes have not gone unnoticed. EY's most recent Renewable Energy Country Attractiveness Index published in May 2018 sought to narrow in on why O&G majors were so keen to turn back to solar and it's a subject explored at many an industry event. Speakers at February's Solar Finance & Investment London conference, organised by PV Tech Power publisher Solar Media, concluded that there was only one direction for investment to flow, and that direction stands to change the course of the solar industry forever.

Ed Pitt Ford, investment manager at Octopus Investments, the UK's largest solar asset owner with more than 1GW in its portfolio, said that there would be major opportunities for solar firms to work hand in hand with big oil giants. This view was endorsed by Abid Kazim of NextEnergy Capital, another of the UK's largest asset owners. "When they come into this space they will buy wholesale… there will still be all sizes of business [and the] opportunity for us across the spectrum is to continue to disrupt," he said.

Early signs indicate that this may well be the case, with O&G majors in an acquisitive mood.

A very British investment

BP has something of a chequered relationship with solar, one which ultimately resulted in the shuttering of its BP Solar business unit in December 2011. More than 30 years after its first foray into solar as a technology – which began with the purchase of a 50% stake in Lucas Energy Systems – the fossil fuel powerhouse disregarded the 'Beyond Petroleum' tagline it had dreamt up and drew a line under it entirely.

BP's acquisition of a stake in Lightsource is one of a number of moves by oil and gas and other energy majors into solar

In truth, BP had been scaling back its solar position for a few years before then, a victim of overcapacity and frequently cheaper variants emerging from China. While the preceding six years saw the firm investigate alternative fuels and wind, solar PV remained just outside of BP's list of interests.

All that changed in December 2017, when BP announced that it was to pay US$200 million to acquire a 43% stake in British solar giants Lightsource. The London-based developer, one of Europe's largest, has brought more than 1GW of utility-scale solar to fruition since its formation in 2009. Since then it has established interests in the US, India and other emerging markets, set up a thriving O&M division and secured a domestic solar-and-storage partnership with utility giant EDF. If BP wanted a foothold in the downstream solar market, there were few entities better placed.

Speaking at the time of the acquisition, Dev Sanyal, chief executive at BP's alternative energy division, said the company had maintained a watching brief of the solar industry for some time, before striking while the iron was hot.

"From our vantage point we'd been looking at the developments in the solar energy industry for some years, and effectively what we are seeing are fundamentals that are really important. Growth has been around 10-15% per annum, we've seen a trebling of solar installed capacity over the last four years, and you see business models that are actually now being developed and are in places that are very attractive," he said.

What made the Lightsource deal attractive to BP was the fact that in the Nick Boyle-led company they had found not just an investment, but a seasoned pair of hands that could furrow their own path, one that BP could offer assistance with when and wherever possible.

"It's about bringing together complementary skills and abilities to create not just a great solar company, but a great solar company which operates on a global platform. That's what we're trying to do and we believe the partnership element is really important. It's bringing together the best of both companies," Sanyal said, adding that one of the most attractive qualities the company saw in Lightsource was a "culture of entrepreneurship [and] innovation, but also disciplined execution".

But of broader significance, BP's move was fuelled by an internal belief that solar was worth investing in as a technology of the new energy age, one which could see it deploy the world over. "Quite candidly, we see great opportunity in the solar business globally given the fundamentals of the sector. I don't think we'll be starved of opportunities, the question is being disciplined in which choices we pursue," Sanyal said.

His sentiments were reinforced in April 2018 when BP published a new report detailing its decarbonisation efforts. Dubbed 'Advancing the Energy Transition', the report cited three core tenets of "reduce, improve, create", the latter of which is a key commitment to building low carbon business under the BP moniker.

> "It seems to be the time is right now with subsidy-free on the horizon; I see solar as a new backbone of the energy industry"

The off-grid opportunity

While Europe and the Americas represent possibly the most significant opportunities for O&G majors and utilities, many companies have spied the potential within a solar revolution throughout Africa, mainly in the off-grid or pay as you go (PAYG) solar markets.

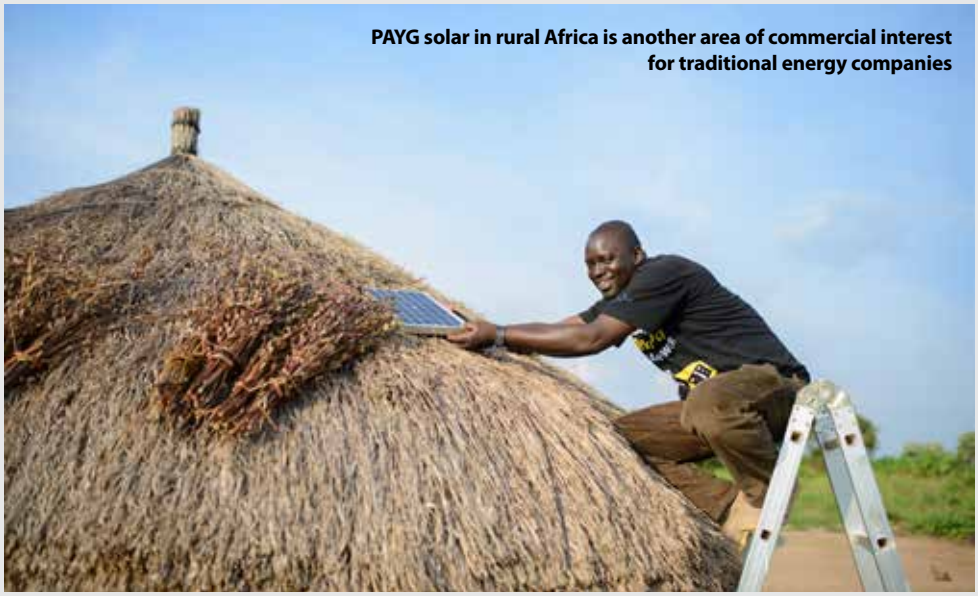
The likes of E.On, Enel and EDF have all invested in companies within that sphere in recent years, the latest of which is Engie. The French energy giant acquired PAYG PV specialist Fenix International in a move which was finalised in April 2018.

Bruno Bensasson, chief executive at Engie Africa, described Fenix as the "agile growth engine" that would help it expand its footprint in Africa's solar home system business. Engie's interest in Fenix stemmed from an initial interest in investing but, having liked what it saw and identified a more "general alignment", according to Fenix's Chris Bagnall, it took the plunge and acquired the firm outright.

"What it fundamentally meant for them is they were looking to divest out from traditional centralised power and move into decentralised power within Africa, and that really spoke to us," Bagnall says.

With Engie's more significant capital and people power alongside Fenix's expertise and experience in the market, both parties expect to overcome the more prevalent hurdles in the PAYG market and deploy solar quicker than before. But, Bagnall says, the key to the Engie deal is Fenix being largely allowed to operate as it has done before.

"The ability to… retain our culture, retain the management team was also a key influencer in making that decision," Bagnall says, adding that Fenix is predominantly left to its own devices day-to-day.



PAYG solar in rural Africa is another area of commercial interest for traditional energy companies

Credit: Fenix International

Bob Dudley, BP's group chief executive, has made it clear that the company, with its history and legacy steeped in fossil fuels, now wants to pick up where it previously left off with regards to solar. "Two decades ago, BP was one of the first energy companies to address the threat of climate change, pioneering alternatives like wind, solar and biofuels. We invested billions of dollars to make renewable energy a genuine alternative," he said.

"Some of our investments worked out – others did not. We were early, but I don't think we were wrong, because we learned valuable lessons along the way." It's Dudley's job to ensure those lessons are remembered.

BP has ambitious investment plans in the field, with plans to allocate at least US$500 million per year for low carbon activities. Those commitments, BP argues in the report, have the potential to "make a real contribution" to the company's future. Quite what those commitments entail remains to be seen, but there have been subtle nods that solar and storage are high on the agenda.

BP has partnered with storage giant Tesla for a pilot project at its 25MW Titan 1 Wind Farm in the US state of South Dakota. A 212kW/840kWh battery unit is to be installed alongside the wind turbines as what the two companies have described as a "potential step forward in the performance and reliability of wind energy". Moreover, the pilot's success would seemingly pave the way for battery storage to be deployed elsewhere on BP's estate, with the findings of the project to be used to garner "valuable insights" as it evaluates and develops further battery storage installs in the future.

While the finer details of BP's post-oil and gas plan take shape, there is one certainty. In gearing for the future, BP is setting itself on a slightly different course, one that its great rival – Shell – is also plotting.

Shelling out on renewables

For evidence of Shell's developing approach to renewables, look no further than its Energy Transition Report, published in April 2018. Designed as a follow-up to Shell's transitions and portfolio resilience report published two years prior, the document provides a glimpse of the company's climate and energy forecasts and details how it intends to navigate the energy transition.

Within the report Chad Holliday, chair-

man at Shell, stresses the importance of the energy major learning "new skills" as the world increasingly moves to lower carbon energy, a matter which would place greater importance on its New Energies division. "I like to think that our New Energies business is sowing different seeds in different places. Over time, we will see where the best and most profitable crops start to grow. Then we will give the winners all the nourishment they need to flourish," he said.

Shell's movement into renewables will be largely driven by its New Energies division, which is to invest between US$1-2 billion each year until 2020. That is between two and four-times larger than investments outlined by BP, perhaps indicating the sheer scale of the opportunity in renewables Shell has identified.

"This is a long-term journey. There are tough challenges ahead that society will need to address because the transition will require enormous levels of investment, and profound changes in consumer behaviour. Shell is also on a journey. We cannot know exactly how this transition will play out, or how long it will take. But it could mean significant changes for Shell in the long term. We will learn, and adapt our approach over time," Ben van Beurden, chief executive at Shell, explains in the report.

Shell is remaining prudent. It will only seek to invest in projects that are financially viable today (as in, unsubsidised) due to potential regulatory uncertainty, and by stating that it normally seeks equity returns of 8-12% for investments in power.

But it's not just the O&G majors spying on opportunity. Other major energy companies are also launching major solar investment plans as the paradigm begins to tilt in PV's favour.

Energy's new backbone

For Claus Wattendrup, vice president of solar and batteries at state-owned Swedish utility Vattenfall, the desire to turn to solar has been one driven by simple market factors. "If you look at it globally, solar is the dominant new-build generation technology. I would say you can't afford to ignore solar, which we have done unfortunately for too long. And that's why we are stepping in now, although a bit later," he says.

Vattenfall are ignoring it no longer. Earlier this year the company announced that it would be investing €100 million in solar over the next two years, predominantly at the utility scale and often co-located with wind and/or battery storage. Those investments will also fall predominantly in Europe, but will not be restricted to any particular market. Wattendrup insists that the potential for solar to complement wind – and vice versa – in terms of generation portfolios make them a perfect match.

But why now? Why is Vattenfall, a company with an established and thriving wind portfolio, on top of successful utility divisions throughout Europe, embracing a generation technology at this stage? Wattendrup says Vattenfall is well aware it is a late mover in solar but is keen to embrace it because of the role it stands to have in future energy systems. "It seems to be the time is right now with subsidy-free, and in the end, I see solar as a new backbone of the energy industry," he says.

> "We've seen a trebling of solar installed capacity over the last four years, and you see business models that are actually now being developed and are in places that are very attractive"

For Vattenfall, the technology's maturation and decline in costs has made it, and other incumbents, sit up and take notice. "It's the price level, it has been quite expensive and it has been small – just a few megawatts – and in the past our companies have thought mainly in gigawatts of conventional capacity. This paradigm was based on a mix of all kinds of different reasons," Wattendrup adds.

But the bigger entities would appear to be better suited to the next stage in solar's deployment, at least certainly in Europe. Certain markets have had their subsidy-backed boom cycles – the UK between 2014 and 2016, Germany before that, the likes of Spain and Italy prior to those countries – are examples that will immediately spring to mind. Smaller, more nimble players have moved quickly, but Wattendrup believes this era is now ending and resulting in a "different ballgame now". It is hard not to escape the thought that different players will be required too.

In the absence of such support mechanisms, meaningful solar deployment requires a different set of skills and scale that traditional, smaller players may find beyond them. Wattendrup says the incumbent utilities and other energy majors can bring those in abundance.

Now you need all kinds of different competencies. This is why I see such a big chance for us because the integration of our capabilities – having a large customer portfolio, having a trading desk, doing PPAs – this is what we've been doing for decades. It's good to link this with renewable production in wind and solar – even with batteries – to make a combined offer to customers and we can serve you with whatever you want."

It is undeniable then that solar is not only a destination for significant levels of investment from energy giants of every kind, but also one of – if not the – pivotal energy technology of the coming decades. Solar now stands at the forefront of the energy transition and looks set to be the most competitive generation landscape. If you're not in solar, at least according to Wattendrup, you aren't a serious player.

"If you don't manage this as a serious player, you're doing something wrong. Therefore everyone's moving into this in a serious manner. There's no greenwashing, this is serious," Wattendrup says. And the oil and gas majors certainly appear to be in agreement. ■

Upstream or downstream

O&G investments in solar have become more frequent as these giants look to enter, or indeed re-enter, the fray as the technology becomes more mainstream, but are upstream or downstream moves the best bet?

BP & Lightsource: In paying US$200 million for a 43% stake in Lightsource, one of Europe's largest solar developers, BP's play is very much a downstream one. The investment will be used to "supercharge" Lightsource's bid to build out a multi-gigawatt pipeline of plants in multiple continents.

Shell & Silicon Ranch: In January 2018 Shell ventured back into the solar market, paying US$217 million for a 43.86% stake in Silicon Ranch. The Tennessee-based firm is a developer, owner and operator of solar projects in the US, making the deal markedly similar in both size and intention to that of BP's. Shell said the deal would expand its 'New Energies' footprint across the globe.

Total & SunPower: Both deals pale in comparison to Total's purchase of a 60% stake in SunPower, the cell and panel manufacturer, for US$1.38 billion seven years ago. The parties said at the time the deal would create a "new global leader" in the solar industry, with SunPower brandished as the "centrepiece" of Total's solar activities. SunPower's recent move to snap up SolarWorld Americas will be one to watch as Section 201 bites.