

Subsidy-free transition is slowing down renewables

For the first time in nearly two decades, growth in new capacity has stalled. Kalliope Gourntis finds out why and whether the freeze is expected to last

New net capacity from renewables – including solar, wind, hydro and bioenergy – totalled about 180GW globally in 2018. The International Energy Agency described the figure, which was the same as that for 2017, as “an unexpected flattening of growth” and one that “raises concerns about meeting long-term climate goals”.

The statement did not make for cheerful reading, so *Infrastructure Investor* spoke to a number of industry professionals – five investors and a legal expert – to put the IEA’s findings into perspective.

“I didn’t find it surprising,” says Marco van Daele, chief investment officer at Switzerland-based SUSI Partners. “I think this is a transition period – which we’ve been experiencing in the past year or two – between a renewable generation-led growth of the sector, which was fuelled for 20 years by subsidies, into unsubsidised projects.”

Mathias Burghardt, head of infrastructure at Paris-based Ardian, echoes that view: “This is the result of a progressive switch from subsidised regimes to market-based incentive systems, but also due to a reduction in the number of subsidies available.”

FiT to be dropped

For investors, the transition to market-based systems requires a new skill set. As Esther Peiner, Partners Group’s managing director of private infrastructure, Europe, explains: “The departure from feed-in tariff systems means introducing additional complexity into the assessment of risk/return. I’ve seen

some investors engage directly and comfortably in renewables when there was a clear sovereign-backed offtake agreement. I suppose the same institutions will struggle more when you need to account for an element of merchant risk, because you’ll never be able to fully replicate a feed-in-tariff with a power-purchase agreement.”

Van Daele agrees that today, as opposed to two years ago, “you actually have to invest the knowledge, the time and the structuring expertise to structure that PPA”.

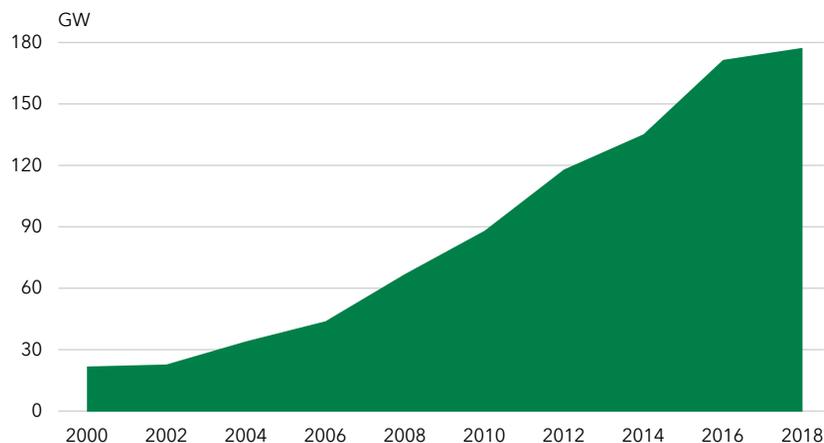
He also says the private PPA market needs to develop further and more quickly in most markets. “I think that’s what’s lacking, and the industry is forming itself. The structures and the risk allocations need to be determined. I think that’s happening, but it will need to scale up.”

Rob Marsh, a partner at Norton Rose Fulbright, believes corporate PPAs are beginning to make a difference in Europe, where the slowdown in renewables development has been felt in the last two years. He acknowledges that these PPAs are not new.

“We were negotiating PPAs back in 2008, 2009,” he says. “But with the subsidies taken away, there is a renewed focus on corporate PPAs and a sense that this solution can potentially unlock a number of projects that have been mothballed over the last 24 months.”

The use of corporate PPAs is growing dramatically. According to Bloomberg New Energy Finance, last year, 121 corporations in 21 countries signed PPAs for 13.4GW of clean energy – more than double the 6.1GW contracted under these types of agreements in 2017. The transition from subsidised

For the first time since 2001, renewables capacity additions were the same year-on-year in 2018



Source: International Energy Agency

“What is required is a holistic approach. What doesn’t work is just pushing harder on one end – renewable generation, for example”

MARCO VAN DAELE
SUSI Partners

to unsubsidised projects is one factor that helps put the IEA’s findings in perspective. Van Daele suggests another element that deserves consideration.

“If you look at year-on-year changes, you always have to consider what you’re comparing it with,” he says. “If you look at 2017, China alone built 53.1GW of solar projects in one year. That is a quarter of Germany’s entire generation stack.”

In 2018, that figure fell to 44GW. Although it was less than what the country had added the year before, Fitch Solutions said in a January note that it was “by far the most solar capacity additions registered for any country globally”.

Subsidy-free solar

The decline was the result of an abrupt policy reversal implemented by the Chinese government in June 2018, which overnight put a halt to solar subsidies as the country looked to move towards a market-based system.

What’s more, renewables projects in the country have not always been built where they are needed.

As BloombergNEF points out, more than 70 percent of China’s large-scale wind and solar projects have been installed in the country’s resource-rich northern regions, where demand for electricity is limited and where there is little export capacity.

Since the policy reversal of 2018, the government has proposed to give unsubsi-

dised solar projects priority for grid integration, while subsidised projects would move to the back of the queue. A final decision was still pending at the time of writing.

In densely-populated Europe, policy uncertainty is not an issue, though permitting is. “Space is a scarce resource, and people just don’t want very high, large wind farms in their backyards,” van Daele points out.

Burghardt agrees that ‘nimbyism’ is prevalent across the continent, though he points to ways around it. “A lot of good sites have indeed been taken, but some still remain,” he says. “And with technological progress – higher met masts or double layer PV for instance – some sites which were uneconomical in the past will become economical in the future.”

For Partners Group, the scarcity of space has opened up opportunities.

“For a long time, a lot of the onshore wind business was small projects,” says Peiner. “Now, we see that people are running out of smaller areas and smaller high-wind or solar-suitable pieces of land. In addition to the right offtake solutions on the onshore side, you also need scale. Because only if you can build in scale, can you really benefit from the downward trend in costs.”

This has led Partners Group to look at onshore wind again, thanks to the emergence of some sizeable and scalable projects with the right contractual offtakes in the Nordics, a region that enjoys the benefits of space.

While Europe has been experiencing a slowdown in the last one to two years, the

US has not. In fact, David Scaysbrook, co-founder and managing partner of Australia-based Quinbrook Infrastructure Partners, is seeing the opposite.

“We’re running into equipment shortages,” he says. “Large scale orders of wind turbines and solar modules are basically sold out in the US for the next two years.”

This is partly because of the investment tax credits for solar power and the production tax credits for wind energy. Both sets are subject to gradual cuts every year before disappearing altogether in 2024.

Raising the standards

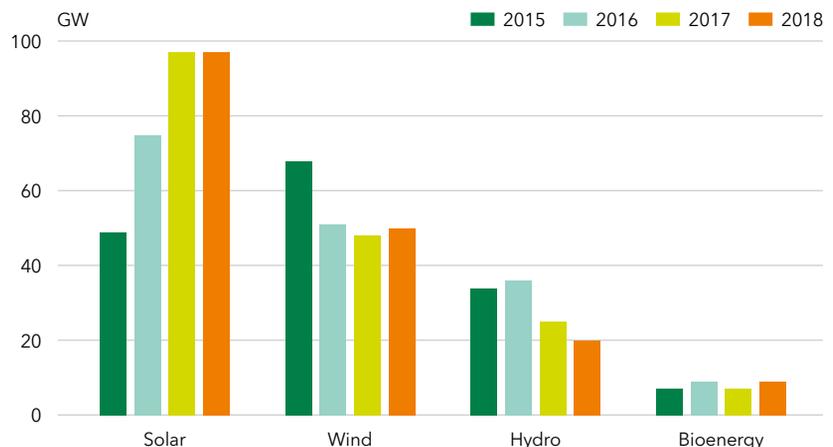
But aside from the ITCs and PTCs, which Scaysbrook describes as the pricing driver, there is the demand driver in the form of renewable portfolio standards, which are fuelling renewables development. As of October 2018, 29 states and Washington DC had adopted RPS policies, which require an increasing proportion of energy to be produced from renewable sources.

It is these regulations, along with ad-hoc initiatives by individual states, that have led Fitch Solutions to forecast that renewable energy capacity in the US will increase by an annual average of 6.3 percent between 2019 and 2028. In its Q3 2019 report on the US renewables market, the company said this would total just under 318GW by the end of the forecast period.

And then there is the third driver fuelling renewables growth in the US: corporate PPAs.

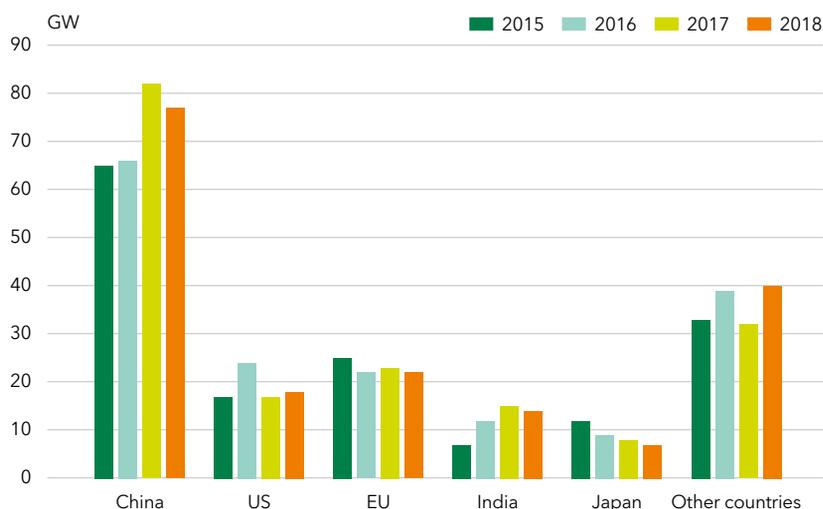
“You have corporates signing up for

Globally since 2015, solar energy has been compensating for slower increases in wind and hydroelectric power (new capacity per year)



Source: International Energy Agency

China remains a global leader in generating energy from renewables, despite an about-turn on solar subsidies



Source: International Energy Agency

direct procurement contracts that are not necessarily being driven by a state's RPS but because they're cheaper," says Scaysbrook. "We're seeing wind and solar being priced in the US under long-term contracts at unprecedented levels. It's so cheap. It's a fraction of what even incumbent fossil fuel plants can sell at."

Asked what other obstacles, aside from the equipment shortage, Quinbrook has faced in the US, Scaysbrook points to the import tariffs on steel and related plant equipment, "given that most of renewable energy equipment is imported and has a high steel component".

"The uncertainty around trade and tariffs and the cost of imported equipment over time is one of the biggest issues playing on everyone's mind right now."

'Naïve investing' Down Under

Australia is another market that has been characterised by uncertainty, in part because of the absence of a clear energy policy at the federal level. Yet that did not prevent record levels of investment and construction in the sector in 2018.

According to Australian trade body the Clean Energy Council, at the end of 2018, 14.6GW of renewable energy projects were under construction. Their total value stood at A\$26 billion (\$18.2 billion; €16.0 billion), double the amount for projects that were

under way the previous year. But according to Scaysbrook, "there's a lot of naïve investing" in Australian renewables when it comes to marginal loss factors.

These represent the impact of network losses – the amount of electricity that is lost as it travels from the generation source to the end user – on spot prices. Assets in remote areas or in places with many other generators will often have lower MLFs and will therefore receive lower payments for the power generated. This adds an extra layer of uncertainty to the market, since they are calculated on an annual basis.

"The recent decision around the MLF for the 2019-20 financial year was a departure from what we've seen historically," says Angela Karl, a partner at QIC and director of its Powering Australian Renewables Fund. "We saw a very significant variability of up to 20 percent. In effect, that demonstrates two things. The first is poor aggregated grid planning and the second is poor communication to the developers of these projects about what the commitment to their projects is likely to do to the MLF."

Scaysbrook points to the state of Queensland in north-eastern Australia to illustrate the level of uncertainty.

"The entire system in Queensland is say 10,000MW of generation that is meeting demand," he says. "But there's 18,000MW of new connection applications just from

new solar projects alone. You'd have to be a wizard to be able to figure out which of those 18,000MW are actually going to go ahead at which particular location, and at what particular time over the next few years, to determine what the MLF outcomes are likely to be."

Scaysbrook says the Australian Energy Market Operator, which calculates the MLFs, has to do a better job of being transparent about the details of new applications and communicating with the stakeholders. However, he also calls for a more stringent grid-connection process.

"It's too easy to lodge an application for transmission," he says. "It should be much harder, requiring applicants to demonstrate financial and technical bona fides for a project to get a queue position. And I think that is part of the problem."

A bright future ahead?

Despite the challenges each market faces and the stalled growth in 2018, the industry experts we spoke to remain optimistic that the sector will continue to grow.

"If you define the sector as renewable generation, we are certainly in a transition period and I expect that volume to increase drastically again," says van Daele.

But it's not just investment in renewables generation that needs to increase in order to limit any increase in global warming to below 2 degrees Celsius.

"What is required is a holistic approach," van Daele continues. "What doesn't work is just pushing harder on one end – renewable generation, for example – without including energy efficiency, energy storage and other smart technologies that allow clean, cheap and reliable power to get to the consumers as and when they need it and at a good price."

Marsh agrees: "To facilitate the next meaningful growth in renewables, we need smart infrastructure, smart distribution, smart transmission and smart homes."

Governments also have a role to play in encouraging investment in the infrastructure that will be needed to increase renewables' penetration into the energy mix.

"Subsidy-free doesn't mean policy-free," says Marsh. "This is a key distinction. Governments still have a massive role to play in enabling the future growth of renewables, even if they're not financially subsidising it."

The future of the planet depends on it. ■