Solar begins winding road to post-COVID green new tomorrow

COVID-19 | PV's rise to the mainstream finds it now inextricably linked to an economy tumbling towards recession. Players approached by José Rojo acknowledge the disruption but believe the chaos may hand the industry a chance to become a core part of a new world rebuilt along green lines

"It sounds really bad but I was a solar analyst the last time we had a global recession [in the late 2000s] and I kind of didn't notice," comes the answer of Jenny Chase of BloombergNEF (BNEF), quizzed over solar's prospects in a world fast careening into economic depression.

To be clear, the solar analyst does believe COVID-19's solar impacts may be significant. There is the drop in global growth forecasts for 2021, with BNEF itself now expecting 123GW where it had predicted 121-152GW before. There are hard-hit segments like US residential solar, facing job losses and bankruptcy risks as cash-strapped households postpone spending decisions. "We recently cut our forecast for US solar this year from 14GW to 11GW and residential is the main reason," says Chase, noting that BNEF currently thinks the sector will not meaningfully bounce back until 2022.

However, shift the lens to the utility-scale end and the analyst sounds decidedly more upbeat. "I don't think this is going to be a specific problem for solar," Chase says. "There is not really a supply issue, work hasn't completely stopped, the US is not as dependent on long-range migrant labour and I don't think funding will dry up." She concedes that across-the-board logistics disruption will delay timetables to some extent but adds: "I know developers will complain because that's what developers do but I admit I don't see anything that should stop projects from being built."

Attention is also turning to how China, the first to be hit by COVID-19 and among the first to see a way out, will fare on the downstream solar front this year. When the country acted in February to postpone its solar mega-auctions, BNEF trimmed its 2020 Chinese PV forecasts "substantially" right away. "It's not that these projects won't happen, they're just being pushed back because China responded," the analyst points out. "There is also whether China will do something else this year [to fuel growth], particularly if their manufacturers are hurting. But so far we haven't seen any sign."

Credit: Iberdrola

Experts believe the pandemic will disrupt but not derail the decade-long boom solar was set to start this year, with project giants like Iberdrola's Núñez de Balboa symbolising the new era

India – already told pre-pandemic it was set to miss its 175GW-by-2022 renewable target – is "more of an unknown quantity", Chase says. The solar analyst explains that the COVID-19 outbreak has not yet convinced BNEF to change its forecasts of 11.6GW of solar new-builds in India in 2020, almost exactly flat on last year. She notes, however: "I think don't think many auctions have been explicitly delayed but we certainly expect this to happen. The other thing is that whereas with China the pandemic seems under control, everyone's got the suspicions that this is not India's case at all."

According to Chase, BNEF's position as of early May is that Southeast Asia and Australia should not see solar growth majorly dented by COVID-19. "Again, we haven't actually changed the forecasts for those places," she says. "We've actually increased Vietnam because of their new feed-in tariffs (FiTs) and [South] Korea could increase too as they've come up with residential incentives specifically because of COVID-19." Elsewhere, Brazil has been the only other country to see its BNEF growth forecast boosted, thanks to its generous net metering scheme. Asked about other analysts' warnings of Latin American renewables' vulnerability to the present currency chaos, Chase sounds sceptical.

"I think it's always been a risk," she says. "Currency fluctuations have long been an issue in places like Mexico and Brazil, they're always derailing deals and making banks more risk-averse – I don't see this as a specific COVID-19 factor as everyone's been hit." Quizzed over the talk of impacts for PV players having to

Credit: BloombergNEF

BNEF's Jenny Chase believes US utility-scale solar prospects are sound even if the residential segment is bound to take a hit

fund purchases with a soaring dollar, Chase adds: "We expect modules will be even cheaper than we thought given lower demand and these are the main things people buy with foreign currency anyways. Honestly, I think people can sometimes overstate currency risks."

Merchant takes hit as free-market link proves costly

Solar players time-travelling from the earlier global recession of the late 2000s would find the industry changed beyond recognition. The transformation has been quantitative – worldwide installed PV capacity has boomed from 40GW in 2010 to 580GW in 2019, IRENA believes – but also qualitative in nature.

As even the optimistic Jenny Chase acknowledges, the looming crash finds the sector far more intertwined with the wider economy than it was a decade back. The link to the free market – a connection via consumer sentiment and power prices – has proved costly as the pandemic squeezed the global economy. Firms relying on household spending have been pushed towards mass layoffs while merchant ventures have seen revenues sapped by the power price plunge. Some in the latter group might, Chase believes, find sense in mothballing projects for a "couple of years".

For Europe's merchant solar star, the pullback has been clear. Spain, reports José Donoso of PV association UNEF, is currently seeing a retrenchment of banks, with low power prices stifling the appetite to grant loans and highly leveraged funding packages. How investment funds will factor the tumbling prices into their analysis remains to be seen but for now, the impacts on Spain's hitherto buoyant solar PPA scene have been noticeable, says the general director. "No off-taker" will currently accept the longer PPA timeframes and the €38-42/MWh prices Spain had seen until now, he adds.

On the other end, the solar financier view seems upbeat, however. Director Roger Font of Banco Sabadell does echo the predictions of a slow power price recovery – the bank expects "there won't be a return" to €50/MWh this year or next, he says – and accepts that a lower price curve will see less debt provided to solar projects. However, he brushes aside talk of merchant solar activity coming to a standstill. "I can't say we are seeing the [funding] taps being closed," Font says, adding that Sabadell has closed three renewable deals so far despite COVID-19, and expects more before the summer (turn to p.** for a full interview with Font).

According to PVEL's Jenya Meydbray, the crisis won't likely dent China's solar manufacturing dominance nor slow down the current R&D race

However disruptive they end up proving, low prices might be a reality solar has to live with well after COVID-19 fades; according to UK-based Aurora Energy Research, full recovery in Europe may not arrive until 2025. An earlier comeback is both the prediction of BNEF's Chase – economic growth may arrive in 2022, she believes – and UNEF's Donoso, who expects prices to start bouncing back in the short- to medium-term. Until then, Donoso agrees that shaving O&M costs through technology and hedging risks through energy trading venues are both strategies firms can follow, but adds: "It does help but ultimately it's all about cash flow and that comes from power prices."

While it waits for the waters to calm, European solar finds itself in need of a growth driver that does not rely on a crashing economy. Already seen pre-pandemic as a key enabler of steep renewable targets, auctions are currently talked about as a critical stepstone for the sector to revive. In France – where installed PV must boom from today's 9.5GW to 35.1-44GW by 2028 – operators tell PV Tech Power of their success persuading the state not to fully delay tenders. Spain, where auction-free growth seemed a less-distant possibility pre-COVID, will need them now in the short-term, Donoso says. "If well designed, it is the only way there is right now to bring stability and steady growth."

COVID-19 no match for China's upstream dominance

Across the upstream-downstream divide, the Asian solar manufacturers that bore the initial brunt of the COVID-19 disruption will be largely fine in the long run, says PVEL CEO Jenya Meydbray.

Interviewed by *PV Tech Power,* Meydbray bases his assertion on three core dynamics, starting with demand. "I think solar demand will generally continue and that is what ultimately matters the most to keep things afloat," the CEO says. Like Chase, Meydbray believes utility-scale will be less impacted, pointing at the fact that US players are still building through the national quarantine. He acknowledges segments such as residential will see a near-term drop but believes certain dynamics – a rise in corporate responsibility, the oil sector crash – will see demand rise in the longer run.

Second in Meydbray's list is technology leadership. On this front, he expects solar makers to focus on innovation rather than the "same old 72-cell PERC lines". From Trina's 500Wp addition to LONGi's seamless soldering or milestones around busbars, product releases have followed one another and the pace is not likely to relent if demand holds, PVEL's CEO says, adding: "These announcements are all trying to one up each other and it's effective – talking to developers, they're all really interested." He can see n-type production rising in the post-COVID era. "Large-scale planning for n-type production is probably starting now, and investment and build-out will come next."

According to Meydbray, access to capital is the third – and "harder to gauge" – axis of solar makers' post-COVID future. On the one hand, governments will likely be out of money but on the other, low interest rates mean

commercial debt will remain an option for financially solvent manufacturers. "With crises you tend to see a flight to quality. Weaker players may be hit disproportionately with access to capital," he says. "Those who've been less responsible with capacity moves will likely have strained balances, higher debt load. If they hit the pause button for long, they die."

COVID-19 and solar started off as a supply chain story and many wonder now what the long-term impacts will be for module prices. According to Meydbray, the US is distorted by tax policies and may see prices crash until PV players manage to use up the major inventories they built to qualify for safe-harboured investment tax credits. Quizzed over Europe, PVEL's CEO points at the campaign for a green COVID-19 recovery, a cause backed by heavyweights including German chancellor Angela Merkel. "It's an inflection point for solar but there's a time component too," he says. "We'll probably see a short-term price drop and come the second half of 2021, a resurgence of demand and prices."

Some like the Asian Development Bank have said COVID-19 is a chance to rethink the global reliance on Chinese manufacturers, but Meydbray remains sceptical. Pandemic-recovering countries will likely lack the cash to sponsor a new industry and even if they did, unseating China after its "painful and expensive" years building the full solar supply chain would take more than that, he says. Run by Chinese firms themselves, Southeast Asia's solar segment will continue the earlier growth trajectory, PVEL's CEO believes. "Look at LONGi's takeover of Vena Energy, the contract manufacturer for pretty much all other Chinese firms," he says. "Come 2021, they're all going to find an alternative. Vena was 7GW of a 30GW market – that gap needs to appear out of nowhere real fast."

Solar's chance as world dares to dream green new future

The latest headlines around a world that awaits the other side of COVID-19 make for sobering reading. The worst economic recession since last century's Great Depression. Some US$9 trillion of cumulative GDP losses worldwide. Nearly 195 million of jobs wiped out across the planet. While only drops in a sea of incalculable human and economic losses, solar's recent actions in the face of the emergency have offered some relief. At hospitals, greenhouses and isolated communities, PV panels have helped keep the lights on at a time of need.

Listen to global experts, though, and it soon becomes clear the industry could do much more if given the chance. Green energy body IRENA could be expected to say what it did in late April – the agency claimed investing in renewables could unlock a US$98 trillion global GDP boost by 2050 – but IEA's verdict was perhaps more surprising. The agency, attacked in the past for "underestimating" renewable growth, recently said renewables will be the only segment to grow following the "historic shock" the power sector is facing. The new decision of Total and other oil and gas majors – hardly solar enthusiasts until recently – to double down on green spending, even as COVID-19 decimates revenues, emphasises that faith in renewables' future role is becoming ubiquitous.

The mix of shuttered economies and sunny weather of April 2020 showed much of the world what a solar-powered reality looks like: abundant, cheap electricity fuelled by cleaner skies. And yet the so-called "postcard from the future" has a less-rosy side, documented by various analyses. The cannibalisation happening today because of lower demand – prompting a subsidy cut-off for Dutch PV players – may repeat in later years due to higher renewable supply. From the UK's ESO asking for powers to switch off embedded systems to Australian regulators warning they will have to disconnect solar if the grid is not updated, the COVID-era power market is already offering a cautionary tale around the risks from failing to adapt to high green energy uptake.

UNEF's Donoso believes the time has come for regulators to address the "elephant in the room". "Our power market was designed last century and continues to revolve around variable costs when renewables lack these," he says. "What will happen when we become fully renewable? I think COVID-19 has offered a little experiment of the years to come." Asked if reform on this front is likely in Europe, Donoso concedes EU authorities are now aware of the problem but are struggling to find a solution that benefits everyone. "It's complex but someone has to put this on the table – this model doesn't assign prices efficiently, it is incompatible with the energy transition," he says.

Whether or not along the specific lines of the market reform Donoso proposes, Europe's appetite for a renewables-powered COVID-19 comeback is clear. Documents leaked in early May, seen by PV Tech Power, show the European Commission is listening to the rising chorus: together with building renovation, green energy is reportedly one of the two recovery pillars the EU executive plans to focus on. As BNEF's Chase notes, whether the US and Australia will too embrace a green comeback is equally important. The latest actions of US president Donald Trump – insistence on solar tariffs, a clampdown on power equipment imports – suggest the road ahead will be bumpy.

Highlights such as Portugal aside, can IRENA's and IEA's talk of a green COVID-19 response materialise in a world where inwards-looking protectionism is spreading? PV Tech Power's questions on this front to either agency were met with silence. However, some of the signs do suggest that the post-COVID green new tomorrow the world is heading towards is a place where solar can prosper; the very premise is apparent in the closing remarks of various interviewees.

BNEF's Chase stresses she does not want to use the words 'silver lining' for a crisis that has claimed hundreds of thousands of lives so far, but adds: "My suspicion is that it won't affect deployment that much. It's true that residential solar firms may go bankrupt without help and I think the government should help workers because I generally think they should, but I don't think it matters to the overall buildout of clean energy."

For his part, UNEF's Donoso links his long-term optimism to his background. "Back when I worked as an economist, we used to look at two key questions: whether there's an objective need for a firm's products and whether the firm has competitive advantage," he says. "Going forward, there will be an objective need of clean, cheap electricity – and those are things solar can provide." ■