

# Seismic shocks as the coronavirus spreads

**COVID-19** | Since its emergence, the novel coronavirus has spread quickly across the world causing untold disruption. Liam Stoker and José Rojo detail how the pandemic has affected the clean energy economy to date

**A**fter first being identified in December 2019, the COVID-19 pandemic has progressed to having profound impacts across the world. At the time of writing, there have been more than four million confirmed cases across 187 countries and territories. It is a truly global crisis, with material and lasting effects.

The solar sector has been affected like any other industry, starting in earnest in late January and early February when manufacturing of modules, components and materials in China was disrupted by the spread of the disease and efforts to contain it. The extension of the lunar new year holiday meant that while solar manufacturing continued, it stood to be stymied somewhat. Investment bank Roth Capital first warned in late January that it had encountered reports of manufacturing delays, with supply chain and logistics also disrupted.

Attempts to quell the spread of the virus ultimately failed, and by late February it was spreading out of control in Europe and the US, with Spain and Italy hardest hit. France, the UK and the state of New York were not far behind, and governments across the world enforced strict lockdown and shelter-in-place measures in a bid to contain the virus.

These measures, varying in severity as they are, have caused significant disruption to the solar industry. While the classification of engineers as key or essential workers in some jurisdictions has allowed for field operation and maintenance to continue, new project development or construction has been hit hard, with delays now commonplace.

## Shelter in place

Likewise, residential solar installations have been particularly hard hit. Isolation is a central tenet to any nation's pandemic strategy, so welcoming contractors into



Credit: Paris News Agency

your home to fix a solar PV system has been a non-starter for most markets.

As a result, install figures have plummeted. Enphase Energy chief executive Badri Kothandaraman told analysts during an investor call in May that industry reports he'd seen projected that residential installs in the US had fallen somewhere between 30 and 50%. A recent survey by the UK's Solar Trade Association of its members revealed similar disruptions.

Government support of business during the pandemic varies wildly, but it is certain that many thousands of jobs in the solar sector will be lost in the immediate aftermath. The Solar Energy Industries Association has repeatedly warned that up to 50% of jobs in the US solar sector – amounting to some 125,000 – could be lost as a result of the pandemic, while BloombergNEF has suggested between 16-30%. Other estimates are significantly higher. A recent survey of UK installers found that 90% had been severely impacted, with cash flow a principal concern.

Meanwhile, employee safety has taken on perhaps unprecedented importance. Key roles have shifted to become home-based, with many companies in the sector speaking of completing years' worth of technology migrations in a matter of weeks. For those roles that cannot be conducted at home, stringent social distancing measures are now compulsory.

But the pandemic poses more compli-

## World Health Organisation officials meet in Tehran to discuss the spread of the virus

cated and penetrative problems than those witnessed by the supply chain and installation to date. Indeed, as some analysis has identified, the coronavirus looks certain to reverberate around the energy sector for years to come.

## Seismic shocks

Analysis of the early impacts of the virus has been clear: the world is witnessing a once-in-a-generation shift in energy demand. Established economies, pushed into recession as industries have been shuttered, are experiencing the kind of collapse in power demand the International Energy Agency described as "seismic". A projected fall in power demand of 5% by the end of the year could see renewables provide more of the world's electricity need than ever before, but at a significantly cheaper price than was previously forecast. As pages 14-16 will attest, that slide in demand is moving the goalposts for merchant-based renewables in what could constitute a body blow for tens of gigawatts of prospective capacity additions in Europe alone.

What has become clear in the months since the pandemic's spread is that there will be no corner of the global economy left untouched by its impact. COVID-19 and the ensuing crises, whether they be logistical, economic or societal, will be felt for some time yet. It's therefore of little surprise that politicians and business leaders alike have placed great significance on the need for industries not to plot a return to the old ways, but identify a new normal.

As you'll read in the forthcoming pages, the solar sector has proven itself particularly adept at this. There is also an increasingly popular school of thought that not only could the clean economy regain lost ground quickly but take a far more prominent role and become central to any recovery.

# COVID-19: A Timeline

<p><b>31 January 2020</b></p>	<p><b>Coronavirus expected to impact China's solar industry supply chain</b>                  ROTH Capital Partners tells investors new COVID-19 outbreak in China is likely to impact the solar industry supply chain, amid standstill across eight provinces through 9 February.</p>	<p><b>China's solar industry getting back to work as logistical constraints emerge</b>                  China's PV industry tentatively starts to get back to work after the extended New Year holiday period, with bottlenecks and shortages still plaguing the supply chain.</p>
<p><b>12 February 2020</b></p>	<p><b>China solar exports witness 35% year-on-year slide in January</b>                  Official export data shows exports of solar products from China in January 2020 were around 35% lower than one year prior, reflecting COVID-19's impacts during the period.</p>	<p><b>IEA: Coronavirus-driven oil rout will 'test' renewable pledges of O&amp;G majors</b>                  Global watchdog says the crash of oil prices as the global coronavirus crisis intensifies may challenge the plans by oil and gas giants to finance a shift to renewables.</p>
<p><b>26 February 2020</b></p>	<p><b>China solar exports witness 35% year-on-year slide in January</b>                  Official export data shows exports of solar products from China in January 2020 were around 35% lower than one year prior, reflecting COVID-19's impacts during the period.</p>	<p><b>IEA: Coronavirus-driven oil rout will 'test' renewable pledges of O&amp;G majors</b>                  Global watchdog says the crash of oil prices as the global coronavirus crisis intensifies may challenge the plans by oil and gas giants to finance a shift to renewables.</p>
<p><b>10 March 2020</b></p>	<p><b>India begins renewables aid campaign as crisis exposes sector vulnerability</b>                  Deadline extensions mark start of flurry of renewables-friendly policy moves, with government following by enshrining sector as "essential" and finding land for new PV factories.</p>	<p><b>COVID-19 prompts solar tender recalibration across key European markets</b>                  France and Germany alter solar tender rules in a bid to adjust to a reality of project delays, while Portugal reschedules late-March tender launch to early June.</p>
<p><b>23 March 2020</b></p>	<p><b>India begins renewables aid campaign as crisis exposes sector vulnerability</b>                  Deadline extensions mark start of flurry of renewables-friendly policy moves, with government following by enshrining sector as "essential" and finding land for new PV factories.</p>	<p><b>COVID-19 prompts solar tender recalibration across key European markets</b>                  France and Germany alter solar tender rules in a bid to adjust to a reality of project delays, while Portugal reschedules late-March tender launch to early June.</p>
<p><b>25 March 2020</b></p>	<p><b>US COVID-19 stimulus package passes without solar ITC extension</b>                  Attempts fail to include solar tax credits in a US\$2tn federal aid package, passed one month before president Donald Trump excludes PV from a broader import tariff reprieve.</p>	<p><b>Intersolar Europe 2020, SNEC 2020 cancelled as COVID-19 crisis intensifies</b>                  Europe's and Asia's top solar events are postponed as the world grapples with the COVID-19 outbreak, with SNEC being rearranged for mid-October.</p>
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<p><b>30 March 2020</b></p>	<p><b>PV makers' expansion moves top 500GW despite COVID-19's shadow</b>                  PV Tech's preliminary analysis shows Q1 2020 expansion announcements easily surpass any previously recorded in the industry's history.</p>	<p><b>Wood Mackenzie lowers global solar demand forecast on COVID-19 impact</b>                  Consultancy cites project delays and financial fallout as it slashes pre-pandemic 2020 global solar installation forecast by 18% from 129.5GW to 106.4GW.</p>
<p><b>6 April 2020</b></p>	<p><b>PV makers' expansion moves top 500GW despite COVID-19's shadow</b>                  PV Tech's preliminary analysis shows Q1 2020 expansion announcements easily surpass any previously recorded in the industry's history.</p>	<p><b>Wood Mackenzie lowers global solar demand forecast on COVID-19 impact</b>                  Consultancy cites project delays and financial fallout as it slashes pre-pandemic 2020 global solar installation forecast by 18% from 129.5GW to 106.4GW.</p>
<p><b>9 April 2020</b></p>	<p><b>Spanish solar back in play as temporary construction freeze is lifted</b>                  Solar construction resumes in what is seen as one of the world's most promising markets, following the lifting of lockdown measures that brought work to a halt for 10 days.</p>	<p><b>Solar scores generation records across the globe as lockdowns alter market dynamics</b>                  Quarantine measures against the COVID-19 outbreak set the scene for generation records by solar and broader renewables in Germany, Spain, the UK and Australia.</p>
<p><b>14 April 2020</b></p>	<p><b>Spanish solar back in play as temporary construction freeze is lifted</b>                  Solar construction resumes in what is seen as one of the world's most promising markets, following the lifting of lockdown measures that brought work to a halt for 10 days.</p>	<p><b>Solar scores generation records across the globe as lockdowns alter market dynamics</b>                  Quarantine measures against the COVID-19 outbreak set the scene for generation records by solar and broader renewables in Germany, Spain, the UK and Australia.</p>
<p><b>16 April 2020</b></p>	<p><b>Negative pricing triggers subsidy block for European solar players</b>                  Dutch PV players feel heat of negative power prices after regulator warns that extended periods of sub-zero tariffs will trigger subsidy cut-offs, in line with European regulation.</p>	<p><b>EU solar generation jumps 28% year-on-year in month of lockdown</b>                  Mix of pandemic-driven economic paralysis and milder weather pushes EU solar generation to new heights, amid talk by analysts that the jump evidences the need for flexibility.</p>
<p><b>22 April 2020</b></p>	<p><b>Negative pricing triggers subsidy block for European solar players</b>                  Dutch PV players feel heat of negative power prices after regulator warns that extended periods of sub-zero tariffs will trigger subsidy cut-offs, in line with European regulation.</p>	<p><b>EU solar generation jumps 28% year-on-year in month of lockdown</b>                  Mix of pandemic-driven economic paralysis and milder weather pushes EU solar generation to new heights, amid talk by analysts that the jump evidences the need for flexibility.</p>
<p><b>5 May 2020</b></p>	<p><b>Leak suggests renewables will be one of Europe's recovery pillars</b>                  Unpublished draft seen by PV Tech reveals plans by European Commission to make green energy one of two priorities of COVID-19 comeback, together with building renovation.</p>	<p><b>SunPower, Vivint, Sunrun updates show pandemic hit yet to come</b>                  Latest results of SunPower, Vivint Solar and Sunrun underscore broader trend of top solar players faring well in Q1 but expecting setbacks in Q2.</p>
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