



Renewables
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Perspective

Coronavirus: Impact on the renewables sector

*An overview of how the
Covid-19 crisis is affecting the
industry.*

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CORONAVIRUS: IMPACT ON THE RENEWABLES SECTOR

In this article we gaze into the crystal ball and take a look at how economic uncertainty, a slump in energy demand, factory shutdowns, and a range of other factors might impact the renewable energy sector. The coronavirus (Covid-19) public health emergency has already taken a terrible toll in terms of human life and there remains profound uncertainty over the course of the pandemic and its impact on the global economy. Whilst energy infrastructure is a resilient asset class, what is certain is that energy markets will change as a result of the pandemic.

The coronavirus pandemic has already had a large negative effect on economic activity as a result of the “great lockdown”, imposed by governments in a bid to contain the virus. Economic recessions tend to result in lower energy use – travel reduces, consumption decreases. With the pandemic we see travel curtailed and manufacturing all but halted. Layer on to this the prospect that both consumers and business will struggle to pay their power bills and we see an unprecedented cash flow squeeze for utilities. For everyone else in the market we see a slump in power prices.

On the surface, things may seem gloomy, but across most areas in the renewable sector we expect continued growth – though at a more modest level compared with what we expected only a few months ago.

Investment and development

“Emergency lifelines provided globally to address the pandemic total US\$7.8 trillion.

International Monetary Fund

The impact on output and public finances is projected to be massive. The IMF estimates that at the global level, spending and revenue measures to support health systems, people and firms amount to US\$ 3.3 trillion and loans, equity injections, and guarantees total US\$ 4.5 trillion.¹ Most economies are experiencing a broad economic slow-down, either due to the direct impact of measures to control the pandemic or a collapse in demand.

¹ Fiscal Monitor - April 2020 (IMF, April 2020).
<https://www.imf.org/en/Publications/FM/Issues/2020/04/06/fiscal-monitor-april-2020>

“ Although resilient, renewables are unlikely to emerge unscathed.

To put this in perspective, the International Renewable Energy Agency (IRENA) this month published its Global Renewables Outlook, which showed a pathway to deeper decarbonisation requires total energy investment of up to US\$ 130 trillion by 2050.²

Although resilient, renewables are unlikely to emerge unscathed. Renewable energy infrastructure requires massive upfront investment. Yet the cashflow companies rely on to make investments has been compromised. Wholesale power prices have tumbled as electricity demand has slumped and at the same time many utilities are being asked to forbear on bills to consumers and businesses. High debt will weigh heavily on the capacity of the private sector to make necessary investments.

Swedish utility, Vattenfall, recently announced that it would not take part in the Netherlands' tender Hollandse Kust Noord offshore wind zone because of the coronavirus pandemic, citing a careful evaluation of risk-reward and focus on core activities and delivering existing projects. Despite this the Netherlands Enterprise Agency (RVO) has confirmed the tender will continue as planned and is open until 30 April 2020.

In the United Kingdom, it is notable that the Crown Estate is pressing ahead with its current offshore wind leasing round with only a small delay to assist bidders getting to grips with remote working.³ The Crown Estate Scotland has signalled a similar approach for the forthcoming Scotwind offshore wind leasing round.⁴ The industry has welcomed this boost in confidence.

In the United States, New York State public authorities and agencies announced the passage of legislation as part the FY 2020-2021 state budget to dramatically speed up the siting and construction of clean energy projects to combat climate change and help jumpstart the state's economic recovery from the coronavirus health crisis.⁵ NYSERDA has temporarily paused tender requests for new renewable energy projects and is consulting with stakeholders on how to proceed with offshore wind solicitation whilst the coronavirus

² Global Renewables Outlook: Energy transformation 2050 (IRENA, Apr 2020).
<https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>

³ A sustainable clean energy future, Update. (The Crown Estate, 1 Apr 2020).
<https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/offshore-wind-leasing-round-4/>

⁴ Crown Estate Scotland statement on ScotWind Leasing and COVID-19. (CES, 23 Mar 2020).
<https://www.crownstatescotland.com/media-and-notice/news-media-releases-opinion/crown-estate-scotland-statement-on-scotwind-leasing-and-covid-19>

⁵ New York State Announces Passage of Accelerated Renewable Energy Growth and Community Benefit Act as Part of 2020-2021 Enacted State Budget (NYSERDA, 3 Apr 2020).
<https://www.nyserderda.ny.gov/About/Newsroom/2020-Announcements/2020-04-03-NEW-YORK-STATE-ANNOUNCES-PASSAGE-OF-ACCELERATED-RENEWABLE-ENERGY-GROWTH-AND-COMMUNITY-BENEFIT-ACT-AS-PART-OF-2020-2021-ENACTED-STATE-BUDGET>

emergency measures are in place. Senior officials have committed to issuing the request for proposals as soon as safe and appropriate.

In Japan, the authorities are moving forward with their offshore wind program. For example, METI/MLIT recently issued a draft of auction guideline for the Nagasaki prefecture designation area for public consultation.⁶

Companies reliant on the production of fossil-fuels have been further shaken, suffering a steeper decline. Oil prices declined by 50 percent in the first quarter of 2020. Risks to oil prices are large, stemming from both supply and demand shocks. A combination of increased oil supply and weak global demand could lead to low oil prices for a long period. Global oil markets are under intense pressure, with Brent crude dropping below US\$20 per barrel for the first time in 18 years while other major benchmarks across the world have tumbled, with negative prices reported for some delivered products in the United States as storage reached full capacity.⁷ Oil producers with significant exposure to unconventional oil and gas reserves (shale oil) in the United States are under huge financial stress in the current environment.

“We will accelerate investments as soon as possible to contribute to the economy and boost employment.

Ignacio Galán, Iberdrola group chairman

A significant number of oil majors, including Total, Shell, BP and Repsol, as well as state-backed players such as Equinor, have committed to reducing carbon emissions. These firms rely on using the profits from oil and gas to fund their energy transition. Right now, many are cutting their capital expenditure plans across the board, including renewables. For example, Total recently announced capex cuts of more than US\$ 3 billion (that is, more than 20%), which included a US\$ 300 million cut to its renewables segment.⁸

In contrast, Iberdrola has announced plans to fast-track investments as a direct response to the coronavirus pandemic saying that it believes that this is the best way of getting out of this “atmosphere of crisis and uncertainty”. In 2020, Iberdrola Group plans to invest EUR 10 billion, exceeding previous records. It has placed orders with suppliers, worth over EUR 3.8 billion, earlier than planned, with a pipeline exceeding EUR 20 billion over the next few years.⁹

⁶ Offshore Goto City, Nagasaki Prefecture Ocean renewable energy power generation facility development promotion area, Guidelines (METI/MLIT, 2 Apr 2020). <https://search.e-gov.go.jp/servlet/PcmFileDownload?seqNo=0000201311>

⁷ US oil price takes new dive as market turmoil widens (Financial Times, 21 Apr 2020). <https://www.ft.com/content/26ea5ef9-0619-4e50-b605-58e36d3fc4d9>

⁸ Total announces immediate action plan in context of sharp decrease in oil prices. (Total SA, 23 Mar 2020). <https://www.total.com/media/news/press-releases/total-announces-immediate-action-plan-context-sharp-decrease-oil-prices>

⁹ Iberdrola launches a global action plan to deal with coronavirus (Iberdrola, Apr 2020). https://www.iberdrola.com/social-commitment/coronavirus-iberdrola-global-response?utm_source=internal&utm_medium=referral&utm_campaign=contenidoglobal-abr20

An unknown factor is how governments will choose to stimulate their economies. There is a strong argument that the focus should be on advancing the energy transition, but this is not a given. In the short-term jobs will be a far more important driver than emissions. An accelerated investment in infrastructure that ultimately supports the decarbonisation (for example, electric vehicle charging and green hydrogen) could promote the switch to renewables and create jobs.

Late last year, the European Commission presented The European Green Deal – a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas.¹⁰ A group of around forty members of the European parliament has already urged the Commission to put the Green Deal on ice because of the coronavirus crisis.

“*The long-term drivers for investment in renewables remain sound.*”

Whilst some developers may be weakened, the long-term drivers for investment in renewables remain sound; a response to the climate emergency and the need to repower aging infrastructure.

Where debt finance is required, lenders are likely to be wary of committing funds until the impacts of the pandemic are understood and risks mitigated. Projects underpinned by guaranteed contracts (power purchase agreements or contracts for difference) could provide a relatively safe home for investment, with the sector providing a stable return. The burden of additional extraordinary costs due to the crisis may stretch project budgets to the point of default or breach of financial covenants.

For projects located in emerging countries, even contracts backed by the state could be a risk. In the short-term, those projects that rely on merchant risk are likely to be hit hardest.

Whilst concerns about the future may delay some utilities' appetite to grow their portfolios, it is likely that renewable energy development projects already underway will be completed. The long-lead times in developing these projects and the regulatory support from governments makes many early-stage projects more resilient to the crisis.

Construction and manufacturing

For projects already in the construction phase there has been a scramble to adapt to new working requirements. Whilst office staff can work from home, those at the construction site must find safe ways to work.

¹⁰ The European Green Deal sets out how to make Europe the first climate-neutral continent by 2050 (EC, 11 Dec 2019).
https://ec.europa.eu/commission/presscorner/detail/e%20n/ip_19_6691

“As our digital and local lives expand and our physical and global ones contract, this sea change will create and destroy value.

Mark Carney, former Governor of the Bank of England

Suppliers are focussing on meeting contractual requirements in the face of severe manufacturing and supply chain obstacles. Intricate supply chains linking multiple countries have stalled as factories have either closed or been forced to adopt inefficient working practices to permit social distancing and countries have implemented strict border controls.

Projects in the renewables sector are particularly vulnerable with China being a significant producer of components for solar photovoltaic panels and wind turbines. Whilst China was the first country to lock down industrial plant, production has now restarted at many facilities, though not at full capacity.

In a recent article in the Economist, the former Bank of England Governor, Mark Carney, postulated that the crisis is likely to fragment the global economy.¹¹ Travel restrictions could remain in place for a significant period. Governments will promote local resilience over global efficiency and many companies are coming to the same conclusion.

In the medium-term we expect a continued shift towards supply chain diversification. The trend towards localisation in the renewables sector began with countries seeking a quid pro quo for the provision of subsidies to accelerate development.

This trend has been boosted by fears of continuing trade wars. This risk has already led to companies spreading production across more countries. However, the coronavirus crisis has demonstrated that many of the factory inputs were sourced in China. A probable consequence is that firms will seek greater diversification in components, ensuring supplies can come from multiple sources. This could benefit other rapidly industrialising countries, such as Indonesia and India.

However, diversification could also be achieved by repatriating production – or at least moving it closer to operational centres. The cost differentials have decreased as labour costs have increased in developing countries (in line with a welcome increase in wages), whilst manufacturing in developed countries is becoming increasingly automated. It is highly likely that equipment manufacturers will seek to become more resilient and maintain a critical mass of production closer to home markets.

Onshore wind turbine supplier, Vestas, has announced an optimisation of its product portfolio in a bid to sustain long-term competitiveness, resulting in the layoff of several hundred employees.¹² The firm cited the complexity it faces

¹¹ By invitation: Mark Carney on how the economy must yield to human values (The Economist, 16 Apr 2020). <https://www.economist.com/business/2020/04/16/by-invitation-mark-carney-on-how-the-economy-must-yield-to-human-values>

¹² To ensure strong focus on execution in 2020 and sustain long-term competitiveness, Vestas will optimise its product portfolio (Vestas, 20 Apr 2020). <https://www.vestas.com/en/media/company-news?n=3639268#!NewsView>

from trade wars, tariffs, changing industry structures, and most recently a global pandemic.

Operations

To operate effectively, wind and solar projects rely on engineers and technicians visiting sites, often in remote locations. In normal circumstance the logistics are a challenge, informed by increasingly sophisticated predictive maintenance to be efficient. Factory shutdowns and travel restrictions could all impact the ability to service and maintain renewable projects at the optimum level.

“Contractors that rely on an international workforce have been impacted... some have adopted extraordinary measures.

For onshore and offshore wind power in particular, whilst routine maintenance can be handled by local teams, major component failures often require overseas specialists to assist and oversee corrective repair campaigns. In many countries, operational workers have been given key worker status to allow work to continue whilst movement within the general population has been restricted. Contractors that rely on an international workforce have been impacted as international travel restrictions or quarantine measures have been imposed. Some have adopted extraordinary measures, including chartering flights to bring in workers.

Solar PV facilities can cope well with restrictions to the work environment, maintaining efficient working compared with the challenge of working in the confined spaces within wind turbine towers and nacelles. For solar PV a greater challenge has been problems with the supply chain manufacturing and logistics.

Whilst the measures taken may have kept projects operating at good levels of availability, workforces are under considerable pressure, either from self-isolation, illness or restrictions on movement. This will cause continued operational challenges, exacerbated by supply chain shortages.

In the short-term it is likely that operators will take a much more conservative approach to operations, choosing to close down equipment with fault warnings sooner, rather than risk severe damage. It is also likely that once stopped, with maintenance teams depleted and supply chains impacted, it will take longer to repair faulty turbines. We estimate that, taken together, these factors could reduce typical availability by as much as 10 percentage points.

Delayed maintenance work will create a backlog of non-critical operational interventions, which operators will need to address as workforces return to normal capacity.

In the long-run the crisis may accelerate smarter ways of working, with greater use of automation, predictive monitoring, and digital operations. Many measures in development have been fast-tracked, especially where these

facilitate remote analysis and working. The resulting efficiencies will remain after the pandemic.

Conclusions

The course of the pandemic is highly uncertain, as is the depth and duration of its economic impact. Many sectors will suffer adverse impacts, including the energy sector.

“ Firms in the renewables sector that are more agile and flexible will get back close to full speed quicker and gain competitive advantage.

However, whilst we expect a dampening in overall growth in renewables over the short- to medium-term, the momentum for repowering in developed economies and building capacity in developing economies is unstoppable. Stimulus and pandemic recovery packages could also accelerate the shift to sustainable energy. Some renewable technologies could be ramped up relatively quickly, once restrictions are eased and supply chains recover.

That said, the pandemic will alter the way we all work. As the pandemic abates, firms will adapt and bounce back. Companies in the renewables sector that are more agile and flexible will get back close to full speed quicker and gain competitive advantage. Providing they can master the changed business environment, then we expect the negative impacts on renewables to be short-term.

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Dr. Lee Clarke is a Director and Chief Operating Officer at The Renewables Consulting Group. He has more than 30 years' experience in the energy industry, with a broad range of general management, consultancy, commercial, operational, policy and strategy experience.

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The Renewables Consulting Group

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