Insights
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# COVID-19 and Energy in the New World

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Carbon Tracker Initiative is an independent financial think tank that analyses the impact of the energy transition on capital markets and the potential investment in high-cost, carbon-intensive fossil fuels. Carbon Tracker has helped to popularise the terms “carbon bubble”, “unburnable carbon” and “stranded assets”.

State Street Global Advisors has co-authored this report on the energy transition with Carbon Tracker. The original Carbon Tracker analyst note can be found **here**.

The COVID-19 pandemic represents the most serious global public health challenge for over 100 years. When the crisis passes, we will have a unique opportunity to build a new world as the pandemic — and its widespread impact — has the potential to facilitate the transition from fossil fuels to renewables.

The crisis is likely to bring forward peak demand for fossil fuels (first coal, then oil and then gas) and weaken the lobbying power of incumbents. It also creates space for policymakers to implement a fairer, more sustainable energy system and so enables the clean energy revolution to continue.

Amid the difficult challenges we face, this is an area where we can be hopeful for the future.

## Foreword
by Carlo M. Funk

The COVID-19 pandemic has impacted all areas of our lives and highlights how globally interconnected we are, particularly in terms of commerce and trade. We are only just beginning to digest the implications of the enormous shock to the global economic and financial system arising from the crisis, and the huge fiscal and monetary support enacted by governments and central banks worldwide.

Amid the chaos of the pandemic, it is easy to overlook another — and potentially more serious — long-term threat to humanity and the biosphere — climate change. In a note I wrote recently on the impact of COVID-19 on the ESG and climate investing landscape available **here**, I described climate change as a "slow-burning pandemic".

The COVID-19 crisis has reminded us of the importance of rigorous and objective scientific research, of innovation in the development of solutions, and of the need for cross-border collaboration. These are all lessons we can take in tackling climate change. But will COVID-19 materially change our attitudes to the climate threat?

In the short-term, progress will likely be subdued and some climate-related initiatives (such as COP-26 scheduled for November 2020 in Glasgow) have been postponed. More importantly, however, the pandemic may create a heightened sense of urgency among policymakers and the private sector to address potentially catastrophic climate change risks.

The pandemic is also having a more direct impact in greatly reducing oil demand, amid a backdrop of an oil price war between Saudi Arabia and Russia. This has resulted in a sudden and unprecedented decline of the oil price with oil futures trading at negative territory for the first time in history in April 2020. At this level, exploration projects will be far less attractive and job losses are likely in an industry that is already challenged by government regulations on carbon emissions and the rise of renewables.

At State Street Global Advisors, we are committed to providing our clients with the necessary information and tools to contribute to the transition to a low carbon future. Our range of strategies enable investors to mitigate and adapt to climate change risks and ensure their portfolios are resilient as we transition to a low-carbon economy.

We have written previously in '**2020 Vision**' and '**The Trillion Dollar Windfall**' of the inevitable peaking and decline of fossil fuels in the coming decade, and the rise of renewables as an energy source globally.

In this new paper, we highlight why the COVID-19 pandemic will catalyse the shift from fossil fuels to renewables and why this transition is both needed and inevitable.

## The Fossil Fuel Challenge

After 200 years of continuous expansion, and with the support of many governments and think tanks, a large part of the incumbent energy sector was expecting growth to continue throughout the coming decades.

Yet, the signs of decline were growing even before the current crisis, thanks to the growth of renewables and rising regulatory pressure. Total demand growth for fossil fuels had slowed to just 1% a year,[1] and in nearly 40% of the world, fossil demand was already falling.[2]

In 2018, we calculated that fossil fuel demand would peak in 2023 if the rapid growth rate of renewable energy technologies continued. Stock prices had been underperforming for a decade, with the value of the oil and gas sector falling from 15% of the US stock market to under 5%.

Investors were worried about financial risks, and governments were increasingly concerned about the public health impact of fossil fuel pollution, import dependency and the looming climate disaster. The sector was already vulnerable.

Then came the COVID-19 crisis, where fossil fuel demand rapidly declined, as seen in the falling oil price. Fossil fuel demand may never again surpass the peaks of 2019. By the time the global economy recovers, most of the *growth* in energy demand may be met by renewable energy sources.

When a sector nears its structural peak and hits a cyclical downturn, peak demand is typically advanced by a few years. This is precisely what happened to the European electricity sector as it stumbled unsuspecting into the 2008 crisis. Demand for fossil fuels for electricity collapsed, and never again reached 2007 levels because by the time electricity demand recovered, renewables were large enough to supply all the growth. Share prices fell by up to 90% as $150bn of assets were written off. The European electricity sector underwent radical restructuring and was forced to embrace renewables and reinvent itself for the new world.

> **“Fossil fuel demand may never again surpass the peaks of 2019.”**

Once the peak is passed, the fossil fuel sector will face increased challenges, likely struggling with overcapacity and potential stranded assets, with low returns and high risks. One area of fossil fuels after another will face its peak. We have already seen peaks in demand for coal and will likely approach the peak in demand for oil and gas in the years to come.

There will likely be short-term cyclical peaks and troughs in the demand for fossil fuels, as seen in the elevated volatility in the oil price, for example. Cyclical variations will follow a wider structurally trend of peaking and then decline in fossil fuel demand. The COVID-19 pandemic will likely act to speed up this trend.

## Resilient Renewables

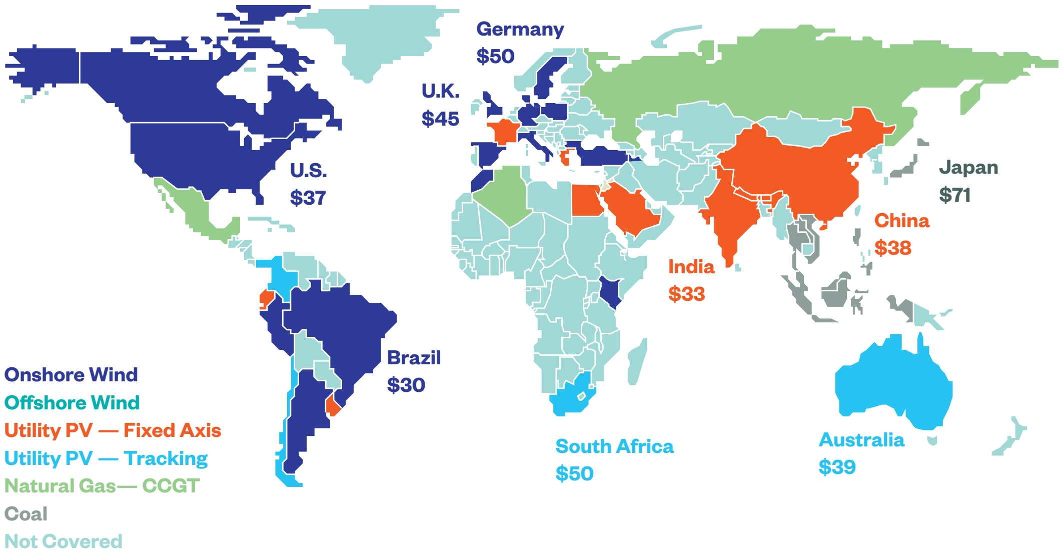
The short-term impact on the renewable sector could be damaging, as component supply shortages and corporate bankruptcies will most likely impact renewables companies in 2020. But there is a world of difference between the challenge faced by a huge low-growth incumbent and a nimble high-growth challenger.

There is no reason to believe that the crisis will end the long-standing story of rapid renewable energy supply growth from a low base, driven by falling prices and superior economics. A parallel can be drawn with the internet prior to the stock market collapse in 2000. Stock prices fell, and many companies went bankrupt. However, innovation kept happening, costs kept falling, quality kept rising and information technology rose to dominance.

> **“The cost of electricity generation from renewables is already lower than fossil fuels in many countries.”**

Since the 2008 global financial crisis, the cost of renewable energy technologies has fallen by over 90%. Furthermore, the cost of electricity generation from renewables is already lower than fossil fuels in many countries, as shown in the chart below:[3]

Figure 1
**Cheapest Source of New Bulk Electricity Generation by Country, H1 2020**




Graph shows benchmark levelised cost of electricity (LCOE) for each country in US dollars per megawatt-hour. LCOE calculations exclude subsidies or tax credits.
PV — Photovoltaic technology that converts sunlight into electricity through the use of semiconductors.
CCGT — Combined Cycle Gas Turbine that generates energy by combining a gas-fired turbine with a steam turbine.
Source: BNEF.

Electric vehicles are a cheaper way to run a transport system, and the sticker price of an electric vehicle is about to reach parity with that of traditional cars.

Additionally, there are new ways of producing steel and cement using renewable energy sources. For example, Nucor, the largest US steel producer, is building a micromill in Missouri that is set to be the first US steel plant to run on wind energy.

## Governments that Drive Change will be Rewarded

Governments will have an unprecedented ability to drive change. They must oblige companies to avoid greenwashing and take real action, in the same way that certain companies were made to accept efficiency standards after the global financial crisis.

Meanwhile, it is becoming increasingly clear that governments across the world will need to enact a huge series of stimulus packages to mobilise their economies and avoid a depression. While doing so, governments will have to make difficult decisions around fossil fuel subsidies and taxes. Equally, however, we need to be conscious to avoid bankruptcies and large-scale job losses, and ensure employees are retrained so they can play a part in the growing renewables revolution.

> **“Ensuring the growth of renewable energy is a way to restart our economies and avert climate change catastrophe.”**

The key reason for optimism is that the long-term opportunity set for renewable energy remains strong. Growth, innovation, jobs and creativity are shifting fast to the new energy sectors, leaving in their wake a vast amount of unneeded fossil fuel capacity, or stranded assets. We no longer have to tolerate fossil fuel pollution and uncontrolled global warming as the price of getting energy. Meanwhile, new infrastructure must be built: solar panels, wind turbines, grids, electric vehicle charging points, new energy sources for industry, and so on.

Ensuring the growth of renewable energy is the great challenge of our generation but it also promises an extraordinary solution: a way to restart our economies and avert climate change catastrophe.

## Overcoming Barriers

In the short term, the usual concerns are resurfacing. Parts of the fossil fuel industry are trying to use the crisis to roll back environmental standards, reduce taxation and offload high cost assets onto the taxpayer. In countries where fossil fuel proponents have been installed as government policymakers, they may succeed.

However, 80% of the global population live in fossil-fuel importing countries and they are unlikely to support a redundant fossil fuel system. Meanwhile the collapse in fossil fuel prices means that many are worrying about a return to the 1990s, when constraints on fossil fuel usage were lifted amid very low prices, leading to higher demand.

> **“80% of the global population live in fossil-fuel importing countries.”**

In the very short term, low prices should stimulate a pick-up in demand from today’s depressed levels. However, this will likely be insufficient to drive a long-term resurgence in demand, as it does not solve structural weaknesses in the sector. Fossil fuels have relatively high fixed costs, and compete with renewables on technology learning curves, which means that renewables get cheaper every year. Below a certain price level, some fossil fuels cannot be produced economically.

Moreover, because of the climate crisis, governments cannot afford to take their foot off the pedal of efficiency gains. Encouragingly, this is happening, most prominently in Europe, where the European Commission is planning to decarbonise the economy and implement carbon pricing measures.

## A Fairer and More Sustainable World

The COVID-19 pandemic is an international emergency that requires swift and comprehensive measures by governments to safeguard public health. But when the crisis passes and the moment for sober reflection arrives, we will have a unique opportunity to reorient our economies and ensure a low-carbon future for us and future generations.

This is a chance for every country to build the efficient, sustainable and equitable world the fossil fuel advocates believed was impossible. Let us build anew.

## Endnotes

1 BP database, trailing data.

2 World Resources Institute report — Turning Points: Trends in Countries’ Reaching Peak Greenhouse Gas Emissions over Time.

3 BNEF LCOE analysis.

## About State Street Global Advisors

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* AUM reflects approximately $50.01 billion USD (as of March 31, 2020), with respect to which State Street Global Advisors Funds Distributors, LLC (SSGA FD) serves as marketing agent; SSGA FD and State Street Global Advisors are affiliated.

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