# *Will COVID-19 change oil markets forever?*



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# Will COVID-19 Change Oil Markets Forever?

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**Abstract** The oil market is experiencing unprecedented dislocations in 2020. The industry is trying to cope with the biggest slump in demand ever recorded, as governments around the world try to tackle the COVID-19 pandemic. Will oil demand return to a pre-pandemic 'normal', or will the outbreak hasten a peak in oil demand? Will patterns of oil consumption change and, if so, what pressures will that place on an industry already struggling to adapt to growing environmental concerns and a demand for carbon-free energy? The paper will explore the options.

**Keywords** Oil prices. Oil markets. Energy demand. Energy supply. OPEC.



## 1 Introduction

Economic and social upheavals always affect oil markets and the COVID-19 pandemic is no exception. Short-term disruption to the consumption of fuels and plastics derived from oil is inevitable, as the spread of the disease disrupts economic activity and trade, while the response of governments worldwide sees large parts of the global population subjected to some form of curtailment of movement. The rapid contraction in economic activity, the collapse of trade, and the dramatic increase in the unemployment rate are all without precedent. So, too, is the collapse in oil demand and the subsequent cut

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in supply, both voluntary and in response to economic forces (Fernandes 2020). The main objective of this chapter is to explore how the COVID-19 pandemic might affect oil demand in both the short and long term and the implications that has for the oil industry.

Difficult though these short-term dislocations are to overcome, the more fundamental question is what will be the long-run consequences of the pandemic for the oil market. Will the fear that has been instilled in populations required to shelter at home for weeks on end and keep their distance from fellow human beings dissipate quickly as restrictions are eased, or will it result in fundamental and long-lasting changes in behaviour that will impact global demand for fuels? Will the experience of a long period of remote working and virtual meetings change the behaviour of companies and their staff, or will it reinforce the importance of face-to-face contact and international business travel?

## 2 The Effect of the COVID-19-Pandemic on Oil Markets

Some experts are suggesting that "the COVID-19 crisis accelerates what was already shaping up to be one of the industry's most transformative moments" (Barbosa et al. 2020). Focusing on the pressure placed on the industry, it is useful to look at the broader environment. The long megacycles of shifting demand and supply tend to have wide swings. Without doubt, the combination of demand disruption due to the pandemic as well as excess supply created a deep crisis for the industry. Almost a fifth of global demand for oil is expected to disappear during the second quarter of 2020 and it is not expected to return to pre-pandemic levels before the end of 2021. All three of the major forecasting agencies – The International Energy Agency (IEA), the Organization of Petroleum Exporting Countries (OPEC) and the US Energy Information Administration (EIA) – now agree that the world faces its biggest-ever slump in oil consumption, after governments imposed movement restrictions on billions of people to combat the coronavirus. "The scale of the demand hit means that despite producers implementing unprecedented output cuts, stockpiles will soar this year" (Lee 2020b). This unprecedented stockbuild will create an overhang that will suppress prices even as demand recovers, until it is drawn down and inventories return to more normal levels. The forecasts of the IEA indicate that the world will consume about 1.7 billion barrels less oil in the second quarter of 2020 than it did during the same period of 2019. Over the whole of 2020 and 2021, the volume of lost demand compared with pre-pandemic forecasts balloons to about 5.4 billion barrels, equivalent to the entire proven oil reserves of Mexico **[fig. 1]**. In addition, the decades-long upward movement in crude oil demand has been undermined by a repeated pattern of declining

oil-intensity of GDP (oil consumption/GDP) followed by a brief and incomplete recovery in which intensity did not return to its pre-decline levels (Fagan 2020). The oil intensity of the global economy been declining since the 1980s and 1990s mainly in non-OECD countries as well as in some OECD countries.

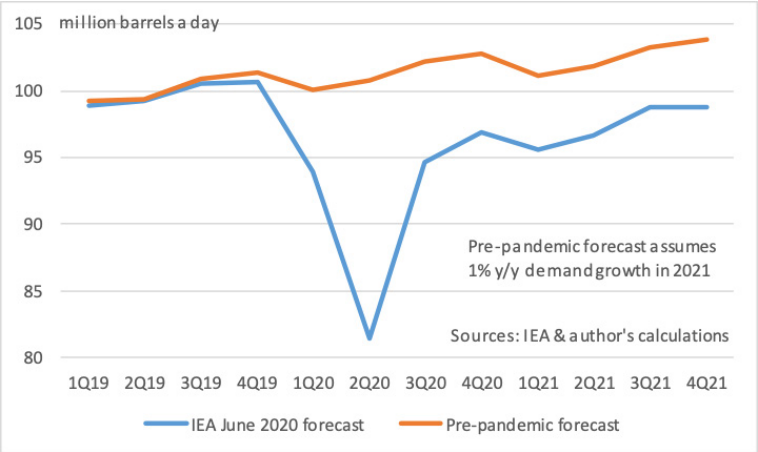


**Figure 1** The effect of the COVID-19 pandemic on world oil demand

The unprecedented collapse in oil demand has required a similarly unique response from oil producers, who simply could not keep pumping at pre-pandemic rates without filling all the available storage capacity for crude and refined products. Storage tanks at key hubs like Rotterdam, Singapore and Saldanha Bay were filling fast and any available space had already been contracted. The industry was forced to turn to the more expensive option of storing oil in tankers at sea. Oil analytics firm Vortexa Ltd estimates that the volume of crude oil in floating storage soared to more than 180 million barrels, over three times its average level in 2019, as oil demand tumbled **[fig. 2]**. That will start to draw oil out of stockpiles, but the overhang is huge. The volume of crude oil stored in tankers rose to more than 200 million barrels by June 19, according to data from analytics firm Vortexa supplied via Bloomberg (Bloomberg 2020). That is four times as much as at the same time in 2019 (Lee 2020e).

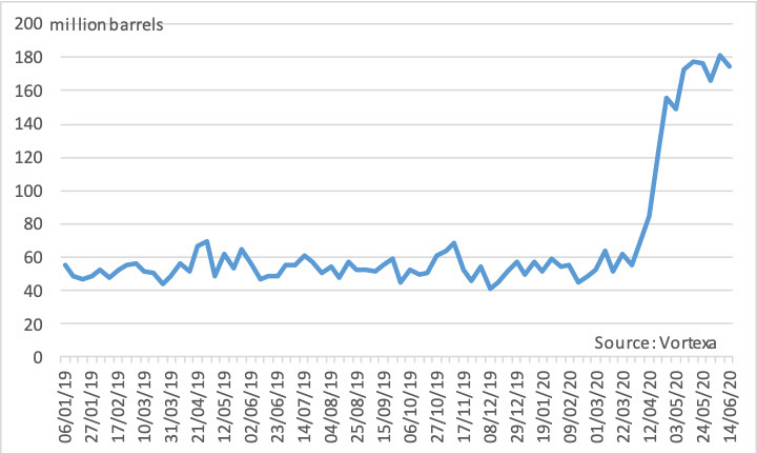


**Figure 2** Crude stored on tankers at sea soared as oil demand collapsed

In April 2020 the world oil price made history. US West Texas Intermediate (WTI) crude turned negative for the first time in the 160-year history of the oil industry, as holders of contracts for future delivery sought to unload them before they expired and they had to take delivery of physical barrels **[fig. 3]**.

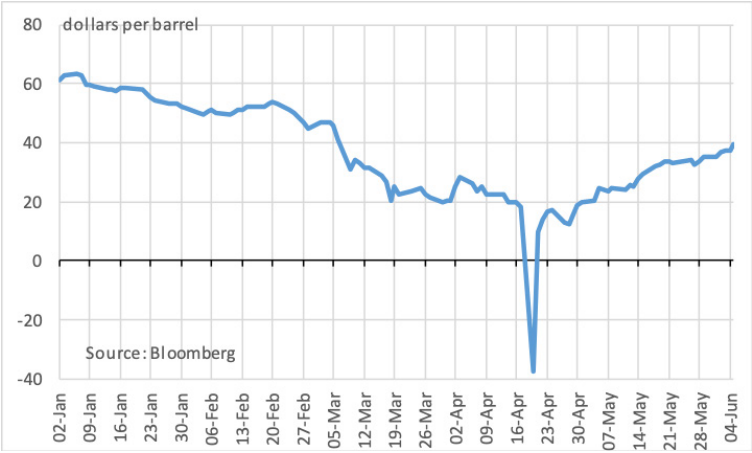


**Figure 3** West texas intermediate crude price in early 2020

The normal buyers of such contracts faced difficulties of their own, with almost no available storage capacity at the contract's delivery point of Cushing, Oklahoma. "Dismissing the historic move in the May contract for West Texas Intermediate crude as 'more of a financial thing than an oil situation,' as U.S. President Donald Trump did, misses the point" (Lee 2020a). Although the negative oil price was a peculiarity of the WTI contract, it was also a wake-up call to oil producers in America that they had to get serious about reducing their own supply, rather than simply waiting for others to make the cuts that would rebalance supply and demand and allow them to keep pumping.

Global financial markets have been hit severely by the oil price collapse. Two serious shocks, the collapse of oil prices two months after the onset of the COVID-19 epidemic in Wuhan city as well as after the unexpected decision of Saudi authorities to offer record price discounts of as much as $13 against regional benchmarks to their main customers, sent worldwide stock markets into free fall (Sharif, Aloui, Yarovaya 2020).

Despite record output cuts of almost 10 million barrels a day agreed by the members of OPEC and a group of allied oil producers, combined with unprecedented reductions in supply from producers in the US, Canada and other countries outside the so-called OPEC+ group, inventories have continued to build. US commercial crude stockpiles hit a record high in June, surpassing the previous peak set in 2017 **[fig. 4]**.

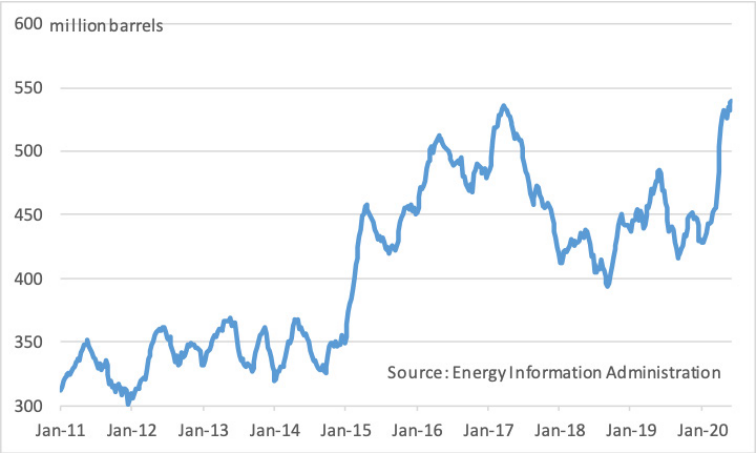


**Figure 4** US commercial crude stockpiles hit a new high in June 2020

In the short term, the only way to stabilise the oil market was to meet the biggest ever collapse in demand with the largest reduction in supply. The 23 members of the OPEC+ group of countries, which joins the

OPEC members with ten non-OPEC countries, including Russia, Mexico, Kazakhstan and Azerbaijan, met by video conference in April and eventually agreed to reduce their collective oil production by an initial 9.7 million barrels a day in May and June 2020 and to taper those cuts in two steps, with output restrictions that would last until April 2022.

Oil producing countries outside this group were reluctant to make formal commitments to cut output, but many said that their industries would cut production in response to market forces, with the Canadian oil sands and the US shale oil sectors seen to be particularly vulnerable to the downturn. High operating costs and long routes to markets made operations in Canada's Alberta Province vulnerable, while the constant need to drill new wells to offset steep decline rates at US shale wells put that sector at risk.

The reluctance to cut production and close wells is understandable. Most of the costs of producing oil are already sunk by the time crude starts flowing out of the ground; the operating costs of keeping a well flowing are usually only a small fraction of the total cost and oil prices have to fall to very low levels indeed to stop covering cash operating costs. Furthermore, shutting a well is not cost-free. Getting them pumping again can be even more expensive. The decision to shut the well will involve a number of factors such as the cost and technical challenges of restoring the wells back to pre-curtailed volumes (Adams-Heard, Wethe, Crowley 2020).

US oil production had fallen by 2 million barrels a day by mid-June from a peak of 13.1 million barrels a day in mid-March, before the pandemic caused oil prices to tumble, according to preliminary weekly data from the EIA. The number of rigs drilling for oil in the US has slumped to its lowest level since June 2009, figures from Baker Hughes show; a drop of 72% in the space of 14 weeks **[fig. 5]**.

Output cuts are doing their job, with forecasts from the IEA (IEA 2020) and others indicating that demand will be running ahead of supply in the second half of 2020, as countries begin to recover from the worst effects of the lockdowns imposed to combat the COVID-19 pandemic and production rates remain curtailed.

While production cuts have helped to balance oil supply and demand on a day-to-day basis, the global oil industry still faces a daunting task. The most recent forecast from the IEA shows demand growth recovering more slowly than the group previously thought. "Global demand will still be below pre-pandemic levels by the end of 2021, never mind this year" (Lee 2020d).

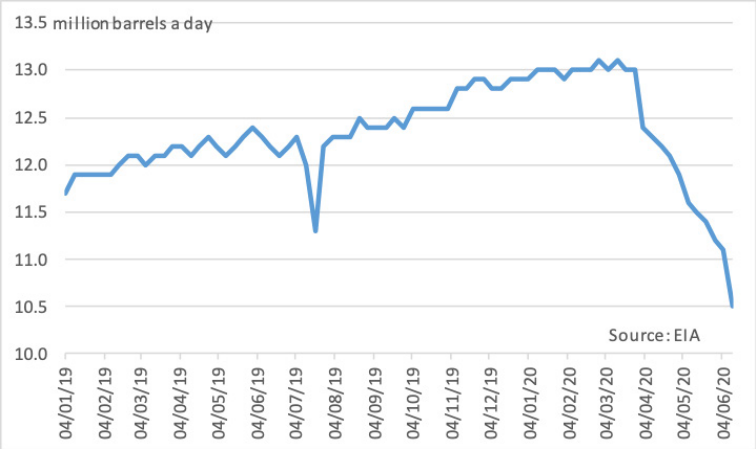


**Figure 5** Domestic US crude production has tumbled

## 3 The Effect of the COVID-19-Pandemic on Transportation

The COVID-19 pandemic has severely impacted travel, by road, rail, sea and air. As the pandemic spread, individual behavioural changes took place, partly the result of individual choices and partly in response to government-imposed restrictions on movement and economic activity. Working from home became the normal practice for those who could do so, commuting to work virtually ceased, public gatherings were banned and international travel severely curtailed. People stopped driving, flying, or travelling on public transport.

Data from FlightRadar24, which tracks both commercial and non-commercial air traffic, show that by mid-June, even though the number of commercial flights worldwide had doubled since the depth of the pandemic, it was still down by about 60% from the pre-virus level (Reed 2020) **[fig. 6]**.

One of the biggest questions that remains unanswered is to what extent travel behaviour will return to its pre-COVID-19 normal once restrictions are lifted. Congestion on Chinese city streets rebounded quickly after lockdowns were eased and congestion even surpassed pre-lockdown levels, as people chose to use private cars to get to work rather than crowded transit systems. But high-frequency journey-time data from TomTom Traffic Index show that the return of congestion is not uniform **[fig. 7]**.

The congestion data show that roads are still much emptier in the evenings and during the middle of the day during the weeks and that traffic levels remain well below pre-pandemic levels during weekends. In other parts of the world, where lockdowns are only gradu-

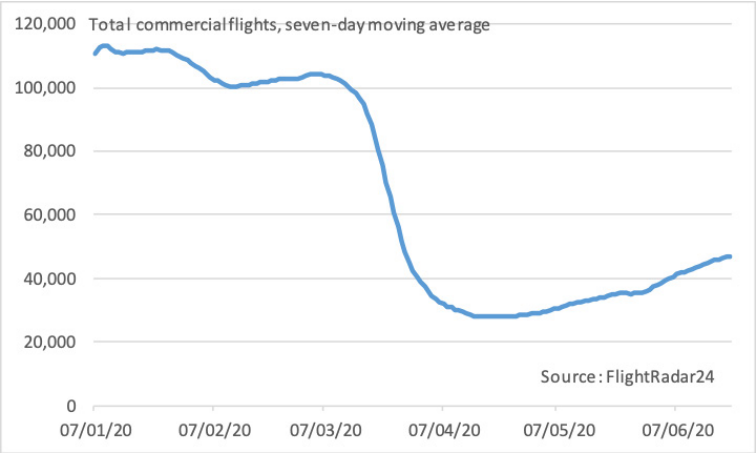


**Figure 6** Commercial flights are recovering, but remain 60% below pre-COVID-19 levels

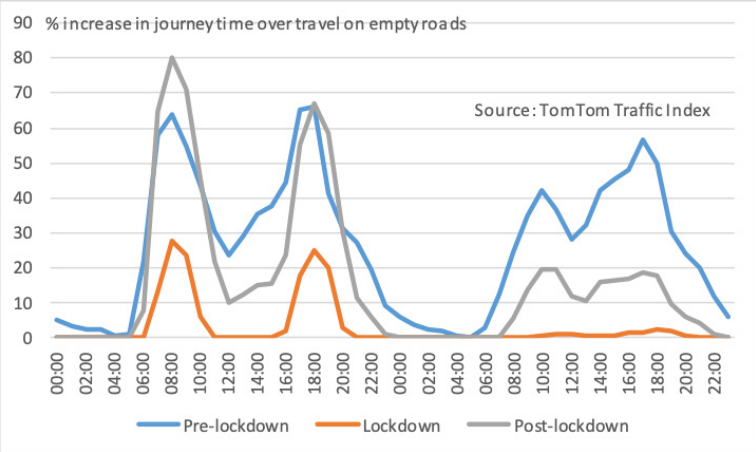


**Figure 7** Congestion has returned to Beijing streets during commuting hours, but not outside them. The chart shows average congestion for working days (left) and weekends (right)

ally being eased, similar patterns are emerging. These may change as a greater range of economic activities are permitted and leisure travel in particular can be expected to increase as more leisure opportunities become available.

Whether the loss of oil demand is a brief anomaly, as it was during the financial crisis of 2008-09, or reflects a structural change in consumption remains to be seen. It is too early yet to determine whether the pandemic will alter fundamentally people's attitudes to-

wards air travel, or commuting to work, or whether it will lead companies to reassess working-from-home opportunities for their staff, or international corporate travel to attend meetings and events. UBS Group Chief Operating Officer Sabine Keller-Busse said that as many as a third of its employees could work remotely on a permanent basis (Halftermeyer, Lacqua 2020).

Bloomberg economists Jamie Rush, Maeva Cousin and David Powell see a rapid economic recovery in Europe running out of steam. The big questions here are how quickly the rebound will be and how much social distancing will be an obstacle for this (Rush et al. 2020).

By mid-June of 2020, Ben Luckock, co-head of oil trading at Trafigura Group told Bloomberg News that demand for crude was already back to 90% of normal levels as countries emerge from pandemic-related lockdowns, but that returning to normal could prove difficult. He believes that 5% (of the remaining 10%) will be recovered in a few months, although he expressed his worries that complete recovery to pre-crisis levels may be difficult. There are many obstacles for this and some 'new normal' patterns like working-from-home as well as reduced air travels (Blas 2020).

## 4 Conclusion

If long term oil demand settles at a level some 5% lower than the pre-COVID-19 trajectory, the implications for the oil sector will be significant. Investment in the oil projects needed to provide the production capacity in the coming decade are not being made. Oil companies from the supermajors like ExxonMobil and Royal Dutch Shell to the small operators in the US shale patch have all slashed their budgets. Shell has cut its dividend for the first time since the Second World War (Hurst 2020).

The combination of lower oil demand and green post-COVID-19 stimulus packages could transform the energy landscape. Germany has committed 130 billion euros ($145 billion) to pandemic recovery, with about 30% to be spent on activities that will cut emissions. That compares with about 15% of the stimulus money injected into the global economy during the 2008-09 financial crisis that went to green initiatives (Rathi, 2020).

Goldman Sachs analysts see spending on renewable power overtaking oil and gas drilling for the first time in 2021. Clean energy affords a $16 trillion investment opportunity through 2030 Renewables policies including biofuels which will account for about a quarter of all energy spending next year. This is up from about 15% in 2014, driven in part by diverging costs of capital, as borrowing rates have risen to as high as 20% for hydrocarbon projects compared with as little as 3% for clean energy (Murtaugh 2020).

The current disequilibrium in global energy markets is a signal that the post-COVID-19 new energy normal would be characterised by a more uncertain future for the oil and gas industry. To a certain extent, the COVID-19 Pandemic has and will reshape of our energy future. The oil and gas industry will experience short and long term impacts from the crisis to which it will have to adjust, with the potential for future oil demand to be significantly reduced from pre-pandemic forecasts.

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