

## Impact of Covid-19 on the oil and gas sector and decarbonisation in LICs and MICs

### Executive summary

Covid-19 has had an unprecedented impact on the global economy and oil and gas sector. This paper presents a review of its impact on LICs and MICs, focusing on exporting and importing countries, as well as the wider issue of decarbonisation.

Key findings include:

- Global GDP will remain lower than pre-Covid-19 forecasts into the medium term (-2.1% in 2023), even in the case of a strong recovery (and no second wave).
- Within Sub-Saharan Africa, it is likely that, due to a reliance on oil revenues, exporters will be among the hardest hit, with average GDP contraction of -2.8% in 2020.
- The knock-on effect of reduced revenues on budgets, combined with measures to control Covid-19, could lead to political instability in some countries.
- International oil companies operating in SSA are slashing capex spending, and a large number of projects will now be delayed. The likelihood of suppressed oil prices (below \$48) in the next few years means some projects will not be profitable and will not move forwards, and some countries that have been trying to attract investment for a number of years may have missed the opportunity to exploit their resources.
- LNG contracts have been cancelled and deferred, and projects delayed, but the impact has been less than on oil, with demand up 8.5% year on year.
- Oil exporters in SSA will all see a drop in economic performance, but this differs by country:
  - o Angola had already been badly affected by the 2015 drop in oil prices and two tropical hurricanes in 2019. Despite winning praise for recent reform attempts, the country was in recession going into 2020 and Covid-19 will contribute to a contraction of GDP of -2.3%.
  - o Nigeria is Africa's largest oil exporter and has had to cut its budget by nearly half. Further, debt is increasing and projects delays and cancellations will likely result in reduced outputs for the next decade. As such, the country is facing severe economic challenges.
  - o Since discovering significant gas reserves ten years ago Mozambique has emerged as a leading player in LNG. Covid-19 will see some projects delayed, but the Mozambique LNG project achieved \$15 billion in debt financing during the crisis, and the country's GDP growth forecast, while significantly reduced, remains positive at 0.7%.
  - o Ghana has grown its oil sector rapidly in recent years, but the country is not yet reliant on oil exports. Lost revenue will cost the country around \$1 billion (of \$1.6 billion in expected Covid-19 losses). While GDP growth this year will be reduced significantly, it is still forecast at 2% to 2.5%.
  - o Senegal recently discovered reserves, but projects have been delayed, with low oil prices threatening their viability. The GDP growth forecast has been cut from 6.5% to 1%.

- In terms of importing countries, analysis supports the logical assumption that lower oil prices will be of benefit. However, the wider Covid-19 situation makes this less clear.
  - o South Africa entered Covid-19 in the midst of economic turbulence. Lockdown restrictions and suppressed economic activity mean the country's economy may contract by -7% this year, and there is the possibility of a severe debt crisis. Plans to develop Brulpadda reserves will now be delayed.
  - o China has accounted for 80% of the growth in oil demand since 2003. Its economy contracted -6.8% in the first quarter of the year, but, having been hit early, is now growing again.
  - o India's economy had slowed to its lowest rate of growth in a decade prior to Covid-19, and severe lockdown measures and limited stimulus actions will see a contraction of -7% in 2020.
  - o Indonesia is both a producer and importer of energy, but faces maturing fields. Covid-19 will see its economy shrink by at least -2.8% in 2020.
- In terms of decarbonisation, an initial uncertainty is the global economic recovery, which could see GDP increase by 5.8% in 2021 – but a number of risks threaten this.
- International oil companies, such as BP and Shell, have announced write downs and/or net-zero carbon plans, but significant scepticism exists among environmental campaigners.
- There is debate around how lower oil prices will affect consumer behaviour, with uncertainty over the growth of electric vehicles and air travel.
- In terms of LICs and MICs, decarbonisation will be impacted by the reliance of existing political structures (and stability) on oil rents.
- The potential for stranded assets is increasingly clear, and higher risks may curtail upstream projects.
- The struggles of resource rich LICs and MICs to cope with Covid-19 may highlight the unequal apportioning of benefits, especially given how local communities are often negatively impacted by exploration activities.
- As oil prices remain low, competition for international investment, and resulting commercial terms which favour oil companies, may reduce the attractiveness of natural resource exploitation for some countries.
- China's role in decarbonisation will be particularly important:
  - o Covid-19 has seen subsidies to renewables cut from \$3.7 billion to \$2.1 billion.
  - o Reduced electricity demand may reduce the requirement for more coal (coal running in 2020 is down -8.4% whereas renewables are up 7.6%).
  - o There is now the opportunity for a green stimulus package.
  - o The energy intensity target of 15% by 2020 has been cut, but anti-globalisation sentiment may see continued focus on renewables as a core industry.
- Finally, the generation mix of individual countries will determine the impact of reduced oil and gas prices on future investments. For countries such as Nigeria, which rely on gas- and oil-fired generation, the economic argument for renewables will be reduced.

## Global context

The steps taken by countries around the world to reduce the impact of Covid-19 have significantly reduced economic activity, resulting in an unprecedented reduction in global GDP. Although recent forecasts suggest a recovery is now underway, and global GDP growth is expected to turn positive in the remainder of 2020 and through 2021, Covid-19 will have a lasting impact, with GDP down 2.1 percentage points in 2023, as shown in Figure 1. (A serious second wave could increase the impact on GDP.)

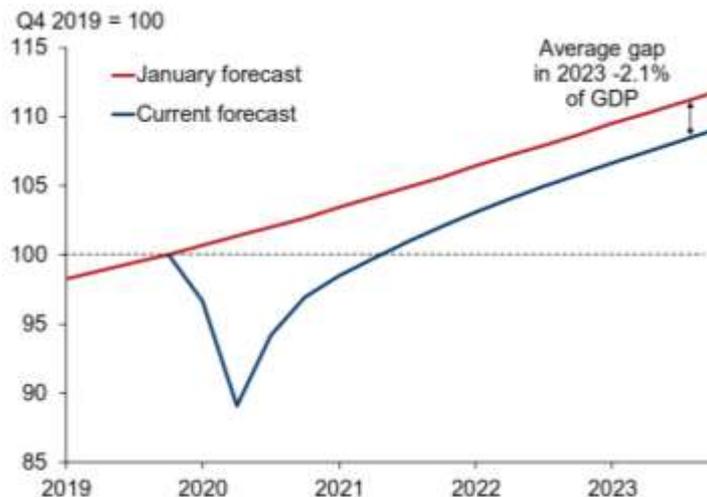


Figure 1 [Lasting economic damage expected from Covid-19](#)

In terms of energy, Covid-19 is expected to [reduce total primary energy demand by 6%](#) in 2020 compared to 2019, the largest relative decline since the Second World War and the biggest ever decline in absolute terms. Oil demand dropped 25% in April and is expected to be down 8% across 2020, with transport demand dropping particularly sharply. Gas demand is expected to fall 4%, supported somewhat by increased use in generation as a result of lower prices.

The price of Brent crude oil plummeted in March, and, despite recovering, partly as a result of [record cuts to production](#) agreed by OPEC, closed at [\\$40](#) (for the August contract) on the 24<sup>th</sup> June. Figure 2 presents the price of Brent over the past ten years and highlights the dramatic impact of Covid-19.

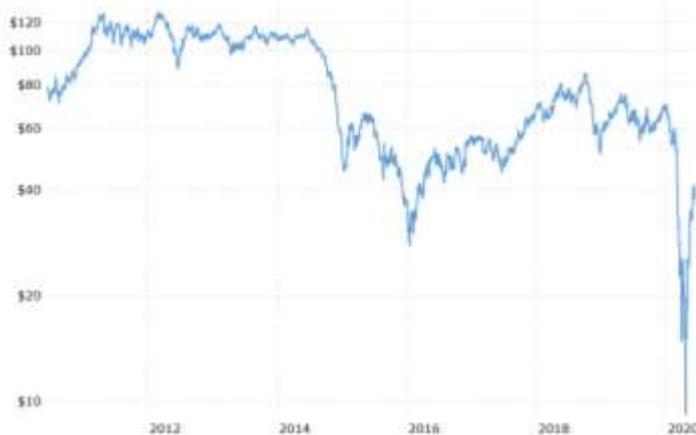


Figure 2 [Brent crude oil prices - 10 year daily chart](#)

Similarly, [gas prices](#) in the US, Europe and Asia have fallen by at least 30%.

More positively, the drop in energy demand has also led to a [significant reduction in local air pollution](#). Global CO2 emissions in 2020 are expected to fall by around 2.5 gigatonnes (Gt) to just under 31 Gt, around 8% lower than in 2019, as shown in Figure 3. This would be the lowest level since 2010.

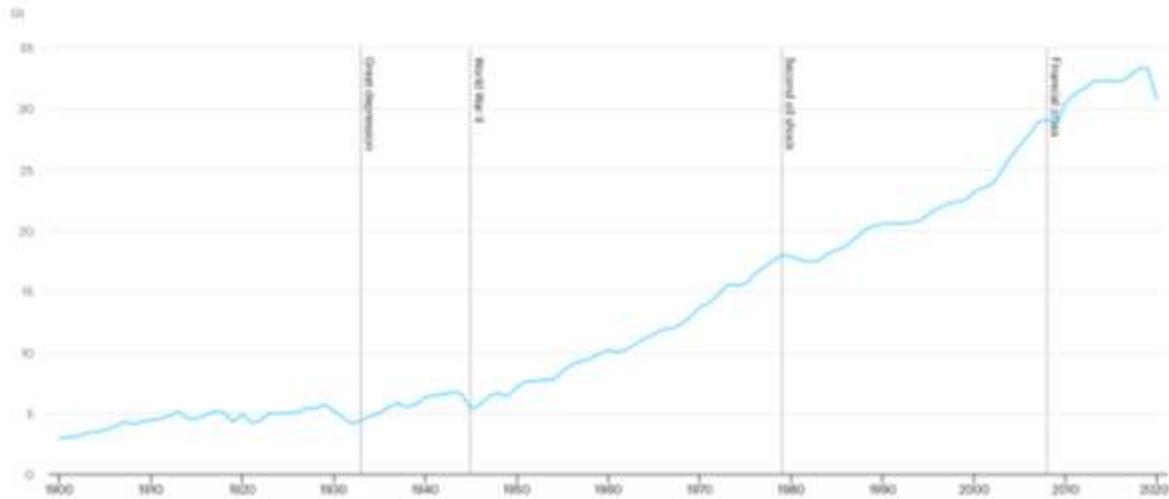
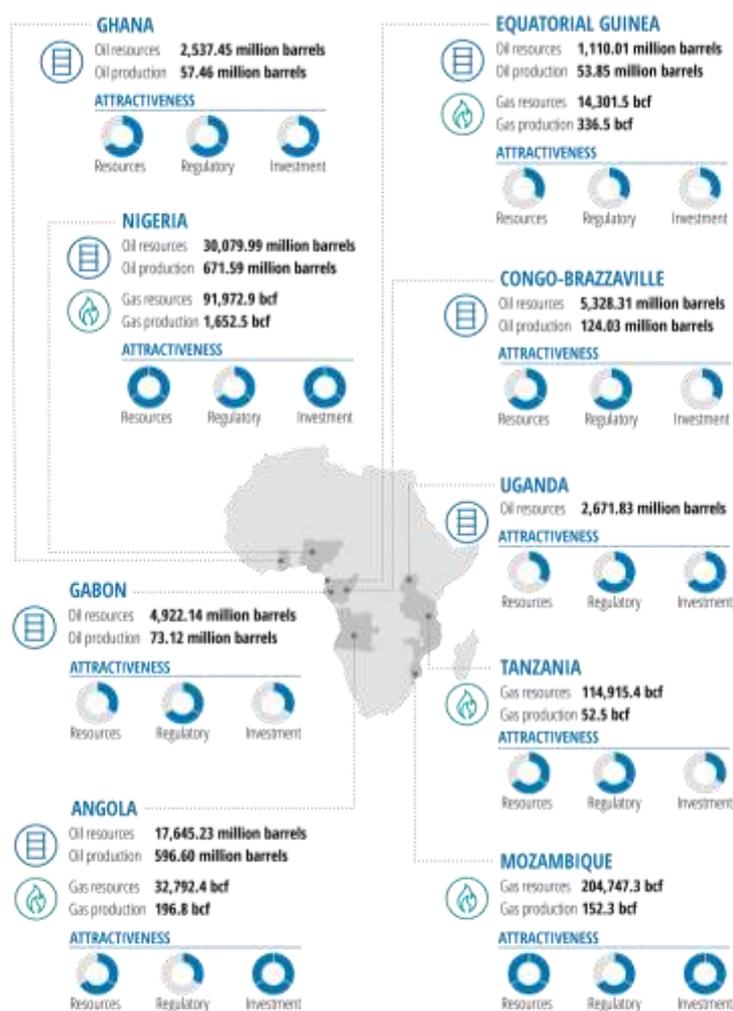


Figure 3 [Global energy-related CO2 emissions, 1900-2020](#)

### Impact on LIC and MIC oil and gas exporters

A number of low-income countries (LIC) and middle-income countries (MIC) are oil and gas exporters. Here we present some general findings and then look at a representative selection of individual countries in more detail.

Focusing on Sub-Saharan Africa (SSA), Figure 4 gives an overview of key oil and gas producers. Nigeria and Angola are the dominant players in oil, while Mozambique has emerged as the leading country in terms of gas (reserves).



bcf = Billions of standard cubic feet of gas  
 Sources: Rystad Energy, 2018; Fitch Solutions, 2018; FDI Markets, 2018.

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Figure 4 Key oil and gas producers in SSA

The economies of oil-exporting countries in SSA will be impacted heavily by Covid-19. In its April Regional Economic Outlook the IMF revised its GDP growth forecasts for the region sharply downwards from its October 2019 World Economic Outlook numbers, as illustrated in Figure 5. Real GDP in SSA is projected to contract 1.6% in 2020, with oil exporters<sup>1</sup> (-2.8%) and resource-intensive countries (-2.7%) hit particularly hard<sup>2</sup>. These findings are presented in Figure 5.

<sup>1</sup> The IMF classifies oil exporters as countries where net oil exports make up 30% or more of total exports (Angola, Cameroon, Chad, Republic of Congo, Equatorial Guinea, Gabon, Nigeria and South Sudan); other resource-intensive countries are those where non-renewable natural resources represent 25% or more of total exports (Botswana, Burkina Faso, Central African Republic, Democratic Republic of Congo, Ghana, Guinea, Liberia, Mali, Namibia, Niger, Sierra Leone, South Africa, Tanzania, Zambia and Zimbabwe); and non-resource intensive countries are those that are not classified as either oil exporters or other resource-intensive countries (Benin, Burundi, Cabo Verde, Comoros, Ivory Coast, Eritrea, Eswatini, Ethiopia, The Gambia, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Togo and Uganda).

<sup>2</sup> The hardest hit group is expected to be tourism-dependent countries (Cabo Verde, Comoros, The Gambia, Mauritius, São Tomé and Príncipe, and Seychelles), which may experience a GDP contraction of -5.1% in 2020 after growing by an average of 3.9% in 2019.

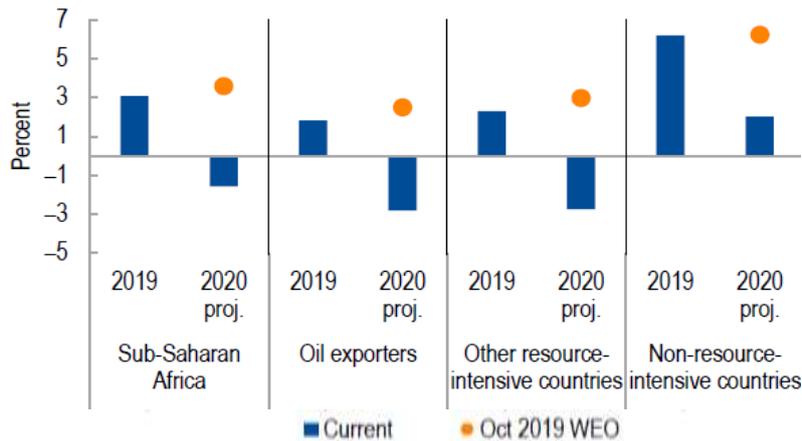


Figure 5 *Sub-Saharan Africa: Real GDP growth, 2019-2020* (adapted by author)

Oil exporters have been hit by the collapse in prices at the same time as the fallout of the pandemic itself. This has [led to concerns of wider political instability](#). In Africa, Nigeria has sought emergency loans, which could weigh down any eventual recovery, while Fitch Ratings expects the Republic of Congo and Gabon to be hit hardest, as oil proceeds accounted for, respectively, around 77% and 57% of current account receipts on average over 2015-2019. On top of this, non-oil exports across the region will also be hit by the contraction in global gross domestic product and trade.

Some reports have identified the [potential for an increase in piracy](#) off African coasts due to worsening economic conditions and increased numbers of vessels lying idle, and potentially storing oil.

Energy companies operating in LICs and MICs have reacted to the Covid-19 global slowdown. In the short run, [they are moving to](#) slow the pace of production, seeking to expand storage capacity and attempting to market their crude oil with the best sales and purchase agreements and financial hedging instruments possible.

Looking towards the medium term, a [June 2020 Short-Term Energy Outlook](#) from the U.S. Energy Information Administration forecasts Brent prices of between \$37 and \$48 for the next two years. As such, energy companies are reviewing their strategies and project pipelines. Eni and Total, the two international oil and gas majors with the largest presence in Africa, have announced 25% cuts to their investment in exploration and production projects in 2020 (\$4.5 billion for Total and \$2 billion for ENI). Cuts of a similar size are anticipated for 2021.

Ultimately, in terms of global exploration, only a few large projects that have already been launched and are truly low cost, owing to the size of the fields involved, are expected to maintain their original timelines. Rystad Energy, a consultancy, anticipates that, of 52 licensing rounds across 45 countries worldwide planned for 2020, [54% are unlikely to proceed](#). These include LICs and MICs in Asia (Myanmar, Thailand and Uzbekistan) and Africa (Algeria, Angola, Equatorial Guinea, Ghana, Ivory Coast, Liberia, Nigeria, Senegal, Somalia, South Sudan and Tanzania). Prior to Covid-19, eight rounds had been completed, including in Republic of Congo, Gabon and Pakistan.

Beyond direct cancelations this year, low forecast energy prices in the medium term will make progress increasingly unlikely for countries with discoveries previously deemed commercially unviable (in Africa this includes Guinea Bissau, Liberia, São Tomé and Príncipe and Sierra Leone). It may be that these countries have missed the opportunity to exploit their natural resources.

Liquefied Natural Gas (LNG) has become an increasingly vital component of global gas flows. Africa has seen [long-term LNG supply contract cancellations and cargo deferrals](#) by importing countries. This in turn has resulted in low liquefaction capacity utilization. Similarly to oil, the cascading impact of global LNG supply overhang coupled with reduced demand may lead companies to withhold or delay their capital spends on upcoming multi-billion-dollar gas projects. However, gas, and LNG, in particular, has not been hit as hard by Covid-19 as oil. In fact, LNG [demand was up 8.5%](#) year-on-year globally at the end of May.

As a coordinated response to the pandemic, and its increasing impact on oil and gas, the African Energy Chamber [launched its Call to Action](#). This sets out a ten-point plan to mitigate the crisis, including applying 24-month extensions to projects, tax relief and financial support.

The report now focuses on the impact of Covid-19 on Angola, Nigeria and Mozambique, three of the key players in SSA oil and gas, as well as Ghana, a growing energy force, and Senegal, which discovered significant reserves in recent years.

### Angola

Angola is Africa's second-biggest oil exporter (after Nigeria). Oil accounts for 90% of the nation's exports and a third of the nation's GDP. As such, the current crisis has intensified calls for the [country's economy to be diversified](#).

The timing of the pandemic has been particularly problematic for Angola, with the country seeking to attract investors for a sweeping privatisation programme of state assets ("[Propriv](#)"), including energy assets like parts of Sonangol, but also a swathe of other interests like ports, banks and telecoms firms. The plan for 30% of Sonangol to be sold in an IPO in 2022, which was always optimistic, now seems highly unlikely.

In an [interview](#), Sergio Pugliese, the Executive President for the African Energy Chamber, expressed his belief that political changes and industry reforms enacted since the election of President João Lourenço in 2017 have helped the country cope with the impact of Covid-19. It is true that Angola was [winning plaudits](#) (especially in comparison to Nigeria) for strong leadership and proactive measures, which were reviving an oil industry that had faced maturing fields and declining production.

However, even prior to Covid-19, and despite the post-Dos Santos anti-corruption drive, the country was in a precarious financial position, having been badly impacted by the 2015 drop in oil prices. Angola received a record \$3.7 billion loan from the International Monetary Fund in 2019. It also owes billions to China and holds the largest single bilateral debt burden in sub-Saharan Africa, where it is the number three economy. Its debt-to-GDP ratio has climbed to the highest in around two decades (above 100%) and servicing its borrowings eats up \$9 billion a year. [GDP growth](#) was -1.1% in 2019 and is expected to worsen to -2.3% in 2020.

As a result, in 2019, the World Bank [doubled its support to Angola](#), with an additional \$3.1 billion for projects, in line with the country's privatisation and reform agenda. Further financial support has already been made available to help the government implement its National Contingency Plan (Covid-19 response).

New upstream projects announced in recent years (partly as a result of these changes) have now been delayed, with even [lower-value "short-cycle" field projects pushed back](#). The full impact of Covid-19 on Angola was summed up in a Reuters article, which [reported that](#), "The coronavirus pandemic has done in a handful of months what even a 27-year civil war did not: it has brought oil

drilling to a halt in Angola.” All international energy majors operating in the country (Total, Chevron, ExxonMobil, BP and Eni) have halted production.

Figure 7, at the end of this report, gives an overview of upstream projects across SSA that are in danger of not progressing.

### Nigeria

Nigeria, the largest economy and biggest oil exporter in the region, is expected to [contract by -3.4%](#), mainly reflecting the large drop in oil prices and the impact of containment and mitigation measures on economic activity. Chatham House has reported on the [‘looming financial meltdown’](#) facing the country, with state-level debts piling up, revenues reduced and the percentage of the world’s poor in the country expected to increase from 15% to 30% by 2030.

A recent OPM paper (‘Briefing Note: COVID19 and the Nigerian oil and gas sector – impact on the Nigerian economy and key mitigation measures’) looked in some detail at Nigeria. That paper found that although the oil and gas industry represents a relatively modest percentage of the country’s total GDP, the Government’s ability to put together an annual budget, contribute to the provision of basic services from security to health and education, and to service foreign debt is heavily dependent on the revenue generated from the sector. As such, a drop in the price of crude to \$30 from the budgeted \$57 would roughly cut revenues in half, from \$30 billion to \$15 billion, with a further reduction of around \$1 billion from Nigeria’s share of OPEC’s agreed production cuts. A new budget has been drawn up based on the reality of revenue reductions. Although the impact on sectors has not been disclosed, it is clear that the effects will be felt across the economy.

In terms of the oil industry, the Petroleum Industry Bill (PIB), which aims to increase efficiency and transparency and bring operations in line with international standards, has been delayed due to the crisis. Further, the crude price crash has delayed final investment decisions (FID) on a number of upstream projects, which is likely to result in lower production (and therefore lower revenues) over the next four-to-ten years.

[Nigeria’s oil and gas sector has also been impacted by restrictions on travel](#), which vary by state. Maintenance and development operations have in some cases been delayed for months. In one instance oil workers were arrested for landing in the oil hub of Port Harcourt, which is under strict lockdown, despite possessing federal government permits allowing them to travel.

### Mozambique

According to the latest IMF projections, real gross domestic product (GDP) in Mozambique is expected to [increase by 2.2%](#) this year, although Fitch Ratings [reduced its forecast](#) to 0.7% in June. This latest figure is much lower than the initially projected 5.5%, but still significantly better than many countries – both developed and developing – which are anticipating severe contractions. For Mozambique, the pandemic has knocked the recovery from two devastating tropical hurricanes in 2019.

Mozambique discovered huge gas reserves in 2010. It holds [100 trillion cubic feet](#) of proved gas reserves, and is geographically well placed to serve demand in Asia. As such, prior to Covid-19 it was [expected to become](#) a major global LNG exporter.

Covid-19 has delayed upstream investment (although it should be noted that delays have occurred over the past ten years). The start of the Rovuma LNG project, one of Africa’s flagship projects, [is likely to be delayed by a year](#), with its FID deferred. Additionally, [ExxonMobil has already announced](#) that it has indefinitely postponed the FID on its Area 4 gas megaproject.

However, the Mozambique LNG project, backed by a number of companies, [is expected to progress](#) and should come on stream before 2025. This is despite construction being halted in April due to an outbreak of Covid-19. At that time, 19 of the country's 31 confirmed Covid-19 cases could be traced back to the project site in Afungi. In fact, the project was able to raise \$15 billion in debt financing in the middle of Covid-19 – [an 'astonishing achievement'](#) according to a Standard Bank analyst.

## Ghana

Ghana is a relatively new oil producer. In the three years prior to Covid-19, its oil industry doubled in size, helping to fuel annual GDP growth of at least 6.3%. This progress was helped by the country's [first offshore licensing round](#) in 2018, which gained significant interest from international energy companies. This progress built on the long-debated Petroleum Bill of August 2016, which improved the regulatory environment and removed some of the major barriers.

Although Ghana does not rely on oil or gas to the same extent as Angola or Nigeria (gold is its biggest export and services count for around half of GDP), reduced output this year will have a significant impact on the economy. In its [preliminary impact assessment](#), announced in April, Ghana's Ministry of Finance anticipated incurring a total cost of \$1.64 billion as a result of the outbreak of COVID-19, with around \$1 billion of that resulting from reduced crude oil sales. Other costs identified included reduced import duties and other tax revenues, and the direct costs of the preparedness plan and the coronavirus alleviation program.

As a result of these costs, a request was made to parliament to amend the country's petroleum revenue management act (PRMA) to allow for the withdrawal of funds from both the petroleum heritage funds and the Ghana stabilization fund. Further, the Ministry expected financing assistance from the World Bank and the International Monetary Fund, and planned to adjust expenditure on goods and services as well as capital expenditure to create fiscal space for the response.

With upstream [projects delayed or cancelled](#), and the volatility of oil prices again brought to attention, there have been [calls for diversification](#). On taking power in 2017, President Nana Akufo-Addo identified planting for food and setting up factories as key policy areas to reduce the country's dependence on imports. However, the government has achieved mixed success, with agriculture lagging the economic growth average while manufacturing has exceeded it, although not to the same extent as oil.

As a result of Covid-19, the country's central bank in May [revised its GDP growth expectation](#) from 6.8% to between 2% and 2.5%.

## Senegal

As well as more established producers, Covid-19 has also impacted the plans of countries which were in the process of developing natural resources when the pandemic hit. Between 2014 and 2017, [reserves](#) worth more than 1 billion barrels of oil and 40 trillion cubic feet of gas were found in Senegal (most of it is shared with Mauritania). As such, [Senegal began 2020 with ambitious plans](#) to become an energy powerhouse. The national oil company (NOC), PETROSEN, launched its first offshore licensing round, focused on the Mauritania, Senegal, Gambia, Guinea-Bissau and Guinea Conakry basin (MSGBC), in January.

However, Covid-19 has resulted in delays to the country's two mega offshore oil and gas projects. The [Senegal-Mauritania Greater Tortue Ahmeyim LNG megaproject has been delayed](#), with first gas now expected in 2023. Also, in March the developer of the [Sangomar project failed to secure debt](#), citing adverse market conditions and a plunge in global oil prices amid the pandemic. The project requires oil prices of at least \$55 to be profitable.

Senegal has been relatively successful at containing the virus, with 5,475 recorded cases and 76 deaths, as of 22<sup>nd</sup> June. There has been no full-scale lockdown, but a curfew has been put in place and mass gatherings have been banned. The government announced in April the [deployment of an economic and social resilience plan](#) worth \$1.68 billion, in order to support the country's economy during the crisis. In a recent [interview with the Financial Times](#), President Macky Sall warned that the best case scenario is for GDP growth to drop from the forecast 6.5% to 1%. If the pandemic continues he expects the country to enter recession.

### Impact on oil and gas importing LICs and MICs

It is not easy to assess the impact of lower oil prices on oil and gas importers. Logically, lower oil and gas prices should benefit importing countries, and this assumption is backed up by analysis from Oxford Economics, presented in Figure 6. However, the lower oil prices have coincided with severe global economic challenges resulting from Covid-19, as well as lockdowns and other measures taken by the importing countries. As such, importing countries have not necessarily benefitted from lower prices.

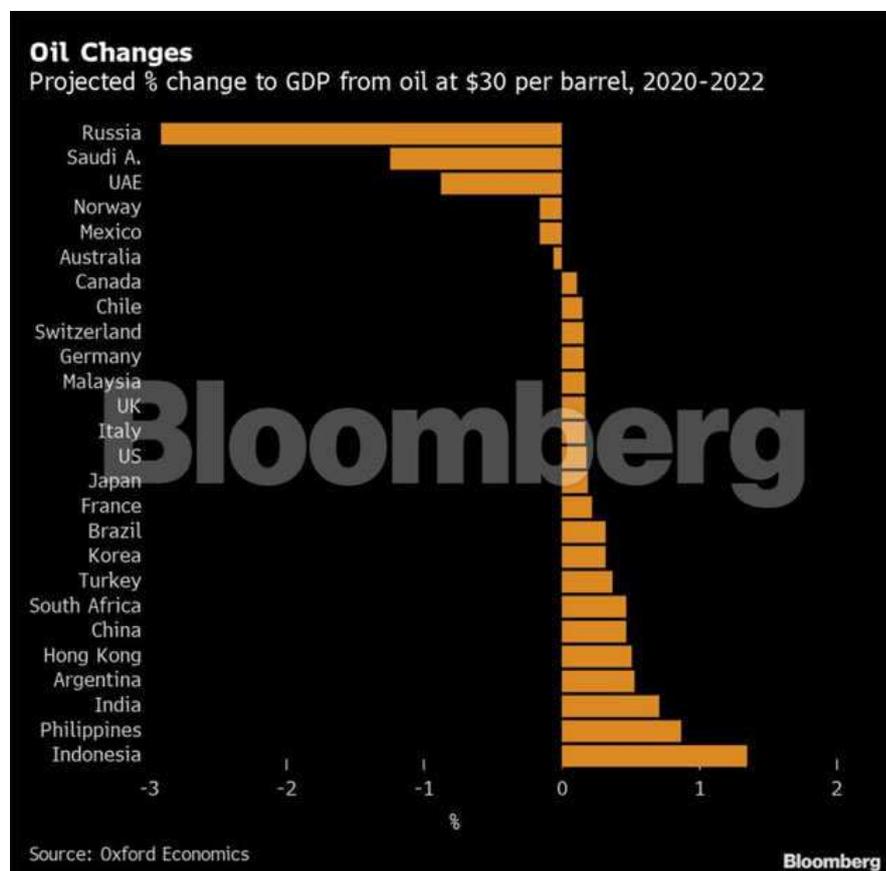


Figure 6 [Projected % change to GDP from oil at \\$30 per barrel, 2020-22](#)

This report now focuses on a selection of countries which import oil and/or gas: South Africa, China, India and Indonesia.

### South Africa

Although it is the most industrialized nation on the African continent, South Africa has virtually no oil production. Given that the country imports fuel and refines crude domestically to meet the bulk of demand, and the cost of gasoline and diesel is often a key driver of consumer prices, oil's decline should provide some slight relief.

However, the reality is very different. Having suffered economically for a number of years, [South Africa is facing](#) a sovereign debt crisis and its biggest contraction in almost a century as a result of Covid-19. The IMF's grim outlook, which cited disruptions caused by containment and mitigation measures, lower external demand and existing structural constraints, forecasts GDP growth of -5.8% in 2020, down from its pre-Covid-19 forecast of 0.2%. However, the government now expects the economy to shrink by at least 7% and Tito Mboweni, the finance minister, has warned that the country risks a path of bankruptcy and faces debt crisis similar to that experienced by Argentina.

In terms of energy, South Africa published its long-anticipated draft oil and gas legislation at the end of 2019, and is in the [process of developing its own reserves](#), including the Brulpadda field, which holds an estimated 2.8-5.5 trillion cubic feet of gas. This gas could serve domestic consumption, with a range of potential industrial offtakers as well as new gas-to-power projects. However, challenging offshore conditions, transportation to market issues, and low gas prices resulting from Covid-19, as well as the financial woes of potential anchor customer Eskom, dull the outlook.

### China

China is the world's largest energy importer. As such, it is significant that [China's oil demand](#) is likely to contract this year, for the first time in thirty years, and despite some opportunistic crude purchases to fill up domestic oil reserves, both commercial and strategic, crude imports could be flat or even fall from 2019 levels.

The IEA [used the SARS outbreak of 2003](#) as a loosely analogous event to frame Covid-19. This exercise highlighted that the role of China has changed hugely since then, with the country accounting for 80% of global oil demand growth between 2003 and 2019. It was China's reduction in demand (435,000 barrels per day) in February, and the further shutdown of its economy, which triggered a collapse in global oil demand in March.

Although data is inconclusive at this point, it seems that, after an historic -6.8% contraction in the first quarter of 2020, China's economy is rebounding, even if GDP growth for the year may be as low as [1.2%](#). In terms of energy, refinery activity in the country was already [recovering](#) by early April.

The impact of Covid-19 on energy in China going forward, and what this may mean for the energy transition, is considered in the next section.

### India

India is the world's third largest crude consumer, and, like South Africa, China and Indonesia, [should benefit from a significant reduction in its import bill](#). In more normal circumstances, cheaper oil could help the government by allowing it to increase taxes on fuels, rather than pass the entire benefit of the price decline to consumers. However, the wider economic impacts of Covid-19 may make this difficult. Any help from lower oil prices would be a relief for the government, which has recently experienced pressure over weak economic performance and the [biggest bank failure](#) in India's history.

India's economy [was in slowdown even before Covid-19 hit](#). GDP grew at 4.2% in the 2019-20 financial year, which was its slowest pace in nearly a decade. For the first three months of 2020, which overlapped with the first week of the lockdown, the country's GDP grew by only 3.1%. But the real damage is still to be recorded, with economists expecting a contraction of up to -7% for the 2020-21 financial year – the worst recession since the 1970s. Efforts to stimulate the economy, such as a \$266 billion government programme (equivalent to 1% of GDP), have been deemed by many economists as insufficient, and Moody's downgraded India's sovereign rating to the lowest investment grade for the first time in 22 years.

## Indonesia

As of 2019, Indonesia held proved oil reserves of [3.2 billion barrels](#) and gas reserves of 96 trillion cubic feet. The country has a long history of oil exploration and has been an OPEC member on-and-off since 1961. However, declining production and rising demand means it has been a net oil importer since 2004.

Prior to Covid-19, and faced with maturing fields, strict regulations and a growing national oil company (PT Pertamina) many [international companies were exiting Indonesia](#). Covid-19 and low oil prices may accelerate this.

Further, [Covid-19 has delayed upstream projects](#) and resulted in buyers of LNG rescheduling or deferring cargoes. Production targets for oil and gas are likely to be missed, and the Indonesian Crude Price dropped as low as \$34 in April, compared with a national budget assumption of \$63.

The [OECD has forecast](#) Indonesia's economy to contract by -2.8% this year, and up to -3.9% if a second wave of Covid-19 hits the country in the second half of the year. This is despite a \$48 billion stimulus package, cuts to interest rates and a \$12 billion bond-buying programme.

## Impact of Covid-19 on decarbonisation

### Global impact

Forecasting the impact of Covid-19 on the decarbonisation of energy systems in LICs and MICs is challenging. The wider global context must first be considered, but there is little certainty over global economic performance through the second half of 2020 and 2021. The IMF, in its [World Economic Outlook, April 2020](#), expects the global economy to grow by 5.8% in 2021, but heavily caveats this:

*The economic fallout depends on factors that interact in ways that are hard to predict, including the pathway of the pandemic, the intensity and efficacy of containment efforts, the extent of supply disruptions, the repercussions of the dramatic tightening in global financial market conditions, shifts in spending patterns, behavioural changes (such as people avoiding shopping malls and public transportation), confidence effects, and volatile commodity prices. Many countries face a multi-layered crisis comprising a health shock, domestic economic disruptions, plummeting external demand, capital flow reversals, and a collapse in commodity prices. Risks of a worse outcome predominate.*

The actions of international energy companies offer clues to the future, with majors now increasingly preparing for a transition away from oil and gas. In June, [BP wrote down assets by \\$17.5 billion](#), reflecting expectations of lower energy prices. Further, the company said the aftermath of the pandemic will accelerate the pace of transition to a lower-carbon economy and energy system, as countries seek to make their economies more resilient in the future. BP expects Brent crude oil to average about \$55 between 2021 and 2050 (down from its previous forecast of \$70), and gas to average \$2.90. These forecasts are 27% and 31% lower respectively than the average prices used in its latest annual report.

Similarly, in April, [Shell announced plans to become a net-zero carbon company by 2050](#). This is to be achieved through shifting its business towards selling clean energy products such as renewable energy and biofuels, and offsetting its own emissions through implementing carbon capture technologies or through natural solutions such as planting trees.

However, there has been significant [scepticism](#) around these announcements, which contain little detail and do not set out plans to end exploration and drilling.

Alternatively, a [more bullish article in Forbes](#), argues that the anticipated long-term impacts of Covid-19 have been overstated. In terms of consumer behaviour, prospects for oil-based cars might improve from this crisis. General car demand may be increased by a reduction in the use of cramped public transport, and working from home is not possible for over 60% of the full-time workforce in the US. (The potential for working from home in LICs and MICs is not clear.) In addition, having less money amid higher debt is likely to postpone or outright cancel buying a new more efficient car that could cut down on oil used per mile driven. Further, [electric car companies will be under strain after facing severe reductions in demand](#), with worldwide sales expected to drop by 43% in 2020.

Finally, the future of flying remains unclear. Lower oil prices may reduce the price of flights, but fuel typically makes up 15%-20% of a ticket price. Also, if the current crisis results in bankruptcies, competition will be reduced. In terms of behaviour, consumers may be less willing to travel, and businesses may be more used to videoconferencing.

### Impact on LICs and MICs

Beyond global trends, a range of competing factors will affect the impact Covid-19 has on decarbonisation in LICs and MICs.

[The role of oil and gas in political structures in developing countries](#) should not be overlooked.

Where ruling coalitions have become dependent on oil rents, and perhaps also ideologically committed to the promise of hydrocarbons, they may refuse to change course. This approach may offer a route to political survival and perhaps stability in the short term, but seems unlikely to offer an economic strategy that is in any sense sustainable over the longer term. In Africa, countries such as Angola and Nigeria have in recent decades been built on their oil and gas industries. However, newer producers, such as Kenya, Uganda and Tanzania, are not yet at this point. Also, oil exporting LICs and MICs are less likely than developed exporters to have large sovereign wealth funds to fall back on, or to be able to influence global markets and agreements (such as OPEC).

The possibility of long-term, capex-intensive assets becoming stranded has been increasingly debated in recent years. A [report from the United Nations University Institute for Natural Resources in Africa](#) (UNU-INRA), launched on the side-lines of COP-25 in December 2019, aimed to highlight the challenge of stranded assets resulting from climate change policies – and the potential for social and economic disruption. The impact on oil prices of Covid-19, when combined with wider trends towards renewables, may make the potential for stranded assets more urgent – and the risks of investing billions in upstream projects too high.

Although not explored in detail here, it is clear that the discovery of oil and gas reserves do not necessarily result in equal economic growth for citizens. For example, the 2010 discovery of major gas reserves off the coast of Mozambique's Cabo Delgado province was expected to bring prosperity to the impoverished region. However, despite billions of dollars of investments from international companies, [local people have seen little benefit](#). In fact, communities have been forcibly removed and, where they have protested, have faced intimidation and violence. The fallout from Covid-19, and the struggle of many developing countries to respond effectively (for example, despite its gas resources Mozambique had only 24 ventilators at the outbreak), may promote debate around what constitutes real progress and growth – and what foreign investments and GDP fail to deliver.

Related to this point, governments of resource-blessed countries in recent years have faced the conundrum of seeking to maximising revenue while still securing investment. With oil prices suppressed even before Covid-19, competition for investment from international oil companies was increasing. For many countries, developing oil and gas resources, with commercial terms that may

favour the majors, against the backdrop of a seemingly inevitable energy transition, may not be particularly appealing. Also, as noted previously, persistent low oil prices will mean some countries cannot profitably exploit their resources, even if they want to.

Any decarbonisation efforts will be impacted by China. The Oxford Institute for Energy Studies, in a [June 2020 report](#), identified three ways in which Covid-19 may impact the clean energy transition there. First, lower demand will mean lower renewable energy surcharge collections, which in turn reduces the space for renewable subsidies, which were already tailing off. The National Energy Administration (NEA) has already reduced the total subsidy available for new PV plants in 2020 from \$3.7 billion to \$2.1 billion.

Second, lower electricity demand growth means lower demand for coal. In the first three months of 2020, electricity from thermal sources (mainly coal) declined 8.4% from the previous year, while total wind and solar output rose 7.6%. As yet, no cancellations or major changes to build plans have been made, but continued underutilisation could make future approvals more difficult. However, reduced demand could also reduce opportunities for new renewable generation (especially as much of China's coal is inflexible baseload).

Third, there is the potential for economic stimulus to promote clean energy. Prior to the crisis, the government had already launched a New Infrastructure Plan. Although this included high-voltage transmission and electric vehicle charging, it was focused largely on existing pro-growth priorities (for example, real estate, steel and cement).

Also, as a result of Covid-19, China has [dropped a key energy efficiency target](#). Rampant environmental pollution motivated China's government to decouple economic growth and fossil fuel consumption in 2015, with a pledge to cut energy intensity by 15% by 2020. That target was cut to 13% in 2019 and in 2020, at the gathering of the National People's Congress, it was removed altogether. However, analysts still believe that China sees renewable energy as a key pillar of self-sufficiency, an increasingly important aim given the fractured relationship with the U.S., as well as a Covid-19-inspired re-evaluation by western countries of their reliance on imports. China's future planning is more focused on domestic growth and consumption rather than ever-increasing exports.

Finally, a key consideration when looking at energy systems in LICs and MICs is the extent to which they depend on oil and gas for electricity generation. For example, [Nigeria](#) has 12.5 GW of installed capacity, of which 10.1 GW is thermal (mainly gas) and 2.4 GW is hydro. However, most days there is around 4 GW of capacity available, which is insufficient. As such, diesel generators are utilised by many businesses and households. Oil and gas price fluctuations will therefore significantly impact electricity generation, and future investment decisions, in Nigeria, and low prices will encourage ongoing reliance on thermal generation – and undermine the economic case for renewables.

In contrast, many countries across SSA rely largely on hydro for generation and do not have domestic oil and gas resources to use in electricity generation. Additionally, they may not have access to affordable imports given distances and limited infrastructure. For these countries (with Ethiopia as a good example) lower oil and gas prices will still not be competitive with hydro, and, increasingly, solar and wind.

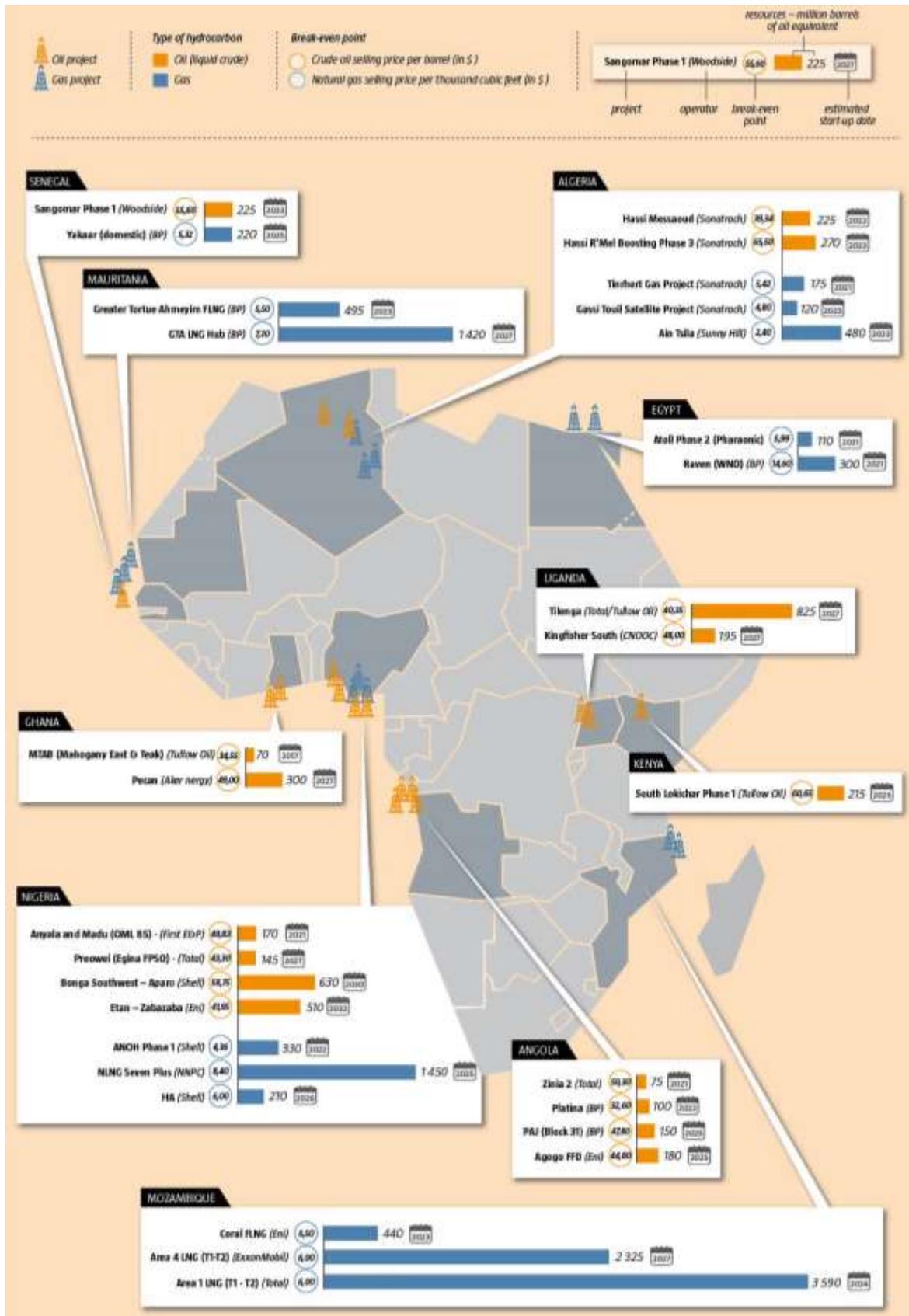


Figure 7 Major African O&G projects under strain from Covid-19