

PEAK OIL? FORGET DEMAND PEAK, PEAK INVESTMENT DECIDING FUTURE?

2021 May

Since 2020's COVID-19 global lockdown, an unexpected massive demand destruction of oil and gas, growing emphasis on a full global economic reset of global economies, as shown in EU's Green Deal, China's Net-Zero by 2060 or the current Biden energy transition approach, the term Peak Oil has re-emerged in discussions again. British oil and gas major BP, supported by others, even upped the ante by stating in 2020 in its well-known BP Energy Outlook 2020, that oil demand already has peaked. In one of its scenarios, BP's "business-as-usual" scenario, the company expects oil demand to have peaked after steadily rising for decades. In an even more optimistic scenario, BP sees consumption leveling off over the next decade before slowly declining. This Peak Oil Demand storm however has been short-lived it seems.



Still, Peak Oil is back in the headlines, but still struggling with its interaction with global gas demand, that even BP sees increasing until 2050. Analysts have been taking the BP outcome as a major turning point in the discussion, as it supports global energy transition and climate change discussions. The decades long Hubbert Peak or Club of Rome discussions at last, according to some, have become a fact of reality. Shortly after, the turn however has turned dramatically. In direct reactions to BP's Energy Outlook, the IEA (OECD's energy watchdog in Paris) and OPEC published reports stating that Peak Oil Demand is not yet on the horizon. In its World Energy Outlook October 2020, OPEC stated that it estimates that global demand will hit 109.3 million bpd in 2040 before declining to 109.1 million bpd in 2045 and plateauing "over a relatively long period." The IEA reports

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an earlier peak, possibly between 2030-2035, but indicates that there are lots of unknowns still. Based on the latest short-term IEA assessments, no peak oil demand is expected to be hitting the market before 2026. In its last Oil 2021 report, the agency has been explicitly looking at possible peak demand indicators for its medium-term outlook, but no definite answer has been provided. According to the IEA, only a peak gasoline demand is seen already at present, but crude oil consumption is not at all at its peak. Even the global gasoline demand peak should be taken still with caution as global oil and gas markets, as influenced by global economics, are still reeling from the COVID-19 crisis and pre-pandemic situation has not yet been seen anywhere. To reach pre-pandemic or 2019 demand levels, the agency expects still 1-2 years of post-COVID economic growth to be necessary. The latter position is also partly taken already by OPEC and non-OPEC (OPEC+), as indicated during the last meeting in Vienna, Austria. The global oil producers' group is cautiously optimistic but sees real demand progress emerging in 2022 and after. OPEC has already stated that it does not expect any peak oil demand before 2030-2035, some members even much later.

If no real energy transition or global economic reset mechanisms are put in place, the IEA, and OPEC, expect in the coming 1-2 years crude oil demand to reach 2019 levels, with a steady growth to a perceived peak of 104 million bpd after 2026-2035. OPEC indicators, as already stated before, are even expecting overall growth to reach a peak of 110-115 million bpd, partly based on more conservative estimates of energy transition changes but also due to possible increased demand from emerging markets such as India,

Brazil, and other still largely open markets. If consumption and population increase continue 104 million bpd is possibly a very conservative peak estimate. Possible lower demand for gasoline, as is expected due to EVs worldwide, however is already being countered by an increased interest of consumers for SUVs, while international road transport is also showing demand growth.

Crude oil demand is also being supported in the coming years by petrochemicals. Current assessments, as shown by IEA, OPEC, and others, indicate that ethane, LPG and naphtha will be the main driver. The IEA reports that these three products will be accounting for 70 percent of the projected increase in oil demand through 2026. As the latter products are mainly being used for plastics, demand could still be constrained if governments will put in place their promises to ban single-use plastics and increase recycling.



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Most international assessments about crude oil demand are looking at the expected exponential increase of EVs and the impact of Green Deals or Economic Resets. The impact of the latter still however is out in the open, as not only governments will have to put their strategies in place, but also need to counter possible societal opposition, especially considering the expected economic downturn in the Post-COVID era. Optimists believe that there is a possibility of a rapid change in consumer behavior, but history tells the opposite. Aiming for a low-carbon future does not mean that society and economies are going for a full reset without questioning programs, strategies or the immense budgets needed. If the first figures are right, as shown in the EU, China and USA, gasoline demand is not waning or very far behind 2019 levels. A change in driver attitude is also a possible supporter for higher gasoline demand, as after surge in SUVs in the Western world, demand for hydrocarbon-based fuels will go up. To expect a global EV reset may be a strategic choice but it seems consumers are still not completely ready to take the plunge. The current rapid rise of EVs, as is shown in Norway, China, and some EU countries, is seen as a forebode of the rise of green vehicles globally. Based on these developments the IEA, EIA and even OPEC indicates a possible decline in gasoline demand in the next decade. However, to expect the exponential growth of EVs to continue, based only on widespread government support, subsidies, and tax-reliefs, is not only wishful thinking but counterproductive. Most OECD governments rely partly for the revenues on fuel taxes, which are now being removed. Possible tax changes or removal of subsidies, as shown in some Western European countries, has put a major stop to EV growth. Even with the IEA's

optimistic assessments of EVs growing from 7.2 million vehicles in 2019 to 60 million in 2026, the total impact is still minimal, as it takes 5 million vehicles to remove 1 million bpd of crude oil demand. At the same time, demand for transportation vehicles and conventional fuel in non-OECD regions is expected to grow even more, especially India and Africa.



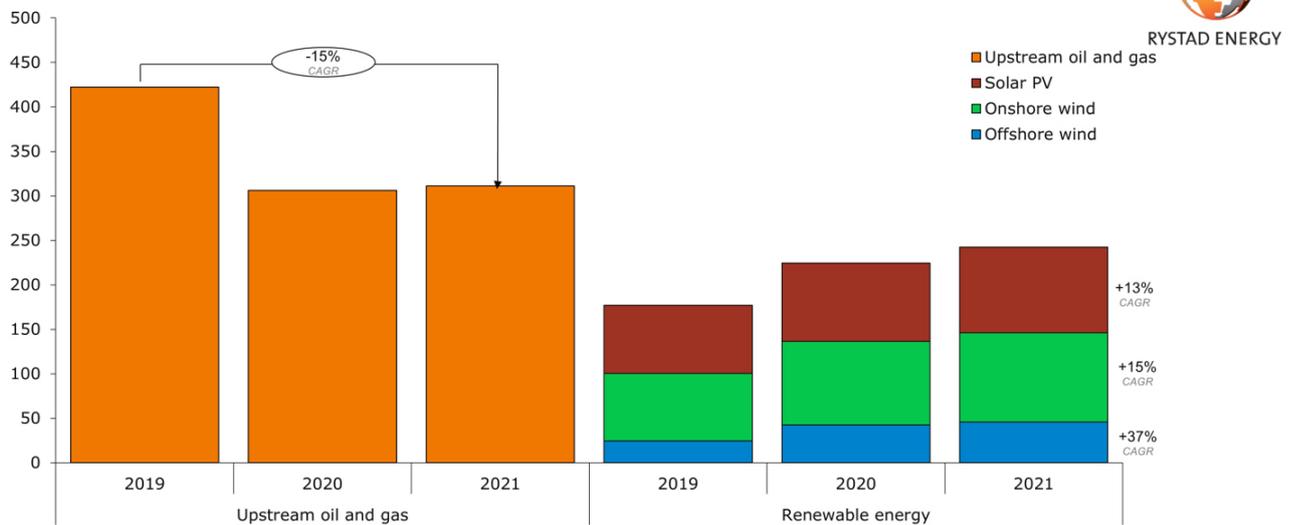
The main under-assessed factor for the next years with regards to the global oil and gas markets is the threat of Peak Oil (or Hydrocarbon) Investment. A possible supply crunch looms around the corner as hydrocarbons are increasingly facing a lack of available financing to keep not only their current volumes online but also to find the necessary new reserves to counter production decline and demand growth the coming years. If this situation is not addressed or outrightly reversed, supply will be the main constraint in the market, leading to price hikes and shortages. As reports of the IEA, EIA and OPEC are showing, global upstream investments are facing an uphill battle. The IEA reported in its

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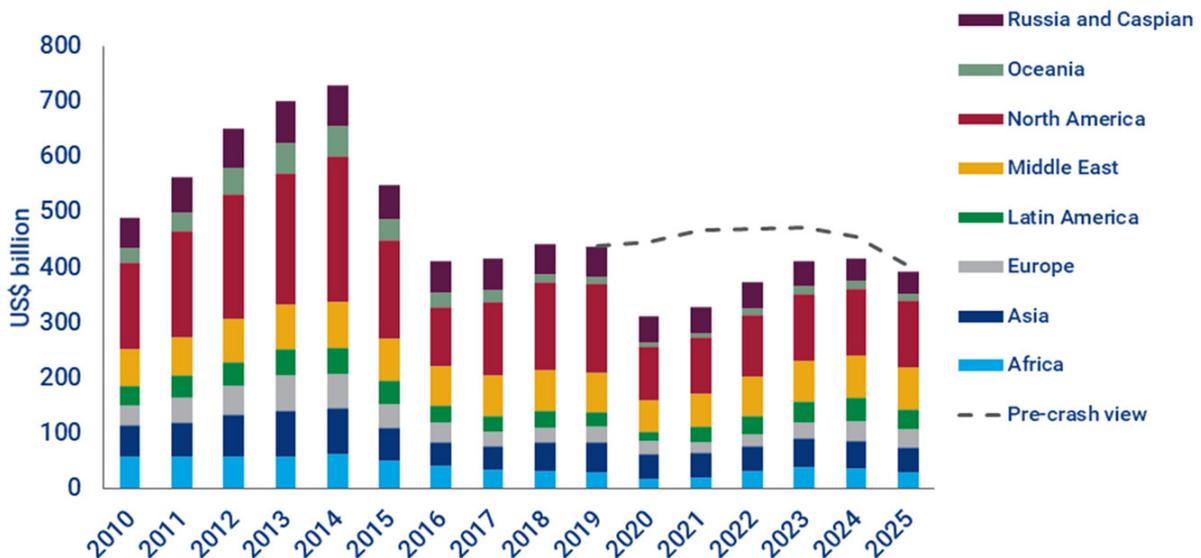
latest report that in 2020 global upstream oil investment collapsed by 30 percent. Based on the current situation, a possible decline of production of around 5 million bpd is expected between now and 2026. In 2026, based on current economic scenarios, global demand will increase around 10.2 million bpd. With the present major spare capacity due to the demand destruction in 2020, the market

is relatively stable. However, if investments are lacking and demand expectations are right, according to the IEA, the available spare capacity by 2026 of 2.4 million bpd, will be a historical low. This presents a possible destabilization factor of unknown proportion, especially if, as some expect, investments will still be trailing way behind needed levels the coming years.

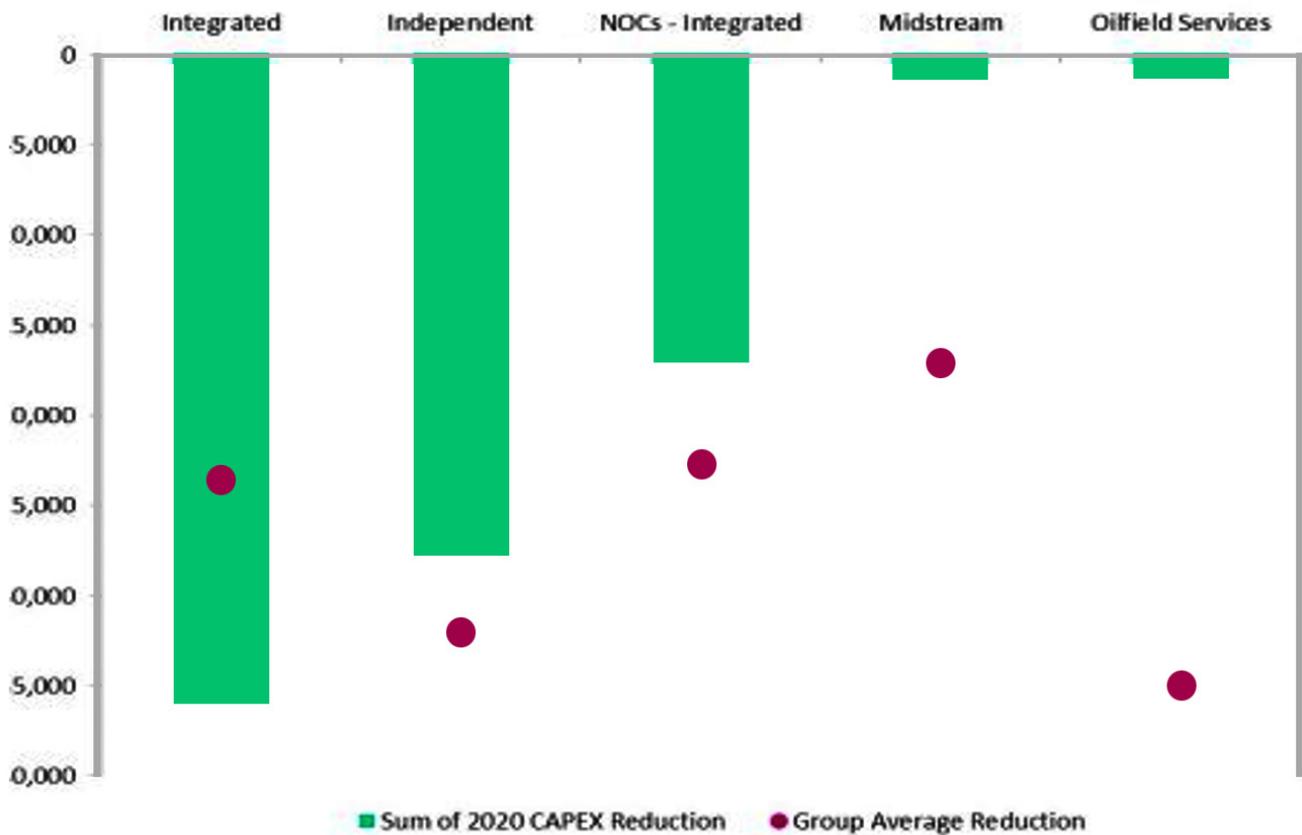
Capital expenditure forecast for upstream and renewable energy projects
Billion USD



The crisis will cost global upstream US\$0.5 trillion of investment to 2025 versus pre-crisis forecasts



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In 2020 it has however also become clear that the market is looking at a supply issue. Increased demand will need to be met by renewed investments in existing production, while new discoveries and reserves need to come online very soon too. The current hydrocarbon fuel divestment movement, combined with a major financial onslaught on international independent oil companies, such as ExxonMobil, Shell, BP and others, are putting these future options in doubt. The steep decline in revenues in 2020, with some even reporting multibillions of losses, have had a detrimental impact on the financial position and attractiveness of these upstream operators. The combined market cap of the top-5 oil companies in the US fell last year (October) by 45% to \$367 billion, in comparison to \$690 billion in December 2019 or \$674 billion in October 2019. In the last

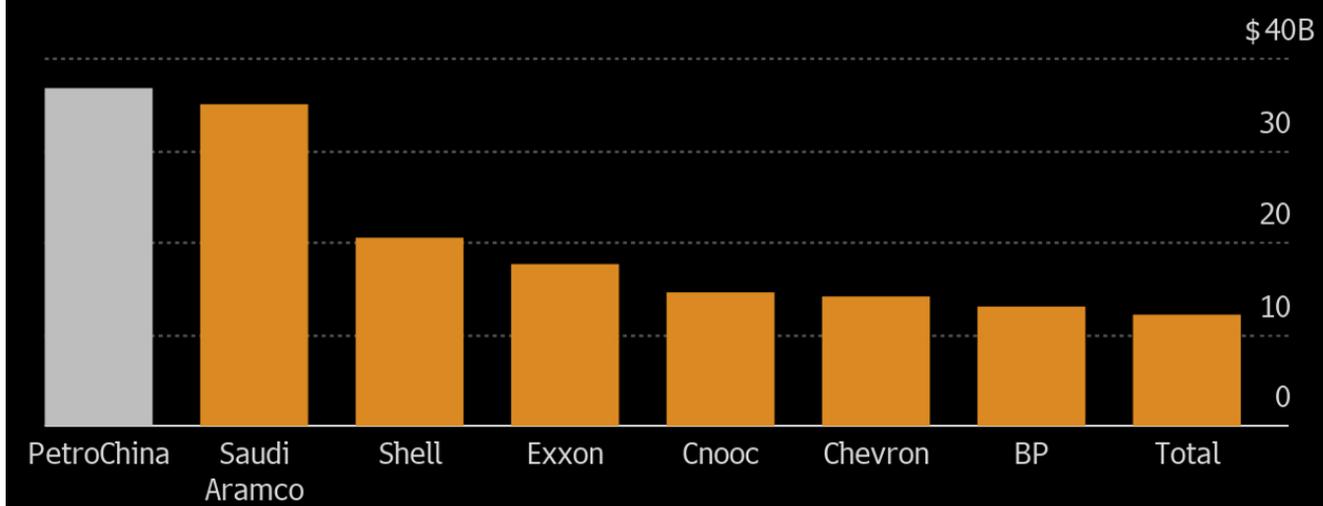
year, instability in the market has increased due to lower revenues, increased market cooperation, and a tsunami of bankruptcies, divestments, and consolidation. European oil and gas companies also suffered in 2020. Almost all 25 NA-European oil and gas companies have seen a market capitalization crash in 2020. At the end of 2020, overall energy indexes were still around 20% lower than at the start of 2020.

The above painted developments have been further amplified by the fact that international investment institutions are turning their backs on hydrocarbon investments. A growing political emphasis on renewables, low-carbon or even Net-Zero production, and other energy transition policies are massively hurting oil and gas investment. The IMF, WB, EBRD, EIB, and

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Big Spender

China's oil giant has 2021's most expensive capital spending plan



others have also stated that they are ending hydrocarbon project financing. However, it seems the well-recorded oil demand destruction during 2020 has pushed oil supply risks out of the mind of analysts. Most E&P companies have curtailed their spending on upstream operations dramatically. Last months all international oil companies, including super majors such as Aramco, have stated that they are keeping CAPEX investments to lower levels. Market volatility is expected to increase in the coming years, mainly due to the impact of lower investment levels on supply.

At present the market is also looking at an ever-growing list of delayed upstream projects and FIDs, which will very soon put a major damper on upstream oil production. As indicated in December 2020 by the International Energy Forum (IEF) and consultancy BCG, lower CAPEX levels and low investment appetite will be a real threat to markets. OPEC has also been reported as stating that investment volumes of around

\$12.6 trillion are needed to keep the oil supply for the coming decades at the current level. Norwegian oil consultancy Rystad Energy said that even though demand has declined in 2020, 2019 levels could return before 2024/25, necessitating future upstream spending of an average of \$380 billion p.a. over the long-term. Inadequate investments will set off another wave of unwanted boom-and-bust pricing. With oil majors indicating that CAPEX reductions will be in place throughout 2021, and some even seeing 2022 as a difficult year, production is undoubtedly being threatened. To expect technology again to be the savior, seems to be questionable. With every US\$ dollar being cut in CAPEX, as stated by the IEF, having twice as powerful an effect in terms of reducing activity as the cuts made following the 2014 fall in prices, supply is being greatly threatened. Taking the Aramco or Shell statements about CAPEX 2021 into the connotation, the signs are on the wall that the future is clearly heading towards Peak Oil Investment, resulting in Peak Oil Supply, if no action is being taken.