

Global Energy Weekly

Oil's All About The Benjamin

Brent prices should average \$68/bbl in 2021 but...

Back in June of last year, we argued (see [The third time's a charm for oil](#)) that crude oil prices would be on an upward path into 2021 as OPEC+ cuts and an incipient demand recovery would push Brent to \$60/bbl by 2Q21. The reported effectiveness of Covid-19 vaccines, coupled with further OPEC+ supply curbs, encouraged us to move our 2Q21 Brent target to \$70/bbl in February (see [Commodity update](#)). This narrative has largely played out, with limited progress on Iran briefly pushing prices above \$75/bbl this month. What comes next? Petroleum inventories are now below a 5y mean in OECD countries and should support Brent at \$68/bbl on average in 2021, but ample OPEC+ spare capacity and a likely return of Iran barrels will likely cap oil prices this year.

...could spike to \$100/bbl in 2022 as demand surges

Yet a combo of factors could push oil to \$100/bbl (a "Benjamin") next year, mostly on three key demand and three key supply factors. First, there is plenty of pent up mobility demand after an 18 month lockdown. Second, mass transit will lag, boosting private car usage for a prolonged period of time. Third, pre-pandemic studies show more remote work could result in more miles driven, as work-from-home turns into work-from-car. On the supply side, we expect government policy pressure in the US and around the world to curb capex over coming quarters to meet Paris goals. Secondly, investors have become more vocal against energy sector spending for both financial and ESG reasons. Third, judicial pressures are rising to limit CO2 emissions. In short, demand is poised to bounce back and supply may not fully keep up, placing OPEC in control of the oil market in 2022.

Eventually US shale responds, Brent is back at \$65 in 2023

Due to these diverging supply and demand trends, global oil balances should remain in deficit in 2022. Despite still holding back 6.6mn b/d of supply, OPEC+ could get away with higher oil prices next year. It is a tempting proposition. Most oil exporters have experienced a meaningful reduction in FX reserves in the past year and will face government budget oil price breakevens north of \$70/bbl next year. As a result, we increase our Brent crude oil price forecast for 2021 from \$63/bbl to \$68/bbl and we also up our 2022 crude oil projections to \$75/bbl, from \$60/bbl prior. Still, non-OPEC oil supply elasticity has not totally vanished. US shale will likely respond to these higher prices, suggesting that Brent will roll back down to average \$65/bbl by 2023.

Key downside risks? The pandemic, govt policy, OPEC+

What are the key downside risks to our oil views? First, Iranian barrels could add some downward pressure on oil prices in 2H21. Second, our constructive oil price view relies on sustained OPEC+ discipline, as cheating could derail our upward price trajectory. Third, with vaccination rates slowing down and virus mutations speeding up, the pandemic will remain a risk. Fourth, a tighter monetary policy backdrop will remain a headwind. And last but not least, it is easy to forget how thin the Democratic majority is in the US Congress. Big infrastructure plans have already been severely curtailed and a fiscal cliff could reappear in the US (and elsewhere). If that happens, risk assets and cyclical commodities like oil could adjust to a lower level.

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Exhibit 1: BofA Commodity Research Themes and Outlook

Key takeaways

	View	Recent report
Macro outlook	<ul style="list-style-type: none"> Our economists see world GDP rising 6% in 2021 and expanding by an additional 4.5% in 2022. A steady distribution of effective vaccines suggest that cyclical real and financial assets like oil should perform strongly into 2021. 	
WTI and Brent crude oil	<ul style="list-style-type: none"> We project Brent and WTI to average \$68/bbl and \$65/bbl, respectively, in 2021 and \$75 and \$71 in 2022. Our supply and demand forecasts suggest a 1.4mn b/d deficit in 2021 followed by a 400k b/d deficit in 2022. We forecast global demand will rebound nearly 6mn b/d YoY in 2021 after falling 8.7mn b/d in 2020. During 2021-23, we forecast demand will grow by more than 9mn b/d, the fastest pace since the 1970s. Non-OPEC supply should grow roughly 700k b/d YoY in 2021 and an additional 2mn b/d+ in 2022. We project total US supply will remain flattish in 2021 and rise more than 1.5mn b/d in 2022. OPEC supplies are set to rise 600k b/d in 2021 and 2.1mn b/d in 2022 as OPEC+ adds back supply and as Iran returns. 	
Atlantic Basin oil products	<ul style="list-style-type: none"> We see upside for NWE gasoil and EBOB cracks in 2H21 and 2022 on a strong driving activity, manufacturing and road freight, and a steady recovery in air travel. We forecast gasoil and EBOB cracks to Brent will average 11.50 and \$7.50/bbl, respectively in 2022. Despite improving RBOB and ULSD fundamentals, we anticipate weaker RIN prices in the future, which drives our bearish view on RBOB and ULSD cracks versus Brent, which we expect to average \$15.75/bbl and \$19.25/bbl respectively in 2022. We expect LSFO (1.0%) cracks versus Brent to fall in 2022, averaging -\$2/bbl as OPEC+ production and refinery runs increase. 	<ul style="list-style-type: none"> Refinery margin doublespeak 04 June 2021
US natural gas	<ul style="list-style-type: none"> Weaker demand in March erased most of the storage deficit and pushed our end of October storage level forecast to 3.7 Tcf We expect 2021Q2-Q4 Henry Hub prices to average \$2.75 and Cal 2022 to average \$2.60 on strong dry gas production 	<ul style="list-style-type: none"> US nat gas throws in the towel 22 April 2021
LNG	<ul style="list-style-type: none"> Additional cargoes and returning supply should push Feb21 JKM prices back towards \$7, currently trading \$9.20. Asian demand and improving European storage will encourage near maximum US export utilization during summer 2021. We see the JKM and TTF spread narrowing as incremental supply arrives in Asia, while tight balances support European prices. 	<ul style="list-style-type: none"> Asia's LNG boomerang 11 December 2020 LNG goes global 20 August 2020
Thermal coal	<ul style="list-style-type: none"> Newcastle coal prices rallied to over \$120/t, but we see downside risks as supply normalizes and high prices weigh on demand We expect Newcastle coal to average \$97.50/t in the 2H of 2021 and \$83.50/t in 2022 	<ul style="list-style-type: none"> Coal steams ahead 11 June 2021

Source: BofA Global Research estimates

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Exhibit 2: BofA Commodity Price Forecasts

(end-of-period forecasts)

	units	Jun-21F	Sep-21F	Dec-21F	Mar-22F	Jun-22F	Sep-22F
WTI Crude Oil	(\$/bbl)	69	72	62	69	79	95
Brent Crude Oil	(\$/bbl)	72	75	65	73	83	100
US natural gas	(\$/MMBtu)	2.60	2.70	2.80			

Source: BofA Global Research estimates

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Exhibit 3: BofA Commodity Price Forecasts

(period averages) 2021

	units	1Q21F	2Q21F	3Q21F	4Q21F	2021F	1Q22F	2Q22F	3Q22F	4Q22F	2022F
WTI Crude Oil	(\$/bbl)	58.00	66.00	69.00	65.00	65.00	66.00	69.00	79.00	69.00	71.00
Brent Crude Oil	(\$/bbl)	61.00	69.00	72.00	68.00	68.00	70.00	73.00	83.00	73.00	75.00
US NY Harbor ULSD (HO) Cracks to Brent Crude Oil	(\$/bbl)	11.90	15.50	18.00	20.00	16.30	20.00	19.00	19.00	19.00	19.25
US RBOB Cracks to Brent Crude Oil	(\$/bbl)	14.40	20.00	19.00	14.00	16.80	17.00	21.00	16.00	9.00	15.75
USGC 1% Residual Cracks to Brent Crude Oil	(\$/bbl)	2.10	-1.00	-2.00	-2.00	-0.70	-2.00	-2.00	-2.00	-2.00	-2.00
NWE Low Sulphur Gasoil Cracks to Brent Crude Oil	(\$/bbl)	5.30	6.50	9.00	10.00	7.70	11.00	11.00	12.00	12.00	11.50
NWE Eurobob Cracks to Brent Crude Oil	(\$/bbl)	6.10	10.50	11.00	7.00	8.70	6.00	9.00	10.00	5.00	7.50
NWE 1% Residual Cracks to Brent Crude Oil	(\$/bbl)	1.50	-2.00	-2.00	-2.00	-1.10	-2.00	-2.00	-2.00	-2.00	-2.00
US Natural Gas	(\$/MMBtu)	2.72	2.65	2.75	2.85	2.74	0.00	0.00	0.00	0.00	2.60
Thermal coal, Newcastle FOB	(\$/t)	87.47	100.00	105.00	90.00	95.62	86.00	84.00	82.00	82.00	83.50
Aluminium	\$/t	2,067	2,403	2,600	2,750	2,455	2,750	2,750	3,000	3,000	2,875
Copper	\$/t	8,525	9,765	11,500	12,500	10,572	13,000	13,500	12,500	12,000	12,750
Lead	\$/t	2,051	2,135	2,100	2,000	2,072	2,251	2,251	2,251	2,251	2,251
Nickel	\$/t	18,368	17,457	17,500	16,500	17,456	16,000	15,000	15,000	15,000	15,250
Zinc	\$/t	2,751	2,905	3,250	3,000	2,976	3,000	2,750	2,750	2,500	2,750
Gold	\$/oz	1,799	1,800	1,875	1,900	1,843	1,800	1,800	1,900	1,900	1,850
Silver	\$/oz	26.64	26.22	30.00	32.50	28.84	31.00	31.00	31.00	31.00	31.00
Platinum	\$/oz	1,166	1,300	1,350	1,450	1,317	1,400	1,400	1,500	1,500	1,450
Palladium	\$/oz	2,364	3,000	3,250	2,750	2,841	2,250	2,250	2,000	2,000	2,125

Source: BofA Global Research estimates

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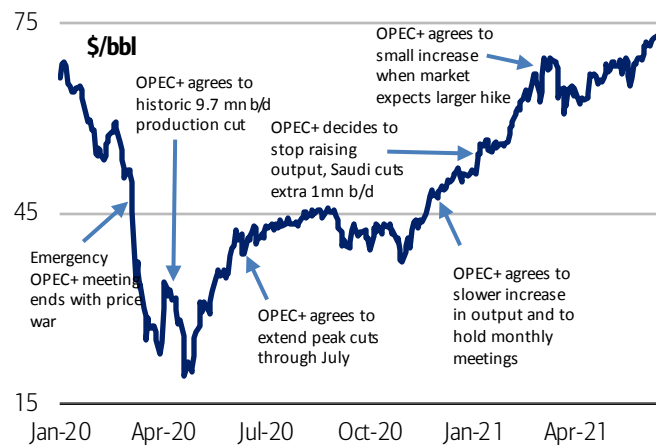
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Crude oil prices have drifted past our \$70/bbl target on...

Back in June of last year, we argued (see [The third time's a charm for oil](#)) that crude oil prices would be on a recovery path into 2021 as the OPEC+ cuts and an incipient demand recovery would push Brent to \$60/bbl by 2Q21. The reported effectiveness of Covid-19 vaccines, coupled with further OPEC+ supply curbs, encouraged us to move our 2Q21 Brent target to \$70/bbl in February (see [Commodity update](#)). This narrative has largely played out, with Brent crude oil prices exceeding our target (Exhibit 4) in recent weeks. Having said that, the recovery in oil prices has only brought the average price for the commodity for 2021 back to its 20 year mean of \$64/bbl (Exhibit 5). Importantly, any further price gains will likely have to wait till 2022. Why?

Exhibit 4: Front month Brent oil price

Brent crude oil prices exceeded our 2Q21 target of \$70/bbl in recent weeks...

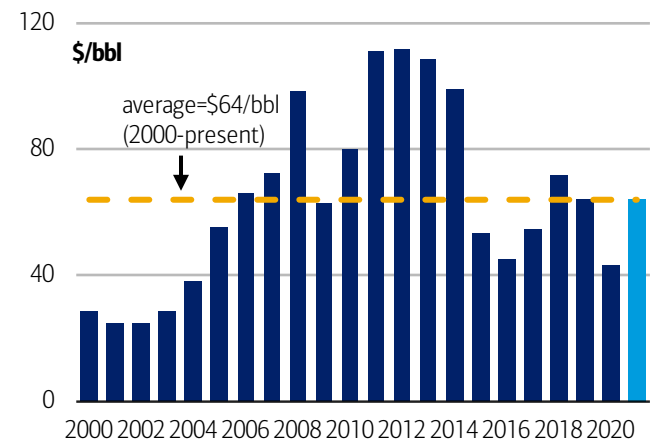


Source: Bloomberg

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Exhibit 5: Brent annual average price

...which brought the average price for 2021 back to its 20 year mean of \$64/bbl



Source: Bloomberg

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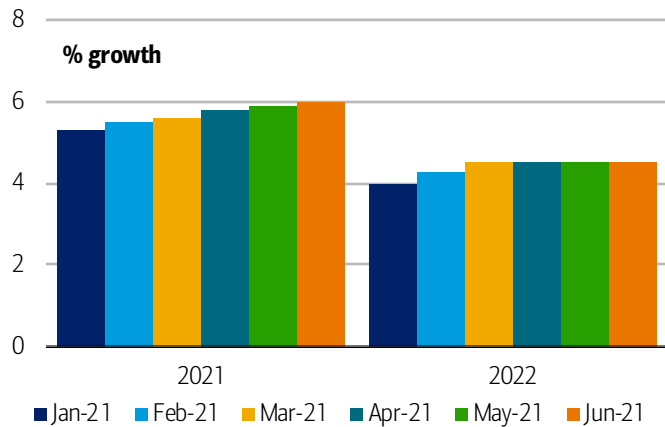
...a better macro backdrop and limited progress on Iran

Simply put, oil prices have largely rallied on the back of policy-driven supply curbs by OPEC, Russia, and other producers. Note that this is a very different set up to the demand rationing swings observed in other commodities like copper, corn or timber. True, other factors have been at work. For instance, world GDP growth estimates for 2021 have been consistently drifting higher since the beginning of the year (Exhibit 6), supporting an incipient oil demand recovery. Moreover, the expectation of a rapid increase in Iranian exports has failed to materialize (Exhibit 7) despite rising domestic production volumes, as a new nuclear deal still hangs in the balance.



Exhibit 6: Evolution of World GDP growth estimates

World GDP growth estimates for 2021 have been consistently drifting higher since the beginning of the year

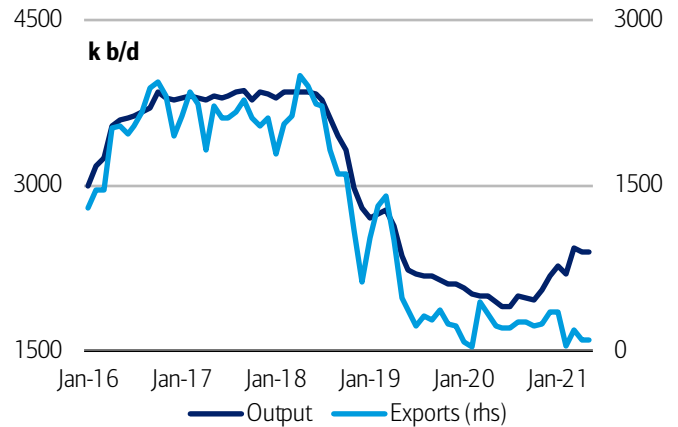


Source: BofA Global Research estimates

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Exhibit 7: Iran crude oil output and exports

A rapid increase in Iranian exports has failed to materialize despite rising domestic production volumes



Source: Bloomberg, IEA

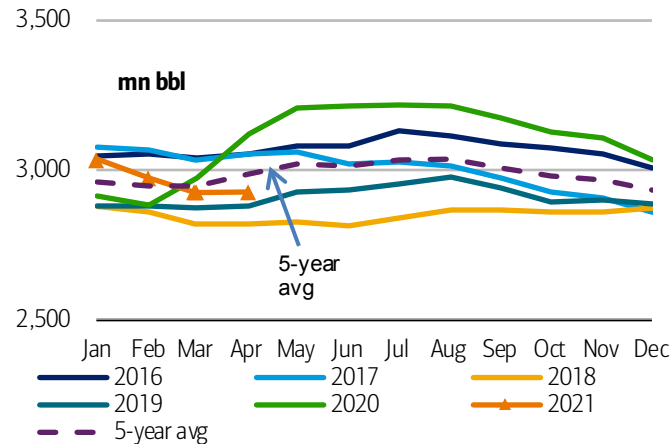
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Petroleum inventories have also dropped below a 5y mean

OPEC+'s efforts to rebalance oil markets have paid off in full, with the oil market registering an average deficit of 1.3mn b/d a day from 3Q20 through 2Q21 (see balances in Exhibit 44 and Exhibit 45). Importantly, total OECD petroleum inventories have come down by 292mn barrels since their high point in July of last year (Exhibit 8), recently pushing below the 5 year average and now sitting just 88mn above the 10 year average. Onshore crude oil inventories reported by Kayrros on a weekly basis have come down by 157mn barrels (Exhibit 9) to 3057mn barrels. Yet this figure is partly distorted by the fact that China took advantage of the oil price meltdown to accumulate crude strategically. Excluding China, global crude oil stocks are at 2076mn bbl, less than 50mn bbl above the 2018-19 average.

Exhibit 8: OECD industry total oil stocks (crude, ngl, products, feedstock)

Total OECD petroleum inventories have come down by 292mn barrels since their high point in July of last year

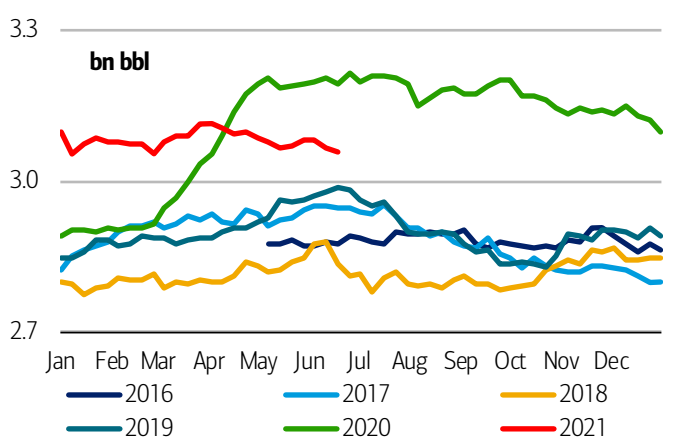


Source: IEA

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Exhibit 9: Kayrros global onshore crude inventories

Onshore crude oil inventories reported by Kayrros on a weekly basis have come down by 157mn barrels to 3057mn barrels



Source: Kayrros

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Ample spare capacity should set a cap on oil prices in 2021

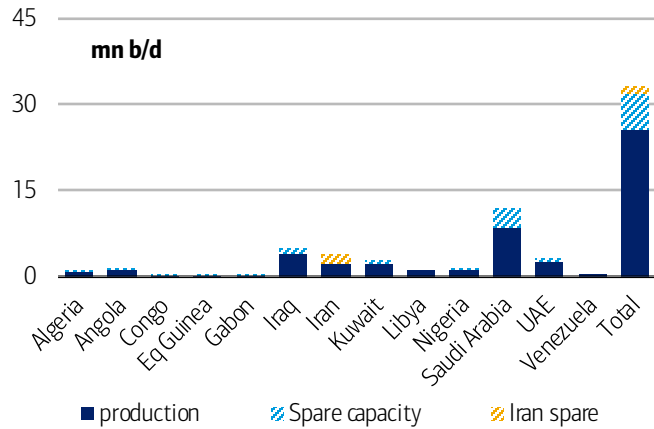
It is no secret that the future direction of oil prices over the next 6 to 12 months very much relies on OPEC+ policy. After all, OPEC still has 8mn b/d of spare capacity (May) after multiple downward output adjustments. With OPEC crude production sitting at 25mn b/d (Exhibit 10) at present and the market poised to face a 1.1mn b/d deficit over



the next 12 months, it would just take a Saudi or Russian change of heart to sink oil prices down from the current levels. Precisely because of this ample spare capacity, long dated crude oil prices have only climbed back up to \$60/bbl or so, essentially the center of our long-term crude oil price band of \$50 to \$70/bbl (Exhibit 11).

Exhibit 10: OPEC production and spare capacity

OPEC still has 8 mn b/d of spare capacity after multiple downward output adjustments

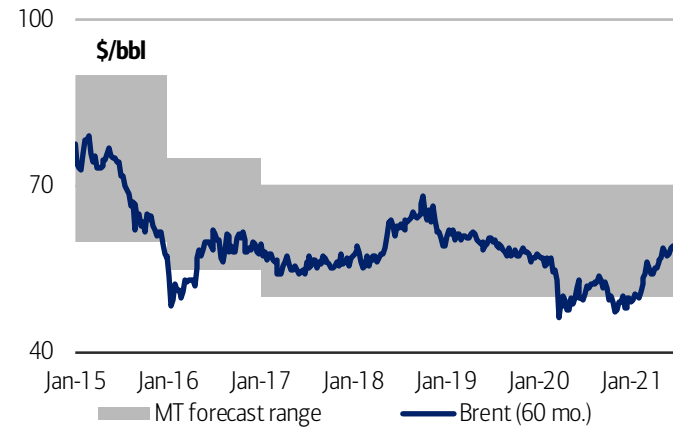


Source: IEA, BofA Global Research estimates

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Exhibit 11: Long dated Brent prices

Precisely because of this ample spare capacity, long dated crude oil prices have only climbed back up to \$60/bbl or so



Source: Bloomberg

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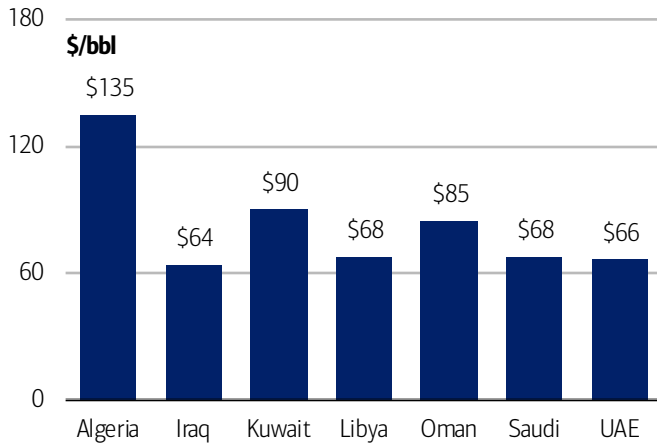
Yet a combo of factors could push oil to \$100/bbl next year...

The swift recovery in near-dated prices, coupled with a more measured upward drift in longer-dated oil prices, has pushed the crude oil market into a relatively steep state of backwardation. As deficits persist this year and next, we do not see any changes to this curve shape. If anything, OPEC+ could be tempted to test the limits of its supply policies in 2022. After all, the average OPEC+ fiscal breakeven sits over \$70/bbl (Exhibit 12) and many of these oil producing nations could do with \$80 or \$90/bbl on the screen, even if just for a little while. If OPEC+ agrees to maintain the relatively tight supply policies of 2021 and 1H22 into 2H22 (Exhibit 13), we believe Brent crude oil prices could hit triple digits next year.



Exhibit 12: Middle East and North Africa fiscal breakeven oil prices

The average OPEC+ fiscal breakeven oil price sits over \$70/bbl and many of these oil producing nations could do with \$80 or \$90/bbl

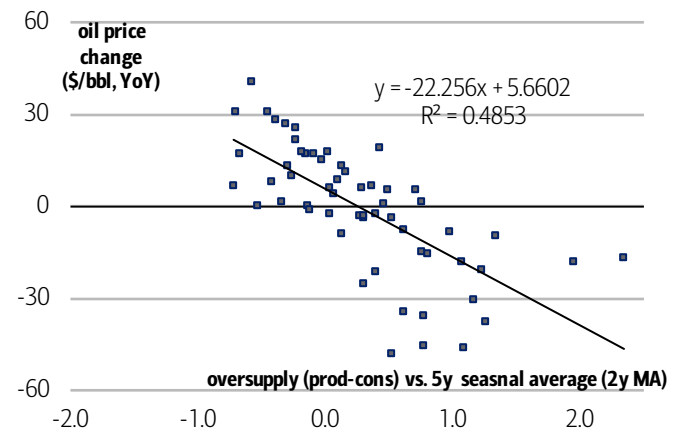


Source: IMF, BofA Global Research estimates

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Exhibit 13: Brent crude oil price changes vs. relative global oil oversupply (8-quarter moving avg)

If OPEC+ agrees to maintain the relatively tight supply policies, we believe Brent crude oil prices could hit triple digits next year



Source: IEA, Bloomberg, BofA Global Research

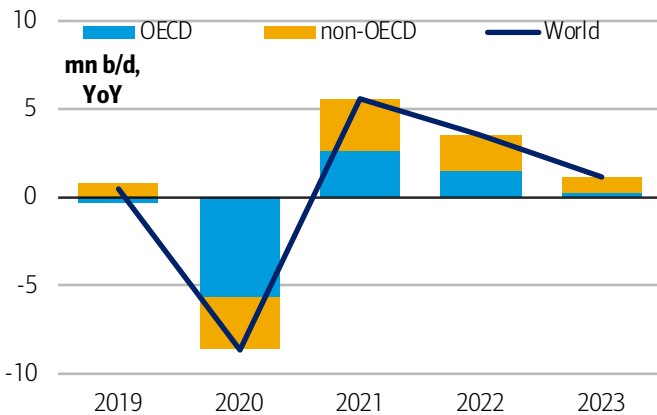
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...mostly on three key demand and three key supply factors

The group of oil producers will not have to make an extraordinary effort to get to \$100 oil, in our view. Although OPEC+ could risk a market share loss if rising oil prices reawaken the US shale giant, three supply and three supply factors should provide a strong tailwind. On the consumption side, global oil demand collapsed by about 9mn b/d YoY in 2020 (Exhibit 14). Yet we now expect consumption growth to rebound strongly this year and next by 5.6 and 3.6mn b/d respectively, the fastest growth since at least the 1970s (see [Oil's last dance](#)). On the supply side, volumes outside OPEC+ will rise, but at a moderate pace of 0.5mn b/d this year and 2mn b/d next year (Exhibit 15). That is well below the breakneck pace of projected demand growth.

Exhibit 14: Global oil demand growth post-Covid

On the consumption side, global oil demand collapsed by about 9mn b/d YoY in 2020

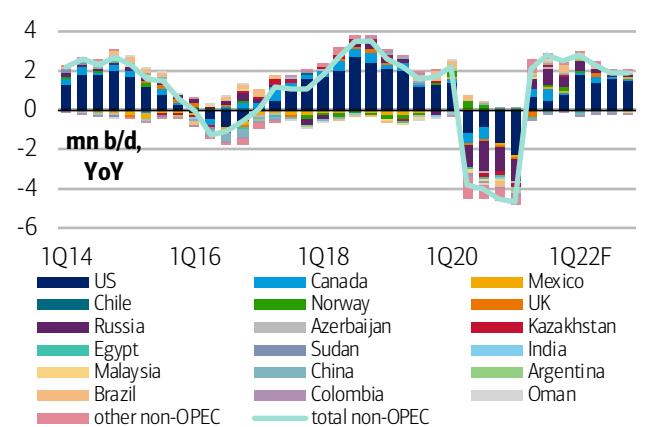


Source: BofA Global Research estimates

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Exhibit 15: Non-OPEC supply growth by country

On the supply side, volumes outside OPEC+ will rise, but at a moderate pace of 0.5mn b/d this year and 2mn b/d next year



Source: IEA, BofA Global Research estimates

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First, there is plenty of pent up mobility demand after 18m+

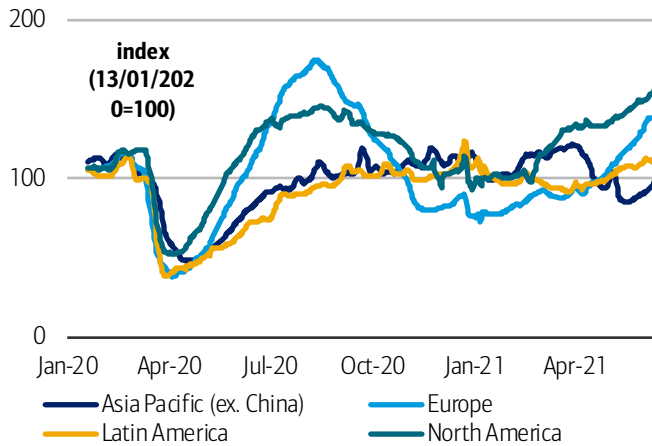
Where will global oil demand growth come from? First and foremost, there is plenty of pent-up oil demand ready to be unleashed, in our view. Looking at regional driving trends, we would point to the swift recovery in mobility demand last summer (Exhibit 16). Note that all regions, with perhaps the exception of the US, have seen a modest recovery so far this year. Crucially, global air traffic mobility clearly shows a big divide



between emerging and developed markets. While OECD air travel demand is on a recovery path (Exhibit 17), EM demand has slumped as multiple Covid-19 infection waves have ensnared a number of key developing economies. This trend should reverse as vaccination campaigns advance in 2022 across most middle and lower-income nations.

Exhibit 16: Regional driving mobility trend, weighted by car fleet

Looking at regional driving trends, we would point to the swift recovery in mobility demand last summer

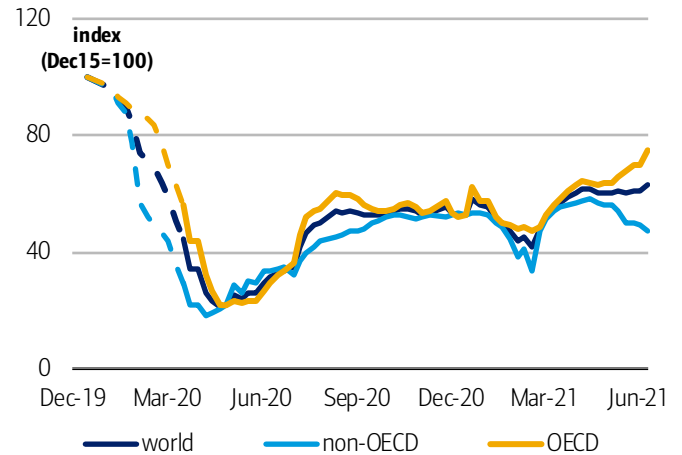


Source: CEIC, BofA Global Research

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Exhibit 17: Global air traffic, number of flights, rebased

Crucially, global air traffic mobility clearly shows a big divide between emerging and developed markets



Source: BloombergNEF, BofA Global Research

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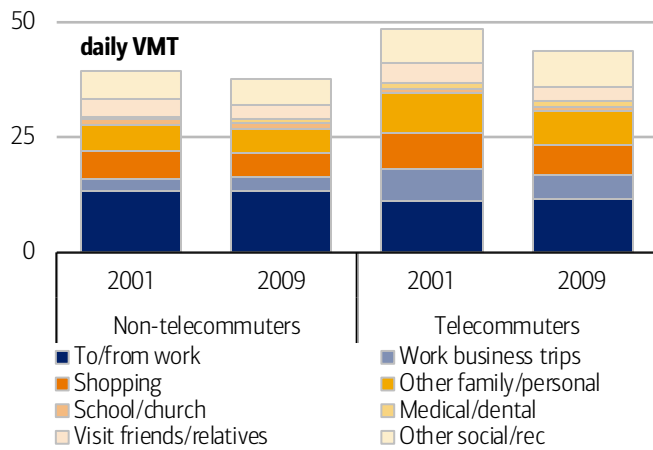
Counterintuitively, work from home may push up car mileage

While vaccination campaigns will encourage increased mobility, we expect some of the recent work from home trends to remain in place for a long time. True, many workers will return to their offices, but flexibility has increased and many companies will allow employees to work remotely one or two days a week going forward. Counterintuitively, studies done prior to the pandemic show that work from home may push up car mileage (Exhibit 18). This is because “work from home” means “work from car” in many cases, as often people use their vehicle as their office and run errands during the day. On our estimates, an average increase of 2 days in work from home in the US would likely push gasoline demand up by more than 400 thousand b/d (Exhibit 19).



Exhibit 18: Daily work trip and non-work trip VMT by US worker telecommuting status in 2001 and 2009

Studies done prior to the pandemic show that work from home may push up car mileage

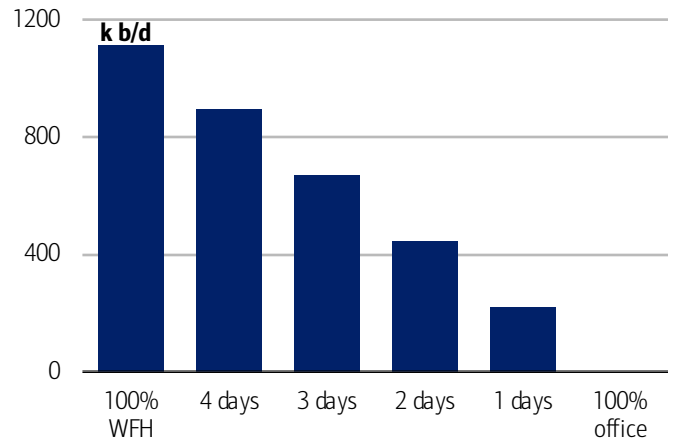


Source: P. Zhu and S. G. Mason, International Journal of Environmental Science and Technology

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Exhibit 19: Estimated US gasoline demand lost under different work from home scenarios, assuming no increase in non-work travel

An average increase of 2 days in work from home in the US would likely push gasoline demand up by more than 400 thousand b/d



Note: Scenarios assume 40% of workforce is able to work remotely and 30% of VMT comes from daily commuting. Assumes 9.3mn b/d demand base. Source: BofA Global Research estimates

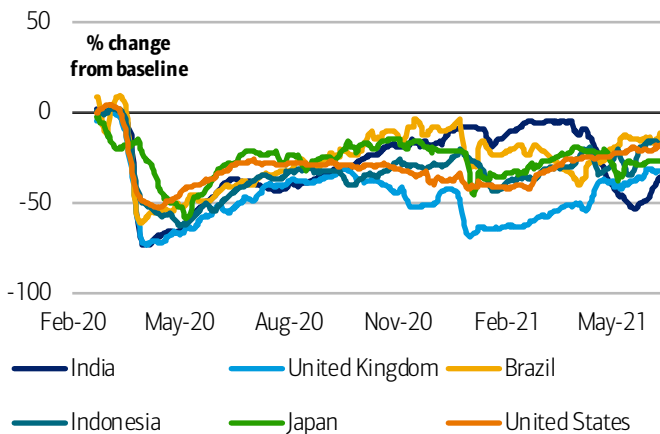
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Lastly, mass transit could stay depressed, boosting private cars

One last factor that will likely provide strong support to oil demand over the next 2 to 3 years could well be a rotation away from mass transit. Without exception, all major economies around the world still have to see a recovery in mass transit back to pre-pandemic levels (Exhibit 20). Given the psychological scars left by the pandemic, we would expect consumers to avoid mass transport as much as possible, boosting private vehicle use for years to come. This trend is already visible in a resurgence in car sales all around the world (Exhibit 21), as well as in the large bump in second hand vehicle sales prices, a shift also driven by a car supply shortage around the world.

Exhibit 20: Transit mobility trend by country (7-day MA)

All major economies around the world still have to see a recovery in mass transit back to pre-pandemic levels...

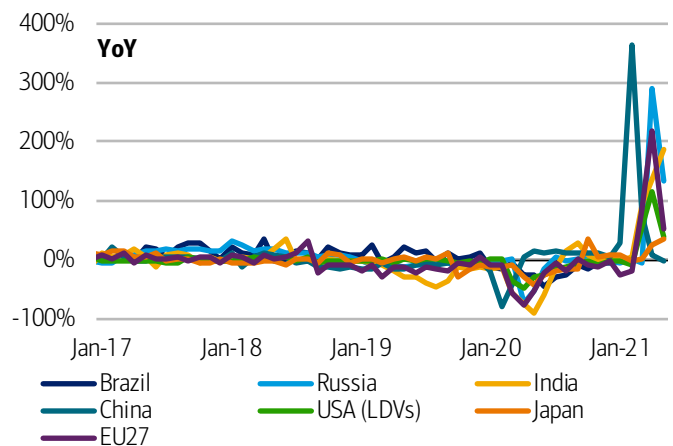


Source: CEIC

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Exhibit 21: Car sales around the world

...which led to a resurgence in car sales all around the world



Source: Bloomberg, CEIC

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On the supply side, policy pressure to curb capex is rising fast...

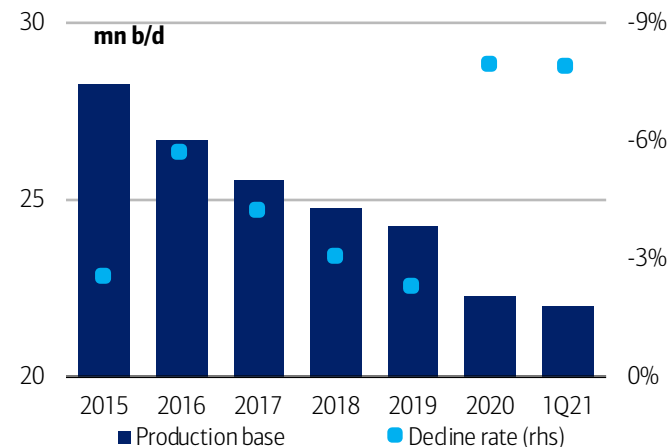
While demand is poised to accelerate over the next 18 months, supply outside of OPEC+ has taken a hit. For starters, the collapse in demand that drove WTI crude oil into negative pricing last year also led to a reduction in US crude oil output from a pre-pandemic high point of 12.9mn b/d to a low of 10mn b/d in May 2020. As price signals normalized, volumes started to come back. But a lack of investment has plagued the oil



industry in the past year, with estimated decline rates nearing 8% in 2020 as well as in 1Q21 (Exhibit 22). That compares to a pre-Covid 5 year average of 3.6%. This lower oil production base is now poised to run up against further restrictions in capital spending as prices recover. With the International Energy Agency and many governments discouraging new oil and gas investments to meet climate goals (Exhibit 23), oil supply growth outside OPEC+ could stall.

Exhibit 22: Estimated decline rates for Non-OPEC fields and regions peaking by 2010

A lack of investment has plagued the oil industry in the past year, with estimated decline rates nearing 8% in 2020 as well as in 1Q21

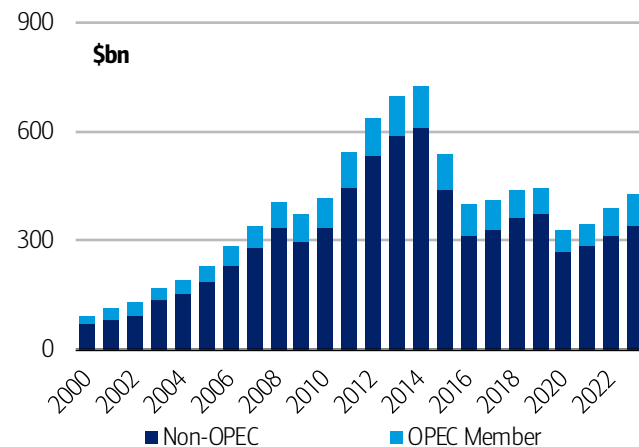


Source: IEA, BofA Global Research

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Exhibit 23: Global upstream capex

With new oil and gas investments being discouraged to meet climate goals, oil supply growth outside OPEC+ could stall



Source: Woodmac

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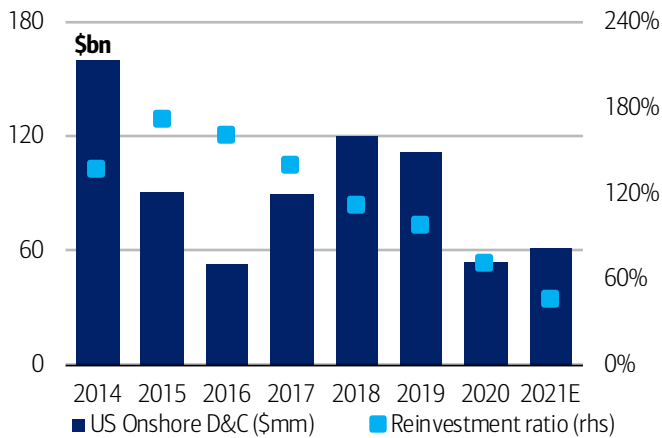
...while investors have become much more vocal on spending

Just as various government policies are poised to discourage new hydrocarbon supplies, investor pressure should also limit investment. On the one hand, listed US shale producers have faced tremendous analyst and investor pressures not to overspend their cash-flow and return money back to shareholders. Drilling and completion spending this year will likely be about half of what it was pre-pandemic (Exhibit 24) despite the fact that prices will likely average about \$68/bbl (Brent), about the same level they were back in 2018 and 2019. Beyond the financials, ESG concerns have plagued large integrated oil companies, with Exxon recently facing a shareholder revolt to reduce their carbon footprint. It should come as no surprise that the number of final investment decisions (FID) in new oil and gas projects around the world has collapsed (Exhibit 25).



Exhibit 24: US onshore D&C spending and reinvestment ratio by year

Drilling and completion spending this year will likely be about half of what it was pre-pandemic...

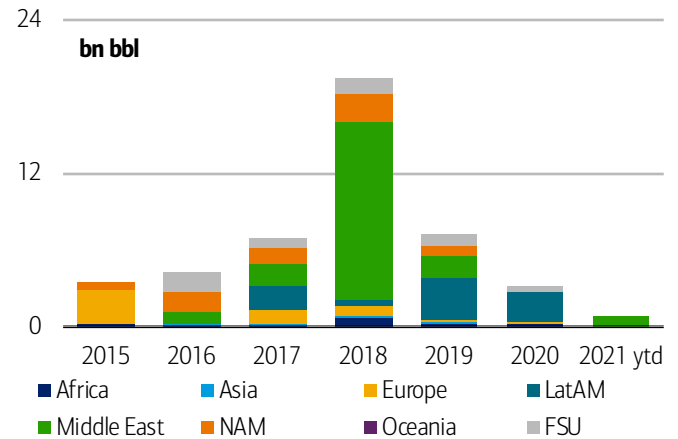


Source: Bloomberg, BofA Global Research

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Exhibit 25: Global project FID liquids reserves by year and region

...while the number of final investment decisions (FID) in new oil and gas projects around the world has collapsed



Source: Woodmac

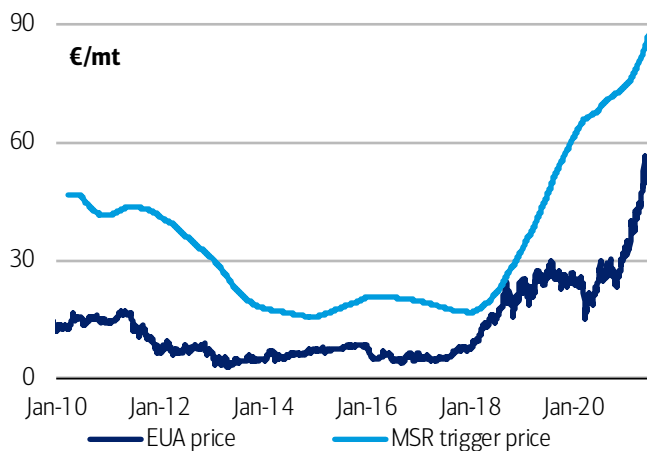
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Finally, judicial pressures are rising to limit carbon emissions

Beyond shareholder and government pressures, the legal system also seems to have caught up with oil companies. The landmark judicial decision in The Netherlands to force Shell to reduce their carbon footprint by 45% by 2030 to meet the Paris Climate goals will further limit oil and gas investments by market-driven players in western democracies. And of course, the price of European carbon emission allowances (EUAs) has shot up above \$60/t in the meantime (Exhibit 26). Governments hope that these market signals eventually allow for a big rotation away from hydrocarbon investment and into green energy (Exhibit 27), although we recently noted how far we are from meeting these goals (see [Takes a lot of zero\\$ to zero in on carbon](#)).

Exhibit 26: EUA prices and estimated MSR trigger price*

The price of European carbon emission allowances (EUAs) has shot up above \$60/t

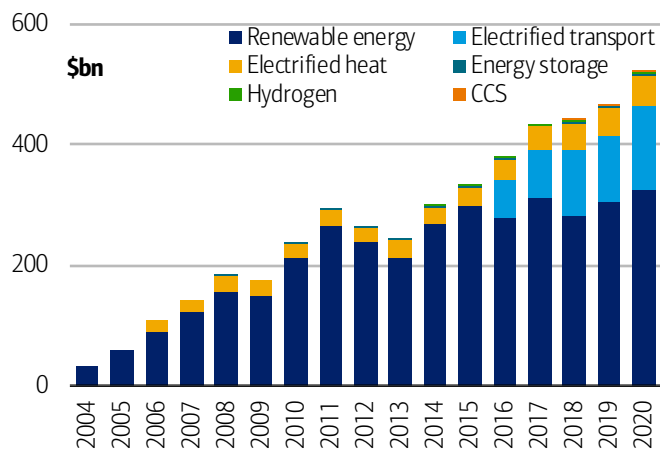


Note: EUA price required to average above trigger price for six consecutive months. Source: Bloomberg, BofA Global Research

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Exhibit 27: Energy transition investment

Governments hope that these market signals eventually allow for a big rotation away from hydrocarbon investment and into green energy



Source: Bloomberg NEF

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In short, demand is rising and supply may not fully keep up

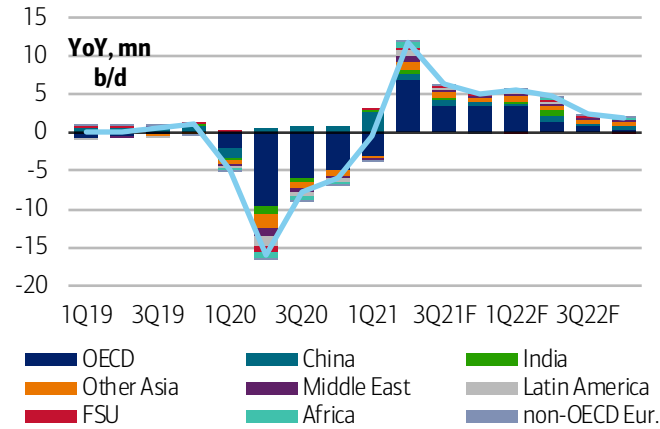
The bottom line is that global oil demand is poised to rise very significantly over the next few quarters and any supply growth will have to rely on OPEC+. From a year-on-year standpoint, demand will likely grow by 11.7mn b/d in 2Q21 and then slow to a rate of 5.6mn b/d YoY over the following three quarters (Exhibit 28). Sequentially, we expect global oil demand to grow from a current level of around 94.7mn b/d to 101mn b/d by



4Q22. The swift demand recovery will likely outpace supply expectations. For starters, we project sequential non-OPEC supply growth of just 3.3mn b/d into 4Q22 from the current levels, implying that OPEC+ will have to meet 3mn b/d of likely demand growth to keep the market balance unchanged (Exhibit 29).

Exhibit 28: Global oil demand growth

From a YoY standpoint, demand will likely grow by 11.7mn b/d in 2Q21 and then slow to a rate of 5.6mn b/d YoY over the following three quarters

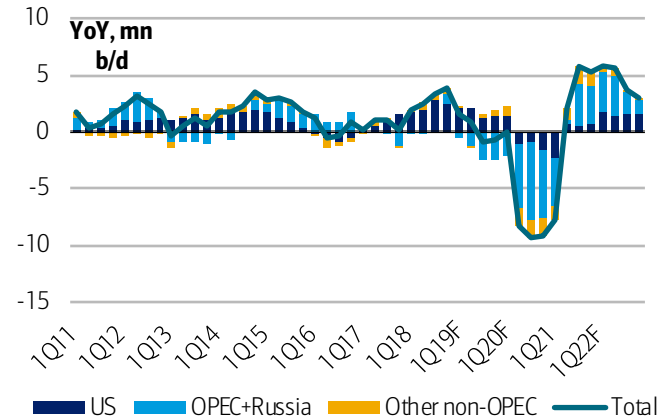


Source: IEA, BofA Global Research estimates

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Exhibit 29: Global oil supply growth

We project sequential non-OPEC supply growth of 3.3mn b/d into 4Q22 from the current levels



Source: IEA, EIA, BofA Global Research estimates

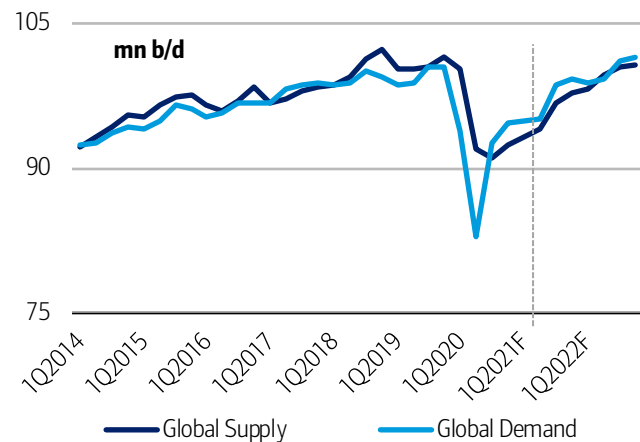
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Due to these trends, global balances should tighten into 2H22

With the oil market likely to remain in deficit due to this rapid sequential demand increase (Exhibit 30), we expect pressure on inventories to continue. In our projections, the oil market will likely remain in deficit for the foreseeable future (Exhibit 31), averaging a shortfall of 0.9mn b/d over the next six quarters. Of course, our projections are not without risk. OPEC+ can shift policy and open the taps at any point to placate demand. Yet we expect restraint until either US shale supply starts to respond or higher prices dent consumption.

Exhibit 30: Global supply and demand

With OPEC+ supply likely to lag this rapid sequential demand increase, we expect pressure on inventories to continue

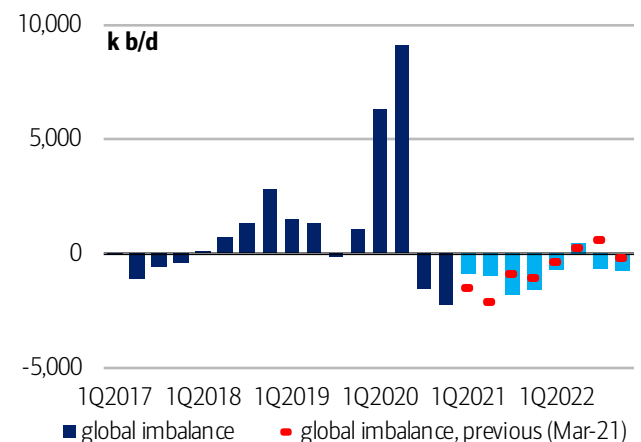


Source: IEA, BofA Global Research estimates

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Exhibit 31: Global oil market imbalance

We project an average shortfall of 0.9mn b/d over the next 6 quarters



Source: IEA, BofA Global Research estimates

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Also, the oil market has become increasingly reliant on OPEC+

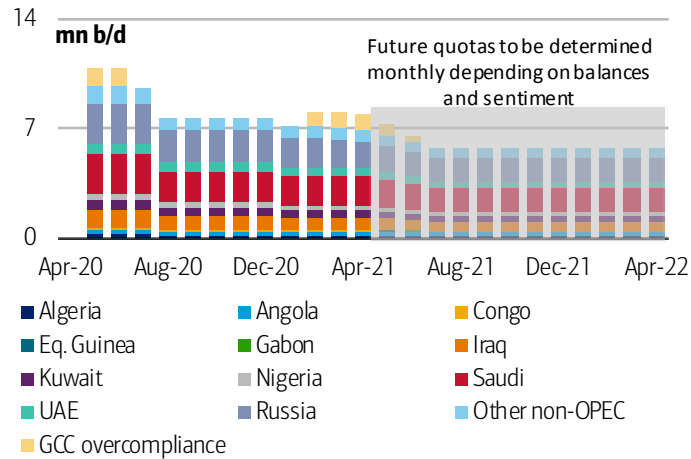
With demand set to recover at a rapid pace in the coming months and reduced price elasticity on the non-OPEC+ supply side, global crude oil prices should rise. After all, the oil market is becoming more reliant on OPEC+ to achieve a balance (Exhibit 32), so the organization holds most of the cards for now. Still, while US shale oil has become less



price elastic (see [All things thrive at thrice](#)), it is not completely price inelastic. With Permian basin breakevens now around \$30-40/bbl, producers that pass on drilling are also passing on a tidy profit. On top of the risk of a non-OPEC supply comeback, there is also the long-run concern for OPEC+'s market share (Exhibit 33).

Exhibit 32: OPEC+ cuts

The oil market is becoming more reliant on OPEC+ to achieve a balance...

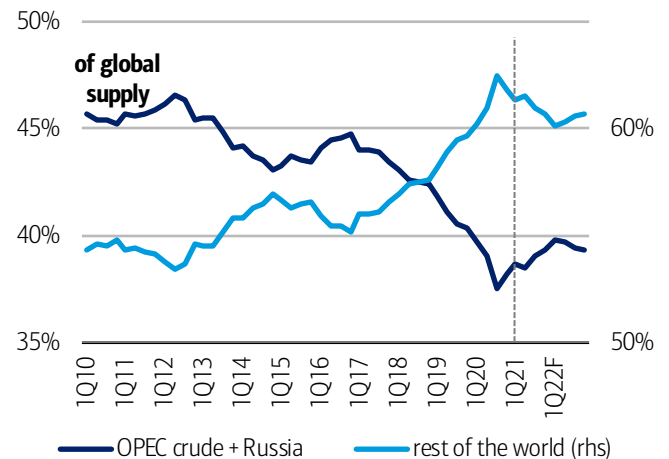


Source: OPEC, BofA Global Research estimates

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Exhibit 33: OPEC+Russia and non-OPEC market share

...thus, there is also the long-run concern for OPEC+'s market share



Source: IEA, BofA Global Research estimates

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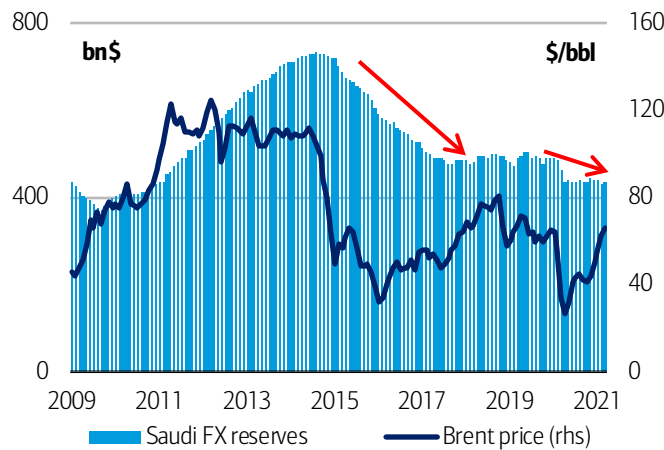
These tectonic shifts will likely lend support to higher prices

In short, allowing prices to sustainably rally beyond \$100/bbl is a risky strategy despite political, shareholder and judicial pressures on western energy companies to curb their oil investments. Yet we believe OPEC+ can get away with higher oil prices for all the supply and demand reasons described above. It is a tempting proposition. After all, Saudi Arabia experienced a meaningful reduction in FX reserves in the past year (Exhibit 34) and higher oil prices will help rebuild dollar stockpiles. Also, the average Saudi government oil price breakeven is \$68/bbl for 2021 compared to an average Brent price of \$64/bbl so far this year. Lastly, while the more hawkish tone set by the Fed on June 16 has temporarily led to some DXY appreciation, America's expansive fiscal and monetary policy should eventually weaken the greenback and support higher oil prices (Exhibit 35).



Exhibit 34: Saudi Arabia FX reserves and oil prices

Saudi Arabia experienced a meaningful reduction in FX reserves in the past year and higher oil prices will help rebuild dollar stockpiles

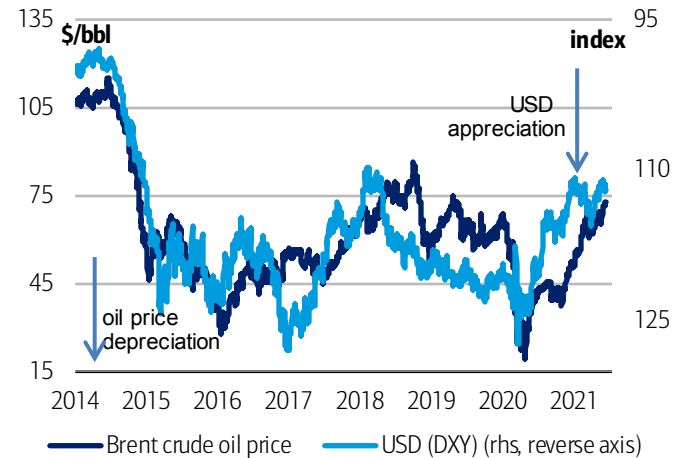


Source: Bloomberg

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Exhibit 35: Brent crude oil price and dollar indices

Meanwhile, America's expansive fiscal and monetary policy should eventually weaken the greenback and support higher oil prices



Source: Bloomberg

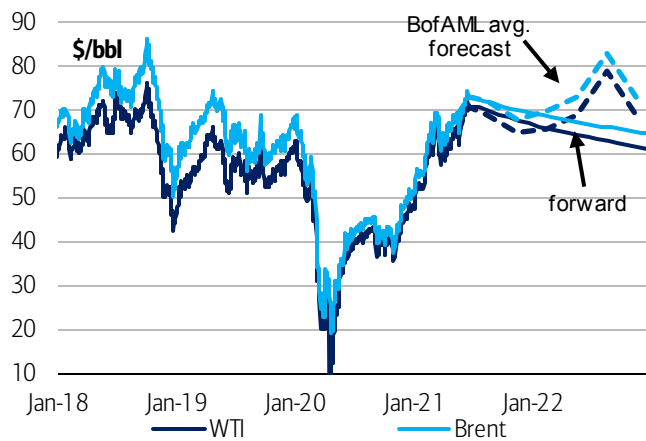
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As a result, we up our Brent forecasts for this year and next

With vaccination campaigns setting the stage for a major oil demand recovery in the months ahead and supply squarely in the hands of OPEC+, we increase our Brent crude oil price forecast for 2021 from \$63/bbl to \$68/bbl and we also up our 2022 crude oil projections to \$75/bbl (Exhibit 36), from \$60/bbl prior. In short, we believe that the robust global oil demand recovery will outpace supply growth over the next 18 months, further draining inventories and setting the stage for higher oil prices. Still, we expect long-dated oil prices to remain anchored (Exhibit 37), so most of the price gains will likely accumulate at the front-end of the curve, even as oil spikes towards \$100/bbl in summer 2022.

Exhibit 36: Brent & WTI crude oil: forecast versus forward

We increase our Brent crude oil price forecast for 2021 from \$63/bbl to \$68/bbl and we also up our 2022 crude oil projections to \$75/bbl

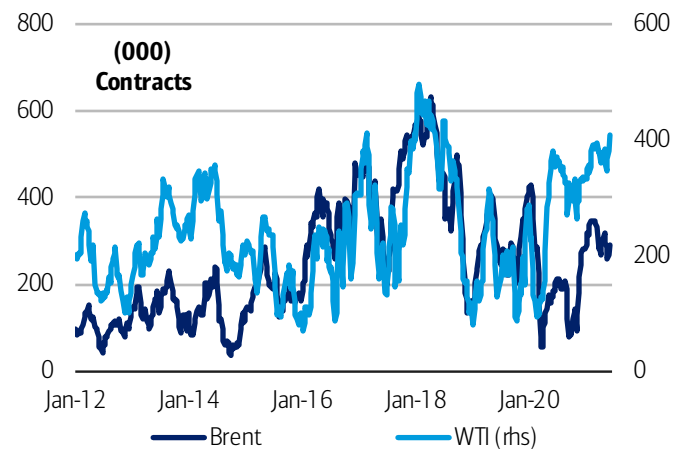


Source: Bloomberg, BofA Global Research estimates

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Exhibit 37: Managed money net positioning

We expect long-dated oil prices to remain anchored, so most of the price gains will likely accumulate at the front-end of the curve



Source: Bloomberg

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Still, US shale will likely respond to the higher prices by 2023...

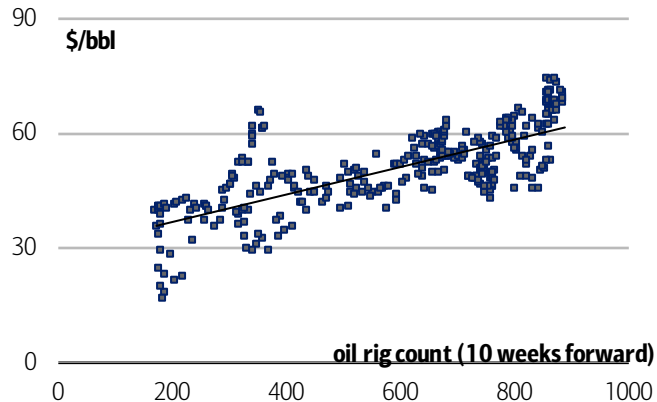
Despite our constructive outlook on prices in the next 12 months, we also note that US shale supply is likely to respond eventually to the more constructive oil price backdrop. Looking at US oil rigs and front-month contract oil prices, we note that there is a strong linear relationship that carries roughly a 3 month lag between prices and drilling activity (Exhibit 38). We have explained in our prior work (see [All things thrive at thrice](#)) that the



price elasticity of shale supply has likely come down in recent years. Yet we also note that US tight oil breakevens have been falling for a long time (Exhibit 39). Lower breakevens have partly offset the reduced price elasticity of supply resulting for a string of negative price shocks in 2016, 2018, and 2020.

Exhibit 38: US oil rigs and front month WTI prices

We note that there is a strong linear relationship that carries roughly a 3 month lag between front-month contract oil prices and US drilling activity

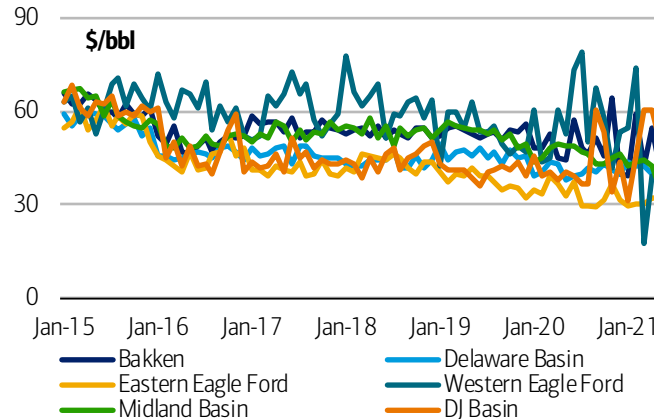


Source: Bloomberg, BofA Global Research

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Exhibit 39: US tight oil breakevens

US tight oil breakevens have been falling for a long time, partly offsetting the reduced price elasticity of supply



Source: Bloomberg

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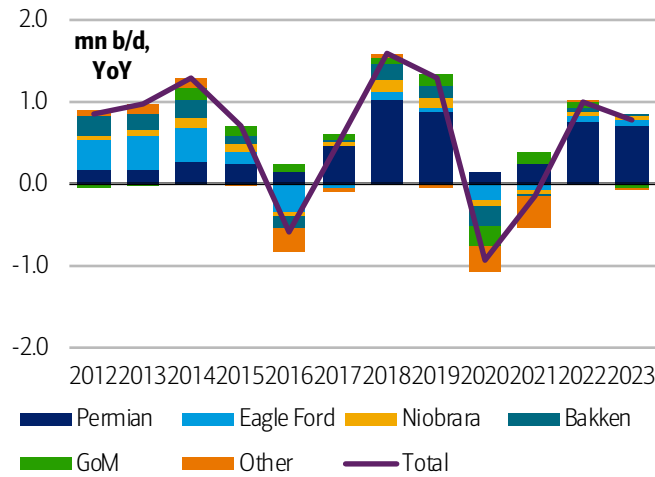
...suggesting that Brent will roll back down to \$65/bbl by then

Put differently, we expect US shale to ramp up eventually in response to the crude oil higher prices, assuming the Biden Administration allows it (see [Blue is the new green](#)). As US crude oil output grows from 11.2mn b/d in 2021 to 13mn b/d in 2023 and demand growth slows down, the oil market could tilt from a deficit of 1.35mn b/d in 2021 into a surplus of 400 thousand b/d or more in 2023. True, US crude oil supply will likely grow at a rate of 1mn b/d year-on-year in 2022 and growth in 2023 will likely near 0.8mn b/d (Exhibit 40). Yet global total oil demand growth will drop materially from 3.6mn b/d next year to just 1.2mn b/d in 2023. Given the supply response timings that we just described, US shale oil supply growth could even accelerate into 4Q22 (Exhibit 41).



Exhibit 40: US crude oil production growth YoY

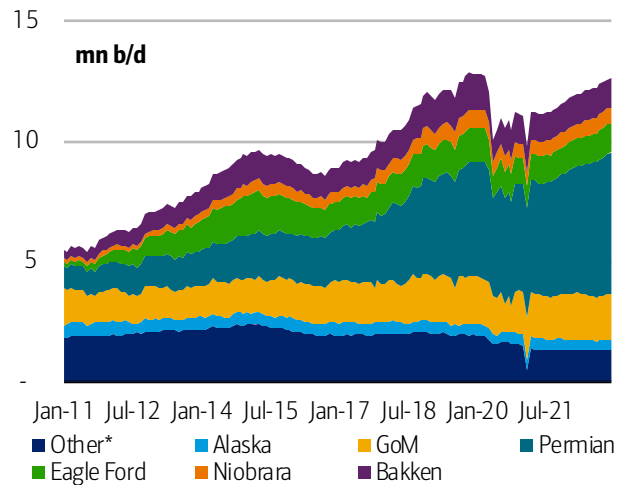
US crude oil supply will likely grow at a rate of 1mn b/d and 0.8mn b/d YoY in 2022 and 2023 respectively



Note: Other includes estimated US shut-ins **Source:** IEA, BofA Global Research estimates
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Exhibit 41: US crude oil production

Given the supply response timings, US shale oil supply growth could even accelerate into 4Q22



Note: Other includes estimated US shut-ins **Source:** EIA, BofA Global Research estimates
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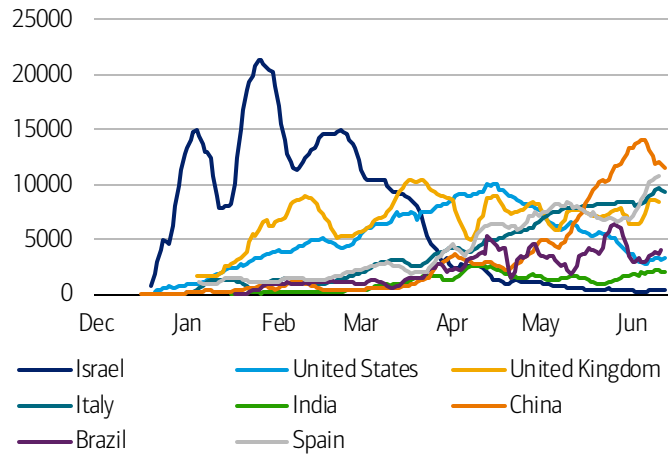
Key downside risks? The pandemic, fiscal policy, and OPEC+

While we see robust oil prices over the next 18 months for all the reasons discussed in this note, it is also important to highlight the key downside risks to our views. While Iranian barrels could add some downward pressure on oil prices in 2H21, we believe the market has mostly priced in a return of Iran’s oil. The one crucial element that could upset oil balances is, of course, OPEC+ discipline. Another price war seems highly unlikely, but cheating could derail the upward price trajectory that we have presented here. Also, with vaccination rates slowing down (Exhibit 42) and virus mutations speeding up, the pandemic remains a risk. Last but not least, it is easy to forget how thin the Democratic majority is in Congress. The infrastructure plans we wrote extensively about (see [The tunes of infrastructure and commodity booms](#)) have already been severely curtailed and a fiscal cliff could reappear (Exhibit 43). If that happens, risk assets and cyclical commodities like oil could adjust to a lower level.



Exhibit 42: Daily vaccinations per million people, by country

With vaccination rates slowing down and virus mutations speeding up, the pandemic still remains a risk

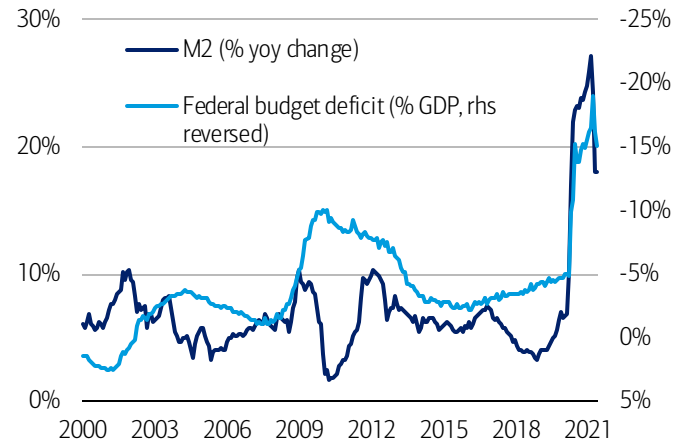


Source: CEIC

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Exhibit 43: US M2 growth and federal budget deficit

Infrastructure plans in the US have already been severely curtailed and a fiscal cliff could reappear



Source: Bloomberg

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Exhibit 44: BofA global oil supply forecast (in thousand b/d)

Quarterly forecast

	2020F	1Q2021F	2Q2021F	3Q2021F	4Q2021F	2021F	1Q2022F	2Q2022F	3Q2022F	4Q2022F	2022F	2023F
OECD Americas	23,827	23,297	23,812	24,270	24,691	24,017	25,182	25,499	25,938	26,346	25,741	26,946
United States	16,575	15,656	16,517	16,721	16,987	16,470	17,418	17,875	18,254	18,502	18,013	19,194
-Crude	11,314	10,704	11,178	11,258	11,528	11,167	11,844	12,058	12,247	12,543	12,173	12,963
-NGL	5,167	4,860	5,235	5,354	5,353	5,207	5,483	5,713	5,898	5,853	5,737	6,128
Canada	5,312	5,705	5,350	5,600	5,750	5,601	5,800	5,650	5,700	5,850	5,750	5,800
Mexico	1,932	1,929	1,934	1,939	1,944	1,937	1,954	1,964	1,974	1,983	1,969	1,943
OECD Asia Oceania	535	516	537	545	549	537	537	529	522	514	525	489
Australia	464	447	482	490	494	478	487	479	472	464	475	444
OECD Europe	3,540	3,567	3,292	3,440	3,635	3,484	3,625	3,445	3,440	3,665	3,544	3,609
Norway	2,001	2,106	2,070	2,100	2,200	2,119	2,225	2,100	2,100	2,275	2,175	2,273
United Kingdom	1,058	1,012	777	900	1,000	922	975	925	925	975	950	941
Non-OECD Europe	113	109	108	106	104	107	103	103	101	99	102	103
Former Soviet Union	13,500	13,418	13,650	13,775	13,775	13,655	13,875	13,875	13,875	13,875	13,875	14,154
Russia	10,607	10,525	10,800	10,900	10,900	10,781	11,000	11,000	11,000	11,000	11,000	11,250
Azerbaijan	699	696	720	720	720	714	730	730	730	730	730	733
Kazakhstan	1,836	1,843	1,800	1,825	1,825	1,823	1,825	1,825	1,825	1,825	1,825	1,858
Non-OPEC Africa (ex Angola)	1,381	1,319	1,290	1,270	1,251	1,283	1,235	1,222	1,210	1,197	1,216	1,219
Egypt	597	569	555	541	528	548	517	507	497	487	502	504
Sudan	226	201	199	197	195	198	193	191	189	188	190	184
Non-OPEC Asia	7,004	7,033	7,011	6,983	6,956	6,996	6,924	6,893	6,861	6,830	6,877	6,656
India	750	739	732	724	717	728	714	710	706	703	708	662
Malaysia	604	608	613	618	623	616	620	617	614	611	615	606
China	3,970	4,056	4,036	4,016	3,996	4,026	3,976	3,956	3,936	3,916	3,946	3,781
Non-OPEC Latin America*	5,331	5,302	5,437	5,558	5,580	5,469	5,571	5,628	5,694	5,765	5,664	5,781
Argentina	609	622	632	637	642	633	647	652	657	662	654	657
Brazil	3,047	2,956	3,150	3,250	3,275	3,158	3,275	3,300	3,325	3,350	3,313	3,375
Colombia	788	753	730	726	723	733	719	716	712	708	714	699
Non-OPEC Middle East	3,128	3,151	3,146	3,151	3,156	3,151	3,128	3,139	3,144	3,149	3,140	3,080
Oman	957	961	958	963	968	963	973	978	983	988	981	949
Qatar	1,880	1,894	1,900	1,900	1,900	1,899	1,875	1,881	1,881	1,881	1,880	1,861
Processing Gains	2,113	2,127	2,210	2,294	2,297	2,232	2,337	2,351	2,390	2,344	2,355	2,419
Global Biofuels	2,584	2,142	2,947	3,269	2,857	2,804	2,228	3,065	3,400	2,971	2,916	3,008
Non-OPEC** (incl. processing gains)	63,057	61,981	63,440	64,663	64,851	63,734	64,746	65,747	66,575	66,755	65,956	67,464
OPEC crude	25,692	25,242	25,425	26,900	27,550	26,279	28,100	28,567	28,600	28,600	28,467	28,850
Saudi Arabia crude	9,212	8,471	8,525	9,500	9,500	8,999	9,500	9,500	9,500	9,500	9,500	9,500
Kuwait	2,415	2,336	2,350	2,500	2,500	2,422	2,500	2,500	2,500	2,500	2,500	2,500
UAE	2,864	2,610	2,650	2,800	2,800	2,715	2,800	2,800	2,800	2,800	2,800	2,850
Iraq crude	4,051	3,883	3,900	4,000	4,000	3,946	4,000	4,000	4,000	4,000	4,000	4,200
Iran crude	1,997	2,300	2,300	2,300	2,900	2,450	3,400	3,800	3,800	3,800	3,700	3,800
Libya crude	353	1,154	1,100	1,100	1,100	1,114	1,100	1,100	1,100	1,100	1,100	1,100
Nigeria crude	1,496	1,392	1,400	1,450	1,500	1,436	1,500	1,567	1,600	1,600	1,567	1,600
Venezuela crude	530	526	500	500	500	506	550	550	550	550	550	550
other OPEC crude	2,776	2,570	2,700	2,750	2,750	2,692	2,750	2,750	2,750	2,750	2,750	2,750
Total OPEC NGLs + Non-conventional	5,177	5,210	5,200	5,250	5,300	5,240	5,325	5,350	5,375	5,400	5,363	5,463
Total OPEC	30,868	30,452	30,625	32,150	32,850	31,519	33,425	33,917	33,975	34,000	33,829	34,313
Total World Supply	93,925	92,433	94,065	96,813	97,701	95,253	98,171	99,664	100,550	100,755	99,785	101,776

Source: IEA, EIA, BofA Global Research estimates

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Exhibit 45: BofA global oil demand forecast (in thousand b/d)

Quarterly forecast

	2020F	1Q2021F	2Q2021F	3Q2021F	4Q2021F	2021F	1Q2022F	2Q2022F	3Q2022F	4Q2022F	2022F	2023F
TOTAL OECD Demand	42,061	42,277	44,306	45,779	46,426	44,697	45,619	45,763	46,507	46,703	46,148	46,352
OECD Americas Demand	22,559	22,789	24,318	25,010	25,354	24,368	24,744	25,106	25,570	25,424	25,211	25,368
United States	18,441	18,686	19,911	20,288	20,672	19,889	20,221	20,429	20,678	20,571	20,475	20,619
Canada	2,102	2,008	2,141	2,444	2,412	2,251	2,134	2,267	2,534	2,498	2,358	2,383
Chile	336	381	365	354	381	370	373	378	361	389	375	377
Mexico	1,680	1,714	1,901	1,925	1,890	1,858	2,016	2,032	1,998	1,967	2,003	1,989
OECD Europe Demand	12,431	11,879	13,041	13,619	13,389	12,982	13,047	13,439	13,720	13,502	13,427	13,468
OECD Pacific Demand	7,071	7,609	6,947	7,149	7,683	7,347	7,828	7,218	7,217	7,777	7,510	7,517
TOTAL NON-OECD Demand	48,954	51,036	50,349	53,116	53,137	51,909	53,204	53,593	54,670	54,653	54,030	55,013
China	13,921	14,661	15,061	15,343	15,356	15,105	15,130	15,695	15,673	15,839	15,585	15,979
India	4,533	5,093	4,391	4,746	5,075	4,826	5,366	5,297	4,904	5,262	5,207	5,360
Other Asia (ex. China & India)	8,058	8,450	8,469	8,642	9,014	8,644	9,212	9,044	9,071	9,491	9,205	9,442
Middle East	7,737	7,600	7,798	8,582	7,911	7,973	7,857	7,940	8,733	8,083	8,153	8,244
Latin America	5,608	5,828	5,768	6,078	5,951	5,906	6,049	5,953	6,228	6,109	6,085	6,104
FSU	4,567	4,640	4,341	4,857	5,040	4,719	4,556	4,773	5,077	4,963	4,842	4,902
Africa	3,812	4,042	3,857	4,007	4,049	3,988	4,217	4,139	4,118	4,158	4,158	4,178
Non-OECD Europe	718	722	665	861	741	747	816	751	865	748	795	804
TOTAL Demand	91,014	93,313	94,654	98,895	99,563	96,606	98,823	99,356	101,177	101,356	100,178	101,365
Market imbalance (supply - demand)	2,911	-880	-590	-2,082	-1,862	-1,353	-652	309	-627	-601	-393	411

Source: IEA, EIA, BofA Global Research estimates

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