Organization of the Petroleum Exporting Countries

OPEC Monthly Oil Market Report

11 November 2021

Feature article:
Development of global oil inventories

Organization of the Petroleum Exporting Countries

Helferstorferstrasse 17, A-1010 Vienna, Austria
E-mail: prid(at)opec.org
Website: www.opec.org

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Oil Market Highlights

Crude Oil Price Movements

Crude oil spot prices surged by more than 12% in October, on the back of soaring energy prices in Europe and Asia. Strong oil market fundamentals, compounded by expectations of higher oil demand in the winter months from “gas to oil switching”, have supported both spot and futures prices. The OPEC Reference Basket (ORB) increased $8.23 or 11.1%, m-o-m, in October to average $82.11/b. Year-to-date, the ORB averaged $68.33/b, for a gain of $27.77, or 68.4%, compared to the same period last year. In the futures market, the ICE Brent front-month contract rose $8.87 or 11.8%, m-o-m, to average $83.75/b in October, while NYMEX WTI increased $9.68 or 13.5%, m-o-m, to average $81.22/b. Consequently, the Brent/WTI spread narrowed by 81¢ to stand at $2.53/b in October. The market structure of all three major oil benchmarks – Brent, WTI and Dubai – strengthened, moving deeper into backwardation on further declines in OECD commercial oil stocks in September and the prospect of stronger near-term market fundamentals. Hedge funds and other money managers boosted bullish positions related to NYMEX WTI in October as data showed ongoing drawdowns in inventories at the Cushing, Oklahoma, trading hub. However, speculators cut bullish positions related to ICE Brent.

World Economy

Global economic growth forecasts for both 2021 and 2022 remain unchanged from the last month’s assessment at 5.6% and 4.2%, respectively. For the US, lower-than-expected economic growth in 3Q21 has resulted in a downward revision for both 2021 and 2022. The US economy is now expected to grow by 5.5% in 2021 and by 4.1% in 2022. Euro-zone economic growth for 2021 is revised up slightly to 5.1%, after continued strong growth in 3Q21, and remains at 3.9% for 2022. Japan’s economic growth forecast for 2021 is revised down slightly to 2.5%, due to ongoing COVID-19-related social-distancing measures in 3Q21, while the forecast for 2022 remains at 2%. After a strong recovery in the first half of the year, China’s economic growth forecast remains at 8.3% in 2021 and 5.8% in 2022. Similarly, India’s economic growth forecast for 2021 is also unchanged at 9% for 2021 and 6.8% for 2022. Russia remains at 4% for 2021 at 2.7% for 2022. Brazil’s economic growth forecast is also unchanged for 2021, but was revised down slightly to 2% for 2022. The ongoing robust growth in the world economy continues to be challenged by uncertainties related to the spread of COVID-19 variants and the pace of vaccine rollouts worldwide, as well as ongoing global supply-chain bottlenecks. Additionally, sovereign debt levels in many regions, together with rising inflationary pressures and potential central bank responses, remain key factors requiring close monitoring.

World Oil Demand

World oil demand growth is revised lower by around 0.16 mb/d, compared to last month’s assessment, to stand at 5.7 mb/d. Revisions were mainly to account for slower than anticipated demand from China and India in 3Q21. Global oil demand is now estimated to reach 96.4 mb/d in 2021. For 2022, growth in global oil demand remains unchanged compared to the previous month’s assessment, to stand at 4.2 mb/d. World total demand in 2022 is now estimated to reach 100.6 mb/d, around 0.5 mb/d above 2019 levels. Marginal upward revisions in OECD Europe, due better economic views in some European countries, were offset by softer growth in industrial fuel demand, in OECD America and Latin America.

World Oil Supply

Non-OPEC liquids supply is expected to grow by 0.7 mb/d in 2021, unchanged from last month’s assessment, to average 63.6 mb/d. This is despite a marginal upward revision of 0.02 mb/d from the US, Canada, and Mexico, which were offset by a similar downward adjustment in the non-OECD. The main drivers of 2021 supply growth continue to be Canada, Russia, China, Norway, Brazil and Guyana. The forecast for non-OPEC liquids supply growth in 2022 is also unchanged at 3.0 mb/d to average 66.7 mb/d. Russia and the US are expected to be the main drivers of next year’s growth, contributing increments of 1.0 mb/d and 0.9 mb/d, respectively, followed by Brazil, Canada, Kazakhstan, Norway, Guyana and other countries in the DoC. OPEC NGLs are forecast to grow by 0.1 mb/d both in 2021 and 2022 to average 5.2 mb/d and 5.3 mb/d, respectively. In October, OPEC crude oil production increased by 0.22 mb/d m-o-m, to average 27.45 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Product markets in all main trading hubs retained their previous month's strength in October, as refining economics continued to trend upwards, posting solid gains. Further declines in refinery processing rates attributable to the peak maintenance season weighed on product inventory levels and continued to keep product balances tight. This drove middle distillates to retain their position as the strongest margin contributors in the Atlantic Basin. In Asia, sustained fuel demand, amid limited product exports from China as refiners focused on supplying the domestic market, provided considerable support to Asian fuel markets, particularly at the top and middle sections of the barrel.

Tanker Market

Dirty tanker spot freight rates gained some positive momentum in October, with increases across all classes. VLCCs and Suezmax enjoyed the highest rates so far this year, with gains averaging 16% and 29%, respectively, m-o-m, while Aframax rates were up 22% m-o-m. For VLCCs, the Middle East-to-East route gained 17% m-o-m. For Suezmax, the West Africa-to-US Gulf Coast increased 35%. In the clean market, spot freight rates strengthened, as a 22% gain West of Suez offset a 6% decline in the East. The tanker market's performance is likely to improve through the end of the year, as concerns regarding an energy crunch in the power sector over winter support tonnage demand for crude and products, particularly in Asia.

Crude and Refined Products Trade

Preliminary data shows US crude imports in October eased from their summer highs to average 6.1 mb/d, while crude exports averaged 2.8 mb/d, supported by a pickup of flows to Europe. The latest data for September shows China's crude imports fell back, averaging 10.0 mb/d as independent refiners remained on the sidelines, due to a lack of crude import quotas. In India, crude imports hit a five-month high, averaging 4.3 mb/d in September, as refiners boosted runs amid a recovery in economic activity. Japan's crude imports declined from the previous month's peak but still remained at a relatively good level of 2.5 mb/d in September as refiners looked toward preparations for winter. In OECD Europe, the latest data for July shows crude imports remaining strong at 8.6 mb/d, while crude exports continued to edge higher reaching 0.4 mb/d, amid a return of flows to Asia.

Commercial Stock Movements

Preliminary September data sees total OECD commercial oil stocks up by 18.5 mb, m-o-m. At 2,805 mb, inventories were 374 mb lower than the same month last year; 206 mb lower than the latest five-year average; and 163 mb lower than the 2015-2019 average. Within the components, crude and products stocks fell by 9.3 mb and 9.2 mb, m-o-m, respectively. At 1,334 mb, OECD crude stocks stood 118 mb below the latest five-year average and 103 mb below the 2015-2019 average. At 1,471 mb, OECD product stocks stood 89 mb below the latest five-year average, and were 60 mb below the 2015-2019 average. In terms of days of forward cover, OECD commercial stocks fell 0.2 days, m-o-m, in September to stand at 61.5 days. This is 12.4 days lower than the same month last year; 2.8 days below the latest five-year average; and 0.7 days lower than the 2015-2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2021 was revised slightly down by 0.1 mb/d from the previous month to stand at 27.6 mb/d, around 4.9 mb/d higher than in 2020. Demand for OPEC crude in 2022 was also revised slightly down by 0.1 mb/d from the previous month to stand at 28.7 mb/d, around 1.0 mb/d higher than in 2021.

Feature Article

Recent developments of global oil inventories

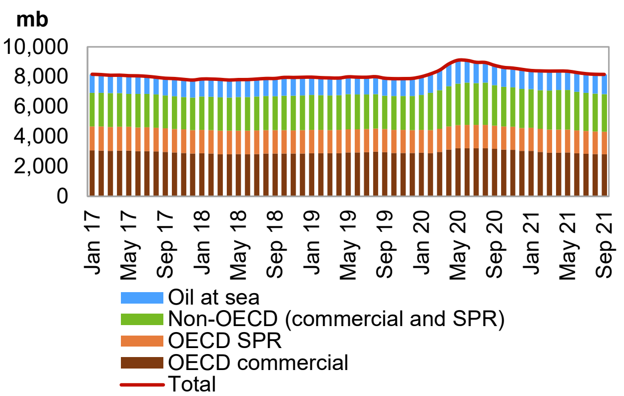
Global oil inventories, which serve as a tangible measure of the oil market balance, are grouped in three major components. The first group is OECD's commercial oil stocks and Strategic Petroleum Reserves (SPR). Clearly, the OECD commercial stocks serve as a key indicator of the status of the oil market balance, as they are frequently published by national government reporting systems, and as the seasonal variations in the OECD commercial stock levels are linked to oil demand through an inverse relationship.

The second major group is the non-OECD commercial inventories and SPR, which have become more important in recent years as non-OECD oil demand has increased, taking a higher share than the OECD in total world oil demand and requiring more stockpiling. However, inventory levels in the non-OECD are hard to track due to a lack of complete data. In the absence of regularly reported data, stock levels in non-OECD are often estimated using information released by companies and ministries, as well as data published in the JODI database. The final group is oil at sea, which includes "oil afloat" and "oil in transit".

In the 2Q20, the global oil market saw oil supply heavily outpacing world oil demand, leading to a drastic surge in global oil inventories, within a short span of a couple of months. In response to this critical situation, in April 2020, OPEC and non-OPEC oil producing countries participating in the 'Declaration of Cooperation' (DoC) announced voluntary productions adjustments commensurate with the huge oil stock surplus, to achieve the rebalancing and stabilization of the global oil market.

Since its historic peak in June 2020, global oil inventories have declined significantly. At the end of September 2021 they had fallen by 938 mb, with all components witnessing stock draws.

Graph 1: Global oil inventory stocks



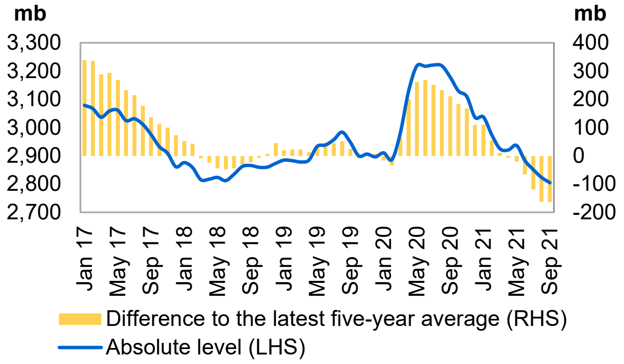
Sources: Argus Media, EIA, Euroilstock, IEA, METI and OPEC.

Over this period, total OECD commercial and SPR stocks have dropped by 411 mb and 46 mb, respectively, while non-OECD and oil at sea have fallen by 320 mb and 160 mb, respectively (***Graph 1***).

Moreover, OECD commercial oil inventories, compared to the latest five-year average (2015-2019), reached a high of around 270 mb in June 2020, clearly reflecting a huge supply excess. This surplus has since declined to a deficit of 163 mb at the end of September 2021, mainly driven by DoC successful efforts to stabilize the market and supported by higher refinery crude runs, which is an indicator of an improvement in oil demand on the back of an economic recovery following the initial impact of the COVID-19 pandemic (***Graph 2***).

Clearly, the global stock draws during the first three quarters of 2021were largely due to efforts of the DoC and a pick up in global oil demand, which outpaced global supply by 0.1 mb/d, 1.5 mb/d, 2.2 mb/d in 1Q21, 2Q21 and 3Q21 respectively. This is equivalent to a total implied stock draw of 342 mb.

Graph 2: OECD commercial oil stocks



Note: 2021 refers to the difference from 2015-19 average.
Sources: IEA and OPEC.

With these market developments, the countries participating in the DoC continue their course to increase production starting August 2021, to gradually return the adjusted production volumes by 0.4 mb/d on a monthly basis, until the phasing out of the total 5.8 mb/d adjustment in 2022. The DoC will continue to review the market conditions on a regular basis, reaffirming the participating countries' commitment to ensure adequate supply and support efforts to maintain global oil market stability.

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Crude Oil Price Movements

Major spot crude oil prices surged by more than 12% in October. North Sea Brent averaged above $83/b, while Dubai and WTI first forward month averaged above $81/b. Rising oil futures prices and higher oil demand prospects in the winter months due to gas-to-oil switching, as well as stronger refining margins and the continued decline in oil stocks in major consuming regions, greatly supported spot crude oil prices over the month.

The ORB rose by $8.23 in October, or 11.1%, to average $82.11/b. The rise of the ORB value was less compared to other major benchmarks due to lower October official selling prices (OSPs) of medium and heavy sour crudes, specifically for grades delivered to the Asian market.

Crude oil futures prices on a daily basis, mainly driven by worries about supply turmoil in Europe's and Asia's power sector ahead of the winter season, and soaring energy prices, particularly for gas and coal, to historically high levels in Europe and Asia.

The ICE Brent front-month rose by $8.87, or 11.8%, in October to average $83.75/b, and NYMEX WTI increased by $9.68, or 13.5%, to average $81.22/b. Y-t-d, ICE Brent was $27.10, or 63.9%, higher at $69.52/b, while NYMEX WTI was higher by $28.32, or 73.8%, at $66.67/b, compared to the same period a year earlier. DME Oman crude oil futures prices increased m-o-m in October by $8.82, or 12.1%, to settle at $81.81/b. Y-t-d, DME Oman was higher by $25.87, or 61.3%, at $68.06/b.

Hedge funds and other money managers were bullish on the outlook for oil prices in October, as soaring energy prices in Europe and Asia likely urged speculators to bet on higher oil prices. However, they diverged on their exposures regarding the two major benchmarks of ICE Brent and NYMEX WTI. While speculators raised net long positions related to NYMEX WTI, they cut net long positions in ICE Brent.

The backwardation structure of all crude prices steepened in October and the calendar spread between the nearest futures contracts moved into deeper backwardation. This reflected the market perception of stronger market fundamentals in the near-term and lower global crude oil inventory levels. The expectation of higher oil demand during the winter and the forecast for slower oil supply growth in non-OPEC countries, have pushed the near-month contract spreads higher compared to later month contracts.

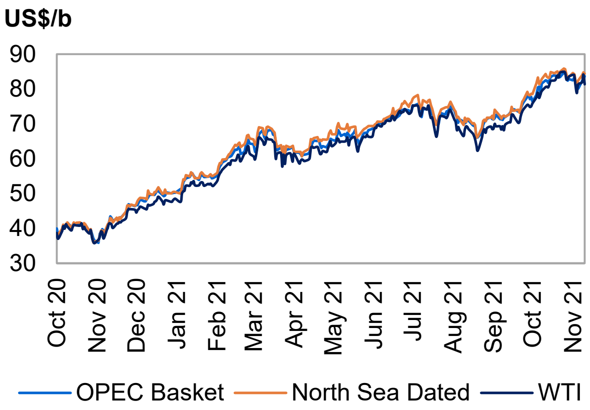
The value of light sweet crude strengthened against the value of medium and heavy sour crude in Asia and the US Gulf Coast (USGC), amid higher margins of light and medium sweet crudes compared to heavier sour crudes. The lower west-to-east flow of light sweet crude contributed to a widening of the spread of sweet/sour crudes. However, in Europe, the Brent-Urals spread widened on a strengthening Urals value on the back of firm demand from European refiners and an easing supply overhang for the grade.

Crude spot prices

Major spot crude oil benchmarks surged by more than 12% in October. North Sea Brent averaged above $83/b, while Dubai and WTI first forward month averaged above $81/b.

Rising oil futures prices and prospects of higher oil demand in the winter months due to gas-to-oil switching, as well as stronger refining margins and the continued decline in oil stocks in major consuming regions, greatly supported spot crude oil prices over the month. Oil prices continued to increase over October given ongoing positive market sentiment on the back of improving market fundamentals and signs of a resumption in crude oil demand from refiners that should raise their runs to benefit from healthier refining margins.

Graph 1 - 1: Crude oil price movement



Sources: Argus, OPEC and Platts.

Spot prices, specifically in Asia, were also supported by the release of the fourth crude imports quota from the Chinese government. This should raise buying from Chinese independent refiners, although the fourth quota was lower than the previous one.

In October, WTI's first-month price rose the most among the other main spot benchmarks, increasing by $9.90, or 13.9%, to an average of $81.36/b. North Sea Dated and Dubai's first month rose both respectively by 12.3%, or $9.14 and $8.89, to settle at $83.54/b and $81.46/b.

Refinery operations in several major consuming countries remained low in September, mainly due to maintenance, but throughputs are expected to rise in the coming months. In Europe, the refinery intakes of the Europe-16 nations fell m-o-m by 118 tb/d in September, a decline of 1.3% from August, according to Euroilstock data. In the US, according to the EIA weekly data, US refiner net input of crude oil was about 830 tb/d lower, or 5.2% in September. It fell by a further 193 tb/d, or 1.3%, in the four weeks of October, compared to September. Furthermore, according to China's National Bureau of Statistics (NBS) data, the country's refinery throughputs in September fell by 2.6% m-o-m to 56.07 million tons.

Crude differentials strengthened in the Atlantic Basin and east Suez markets. This was on the back of healthier demand and buying interests from refiners for November loading barrels, amid higher refining margins for light and middle distillates products, rising oil demand, low oil product stocks in the OECD region, and easing mobility restrictions. This in spite of the projected higher crude production from OPEC and non-OPEC DoC participating countries, in line with the decided production adjustment plan and the monthly production adjustment mechanism.

Table 1 - 1: OPEC Reference Basket and selected crudes, US$/b

OPEC Reference Basket (ORB)	Sep 21	Oct 21	Change Oct/Sep	%	Year-to-date 2020	2021
ORB	**73.88**	**82.11**	**8.23**	**11.1**	**40.57**	**68.33**
Arab Light	75.01	82.77	7.76	10.3	41.06	69.08
Basrah Light	73.75	81.48	7.73	10.5	40.54	68.40
Bonny Light	74.09	82.90	8.81	11.9	40.67	69.18
Djeno	66.95	76.09	9.14	13.7	35.17	61.91
Es Sider	72.75	81.59	8.84	12.2	39.23	67.56
Girassol	74.76	84.47	9.71	13.0	41.59	69.77
Iran Heavy	74.08	82.14	8.06	10.9	39.70	68.17
Kuwait Export	74.92	82.74	7.82	10.4	40.54	68.88
Merey	54.96	62.72	7.76	14.1	27.76	50.08
Murban	73.41	82.73	9.32	12.7	42.31	68.38
Rabi Light	73.94	83.08	9.14	12.4	39.11	68.90
Sahara Blend	73.85	83.54	9.69	13.1	41.27	69.25
Zafiro	74.03	84.12	10.09	13.6	40.44	69.59
Other Crudes						
North Sea Dated	74.40	83.54	9.14	12.3	40.76	69.36
Dubai	72.57	81.46	8.89	12.3	41.45	67.84
Isthmus	68.82	78.20	9.38	13.6	35.23	64.99
LLS	72.89	82.22	9.33	12.8	40.41	68.21
Mars	70.83	78.74	7.91	11.2	39.18	66.02
Minas	72.62	81.34	8.72	12.0	40.35	67.26
Urals	72.65	81.93	9.28	12.8	40.84	67.95
WTI	71.46	81.36	9.90	13.9	38.44	66.64
Differentials						
North Sea Dated/WTI	2.94	2.18	-0.76	-	2.32	2.72
North Sea Dated/LLS	1.51	1.32	-0.19	-	0.35	1.16
North Sea Dated/Dubai	1.83	2.08	0.25	-	-0.69	1.52

Sources: Argus, Direct Communication, OPEC and Platts.

In the Atlantic Basin, the value of light sweet crudes rose in October and most of the grade values were priced at a premium to North Sea Dated, supported by strong gasoline, gasoil, naphtha, and LPG margins. Furthermore, amid rising gas and hydrogen prices, some refineries raised the share of sweeter crude in their blend to reduce the desulphurization costs. However, the gains in crude differential prices in the Atlantic Basin were limited due to the sharp rise of the front-month for Brent-Dubai Exchange of Futures for Swaps (EFS), which increased above $5/b. This made moving crude to the east unfavourable.

North Sea crude differentials mostly rose in October benefiting from firm demand from European refiners, healthier refining margins, and higher prices of similar quality WTI crude from the USGC, as the Brent-WTI spread narrowed. The Forties crude differential rose again on a monthly average in October by 22¢, to settle at a premium of 20¢/b against the Brent benchmark. This compared to a discount of 2¢/b in September. The value of the Ekofisk crude differential also rose by 36¢, to average a premium of 70¢/b in October.

Crude differentials of light and medium sweet crude rose in the Mediterranean and West African markets in October, on good buying interest from European buyers, strong refining margins, supply disruptions in Libya and Nigeria. However, soft demand from Asian refiners for Atlantic Basin crude amid unfavourable west-to-east arbitrage capped the rise. Crude differentials of Bonny Light, Forcados, and Qua Iboe rose firmly on a monthly average in October by 70¢, $1.06, and 75¢, respectively, to stand at premiums of 10¢/b, 27¢/b, and 4¢/b. In the Mediterranean, Saharan Blend crude differentials were on average 57¢ higher m-o-m in October, to stand at a 25¢/b premium to Brent benchmark. The Caspian CPC Blend differential rose by 65¢ to a discount of $1.01/b on average.

In the USGC, increased WTI futures prices in October, compared to other major benchmarks, which makes WTI-related crude more expensive to similar European and Asian crudes, weighed heavily on crude differentials. Lower demand from refiners in the USGC, amid lower runs in September and October, added downward pressure. Sour crude differentials in the USGC, specifically the Mars sour crude, came under further pressure from the potential higher availability of sour crude from US SPR release in 4Q21, and higher inflows from other regions, including from European Urals and the Middle East. Light Louisiana Sweet (LLS) and Mars crude differentials declined in October, falling on a monthly average by 51¢ and $1.95, respectively, to a premium of 86¢/b and a discount of $2.62/b. The further recovery in buying interest from Asian refiners for the November trading cycle kept the Middle East spot price supported. The value of the Oman crude differential rose m-o-m by 71¢ in October to a premium of $2.30/b.

OPEC Reference Basket (ORB)

The **ORB** climbed by $8.23, or 11.1%, in October to average at $82.11/b. The ORB rose for the second consecutive month on higher related benchmark crude prices amid further improving oil market fundamentals. However, the rise of the ORB was less compared to major benchmarks due to the cut in October OSPs of medium and heavy sour crudes, specifically for grades delivered to the Asian market. Y-t-d, the ORB value was $27.77, or 68.4%, higher at $68.33/b, compared to $40.57/b for the same month in 2020. All ORB component values strengthened in October, with West and North African Basket components – Bonny Light, Djeno, Es Sider, Girassol, Rabi Light, Sahara Blend, and Zafiro – rising m-o-m by $9.35, or 12.8% on average, to $82.26/b. The multiple regions' destination grades – Arab Light, Basrah Light, Iran Heavy, and Kuwait Export – increased m-o-m by $7.84, or 10.5% on average, to settle at $82.28/b. Murban crude rose m-o-m by $9.32, or 12.7% on average, to settle at $82.73/b. The Merey component rose m-o-m by $7.76, or 14.1% on average, to settle at 62.72/b.

The oil futures market

Crude oil futures prices rallied in October, mainly driven by worries about the supply turmoil in the Europe's and Asia's power sector ahead of the winter season, and soaring energy prices, particularly for gas and coal, to historically high levels in Europe and Asia. Investors' sentiment turned bullish on higher oil demand growth in the winter months from gas to oil switching, particularly in power generation and the refining and petrochemical sectors. Industry sources estimated that surging natural gas prices could boost oil demand by 0.5 mb/d on average from September 2021 through 1Q22. This came amid strong global oil supply and demand fundamentals and continued oil market rebalancing, while OECD commercial oil stocks fell further in September to below the 2016–2020 average level.

The NYMEX WTI first month contract jumped m-o-m by almost 14% on average. This increase was the most of all the major futures crude benchmarks, supported by signs of an acceleration in the tightening of the US oil market, especially at the Cushing, Oklahoma, trading hub. US gasoline stocks also fell sharply in October, partly due to low refinery throughputs, adding to signs of a tightening in the oil products market. Meanwhile, ICE Brent and DME Oman's first month increased both m-o-m by about 12% on average.

However, oil prices were capped by concerns about global economic growth with the IMF revising lower its forecast, while data showed US industrial output falling the most in seven months in September. The strengthening US dollar value against a basket of other major currencies in October also contributed to limiting the oil price rise. Furthermore, official data showed lower China crude oil imports in September, and US crude oil stocks rose in October from September's low levels, specifically in the Petroleum Administration for Defense Districts 3 (PADD 3). Between the week to 17 September and the week to 29 October, US crude oil stocks rose 20 mb, according to the EIA weekly data.

The resurgence of lockdowns in Eastern Europe and Russia due to rising COVID-19 cases, as well as soaring cases in the UK in October to their highest level since July 2021 raised further concerns about near-term oil demand and weighed on oil prices.

Table 1 - 2: Crude oil futures, US$/b

Crude oil futures	Sep 21	Oct 21	*Change* Oct/Sep	%	*Year-to-date* 2020	2021
NYMEX WTI	71.54	81.22	9.68	13.5	38.35	66.67
ICE Brent	74.88	83.75	8.87	11.8	42.42	69.52
DME Oman	72.99	81.81	8.82	12.1	42.19	68.06
Spread						
ICE Brent-NYMEX WTI	3.34	2.53	-0.81	-24.3	4.07	2.85

Note: Totals may not add up due to independent rounding. Sources: CME, DME, ICE and OPEC.

The **ICE Brent** front-month rose by $8.87, or 11.8%, in October to average $83.75/b, and **NYMEX WTI** increased by $9.68, or 13.5%, to average $81.22/b. Y-t-d, ICE Brent was $27.10, or 63.9%, higher at $69.52/b, while NYMEX WTI was higher by $28.32, or 73.8%, at $66.67/b, compared to the same period a year earlier. DME Oman crude oil futures prices increased m-o-m in October by $8.82, or 12.1%, to settle at $81.81/b. Y-t-d, DME Oman was higher by $25.87, or 61.3%, at $68.06/b.

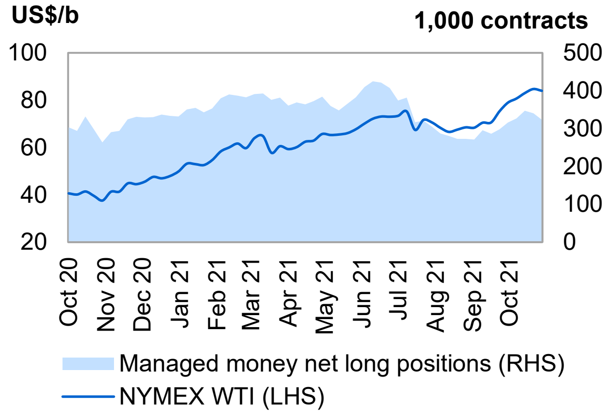
On 10 November, ICE Brent stood at $82.64/b and NYMEX WTI at $81.34/b.

The **NYMEX WTI crude front-month discount to the same ICE Brent futures month** narrowed in October by 81¢ on a monthly average to stand at $2.53/b, and falling below $2/b on daily basis. This makes US crude for export less attractive for arbitrage compared to other similar crudes into both Europe and Asia. The NYMEX WTI benchmark performed better than ICE Brent in October, as the supply and demand fundamentals and crude stocks levels at the Cushing, Oklahoma, trading hub, showed signs of an acceleration of the tightening of the market. WTI futures came under upward pressure from the sharp decline in crude stocks at Cushing that fell by about 9 mb in October to their lowest level since September 2018, according to the EIA weekly data. The prospect of a slow recovery in US oil supply also added support to NYMEX WTI. Similarly, the North Sea Dated premium to WTI Houston narrowed further in October by 47¢ m-o-m, to average $1.44/b. This was due to stronger crude values in the USGC, despite rising crude oil stocks, low refinery throughputs in PADD 3, and the release of US SPR in 4Q21.

Hedge funds and other money managers were bullish on the outlook for oil prices in October, as soaring energy prices, specifically those for gas and coal in Europe and Asia, likely urged speculators to bet on higher oil prices. However, they diverged on their exposures for the two major benchmarks of ICE Brent and NYMEX WTI. While speculators raised futures and options net long positions related to NYMEX WTI by about 14% between the week of 28 September and the week of 26 October, they cut futures and options net long positions in ICE Brent by 21% over the same period. Money managers continued to raise bullish positions in October on the expectation of elevated US oil prices amid a continued decline in Cushing, Oklahoma, crude stocks, and a large drop in US gasoline stocks, while the country's oil supply is expected to expand slowly this year. The ICE Brent futures and options net long positions fell to their lowest since last August, as rising oil prices to multi-year highs prompted speculators to take some profits from long positions in anticipation of downward price corrections as gas prices eased from their earlier historical high levels.

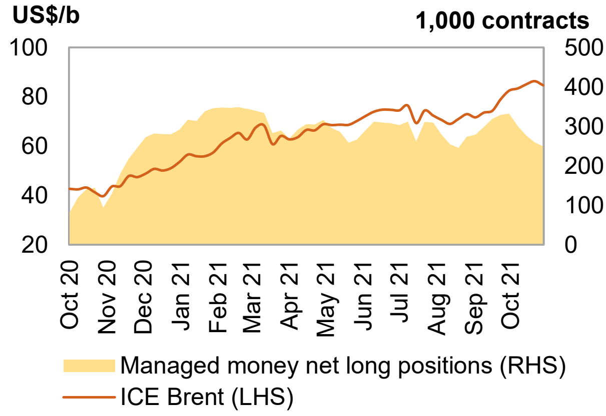
By the end of the week of 26 October, money managers held net long positions equivalent to about 600 mb in the two main crude oil futures and options contracts, the lowest level since mid-September 2021. Hedge funds were net sellers of about 27 mb between the week ending 28 September and the week of 26 October, a decline of 4%.

Graph 1 - 2: NYMEX WTI vs. Managed Money net long positions



Sources: CFTC, CME and OPEC.

Graph 1 - 3: ICE Brent vs. Managed Money net long positions



Sources: ICE and OPEC.

Money managers cut their combined futures and options net long positions in ICE Brent by 69,428 contracts, or 21.1%, to reach 259,526 lots between the week of 28 September and the week of 26 October, according to the ICE Exchange. During the same period, gross long positions fell by 51,301 lots, or 13.1%, to 339,794 contracts, while gross short positions rose by 18,127 lots, or 29.2%, to 80,268 contracts during the same period.

Hedge funds and other money managers raised their net long positions related to NYMEX WTI in October, increasing by 42,802 lots, or 14.4%, to stand at 340,844 lots in the week of 26 October. This is due to a drop in short positions by 23,103 lots, or 42.7%, to 31,063 contracts, and an increase of 19,699 lots, or 5.6%, in long positions to 371,907 contracts, according to the US Commodity Futures Trading Commission (CFTC).

The **long-to-short ratio** of speculative positions in the ICE Brent contract fell in October, dropping from about 6:1 in late September to about 4:1 in the week of 26 October. However, the NYMEX WTI long-to-short ratio rose to about 12:1 in the week to 26 October, compared to 7:1 in late September. **Total futures and options open interest volumes** on the two exchanges declined in October, falling by 1.9%, or 112,670 contracts, to stand at 5.9 million contracts in the week ending 26 October.

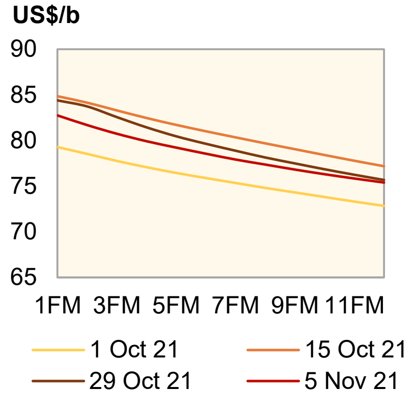
The futures market structure

The **backwardation structure** of all crude prices steepened in October and the calendar spread between the nearest futures contracts moved into deeper backwardation. This reflected the market perception of stronger market fundamentals in the near-term and lower global crude oil inventory levels. The prospect of higher oil demand during the winter season due to gas to oil switching, amid soaring gas prices in the main trading hubs, and the forecast of slower non-OPEC oil supply growth, have pushed the near-month contract spreads higher compared to later month contracts.

Global benchmark **Brent's** forward curve steepened again in October and the ICE Brent M1-M6 backwardation widened to its highest since September 2019 amid the prospect of accelerating winter demand recovery, signs of tightening oil products supply in several major consuming countries, and the continuing decline in commercial OECD oil stocks. This is despite the upward crude oil supply adjustment by OPEC and non-OPEC producers in the DoC, by 0.4 mb/d on a monthly basis in both November and December 2021. Healthy oil demand in Europe, an easing supply overhang in the Atlantic Basin, and a forecast of stronger supply/demand balance in 4Q21 contributed to a steepening in the Brent forward curve. The ICE Brent M1-M3 spread widened on average in October by 21¢, from a backwardation of \$1.39/b in September, to a backwardation of \$1.60/b in October. The ICE Brent's M1-M6 backwardation also widened in October to settle at \$3.94 on average, compared to a backwardation of \$3.10/b the previous month.

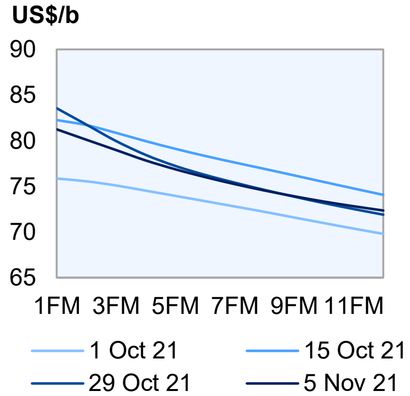
DME Oman and **Dubai** backwardation structures strengthened further last month, signaling robust crude demand for spot cargoes, particularly from Asia-Pacific refiners, as a tighter arbitrage from west-to-east amid rising Brent and WTI values compared to Dubai in October, made Dubai-related crude more attractive for refiners. The release of the fourth crude oil import quotas for Chinese independent refiners in mid-October boosted sentiment for higher crude demand from the Middle East and supported higher oil prices. On a monthly average, the DME Oman M1-M3 backwardation widened m-o-m by 29¢ in October, to $1.75/b on average, from a backwardation of $1.47/b in September.

Graph 1 - 4: ICE Brent forward curves



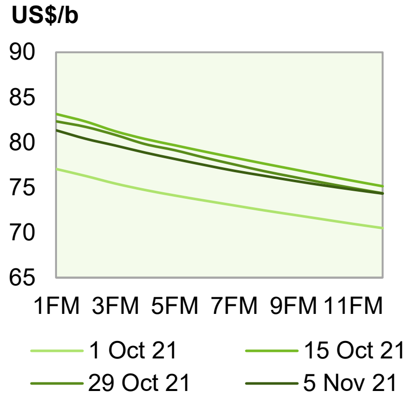
Sources: ICE and OPEC.

Graph 1 - 5: NYMEX WTI forward curves



Sources: CME and OPEC.

Graph 1 - 6: DME Oman forward curves



Sources: DME and OPEC.

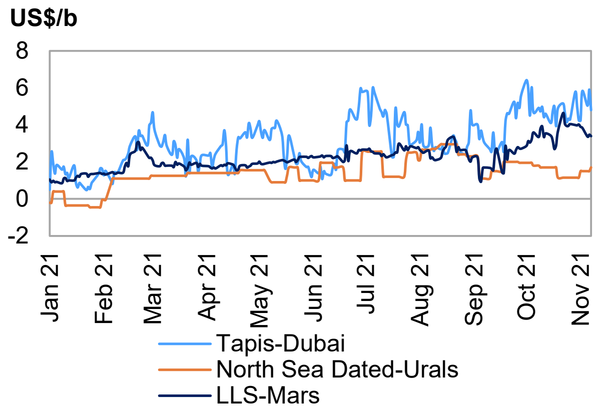
In the US, the **NYMEX WTI** structure also moved into deeper backwardation as crude oil stocks at the Cushing, Oklahoma, trading hub, and the delivery point light sweet crude futures, declined sharply in October to their lowest level since September 2018, amid tight supply/demand fundamentals in the region. Crude oil stocks also fell sharply in PADD 2 to their lowest since September 2018 amid healthy demand from refineries and slow regional supply growth, and total US gasoline stocks dropped to their lowest since November 2017, according to the EIA weekly data. The NYMEX WTI M1-M3 month spread widened slightly by 1¢ to a backwardation of 68¢/b on average in September, compared with a backwardation of 67¢/b in August.

Crude spreads

The value of light sweet crude in October strengthened against the value of medium and heavy sour crude in Asia and the USGC, amid higher margins of light and medium sweet crudes compared to heavier sour crudes. The rise of naphtha, gasoline, jet fuel, and gasoil margins supported the light sweet value higher, while lower fuel oil margins weighed on the value of sour crude. The lower west-to-east flow of light sweet crude contributed to widening the spread of sweet/sour crudes. High prices for natural gas also meant some refiners raised their demand for sweeter crudes, and reduced their hydrocracking and hydro-treating rates. In Europe, however, the Urals values strengthened on firm demand from European refiners and an easing supply overhang of the grade.

In **Europe**, the spread between North Sea Dated and Urals narrowed m-o-m in October by 14¢ to average $1.61/b. The sour grade value strengthened against the North Sea Dated benchmark on healthy demand from European refiners, and higher flows of the grade to the USGC, which reduced the availability of prompt loading unsold cargoes. The supply disruptions of sour crude in the GoM due to Hurricane Ida, and a narrowing Brent-WTI spread in October to below $2/b opened arbitrage opportunities for Urals to the USGC. On a monthly average, the North Sea Dated-Urals spread narrowed by 14¢ in October to stand at a premium of $1.61/b, compared to a premium of $1.75/b in September.

Graph 1 - 7: Differential in Asia, Europe and USGC



Sources: Argus, OPEC and Platts.

However, the crude differentials of Urals remained trading at a deep discount to the Brent benchmark, specifically in Northwest Europe, as lower demand from Asia amid unfavourable arbitrage economics and weak fuel oil margins capped the Urals value.

In **Asia**, the value of light sweet Tapis crude to the sour benchmark Dubai continued to rise firmly in October, increasing by $1.15 on average to settle at a premium of $4.86/b, compared to a premium of $3.71/b in September. The value of light sweet crude in the Asia Pacific increased on robust demand from regional refiners and strengthening refining margins of light and medium distillate products like naphtha, gasoline, jet fuel, and diesel, while weaker fuel oil margins in almost all regions put pressure on sour crude values. Higher crude values of Brent-related crude in the North Sea and West African crudes also made similar grades in the Asia Pacific, like Tapis, more attractive to Asian buyers. Furthermore, the Brent/Dubai EFS widened to its highest since June 2014 on daily basis, and on a monthly average, it widened 62¢ to settle at $4.26/b, which made the domestic Asian grades more attractive to regional refiners compared to crude flows of similar crude from the Atlantic Basin.

Similarly, in the **USGC**, the LLS premium over medium sour Mars widened by $1.42 m-o-m, to an average of $3.48/b in October. The value of Mars sour crude came under pressure from supply disruption of the grade since last September, and the rising availability of sour crude in the USGC amid higher inflows from other regions, including Europe and the Middle East, and the possible release of sour crude from the SPR in 4Q21. Weaker Mars refining margins, along with a decline in fuel oil margins, weighed on the grade value compared to the light sweet grade LLS.

Commodity Markets

Energy commodities rose across the board for the second consecutive month, with new average price records for natural gas and coal prices in Europe and Asia on concerns of potential shortages should winter temperatures be colder than usual. However, prices receded in the second half of the month on the expectation of higher supplies from Russia in the case of natural gas, and a ramp up in coal production in China, which has alleviated shortages concerns. Crude oil prices rose supported by the expectation of stronger supply/demand fundamentals.

Base metals advanced supported by declining inventories, though, towards the end of the month, the expectation of some reductions of the ongoing energy restrictions in China, which would in turn lead to higher output weighed down on prices. Gold prices were relatively stable with little movement in expectations of interest rates during the month.

Trends in selected commodity markets

The **energy price index** rose m-o-m by 16.1% in October, and as it happened the previous month all components rose across all regions. The average index level was up by 79% in the January–October 2021 timeframe, compared with the same period in 2020.

The **non-energy index** rose m-o-m by 3.4%, with the base metals index rising by 4.7% while the agricultural rose by 1.8%. The non-energy index was up by 35.5% in the January–October window, compared to the same period of 2020.

Table 2 - 1: Commodity prices

Commodity	Unit	Monthly averages			% Change	Year-to-date	
		Aug 21	Sep 21	Oct 21	Oct 21/Sep 21	2020	2021
Energy*	Index	**95.6**	**105.8**	**122.9**	**16.1**	**50.5**	**90.8**
Coal, Australia	US$/mt	169.6	185.7	236.9	27.6	58.2	134.2
Crude oil, average	US$/b	68.9	72.8	82.1	12.7	40.4	67.6
Natural gas, US	US$/mbtu	4.0	5.1	5.5	7.2	1.9	3.7
Natural gas, Europe	US$/mbtu	15.4	22.8	31.1	36.0	2.8	12.8
Non-energy*	Index	**112.4**	**111.5**	**115.2**	**3.4**	**81.9**	**110.2**
Base metal*	Index	**120.9**	**124.1**	**130.0**	**4.7**	**77.3**	**116.3**
Precious metals*	Index	**138.0**	**136.5**	**136.9**	**0.3**	**131.6**	**140.5**

*Note: * World Bank commodity price indices (2010 = 100).*

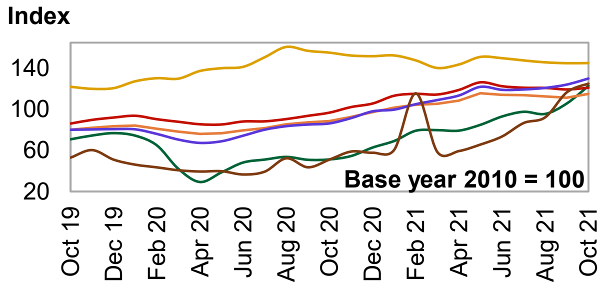
Sources: World Bank and OPEC.

The **Henry Hub natural gas price** rose m-o-m by around 7.2% to average $5.5/mmbtu in October. Prices initially strengthened on the expectation of strong winter LNG exports in view record prices in Europe and Asia. However, mild weather and rising production resulted in larger than average injections to storage during the month, which further reduced the deficit vs. the five-year average. According to the Energy Information Administration, utilities added 63 bcf to working gas underground storage during the week ending 29 October 2021. This build left total working gas in underground storage at 3,611 bcf, around 2.7% below the latest five-year average. At the end of September, stocks were 5.1% below the five-year average.

Natural gas prices in Europe reached another record in October, with the average **Title Transfer Facility price** up m-o-m by around 36% to average $31.1/mmbtu. Average prices in the January–October period were around four times higher than the same period last year. Prices experienced significant volatility at the beginning of the month, with concern of potential shortages in view of seasonally low inventory levels. Furthermore, soaring LNG prices in Asia, after Chinese official's directive to ensure adequate supplies for the winter, also supported prices. Prices rose by 40% in a single session - 6th of October -, to intraday record highs close to $55/mmbtu, before the Russian officials' comments suggesting that higher supplies to Europe fully reversed the gains. Prices declined towards the end of the month on the expectation of the above mentioned increase in Russian supplies and lower coal prices as supplies increased in Asia.

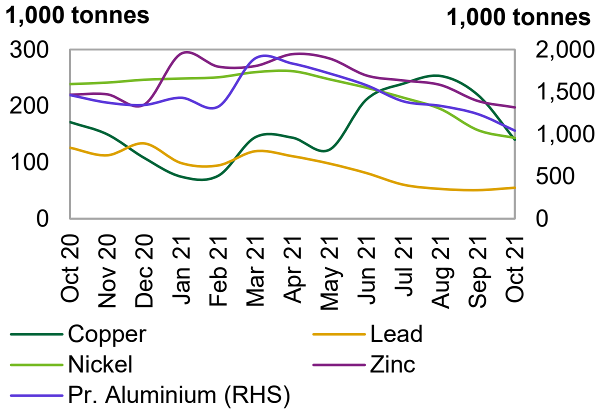
Inventory levels in Europe showed little increase during the month, and ended October around 77% full – around 16% below the average of the previous five years – vs. 74.7% full at the end of September, according to Gas Infrastructure Europe. Last year, inventories were close to 95% at the end of October.

Graph 2 - 1: Major commodity price indices



Sources: World Bank, S&P Goldman Sachs, Haver Analytics and OPEC.

Graph 2 - 2: Inventories at the LME



Sources: LME, Thomson Reuters and OPEC.

Australian thermal coal prices rose m-o-m by 27.6% in October to a new record monthly average of $236.9/mt. In the January–October timeframe, prices were 130% higher compared to the same period last year. Flooding in China Shanxi province - main coal producing one- compounded fears of supply shortages, in view of low coal stockpiles, and lower coal output reading for the month of September, resulted in a sharp spike of more than 50% in the middle of the month. However, directives from the National Development and Reform Commission (NDRC) to ensure adequate winter supplies have resulted in higher production - up by around 10% - and rising inventories at power plants - up by around 50% to 117 million tonnes at the beginning of November when compared to inventory levels the end of September according a recent NDRC statement. This has released the pressure from coal prices, which had given back earlier gains towards the end of October, and as of the date of this report trade around August levels.

China's thermal power output rose by 5.7% y-o-y in September, compared to an increase of 0.3% y-o-y in August the rationing measures. At the same time, coal output decreased by 0.9% y-o-y, versus a slight increase by 0.8% y-o-y in August. Hydropower fell by 0.3% y-o-y in September vs 4.7% y-o-y during August.

The **base metal price index** rose by m-o-m by 4.7% in October, with most components showing monthly average increases supported by declining inventories. A**luminium** rose for the ninth consecutive month, up by 3.5% to average $2,934.4/mt. also supported by the ongoing energy power rationing measures in China, which restrict output. However, prices receded towards the end of the month as coal prices receded, suggesting easing of the ongoing energy crunch.

Average monthly copper prices rose m-o-m in October by 5.4% to average $9,829.22/mt. Average prices in the January–October period were 56.2% higher than for the same months of 2020. Stock levels at the London Metal Exchange (LME) declined by 36% to 140,175 tonnes at the end of October. Furthermore, a large proportion of the stock schedule that may be scheduled for shipment. Meanwhile, estimations from the International Copper Study Group (ICGS) for the refined copper balance (adjusted for unreported Chinese inventories) in the January-July period showed a deficit of 95,000 tonnes, versus a market surplus of 58,000 tonnes in the 1H21 estimation the previous month.

Iron ore prices dropped by 1.3% m-o-m to $122.9/mt. Average prices in the January–October window were 68.2% higher than the average for the same period last year. As reported in the previous MOMR, steel making in China is restricted due to power rationing measures. Global steel making activity declined by 8.9% y-o-y in September 2021 compared to the same month last year, according to World Steel Association. This was mainly due to a drop in Chinese output of 21.2% y-o-y in September – vs. a drop of 13.2% y-o-y in August.

In the group of **precious metals**, gold prices were stable on average with medium and long term real US interest rates expectations were stable on average during the month. Silver and platinum prices rose by 1.0% and 4.1%, respectively.

Investment flows into commodities

Money managers' net length positions increased in crude oil, copper, and gold but declined in natural gas to its lowest in the last two years. Investors continued to hold an average net long position in the selected commodities during the month.

Table 2 - 2: CFTC data on non-commercial positions, 1,000 contracts

Selected commodity	Open interest		Net length			
	Sep 21	Oct 21	Sep 21	% OI	Oct 21	% OI
Crude oil	2,785	3,053	288	10	333	11
Natural gas	1,442	1,359	59	4	15	1
Gold	626	629	69	11	77	12
Copper	201	222	30	15	41	18

Note: Data on this table is based on monthly average.

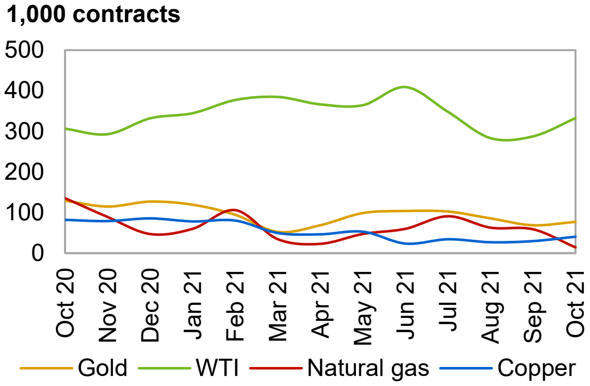
Sources: CFTC and OPEC.

Henry Hub's natural gas open interest (OI) declined by around 6% during the month. Money managers' net long position declined by 75.2% to average 14,678 contracts from 59,197 contracts the previous month, as inventories levels normalize.

Copper's OI rose around 10% in October. Money managers' increased their net length by 36.4% m-o-m to 40,900 contracts from 29,990 contracts the previous month, following further declines in warehouse stocks.

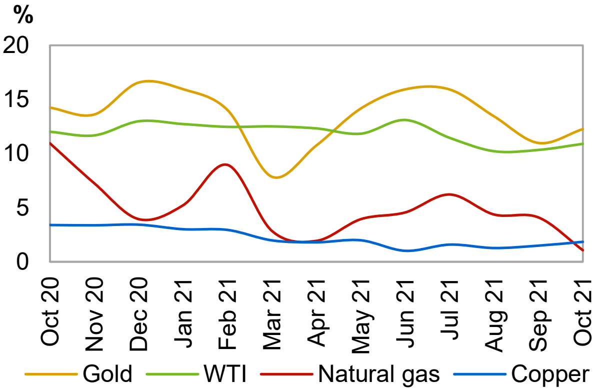
Gold OI was slightly change by 0.5% in October. Money managers' net length rose by 12.2% to 77,048 lots from 68,663 contracts the previous month.

Graph 2 - 3: Money managers' activity in key commodities, net length



Note: Data on this graph is based on monthly average.
Sources: CFTC and OPEC.

Graph 2 - 4: Money managers' activity in key commodities, as % of open interest



Note: Data on this graph is based on monthly average.
Sources: CFTC and OPEC.

World Economy

While numerous challenges to the economic recovery remain, the world economy continues improving, albeit at an increasingly differing pace among the various economies. With some changes in the forecasts of the various key economies, the global economic growth forecast remains unchanged at 5.6% for 2021 and at 4.2% for 2022.

The US GDP growth forecast for 2021 was revised down slightly to 5.5% from 5.8%, reflecting the weakening 3Q21 momentum, while the 2022 growth forecast remained unchanged at 4.1%. Euro-zone 2021 economic growth was revised up to 5.1% from 5% after stronger-than-expected 3Q21 GDP growth. However, considering the resurgence of COVID-19 infections in the Euro-zone, the 2022 GDP growth forecast remains unchanged. The forecast for Japan was revised down somewhat to stand at 2.5%, compared with 2.6% in the previous month, given the softening dynamic in 3Q21. The 2022 GDP growth forecast remains unchanged at 2%. China's economy is seen to grow at 8.3% in 2021 and 5.8% in 2022, unchanged from the previous month, but mounting challenges in the economy point to a rising downside-risk. Meanwhile, India's 2021 growth forecast remains at 9% and at 6.8% for 2022. Brazil's growth forecast for this year remains at 4.7%, while the 2022 growth forecast was revised down to 2% from 2.5% as the strong rise in inflation and the consequent rise in key interest rates could lead to a slow-down in investments and consumption in the next year. Russia's GDP growth forecast for 2021 remains at 4% and at 2.7% for 2022.

Among the various challenges that the global economic recovery is facing, COVID-19 is expected to remain a dominating factor during the northern-hemisphere winter season. Moreover, the recent issues of supply chain bottlenecks have led to output constraints, albeit at a relatively high global output level. These supply issues in combination with the considerable demand effects after the world-wide lock-downs lifted inflation significantly, adding another concern as inflationary effects may cause rising interest rates in key economies. It remains to be seen whether the supply shocks and the reopening effects that were lifting global demand will quickly be overcome and will turn out to be temporary as is currently expected. The latest inflation numbers in the US and the Euro-zone show no imminent easing of the situation. Producer price developments in Asian economies will also need to be closely monitored. Both India and China, but also Japan, have experienced soaring producer prices, while consumer inflation has remained well anchored. These higher producer price levels could also lead to a lift in consumer prices, only with some delay.

Table 3 - 1: Economic growth rate and revision, 2021–2022*, %

	World	OECD	US	Euro-zone	UK	Japan	China	India	Brazil	Russia
2021	**5.6**	**5.0**	**5.5**	**5.1**	**6.5**	**2.5**	**8.3**	**9.0**	**4.7**	**4.0**
Change from previous month	0.0	-0.1	-0.3	0.1	0.3	-0.1	0.0	0.0	0.0	0.0
2022	**4.2**	**3.6**	**4.1**	**3.9**	**3.9**	**2.0**	**5.8**	**6.8**	**2.0**	**2.7**
Change from previous month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0

*Note: * 2021-2022 = Forecast. The GDP numbers have been adjusted to reflect 2017 ppp.*

Source: OPEC.

Update on latest global developments

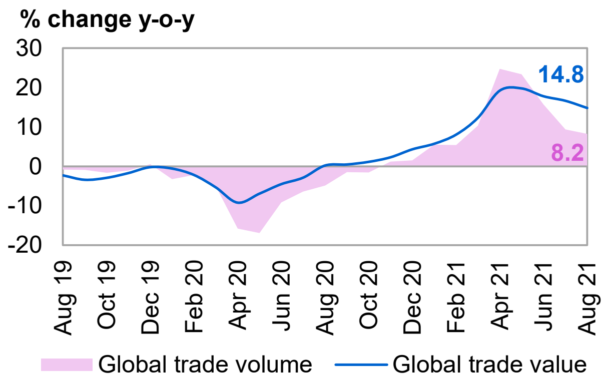
The recovery of the **global economy has continued in 2H21.** However, growth trends are increasingly diverging and additional uncertainties have emerged. 1H21 showed strong growth at differing levels in most major economies, however 3Q21 growth levels are now seen to have softened in the US, China and other key economies, while the Euro-zone's growth continued at high levels. However, a rise in COVID-19 cases in OECD Europe and other economies has demonstrated that the pandemic is likely to continue in the northern hemisphere winter season in 4Q21 and beyond. This even seems to have already impacted economies with relatively high vaccination rates as can be seen in the latest consumer spending numbers (i.e. business and consumer sentiment indices of Euro-zone economies). Moreover, it remains to be seen how Asian economies may manage a resurgence in COVID-19 infection rates as, so far, many Asian economies, particularly China, have relied heavily on economically impactful lockdown measures.

Supply chain issues have become another important matter. There is an ongoing mismatch between order backlogs and the ability to fulfil the current magnitude of orders due to a lack of input goods and inventories. A shortage of semiconductors, among other input goods, has been ongoing, and prices of semiconductor companies have remained elevated in October based on the latest Philadelphia Semiconductor Sector Index levels. Bottlenecks in logistical capabilities have accentuated this problem, while the situation seems to have improved recently. The Baltic Dry Shipping Price Index has fallen to around 2800 at the beginning of November after peaking at around 5600 at the beginning of October. However, the combination of supply chain shortages and logistical challenges has continuously put pressure on prices over the past months, lifting inflation. In addition, selective labour market shortages have added to the problem, and it remains to be seen if inflation will be a temporary issue. With rising COVID-19 cases, the sectors of travel and tourism, as well as hospitality and leisure may be particularly exposed and that may especially be felt in Europe with a large winter tourism industry.

While the US Congress has just recently approved a more than $1 billion infrastructure stimulus package, the ongoing budgetary negotiations will need to be followed closely. The US administration wants to implement another multi-trillion dollar stimulus package, but with ongoing unresolved budgetary issues and the debt ceiling deadline of 3 December approaching, major uncertainties remain. In addition, central bank policies are pointing to continued tapering of the current monthly $120 billion quantitative easing measures after the US Federal Reserve announced a $15 billion tapering in at least November and December.

A very important factor, **global trade,** continued its rebound, but retracted somewhat further, still impacted by the base effect from last year. Moreover, it may have become constrained by supply shortages, a development that could continue. In August, world trade volumes retracted to stand at 8.2% y-o-y growth, after a rise of 9.4% y-o-y in July, based on the CPB World Trade Index provided by the CPB Netherlands Bureau for Economic Policy Analysis. Trade retracted in value terms as well, albeit less so, rising by 14.8% y-o-y in August, compared with 16.7% y-o-y in July.

Graph 3 - 1: Global trade



Sources: Netherlands Bureau for Economic Policy Analysis, Haver Analytics and OPEC.

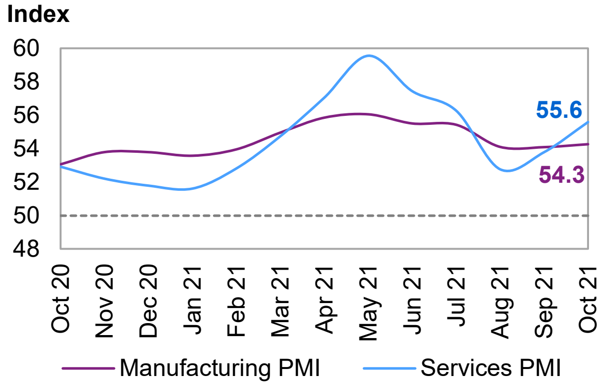
Near-term global expectations

While the **global economic recovery has continued**, most recently, the combination of rising COVID-19 infections, supply chain issues and growing inflation has led to a slight slowdown that is forecast to materialize in 4Q21. The underlying assumptions for world economic growth in 2021 and 2022 are so far largely unchanged. This includes, in particular, the assumption that COVID-19 remains well contained in the advanced economies in the sense that it will not dampen the recovery beyond current levels and that the pandemic will not pose a large obstacle to major emerging economies. In this respect and despite the rising infection rates especially the Euro-zone, no further significant lockdown measures are expected. In addition, tight labour markets are seen to be temporary, a factor that otherwise may lead to rising inflation at the global level as well. Finally, very high debt levels in both governments and the private sector could provide substantial challenges going forward, particularly in light of a possibly longer-dated rise in inflation and a consequent hike in global interest rates. While it currently seems that economic growth risks are tilted towards the downside, upside risks could materialize as well. Further stimulus measures in the US, a continued strong recovery in the Euro-zone and a solid rebound in Japan could lead to stronger-than-expected growth in these OECD economies. Moreover, China may overcome the soft patch in the 2H21 recovery through governmental support and ongoing export-driven momentum. India may also overcome the ongoing challenges by an improvement in domestic demand and a rebound in the export-driven services sector.

With these base assumptions, 1Q21 **global GDP growth is estimated** to stand at 0.8% q-o-q and at 1.1% q-o-q in 2Q21. Some global deceleration is estimated for the growth level in 3Q21, when GDP growth is forecast at 0.5% q-o-q, while 4Q21 growth is forecast at 1.8% q-o-q. The growth pattern in 2022 is forecast to be relatively equally spread and in line with average historical patterns. Inflation is assumed to remain well anchored in the OECD, so that in 2022, these levels are forecast to stand at around 2% for OECD economies on average and around 2.5% for the US.

Global purchasing managers' indices (PMIs) for both the manufacturing and services sectors rose in October. The global manufacturing PMI stood at 54.3, compared with 54.1 in September and August. The global services sector PMI increased to stand at 55.6 in October, compared with 53.8 in September and 52.8 in August.

Graph 3 - 2: Global PMI



Sources: JP Morgan, IHS Markit, Haver Analytics and OPEC.

Considering the numerus counterbalancing developments in the global economy that have been taken into consideration, the 2021 **GDP growth** forecast remains unchanged from the previous month at 5.6%. While growth in 2022 is forecast to normalize at lower levels, it is also seen to benefit from a build-up in momentum in 2021. GDP growth in 2022 is forecast at 4.2%, unchanged from the previous month. This implies that, among other issues, COVID-19-related challenges will not derail the recovery.

Table 3 - 2: World economic growth rate and revision, 2021–2022*, %

	World
2021	**5.6**
Change from previous month	0.0
2022	**4.2**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

An important assumption, especially for the 2022 forecast, is that inflation will not continue at the high 2H21 levels, particularly the US and the Euro-zone. While highly hypothetical, it was assumed in a high-inflationary scenario that global inflation would rise from the currently anticipated level of 3.4% to 4.5% in 2022, i.e. an extension of global inflation from 2H21 into 2022. In this scenario, global economic growth is assumed to fall back to around 2.9%, compared to the current base case of a GDP growth forecast for 2022 of 4.2%.

OECD

OECD Americas

US

Update on the latest developments

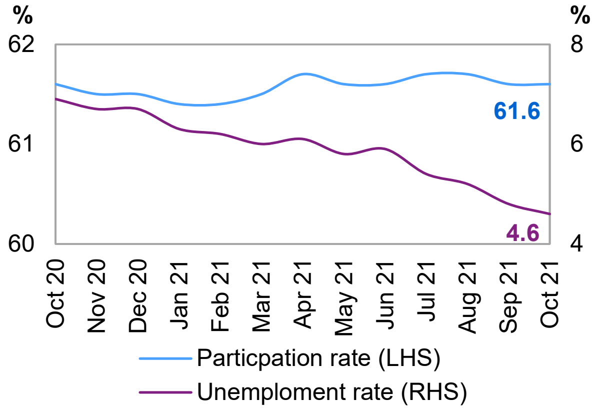
After the strong momentum in 1H21, **GDP growth** was confirmed to have slowed down in 3Q21 in the US. 3Q21 GDP growth stood at only 2% q-o-q seasonally adjusted annualized rate (SAAR), after 6.7% q-o-q SAAR in 2Q21, according to the Bureau of Economic Analysis (BEA). In the meantime, ongoing COVID-19 related challenges, a tightening labour market, inflation and reported supply chain bottlenecks are indicators that 2H21 growth will likely be lower than 1H21 growth. After the US Congress approved more than $1 trillion in fiscal stimulus for infrastructure spending, the ongoing budget and fiscal stimulus discussions in the US Congress during the coming weeks will remain an important factor. Most of these fiscal issues will need to be resolved with the upcoming debt ceiling deadline in early December. Moreover, central bank policies are pointing to continued tapering of the current monthly $120 billion quantitative easing measures after the US Federal Reserve announced a monthly $15 billion tapering for at least November and December.

Consumer confidence increased slightly in October, indicating some rebound in 4Q21. The index provided by the Conference Board showed an index level of 113.8 for October, compared with 109.8 in September and 115.2 in August. US inflation remained high at 5.4% in September, after 5.3% y-o-y in August. The strongest appreciation came once again from the sub-sector of transportation, pointing to the possibility of a transitory effect after the reopening of the economy. Prices in the transportation sector rose by 15.6% y-o-y in September, after 17.8% y-o-y in August and 19.4% y-o-y in July. Excluding the volatile components of energy and food, inflation stood at 4% in September, the same level as in August and compared with 4.3% y-o-y in July.

The **unemployment rate** fell again to stand at only 4.6% in October, compared with 4.8% in September and 5.2% in August. However, the **participation rate** remained low, standing at 61.6% in October, the same level as in September and compared with 61.7% in August, indicating that less people are currently participating in the US labour market. The participation rate before the pandemic stood at almost 63%.

Non-farm payrolls improved again in October, increasing by 531,000 after an upward revision of 312,000 in September. Under these circumstances, wage developments will need close monitoring as they could materially lift inflation. Hourly earnings rose by 4.9% y-o-y in October, compared with 4.6% y-o-y in September and 4.1% y-o-y in August, all substantially above pre-COVID-19 yearly growth of between 2% and 3%.

Graph 3 - 3: US monthly labour market



Sources: Bureau of Labor Statistics and Haver Analytics.

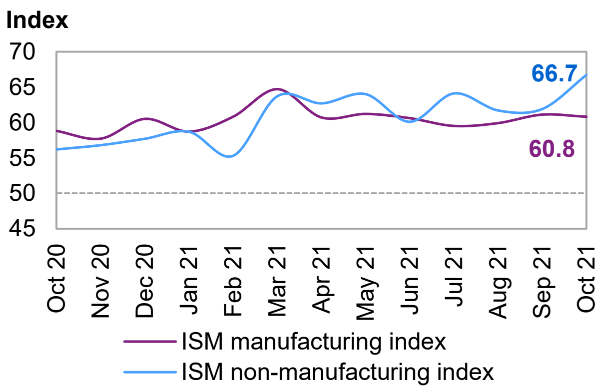
Near-term expectations

Near-term expectations continue to be impacted by some **slowing momentum as confirmed by the latest 3Q21 GDP growth figures**. Positively, however, the current quarter's growth levels are forecast to increase with support from rising consumer confidence and the need to replenish inventories in 4Q21. The draw-down from inventories was significant in 2Q21, and inventories will likely be replenished in 2H21. Supply chains, however, will need to be monitored as an ongoing shortage of vital input goods like semiconductors could dampen this expectation. Another aspect that will play an important role in the near-term recovery is the labour market trend as it remains to be seen if job seekers will re-enter the job market. The latest job additions point to a continued improvement in the labour market in 4Q21. Further fiscal stimulus – still under negotiation – and beyond the latest infrastructure package may provide an additional upside to the growth forecast.

In terms of **quarterly growth** developments, 1Q21 GDP growth stood at 6.3% q-o-q SAAR, and 2Q21 growth was reported at 6.7% q-o-q SAAR, while 3Q21 slowed down to 2% q-o-q SAAR, based on BEA numbers. With expectations for inventory restocking in 4Q21, ongoing fiscal stimulus measures and a rebound in consumer confidence, growth levels for 2H21 and 2022 are forecast to remain sound. Growth in 4Q21 is forecast to reach 4.6% q-o-q SAAR, the same level as last month. Quarterly growth in 2022 is forecast to be relatively equally distributed.

The **October PMI** levels as provided by the Institute for Supply Management (ISM) point to an ongoing recovery. The index level for the services sector, representing around 70% of the US economy, rose significantly. It stood at 66.7 compared with 61.9 in September and 61.7 in August. The manufacturing PMI remained almost unchanged in October to stand at 60.8, after 61.1 in September and 59.9 in August.

Graph 3 - 4: US-ISM manufacturing and non-manufacturing indices



Sources: Institute for Supply Management and Haver Analytics.

Taking the somewhat slowing 2H21 momentum into account, the **2021 US GDP growth forecast** was revised down slightly to stand at 5.5% compared with 5.8% in the previous month. The **current forecast** anticipates that COVID-19 will not materially impact 2H21 and 2022 growth, and other challenges such as inflation or supply chain disruptions are also not anticipated to hinder growth. A strong rise in consumption and investment is forecast to provide the two main pillars for an ongoing solid recovery. This will be accompanied not only by accommodative monetary policy but also by further fiscal stimulus and inventory restocking.

Table 3 - 3: US economic growth rate and revision, 2021–2022*, %

	US
2021	**5.5**
Change from previous month	-0.3
2022	**4.1**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

Growth in **2022** is forecast to normalize but will continue to be very well supported by fiscal stimulus, as well as ongoing accommodative monetary policies. These supporting factors and ongoing momentum are forecast to lift growth to 4.1%, unchanged from the previous month. Major uncertainties, mainly associated with the pandemic, but also supply chain issues and inflation, remain.

As the US is currently at the heart of the inflation discussion, it was assumed in a scenario that price rises of the CPI, also driven by wage inflation, are leading to an annual general CPI of 4.1% in 2022. This would be a continuation of the average 2021 CPI index level increase and compares to a base case assumption of 2.6%. While it is hard to predict, focusing on the US developments and considering only moderate channel effects and more gradual price rises in other major economies, the impacts on growth may be considerable, also as the Fed would need to respond earlier than currently foreseen. In such a high US inflation scenario, US growth would stand at 3.3% in 2022, compared with the base case of 4.1%, and global growth would be lower at 3.8%, compared with 4.2% in the base case.

OECD Europe

Euro-zone

Update on the latest developments

The Euro-zone continued to see very strong growth in 3Q21, a continuation of the considerable 2Q21 momentum following a decline in 1Q21. Growth stood at 9.1% q-o-q SAAR in 3Q21, an even stronger acceleration than the already strong 8.7% q-o-q SAAR in 2Q21, as reported by Eurostat, the EU statistical office. The ongoing impetus is supported by pent-up demand after the easing of lockdowns towards the end of 2Q21. Moreover, the combination of fiscal stimulus and the continuing accommodative monetary policy has lifted both consumption and investment. The global trade recovery has been another supportive factor, especially for major exporters, such as Germany, France and Italy. It remains to be seen whether this momentum will endure into 4Q21, particularly given the recent surge in COVID-19 infections in some economies that underlines that the pandemic is far from over in the euro-zone.

Similarly to other OECD economies, inflation rose further in October and September. While this may lead to a gradually less accommodative monetary policy in the near term, the European Central Bank (ECB) currently appears to be willing to continue its current monetary stimulus. It is clear that inflationary developments have been further accentuated by global supply issues that have led to price rises for input goods, which has especially impacted the manufacturing sector. The car sectors in Germany, France and Spain, were particularly hard hit. Passenger car production in Germany declined again in October with output falling y-o-y by 35.5%, albeit this drop was lower than in September when production fell by y-o-y 44.2%, according to the German car industry association, the Verband der Automobilindustrie. Positively, improvements in the labour market have continued, while consumer confidence fell slightly again in October amid the ongoing rise in COVID-19 infections

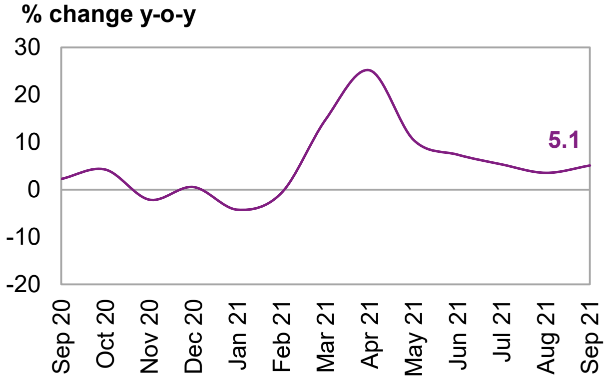
The ECB has maintained its **accommodative monetary policies** for the time being and while inflation has continued to rise, the ECB appears to view it as a temporary phenomenon given the latest comments from officials. Inflation in the Euro-zone rose to 4.1% y-o-y in October, after having reached 3.5% y-o-y in September. This was up from 3.2% in August. When excluding volatile items such as food and energy, inflation stood at 2.2% y-o-y in October. This is up from a level of 2% y-o-y in September and 1.9% y-o-y in August. On a positive note, supported by the ECB's accommodative monetary policies, lending to the private sector by financial institutions held up well in September, rising by 2.6% y-o-y after an increase of 2.2% y-o-y in August. However, the largest rise in lending activity continues to be seen in the real estate sector. Lending to non-financial corporations rebounded and stood at 0.9% y-o-y in September, after only a 0.1% increase y-o-y in August.

The **labour market** continued to see improvements. According to the latest numbers from Eurostat, the unemployment rate stood at 7.4% in September, compared with 7.5% in August, 7.6% in July and 7.8% y-o-y in June, and down from 8% in May.

Retail sales in value terms have risen on a yearly base with y-o-y growth of 5.1% in September, after 3.5% y-o-y expansion in August, both on a seasonally adjusted basis. This translates into a monthly September decline of 0.3% y-o-y.

Industrial production retracted in August. It rose by 4.8% y-o-y, compared with 7.4% y-o-y in July and 10.3% y-o-y in June. This translates into a monthly August decline of 1.6% y-o-y. A key reason behind this yearly trend is the base effect from last year's pandemic impact, while the monthly decline is very likely impacted by the current supply bottlenecks.

Graph 3 - 5: Euro-zone retail sales



Sources: Statistical Office of the European Communities and Haver Analytics.

Near-term expectations

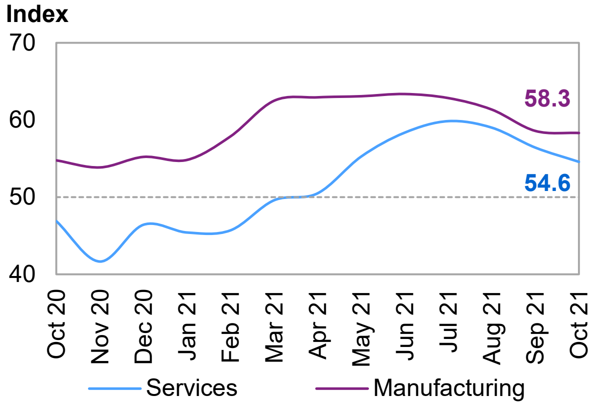
After very strong growth in 2Q21 and an acceleration into 3Q21, growth is forecast to slow towards the end of the year. This somewhat softer dynamic is then expected to continue into 1Q22. The mid-year 2021 trend was supported by pent-up demand after the end of lockdown measures and a recovery in contact-intensive sectors. However, the rise in COVID-19 infections in recent weeks, in combination with the supply constraints affecting semiconductors, gas supplies and other input goods, will likely dampen the growth dynamic.

With regard to the pandemic, it remains to be seen whether vaccination rates will achieve sufficient levels in the autumn and winter to prevent the further spread of new variants. There are still numerous economies that have a vaccination rate below 70%. Ongoing fiscal stimulus and the continued accommodative ECB monetary policies are forecast to counterbalance some of the negative impacts of the COVID-19 situation in 4Q21.

Based on the latest 1H21 revisions, the quarterly forecast has been updated with further emphasis on growth in 2Q21 and 3Q21. The underlying assumptions for the rest of the year and 2022 have not changed. It is anticipated that COVID-19 containment efforts in 4Q21 and beyond will be effective enough to support the recovery and not derail the economy. Moreover, supply chain issues are expected to be temporary in nature and not negatively impact growth. Importantly, no major lockdown measures are forecast in the Euro-zone for 4Q21 and 1Q22. After reported growth of -1.2% q-o-q SAAR in 1Q21 and 8.7% q-o-q SAAR in 2Q21, GDP growth in 3Q21 reached 9.1% q-o-q SAAR, slightly above the 2Q21 level. In 4Q21, growth is forecast at 2.4% q-o-q SAAR, compared with a forecast of 3.2% q-o-q SAAR in the previous month.

The October **PMI** for the Euro-zone economy pointed to an ongoing recovery in manufacturing and services sectors, albeit at a slower pace than in previous months. The PMI for services, the largest sector in the Euro-zone, retracted to 54.6, compared with 56.4 in September and 59 in August. The manufacturing PMI retracted slightly to stand at 58.3 in October compared to 58.6 in September and 61.4 in August.

Graph 3 - 6: Euro-zone PMIs



Sources: IHS Markit and Haver Analytics.

As the easing of lockdown measures has led to a stronger-than-expected recovery in 3Q21, **2021 GDP growth** has been revised up to 5.1%, compared with 5% last month. However, a slowing momentum is forecast for 4Q21. GDP growth in **2022** is forecast to slow, similar to other OECD economies. It is forecast to reach 3.9%, unchanged from the October MOMR.

Table 3 - 4: Euro-zone economic growth rate and revision, 2021–2022*, %

	Euro-zone
2021	**5.1**
Change from previous month	0.1
2022	**3.9**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

OECD Asia Pacific

Japan

Update on latest developments

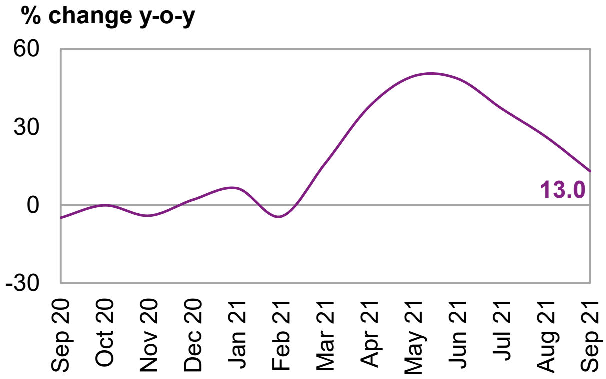
The Japanese economy **has been impacted by the social-distancing measures seen in 3Q21,** including emergency measures in Tokyo and other major prefectures. Emergency measures designed to fight the pandemic were lifted only at the end of September. Alongside supply chain issues, this has led to a slowing momentum in 3Q21. Sentiment indices, however, point to a recovery in 4Q21, also these are supported by rising vaccination rates with more than 70% now having received at least one vaccination. The election outcome, confirming governmental policies, with the Conservative LDP along with its coalition partner retaining control of parliament, leads to an expectation of a continuation of supportive economic measures. On the negative side, the ongoing supply issues that are significantly impacting the auto sector, among others, could continue to be a drag on 4Q21 growth. However, some trade indicators show an easing of the tightening supply environment.

Industrial production (IP) declined in September on a yearly basis. This is even more important to note as it compares to an already largely impaired level in the last year. The drop in September stood at 2.4% y-o-y, compared with a rise of 6% y-o-y in August and 13% y-o-y in July. On a monthly basis, IP actually fell by 5.8% y-o-y in September, after a decline of 3.5% in August.

Impacted by the strong declines in IP, **exports** in September retracted considerably too. It shows a yearly growth level of 13% after rising by 26.2% y-o-y in August and 37% y-o-y in July, all on a non-seasonally adjusted basis. On a monthly basis, September exports declined by a seasonally adjusted 3.9%.

Retail sales declined in September, falling by 0.6% y-o-y, after a decline of 3.2% y-o-y in August and a rise of 2.4% y-o-y in July. The declining trend over the past two months was seemingly impacted by the emergency measures implemented in large swathes of the country to counter rising infections, following the Summer Olympics in Tokyo, and some tapering off in retail activity.

Graph 3 - 7: Japan's exports



Sources: Ministry of Finance, Japan Tariff Association and Haver Analytics.

On a positive note, consumer confidence points to a 4Q21 recovery. The consumer confidence index level, as reported by the Cabinet Office, rose to 39.2 in October, compared with 37.9 in September and 36.4 in August. This points to a rebound in domestic consumption, which is likely to be supported by further stimulus measures.

Near-term expectations

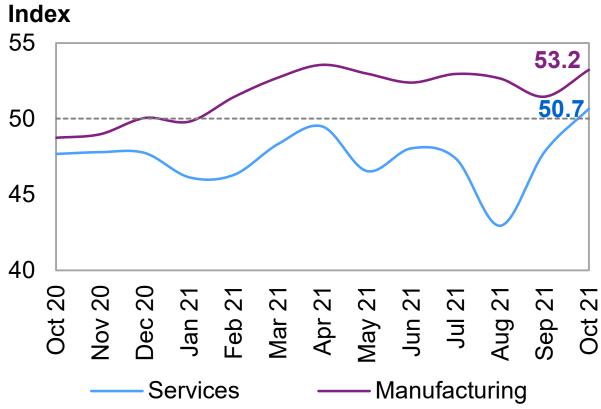
After the weakness in 3Q21, **Japan's economic trend is forecast to rebound in 4Q21**. With rising vaccination rates and generally low infection levels, and with the economy likely to be supported by further stimulus measures, the near term forecast appears to be well supported. However, the trend will evidently depend on supply-chain developments and COVID-19-related issues.

By taking into consideration a lower 3Q21 **GDP growth assumption**, impacted by social distancing measures, the GDP growth forecast for 2021 has been slightly lowered. As reported by Japan's statistical office, 1Q21

GDP declined by 4.2% q-o-q SAAR. Despite the lockdown measures in 2Q21, growth was reported to have recovered and reached 1.9% q-o-q SAAR. Quarterly growth in 3Q21 and 4Q21 should then pick up further. Growth is forecast at 2.8% q-o-q SAAR in 3Q21, albeit below the estimate of 3.3% q-o-q SAAR in the previous MOMR. The rebound in 4Q21 was also revised down slightly to stand at 4.5% q-o-q SAAR, compared with an estimate of 5% q-o-q SAAR in the October publication.

The gradual rebound in the economy's services sector is also reflected in the **October PMI**, which rose above the growth indicating 50-level for the first time since the start of the pandemic. The PMI for the services sector, which constitutes around two-thirds of the Japanese economy, rose significantly to 50.7, compared with 47.8 in September. The manufacturing PMI rose to stand at 53.2, following levels of 51.5 in September and 52.7 in August.

Graph 3 - 8: Japan's PMIs



Sources: IHS Markit, Nikkei and Haver Analytics.

In addition to the ongoing recovery in external trade, GDP growth is expected to remain supported by domestic demand in the near term, although COVID-19-related developments remain influential. Ongoing stimulus measures are expected to support the recovery in private household consumption and investment. However, **GDP growth in 2021** was revised down slightly and is now forecast at 2.5%, which takes into consideration the further 3Q21 slowdown compared with previously forecast levels. The forecasts assume that COVID-19 will be widely contained towards the end of the year and beyond.

Table 3 - 5: Japan's economic growth rate and revision, 2021–2022*, %

	Japan
2021	**2.5**
Change from previous month	-0.1
2022	**2.0**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

Hence, GDP growth is expected to normalize towards pre-pandemic levels next year. GDP growth in **2022** is forecast to slow to 2%, supported by ongoing global growth momentum and stabilizing domestic demand. This is unchanged from the previous month.

Non-OECD

China

Update on the latest developments

China's economy advanced by 4.9% y-o-y, the slowest pace of expansion since 3Q20 amid several headwinds, including a power crisis, supply chain bottlenecks, a persistent property bubble as well as ongoing COVID-19 outbreaks in major regions. The share of final consumption spending of real GDP growth rose in 3Q21 to 64.8% y-t-d from 61.7% y-t-d in 2Q21 amid government efforts to increase individuals' spending. Yet, the gross capital formation share dropped to 15.6% y-t-d from 19.2% in 2Q21, while the share of net goods and services exports increased marginally to 19.5% y-t-d from 19.1% y-t-d in 2Q21.

On the demand side, the final consumption expenditure contribution to GDP dropped to 6.4% y-t-d in 3Q21 from 7.8% y-t-d in 2Q21. Also, gross capital formation expanded by 1.5% y-t-d from 2.4% y-t-d in 2Q21. Net exports expanded by 1.9% y-t-d versus 2.4% y-t-d in 2Q21. The contribution of total domestic demand shrank to 7.9% y-t-d in 3Q21 from 10.3% y-t-d in 2Q21.

In parallel, the contribution of most **industries** to GDP edged down in 3Q21 on a y-o-y basis compared with 2Q21. Primary industry growth dropped to 7.1% following growth of 7.6% in 2Q21. Likewise, secondary industrial growth shrank to 3.6% from 7.5% in 2Q21. Services growth also dropped to 5.4% from 8.3% in 2Q21.

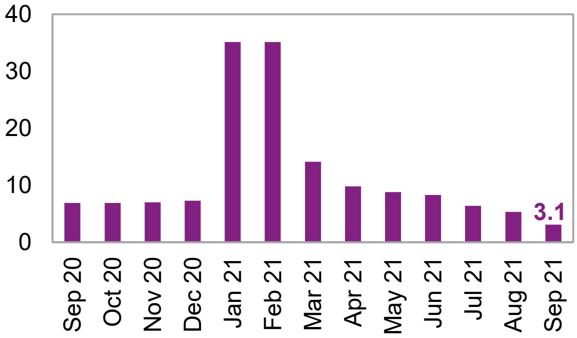
In 3Q21, industrial GDP recorded growth of about 4.9 y-o-y following 8.8% y-o-y in 2Q21. Of this growth, the manufacturing sector expanded by 4.6% y-o-y in 3Q21 compared with 9.2% y-o-y in 1Q21. Construction GDP contracted by 1.8% y-o-y in 3Q21 versus 1.8% y-o-y in 2Q21. The transportation and telecommunication sectors rose to 5.9% y-o-y following growth of 12.7% in 2Q21. Similarly, the hospitality industry grew 5.7% y-o-y in 3Q21 following 17.1% in 2Q21. Meanwhile, agricultural GDP expanded by 7.1% y-o-y in 3Q21 compared with 7.7% y-o-y in 2Q21.

In September 2021, retail trade expanded by 4.4% y-o-y following increases of 2.5% y-o-y in August and 8.5% y-o-y in July. Mobility restrictions might be dampening offline spending, but accumulated individual savings may keep supporting a modest recovery in household spending towards the end of the year.

China's **industrial production** growth shrank to 3.1% y-o-y in September 2021, following growth of 5.3% y-o-y in August amid the ongoing power shortages, which keep pushing down industrial output growth.

The **trade surplus** widened to a record high of $84.54 billion in October 2021 from $57.32 billion in October 2020. Exports saw double-digit growth for the 13th month running, advancing by 27.1% y-o-y to $300.22 billion; while imports grew at a softer rate of 20.6% to $215.68 billion. Over the last ten months of 2021, the trade surplus widened to $513.74 billion from $373.92 billion in the same period of 2020. The trade surplus with the US narrowed to $40.75 billion from $42.0 billion in September. Considering the January to October 2021 period, China's trade surplus with the US stood at $320.67 billion.

Graph 3 - 9: China's industrial production



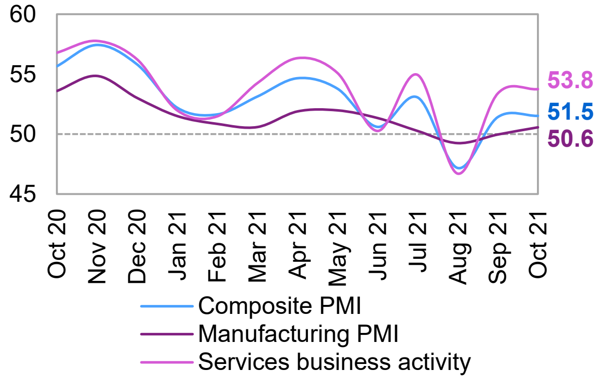
Sources: China National Bureau of Statistics and Haver Analytics.

Near-term expectations

China's economic outlook has been bearish amid the lingering effects of ongoing COVID-19 outbreaks combined with supply chain disruptions. The strict "zero-tolerance" approach may have also weighed on household consumption at a time when electricity shortages are disrupting manufacturing output and government-housing control policies are weighing on property investment. This may still open a window for more policy support as policymakers need to maintain balance and shore up short-term growth. This might include securing liquidity in the interbank market, boosting infrastructure development and easing some credit and real estate regulations. However, policymakers may face a critical challenge in finding the right balance between controlling the latest COVID-19 outbreaks and maintaining normal economic activities.

Recent **PMI indices** increased marginally despite the ongoing slow down. The Caixin China General Composite PMI inched higher to 51.5 in October 2021 from 51.4 in September. Manufacturing PMI unexpectedly saw a four-month high reading of 50.6 in October 2021 compared with September's figure of 50, while the Caixin China General Services PMI increased to 53.8 in October 2021 from 53.4 in September. This was the second straight month of expansion in the service sector. Nonetheless, overall business sentiment was still gloomy amid concerns over rising commodity prices and supply chain disruptions.

Graph 3 - 10: China's PMI



Sources: Caixin, IHS Markit and Haver Analytics.

Considering recent developments, China's real **GDP** forecasts for 2021 and 2022 were kept the same as last month at 8.3% y-o-y and 5.8% y-o-y, respectively. The uncertainties surrounding these forecasts are high, and the economic outlook is misty and pointing to the downside as the country heads into winter and the property sector remains under stress. Indeed, the economy is perplexed by the fallout of the property sector, curbs on energy consumption and energy intensity, along with concerns over the latest COVID-19 outbreaks.

Table 3 - 6: China's economic growth rate and revision, 2021–2022*, %

	China
2021	8.3
Change from previous month	0.0
2022	5.8
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*
Source: OPEC.

However, the outstanding growth in external demand along with the marginal uplift in overall household spending may offset some of the slowdown in industrial output. Moreover, the latest attempt by authorities to increase coal supplies by ordering coal mines to boost output may ease the power crisis if it is associated with a warm winter.

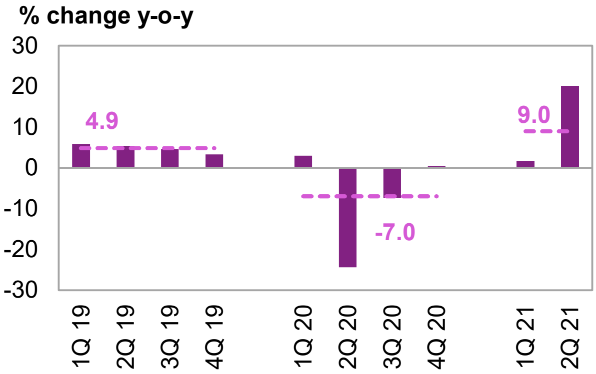
Other Asia

India

Update on the latest developments

Despite the uptick in the vaccination rate, **India**'s recovery was still challenged by the lingering effects of the recent COVID-19 wave. The increased vaccination rate is mainly for the first dose, which might imply that 70% of the population could be fully vaccinated in 1Q22. For the time being, household spending was kept cautious. Indeed, auto sales contracted for the second month in a raw amid the global chip shortage. In September, cars, two wheel vehicles and tractor sales shrank 52%, 27% and 0.4% m-o-m, seasonally adjusted, respectively.

Graph 3 - 11: India's GDP quarterly growth

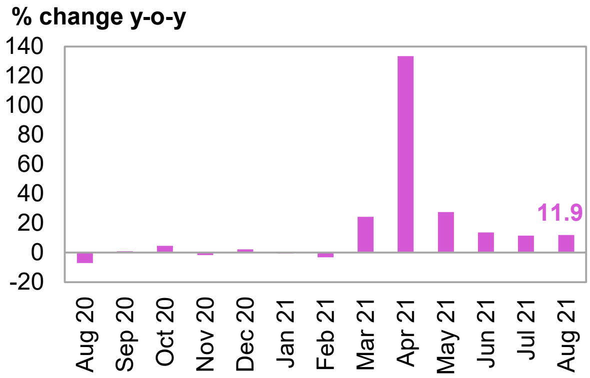


Sources: National Informatics Centre (NIC) and Haver Analytics.

Industrial production increased 11.9% y-o-y in August. Still, this is the first growth in the sector over the last four months and it is highly impacted by the low base effects from last year.

On the employment front, pressure on the labour market eased as the **unemployment rate** decreased to 6.9% in September from 8.3% in August 2021. Yet the 3Q21 jobless rate averaged 7.4%, which is on the high end.

Graph 3 - 12: India's industrial production

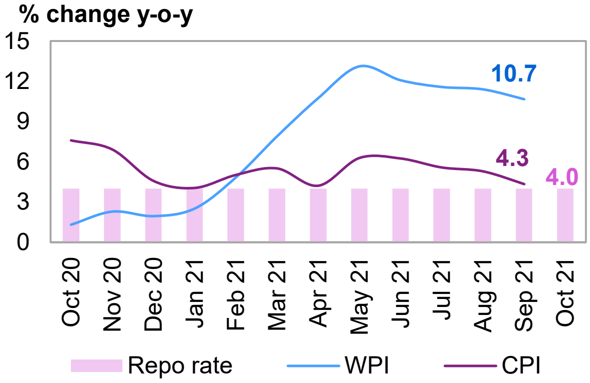


Sources: Ministry of Statistics and Program Implementation of India and Haver Analytics.

The **consumer price index (CPI)** eased to 4.3% y-o-y in September from 5.3% in August. Similarly, the **WPI** dropped to 10.7% in September from 11.4% y-o-y in August. Indeed, modest growth in food prices might have offset inflationary pressures driven by elevated global fuel and commodity prices. In 3Q21, the CPI averaged 5.08% y-o-y, while the WPI averaged 11.2% y-o-y.

On the monetary policy front, the Reserve Bank of India (RBI) kept the **repo rate** at 4% in October, and the reverse repo rate at 3.4%, maintaining an accommodative monetary policy stance to support the economic recovery and help mitigate the negative impacts of COVID-19.

Graph 3 - 13: Repo rate and inflation in India

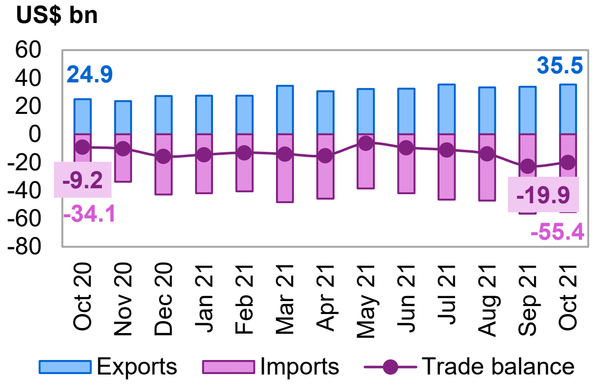


Sources: Ministry of Commerce and Industry, Reserve Bank of India and Haver Analytics.

In the interim, credit rating agencies maintained a stable outlook for India's sovereign credit risk score, supported by a gradual recovery in the economy. Nevertheless, the sovereign credit score was held back by India's low GDP per capita, overall stress in the banking sector, as well as a substantial fiscal deficit. Indeed, the increasing fiscal deficit is of high concern for rating agencies, despite low external debt and increasing foreign direct investment (FDI) inflows.

On the external demand outlook, preliminary trade data released by the Ministry of Commerce and Industry showed that the country's **trade deficit** widened to $19.9 billion in October from $9.2 billion in October 2020. Imports jumped 62.5% to $55.4 billion, while exports increased at a softer rate of to $35.5 billion. The growth in imports indicates a domestic demand recovery from the 2Q21 slump.

Graph 3 - 14: India's trade balance



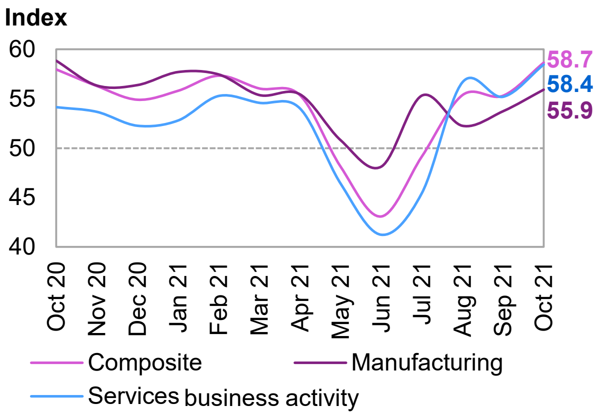
Sources: Ministry of Commerce and Industry and Haver Analytics.

Near-term expectations

Despite the gradual lifting of a new set of state-level restrictions, India's economic outlook remains cautious, as in-person economic activities might remain restrained considering the slow pace of vaccination with only the first dose having been administered. Moreover, concerns may increase regarding the risk of a COVID-19 resurgence going into the winter season. In the meantime, India may also face a power crisis as the reduced supply of coal could trigger a power shortage; 70% of India's electricity is powered by coal.

October **PMI's indices** mirrored a slightly positive sentiment following the easing of COVID-19 restrictions. The manufacturing PMI jumped to 55.9 from 53.7 a month earlier, recording the fourth straight month of expansion and the strongest growth since February 2021. Similarly, the services PMI edged up to 58.4 in from 55.2 in September pointing the third straight month of expansion driven by an increase in new services orders, as well as an improvement in business sentiment.

Graph 3 - 15: India's PMIs



Sources: IHS Markit and Haver Analytics.

Despite optimism over a slowdown in infections and a pickup in the vaccination rate, **India's economic outlook** is still clouded by a high level of uncertainty, and a potential power crisis may add more downward pressure. India's 2021 growth forecast is thus pegged at 9.0% and 6.8% in 2022, unchanged from the last MOMR.

Table 3 - 7: India's economic growth rate and revision, 2021–2022*, %

	India
2021	**9.0**
Change from previous month	0.0
2022	**6.8**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

Latin America

Brazil

Update on latest developments

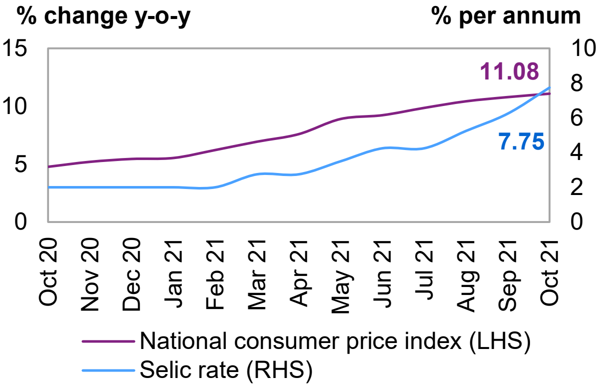
Despite **GDP** returning to pre-pandemic levels and most economic activities continuing to show resilient economic momentum, Brazil's economic recovery is highly challenged by inflationary pressures, unemployment and public debt.

Indeed, unemployment rates are still well above pre-pandemic levels, remaining at 13.2% for the three-month average ending August 2021. This might indicate that household spending continued to depend on government cash transfers. Yet the window to increase public spending is very narrow as the public debt level is at a record high. Moreover, the recent questioning regarding the fiscal framework following a presidential proposal to change the rules for calculating the spending cap law was received negatively by investors that saw the proposal as a political step ahead of next year's elections.

In the meantime, **inflationary pressure** — the result of currency depreciation coupled with a severe drought in previous months and an ongoing global supply bottleneck — increased to a new high level of 11.08% in October from 10.78% in September, the highest inflation rate since February of 2016.

In response to inflationary concerns, the central bank raised the **Selic rate** for the sixth time this year to stand at 7.75% in October and will probably tighten it more sharply in an effort to anchor inflation expectations for the coming two years.

Graph 3 - 16: Brazil's inflation vs. interest rate



Sources: Banco Central do Brasil, Instituto Brasileiro de Geografia e Estatística and Haver Analytics.

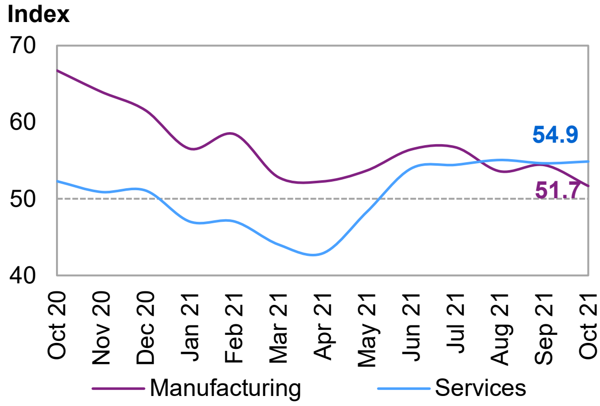
Near-term expectations

In 4Q21, Brazil's economy may remain resilient, however, political instability related to the 2022 election along with the ongoing global supply disruptions, in addition to a new wave of CO|VID-19 might dampen the 2022 outlook. The accelerated the pace of vaccination, with 70% of the adult population expected to be vaccinated by the end of 2021, should further support a full reopening of the economy. Nevertheless, elevated inflation rates could continue to be a major drag on the economic recovery.

Recent composite **PMIs** suggested that the private service sector continued to expand, but manufacturing sector growth might slow down. The manufacturing PMI declined to 51.7 in October from 54.4 in September, the slowest pace of growth in the sector over the last 17 months.

In contrast, the services PMI went up to 54.9 in October from 54.6 in the prior month, recording the fifth successive month of expansion in the services sector amid the growing vaccine coverage and a decline in daily COVID-19 cases.

Graph 3 - 17: Brazil's PMIs



Sources: IHS Markit and Haver Analytics.

The **GDP growth forecast** for 2021 was kept the same as in the last MOMR at 4.7%, while 2022 was revised down to 2.0%, due to heightened concerns over higher inflation, high fiscal stress following COVID-19 support efforts and, most importantly, developments related to the pandemic both domestically and globally. Political uncertainties associated with the upcoming 2022 election have also been taken into consideration.

Table 3 - 8: Brazil's economic growth rate and revision, 2021–2022*, %

	Brazil
2021	**4.7**
Change from previous month	0.0
2022	**2.0**
Change from previous month	-0.5

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

Africa

South Africa

Update on the latest developments

At the beginning of 3Q21, South Africa eased the COVID-19 lockdown to "adjusted level 1" following the rapid decline in new infections. This boosted positive economic sentiments, yet the recent wave of COVID-19 globally and locally may challenge the economic recovery in 4Q21. In September, the annual inflation rate accelerated for the second month in a raw to 5% from 4.9% in August, above the 4.5% midpoint target from the South African Reserve Bank. Upward pressure mainly came from transport prices, particularly fuels. Yet, on a monthly basis, consumer prices edged up in September by only 0.2% compared to a 0.4% gain in the prior month. Responding to inflationary pressures, the South Africa Reserve Bank kept its benchmark repo rate unchanged in September at a record low level of 3.5%. Moreover, the bank revised its CPI forecast for 2021 up to 4.4% from 4.3% and kept the 2022 and 2023 CPI forecasts unchanged at 4.2% and 4.5%, respectively. Meanwhile, the official GDP forecast for 2021 was raised to 5.3% from 4.2%. However, the forecast for 2022 was lowered to 1.7% from 2.3% and for 2023 to 1.8% from 2.4%. Official labour market data suggested that the unemployment rate registered a record high of 34.4% in 2Q21 following 32.6% in 1Q21. This was the highest jobless rate since comparable data started to be released in 2008. The expanded definition of unemployment stood at 44.4%, up from 43.2% in 1Q21. In 2Q21, the youth unemployment rate hit a record high of 64.4%.

External demand continued to support the economic recovery, yet the trade surplus narrowed to ZAR22.2 billion in September from a revised ZAR42.3 billion in August. Exports dropped 1% to ZAR157 billion. Imports, on the other hand, increased 15.9% to ZAR134.8 billion.

Near-term expectations

In the near term, the outlook for South Africa's economy is skewed more to the positive side, but it is still challenged by COVID-19 infections and vaccination developments. Moreover, recent political instability, along with headwinds in main trading partner China, could have a significant impact on the economy in 2H21. Despite overall positive sentiment, the seasonally adjusted Absa Purchasing Managers' Index dropped to 53.6 in October from the September downwardly revised reading of 54.7. Nevertheless, it was still within the expansionary territory for a third consecutive month. Meanwhile, the drop in daily COVID-19 infections and the easing of lockdown restrictions might help provide balance to weaker manufacturing growth.

Considering recent macroeconomic indicators, the **GDP forecast** for 2021 is set to grow by 4.5%, an upward revision from 4.2% in the last MOMR, while the 2022 forecast was kept unchanged at 2.5%. There is still a potential upside, including post-pandemic planning priorities such as investment, job creation and power supply, while the main downside risks are a potential new wave of COVID-19, potential ongoing supply chain disruptions and a slowdown in main trading partner China.

Table 3 - 9: South Africa's economic growth rate and revision, 2021–2022*, %

	South Africa
2021	**4.5**
Change from previous month	0.3
2022	**2.5**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

Russia and Central Asia

Russia

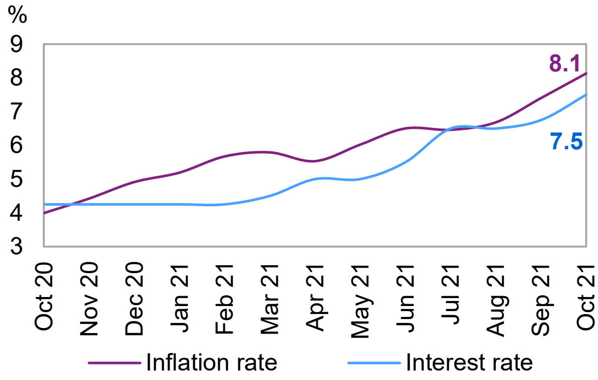
Update on the latest developments

Despite recent new COVID-19 containment restrictions, recent macroeconomic indicators suggest the economy is still on a recovery path. The ministry of economic development monthly GDP tracker indicates that in September the economy advanced by 3.5% compared with 3.7% in August. Industrial production grew by 6.8% y-o-y in September, following a 4.6% gain in August, marking the seventh straight month of growth in industrial output. Retail sales also grew by 5.6% y-o-y in September, advancing from 5.3% y-o-y in August.

Labour market pressures eased as well, while the unemployment rate slightly dropped to 4.3% in September from 4.4% in the August. Meanwhile, real wages increased by 1.5% y-o-y in August following 2.2% y-o-y in July.

Nonetheless, the **inflation rate** kept elevating, reaching 8.13% in October from 7.4% in September, In response, the Central Bank of the Russian Federation (CBR) increased the **benchmark policy rate** by 0.75 bps to 7.5% in October — the highest interest rate since June 2019. The interest rate hike addressed an inflation rate that is substantially above the CBR's forecast and is expected to be within the range of 7.4–7.9% at the end of 2021.

Graph 3 - 18: Russia's inflation vs. interest rate



Sources: Federal State Statistics Service, Central Bank of Russia and Haver Analytics.

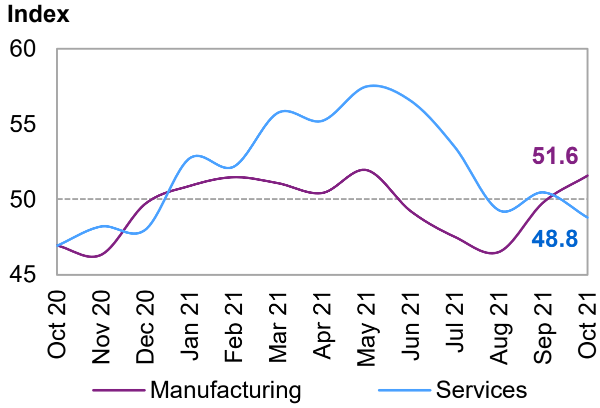
Near-term expectations

With increasing fossil fuel prices, Russia's economic outlook looks rather optimistic, despite a rise in COVID-19 infections. The economy is back to pre-pandemic levels, but uncertainties related to current global supply chain disruptions and a slow rate of vaccination might hinder this progress. More importantly, the latest inflation data may indicate another downside recovery risk, as it may lead to secondary effects, especially in the coming year, such as a lowering of individual savings and exports.

Recent **PMI** indictors carried mixed signals, as the manufacturing PMI increased to 51.6 in October from 49.8 in September, marking the first expansion of the manufacturing sector since May.

On contrast, service activities dropped, as the October services PMI dropped back to contraction territory at 48.8, after it had moved into expansion territory in September with a reading of 50.5, marking the lowest reading since December 2020 amid the latest COVID-19 restrictions.

Graph 3 - 19: Russia's PMI



Sources: IHS Markit and Haver Analytics.

Russia's 2021 and 2022 **GDP forecast** has been kept unchanged from last month at 4.0% and 2.7% respectively, supported by the rise in fossil fuel prices. Elevating overall prices and COVID-19 developments represent the main downside risks.

Table 3 - 10: Russia's economic growth rate and revision, 2021–2022*, %

	Russia
2021	**4.0**
Change from previous month	0.0
2022	**2.7**
Change from previous month	0.0

*Note: * 2021-2022 = Forecast.*

Source: OPEC.

OPEC Member Countries

Saudi Arabia

Saudi Arabia's real GDP grew by 6.8% y-o-y in 3Q21, the second straight quarter of expansion, following upwardly revised growth of 1.9% in the 2Q21. The 3Q21 was the strongest growth quarter since 1Q12. Non-oil and public sector activities advanced by 6.2% and 2.7%, respectively. On a seasonally adjusted quarterly basis, real GDP advanced by 5.8%, the highest growth rate since 4Q10. Despite the October 2021 PMI indicator slipping to 57.7 from 58.6 in September, it still implies that the recovery from COVID-19 continues to materialize in the non-oil sector, with overall business sentiment strong compared to the 2020 average.

Nigeria

Nigeria's Stanbic IBTC Bank PMI improved to 54.1 in October 2021 from 52.3 in September. This was the sixteenth successive monthly expansion. Overall output, new orders and buying activity rose sharply. The annual inflation rate eased to 16.6% in September, down from about 17 % in August. The September level is the lowest inflation rate since January 2021 amid a moderation in food inflation. Despite a deceleration in inflation, the Central Bank of Nigeria kept its monetary policy rate unchanged at 11.5% at its September 2021 meeting with a focus on supporting the domestic economic recovery. The Bank has revised down its 2021 growth projections to 2.9%, from 3.2% in July, which compares to the International Monetary Fund's expectation of 2.5%.

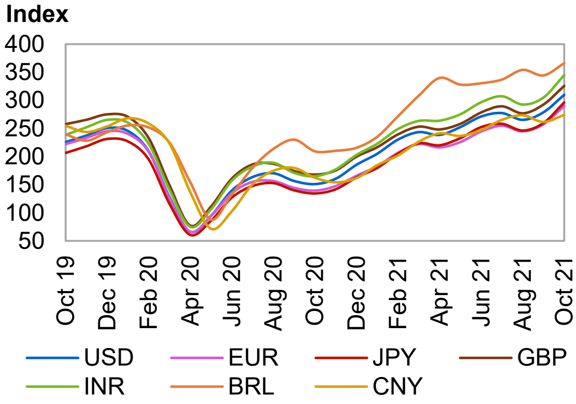
The United Arab Emirates (UAE)

The October PMI indicted growth across much of the non-oil private sector. The PMI accelerated to 55.7 in October 2021 from September's low reading of 53.3, with the Dubai Expo 2020 that began in October providing a boost. The UAE's economy is anticipated to achieve a strong recovery in 2H21 boosted by Expo 2020, yet it may still be challenged by the risk associated with the spread of the COVID-19 Delta variant. For the time being, the government is expected to continue to provide significant fiscal support for the economy in both the short- and long-run, such as with 'Operation Dh300bn' and the '2040 Master Plan'. Additionally, the UAE government continues to provide support for new sectors, such as the digital economy and creative industries, which is expected to further boost the recovery in both the short- and medium-term.

The impact of the US dollar (USD) and inflation on oil prices

The **US dollar (USD) advanced against the major currencies,** as mentioned in the previous MOMR, in anticipation of some monetary tightening by the US Federal Reserve at its November meeting, which materialized in the form of a reduction in its asset purchase program already described earlier in this section. The dollar rose on average by 1.3% against the euro m-o-m and by 2.6% against the yen. Against the pound sterling, it rose comparatively less, by 0.2%, as Bank of England officials signalled a tighter monetary policy in the following months. Meanwhile, the dollar declined slightly by 0.1% against the Swiss franc.

Graph 3 - 20: ORB crude oil price index compared with different currencies (base January 2016 = 100)



Sources: IMF and OPEC.

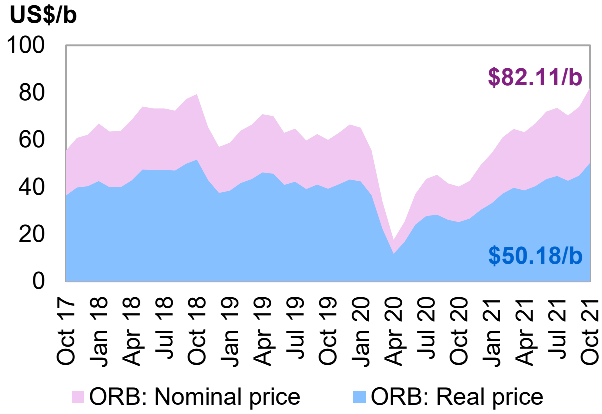
The dollar was mixed **against emerging market currencies**. It declined against the Chinese yuan by 0.6%, while it rose by 1.7% against the Indian rupee as the Reserve Bank of India chose to keep interest rates unchanged to support growth. Meanwhile, the dollar declined against the Russian ruble by 1.9% on strong energy commodity prices and monetary tightening by the Central Bank, while it rose against the Brazilian real by 5.0% despite further tightening by the Central Bank of Brazil.

In **nominal terms**, the price of the ORB increased by $8.23, or 11.1%, from $73.88/b in September to reach $82.11/b in October.

In **real terms**, after accounting for inflation and currency fluctuations, the ORB increased to $50.18/b from a revised $44.77/b (base June 2001=100) the previous month.

Over the same period, the **USD** increased by 1.0% against the import-weighted modified Geneva I + USD basket, while inflation rose by 0.2% m-o-m.

Graph 3 - 21: Impact of inflation and currency fluctuations on the spot ORB price (base June 2001 = 100)



Source: OPEC.

World Oil Demand

In 2021, world oil demand was revised lower by around 0.2 mb/d compared to last month's assessment mainly to account for slower-than-anticipated demand from China and India in 3Q21. In addition, a slowdown in the pace of recovery in 4Q21 is now assumed due to elevated energy prices. World total oil demand is now estimated to reach 96.4 mb/d in 2021.

In the OECD, 2021 oil demand estimates were revised marginally lower by around 0.04 mb/d compared to last month's projections despite upward revisions to 1Q21 data. Oil demand recovery momentum softened in the following quarters on the back of slower-than-anticipated requirements for industrial and transportation fuels. OECD oil demand projections in 4Q21 were also adjusted lower taking into consideration down revisions in the region's economic outlook, high energy prices and uptick in COVID-19 cases.

In the non-OECD, oil demand was revised lower by 0.12 mb/d compared to last month's report. A wave of COVID-19 infections that forced targeted lockdown measures, as well as weaker manufacturing output and power sector challenges in China, have reduced 3Q21 transportation and industrial fuels demand in contrast to initial expectations. India's oil demand in 3Q21 was also adjusted lower due to a slower recovery in the demand for industrial fuels. Some of this slower momentum is now projected to spill over into the following quarters.

In 2022, oil demand growth was kept unchanged compared to the previous month's forecasts, to stand at 4.2 mb/d. World total demand is now estimated to reach 100.6 mb/d around 0.5 mb/d above 2019's levels. However, some minor opposing revisions were considered, mainly taking into account adjustments to macroeconomic projections and challenges affecting demand performance in the world's main consuming centres. Thus, marginal upward revisions in OECD Europe, due to better economic views in some European countries, were offset by softer growth in industrial fuel demand in OECD America and Latin America.

Gasoline and diesel are projected to record the highest gains in 2022 in both the OECD and non-OECD. Gasoline is projected to increase the most in the US followed by China and India while OECD Americas and Europe are assumed to have the lion's share of diesel growth. Despite increasing y-o-y, reductions in intercontinental flights are assumed to pressure the jet fuel recovery in 2022 and push the full recovery to pre-pandemic levels beyond next year. From a regional perspective, OECD Americas and China are anticipated to lead demand growth next year on the back of healthy economic outlooks, controlled COVID-19 cases and stable petrochemicals sector demand.

Table 4 - 1: World oil demand in 2021*, mb/d

							Change 2021/20	
World oil demand	**2020**	**1Q21**	**2Q21**	**3Q21**	**4Q21**	**2021**	**Growth**	**%**
Americas	22.44	22.73	24.33	24.99	24.46	24.14	1.70	7.56
of which US	*18.35*	*18.65*	*20.21*	*20.38*	*20.20*	*19.87*	*1.52*	*8.28*
Europe	12.44	11.91	12.61	13.71	13.59	12.96	0.53	4.24
Asia Pacific	7.14	7.67	7.04	7.15	7.57	7.36	0.22	3.03
Total OECD	**42.02**	**42.30**	**43.98**	**45.85**	**45.63**	**44.46**	**2.44**	**5.81**
China	13.36	13.29	14.55	14.47	15.11	14.36	0.99	7.42
India	4.51	4.94	4.50	4.67	5.52	4.91	0.40	8.86
Other Asia	8.13	8.36	8.98	8.49	8.62	8.61	0.48	5.93
Latin America	6.01	6.15	6.16	6.54	6.40	6.31	0.30	5.02
Middle East	7.55	7.95	7.77	8.24	7.97	7.99	0.44	5.84
Africa	4.06	4.35	4.06	4.16	4.44	4.25	0.19	4.66
Russia	3.37	3.57	3.42	3.61	3.74	3.58	0.22	6.44
Other Eurasia	1.07	1.18	1.24	1.14	1.28	1.21	0.14	12.70
Other Europe	0.70	0.78	0.72	0.73	0.79	0.75	0.06	8.29
Total Non-OECD	**48.76**	**50.57**	**51.41**	**52.04**	**53.87**	**51.98**	**3.22**	**6.59**
Total World	**90.79**	**92.87**	**95.38**	**97.89**	**99.49**	**96.44**	**5.65**	**6.23**
Previous Estimate	90.79	92.77	95.36	98.33	99.82	96.60	5.82	6.41
Revision	0.00	0.10	0.02	-0.44	-0.33	-0.16	-0.16	-0.18

*Note: * 2021 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

Table 4 - 2: World oil demand in 2022*, mb/d

World oil demand	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21 Growth	%
Americas	24.14	24.04	25.42	26.02	25.27	25.20	1.06	4.38
of which US	*19.87*	*19.69*	*21.07*	*21.35*	*20.92*	*20.76*	*0.90*	*4.52*
Europe	12.96	12.55	13.28	14.35	14.10	13.58	0.61	4.74
Asia Pacific	7.36	7.91	7.22	7.28	7.68	7.52	0.17	2.27
Total OECD	**44.46**	**44.50**	**45.92**	**47.64**	**47.05**	**46.30**	**1.84**	**4.13**
China	14.36	14.14	15.44	14.95	15.55	15.02	0.66	4.63
India	4.91	5.40	4.90	5.05	5.84	5.30	0.39	7.96
Other Asia	8.61	9.05	9.59	9.07	8.95	9.16	0.55	6.39
Latin America	6.31	6.38	6.33	6.69	6.56	6.49	0.18	2.81
Middle East	7.99	8.29	8.01	8.49	8.20	8.25	0.26	3.31
Africa	4.25	4.53	4.19	4.28	4.57	4.39	0.14	3.29
Russia	3.58	3.67	3.47	3.66	3.79	3.65	0.07	1.82
Other Eurasia	1.21	1.25	1.29	1.17	1.32	1.26	0.05	3.72
Other Europe	0.75	0.80	0.73	0.74	0.81	0.77	0.02	2.18
Total Non-OECD	**51.98**	**53.51**	**53.96**	**54.11**	**55.58**	**54.29**	**2.31**	**4.45**
Total World	**96.44**	**98.02**	**99.88**	**101.75**	**102.63**	**100.59**	**4.15**	**4.31**
Previous Estimate	96.60	97.95	99.88	102.16	102.93	100.76	4.15	4.30
Revision	-0.16	0.07	-0.01	-0.41	-0.30	-0.16	0.00	0.01

*Note: * 2021-2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

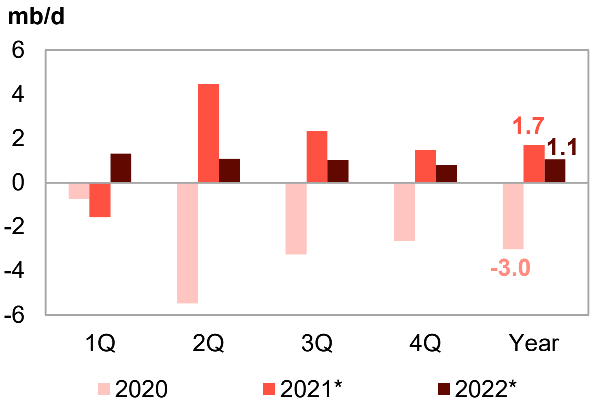
OECD

OECD Americas

Update on the latest developments

The latest available **oil demand data in OECD Americas** show y-o-y increases of 2.4 mb/d in **August**, following an increase of 1.9 mb/d in July. Gasoline demand continued to be strong during the warmer weather in the region and accounted for around 30% of the overall increase, while jet kerosene requirements accounted for a 26% overall growth share. In terms of the oil demand level, August appears to have recovered to 96%, while during the first eight months of 2021 the recovery stood at only 43%. Gasoline demand grew for the sixth month in a row, rising by 0.7 mb/d y-o-y. Oil demand remained lower than August 2019 levels by 1.2 mb/d. All countries in the region posted demand gains on top of a lower baseline during 2020.

Graph 4 - 1: OECD Americas oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

The latest available **US monthly demand data for August** imply strong demand growth of approximately 1.9 mb/d y-o-y, making up 75% of losses incurred in August 2020 but remaining lower from August 2019 by 0.6 mb/d. LPG, gasoline, jet kerosene and diesel requirements contributed the most to the bulk of increases, with LPG and gasoline gaining in August 2021 by 0.4 and 0.6 mb/d y-o-y, while jet kerosene increased by 0.6 mb/d and diesel 0.2 mb/d, y-o-y. The demand for gasoline, jet kerosene and diesel fell during August 2020 by 1.3 mb/d, 0.8 mb/d and 0.4 mb/d y-o-y respectively. According to the Federal Highway Administration (FHA), vehicle miles of travel in the US increased by 8.5% y-o-y in August after rising by 13.0% y-o-y in July. In August 2020, the indicator fell by 11.3% y-o-y. Light vehicle retail sales, as reported by Autodata and Haver Analytics, were at 13.2 million units in August of the current year, according to seasonally adjusted annual rates (SAAR), compared with 14.8 million units in July, 15.4 million units in August 2020 and 17.2 million units in August 2019. Industrial production was also higher by 5.6% y-o-y in August after increasing by 6.9% y-o-y in July. Preliminary data for September based on weekly data indicates a continuation of a recovery in transportation fuel performance, with both gasoline and jet kerosene demand increasing by more than 1.3 mb/d y-o-y in total.

Table 4 - 3: US oil demand, mb/d

By product	Aug 20	Aug 21	Change Aug 21/Aug 20 Growth	%
LPG	2.71	3.09	0.38	13.9
Naphtha	0.20	0.18	-0.02	-8.0
Gasoline	8.52	9.11	0.59	6.9
Jet/kerosene	1.03	1.58	0.55	54.0
Diesel	3.67	3.89	0.22	5.9
Fuel oil	0.31	0.35	0.04	13.7
Other products	2.41	2.60	0.19	8.0
Total	**18.85**	**20.80**	**1.95**	**10.4**

Note: Totals may not add up due to independent rounding. Sources: EIA and OPEC.

Near-term expectations

Going forward, risks related to COVID-19 developments during the emergence of colder weather, as well as possible economic-related challenges are assumed to soften transportation and industrial fuels recovery in 4Q21. On the other hand, transportation fuels performance, including gasoline, is linked to gasoline retail prices, which currently are assumed to be marginal amid large stimulus packages and high household savings. Risks associated to potential changes in consumer behaviour amid structural impact of COVID-19, as well as the emergence of COVID-19 treatments are to be monitored closely going forward.

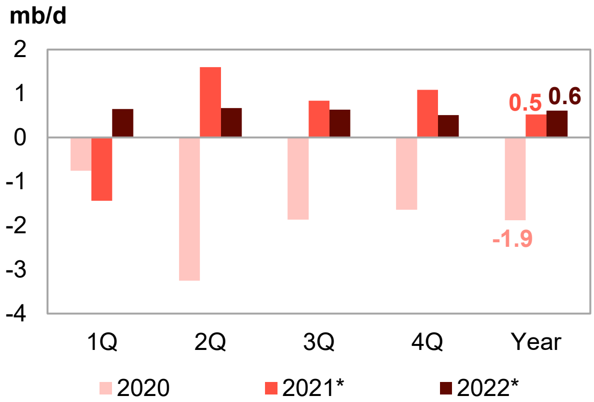
In **2022**, OECD Americas oil demand will be supported by solid economic growth and is expected to rise by around 1.1 mb/d y-o-y with the US oil demand accounting for 0.9 mb/d y-o-y. The petrochemical and transportation sectors will drive oil demand during 2022. Despite the ongoing penetration of alternative fuelled cars and increasing efficiencies, gasoline demand will be backed by increases in vehicle sales. Several expansions in the petrochemical industry will provide support to light distillates demand growth in 2022. Downside risks relate to the COVID-19 pandemic and economic challenges, in particular inflation and supply chain.

OECD Europe

Update on the latest developments

OECD Europe oil demand increased by 1.3 mb/d y-o-y in **August**, following an increase of 0.8 mb/d y-o-y in July, implying a recovery rate in growth of 61.6% compared to same month in 2020. Demand for all petroleum product categories showed solid gains on top of a low historical baseline and as a result of seasonal travel activities within and across countries of the region. The strongest demand was for jet kerosene, gasoline and diesel. For the third month in a row, demand for jet kerosene was above the 0.3 mb/d threshold. In y-o-y percentage terms, jet kerosene demand grew for the fifth month in a row above the 50% mark and remained on a upward trajectory in line with rising travel activities. Demand for transportation fuels has been in positive territory since April 2021.

Graph 4 - 2: OECD Europe's oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

In August, demand in Germany grew by a solid 0.3 mb/d, while requirements in Italy, France and the UK increased by 0.1 y-o-y. Oil demand flourished in all other countries of the region, coupled with travel and leisure activities. The industrial production index, which excludes construction, rose 5.0% compared to the same month in 2020, as reported by Eurostat and Haver Analytics. New passenger car registrations fell 20.4% y-o-y, following a 23.9% y-o-y decline in July.

Table 4 - 4: Europe's Big 4* oil demand, mb/d

By product	Aug 20	Aug 21	*Change Aug 21/Aug 20* Growth	%
LPG	0.40	0.39	-0.01	-3.0
Naphtha	0.52	0.54	0.02	3.1
Gasoline	1.15	1.23	0.08	7.0
Jet/kerosene	0.39	0.57	0.18	47.7
Diesel	2.82	3.13	0.31	11.0
Fuel oil	0.15	0.17	0.01	9.3
Other products	0.44	0.48	0.04	9.2
Total	**5.86**	**6.49**	**0.63**	**10.8**

*Note: * Germany, France, Italy and the UK. Totals may not add up due to independent rounding.*

Sources: JODI, UK Department for Business, Energy & Industrial Strategy, Unione Petrolifera and OPEC.

Near-term expectations

The 3Q21 has contributed significantly to oil demand developments, however, going forward, COVID-19 challenges are assumed to partially cap oil demand in **4Q21**. Generally, the outlook for the region's oil demand in **2021** remains optimistic amid COVID-19 containment efforts and increasing vaccination rates, and despite rising cases in some countries of the region. Transportation fuels are anticipated to lead the recovery going into the final part of the year with factors such as, economic challenges, high energy prices and winter conditions are to be closely monitored.

In **2022**, OECD Europe oil demand is expected to rise by around 0.6 mb/d. The positive projections for the economy and progress in controlling COVID-19 are the main supporting factors in 2022, bolstered by improvements in mobility and positive developments in the industrial and construction sectors. Downside risks pertain to COVID-19, high debt levels, inflation as well as national budgetary constraints.

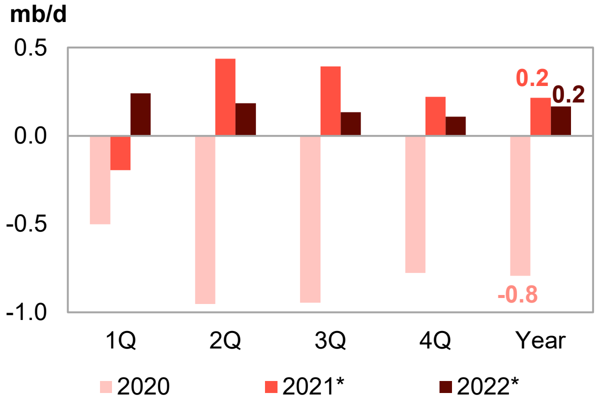
OECD Asia Pacific

Update on the latest developments

OECD Asia Pacific oil demand increased in **August** by 0.3 mb/d y-o-y, less than the corresponding increases recorded in July of 0.4 mb/d. Gains were largely attributed to rising naphtha requirements in South Korea and Japan as well as diesel and jet kerosene demand in Australia. Demand for light distillates in the Asia Pacific during August grew by 0.2 mb/d y-o-y after rising by 0.1 mb/d in July. Transportation fuels demand was down slightly y-o-y in August, following small gains in July y-o-y.

Oil demand in Japan and South Korea grew by 0.3 mb/d, y-o-y. Preliminary data from by Japan's Ministry of Economy, Trade and Industry (METI) indicates a rise in September 2021 oil demand of 0.1 mb/d, y-o-y.

Graph 4 - 3: OECD Asia Pacific oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

Table 4 - 5: Japan's oil demand, mb/d

By product	Sep 20	Sep 21	Change Sep 21/Sep 20 Growth	%
LPG	0.36	0.38	0.02	6.3
Naphtha	0.68	0.78	0.10	14.4
Gasoline	0.81	0.76	-0.05	-5.6
Jet/kerosene	0.19	0.22	0.03	17.6
Diesel	0.68	0.70	0.02	2.5
Fuel oil	0.20	0.24	0.04	19.2
Other products	0.18	0.16	-0.03	-15.1
Total	**3.10**	**3.24**	**0.14**	**4.4**

Note: Totals may not add up due to independent rounding. Sources: JODI, METI and OPEC.

Near-term expectations

Japan and South Korea have efficiently managed the COVID-19 pandemic with immediate positive impacts on their economies and oil demand. The removal of lockdowns in Australia and New Zealand are expected to support oil demand for the remainder of **2021**. Overall demand in 2021 in the region is projected to increase y-o-y, with petrochemical feedstock as one of the main contributors to oil demand growth.

In **2022**, OECD Asia Pacific oil demand is projected to increase by 0.2 mb/d, in line with healthy GDP growth and despite rising fuel efficiencies and fuel substitution. Fuel substitution may also provide support to oil demand as a result of high natural gas prices.

Non-OECD

China

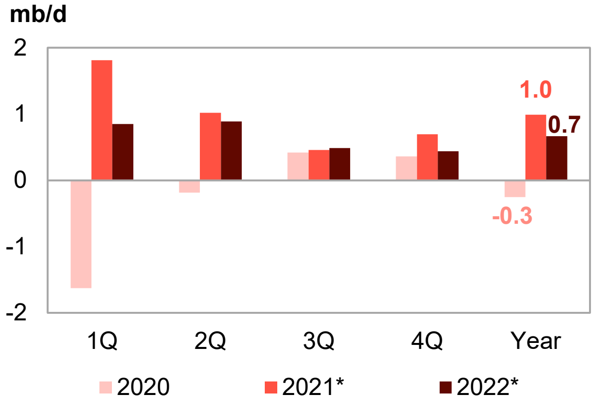
Update on the latest developments

Oil demand in China grew by a marginal 0.1 mb/d in **September** compared to a 0.3 mb/d y-o-y increase in August. Demand was impacted by localised lockdowns and slower-than-expected economic momentum. Middle distillates were affected the most and declined sharply y-o-y. Both jet/kerosene and diesel showed significant drops of more than 0.5 mb/d y-o-y, offset by strong fuel oil gains and healthy petrochemical feedstock demand.

Fuel oil posted strong gains of around 0.3 mb/d y-o-y, matching the August gains, and high natural gas prices supported additional fuel oil demand in the power generation sector. These developments are anticipated to continue in the coming months and further support fuel oil demand. Light distillates demand, mainly for petrochemical feedstock, recorded steady growth in September.

LPG grew by more than 0.2 mb/d y-o-y with naphtha showing similar gains. Naphtha was favoured due to its price advantage over LPG and was further supported by capacity additions that are also projected to support naphtha in 4Q21.

Graph 4 - 4: China's oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

Steady demand for polypropylene continues to support higher LPG demand for propylene dehydrogenation plants (PDH) despite high prices for the fuel. By contrast, jet fuel remained a drag on oil demand amid reduced international travel and the shutdown of a number of airports to control the spread of Delta variant of COVID-19. Jet fuel showed a decline of around 0.4 mb/d y-o-y in September. Diesel also fell in in September, by around 0.2 mb/d y-o-y amid supply chain disruptions and power outages along with COVID-19-related restrictions.

Table 4 - 6: China's oil demand*, mb/d

By product	Sep 20	Sep 21	Change Sep 21/Sep 20 Growth	%
LPG	2.17	2.40	0.23	10.6
Naphtha	1.15	1.34	0.18	15.8
Gasoline	3.44	3.45	0.01	0.4
Jet/kerosene	0.84	0.48	-0.35	-42.3
Diesel	3.40	3.22	-0.18	-5.3
Fuel oil	0.44	0.73	0.29	64.8
Other products	1.75	1.65	-0.10	-5.7
Total	**13.19**	**13.26**	**0.08**	**0.6**

*Note: * Apparent oil demand. Totals may not add up due to independent rounding.*
Sources: Argus Global Markets, China OGP (Xnhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.

Near-term expectations

Going forward, oil demand growth is anticipated to increase in **4Q21** albeit at a slower pace than last month's projections. Localised COVID-19 containment measures in parts of the country and economic challenges led to this downward revision for China in 4Q21. Some spill-over effects are anticipated for 1H22 oil demand. However, demand is projected to show respectable growth in 2021 supported by healthy y-o-y performance in various economic sectors. The transportation, petrochemical and industrial sectors are assumed to stimulate demand for petroleum products led by gasoline and diesel. LPG and naphtha will record positive gains going forward, due to healthy petrochemical margins and recent capacity development.

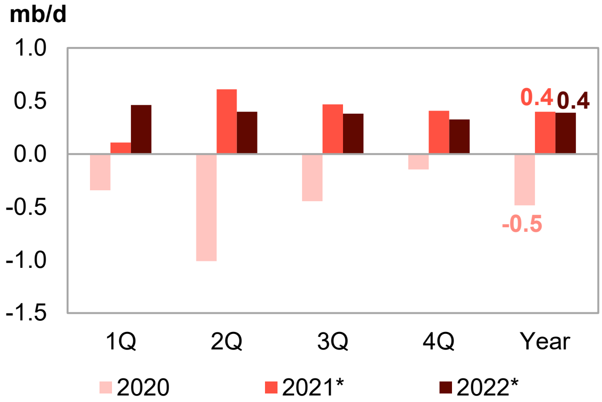
In **2022**, China's oil demand is anticipated to increase by more than 0.7 mb/d, unchanged from last month projections, mainly supported by steady economic momentum and despite rising challenges which will require close monitoring. Oil demand for the transportation and industrial sectors is projected to rise, buoyed by firm increases in mobility, rising passenger car sales and a healthy industrial sector. However, issues related to high energy prices, supply chain challenges and COVID-19 developments will put downward pressure on oil demand particularly during 1H22.

India

Update on the latest developments

Indian oil demand grew in **September** by around 0.2 mb/d y-o-y, compared to an increase of around 0.4 mb/d y-o-y in August and a decline of 0.1 mb/d y-o-y in September 2020. A revival in economic activities, better control of COVID-19 cases, improving mobility and receding monsoon rains encouraged demand for petroleum products in September. Compared to September 2020, increasing demand was noticed across all petroleum products with the exception of naphtha, which fell y-o-y despite healthy steam cracking margins. Gasoline, LPG and the other product categories, including asphalt, posted y-o-y gains in September while middle distillates and fuel oil demand grew only marginally.

Graph 4 - 5: India's oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

Gasoline demand increased by around 0.04 mb/d y-o-y after a nearly 0.1 mb/d y-o-y rise in August, supported by reduced monsoon rains and a steady rise in mobility. According to Google maps and Apple's mobility index, mobility continued its upward trajectory in September, reaching 122% of pre-pandemic levels (using January 2020 as a reference) compared 116% in August. LPG demand inched up in September, recording gains of around 0.04 mb/d y-o-y and similar to growth levels recorded during the prior two months. Rising household LPG demand for cooking will be a supportive factor for LPG demand going forward. Demand for fuel oil and the other products category was supported by the further easing of lockdown measures and economic improvements.

Table 4 - 7: India's oil demand, mb/d

By product	Sep 20	Sep 21	Change Sep 21/Sep 20 Growth	%
LPG	0.97	1.01	0.04	4.0
Naphtha	0.29	0.29	0.00	-0.6
Gasoline	0.74	0.78	0.04	5.6
Jet/kerosene	0.12	0.13	0.01	12.5
Diesel	1.59	1.60	0.01	0.7
Fuel oil	0.20	0.22	0.02	10.7
Other products	0.72	0.80	0.08	11.4
Total	**4.63**	**4.84**	**0.21**	**4.5**

Note: Totals may not add up due to independent rounding.

Sources: JODI, Petroleum Planning and Analysis Cell of India and OPEC.

Near-term expectations

Going forward, the economic outlook remains positive for the final quarter of the year, supported by efforts to control COVID-19 infections and steady industrial sector gains. However, high energy prices, which require close monitoring over the next months, are a concern when it comes to consumer spending and subsequently oil consumption. Nevertheless, oil demand is expected to continue to grow in **4Q21**, supported by the low baseline and an uptick in diesel demand in the construction and agricultural sectors. The recovery in transportation fuels is anticipated to continue, though it remains dependent on developments related to the COVID-19 pandemic. Demand for transportation fuel will lead product demand, followed by middle distillates for the remainder of 2021.

In **2022**, similar to last month's expectations, 1Q22 Indian oil demand estimates are at around 0.5 mb/d with 2022 annualized growth expected at around 0.4 mb/d y-o-y. Total volumes are expected to exceed pre-pandemic levels on an annualized basis by more than 0.3 mb/d. Regarding products, gasoline is anticipated to be the strongest product in 2022, supported by an acceleration in mobility, an uptick in vehicle sales and overall steady economic growth. Diesel is assumed to be supported by healthy growth in the industrial, construction and agricultural sectors during 2022.

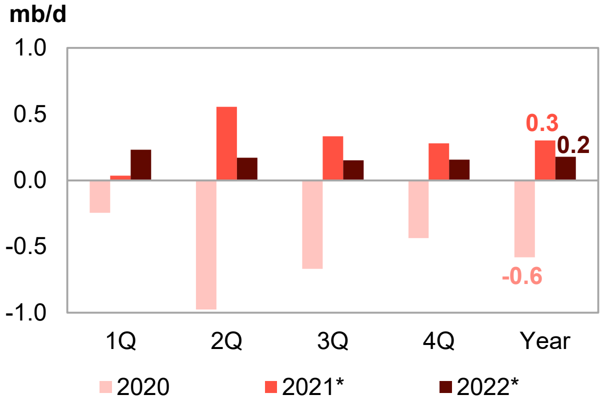
Latin America

Update on the latest developments

Following six months of steady growth, **oil demand in Latin America** continued to record respectable growth in **August**. Demand for petroleum products was higher by more than 0.3 mb/d y-o-y in August, compared with an increase of around 0.4 mb/d y-o-y in July.

Compared to pre-pandemic levels in August 2019, demand fell by more than 0.1 mb/d in the whole region. August's rise in oil consumption was mainly supported by transportation fuels recovering from the low base of last year and some uptick in mobility data, particularly in Brazil. Mobility in Latin America exceeded pre-pandemic levels and was at 104%, according to Google maps and Apple mobility indicators, following 102% in July and 95% in June. Gasoline and jet fuel recorded gains of around 0.2 mb/d y-o-y collectively after posting similar gains in July. Both fuels remained 0.1 mb/d below pre-pandemic level. Diesel demand was driven by stable industrial and agricultural demand. Diesel increased by more than 0.1 mb/d y-o-y and was also higher than August 2019 by around 0.1 mb/d.

Graph 4 - 6: Latin America's oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

The latest available data for **Brazil** indicates an increase of more than 0.1 mb/d y-o-y in September. This is a deceleration in the pace of growth as compared to recent months when demand was increasing by 0.2-0.3 mb/d. However, the baseline effect and slower diesel growth largely impacted the level of growth. Transportation fuels continued to recover, particularly gasoline, showing steady y-o-y gains. Both gasoline and jet fuels posted gains of more around 0.1 mb/d with gasoline exceeding pre-pandemic consumption.

Mobility was the main supportive factor and was 15% higher than pre-pandemic levels, according to Google and Apple's mobility indicators.

Table 4 - 8: Brazil's oil demand*, mb/d

By product	Sep 20	Sep 21	Change Growth	Sep 21/Sep 20 %
LPG	0.24	0.23	-0.01	-3.3
Naphtha	0.14	0.14	0.00	2.1
Gasoline	0.66	0.73	0.08	11.6
Jet/kerosene	0.05	0.08	0.03	68.6
Diesel	1.10	1.14	0.04	3.4
Fuel oil	0.06	0.12	0.06	96.7
Other products	0.42	0.33	-0.09	-21.4
Total	**2.66**	**2.77**	**0.11**	**4.2**

*Note: * = Inland deliveries. Totals may not add up due to independent rounding.*

Sources: JODI, Agencia Nacional do Petroleo, Gas Natural e Biocombustiveis and OPEC.

Near-term expectations

Going forward, drought-related impacts on hydropower production should encourage fuel oil consumption and thus support oil demand. Additionally, accelerated vaccination programmes and steady economic momentum should boost demand in the coming months. COVID-19-related risks and uncertainties related to next year's general elections put downward pressure on the forecast. Gasoline, jet fuel and diesel are expected to be affected the most.

In **2022**, oil demand in Latin America is expected to rise y-o-y consistent with the better economic outlook and despite marginal downward revision due to adjustment in macroeconomic outlook. All countries are anticipated to show steady oil demand growth, with Brazil leading the region as in recent years. In terms of petroleum products, diesel is anticipated to account for most gains, followed by gasoline. LPG is expected to be supported by healthy petrochemical sector.

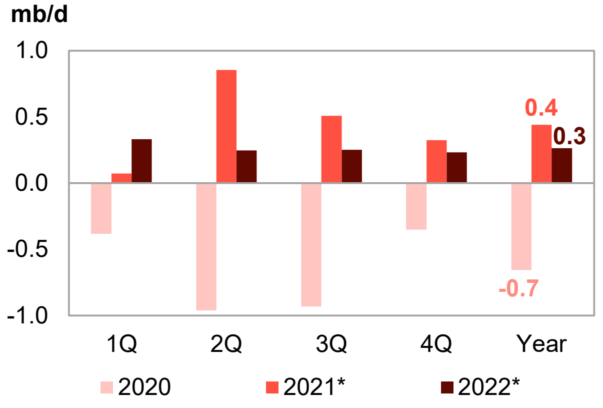
Middle East

Update on the latest developments

Middle East oil demand showed steady gains in **August**, growing by more than 0.4 mb/d y-o-y, following a more than 0.5 mb/d y-o-y increase in July.

However, demand remained lower than August 2019 by 0.25 mb/d amid a lagging jet and fuel oil recovery. Demand exhibited solid gains in Iraq, Kuwait and the United Arab Emirates (UAE) and declined in Saudi Arabia compared to August of last year. Stable growth in gasoline and jet fuel led the recovery due to reduced travel restrictions and improving mobility. According to Google maps and Apple's mobility index, mobility inched higher in August to reach 109% compared to the reference month of January 2020. The mobility index was at 106% in July. Gasoline and jet fuel increased by more than 0.3 mb/d y-o-y collectively after rising by more than 0.2 mb/d y-o-y in July. However, while gasoline marginally exceeded August 2019 levels amid the easing of pandemic-related restrictions, jet fuel remained lower than pre-pandemic levels by more than 0.1 mb/d.

Graph 4 - 7: Middle East's oil demand, y-o-y change



*Note: * 2021-2022 = Forecast. Source: OPEC.*

Industrial fuels as well as petrochemical feedstock also showed respectable gains. Diesel was higher by nearly 0.1 mb/d y-o-y while LPG and naphtha both increased by around the same levels. The increase in diesel demand is supported by an uptick in construction and truck movements mainly in Saudi Arabia.

The latest data for September indicates a continuation of rising demand in Saudi Arabia and Iraq. Demand increased in both countries by a similar level (0.01 mb/d y-o-y) and was driven by strong fuel oil demand primarily in the industrial and power generation sectors. Fuel oil gained around 0.05 mb/d y-o-y in each country.

Transportation fuel also supported this increase, particularly in Saudi Arabia as demand for gasoline and jet fuel increased by around 0.1 mb/d y-o-y.

Table 4 - 9: Saudi Arabia's oil demand, mb/d

By product	Sep 20	Sep 21	Change Growth	Sep 21/Sep 20 %
LPG	0.05	0.04	0.00	-9.8
Gasoline	0.48	0.52	0.04	7.4
Jet/kerosene	0.03	0.06	0.03	120.3
Diesel	0.52	0.56	0.03	6.2
Fuel oil	0.60	0.65	0.05	7.8
Other products	0.69	0.63	-0.07	-9.5
Total	**2.38**	**2.46**	**0.08**	**3.3**

Note: Totals may not add up due to independent rounding.

Sources: JODI and OPEC.

Near-term expectations

The recent announcements that Saudi Arabia, Kuwait and the UAE would relax COVID-19 measures and the return of normality almost to pre-pandemic levels, oil demand is anticipated to be very well supported in the **4Q21** and going into 2022. Risks of a resurgence of COVID-19 cases will remain a concern, however, but the sound management of the pandemic over the past few months will minimize the impact on oil demand. Infrastructure projects and healthy petrochemical sectors are assumed to provide solid support to oil demand in the coming months.

In **2022**, oil demand is anticipated to increase by 0.3 mb/d y-o-y in 1Q22 and is projected to rise by similar levels on an annualized basis. The positive economic outlook and management of the COVID-19 pandemic are main drivers for oil demand next year. Gasoline, diesel and light distillates are anticipated to be the leading products supporting oil demand growth in 2022. Saudi Arabia is expected to provide the largest share of oil demand growth in the region, supported by the healthy economic outlook, well-managed COVID-19 efforts and the expanding petrochemical sector.

World Oil Supply

Non-OPEC liquids supply growth in 2021 (including processing gains by 0.13 mb/d) remains unchanged at 0.7 mb/d y-o-y growth to average 63.6 mb/d. The minor upward revisions to liquids supply of the US, Canada, Mexico, and China in 3Q21, were offset by downward revisions in the supply forecast of other countries. The US liquids supply forecast was revised up by 19 tb/d following higher than expected output of NGLs in August by 113 tb/d, m-o-m, to average 5.6 mb/d. The 2021 oil supply forecast primarily sees growth in Canada, Russia, China, Norway, Brazil, Guyana, and Qatar, while output is projected to decline in the UK, Colombia, Indonesia and Egypt.

Non-OPEC supply growth for 2022 also remains unchanged at 3.0 mb/d y-o-y, and averages 66.7 mb/d. Following plans to increase natural gas production, US liquids supply is now forecast to grow by 0.9 mb/d due to higher NGLs production by 0.3 mb/d. However, this increase is offset by downward revisions in the supply forecasts of Norway, Mexico, India, and Asia others. The main drivers of liquids supply growth are expected to be Russia (1.0 mb/d) and the US (0.9 mb/d), followed by Brazil, Canada, Norway, Kazakhstan and Guyana. Nevertheless, investment levels, particularly in the US shale sector, remain a concern.

OPEC NGLs and non-conventional liquids production in 2021 was revised down by 15 tb/d due to lower-than-expected output in 2H21, to now stand at growth of 0.1 mb/d y-o-y, to average 5.2 mb/d and to grow by 0.1 mb/d y-o-y in 2022, to average 5.3 mb/d. OPEC-13 crude oil production in October increased by 0.22 mb/d m-o-m to average 27.45 mb/d, according to secondary sources.

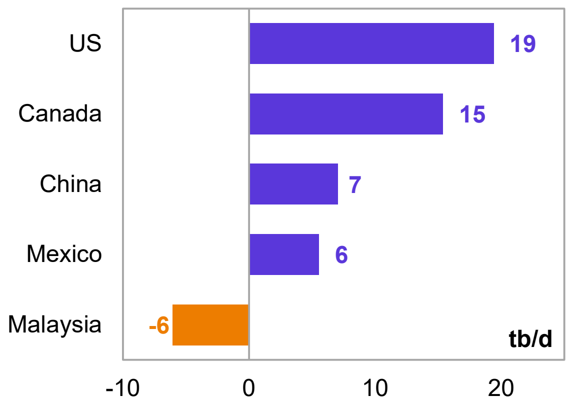
Preliminary non-OPEC liquids production in October, including OPEC NGLs, is estimated to have grown by 1.5 mb/d m-o-m to average 70.1 mb/d, up by 3.7 mb/d y-o-y. As a result, preliminary data indicates that global oil supply in October has grown by 1.74 mb/d m-o-m to average 97.56 mb/d, up by 6.74 mb/d y-o-y.

Non-OPEC liquids production growth in 2021 has remained unchanged from the previous assessment, as upward and downward revisions offset each other.

In the OECD, upward revisions by 120 tb/d in 3Q21, including a revision of 167 tb/d in OECD Americas, led to an upward revision of 24 tb/d for the year. On the other hand, the supply forecast of the non-OECD region for 2021 was revised down by 25 tb/d. With these revisions, the non-OPEC liquids supply growth forecast for this year remains at 0.66 mb/d to average 63.64 mb/d.

Within the regions, the main upward revision took place in OECD Americas' supply forecast by 40 tb/d (167 tb/d in 3Q21), mainly due to higher NGLs production in the US in August, higher than expected oil sands output and conventional oil compared to 2Q21 in Canada, and also due to a surge in production of crude oil in Mexico in September.

Graph 5 - 1: Major revisions to annual supply change forecast in 2021*, November MOMR/October MOMR



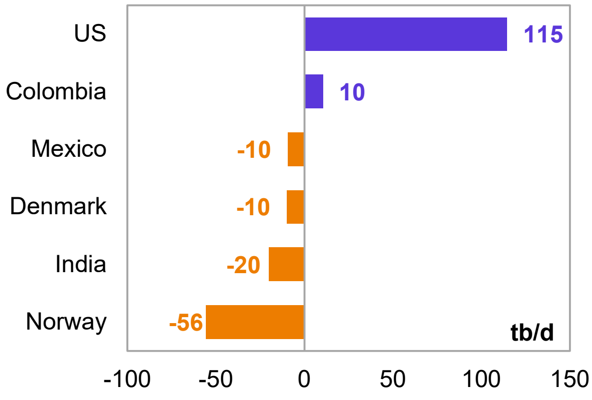
*Note: * 2021 = Forecast. Source: OPEC.*

Supply growth in the US and Canada in 2021 was revised up by 19 tb/d, and 15 tb/d, respectively. Mexico's supply was also revised up by minor 6 tb/d for 2021. Moreover, lower-than-expected oil output in Norway in 3Q21, led to a downward adjustment of a minor 4 tb/d. In the non-OECD, while the supply growth forecast of China was revised up by 7 tb/d on higher-than-expected output in 3Q21, the supply forecast of Malaysia revised down by 6 tb/d due to lower output in 3Q21.

The **non-OPEC supply growth forecast for 2022** also remained unchanged at 3.02 mb/d. Nevertheless, US liquids supply was revised up by 115 tb/d to stand at 0.94 mb/d, y-o-y, due to the re-assessment of NGLs output, which is now forecast at 0.3 mb/d.

The upward revision to the US supply forecast is offset by a downward adjustment in the forecast for Norway by 0.06 mb/d, as green field production was more than offset by the natural decline from mature fields. The oil supply forecasts of India and Mexico were also revised down by 0.02 mb/d and 0.01 mb/d in 2022.

Graph 5 - 2: Major revisions to annual supply change forecast in 2022*, November MOMR/October MOMR

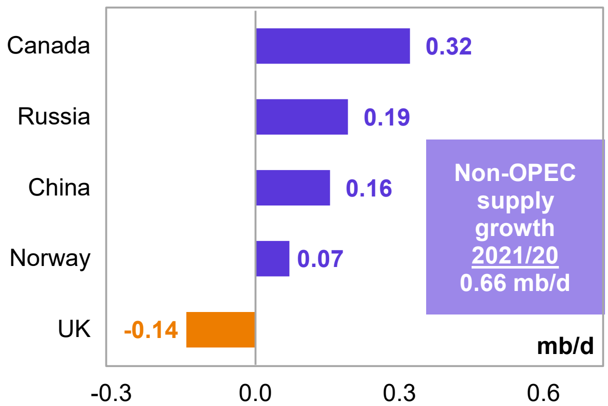


*Note: * 2022 = Forecast. Source: OPEC.*

Key drivers of growth and decline

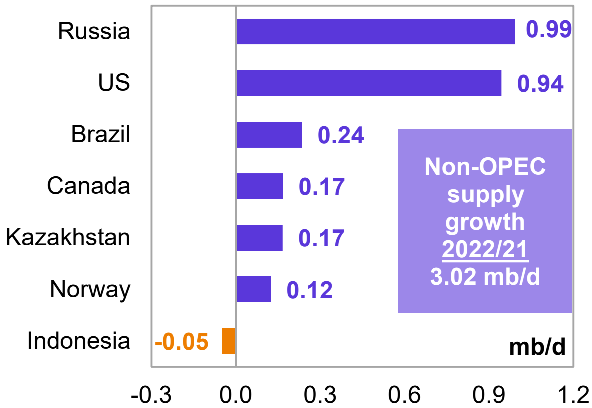
The **key drivers of non-OPEC liquids supply growth in 2021** are estimated to have been Canada, Russia, China, Norway, and, to some extent, Brazil and Guyana. Oil production is expected to decline, mainly in the UK, while the US, Indonesia, Colombia and Egypt will also show a y-o-y decline to a lesser degree.

Graph 5 - 3: Annual liquids production changes for selected countries in 2021*



*Note: * 2021 = Forecast. Source: OPEC.*

Graph 5 - 4: Annual liquids production changes for selected countries in 2022*



*Note: * 2022 = Forecast. Source: OPEC.*

For **2022**, the key drivers of non-OPEC supply growth are forecast to be Russia, the US, Brazil, Canada, Kazakhstan, Guyana, and other non-OPEC countries participating in the DoC, while oil production is projected to decline, mainly in Indonesia, Egypt and Thailand.

Non-OPEC liquids production in 2021 and 2022

Table 5 - 1: Non-OPEC liquids production in 2021*, mb/d

Non-OPEC liquids production	2020	1Q21	2Q21	3Q21	4Q21	2021	Change 2021/20 Growth	%
Americas	24.70	24.10	25.17	25.15	25.58	25.00	0.30	1.23
of which US	*17.61*	*16.63*	*17.93*	*17.70*	*18.01*	*17.57*	*-0.03*	*-0.19*
Europe	3.90	3.96	3.52	3.80	3.98	3.81	-0.09	-2.22
Asia Pacific	0.52	0.50	0.45	0.54	0.54	0.51	-0.01	-2.21
Total OECD	**29.12**	**28.56**	**29.13**	**29.48**	**30.10**	**29.32**	**0.21**	**0.71**
China	4.16	4.30	4.34	4.35	4.28	4.32	0.16	3.73
India	0.77	0.76	0.75	0.75	0.74	0.75	-0.01	-1.78
Other Asia	2.51	2.52	2.46	2.36	2.45	2.45	-0.06	-2.38
Latin America	6.04	5.97	6.00	6.10	6.46	6.13	0.09	1.48
Middle East	3.19	3.22	3.23	3.24	3.30	3.25	0.05	1.70
Africa	1.41	1.37	1.35	1.33	1.30	1.34	-0.07	-5.26
Russia	10.59	10.47	10.74	10.81	11.11	10.78	0.19	1.82
Other Eurasia	2.91	2.96	2.89	2.79	3.01	2.91	0.00	-0.13
Other Europe	0.12	0.11	0.11	0.11	0.10	0.10	-0.01	-12.10
Total Non-OECD	**31.71**	**31.67**	**31.86**	**31.84**	**32.76**	**32.04**	**0.33**	**1.03**
Total Non-OPEC production	60.83	60.23	61.00	61.32	62.86	61.36	0.53	0.87
Processing gains	2.15	2.28	2.28	2.28	2.28	2.28	0.13	6.03
Total Non-OPEC liquids production	**62.98**	**62.51**	**63.28**	**63.60**	**65.14**	**63.64**	**0.66**	**1.05**
Previous estimate	62.98	62.49	63.27	63.53	65.24	63.64	0.66	1.05
Revision	0.00	0.02	0.01	0.07	-0.10	0.00	0.00	0.00

*Note: * 2021 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

Table 5 - 2: Non-OPEC liquids production in 2022*, mb/d

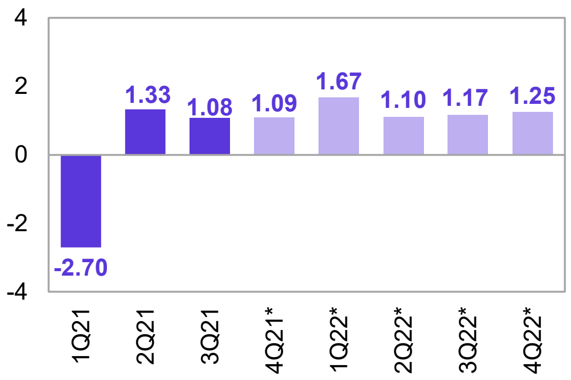
Non-OPEC liquids production	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21 Growth	%
Americas	25.00	25.78	25.89	26.25	26.63	26.14	1.14	4.55
of which US	*17.57*	*18.13*	*18.45*	*18.58*	*18.89*	*18.52*	*0.94*	*5.37*
Europe	3.81	3.91	3.80	3.86	4.18	3.94	0.13	3.31
Asia Pacific	0.51	0.55	0.54	0.54	0.54	0.54	0.03	6.28
Total OECD	**29.32**	**30.23**	**30.24**	**30.65**	**31.35**	**30.62**	**1.30**	**4.42**
China	4.32	4.32	4.32	4.36	4.44	4.36	0.04	1.01
India	0.75	0.73	0.75	0.78	0.80	0.77	0.01	1.59
Other Asia	2.45	2.45	2.42	2.40	2.39	2.42	-0.03	-1.17
Latin America	6.13	6.51	6.45	6.39	6.60	6.49	0.36	5.82
Middle East	3.25	3.34	3.34	3.36	3.36	3.35	0.10	3.16
Africa	1.34	1.29	1.26	1.23	1.20	1.25	-0.09	-7.06
Russia	10.78	11.51	11.83	11.88	11.88	11.78	0.99	9.22
Other Eurasia	2.91	3.09	3.11	3.15	3.22	3.14	0.23	7.94
Other Europe	0.10	0.10	0.10	0.09	0.09	0.10	-0.01	-7.71
Total Non-OECD	**32.04**	**33.34**	**33.59**	**33.65**	**33.99**	**33.64**	**1.61**	**5.02**
Total Non-OPEC production	61.36	63.57	63.82	64.30	65.34	64.26	2.91	4.74
Processing gains	2.28	2.39	2.39	2.39	2.39	2.39	0.11	4.91
Total Non-OPEC liquids production	**63.64**	**65.97**	**66.21**	**66.69**	**67.73**	**66.66**	**3.02**	**4.74**
Previous estimate	63.64	66.09	66.34	66.56	67.63	66.66	3.02	4.74
Revision	0.00	-0.12	-0.13	0.14	0.11	0.00	0.00	0.00

*Note: * 2021-2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

OECD

OECD liquids production in 2021 is forecast to increase by 0.21 mb/d y-o-y to average 29.32 mb/d, revised up by 0.02 mb/d m-o-m owing to an upward revision of 0.04 mb/d in the production forecast for OECD Americas, which is now projected to grow by 0.30 mb/d to average 25.0 mb/d. OECD Europe is forecast to decline by 0.09 mb/d, with an average supply of 3.81 mb/d. The supply forecast in OECD Asia Pacific is also forecast to decline by 0.01 mb/d y-o-y to average 0.51 mb/d.

Graph 5 - 5: OECD quarterly liquids supply, y-o-y changes



*Note: * 4Q21-4Q22 = Forecast. Source: OPEC.*

For **2022**, oil production in the OECD is forecast to increase by 1.30 mb/d y-o-y to average 30.62 mb/d, unchanged compared to a month earlier, despite upward revisions in OECD Americas by 105 tb/d, which are offset by a downward adjustment in the supply forecast of OECD Europe. Based on these revisions, OECD Americas is forecast to grow by 1.14 mb/d to average 26.14 mb/d. Oil production in OECD Europe and OECD Asia Pacific is anticipated to grow respectively by 0.13 mb/d and 0.03 mb/d y-o-y to average 3.94 mb/d and 0.54 mb/d.

OECD Americas

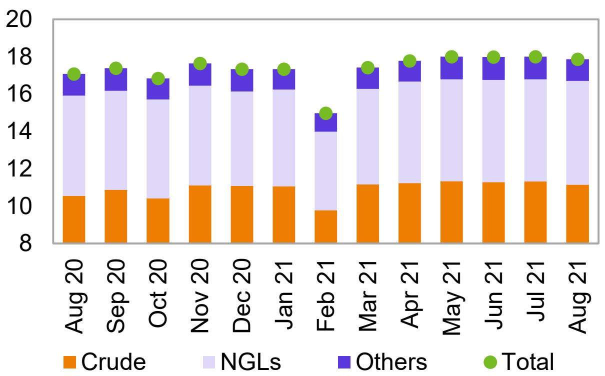
US

US liquids production in August 2021 was down by 0.13 mb/d m-o-m to average 17.87 mb/d, higher by 0.78 mb/d compared with August 2020.

Crude oil production decreased in August 2021 by 185 tb/d m-o-m to average 11.14 mb/d, up by 0.58 mb/d y-o-y. Regarding crude and condensate production breakdown by region (PADDs), production decreased on the US Gulf Coast (USGC) by 257 tb/d to average 7.86 mb/d, while it increased in the other four PADDs in August.

NGLs production was up by 113 tb/d to a record high at average 5.57 mb/d in August. Meanwhile, production of **non-conventional liquids** (mainly ethanol) in July decreased by 12 tb/d m-o-m to average 1.22 mb/d, according to the Department of Energy (DOE). It is estimated that output continued declining to 1.17 mb/d in August.

Graph 5 - 6: US monthly liquids output by key component



Source: OPEC.

Looking at states, production in the Gulf of Mexico (GoM), declined by 312 tb/d m-o-m to average 1.54 mb/d. Part of this monthly decline in the GoM was offset by higher output in new Mexico, North Dakota, Alaska, and Texas.

In the US Midwest, production in North Dakota increased by 29 tb/d to average 1.09 mb/d, but still is lower by 65 tb/d y-o-y. Production in Alaska recovered by 29 tb/d m-o-m to average 0.41 mb/d amid easing of maintenance. Oil output in Oklahoma and Colorado showed a minor increase m-o-m, and finally production in New Mexico and Texas rose m-o-m by 50 tb/d to average 1.35 mb/d and 18 tb/d to average

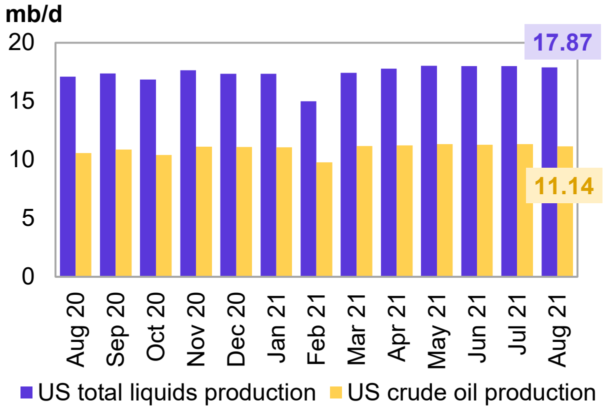
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Jul 21	Aug 21	Change Aug 21/Jul 21
Oklahoma	379	380	*1*
Colorado	390	391	*1*
Alaska	380	409	*29*
North Dakota	1,060	1,089	*29*
New Mexico	1,296	1,346	*50*
Gulf of Mexico (GoM)	1,847	1,535	*-312*
Texas	4,816	4,834	*18*
Total	**11,326**	**11,141**	***-185***

Sources: EIA and OPEC.

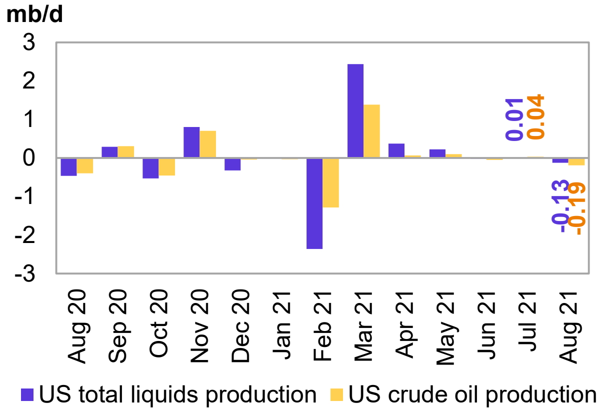
4.83 mb/d, respectively. In the onshore lower 48, August production increased by 98 tb/d to 9.18 mb/d.

Graph 5 - 7: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 8: US monthly crude oil and total liquids supply, m-o-m changes



Sources: EIA and OPEC.

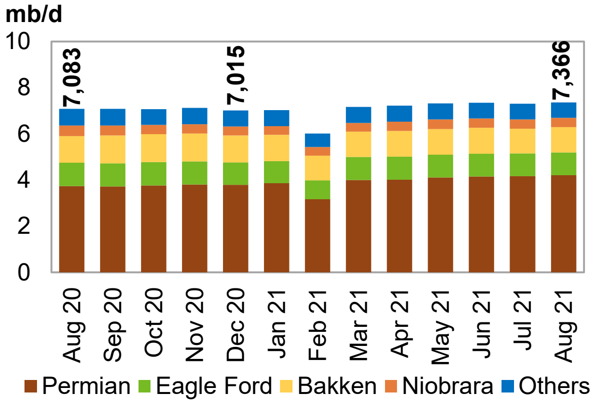
US tight crude output in August increased by 62 tb/d m-o-m to average 7.37 mb/d, 283 tb/d higher than the same month a year earlier, according to Energy Information Administration (EIA) estimates.

The m-o-m increase from shale and tight formations through horizontal wells came from the Permian, rising by 42 tb/d mainly from that part which is located in New Mexico rather than in Texas, to average 4.21 mb/d, higher by 0.47 mb/d y-o-y.

In the Williston Basin, production in the Bakken shale rose by 31 tb/d to average 1.09 mb/d, down by 60 tb/d y-o-y. Tight crude output at the Eagle Ford in Texas and Niobrara-Codell in Colorado and Wyoming declined by 5 tb/d and 3 tb/d, respectively, to average 0.98 mb/d and 0.41 mb/d.

Average tight crude output in the first eight months of the year was estimated at 7.1 mb/d, 283 tb/d lower than during the same period in 2020.

Graph 5 - 9: US tight crude output breakdown



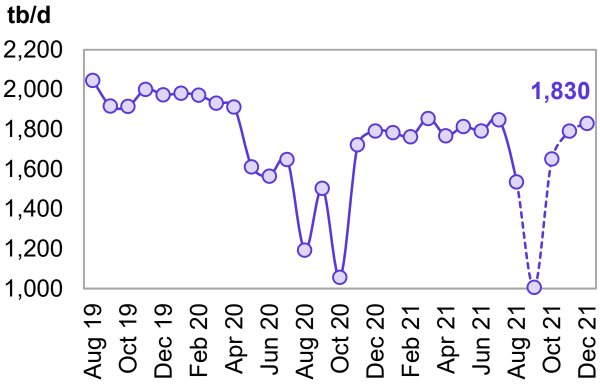
Sources: EIA, Rystad Energy and OPEC.

Hurricane Ida and its impact on US Gulf of Mexico (GoM) production

With 1.54 mb/d of **oil production in the GoM** in August and assuming output at around 1.0 mb/d in September, following Hurricane Ida-related disruptions, average oil production from the GoM in 2021 is now forecast to stand at 1.70 mb/d, revised up by 0.03 mb/d.

Shell has meanwhile re-started production at its Mars and Ursa platforms ahead of schedule from initial estimates, and began exporting oil and gas through the West Delta-143 (WD-143) "A" facility. With this revision, production from the GoM in 2021 will grow by 0.06 mb/d.

Graph 5 - 10: GoM's oil output and forecast in the coming months



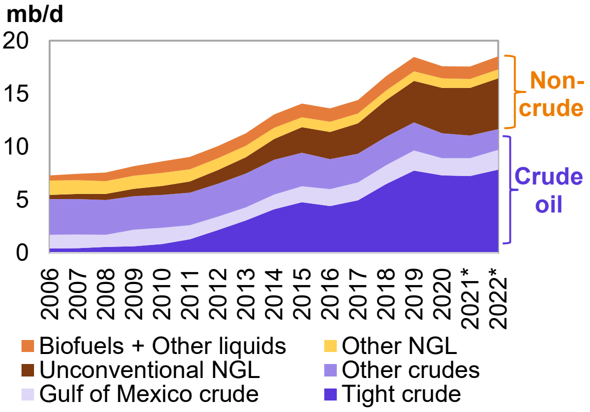
Note: Sep 20-Dec 21 = Forecast by OPEC.
Sources: EIA and OPEC.

The **US liquids production growth forecast for 2021** was revised up by 19 tb/d and now stands to decline by 0.03 mb/d y-o-y to average 17.57 mb/d. This was due to upward revisions by 77 tb/d in 3Q21, following higher-than-expected NGLs production.

Regarding the liquids breakdown, the US crude and condensate production forecast for 2021 is expected to decline by 0.23 mb/d to average 11.06 mb/d. The growth forecast for NGLs and non-conventional liquids is expected at 0.16 mb/d and 0.03 mb/d to average 5.34 mb/d and 1.17 mb/d, respectively.

US crude oil production is expected to exit December 2021 at 11.28 mb/d (as of November 2021), although production might again be affected negatively in October, as was seen in 2020. US tight and conventional crude oil are forecast to see contractions of 0.07 mb/d and 0.21 mb/d in 2021, to average 7.24 mb/d and 2.12 mb/d, respectively.

Graph 5 - 11: US liquids supply developments by component, including forecast for 2021 and 2022



*Note: * 2021-2022 = Forecast. Source: OPEC.*

US liquids production in 2022, excluding processing gains, is anticipated to grow by 0.94 mb/d y-o-y to average 18.52 mb/d, revised up by 0.11 mb/d. With the current pace of drilling and well completion in oil fields, production of crude oil is forecast to grow by 0.6 mb/d y-o-y, to average 11.66 mb/d, and to exit 2022 at 12.1 mb/d. This forecast assumes ongoing capital discipline, limited active drilling rigs, completion crews and labour shortages. NGLs and non-conventional liquids are forecast to continue to grow by 0.30 mb/d and 0.05 mb/d, respectively.

Regarding the US crude oil production forecast breakdown for 2022, production from the GoM will grow by 0.17 mb/d to average 1.87 mb/d, revised down from last month's assessment, as we revised up the GoM output for 2021 following the re-start of Shell platforms. At the same time, the US tight crude and conventional crude oil forecast was updated to account for the latest production and activity trends, with growth of 0.61 mb/d to average 7.85 mb/d, and a contraction of 0.18 mb/d to average 1.94 mb/d, respectively.

Table 5 - 4: US liquids production breakdown, mb/d

US liquids	2020	*Change 2020/19*	2021*	*Change 2021/20*	2022*	*Change 2022/21*
Tight crude	7.30	-0.47	7.24	-0.07	7.85	0.61
Gulf of Mexico crude	1.64	-0.25	1.70	0.06	1.87	0.17
Conventional crude oil	2.33	-0.29	2.12	-0.21	1.94	-0.18
Total crude	11.28	-1.01	11.06	-0.22	11.66	0.60
Unconventional NGLs	4.27	0.35	4.48	0.21	4.80	0.32
Conventional NGLs	0.91	0.00	0.86	-0.05	0.84	-0.02
Total NGLs	5.17	0.35	5.34	0.16	5.64	0.30
Biofuels + Other liquids	1.15	-0.20	1.17	0.03	1.22	0.05
US total supply	**17.61**	**-0.86**	**17.57**	**-0.03**	**18.52**	**0.94**

*Note: * 2021-2022 = Forecast. Sources: EIA, OPEC and Rystad Energy.*

US tight crude production in 2021 and 2022 is expected to show continuous y-o-y growth in the Permian Basin by 206 tb/d and 500 tb/d, to average 4.09 mb/d, and 4.59 mb/d, respectively. The forecast for the next year is revised up by 0.04 mb/d, m-o-m.

It should be noted that the EIA has undertaken considerable revisions to US tight crude production data, which have been incorporated in this month's review and forecast.

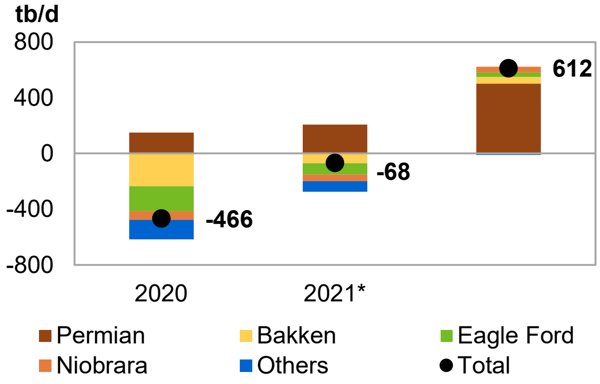
Bakken shale production fell by 0.23 mb/d in 2020 and is expected to contract by 0.07 mb/d in 2021 to average 1.11 mb/d, while for 2022, output is expected to grow by 0.05 mb/d to average 1.16 mb/d.

Eagle Ford in Texas is expected to decline this year by 0.08 mb/d, but is forecast to grow next year by 0.03 mb/d to average 1.01 mb/d.

Production in Niobrara, following a decline of 47 tb/d in this year, is likely to grow by 40 tb/d to average 0.45 mb/d in 2022. Other shale plays are not expected to grow in 2021 or 2022, given current drilling and completion activities.

US tight crude saw a contraction of 0.47 mb/d in 2020 and is expected to decline by 0.07 mb/d y-o-y this year. In 2022, production is forecast to grow by 0.61 mb/d to average 7.85 mb/d.

Graph 5 - 12: US tight crude output by shale play, y-o-y changes



*Note: * 2021-2022 = Forecast.*
Sources: EIA, Rystad Energy and OPEC.

Table 5 - 5: US tight oil production growth, mb/d

US tight oil	2020	Change 2020/19	2021*	Change 2021/20	2022*	Change 2022/21
Permian tight	3.88	0.15	4.09	0.21	4.59	0.50
Bakken shale	1.18	-0.23	1.11	-0.07	1.16	0.05
Eagle Ford shale	1.05	-0.18	0.97	-0.08	1.01	0.03
Niobrara shale	0.45	-0.06	0.41	-0.05	0.45	0.04
Other tight plays	0.74	-0.14	0.66	-0.08	0.65	-0.01
Total	**7.30**	**-0.47**	**7.24**	**-0.07**	**7.85**	**0.61**

*Note: * 2021-2022 = Forecast. Source: OPEC.*

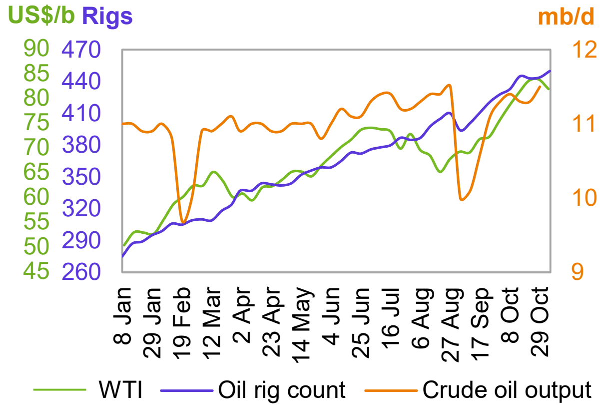
US rig count, spudded, completed, DUC wells and fracking activity

Total **US active drilling rigs** were up by 6 units w-o-w to 550 rigs in the week ended 5 November. The number of active offshore rigs remained at 13 and still is lower by 2 rigs compared to before the hurricane hit. Moreover, 535 rigs (oil & gas) were active onshore and 2 in inland waters.

The US horizontal oil rig count rose by 9 to 492 rigs, as the Permian Basin posted its biggest weekly gain since January, further adding to evidence of a renewed sense of optimism in the industry amid high oil prices and a firm demand growth outlook as the global economy recovers.

The Permian total rose by 3 w-o-w to 271 rigs, and horizontal oil rigs were up by eight to 257, pushing the onshore count higher by the same number, to 409 for oil, in its biggest gain in four weeks.

Graph 5 - 13: US weekly rig count vs US crude oil output and WTI price



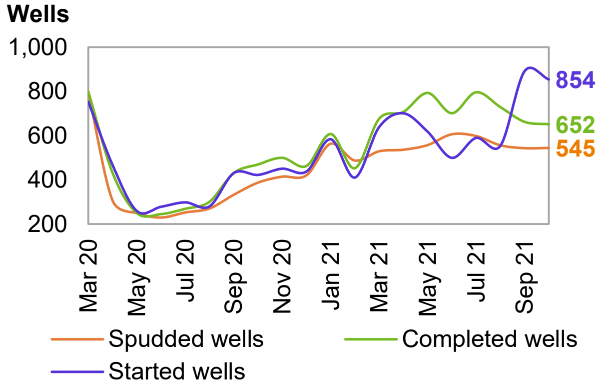
Sources: Baker Hughes, EIA and OPEC.

US rigs targeting crude oil rose by 6 units to 450 rigs, while gas rigs remained flat at 100.

Drilling and completion (D&C) activities for spudded, completed and started wells in all US shale plays saw 545 horizontal wells spudded in October (as per preliminary data), up by 1 m-o-m, but 40% higher than in October 2020.

In October 2021, preliminary data indicates a lower number of completed wells at 652, as well as a lower number of started wells at 854. However, the number of completed and started wells increased by 39% and 102% y-o-y, respectively.

Graph 5 - 14: Spudded, completed and started wells in US shale plays

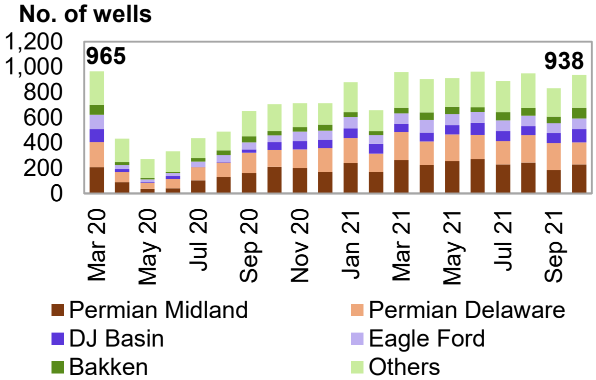


Note: October 2021 = Preliminary data.
Sources: Rystad Energy and OPEC.

Regarding identified US oil and gas fracking operations by region, Rystad Energy reported that after 832 fracking wells were seen in September, 938 started fracking in October. This preliminary number is based almost exclusively on analysis of high-frequency satellite data.

Preliminary data on fracking in October shows that 229 and 174 wells were fracked in the Permian Midland Tight and Permian Delaware Tight, respectively. Data also indicated that 106 wells were fracked in the DJ Basin compared with 83 in Eagle Ford and 86 in Bakken in North Dakota.

Graph 5 - 15: Fracked wells count per month



Note: October 2021 = Preliminary data.
Sources: Rystad Energy Shale Well Cube and OPEC.

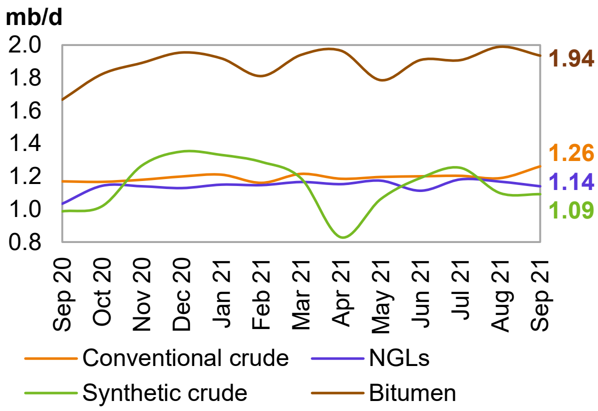
Canada

Canada's liquids production in September is estimated to have declined by 0.02 mb/d m-o-m to average 5.46 mb/d, mainly due to lower bitumen crude and NGLs output.

While production of crude bitumen and NGLs in September declined by 0.05 mb/d and 0.03 mb/d m-o-m to average 1.94 mb/d and 1.14 mb/d, respectively, conventional crude was up by 72 tb/d m-o-m to average 1.26 mb/d.

Despite lower monthly liquids output in September, Canadian liquids supply growth was revised up by 15 tb/d due to higher output in 3Q21, and now stands at 0.32 mb/d to average 5.49 mb/d in 2021.

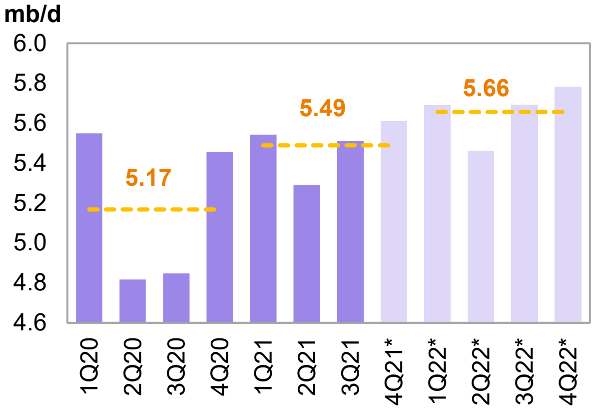
Graph 5 - 16: Canada's monthly liquids production development by type



Sources: National Energy Board and OPEC.

For **2022**, Canada's production is forecast to increase at a slower pace compared with the current year, rising by 0.17 mb/d to average 5.66 mb/d, unchanged from the previous month's assessment.

Graph 5 - 17: Canada's quarterly liquids production and forecast



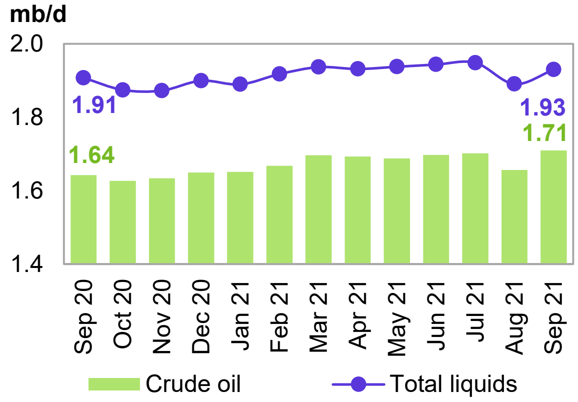
*Note: * 4Q21-4Q22 = Forecast. Source: OPEC.*

Mexico

Mexico's crude output rose in September by 52 tb/d to average 1.71 mb/d, owing to a production recovery in Ku-Maloob-Zaap that shut in for a while due to a fire in August.

However, total liquids output in September increased by 39 tb/d to average 1.93 mb/d, due to lower NGLs output by 13 tb/d m-o-m to average 216 tb/d. Mexico's state-owned Pemex has cut its crude production targets for 2021 to 1.77 mb/d, following a series of accidents, such as a fire at a platform in Campeche Sound and a leak at another shallow-water platform, and weather-related events. This is far from the original forecast in January 2021 at 1.94 mb/d. Pemex produced 1.68 mb/d during the three quarters this year and the target for 2022 is 1.95 mb/d.

Graph 5 - 18: Mexico's monthly liquids and crude production development



Sources: PEMEX and OPEC.

For **2021**, liquids production in Mexico is forecast to grow by 0.02 mb/d to average 1.93 mb/d, and for 2022 growth of 0.03 mb/d to average 1.96 mb/d is forecast.

OECD Europe

Norway

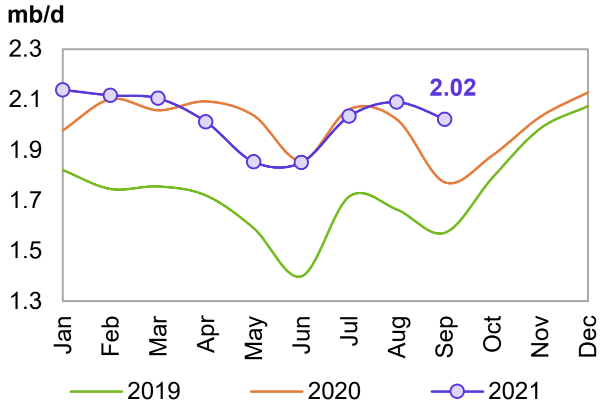
Norwegian crude production in September dropped by 39 tb/d m-o-m, to average 1.77 mb/d, up by 287 tb/d y-o-y. Production of NGLs and condensates also declined by 29 tb/d m-o-m, to average 0.25 mb/d.

Repsol Norge has produced first oil on 25 October from the re-developed Yme field in the southeastern Norwegian North Sea. At peak, the field should deliver around 56 tboe/d. Production ceased prematurely in 2001 due to low oil prices at the time. At the same time, Aker BP has commemorated 35 years of production at the Ula field in the southern Norwegian North Sea.

For **2021**, Norway's liquids supply growth forecast has been revised down by a minor 4 tb/d m-o-m due to lower-than-expected output in 3Q21 by 40 tb/d. Production is now expected to average 2.07 mb/d, with growth of 0.07 mb/d y-o-y.

For **2022**, Norwegian liquids production is expected to grow by 0.12 mb/d to average 2.20 mb/d, revised down by 0.06 mb/d owing to a re-assessment of natural decline from the mature fields which is now forecast to more than offset the growth from the anticipated start-up of new offshore projects such as Nova, Hod (redevelopment), Njord Future, Bauge and Fenja-phase 1. Moreover, Johan Sverdrup phase-2 is expected to come on-stream in late 2022, and is projected to lift Norwegian crude oil production to more than 2 mb/d.

Graph 5 - 19: Norway's monthly liquids production development



Sources: NPD and OPEC.

UK

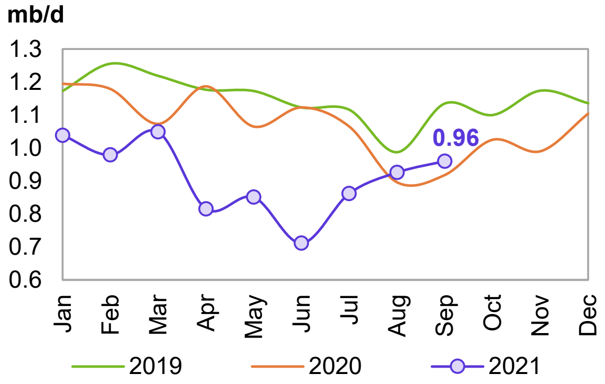
UK liquids production in September was up by 0.03 mb/d m-o-m to average 0.96 mb/d, and higher by 0.04 mb/d y-o-y. The lowest-ever production recorded this year in 2Q21 of 0.79 mb/d was due to extensive maintenance on the Forties Pipeline System (FPS), planned workovers, and a full production shut-in at the UK's largest producing field, Buzzard.

Crude oil output rose by 25 tb/d m-o-m to average 0.83 mb/d, according to official data, up by 0.02 mb/d y-o-y. NGLs output also increased by 9 tb/d m-o-m in September to average 96 tb/d.

For **2021**, UK liquids production is forecast to contract by 0.14 mb/d to average 0.92 mb/d.

For **2022**, UK liquids production is forecast to grow by 0.03 mb/d to average 0.96 mb/d, following two consecutive years of heavy declines.

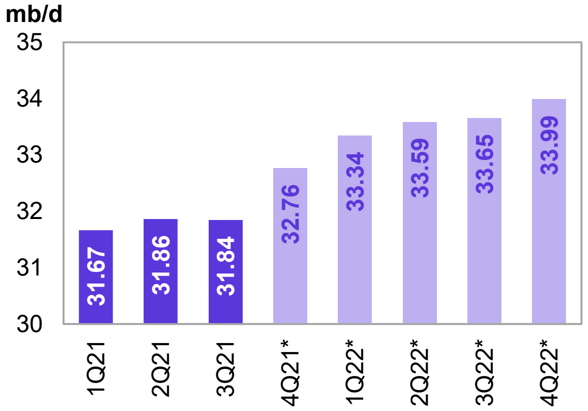
Graph 5 - 20: UK monthly liquids production development



Sources: Department of Energy & Climate Change and OPEC.

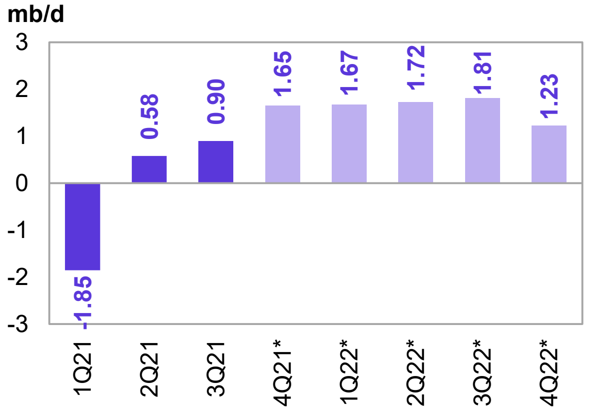
Non-OECD

Graph 5 - 21: Non-OECD quarterly liquids production and forecast



Note: * 4Q21-4Q22 = Forecast. Source: OPEC.

Graph 5 - 22: Non-OECD quarterly liquids supply, y-o-y changes

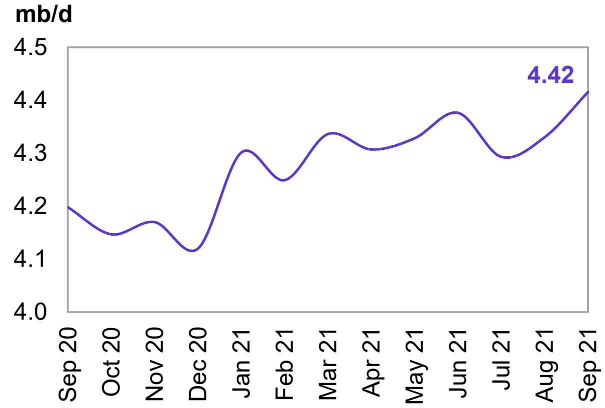


Note: * 4Q21-4Q22 = Forecast. Source: OPEC.

China

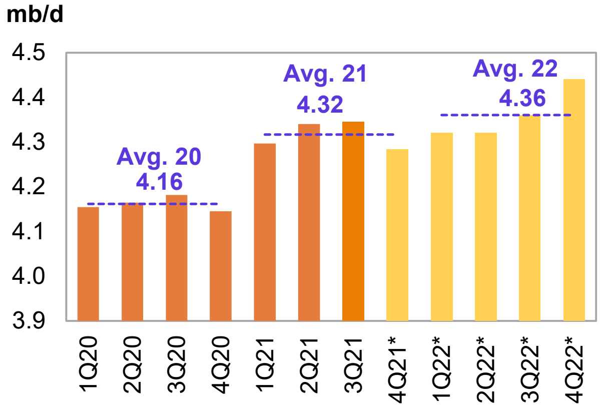
China's liquids production was up by 0.09 mb/d m-o-m to average 4.42 mb/d in September, higher by 0.22 mb/d y-o-y, according to official data. Crude oil output in September increased by 88 tb/d to average 4.1 mb/d and was higher by around 180 tb/d y-o-y.

Graph 5 - 23: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 24: China's quarterly liquids production and forecast



*Note: * 4Q21-4Q22 = Forecast. Sources: CNPC and OPEC.*

For **2021**, China's liquids supply is projected to see growth of 0.16 mb/d, revised up by 0.01 mb/d. For **2022**, growth of 0.04 mb/d is anticipated to average 4.35 mb/d.

Latin America

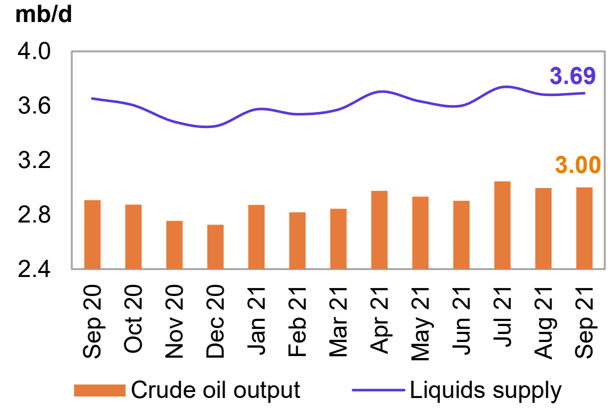
Brazil

Brazil's crude output in September was flat m-o-m at 3.0 mb/d despite the production ramp-up in the Sepia field, which had started-up in August at the Carioca FPSO at 45 tb/d. The preliminary production in October indicates a m-o-m decline in crude oil production by more than 0.15 mb/d, mainly due to maintenance in the P-76 FPSO in Buzios field. Maintenance has impacted crude production this year and this is expected to continue until the end of year. Hence, the initial forecast has been revised down m-o-m, to now stand at growth of 0.04 mb/d to average 3.72 m/d including non-crude, mainly biofuels.

In September, total liquids production was pegged at 3.69 mb/d, including biofuels and NGLs, up by 0.01 mb/d m-o-m and higher by 0.04 mb/d y-o-y.

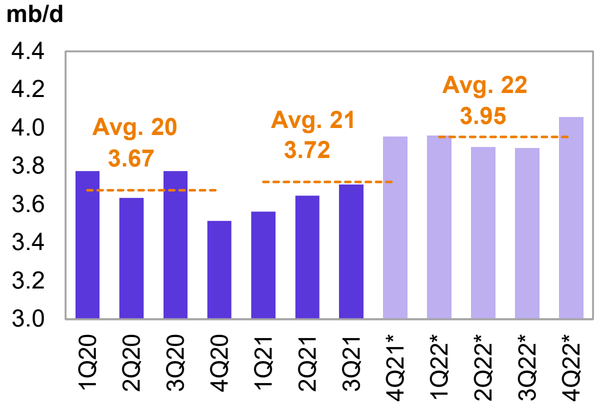
For **2022**, Brazil's liquids supply forecast, including biofuels, is set to increase by 0.24 mb/d y-o-y to average 3.95 mb/d. Crude oil production is expected to rise through two new project start-ups: Mero-1 (Guanabara), which was initially planned to start up in 2021 and Peregrino-Phase 2. Moreover, in Buzios, a fifth unit, the Almirante Barroso FPSO — to be supplied by Japan's Modec — is due to begin operation in 2022.

Graph 5 - 25: Brazil's monthly liquids production development by type



Sources: ANP, Petrobras and OPEC.

Graph 5 - 26: Brazil's quarterly liquids production and forecast



*Note: * 4Q21-4Q22 = Forecast. Sources: ANP and OPEC.*

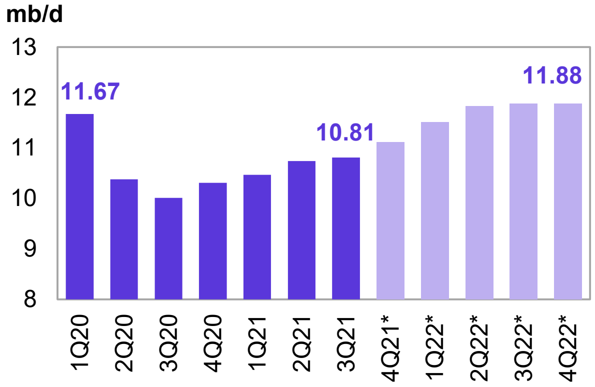
Russia

Preliminary data for **Russia's liquids production in October** shows an increase of 0.12 mb/d m-o-m to average 11.12 mb/d, higher by 0.84 mb/d y-o-y. Regarding condensate and NGLs output in October, production is estimated at the same level of the last month and a year ago, at 1.18 mb/d.

Annual liquids production in **2021** is forecast to increase by 0.19 mb/d y-o-y to average 10.78 mb/d, unchanged m-o-m.

For **2022**, Russian liquids output is expected to increase by 0.99 mb/d to average 11.78 mb/d, with 3Q22 and 4Q22 both expected to reach 11.88 mb/d, unchanged from the previous assessment.

Graph 5 - 27: Russia's quarterly liquids production and forecast



*Note: * 4Q21-4Q22 = Forecast.*
Sources: Nefte Compass and OPEC.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan recovered to 1.67 mb/d in September, following the end of maintenance in the Tengiz field, where production had dropped to 1.58 mb/d in August, but output remains lower than the July level of 1.83 mb/d. Kazakh crude production recovered by 0.1 mb/d m-o-m in September. Production of condensate and NGLs is estimated to have declined by 11 tb/d m-o-m to average 303 t/d.

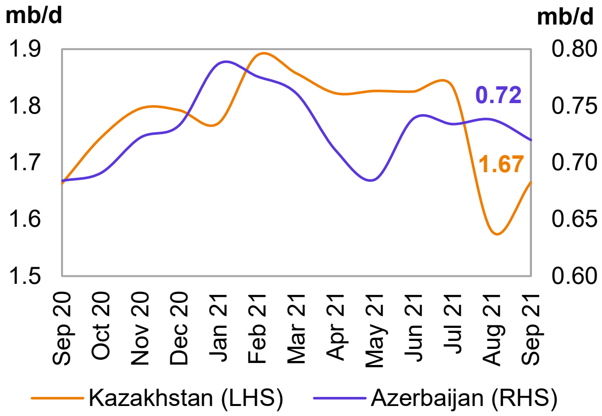
Kazakhstan liquids supply forecast for **2021** is expected to decline by 0.01 mb/d and average 1.81 mb/d, while for **2022**, liquids supply is freocast to grow by 0.17 mb/d to average 1.98 mb/d.

Azerbaijan's liquids production in September declined by 0.02 mb/d m-o-m, to average 0.72 mb/d, up by 0.04 mb/d y-o-y. While crude production declined by 10 tb/d m-o-m to average 586 tb/d, condensate output was up marginally to around 117 tb/d, according to official sources.

Azeri crude oil output has been edging lower since hitting a year-to-date high of 618 tb/d in June. Crude oil output in July was reported at 593 tb/d by JODI. Preliminary estimates also show that crude output in August and September continued at 596 tb/d and 593 tb/d, respectively.

Maintenance at the Chirag deepwater platform had begun on 23 September and was due to last 25 days. Chirag is one of six platforms that make up the BP-led Azeri-Chirag-Gunashli (ACG) complex in the Caspian Sea.

Graph 5 - 28: Caspian monthly liquids production development by selected country



Sources: Nefte Compass and OPEC.

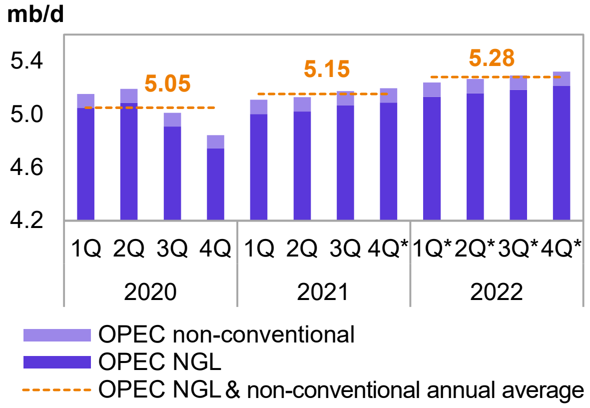
Azerbaijan's liquids supply is expected to show growth of 0.02 mb/d y-o-y to average 0.75 mb/d in 2021, while for the next year a growth of 0.07 mb/d, y-o-y to average 0.82 mb/s is anticipated.

OPEC NGLs and non-conventional oils

OPEC NGLs and non-conventional liquids in 2021 are estimated to grow by 0.10 mb/d, following a decline of 0.17 mb/d in 2020, to average 5.15 mb/d, revised down from last month's assessment by 15 tb/d due to lower output than expected in 3Q21 and 4Q21.

The preliminary **2022** forecast indicates y-o-y growth of 0.13 mb/d to average 5.28 mb/d. OPEC NGLs production is expected to grow by 0.13 mb/d to average 5.17 mb/d, while non-conventional liquids are projected to remain unchanged at 0.11 mb/d.

Graph 5 - 29: OPEC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 4Q21-4Q22 = Forecast. Source: OPEC.*

Table 5 - 6: OPEC NGL + non-conventional oils, mb/d

OPEC NGL and non-coventional oils	2020	Change 20/19	2021	Change 21/20	1Q22	2Q22	3Q22	4Q22	2022	Change 22/21
OPEC NGL	**4.94**	*-0.18*	**5.04**	*0.10*	5.13	5.16	5.18	5.21	**5.17**	*0.13*
OPEC non-conventional	**0.10**	*0.01*	**0.11**	*0.00*	0.11	0.11	0.11	0.11	**0.11**	*0.00*
Total	**5.05**	***-0.17***	**5.15**	***0.10***	**5.24**	**5.27**	**5.29**	**5.32**	**5.28**	***0.13***

Note: 2021-2022 = Forecast. Source: OPEC.

OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 27.45 mb/d in October 2021, higher by 0.22 mb/d m-o-m. Crude oil output increased mainly in Saudi Arabia, Venezuela, the UAE, and Kuwait, while production in Nigeria, Gabon and Equatorial Guinea declined.

Table 5 - 7: OPEC crude oil production based on *secondary sources*, tb/d

Secondary sources	2019	2020	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	*Change Oct/Sep*
Algeria	1,022	897	870	886	922	920	934	944	*10*
Angola	1,401	1,255	1,141	1,109	1,102	1,115	1,125	1,124	*-1*
Congo	324	288	271	261	256	254	258	273	*15*
Equatorial Guinea	117	115	106	106	99	97	100	87	*-13*
Gabon	208	195	185	186	185	178	196	179	*-17*
IR Iran	2,356	1,988	2,218	2,440	2,484	2,468	2,492	2,502	*10*
Iraq	4,678	4,049	3,881	3,940	4,053	4,056	4,142	4,149	*7*
Kuwait	2,687	2,432	2,328	2,356	2,445	2,441	2,470	2,502	*32*
Libya	1,097	367	1,175	1,151	1,154	1,153	1,149	1,164	*15*
Nigeria	1,786	1,579	1,413	1,423	1,359	1,296	1,399	1,354	*-45*
Saudi Arabia	9,794	9,182	8,445	8,503	9,538	9,539	9,649	9,759	*110*
UAE	3,094	2,802	2,610	2,644	2,762	2,774	2,790	2,828	*38*
Venezuela	796	500	517	514	532	534	533	590	*57*
Total OPEC	**29,361**	**25,650**	**25,159**	**25,522**	**26,891**	**26,826**	**27,236**	**27,453**	***217***

Notes: Totals may not add up due to independent rounding, given available secondary sources to date. Source: OPEC.

Table 5 - 8: OPEC crude oil production based on *direct communication*, tb/d

Direct communication	2019	2020	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	*Change Oct/Sep*
Algeria	1,023	899	874	886	924	921	937	949	*12*
Angola	1,373	1,271	1,136	1,125	1,114	1,129	1,110	1,106	*-4*
Congo	329	300	276	265	265	270	277	277	*0*
Equatorial Guinea	110	114	104	99	94	101	82	81	*-2*
Gabon	218	207	183	179	180	179	175	..	*..*
IR Iran	..	..	..	..	..	..	..	..	*..*
Iraq	4,576	3,997	3,846	3,890	3,979	3,961	4,093	4,070	*-23*
Kuwait	2,678	2,438	2,327	2,355	2,447	2,445	2,474	2,503	*29*
Libya	..	389	1,214	1,213	1,220	1,223	1,161	1,244	*84*
Nigeria	1,737	1,493	1,404	1,343	1,270	1,239	1,247	1,228	*-19*
Saudi Arabia	9,808	9,213	8,473	8,535	9,565	9,562	9,662	9,780	*118*
UAE	3,058	2,779	2,610	2,645	2,758	2,768	2,786	2,833	*47*
Venezuela	1,013	569	533	556	635	641	650	756	*106*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	***..***

Notes: .. Not available. Totals may not add up due to independent rounding. Source: OPEC.

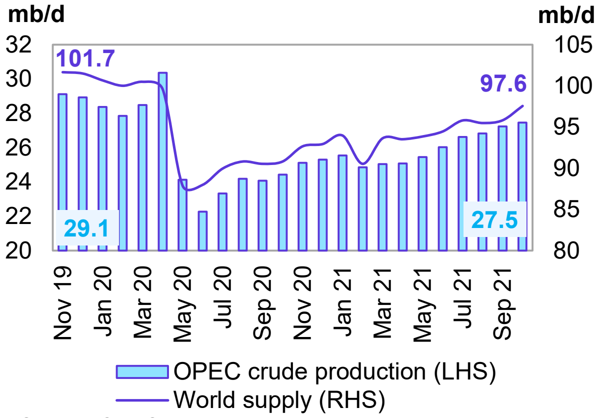
World oil supply

Preliminary data indicates that global liquids production in October increased by 1.74 mb/d to average 97.56 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) increased in October by 1.52 mb/d compared with the previous month to average 70.11 mb/d, higher by 3.71 mb/d y-o-y. Preliminary increases in production in October were driven by the OECD, particularly the US due to production recovery after Hurricane Ida, while output is likely to increase in the OECD by 0.48 mb/d m-o-m, mainly from Kazakhstan.

The **share of OPEC crude oil in total global production** decreased by 0.3 pp to 28.1% in October compared with the previous month. Estimates are based on preliminary data from direct communication for non-OPEC supply, OPEC NGLs and non-conventional oil, while estimates for OPEC crude production are based on secondary sources.

Graph 5 - 30: OPEC crude production and world oil supply development



Source: OPEC.

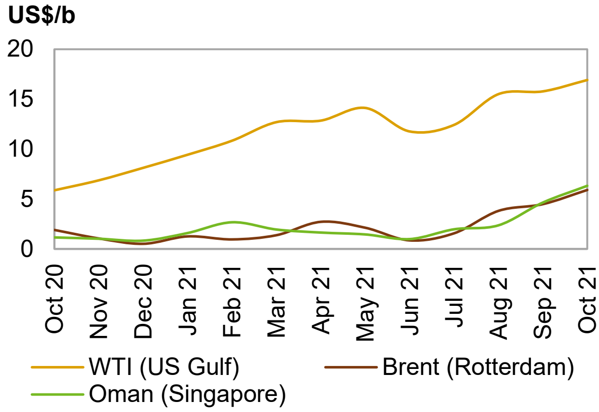
Product Markets and Refinery Operations

In October, product markets in all main trading hubs continued to strengthen, as refining margins showed an extension of their upward trend with robust gains registered at the mid-section of the barrel, and reached their highest level since before the COVID-19 pandemic in September-October 2019. Further declines in refinery processing rates attributed to peak maintenance season weighed on product inventory levels and continued to keep product balances tight. This drove middle distillates to retain their position as the strongest margin contributors in the Atlantic Basin. In Asia, sustained fuel demand amid supressed product exports from China, as they focus on supplying the national market amid the countrywide energy crises, kept refinery intakes in China somewhat limited. This ultimately led to considerable Asian fuel markets support, particularly those linked to the top and middle sections of the barrel.

Refinery margins

US Gulf Coast (USGC) refining margins increased, and extended the gains witnessed in the previous month, as a robust performance from the middle section of the barrel provided support and offset the weakness from the top and bottom sections of the barrel. USGC refinery margins in October averaged $16.89/b, which was the highest level seen since October 2019. The middle distillates tightness, combined with declines in refinery outputs during the month due to peak refinery maintenance season, drove gasoil and jet fuel markets to strengthen. Additional support emerged from Brazil, as demand for gasoil in power generation firmed up, backed by low hydropower generation capacity following severe droughts.

Graph 6 - 1: Refining margins



Sources: Argus and OPEC.

On the other hand, gasoline cracks in October showed losses, weighed down by the seasonal slowdown in gasoline demand. Similarly, USGC fuel markets linked to the bottom of the barrel also came under heavy demand side pressure, despite a tightening balance. USGC margins against WTI averaged $16.89/b in October, up by $1.14 m-o-m and by $11.04/b y-o-y.

Refinery margins in **Europe** rose and benefitted from firm product demand, growing product tightness in the region, as well as a fall in product output due to heavy maintenance works. In addition, healthy European industrial activity, as well as strong manufacturing output, continued to boost gasoil performance, and drove European gasoil crack spreads to a $3.42 m-o-m gain, which represented the second largest monthly rise in European product crack spreads across the barrel. At the same time strong revival in aviation fuel requirements attributed to a recovery in air travel drove jet/kerosene markets to outperform that of gasoil with a $3.71/b m-o-m gain in October. Natural gas prices in October remained high and limited refinery profits as units such as hydrocracking and hydro-treating were affected by high electricity costs. This situation was reported to have prompted run rate adjustments in some refineries in Europe in order to minimize the negative impact, which likely provided some short-term backing to refining economics. European refinery run rates in October decreased by 290 tb/d m-o-m, according to preliminary data, in response to the peak maintenance season in the region. In the near term, offline capacity is expected to lose momentum in line with historical trends, which could provide supply-side pressure to European product markets in the coming month. Refinery margins for Brent in Europe averaged $5.90/b in October, up by $1.42 compared with a month earlier and $3.99 y-o-y.

In **Asia**, margins showed the strongest gains relative to the other regions, supported by rising gasoil margins as the recovery in the global economy stimulated product demand. Gasoil markets, in particular, benefited also from strong requirements from the power generator sector and gasoil was sought after as a more viable fuel alternative, given the record-high natural gas and coal prices. Rising industrial consumption, as economies reopen from COVID-19 restrictions, provided stimulus to product markets, while key consuming nations, such as India, posted a boost in fuel sales back to pre-COVID levels throughout the month of October. This led to a 68% rise, m-o-m in gasoil crack spreads in Singapore against Dubai. In addition, a power shortage in China, caused by policies for lower emission targets, high thermal coal and natural gas prices have, on the one hand, limited Chinese refinery runs nationwide, while, on the other hand, heightened fuel demand amid the energy crises provided notable support to middle distillate markets within the region. Moreover, the recent curb on refinery runs aimed at removing excess fuel output, amid the reductions in crude oil import quotas as well as refined fuel exports seen in the recent months amid a hefty import tax for diesel blending components, further tightened fuel supplies, particularly that of diesel. Refinery margins for Oman in Asia gained $1.68 m-o-m to average $6.34/b in October, which was higher by $5.18 y-o-y.

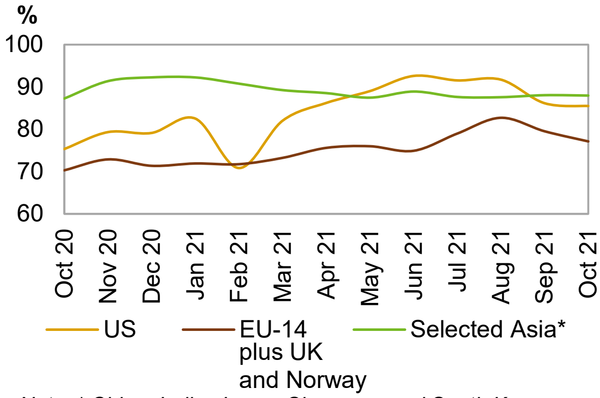
Refinery operations

US refinery utilization rates decreased in October to average 85.5%, which corresponds to a throughput of 15.50 mb/d. This represented a decline of 0.7 pp and 120 tb/d, respectively, compared with the previous month. Y-o-y, the October refinery utilization rate was up by 10.2 pp, with throughput showing a rise of 1.6 mb/d.

European refinery utilization averaged 77.1%, corresponding to a throughput of 9.19 mb/d. This is a m-o-m decline of 2.4 pp or 290 tb/d. On a y-o-y basis, utilization rates increased by 6.9 pp, while throughput was up by 524 tb/d.

In **selected Asia** – comprising of Japan, China, India, Singapore and South Korea – refinery utilization rates dropped moderately, and averaged 87.9% in October, corresponding to a throughput of 25.19 mb/d, Compared with the previous month, throughputs were down by 0.1 pp and 30 tb/d. Meanwhile, they were up y-o-y by 0.7 pp and 381 tb/d.

Graph 6 - 2: Refinery utilization rates



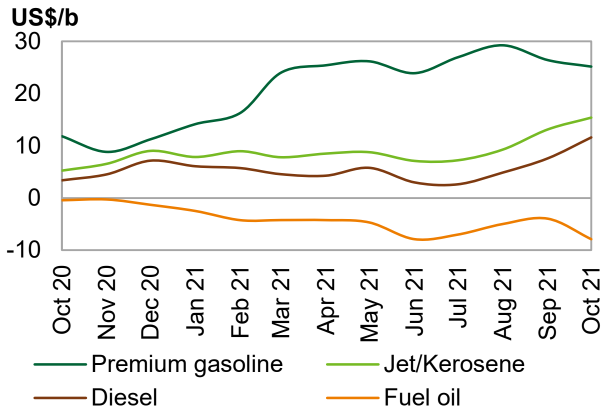
*Note: * China, India, Japan, Singapore and South Korea.*
Sources: Argus, EIA, Euroilstock, PAJ and OPEC.

Product markets

US market

US gasoline crack spreads declined for the second consecutive month, pressured by the seasonal slowdown in gasoline demand. Although gasoline inventory levels continued to fall, expectations of seasonally lower demand going forward overshadowed the support from a tightening balance. At the same time, US gasoline prices climbed to a new multi-year record high, up by $8.65 to settle at $106.51/b, in response to the narrowing gasoline balance in the country and higher crude prices. The US gasoline crack spreads lost $1.25 m-o-m to average $25.15/b in October, but were up by $13.33 y-o-y.

Graph 6 - 3: US Gulf crack spread vs. WTI



Sources: Argus and OPEC.

USGC **jet/kerosene crack spreads** rose in October to become the second best performer m-o-m across the barrel in the country, as jet fuel production rates declined m-o-m. A deliberate shift to maximize gasoil yields by US refiners, given that it was the product affected the hardest by unplanned weather-related outages witnessed in the recent weeks, likely added to the jet/kerosene bullishness. Furthermore, announced plans to relax air travel restrictions and allow foreign nationals to enter the US led to a jump in European flight bookings to the US, which ultimately may have contributed to the positive market outlook and supported jet/kerosene crack spreads. The US jet/kerosene crack spread against WTI averaged $15.39/b, up by $2.27 m-o-m and was higher by $10.18 y-o-y.

US **gasoil crack spreads** against WTI extended the upward trend and exhibited the strongest positive performance across the barrel in October, propelled by the lingering effects of sizeable cuts in production levels due to the recent hurricane-related refinery outages, amid the ongoing cut in output levels attributed to major turnarounds, leading to more severe product tightness in the US gasoil segment. Positive global economic indicators, as well as stronger gasoil exports to Brazil, resulted in added gasoil market strength. The US gasoil crack spread against WTI averaged $11.60/b, up by $4.02 m-o-m and by $8.24 y-o-y.

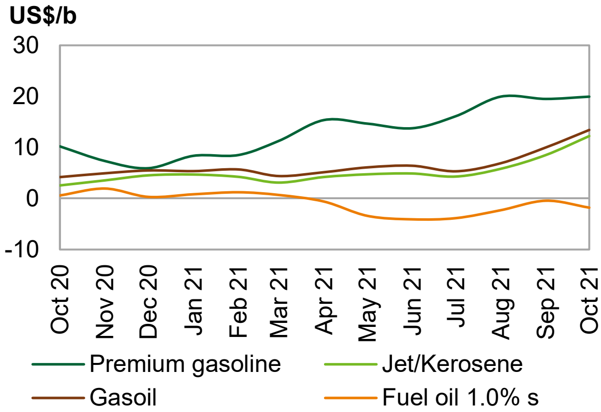
US **fuel oil crack spreads** against WTI took a downturn in October, pressured by demand-side weakness. Going forward, the end of the autumn peak maintenance season should support fuel oil markets as traders' efforts to replenish fuel stocks are expected to boost gasoline and diesel yields to the detriment of fuel oil. In October, the US fuel oil crack spread against WTI averaged minus $7.91/b, lower by $3.95 m-o-m, and lower by $7.49 y-o-y.

European market

Gasoline crack spreads rebounded from the loss registered in the previous month and exhibited gains albeit limited, as they benefitted from healthy domestic consumption, despite the seasonal weakness. Resilient mobility levels in key European economies provided support for gasoline demand. Furthermore, with regard to European gasoline exports, lower US requirements were offset by strong import requirements from West African countries, which contributed to the slight gains seen in October.

The gasoline crack spread against Brent averaged $19.94/b in October, up by 44¢ m-o-m but up by $9.75 y-o-y.

Graph 6 - 4: Rotterdam crack spreads vs. Brent



Sources: Argus and OPEC.

In October, **jet/kerosene crack spreads** against Brent extended the gains seen in the previous month, and soared to their highest since January 2020, backed by continued improvement in air travel, while excess supplies contracted as refiners further cut output of the fuel. Jet fuel markets appear to have finally taken off as more governments ease air travel restrictions. Global jet fuel demand was around 15-20% below 2019 levels, with confidence generated by rising vaccination levels leading to increased passenger flight bookings. Jet fuel/kerosene stocks were reported around 29.2% lower than the same time a year ago. The draw in stocks was encouraged by a backwardation structure in the paper market, which made jet/kerosene less profitable to be kept in storage. The monthly gain in jet/kerosene during October represented the strongest positive performer and the main margin leader across the barrel in Europe. The Rotterdam jet/kerosene crack spread against Brent averaged $12.19/b, up by $3.71 m-o-m and $9.64 y-o-y.

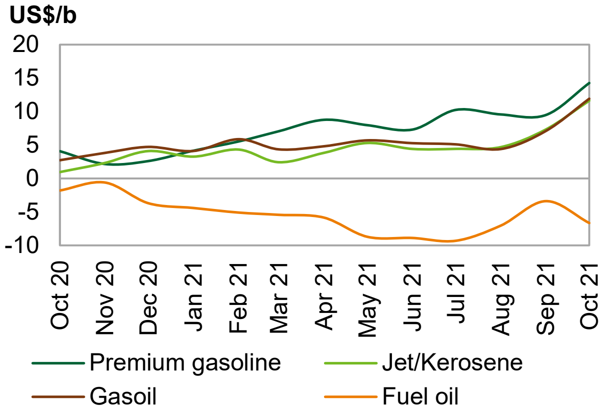
Gasoil crack spreads showed a robust performance in October, as diesel balances in the Atlantic Basin look increasingly tight for winter. Strong support from the freight and agricultural sector amid rising heating oil demand, led to a drop in middle distillate Amsterdam-Rotterdam-Antwerp storage hub inventory levels down to their lowest level since the onset of the pandemic in March 2020. European gasoil prices rose to $96.92, the highest level recorded since October 2018. The gasoil crack spread against Brent averaged $13.38/b, which was higher by $3.42 m-o-m and $9.21 y-o-y.

At the bottom of the barrel, **fuel oil 1.0% crack spreads** took a downturn in October, despite robust overall demand, as the barge market was more subdued, pressured by a recent surge in barge freight rates on the Rhine river amid decreasing water levels. The 3.5% fuel oil crack dropped as freight rates increased, with this weakness in the residual market exacerbated by falling seasonal demand from power generation companies in South Asia and the Middle East. The European very low sulphur fuel oil market also saw reduced support in the Mediterranean, while supplies were reported sufficient to meet demand. A pick-up in fuel oil exports to fulfil utility requirements going forward, amid the current high gas price environment should lend support to fuel oil markets in the near term. In Europe, fuel oil cracks averaged minus $1.82/b in October, having lost $1.36 m-o-m and $2.39 y-o-y.

Asian market

The **Asian gasoline 92 crack spread** showed a remarkable recovery, driven by a pick-up in demand amid easing COVID-19 restrictions in the region. Southeast Asian compound mobility indicators were reported to have jumped to their highest level since the start of the pandemic. Preliminary data estimates point to a more pronounced post-lockdown surge in demand in India, Indonesia and Malaysia, which has prompted a rise in gasoline import requirements. At the same time, gasoline supplies from China remain supressed, which further added to the contracting gasoline balance in the region. The Singapore gasoline crack spread against Oman in October averaged $14.25/b, up by $4.77 m-o-m but up by $10.16 y-o-y.

Graph 6 - 5: Singapore crack spreads vs. Dubai



Sources: Argus and OPEC.

Asia **naphtha crack spreads** continued to trend upwards, as rising driving demand in Asia and strength in naphtha fundamentals helped sustain light ends intakes amid lighter y-o-y naphtha cracker turnaround schedules. Strong exports to Japan, as well as firm steam cracking margins registered in early October provided support. The Singapore naphtha crack spread against Oman averaged $2.99/b, having increased by 41¢ m-o-m, and $1.81 y-o-y.

In the middle of the barrel, **jet/kerosene crack spreads** in Asia strengthened, and climbed in October to their highest level since December 2019 as air travel demand continued to recover. The gradual relaxation of travel-related and border restrictions in Asia Pacific nations, has resulted in a surge in flight bookings. The recovery in aviation fuel demand amid expectations of a near term pick-up in kerosene volumes for heating, has set the stage for a positive outlook for jet/kerosene markets, which until the previous month have been the slowest markets to recover across the barrel on a global scale since 2020. The Singapore jet/kerosene crack spread against Oman averaged $11.63/b, up by $4.32 m-o-m and $10.68 y-o-y.

The Singapore **gasoil crack spread** soared, showing the largest m-o-m gains across the Asian barrel and was supported by continued strength in fundamentals as well as the global contraction in gasoil availability. Strong industrial and manufacturing activities amid a rebound in transportation following the relaxation of pandemic related-restrictions in some nations within the region, proved supportive. At the same time, the ongoing cut in gasoil exports from China to minimize the nationwide energy crises due to the coal and natural gas shortage, has incentivised consumers to resort to India and South Korea to alleviate the shortfall in supplies, which contributed further to the strengthening. The Singapore gasoil crack spread against Oman averaged $11.92/b, up by $4.83 m-o-m and $9.19 y-o-y.

The Singapore **fuel oil 3.5% crack spread** weakened in response to ample supplies up to mid-October, on the back of high production rates in China, as well as vanishing seasonal demand from Pakistan. Although, towards the end of the month, fuel oil supplies were reported to be on decline. This shrinkage in fuel oil availability, as well as encouraging conversion margins, amid the energy crisis in China and the growing interest in alternative fuels for power generation given the high natural gas price environment, all are expected to provide support in the near term. Singapore fuel oil cracks against Oman averaged minus $6.65/b, down by $3.26 m-o-m and $4.48 y-o-y.

Table 6 - 1: Short-term prospects for product markets and refinery operations

Event	Time frame	Asia	Europe	US	Observations
Potential reinforcement of mobility restrictions	Nov 21-Dec 21	↓ Negative impact on product markets	↓ Negative impact on product markets	↓ Negative impact on product markets	Concerns over the spread of new COVID-19 variants could exert pressure on fuel consumption levels and lead to product surplus in the near term.
End of autumn refinery maintenance	Nov 21-Dec 21	↓ Negative impact on product markets	↓ Negative impact on product markets	↓ Negative impact on product markets	Refining economics are expected to soften once refineries return from maintenance and increase crude throughputs.
Potential pick-up in fuel oil and diesel markets	Nov 21-Dec 21	↑ Positive impact on fuel oil markets	↑ Positive impact on fuel oil markets	↑ Positive impact on fuel oil markets	Stronger demand for power generation should provide support to product markets in the current and coming month.
Current product tightness	Nov 21-Dec 21	↑ Positive impact on product markets	↑ Positive impact on product markets	↑ Positive impact on product markets	This is set to boost fuel sales in the immediate short term as refiners, traders, consumers are expected to replenish depleted product stock levels.

Source: OPEC.

Table 6 - 2: Refinery operations in selected OECD countries

	Refinery throughput, mb/d				*Refinery utilization, %*			
	Aug 21	Sep 21	Oct 21	Change Oct/Sep	Aug 21	Sep 21	Oct 21	Change Oct/Sep
US	**16.63**	**15.62**	**15.50**	**-0.12**	**91.71**	**86.13**	**85.47**	**-0.7 pp**
Euro-14, plus UK and Norway	**9.85**	**9.47**	**9.19**	**-0.29**	**82.69**	**79.50**	**77.09**	**-2.4 pp**
France	0.82	0.76	0.72	-0.04	71.25	66.12	62.54	-3.6 pp
Germany	1.81	1.78	1.72	-0.05	88.23	86.67	84.01	-2.7 pp
Italy	1.26	1.29	1.24	-0.05	66.26	67.89	65.37	-2.5 pp
UK	1.03	0.94	0.90	-0.04	87.55	80.39	76.65	-3.7 pp
Selected Asia*	**25.08**	**25.22**	**25.19**	**-0.03**	**87.56**	**88.04**	**87.95**	**-0.1 pp**

*Note: * Includes Japan, China, India, Singapore and South Korea.*

Sources: Argus Media, EIA, Euroilstock, NBS, PAJ and OPEC.

Table 6 - 3: Refinery crude throughput, mb/d

Refinery crude throughput	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	4Q21
OECD Americas	**19.31**	**18.96**	**16.54**	**16.24**	**16.29**	**18.18**	**18.36**	**18.34**
of which US	*17.31*	*16.99*	*14.72*	*14.32*	*14.20*	*16.17*	*16.24*	*16.16*
OECD Europe	**12.17**	**12.13**	**10.64**	**10.36**	**10.17**	**10.66**	**11.35**	**11.30**
of which:								
France	*1.10*	*1.00*	*0.67*	*0.71*	*0.58*	*0.65*	*0.79*	*0.77*
Germany	*1.80*	*1.78*	*1.72*	*1.67*	*1.58*	*1.66*	*1.76*	*1.77*
Italy	*1.35*	*1.35*	*1.11*	*1.08*	*1.06*	*1.24*	*1.25*	*1.25*
UK	*1.06*	*1.08*	*0.92*	*0.89*	*0.75*	*0.94*	*0.99*	*0.97*
OECD Asia Pacific	**6.98**	**6.79**	**5.89**	**5.88**	**5.82**	**5.49**	**5.95**	**6.19**
of which Japan	*3.11*	*3.02*	*2.48*	*2.51*	*2.56*	*2.22*	*2.59*	*2.72*
Total OECD	**38.46**	**37.88**	**33.07**	**32.49**	**32.28**	**34.33**	**35.66**	**35.82**
Latin America	**4.31**	**4.09**	**3.27**	**3.37**	**3.48**	**3.37**	**3.53**	**3.60**
Middle East	**6.98**	**6.84**	**6.02**	**6.37**	**6.46**	**6.54**	**6.69**	**6.88**
Africa	**2.16**	**2.16**	**2.02**	**2.06**	**2.14**	**2.09**	**2.11**	**2.13**
India	**4.89**	**5.04**	**4.42**	**4.73**	**4.93**	**4.55**	**4.40**	**4.82**
China	**12.03**	**13.02**	**13.48**	**14.14**	**14.12**	**14.38**	**13.76**	**13.74**
Other Asia	**5.18**	**4.95**	**4.62**	**4.49**	**4.47**	**4.70**	**4.76**	**4.87**
Russia	**5.72**	**5.70**	**5.39**	**5.29**	**5.55**	**5.52**	**5.63**	**5.70**
Other Eurasia	**1.32**	**1.30**	**1.11**	**1.24**	**1.16**	**1.23**	**1.31**	**1.36**
Other Europe	**0.63**	**0.62**	**0.49**	**0.50**	**0.46**	**0.53**	**0.48**	**0.58**
Total Non-OECD	**43.23**	**43.72**	**40.82**	**42.19**	**42.77**	**42.91**	**42.67**	**43.68**
Total world	**81.70**	**81.60**	**73.90**	**74.67**	**75.05**	**77.23**	**78.33**	**79.51**

Note: Totals may not add up due to independent rounding.

Sources: AFREC, APEC, EIA, IEA, Euroilstock, PAJ, Ministry data, including Ministry of Energy of the Russian Federation, Ministry of Petroleum and Natural Gas of India, OPEC and JODI.

Table 6 - 4: Refined product prices, US$/b

		Sep 21	Oct 21	Change Oct/Sep	Annual avg. 2020	Year-to-date 2021
US Gulf (Cargoes FOB)						
Naphtha*		75.40	85.42	10.02	38.31	69.01
Premium gasoline	(unleaded 93)	97.86	106.51	8.65	51.89	90.25
Regular gasoline	(unleaded 87)	92.15	101.61	9.46	47.72	85.54
Jet/Kerosene		84.58	96.75	12.17	46.83	75.88
Gasoil	(0.2% S)	79.04	92.96	13.92	44.92	72.09
Fuel oil	(3.0% S)	65.14	72.89	7.75	34.72	58.84
Rotterdam (Barges FoB)						
Naphtha		75.19	84.42	9.23	39.00	68.30
Premium gasoline	(unleaded 98)	93.89	103.48	9.59	51.34	83.94
Jet/Kerosene		82.87	95.73	12.86	45.72	74.86
Gasoil/Diesel	(10 ppm)	84.35	96.92	12.57	49.17	76.06
Fuel oil	(1.0% S)	73.93	81.72	7.79	40.87	67.81
Fuel oil	(3.5% S)	64.71	73.48	8.77	37.71	60.52
Mediterranean (Cargoes FOB)						
Naphtha		74.92	83.83	8.91	37.58	67.65
Premium gasoline**		87.67	96.60	8.93	45.41	78.89
Jet/Kerosene		81.21	93.58	12.37	43.06	72.83
Diesel		83.98	96.36	12.38	48.55	75.59
Fuel oil	(1.0% S)	75.26	83.38	8.12	43.54	69.08
Fuel oil	(3.5% S)	63.76	71.40	7.64	33.31	58.21
Singapore (Cargoes FOB)						
Naphtha		75.15	84.45	9.30	40.66	68.79
Premium gasoline	(unleaded 95)	84.06	98.48	14.42	46.59	78.05
Regular gasoline	(unleaded 92)	82.05	95.71	13.66	44.99	76.14
Jet/Kerosene		79.88	93.09	13.21	44.75	72.86
Gasoil/Diesel	(50 ppm)	82.56	95.09	12.53	49.19	75.15
Fuel oil	(180 cst)	79.46	93.10	13.64	47.86	73.34
Fuel oil	(380 cst 3.5% S)	69.18	74.81	5.63	36.75	61.23

*Note: * Barges. ** Cost, insurance and freight (CIF).*

Sources: Argus and OPEC.

Tanker Market

Dirty tanker spot freight rates continued to show some positive momentum in October, with gains across all classes. Rates benefited from a general pick-up in activity starting at end-September. VLCCs and Suezmax enjoyed the highest rates so far this year, with average gains of 16% and 29% m-o-m respectively, while Aframax rates were up 22% m-o-m. For VLCCs, the Middle East-to-East route averaged WS42, up 17% m-o-m. For Suezmax, the West Africa-to-US Gulf Coast averaged WS65 for a gain of 35%.

Meanwhile, clean tanker spot rates also strengthened, as a 22% gain in West of Suez offset a 6% decline in the East.

The tanker market is expected to see a continued improving performance through the end of the year as concerns regarding a winter energy crunch in the power sector as well as a pick-up in economic activity supports tonnage demand for crude and products. However, higher bunker costs will limit earnings.

Spot fixtures

The latest estimates show **global spot fixtures** declined in October after a strong performance in September. Fixtures averaged 14.54 mb/d, representing a decline of 1.7 mb/d, or 10% m-o-m. Compared to the previous year, spot fixtures were 0.3 mb/d, or around 2%, lower.

Table 7 - 1: Spot fixtures, mb/d

Spot fixtures	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
All areas	14.53	16.21	14.54	-1.67
OPEC	9.87	11.11	9.52	-1.59
Middle East/East	5.90	6.98	5.65	-1.33
Middle East/West	0.88	0.87	1.19	0.32
Outside Middle East	3.09	3.26	2.68	-0.58

Sources: Oil Movements and OPEC.

OPEC spot fixtures declined m-o-m in October, falling by close to 1.6 mb/d, or around 14% m-o-m, to average 9.52 m/b. Compared with the same month last year, OPEC spot fixtures were about 0.4 mb/d, or around 4%, lower.

Middle East-to-East fixtures declined by 1.3 mb/d, or almost 20%, m-o-m to average 5.7 mb/d. This was a decline of around 0.3 mb/d, or more than 4%, compared to the same month last year.

Fixtures from the **Middle East-to-West** saw an increase in October, rising 0.3 mb/d, or 37%, m-o-m to average 1.2 mb/d. However, the route was around 3% lower compared to the same month last year.

Outside the Middle East, fixtures declined by 0.6 mb/d, or 18%, m-o-m to average 2.7 mb/d in October. Y-o-y, fixtures were around 2% lower.

Sailings and arrivals

OPEC sailings edged up marginally m-o-m in October to average 22.4 mb/d. Y-o-y, OPEC sailings were 1.4 mb/d, or about 7%, higher than in the same month last year.

Middle East sailings fell back m-o-m in October, declining by 0.3 mb/d, or about 2%, to average 16.3 mb/d. Y-o-y, sailings from the region rose 0.9 mb/d, or around 6%, compared with the same month last year.

Crude arrivals in October declined after the end of the driving season in the west, but picked up in the east.

Arrivals in North America fell by 0.3 mb/d, or around 3%,m-o-m to average 8.8 mb/d. Compared with the same month last year, arrivals were 0.9 mb/d, or 12%, higher. Arrivals in Europe were relatively steady m-o-m in October, averaging 12.6 mb/d, but 2.6 mb/d, or 26%, higher than the same month last year.

In the Far East, arrivals increased by 0.6 mb/d, or around 5%, m-o-m to average 13.6 mb/d. Y-o-y, arrivals were 3.9 mb/d, or around 40%, higher. West Asia arrivals rose by 0.3 mb/d, or 4% m-o-m, in October to average 7.3 mb/d, representing an increase of 2.1 mb/d, or amost 40%, compared to the same month last year.

Table 7 - 2: Tanker sailings and arrivals, mb/d

Sailings	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
OPEC	20.69	22.35	22.42	0.07
Middle East	15.61	16.62	16.34	-0.28
Arrivals				
North America	9.07	9.07	8.76	-0.31
Europe	12.70	12.62	12.59	-0.03
Far East	14.19	13.02	13.62	0.60
West Asia	7.17	7.06	7.34	0.28

Sources: Oil Movements and OPEC.

Dirty tanker freight rates

Very large crude carriers (VLCCs)

VLCC spot rates saw some welcome momentum in October, gaining 16% m-o-m, with improvements across all major routes, supported by preparations for seasonal heating demand. Y-o-y, VLCC rates were up by 44% over the poor performance seen in the previous year.

Rates on the **Middle East-to-East** route rose 17% m-o-m to average WS42 points, posting the second-consecutive month of gains. Y-o-y, rates were 56% higher.

Rates on the **Middle East-to-West** route also continued moving higher, gaining 9% in October to stand at WS24 points amid steady flows to the US. Y-o-y, rates were 33% higher.

The **West Africa-to-East** route also built momentum, gaining 19% m-o-m in October to average WS44 with some spillover from the improving Suezmax market into the Atlantic Basin. Rates were 47% higher compared with October 2020.

Table 7 - 3: Dirty VLCC spot tanker freight rates, Worldscale (WS)

VLCC	Size *1,000 DWT*	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
Middle East/East	230-280	31	36	42	6
Middle East/West	270-285	21	22	24	2
West Africa/East	260	33	37	44	7

Sources: Argus and OPEC.

Suezmax

Suezmax rates also surged ahead in October, rising by 29% m-o-m, supported by an improving tonnage demand out of West Africa. Rates were 138% higher compared to the exceptional lows seen in the same month last year.

On the **West Africa-to-USGC** route, rates jumped 35% m-o-m to average WS65, driven by rising tonnage demand in the region. Rates were 150% higher than the exceptional lows seen in October 2020.

Spot freight rates on the **USGC-to-Europe** route showed strong gains for the second month in a row, surging 20% m-o-m to average WS59 points. This was a 127% gain compared to the same month last year.

Table 7 - 4: Dirty Suezmax spot tanker freight rates, WS

Suezmax	Size *1,000 DWT*	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
West Africa/US Gulf Coast	130-135	50	48	65	17
US Gulf Coast/ Europe	150	38	49	59	10

Sources: Argus and OPEC.

Aframax

The rise in **Aframax** rates accelerated in October, increasing 22% m-o-m on average as a general lift in the tanker market boosted demand amid increased demand for dirty products in the power sector. Y-o-y, rates were 104% higher.

The **Indonesia-to-East** route recovered most of the previous month's losses in October to rise by 10% m-o-m for an average of WS98, which was 78% higher than in the same month last year. The **Caribbean-to-USEC** route rose by 24% m-o-m to average WS130, while rates were 183% higher y-o-y.

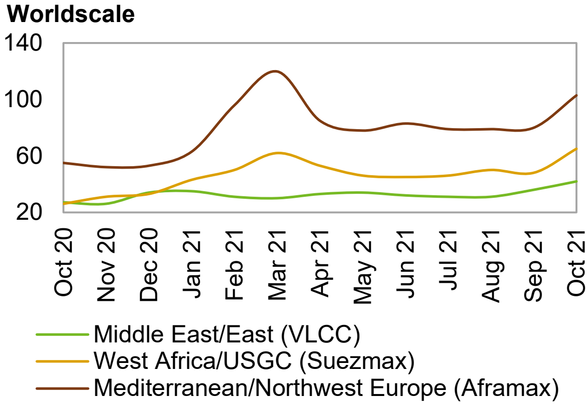
Table 7 - 5: Dirty Aframax spot tanker freight rates, WS

Aframax	Size *1,000 DWT*	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
Indonesia/East	80-85	100	89	98	9
Caribbean/US East Coast	80-85	83	105	130	25
Mediterranean/Mediterranean	80-85	86	89	109	20
Mediterranean/Northwest Europe	80-85	79	80	103	23

Sources: Argus and OPEC.

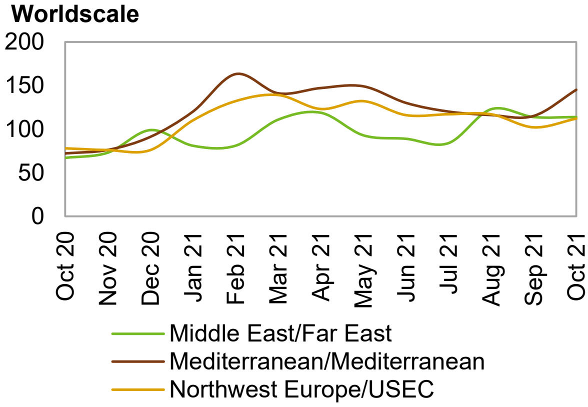
Med routes also enjoyed robust gains October. The **Cross-Med** route averaged WS109 in October, representing an increase of 22% compared with the previous month. Y-o-y, rates were 82% higher. On the **Mediterranean-to-NWE** route, rates saw bigger gains, rising by 29% m-o-m, to average WS103. Compared with the same month last year, rates on the route were 87% higher.

Graph 7 - 1: Crude oil spot tanker freight rates, monthly average



Sources: Argus and OPEC.

Graph 7 - 2: Products spot tanker freight rates, monthly average



Sources: Argus and OPEC.

Clean tanker freight rates

Average **clean spot freight rates** saw mixed movements in October. Strong gains West of Suez outpaced softer declines on East of Suez routes to show an average increase of 9%. Rates in the west jumped 22% m-o-m, while East of Suez rates slipped 6% m-o-m for the second straight monthly loss.

Table 7 - 6: Clean spot tanker freight rates, WS

East of Suez	Size *1,000 DWT*	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
Middle East/East	30-35	123	114	114	0
Singapore/East	30-35	158	155	139	-16
West of Suez					
Northwest Europe/US East Coast	33-37	117	102	112	10
Mediterranean/Mediterranean	30-35	116	115	145	30
Mediterranean/Northwest Europe	30-35	125	121	154	33

Sources: Argus and OPEC.

In the West of Suez market, rates on the **NWE-to-USEC** route rose 10% m-o-m to average WS112 points. Compared to the same month last year, rates were 44% higher.

Rates on the **Cross-Med** and **Med-to-NWE** routes increased by 26% and 27%, respectively, to average WS145 and WS154 points. Y-o-y, rates were up by more than 100% in both markets.

In the East of Suez, rates on the **Middle East-to-East** route were flat at WS114, but were up by 70% y-o-y. Freight rates on the **Singapore-to-East** route declined by 10% m-o-m to average WS139. Rates were still 36% higher compared with October 2020.

Crude and Refined Products Trade

Preliminary data shows US crude imports in October eased from the high levels seen over the summer to average 6.1 mb/d, while crude exports continue an alternating pattern of rises and dips, this time on the up side with 2.8 mb/d supported by a pickup of flows to Europe.

China's crude imports fell back in September, averaging 10.0 mb/d as independent refiners remained on the sidelines due to a lack of crude import quotas.

In India, crude imports hit a five-month high, averaging 4.3 mb/d in September, as refiners boosted runs amid a recovery in economic activity.

Japan's crude imports declined from the previous month's peak, but still remained at a relatively good level of 2.5 mb/d in September as refiners looked toward preparations for winter.

In OECD Europe, the latest data for July shows crude imports remaining strong at around 8.6 mb/d, while crude exports continued to edge higher reaching 0.4 mb/d amid a return of flows to Asia.

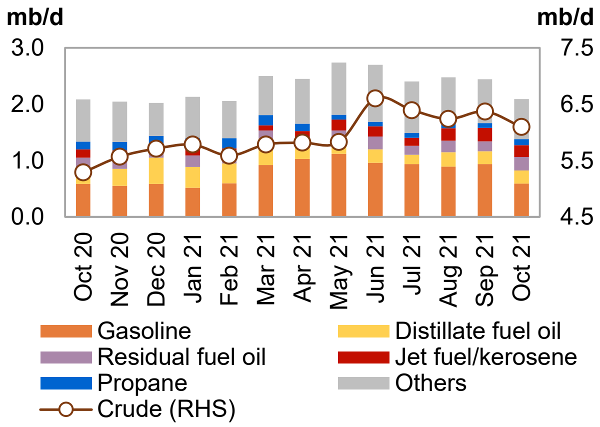
US

Preliminary data shows **US crude imports** eased from the higher levels seen over the summer, averaging 6.1 mb/d in **October**. Crude inflows declined 0.3 mb/d or around 4% m-o-m. However, compared with the same month last year, crude imports were 0.8 mb/d, or 15%, higher.

Preliminary data for **US crude imports by source** for October shows strong gains in flows from Canada, which coincided with the 760-tb/d Enbridge Line-3 pipeline replacement coming onstream. Canada's flows averaged around 0.3 mb/d or 10% higher over the month. In contrast, Mexico's flows into the US declined 0.1 mb/d or 20%.

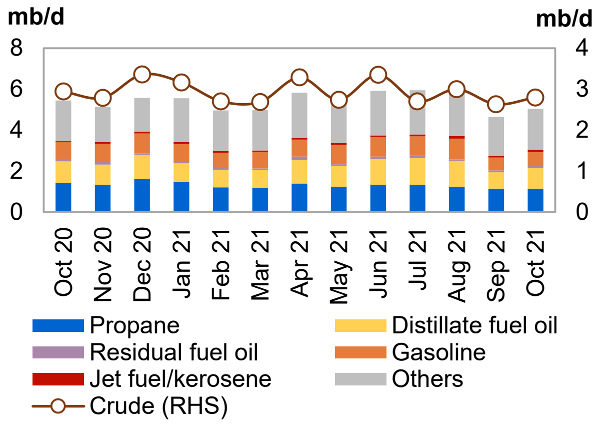
US crude exports averaged 2.8 mb/d in October, continuing an alternating pattern of rises and dips. This time the uptick was supported by a pickup of flows to Europe. Exports were 0.2 mb/d or 6% higher m-o-m. Compared with the same month last year, crude exports were around 0.1 mb/d lower, representing a drop of around 5%.

Graph 8 - 1: US imports of crude and products



Sources: EIA and OPEC.

Graph 8 - 2: US exports of crude and products



Sources: EIA and OPEC.

The latest monthly data for **US crude exports by destination** for **August** shows outflows remaining relatively steady. India was the leading destination with flows of 0.4 mb/d, followed by Canada and South Korea with 0.3 mb/d each.

US net crude imports averaged 3.3 mb/d in **October**, compared with 3.7 mb/d the month before and 2.4 mb/d in the same month last year.

On the **product** side, preliminary data shows **US product imports** tapered off in October, falling to 2.1 mb/d, as gasoline imports declined with the end of the driving season. This represents a m-o-m drop of 0.4 mb/d or more than 14%. Compared with the same period last year, product imports were broadly unchanged.

Product exports recovered from a storm-impacted five-year low the month before to average around 5.0 mb/d in October. Product outflows were 0.4 mb/d or around 8%, higher m-o-m. Compared with the same month last year, product exports were 0.4 mb/d, or 7%, lower.

As a result, preliminary data shows **US net product exports** averaged around 3.0 mb/d in October, compared with 2.2 mb/d in the previous month and 3.4 mb/d in the same month last year.

Table 8 - 1: US crude and product net imports, mb/d

US	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
Crude oil	3.24	3.74	3.30	-0.44
Total products	-3.43	-2.21	-2.95	-0.74
Total crude and products	**-0.19**	**1.53**	**0.34**	**-1.18**

Note: Totals may not add up due to independent rounding.
Sources: EIA and OPEC.

Preliminary data indicates that the US **net crude and product imports** averaged 0.3 mb/d in October, as crude imports remained at good levels and as product exports remained soft. This compares with net imports of 1.5 mb/d the month before and net exports of almost 1.0 mb/d in October 2020, which highlights the volatility in the US net liquids figures over the past year.

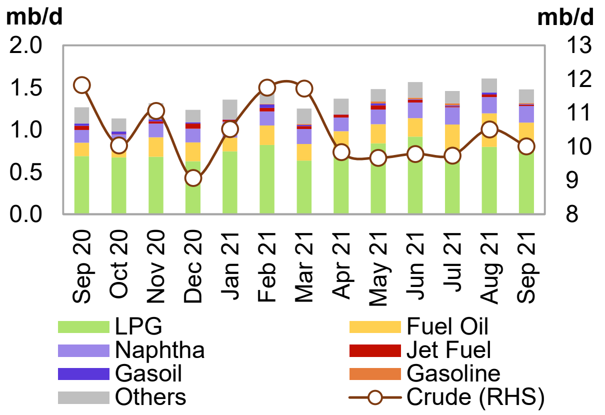
Looking ahead, US crude imports should benefit from seasonal support in the final months of the year, while crude exports are expected to remain at the current stable levels. Product flows should see some seasonal support later in 4Q.

China

China's crude imports fell back from the previous month's surge, averaging 10.0 mb/d in **September** as independent refiners remained on the sidelines due to a lack of crude import quotas. Compared to the previous month, crude inflows declined 0.5 mb/d or 5%. The September figures were 1.8 mb/d or 15% lower than the inflated levels seen in the same month last year, when importers took advantage of low oil prices to build inventories. Preliminary data for October shows China's crude imports fell markedly, averaging 8.9 mb/d, the lowest since 2018, as both state-run refiners and independents limited buying amid destocking.

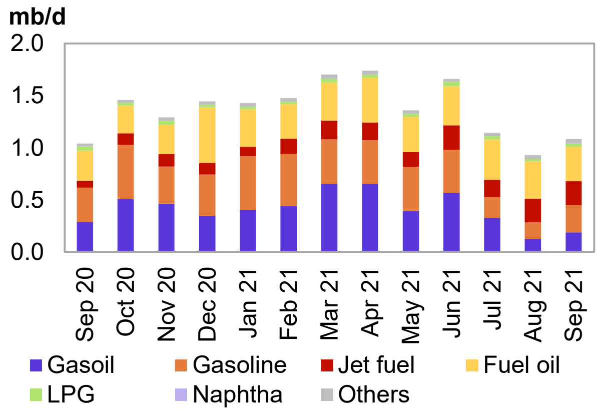
In terms of **crude imports by source**, Saudi Arabia remained at the top position in September with a share of over 19%. Russia was second with a share of 15% and Iraq was third with over 11%.

Graph 8 - 3: China's import of crude and total products



Sources: China, Oil and Gas Petrochemicals and OPEC.

Graph 8 - 4: China's export of total products



Sources: China, Oil and Gas Petrochemicals and OPEC.

Products imports declined by around 8% or 0.1 mb/d to average 1.5 mb/d in September, primarily driven by declines in fuel oil, although volumes for that product were robust y-o-y. Independent refiners have been utilizing fuel oil as a feedstock due to lack of access to crude import quotas, which were only issued mid-October. Product imports were and down 0.2 mb/d or 17% compared to the same month last year.

Product exports recovered from a 13-month low the month before to average 0.9 mb/d in September, driven by higher outflows of diesel, prior to concerns about a shortage over winter. Product exports were 0.2 mb/d or 17% lower m-o-m but some 4% higher y-o-y.

Table 8 - 2: China's crude and product net imports, mb/d

China	Jul 21	Aug 21	Sep 21	Change Sep 21/Aug 21
Crude oil	9.60	10.52	10.00	-0.52
Total products	0.31	0.67	0.40	-0.28
Total crude and products	**9.91**	**11.19**	**10.39**	**-0.79**

Note: Totals may not add up due to independent rounding.
Sources: China, Oil and Gas Petrochemicals and OPEC.

As a result, China remained a **net product importer** for the third-consecutive month in September, with net product imports averaging 0.4 mb/d, compared with net imports of 0.7 mb/d the month before and 0.2 mb/d in the same month last year. Given the shift in government policy toward the refining sector, it is likely that China will remain on the net import side, particularly over the winter months.

Looking ahead, with the issuance of a final round of crude import quotas, crude imports may lift in the final months of the year. Product exports are expected to decline sharply for all products except jet fuel as the government prioritizes the domestic market.

India

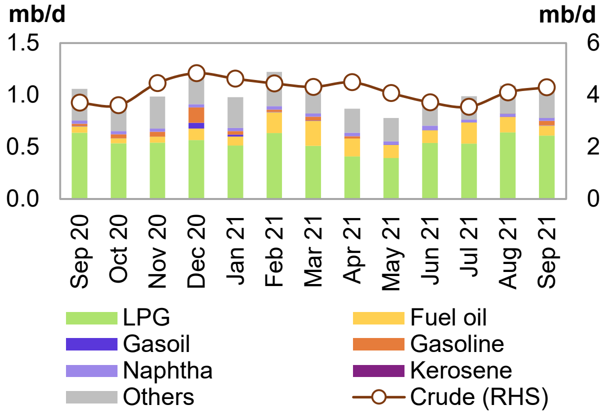
India's crude imports hit a five-month high in September, averaging 4.3 mb/d as refiners boosted runs amid a recovery in economic activity. Compared with the previous month, crude imports rose 0.2 mb/d, or around 5%. Imports were also 0.6 mb/d, or 16%, higher than in the same month last year.

In terms of **crude imports by source**, the latest data for **August** shows Iraq continued at the top position with a share of almost 22%, despite a decline in its share. Saudi Arabia was second with around 16%, followed by the United States with around 14%. The United Arab Emirates was fourth with 10%.

For **products, imports** remained steady above 1 mb/d for the second month in a row, averaging 1.1 mb/d, as a jump in gasoline imports partially offset declines in fuel oil and LPG. Product inflows in September were around 3% or 31 tb/d lower m-o-m but broadly unchanged compared with the same month last year.

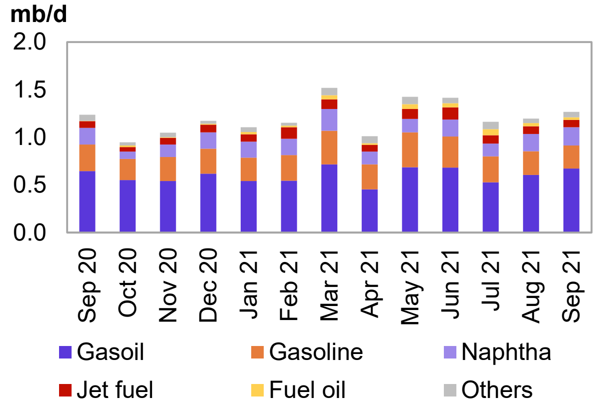
Product exports continued to climb, averaging 1.3 mb/d in September, driven by gains in diesel. Product outflows were around 6% or 72 tb/d higher m-o-m and up 3% or 31 tb/d y-o-y.

Graph 8 - 5: India's imports of crude and products



Sources: PPAC and OPEC.

Graph 8 - 6: India's exports of products



Sources: PPAC and OPEC.

As a result, **net product exports** averaged 207 tb/d in September, compared with 105 tb/d the month before and 178 tb/d in the same month last year.

Looking ahead, crude imports should see continued gains through the end of the year, as the economic momentums strengthens and refiners continue to boost runs. Rising consumption could keep imports close to current levels and weigh on product exports. However, with Chinese refiners expected to curtail exports of products except for jet fuel, this leaves a hole in regional product supply flows that Indian refiners will no doubt seek to fill.

Table 8 - 3: India's crude and product net imports, mb/d

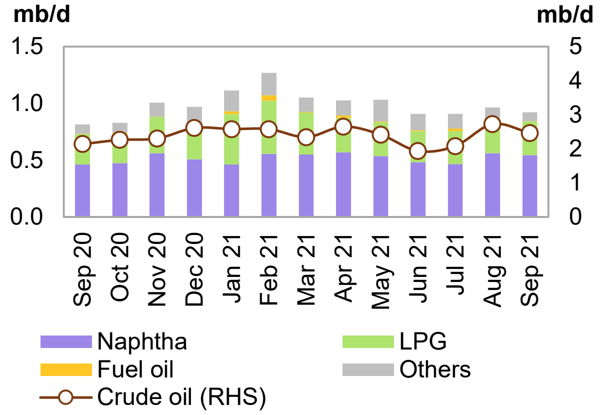
India	Jul 21	Aug 21	Sep 21	*Change* Sep 21/Aug 21
Crude oil	3.55	4.11	4.30	0.19
Total products	-0.17	-0.10	-0.21	-0.10
Total crude and products	**3.37**	**4.00**	**4.09**	**0.09**

Note: Totals may not add up due to independent rounding.
India data table does not include information for crude import and product export by Reliance Industries.
Sources: PPAC and OPEC.

Japan

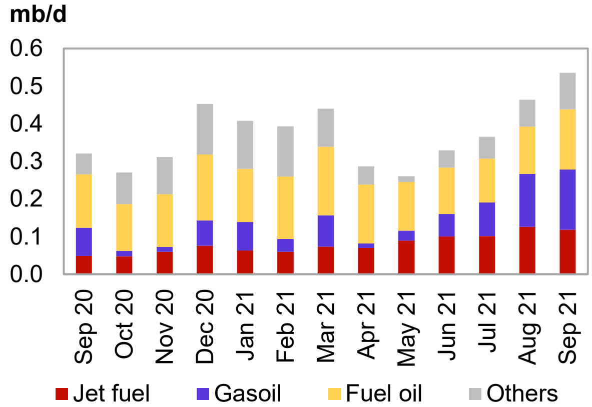
Japan's **crude imports** declined in September from the previous month's peak, but still remained at a relatively good level of 2.5 mb/d as refiners prepared for colder weather. Crude imports were 260 tb/d or around 10% lower than in the previous month but 327 tb/d or 15% higher y-o-y.

Graph 8 - 7: Japan's imports of crude and products



Sources: METI and OPEC.

Graph 8 - 8: Japan's exports of products



Sources: METI and OPEC.

In terms of shares of **crude imports by source**, UAE continued at the top spot with a share of 36%. Saudi Arabia was second, with a share of 35%, followed by Qatar and Kuwait, with around 8% each.

Product imports including LPG edged lower, remained below 1 mb/d for the fourth month in a row, averaging 922 tb/d, with slight declines across all products. Product inflows were down 44 tb/d or around 5% from the previous month but rose by around 13% compared with the same month last year.

Product exports including LPG have risen steadily since May to average 535 tb/d in September, with gains in gasoline, fuel oil and gasoil, offsetting declines in jet and kerosene. Compared with the previous month, product exports were 72 tb/d or around 16% higher. Y-o-y, product inflows were up 214 tb/d or almost 67%.

Table 8 - 4: Japan's crude and product net imports, mb/d

Japan	Jul 21	Aug 21	Sep 21	*Change* Sep 21/Aug 21
Crude oil	2.08	2.73	2.47	-0.26
Total products	0.54	0.50	0.39	-0.12
Total crude and products	**2.63**	**3.23**	**2.85**	**-0.38**

Note: Totals may not add up due to independent rounding.
Sources: METI and OPEC.

As a consequence, Japan's **net product imports** averaged 386 tb/d in September, down from 502 tb/d the month before and 495 tb/d in September 2020.

Looking ahead, with policy makers concerned about ensuring sufficient supplies with the onset of colder weather, Japan's crude and product imports are likely to strengthen in the coming months.

OECD Europe

The most recent available official data show **OECD Europe crude imports** remained strong in July, averaging 8.5 mb/d. Imports were largely unchanged m-o-m, but were 0.6 mb/d or almost 8% higher than July 2020.

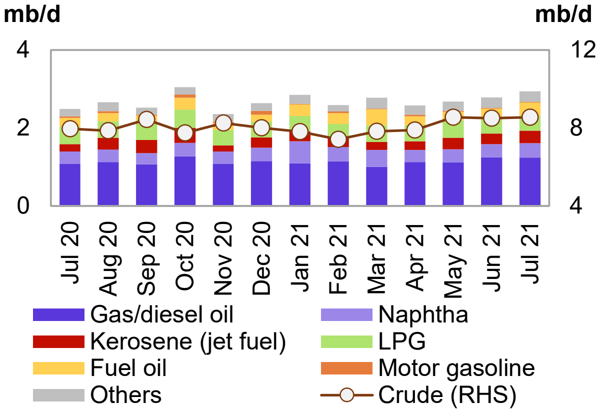
In terms of **source of imports**, Iraq took over the top spot, supplying 964 tb/d to OECD Europe in July, which still represents a decline of 9% m-o-m. The US fell to second place with 941 tb/d, down 17% m-o-m. Libya was third with 813 tb/d, up 13% m-o-m.

Crude exports into the region continued to edge higher to mark a three-month high of 0.4 mb/d in July. This represents an increase of 84 tb/d or more than 26%. Compared with the same period last year, crude exports were 43 tb/d, or about 10%, lower.

In terms of **destinations**, China was the top buyer of OECD Europe crude exports outside the region, averaging 248 tb/d in July. This represents an increase of 85% or 114 tb/d. Korea was second with 81 tb/d followed by India with 34 tb/d and Canada with 21 tb/d. Flows to the US declined 57% m-o-m in July to average 19 tb/d.

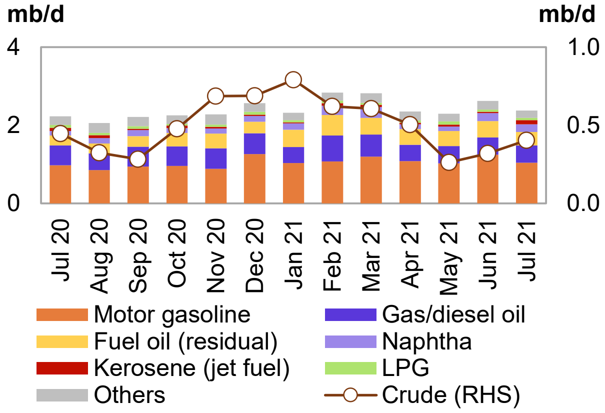
As a result, **net crude imports** averaged just under 8.2 mb/d in July, marginally lower compared to the month before. In July 2020, net crude imports stood at around 7.5 mb/d.

Graph 8 - 9: OECD Europe imports of crude and products



Sources: IEA and OPEC.

Graph 8 - 10: OECD Europe exports of crude and products



Sources: IEA and OPEC.

On the **product** side, **imports** picked up in July, averaging 2.9 mb/d, driven by strong growth in fuel oil, jet kero and naphtha. Product imports were around 6%, or 0.2 mb/d, higher m-o-m and 0.5 mb/d or 18% higher than the level seen in June 2020.

Meanwhile, **product exports** fell back, averaging 2.3 mb/d, with declines seen in most major products, particularly gasoline. Outflows were around 0.2 mb/d or just over 9% lower than in the previous month and around 0.2 mb/d or 7% higher y-o-y.

As a result, the region was a **net product importer** in July, registering net inflows of 0.6 mb/d, compared with 0.2 mb/d the month before and 0.3 mb/d in the same month last year.

Table 8 - 5: OECD Europe's crude and product net imports, mb/d

OECD Europe	May 21	Jun 21	Jul 21	*Change* Jul 21/Jun 21
Crude oil	8.29	8.18	8.15	-0.04
Total products	0.39	0.16	0.55	0.40
Total crude and products	**8.68**	**8.34**	**8.70**	**0.36**

Note: Totals may not add up due to independent rounding.

Sources: IEA and OPEC.

Combined, **net crude and product imports** averaged 8.7 mb/d in July, up from 8.3 mb/d the month before and 7.8 mb/d in July 2020.

Looking ahead, more recent data showed crude imports strengthening in 3Q21, with higher inflows from the US. Tanker tracking data shows OECD crude exports edging lower in 3Q21 with the winding down of the driving season and as buying in China remain muted in that period.

Eurasia

Total crude oil exports from Russia and Central Asia recovered in September, averaging 6.1 mb/d. M-o-m, crude exports were 0.3 mb/d or over 5% higher. Compared to the same month last year, total crude exports from the region were also about 0.3 or 5% higher.

Crude exports through the **Transneft system** supported the increase in September, with gains across most outlets. Outflows via the Transneft system rose by 0.2 mb/d, or about 6%, to average 3.7 mb/d. Compared with the same month last year, exports were 0.3 mb/d, or 10%, higher.

Within the system, total shipments from the **Black Sea** edged up 46 tb/d m-o-m, or 12%, to average 412 tb/d. **Baltic Sea** exports enjoyed a stronger gain of 117 tb/d m-o-m, or almost 11%, to average 1.2 mb/d. Shipments from Ust-Luga jumped almost 35% or 136 tb/d to average 528 tb/d, while Primorsk exports slipped 19 tb/d or 3% to 669 tb/d. Shipments via the **Druzhba** pipeline rose 69 tb/d m-o-m, or around 10%, to average 776 tb/d. **Kozmino** shipments were up 31 tb/d or over 4% m-o-m. Exports to China via the **ESPO pipeline** declined 63 tb/d or around 10% m-o-m to average 570 tb/d in September.

In the **Lukoil system**, exports via the Barents Sea increased by around 28% m-o-m to average 89 tb/d in September, while those from the Baltic Sea rose 18%.

On other routes, **Russia's Far East** exports gained about 9% m-o-m in September to average 0.3 mb/d. This was 1% lower compared with the same month last year.

Central Asia's total exports averaged around 0.2 mb/d in September, representing a drop of about 7% compared with the month before but a gain of 2% y-o-y.

Black Sea total exports improved in September, increasing 91 mb/d or almost 8% compared to the previous month and were around 2% higher than the same month last year. Outflows from the Novorossiysk port terminal (CPC) drove the increase, rising 10% or 110 tb/d, while exports from Supsa fell 18% or 19 tb/d. Exports via the **Baku-Tbilisi-Ceyhan (BTC) pipeline** were broadly unchanged at 500 tb/d, but still showed a loss of 13% y-o-y.

Total product exports from Russia and Central Asia declined 0.5 mb/d or 16% m-o-m to average 2.6 mb/d in September. M-o-m losses were seen across all major products, except jet fuel. Y-o-y, total product exports were 3% lower in September, driven primarily by declines in gasoil and to a lesser extent gasoline.

Commercial Stock Movements

Preliminary September data sees total OECD commercial oil stocks down by 18.5 mb m-o-m. At 2,805 mb, they were 374 mb lower than the same time one year ago, 206 mb lower than the latest five-year average and 163 mb below the average of 2015-2019. Within the components, crude and product stocks fell m-o-m by 9.3 mb and 9.2 mb, respectively.

At 1,334 mb, crude stocks in the OECD were 118 mb less than the latest five-year average and 103 mb below the 2015-2019 average. OECD product stocks stood at 1,471 mb, representing a deficit of 89 mb compared with the latest five-year average and 60 mb below the 2015-2019 average.

In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.2 days in September to stand at 61.5 days. This is 12.4 days below September 2020 levels, 2.8 days less than the latest five-year average and 0.7 days lower than the 2015-2019 average.

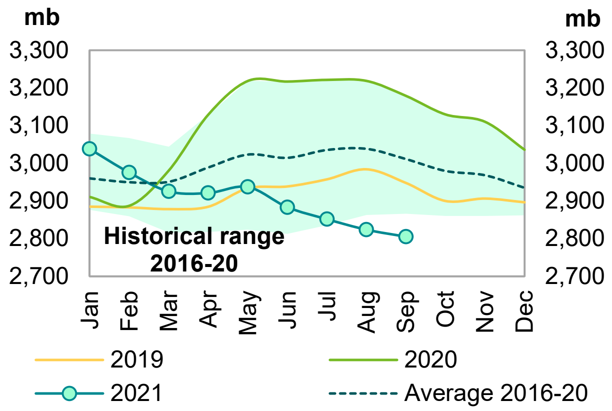
Preliminary data for October showed that total US commercial oil stocks rose slightly m-o-m by 0.1 mb to stand at 1,234 mb. This is 152.4 mb, or 11.0%, lower than the same month a year ago and 77.3 mb, or 5.9%, below the latest five-year average. Crude stocks rose m-o-m by 13.2 mb, while product stocks fell m-o-m by 13.1 mb.

OECD

Preliminary September data sees **total OECD commercial oil stocks** down by 18.5 mb m-o-m. At 2,805 mb, they were 374 mb lower than the same time one year ago, 206 mb lower than the latest five-year average and 163 mb below the average of 2015-2019.

Within the components, crude and products stocks fell m-o-m by 9.3 mb and 9.2 mb, respectively. Total commercial oil stocks in September fell in all OECD regions.

Graph 9 - 1: OECD commercial oil stocks



Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

OECD **commercial crude stocks** fell m-o-m in September by 9.3 mb to stand at 1,334 mb. This is 195 mb lower than the same time a year ago and 118 mb below the latest five-year average. Compared with the previous month, OECD Americas saw stock draw of 0.8 mb, OECD Europe declined by 3.4 mb, and OECD Asia Pacific saw a stock draw of 5.1 mb.

Total product inventories fell m-o-m by 9.2 mb in September to stand at 1,471 mb. This is 179 mb less than the same time a year ago, and 89 mb lower than the latest five-year average. Product stocks in OECD Americas and OECD Europe fell m-o-m by 2.1 mb and 9.1 mb, respectively, while OECD Asia Pacific rose by 2.0 mb.

Table 9 - 1: OECD's commercial stocks, mb

OECD stocks	Sep 20	Jul 21	Aug 21	Sep 21	*Change* Sep 21/Aug 21
Crude oil	1,529	1,376	1,344	1,334	*-9.3*
Products	1,650	1,476	1,480	1,471	*-9.2*
Total	**3,179**	**2,852**	**2,824**	**2,805**	***-18.5***
Days of forward cover	**73.9**	**62.0**	**61.7**	**61.5**	***-0.2***

Note: Totals may not add up due to independent rounding.

Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

In terms of **days of forward cover**, OECD commercial stocks fell m-o-m by 0.2 days in September to stand at 61.5 days. This is 12.4 days below September 2020 levels, 2.8 days less than the latest five-year average and 0.7 days lower than the 2015-2019 average. All three OECD regions were below the latest five-year average: the Americas by 2.7 days at 61.4 days, Asia Pacific by 2.1 days at 49.7 days and Europe by 4.2 days below the latest five-year average, at 67.9 days.

OECD Americas

OECD Americas total commercial stocks fell m-o-m by 2.9 mb in September to settle at 1,519 mb. This is 169.2 mb less than the same month last year and 77.3 mb lower than the latest five-year average.

Commercial crude oil stocks in OECD Americas fell m-o-m by 0.8 mb in September to stand at 766 mb, which is 68.7 mb lower than in September 2020 and 20.6 mb less than the latest five-year average. The stock draw came despite lower crude runs in September.

Total product stocks in OECD Americas fell m-o-m by 2.1 mb in September to stand at 753 mb. This was 100.5 mb lower than the same month one year ago and 56.7 mb below the latest five-year average. Higher total consumption in the region was behind the stock draw.

OECD Europe

OECD Europe total commercial stocks fell m-o-m by 12.5 mb in September to settle at 930 mb. This is 149.4 mb less than the same month last year and 68.0 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** in September fell m-o-m by 3.4 mb to end the month at 398 mb, which is 68.5 mb lower than one year ago and 34.6 mb below the latest five-year average. The fall in crude oil inventories came despite lower m-o-m refinery throughputs in the EU-14 plus the UK and Norway, which decreased by around 380 tb/d to 9.47 mb/d in September.

OECD Europe's **commercial product stocks** also fell m-o-m by 9.1 mb to end September at 532 mb. This is 80.9 mb lower than a year ago and 33.4 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks fell m-o-m by 3.1 mb in September to stand at 356 mb. This is 54.9 mb lower than a year ago and 60.9 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** fell by 5.1 mb m-o-m to end September at 170 mb, which is 57.5 mb lower than one year ago and 62.3 mb below the latest five-year average.

In contrast, OECD Asia Pacific's **total product inventories** increased by 2.0 mb m-o-m to end September at 186 mb. This is 2.6 mb higher than the same time a year ago and 1.5 mb above the latest five-year average.

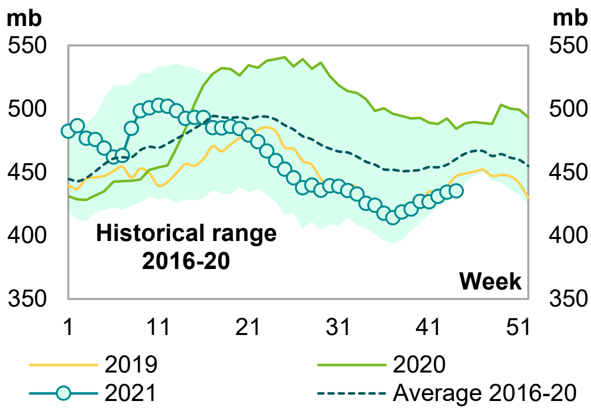
US

Preliminary data for October showed that **total US commercial oil stocks** rose slightly m-o-m by 0.1 mb to stand at 1,234 mb. This is 152.4 mb, or 11.0%, lower than the same month a year ago and 77.3 mb, or 5.9%, below the latest five-year average. Crude stocks rose m-o-m by 13.2 mb, while product stocks fell m-o-m by 13.1 mb.

US **commercial crude stocks** in October rose m-o-m by 13.2 mb to stand at 434.1 mb. This is 59.8 mb, or 12.1%, lower than the same month last year, and 30.3 mb, or 6.5%, below the latest five-year average. The stock build came on the back of higher crude production.

In contrast, **total product stocks** in October fell m-o-m by 13.1 mb to stand at 799.8 mb. This is 92.6 mb, or 10.4%, below October 2020 levels, and 46.9 mb, or 5.5%, lower than the latest five-year average. The stock draw was mainly driven by higher US consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



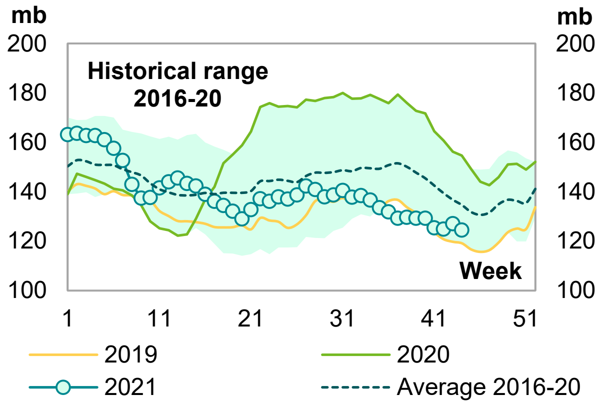
Sources: EIA and OPEC.

Gasoline stocks in October fell m-o-m by 10.8 mb to settle at 214.3 mb. This is 13.4 mb, or 5.9%, below the same month last year, and 11.0 mb, or 4.9%, lower than the latest five-year average. The monthly stock draw came mainly on the back of higher gasoline consumption.

Distillate stocks dropped m-o-m by 2.2 mb in October to stand at 127.1 mb. This is 29.1 mb, or 18.6%, lower than the same month last year, and 10.0 mb, or 7.3%, below the latest five-year average.

Jet fuel fell m-o-m by 1.6 mb, ending October at 39.6 mb. This is 2.0 mb, or 5.3%, higher than the same month last year, but 1.6 mb, or 4.0%, lower than the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

In contrast, **residual fuel oil stocks** rose m-o-m in October, increasing by 1.2 mb. At 29.4 mb, this was 1.8 mb, or 5.9%, lower than a year ago, and 2.5 mb, or 7.8%, below the latest five-year average.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Oct 20	Aug 21	Sep 21	Oct 21	*Change* Oct 21/Sep 21
Crude oil	**493.9**	**421.7**	**420.9**	**434.1**	***13.2***
Gasoline	227.6	225.7	225.1	214.3	*-10.8*
Distillate fuel	156.2	137.9	129.3	127.1	*-2.2*
Residual fuel oil	31.2	29.4	28.2	29.4	*1.2*
Jet fuel	37.6	42.5	41.3	39.6	*-1.6*
Total products	**892.4**	**819.5**	**812.9**	**799.8**	***-13.1***
Total	**1,386.3**	**1,241.3**	**1,233.8**	**1,233.9**	***0.1***
SPR	**638.6**	**621.3**	**617.8**	**612.5**	***-5.2***

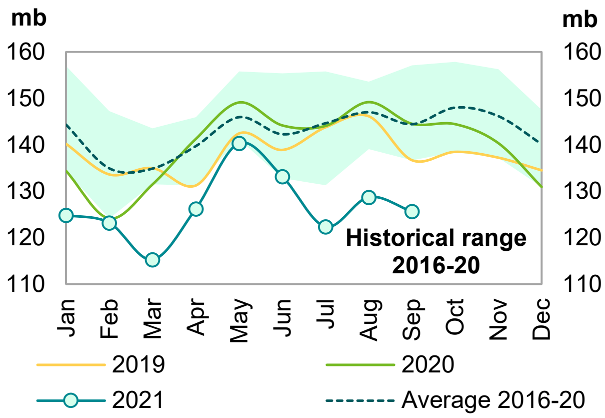
Sources: EIA and OPEC.

Japan

In **Japan**, **total commercial oil stocks** in September fell m-o-m by 3.1 mb to settle at 125.6 mb. This is 18.9 mb, or 13.1%, lower than the same month last year, and 18.8 mb, or 13.0%, below the latest five-year average. Crude stocks fell by 5.1 mb, while products stocks rose m-o-m by 2.0 mb.

Japanese **commercial crude oil stocks** fell in September to stand at 62.0 mb. This is 16.8 mb, or 21.3%, below the same month a year ago, and 17.6 mb, or 22.1%, lower than the latest five-year average. The drop came on the back of lower crude imports, which decreased by 10% m-o-m, to stand at 2.47 mb/d.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

By contrast, Japan's **total product inventories** rose m-o-m by 2.0 mb to end September at 63.6 mb. This is 2.1 mb, or 3.3%, lower than the same month last year, and 1.2 mb, or 1.9%, below the latest five-year average.

Gasoline stocks rose m-o-m by 0.2 mb to stand at 10.3 mb. This was 2.0 mb, or 16.2%, lower than a year ago, and 0.3 mb, or 2.6%, below the latest five-year average. Lower domestic sales, which fell by 6.7%, were behind the build in gasoline stocks.

Distillate stocks also rose m-o-m by 1.6 mb to end September at 31.4 mb. This is 1.6 mb, or 4.9%, lower than the same month a year ago, and 0.5 mb, or 1.6%, below the latest five-year average. Within distillate components, **jet fuel and kerosene** rose m-o-m by 9.1% and 12.8%, respectively, while **gasoil stocks** fell by 6.3%.

Total residual fuel oil stocks rose m-o-m by 0.1 mb to end September at 12.5 mb. This is 0.6 mb, or 5.0%, higher than the same month last year, but 0.3 mb, or 2.7%, below the latest five-year average. Within the components, fuel oil A and fuel oil B.C stocks rose by 2.1% and 0.1%, respectively.

Table 9 - 3: Japan's commercial oil stocks*, mb

Japan's stocks	Sep 20	Jul 21	Aug 21	Sep 21	Change Sep 21/Aug 21
Crude oil	**78.8**	**65.5**	**67.1**	**62.0**	***-5.1***
Gasoline	12.2	10.0	10.0	10.3	*0.2*
Naphtha	8.6	8.5	9.4	9.4	*0.1*
Middle distillates	33.1	26.5	29.8	31.4	*1.6*
Residual fuel oil	11.9	11.8	12.4	12.5	*0.1*
Total products	**65.8**	**56.8**	**61.6**	**63.6**	***2.0***
Total**	**144.5**	**122.3**	**128.7**	**125.6**	***-3.1***

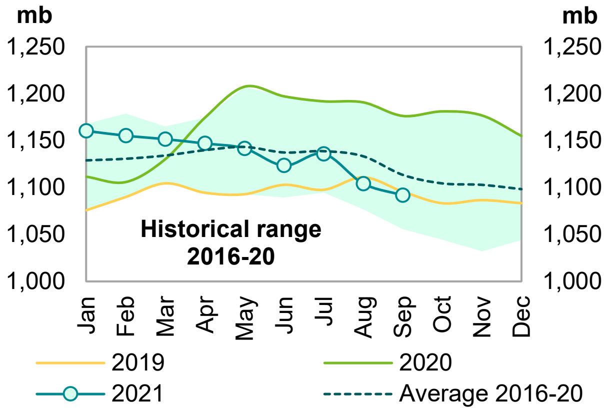
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for September showed that **total European commercial oil stocks** fell m-o-m by 12.5 mb to stand at 1,092 mb. At this level, they were 84.5 mb, or 7.2%, below the same month a year ago, and 21.9 mb, or 2.0%, lower than the latest five-year average. Crude and product stocks dropped m-o-m by 3.4 mb and 9.1 mb, respectively.

European **crude inventories** fell in September to stand at 455.4 mb. This is 42.7 mb, or 8.6%, lower than the same month a year ago and 23.8 mb, or 5.0%, lower than the latest five-year average. The fall in crude oil inventories came despite lower m-o-m refinery throughputs in the EU-14 plus the UK and Norway, which decreased by around 380 tb/d to 9.47 mb/d in September.

Graph 9 - 5: EU-14 plus UK and Norway's total oil stocks



Sources: Argus, Euroilstock and OPEC.

Total European product stocks fell m-o-m by 9.1 mb to end September at 636.3 mb. This is 41.7 mb, or 6.2%, lower than the same month a year ago, but 2.0 mb, or 0.3%, above the latest five-year average.

Gasoline stocks fell m-o-m by 4.9 mb in September to stand at 107.3 mb. At this level, they are 4.5 mb, or 4.1%, lower than the same time a year ago and 1.6 mb/d, or 1.5%, less than the latest five-year average.

Distillate stocks decreased m-o-m by 6.1 mb in September to stand at 433.1 mb. This is 32.9 mb, or 7.1%, below the same month last year, but 1.0 mb, or 0.2%, above the latest five-year average.

Naphtha stocks remained unchanged in September, ending the month at 30.8 mb. This is 1.9 mb, or 5.8%, below September 2020 levels, but 3.4 mb, or 12.5%, higher than the latest five-year average.

In contrast, **residual fuel stocks** rose m-o-m by 1.9 mb in September to 65.1 mb. This is 2.4 mb, or 3.6%, lower than the same month one year ago, and 0.9 mb, or 1.4%, below the latest five-year average.

Table 9 - 4: EU-14 plus UK and Norway's total oil stocks, mb

EU stocks	Sep 20	Jul 21	Aug 21	Sep 21	Change Sep 21/Aug 21
Crude oil	**498.1**	**476.5**	**458.7**	**455.4**	***-3.4***
Gasoline	111.8	113.6	112.1	107.3	*-4.9*
Naphtha	32.7	31.2	30.8	30.8	*0.0*
Middle distillates	466.0	449.6	439.3	433.1	*-6.1*
Fuel oils	67.6	65.1	63.3	65.1	*1.9*
Total products	**678.1**	**659.4**	**645.5**	**636.3**	***-9.1***
Total	**1,176.2**	**1,135.9**	**1,104.2**	**1,091.7**	***-12.5***

Sources: Argus, Euroilstock and OPEC.

Singapore, Amsterdam-Rotterdam-Antwerp (ARA) and Fujairah

Singapore

In September, **total product stocks in Singapore** fell m-o-m by 4.0 mb to 41.3 mb. This is 11.5 mb, or 21.8%, lower than the same month a year ago.

Light distillate stocks dropped m-o-m by 1.4 mb in September to stand at 11.8 mb. This is 1.8 mb, or 12.9%, lower than the same month one year ago.

Middle distillate stocks also fell m-o-m by 0.9 mb in September to stand at 10.5 mb. This is 4.8 mb, or 31.3%, lower than a year ago.

Residual fuel oil stocks fell m-o-m by 1.7 mb, ending September at 19.0 mb, which is 5 mb, or 20.9%, lower than in September 2020.

ARA

Total product stocks in ARA fell for the seventh consecutive month in September and were down by 0.5 mb m-o-m at 39.1 mb. This is 12.8 mb, or 24.6%, lower than the same month a year ago.

Gasoline stocks in September rose m-o-m by 1.2 mb to stand at 7.0 mb, which is 4.4 mb, or 38.6%, lower than the same month one year ago.

In contrast**, gasoil stocks** dropped m-o-m by 0.4 mb in September to stand at 14.9 mb, which is 5.7 mb, or 27.7%, lower than in September 2020.

Jet oil stocks fell m-o-m by 0.7 mb to end September at 7.3 mb. This is 0.2 mb, or 2.4%, below the level registered one year ago.

Residual fuel oil stocks fell m-o-m by 0.2 mb to end September at 7.5 mb. This is 1.3 mb, or 14.5%, lower than the level seen one year ago.

Fujairah

During the week ending 1 November 2021, **total oil product stocks in Fujairah** fell w-o-w by 0.13 mb to stand at 15.58 mb, according to data from Fed Com and S&P Global Platts. At this level, total oil stocks were 4.66 mb lower than the same time a year ago. While middle distillates witnessed a stock build w-o-w, light and heavy distillate stocks showed a stock draw.

Light distillate stocks fell by 0.15 mb w-o-w to stand at 4.92 mb in the week to 1 November 2021, which is 0.39 mb lower than the same period a year ago. **Heavy distillate stocks** also decreased by 0.32 mb to stand at 7.39 mb, which is 2.11 mb lower than the same time last year. In contrast, **middle distillate stocks** rose by 0.35 mb to stand at 3.28 mb, which is 2.17 mb lower than a year ago.

Balance of Supply and Demand

Demand for OPEC crude in 2021 was revised slightly down by 0.1 mb/d from the previous MOMR to stand at 27.6 mb/d, around 4.9 mb/d higher than in 2020.

According to secondary sources, OPEC crude production averaged 25.2 mb/d in 1Q21, 0.1 mb/d lower than demand for OPEC crude in the same period. In 2Q21, OPEC crude production averaged 25.5 mb/d, which was 1.5 mb/d lower than demand for OPEC crude. In 3Q21, OPEC crude oil production averaged 26.9 mb/d, 2.2 mb/d lower than demand for OPEC crude.

Demand for OPEC crude in 2022 was also revised slightly down by 0.1 mb/d from the previous month to stand at 28.7 mb/d, around 1.0 mb/d higher than in 2021.

Balance of supply and demand in 2021

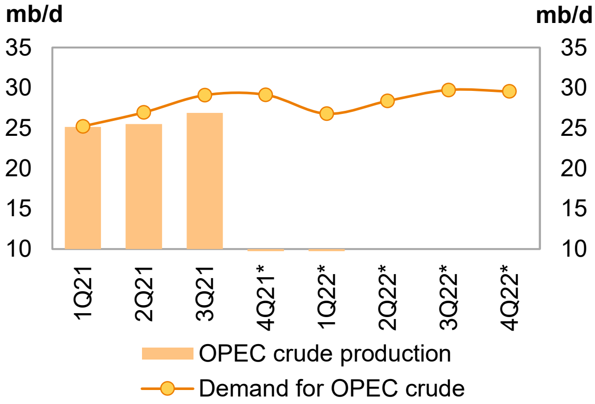
Demand for OPEC crude in 2021 was revised down by 0.1 mb/d from the previous MOMR to stand at 27.6 mb/d, around 4.9 mb/d higher than in 2020.

Compared with the previous assessment, 1Q21 was revised up by 0.1 mb/d, while 3Q21 and 4Q21 were revised down by 0.5 mb/d and 0.2 mb/d, respectively. Meanwhile, 2Q21 remained unchanged.

When compared with the same quarters in 2020, demand for OPEC crude in 1Q21 and 2Q21 is estimated to be higher by 3.7 mb/d and 9.6 mb/d, respectively. In 3Q21 and 4Q21, there is an expected rise of 4.1 mb/d and 2.1 mb/d, respectively.

According to secondary sources, OPEC crude production averaged 25.2 mb/d in 1Q21, 0.1 mb/d lower than the same level as demand for OPEC crude in the same period. In 2Q21, OPEC crude production averaged 25.5 mb/d, 1.5 mb/d lower than demand for OPEC crude. In 3Q21, OPEC crude oil production averaged 26.9 mb/d, 2.2 mb/d lower than demand for OPEC crude.

Graph 10 - 1: Balance of supply and demand, 2021–2022*



*Note: * 4Q21-4Q22 = Forecast. Source: OPEC.*

Table 10 - 1: Supply/demand balance for 2021*, mb/d

	2020	1Q21	2Q21	3Q21	4Q21	2021	*Change 2021/20*
(a) World oil demand	**90.79**	**92.87**	**95.38**	**97.89**	**99.49**	**96.44**	***5.65***
Non-OPEC liquids production	62.98	62.51	63.28	63.60	65.14	63.64	*0.66*
OPEC NGL and non-conventionals	5.05	5.11	5.13	5.17	5.20	5.15	*0.10*
(b) Total non-OPEC liquids production and OPEC NGLs	**68.03**	**67.62**	**68.41**	**68.77**	**70.34**	**68.79**	***0.76***
Difference (a-b)	**22.76**	**25.25**	**26.98**	**29.12**	**29.16**	**27.65**	***4.89***
OPEC crude oil production	**25.65**	**25.16**	**25.52**	**26.89**			
Balance	**2.89**	**-0.10**	**-1.46**	**-2.22**			

*Note: * 2021 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

Balance of supply and demand in 2022

Demand for OPEC crude in 2022 was also revised down by 0.1 mb/d from the previous month to stand at 28.7 mb/d, around 1.0 mb/d higher than in 2021.

Compared with the previous assessment, 1Q22 and 2Q22 were revised up by 0.2 mb/d and 0.1 mb/d respectively, while 3Q22 and 4Q22 were revised down by 0.5 mb/d and 0.4 mb/d, respectively,

Compared with the same quarters in 2021, demand for OPEC crude in 1Q22 and 2Q22 is forecast to be higher by 1.6 mb/d and 1.4 mb/d, respectively. Meanwhile, 3Q22 and 4Q22 are projected to show an increase of 0.7 mb/d and 0.4 mb/d, respectively.

Table 10 - 2: Supply/demand balance for 2022*, mb/d

	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21
(a) World oil demand	**96.44**	**98.02**	**99.88**	**101.75**	**102.63**	**100.59**	***4.15***
Non-OPEC liquids production	63.64	65.97	66.21	66.69	67.73	66.66	*3.02*
OPEC NGL and non-conventionals	5.15	5.24	5.27	5.29	5.32	5.28	*0.13*
(b) Total non-OPEC liquids production and OPEC NGLs	**68.79**	**71.20**	**71.48**	**71.99**	**73.05**	**71.94**	***3.15***
Difference (a-b)	**27.65**	**26.81**	**28.40**	**29.77**	**29.57**	**28.66**	***1.01***

*Note: * 2021-2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

Appendix

Table 11 - 1: World oil demand and supply balance, mb/d

World oil demand and supply balance	2018	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand													
Americas	25.41	25.47	22.44	22.73	24.33	24.99	24.46	24.14	24.04	25.42	26.02	25.27	25.20
of which US	*20.60*	*20.65*	*18.35*	*18.65*	*20.21*	*20.38*	*20.20*	*19.87*	*19.69*	*21.07*	*21.35*	*20.92*	*20.76*
Europe	14.31	14.31	12.44	11.91	12.61	13.71	13.59	12.96	12.55	13.28	14.35	14.10	13.58
Asia Pacific	8.01	7.93	7.14	7.67	7.04	7.15	7.57	7.36	7.91	7.22	7.28	7.68	7.52
Total OECD	**47.73**	**47.72**	**42.02**	**42.30**	**43.98**	**45.85**	**45.63**	**44.46**	**44.50**	**45.92**	**47.64**	**47.05**	**46.30**
China	13.01	13.62	13.36	13.29	14.55	14.47	15.11	14.36	14.14	15.44	14.95	15.55	15.02
India	4.93	4.99	4.51	4.94	4.50	4.67	5.52	4.91	5.40	4.90	5.05	5.84	5.30
Other Asia	8.91	9.00	8.13	8.36	8.98	8.49	8.62	8.61	9.05	9.59	9.07	8.95	9.16
Latin America	6.53	6.59	6.01	6.15	6.16	6.54	6.40	6.31	6.38	6.33	6.69	6.56	6.49
Middle East	8.13	8.20	7.55	7.95	7.77	8.24	7.97	7.99	8.29	8.01	8.49	8.20	8.25
Africa	4.33	4.37	4.06	4.35	4.06	4.16	4.44	4.25	4.53	4.19	4.28	4.57	4.39
Russia	3.55	3.57	3.37	3.57	3.42	3.61	3.74	3.58	3.67	3.47	3.66	3.79	3.65
Other Eurasia	1.21	1.19	1.07	1.18	1.24	1.14	1.28	1.21	1.25	1.29	1.17	1.32	1.26
Other Europe	0.74	0.76	0.70	0.78	0.72	0.73	0.79	0.75	0.80	0.73	0.74	0.81	0.77
Total Non-OECD	**51.34**	**52.31**	**48.76**	**50.57**	**51.41**	**52.04**	**53.87**	**51.98**	**53.51**	**53.96**	**54.11**	**55.58**	**54.29**
(a) Total world demand	**99.07**	**100.03**	**90.79**	**92.87**	**95.38**	**97.89**	**99.49**	**96.44**	**98.02**	**99.88**	**101.75**	**102.63**	**100.59**
Y-o-y change	*1.40*	*0.96*	*-9.24*	*-0.83*	*11.80*	*6.33*	*5.24*	*5.65*	*5.14*	*4.49*	*3.86*	*3.13*	*4.15*
Non-OPEC liquids production													
Americas	24.03	25.81	24.70	24.10	25.17	25.15	25.58	25.00	25.78	25.89	26.25	26.63	26.14
of which US	*16.66*	*18.47*	*17.61*	*16.63*	*17.93*	*17.70*	*18.01*	*17.57*	*18.13*	*18.45*	*18.58*	*18.89*	*18.52*
Europe	3.84	3.71	3.90	3.96	3.52	3.80	3.98	3.81	3.91	3.80	3.86	4.18	3.94
Asia Pacific	0.41	0.52	0.52	0.50	0.45	0.54	0.54	0.51	0.55	0.54	0.54	0.54	0.54
Total OECD	**28.28**	**30.04**	**29.12**	**28.56**	**29.13**	**29.48**	**30.10**	**29.32**	**30.23**	**30.24**	**30.65**	**31.35**	**30.62**
China	3.98	4.05	4.16	4.30	4.34	4.35	4.28	4.32	4.32	4.32	4.36	4.44	4.36
India	0.86	0.82	0.77	0.76	0.75	0.75	0.74	0.75	0.73	0.75	0.78	0.80	0.77
Other Asia	2.73	2.69	2.51	2.52	2.46	2.36	2.45	2.45	2.45	2.42	2.40	2.39	2.42
Latin America	5.79	6.09	6.04	5.97	6.00	6.10	6.46	6.13	6.51	6.45	6.39	6.60	6.49
Middle East	3.19	3.19	3.19	3.22	3.23	3.24	3.30	3.25	3.34	3.34	3.36	3.36	3.35
Africa	1.49	1.51	1.41	1.37	1.35	1.33	1.30	1.34	1.29	1.26	1.23	1.20	1.25
Russia	11.52	11.61	10.59	10.47	10.74	10.81	11.11	10.78	11.51	11.83	11.88	11.88	11.78
Other Eurasia	3.08	3.07	2.91	2.96	2.89	2.79	3.01	2.91	3.09	3.11	3.15	3.22	3.14
Other Europe	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.09	0.09	0.10
Total Non-OECD	**32.75**	**33.15**	**31.71**	**31.67**	**31.86**	**31.84**	**32.76**	**32.04**	**33.34**	**33.59**	**33.65**	**33.99**	**33.64**
Total Non-OPEC production	61.03	63.19	60.83	60.23	61.00	61.32	62.86	61.36	63.57	63.82	64.30	65.34	64.26
Processing gains	2.34	2.36	2.15	2.28	2.28	2.28	2.28	2.28	2.39	2.39	2.39	2.39	2.39
Total Non-OPEC liquids production	**63.37**	**65.55**	**62.98**	**62.51**	**63.28**	**63.60**	**65.14**	**63.64**	**65.97**	**66.21**	**66.69**	**67.73**	**66.66**
OPEC NGL + non-conventional oils	5.29	5.22	5.05	5.11	5.13	5.17	5.20	5.15	5.24	5.27	5.29	5.32	5.28
(b) Total non-OPEC liquids production and OPEC NGLs	**68.67**	**70.77**	**68.03**	**67.62**	**68.41**	**68.77**	**70.34**	**68.79**	**71.20**	**71.48**	**71.99**	**73.05**	**71.94**
Y-o-y change	*3.05*	*2.10*	*-2.74*	*-4.54*	*2.20*	*2.20*	*3.15*	*0.76*	*3.59*	*3.07*	*3.21*	*2.72*	*3.15*
OPEC crude oil production (secondary sources)	31.34	29.36	25.65	25.16	25.52	26.89							
Total liquids production	100.01	100.13	93.68	92.78	93.93	95.67							
Balance (stock change and miscellaneous)	0.94	0.10	2.89	-0.10	-1.45	-2.22							
OECD closing stock levels, *mb*													
Commercial	2,873	2,896	3,036	2,925	2,883	2,805							
SPR	1,552	1,535	1,541	1,546	1,524	1,516							
Total	**4,425**	**4,432**	**4,577**	**4,471**	**4,407**	**4,321**							
Oil-on-water	1,058	1,033	1,148	1,138	1,130	1,168							
Days of forward consumption in OECD, *days*													
Commercial onland stocks	60	69	68	67	63	61							
SPR	33	37	35	35	33	33							
Total	**93**	**105**	**103**	**102**	**96**	**95**							
Memo items													
(a) - (b)	**30.41**	**29.26**	**22.76**	**25.25**	**26.98**	**29.12**	**29.16**	**27.65**	**26.81**	**28.40**	**29.77**	**29.57**	**28.66**

Note: Totals may not add up due to independent rounding.

Source: OPEC.

Table 11 - 2: World oil demand and supply balance: changes from last month's table*, mb/d

World oil demand and supply balance	2018	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand													
Americas	-0.17	-0.14	-0.16	-0.04	-0.22	-0.16	-0.27	-0.17	-0.06	-0.24	-0.16	-0.27	-0.18
of which US	*-0.17*	*-0.14*	*-0.16*	*-0.04*	*-*	*-0.16*	*-0.27*	*-0.12*	*-0.06*	*-0.02*	*-0.16*	*-0.27*	*-0.13*
Europe	-	-	-	-	0.01	-	-0.10	-0.02	-	0.01	0.03	-0.07	-0.01
Asia Pacific	-	-	-	-	-	-0.02	-	-0.01	-	-	-0.02	-	-0.01
Total OECD	**-0.17**	**-0.14**	**-0.16**	**-0.04**	**-0.21**	**-0.18**	**-0.37**	**-0.20**	**-0.06**	**-0.23**	**-0.15**	**-0.34**	**-0.19**
China	-	0.14	0.16	0.14	0.24	-0.16	0.09	0.07	0.14	0.24	-0.16	0.09	0.07
India	0.11	-	-	-	-	-0.10	-0.05	-0.04	-	-	-0.10	-0.05	-0.04
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America	-	-	-	-	-	-	-	-	-0.01	-0.01	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Eurasia	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	**0.11**	**0.14**	**0.16**	**0.14**	**0.24**	**-0.26**	**0.04**	**0.03**	**0.13**	**0.23**	**-0.26**	**0.04**	**0.03**
(a) Total world demand	**-0.06**	**-**	**-**	**0.10**	**0.02**	**-0.44**	**-0.33**	**-0.16**	**0.07**	**-0.01**	**-0.41**	**-0.30**	**-0.16**
Y-o-y change	***-0.06***	***0.06***	***-***	***0.13***	***-0.06***	***-0.42***	***-0.30***	***-0.16***	***-0.03***	***-0.03***	***0.03***	***0.03***	***-***
Non-OPEC liquids production													
Americas	-	-	-	-	-0.01	0.17	-	0.04	0.02	0.02	0.28	0.25	0.15
of which US	*-*	*-*	*-*	*-*	*-*	*0.08*	*-*	*0.02*	*0.01*	*-*	*0.27*	*0.24*	*0.13*
Europe	-	-	-	0.01	0.01	-0.06	-0.04	-0.02	-0.12	-0.12	-0.12	-0.12	-0.12
Asia Pacific	-	-	-	-	-	0.01	-	-	-	-	-	-	-
Total OECD	**-**	**-**	**-**	**0.01**	**-**	**0.12**	**-0.04**	**0.02**	**-0.10**	**-0.11**	**0.16**	**0.13**	**0.02**
China	-	-	-	-	-	0.03	-	0.01	0.01	0.01	0.01	0.01	0.01
India	-	-	-	-	-	-	-	-	-0.02	-0.02	-0.02	-0.02	-0.02
Other Asia	-	-	-	-	0.01	-0.03	-0.04	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
Latin America	-	-	-	-	-	-0.02	-0.01	-0.01	0.01	0.01	0.01	0.01	0.01
Middle East	-	-	-	-	-	-0.01	-	-	-	-	-	-	-
Africa	-	-	-	0.01	0.01	-	-0.01	-	-	-	-	-	-
Russia	-	-	-	-	-	0.01	-	-	-	-	-	-	-
Other Eurasia	-	-	-	-	-	-0.01	-	-	-	-	-	-	-
Other Europe	-	-	-	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Total Non-OECD	**-**	**-**	**-**	**-**	**0.01**	**-0.05**	**-0.06**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**
Total Non-OPEC production	-	-	-	0.02	0.01	0.07	-0.10	-	-0.12	-0.13	0.14	0.11	-
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC liquids production	**-**	**-**	**-**	**0.02**	**0.01**	**0.07**	**-0.10**	**-**	**-0.12**	**-0.13**	**0.14**	**0.11**	**-**
OPEC NGL + non-conventional oils	-	-	-	-	-	-0.03	-0.03	-0.02	-0.01	-0.01	-0.02	-0.01	-0.02
(b) Total non-OPEC liquids production and OPEC NGLs	**-**	**-**	**-**	**0.02**	**0.01**	**0.04**	**-0.13**	**-0.02**	**-0.14**	**-0.15**	**0.12**	**0.09**	**-0.02**
Y-o-y change	***-***	***-***	***-***	***0.02***	***0.01***	***0.04***	***-0.13***	***-0.02***	***-0.15***	***-0.16***	***0.08***	***0.22***	***-***
OPEC crude oil production (secondary sources)	-	-	-	-	-	-0.03							
Total liquids production	-	-	-	0.02	0.01	0.01							
Balance (stock change and miscellaneous)	0.06	-	-	-0.08	-0.01	0.46							
OECD closing stock levels, *mb*													
Commercial	-	-	-	-	-1								
SPR	-	-	-	-	-								
Total	**-**	**-**	**-**	**-**	**-1**								
Oil-on-water	-	-	-	-	-								
Days of forward consumption in OECD, *days*													
Commercial onland stocks	-	-	-	-	-								
SPR	-	-	-	-	-								
Total	**-**	**-**	**-**	**-**	**-**								
Memo items													
(a) - (b)	**-0.06**	**-**	**0.00**	**0.08**	**0.01**	**-0.48**	**-0.20**	**-0.15**	**0.21**	**0.14**	**-0.53**	**-0.39**	**-0.15**

*Note: * This compares Table 11 - 1 in this issue of the MOMR with Table 11 - 1 in the October 2021 issue.*
This table shows only where changes have occurred.
Source: OPEC.

Table 11 - 3: OECD oil stocks and oil on water at the end of period

OECD oil stocks and oil on water	2018	2019	2020	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21
Closing stock levels, mb												
OECD onland commercial	**2,873**	**2,896**	**3,036**	**2,948**	**2,896**	**2,980**	**3,217**	**3,179**	**3,036**	**2,925**	**2,883**	**2,805**
Americas	1,542	1,525	1,612	1,559	1,525	1,581	1,718	1,688	1,612	1,573	1,548	1,519
Europe	930	978	1,044	988	978	1,033	1,099	1,079	1,044	1,006	978	930
Asia Pacific	402	394	380	401	394	366	400	411	380	346	358	356
OECD SPR	**1,552**	**1,535**	**1,541**	**1,544**	**1,535**	**1,537**	**1,561**	**1,551**	**1,541**	**1,546**	**1,524**	**1,516**
Americas	651	637	640	647	637	637	658	644	640	640	623	620
Europe	481	482	488	482	482	484	487	490	488	493	487	483
Asia Pacific	420	416	414	416	416	416	416	417	414	413	413	413
OECD total	**4,425**	**4,432**	**4,577**	**4,492**	**4,432**	**4,517**	**4,778**	**4,730**	**4,577**	**4,471**	**4,407**	**4,321**
Oil-on-water	**1,058**	**1,033**	**1,148**	**1,012**	**1,033**	**1,187**	**1,329**	**1,174**	**1,148**	**1,138**	**1,130**	**1,168**
Days of forward consumption in OECD, days												
OECD onland commercial	**60**	**69**	**68**	**61**	**63**	**79**	**76**	**74**	**72**	**66**	**63**	**61**
Americas	60	67	66	61	62	79	75	73	71	64	62	61
Europe	65	79	80	70	73	94	85	86	88	80	71	68
Asia Pacific	51	55	52	49	50	55	59	56	50	49	50	47
OECD SPR	**33**	**37**	**35**	**32**	**34**	**41**	**37**	**36**	**36**	**35**	**33**	**33**
Americas	26	30	27	25	26	32	29	28	28	26	25	25
Europe	34	39	38	34	36	44	38	39	41	39	36	35
Asia Pacific	53	59	57	51	53	63	62	57	54	59	58	55
OECD total	**94**	**107**	**104**	**94**	**97**	**120**	**113**	**110**	**108**	**101**	**96**	**94**

Sources: Argus, EIA, Euroilstock, IEA, JODI, METI and OPEC.

Table 11 - 4: Non-OPEC liquids production and OPEC natural gas liquids, mb/d*

Non-OPEC liquids production and OPEC NGLs	2018	2019	2020	3Q21	4Q21	2021	Change 21/20	1Q22	2Q22	3Q22	4Q22	2022	Change 22/21
US	16.7	18.5	17.6	17.7	18.0	17.6	0.0	18.1	18.5	18.6	18.9	18.5	0.9
Canada	5.3	5.4	5.2	5.5	5.6	5.5	0.3	5.7	5.5	5.7	5.8	5.7	0.2
Mexico	2.1	1.9	1.9	1.9	1.9	1.9	0.0	1.9	2.0	2.0	2.0	2.0	0.0
Chile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OECD Americas	**24.0**	**25.8**	**24.7**	**25.1**	**25.6**	**25.0**	**0.3**	**25.8**	**25.9**	**26.2**	**26.6**	**26.1**	**1.1**
Norway	1.9	1.7	2.0	2.0	2.2	2.1	0.1	2.2	2.1	2.2	2.3	2.2	0.1
UK	1.1	1.1	1.1	0.9	1.0	0.9	-0.1	1.0	0.9	0.9	1.0	1.0	0.0
Denmark	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Other OECD	0.7	0.7	0.8	0.8	0.7	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.0
OECD Europe	**3.8**	**3.7**	**3.9**	**3.8**	**4.0**	**3.8**	**-0.1**	**3.9**	**3.8**	**3.9**	**4.2**	**3.9**	**0.1**
Australia	0.3	0.5	0.5	0.5	0.5	0.4	0.0	0.5	0.5	0.5	0.5	0.5	0.0
Other Asia Pacific	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
OECD Asia Pacific	**0.4**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Total OECD	**28.3**	**30.0**	**29.1**	**29.5**	**30.1**	**29.3**	**0.2**	**30.2**	**30.2**	**30.6**	**31.4**	**30.6**	**1.3**
China	**4.0**	**4.0**	**4.2**	**4.3**	**4.3**	**4.3**	**0.2**	**4.3**	**4.3**	**4.4**	**4.4**	**4.4**	**0.0**
India	**0.9**	**0.8**	**0.8**	**0.8**	**0.7**	**0.8**	**0.0**	**0.7**	**0.8**	**0.8**	**0.8**	**0.8**	**0.0**
Brunei	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Indonesia	0.9	0.9	0.9	0.8	0.8	0.8	0.0	0.8	0.8	0.8	0.8	0.8	0.0
Malaysia	0.7	0.7	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.7	0.6	0.0
Thailand	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.4	0.4	0.4	0.4	0.4	0.0
Vietnam	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Asia others	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Other Asia	**2.7**	**2.7**	**2.5**	**2.4**	**2.4**	**2.4**	**-0.1**	**2.5**	**2.4**	**2.4**	**2.4**	**2.4**	**0.0**
Argentina	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.0
Brazil	3.3	3.6	3.7	3.7	4.0	3.7	0.0	4.0	3.9	3.9	4.1	4.0	0.2
Colombia	0.9	0.9	0.8	0.8	0.8	0.8	0.0	0.8	0.8	0.7	0.7	0.8	0.0
Ecuador	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.0
Guyana	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.3	0.2	0.1
Latin America	0.4	0.4	0.3	0.3	0.4	0.3	0.0	0.4	0.4	0.4	0.4	0.4	0.0
Latin America	**5.8**	**6.1**	**6.0**	**6.1**	**6.5**	**6.1**	**0.1**	**6.5**	**6.5**	**6.4**	**6.6**	**6.5**	**0.4**
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Oman	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.1	1.1	1.0	0.1
Qatar	1.9	1.9	1.9	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Syria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yemen	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0
Middle East	**3.2**	**3.2**	**3.2**	**3.2**	**3.3**	**3.2**	**0.1**	**3.3**	**3.3**	**3.4**	**3.4**	**3.4**	**0.1**
Cameroon	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chad	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Egypt	0.7	0.7	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.5	0.5	0.5	0.0
Ghana	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.1	0.1	0.2	0.0
South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Sudans	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Africa other	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Africa	**1.5**	**1.5**	**1.4**	**1.3**	**1.3**	**1.3**	**-0.1**	**1.3**	**1.3**	**1.2**	**1.2**	**1.2**	**-0.1**
Russia	**11.5**	**11.6**	**10.6**	**10.8**	**11.1**	**10.8**	**0.2**	**11.5**	**11.8**	**11.9**	**11.9**	**11.8**	**1.0**
Kazakhstan	1.9	1.9	1.8	1.7	1.9	1.8	0.0	1.9	2.0	2.0	2.0	2.0	0.2
Azerbaijan	0.8	0.8	0.7	0.7	0.8	0.7	0.0	0.8	0.8	0.8	0.8	0.8	0.1
Eurasia others	0.4	0.4	0.4	0.4	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Other Eurasia	**3.1**	**3.1**	**2.9**	**2.8**	**3.0**	**2.9**	**0.0**	**3.1**	**3.1**	**3.2**	**3.2**	**3.1**	**0.2**
Other Europe	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**
Total Non-OECD	**32.8**	**33.1**	**31.7**	**31.8**	**32.8**	**32.0**	**0.3**	**33.3**	**33.6**	**33.7**	**34.0**	**33.6**	**1.6**
Non-OPEC	61.0	63.2	60.8	61.3	62.9	61.4	0.5	63.6	63.8	64.3	65.3	64.3	2.9
Processing gains	2.3	2.4	2.2	2.3	2.3	2.3	0.1	2.4	2.4	2.4	2.4	2.4	0.1
Non-OPEC liquids production	**63.4**	**65.6**	**63.0**	**63.6**	**65.1**	**63.6**	**0.7**	**66.0**	**66.2**	**66.7**	**67.7**	**66.7**	**3.0**
OPEC NGL	5.2	5.1	4.9	5.1	5.1	5.0	0.1	5.1	5.2	5.2	5.2	5.2	0.1
OPEC Non-conventional	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
OPEC (NGL+NCF)	**5.3**	**5.2**	**5.0**	**5.2**	**5.2**	**5.2**	**0.1**	**5.2**	**5.3**	**5.3**	**5.3**	**5.3**	**0.1**
Non-OPEC & OPEC (NGL+NCF)	**68.7**	**70.8**	**68.0**	**68.8**	**70.3**	**68.8**	**0.8**	**71.2**	**71.5**	**72.0**	**73.1**	**71.9**	**3.1**

Note: Totals may not add up due to independent rounding. Source: OPEC.

Table 11 - 5: World rig count, units

World rig count	2018	2019	2020	Change 2020/19	4Q20	1Q21	2Q21	3Q21	Sep 21	Oct 21	Change Oct/Sep
US	1,031	944	436	-508	311	393	452	498	509	538	29
Canada	191	134	90	-44	89	145	73	151	153	166	13
Mexico	27	37	41	4	38	46	42	43	42	49	7
OECD Americas	**1,251**	**1,116**	**567**	**-549**	**438**	**585**	**568**	**694**	**706**	**755**	**49**
Norway	15	17	16	-1	17	16	18	17	17	18	1
UK	7	15	6	-9	7	8	8	9	10	7	-3
OECD Europe	**62**	**74**	**59**	**-15**	**55**	**54**	**59**	**59**	**61**	**59**	**-2**
OECD Asia Pacific	**21**	**29**	**22**	**-7**	**18**	**16**	**21**	**28**	**30**	**27**	**-3**
Total OECD	**1,334**	**1,219**	**648**	**-571**	**511**	**656**	**648**	**781**	**797**	**841**	**44**
Other Asia*	222	221	187	-34	160	161	170	181	180	178	-2
Latin America	129	128	58	-70	60	76	89	93	96	101	5
Middle East	64	68	57	-11	48	57	56	57	59	56	-3
Africa	46	55	43	-12	32	33	39	47	47	45	-2
Other Europe	13	14	12	-2	12	12	7	9	9	9	0
Total Non-OECD	**474**	**486**	**357**	**-129**	**312**	**338**	**362**	**385**	**391**	**389**	**-2**
Non-OPEC rig count	**1,808**	**1,705**	**1,005**	**-700**	**823**	**994**	**1,010**	**1,166**	**1,188**	**1,230**	**42**
Algeria	50	45	31	-14	25	22	27	24	26	29	3
Angola	4	4	3	-1	3	4	4	4	4	4	0
Congo	3	3	1	-2	0	0	0	0	0	1	1
Equatorial Guinea**	0	1	0	-1	0	0	0	0	0	1	1
Gabon	3	7	3	-4	0	1	1	3	4	3	-1
Iran**	157	117	117	0	117	117	117	117	117	117	0
Iraq	59	74	47	-27	28	32	36	42	43	46	3
Kuwait	51	46	45	-1	29	28	23	25	24	21	-3
Libya	5	14	12	-2	10	12	12	14	14	14	0
Nigeria	13	16	11	-5	7	6	5	10	11	9	-2
Saudi Arabia	117	115	93	-22	63	62	62	59	61	68	7
UAE	55	62	54	-8	40	43	44	39	38	42	4
Venezuela	32	25	24	-1	25	25	25	25	25	25	0
OPEC rig count	**549**	**529**	**441**	**-88**	**347**	**352**	**356**	**361**	**367**	**380**	**13**
World rig count* **	**2,357**	**2,234**	**1,446**	**-788**	**1,170**	**1,346**	**1,366**	**1,527**	**1,555**	**1,610**	**55**
of which:											
Oil	1,876	1,788	1,125	-663	896	1,044	1,076	1,212	1,236	1,279	43
Gas	448	415	275	-140	238	269	257	281	284	298	14
Others	33	31	46	15	36	33	33	34	35	33	-2

*Note: * Other Asia includes India and offshore rigs for China.*
*** Estimated data when Baker Hughes Incorporated did not reported the data.*
**** Data excludes onshore China as well as Russia and other Eurasia.*
Totals may not add up due to independent rounding.
Sources: Baker Hughes and OPEC.

Glossary of Terms

Abbreviations

b	barrels
b/d	barrels per day
bp	basis points
bb	billion barrels
bcf	billion cubic feet
cu m	cubic metres
mb	million barrels
mb/d	million barrels per day
mmbtu	million British thermal units
mn	million
m-o-m	month-on-month
mt	metric tonnes
q-o-q	quarter-on-quarter
pp	percentage points
tb/d	thousand barrels per day
tcf	trillion cubic feet
y-o-y	year-on-year
y-t-d	year-to-date

Acronyms

ARA	Amsterdam-Rotterdam-Antwerp
BoE	Bank of England
BoJ	Bank of Japan
BOP	Balance of payments
BRIC	Brazil, Russia, India and China
CAPEX	capital expenditures
CCI	Consumer Confidence Index
CFTC	Commodity Futures Trading Commission
CIF	cost, insurance and freight
CPI	consumer price index
DoC	Declaration of Cooperation
DCs	developing countries
DUC	drilled, but uncompleted (oil well)
ECB	European Central Bank
EIA	US Energy Information Administration
Emirates NBD	Emirates National Bank of Dubai
EMs	emerging markets
EV	electric vehicle

FAI	fixed asset investment
FCC	fluid catalytic cracking
FDI	foreign direct investment
Fed	US Federal Reserve
FID	final investment decision
FOB	free on board
FPSO	floating production storage and offloading
FSU	Former Soviet Union
FX	Foreign Exchange
FY	fiscal year
GDP	gross domestic product
GFCF	gross fixed capital formation
GoM	Gulf of Mexico
GTLs	gas-to-liquids
HH	Henry Hub
HSFO	high-sulphur fuel oil
ICE	Intercontinental Exchange
IEA	International Energy Agency
IMF	International Monetary Fund
IOCs	international oil companies
IP	industrial production
ISM	Institute of Supply Management
JODI	Joint Organisations Data Initiative
LIBOR	London inter-bank offered rate
LLS	Light Louisiana Sweet
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LR	long-range (vessel)
LSFO	low-sulphur fuel oil
MCs	(OPEC) Member Countries
MED	Mediterranean
MENA	Middle East/North Africa
MOMR	(OPEC) Monthly Oil Market Report
MPV	multi-purpose vehicle
MR	medium-range or mid-range (vessel)
NBS	National Bureau of Statistics
NGLs	natural gas liquids
NPC	National People's Congress (China)
NWE	Northwest Europe
NYMEX	New York Mercantile Exchange
OECD	Organisation for Economic Co-operation and Development
OPEX	operational expenditures
OIV	total open interest volume
ORB	OPEC Reference Basket
OSP	Official Selling Price
PADD	Petroleum Administration for Defense Districts
PBoC	People's Bank of China
PMI	purchasing managers' index
PPI	producer price index

RBI	Reserve Bank of India
REER	real effective exchange rate
ROI	return on investment
SAAR	seasonally-adjusted annualized rate
SIAM	Society of Indian Automobile Manufacturers
SRFO	straight-run fuel oil
SUV	sports utility vehicle
ULCC	ultra-large crude carrier
ULSD	ultra-low sulphur diesel
USEC	US East Coast
USGC	US Gulf Coast
USWC	US West Coast
VGO	vacuum gasoil
VLCC	very large crude carriers
WPI	wholesale price index
WS	Worldscale
WTI	West Texas Intermediate
WTS	West Texas Sour

OPEC Basket average price *US$/b*

up 8.23 in October	October 2021	82.11
	September 2021	73.88
	Year-to-date	**68.33**

October OPEC crude production *mb/d, according to secondary sources*

up 0.22 in October	October 2021	27.45
	September 2021	27.24

Economic growth rate *per cent*

	World	OECD	US	Euro–zone	Japan	China	India
2021	5.6	5.0	5.5	5.1	2.5	8.3	9.0
2022	4.2	3.6	4.1	3.9	2.0	5.8	6.8

Supply and demand *mb/d*

2021		**21/20**	**2022**		**22/21**
World demand	96.4	5.7	World demand	100.6	4.2
Non-OPEC liquids production	63.6	0.7	Non-OPEC liquids production	66.7	3.0
OPEC NGLs	5.2	0.1	OPEC NGLs	5.3	0.1
Difference	**27.6**	**4.9**	**Difference**	**28.7**	**1.0**

OECD commercial stocks *mb*

	Sep 20	Jul 21	Aug 21	Sep 21	Sep 21/Aug 21
Crude oil	1,529	1,376	1,344	1,334	-9.3
Products	1,650	1,476	1,480	1,471	-9.2
Total	**3,179**	**2,852**	**2,824**	**2,805**	**-18.5**
Days of forward cover	74	62	62	62	-0.2

Next report to be issued on 13 December 2021.