



Organization of the Petroleum Exporting Countries



OPEC Monthly Oil Market Report

13 December 2021

Feature article:
Review of 2021 and outlook for 2022

Oil market highlights	i
Feature article	iii
Crude oil price movements	1
Commodity markets	7
World economy	10
World oil demand	25
World oil supply	34
Product markets and refinery operations	49
Tanker market	55
Crude and refined products trade	59
Commercial stock movements	65
Balance of supply and demand	71



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Oil Market Highlights

Crude Oil Price Movements

Crude oil spot prices declined in November, amid concerns regarding the emergence of the new Omicron COVID-19 variant, and easing of the energy crunch which had resulted in higher oil demand from the gas-to-oil switching. The OPEC Reference Basket (ORB) value dropped by \$1.74, or 2.1%, in November to average \$80.37/b, amid lower prices of almost all medium and heavy sour grades in Asia, Europe, and the Americas. The year-to-date (y-t-d) ORB value reached \$69.45/b, which is \$28.71, or 70.4%, higher compared with the same period last year of \$40.75/b. Similarly, crude oil futures prices ended November sharply lower amid higher volatility after a broad selloff in futures and equity markets, amid the emergence of the new Omicron COVID-19 variant and easing concerns about an energy crunch. The ICE Brent first-month fell by \$2.90, or 3.5%, in November to average \$80.85/b, and NYMEX WTI declined by \$2.57, or 3.2%, to average \$78.65/b. DME Oman crude oil futures prices fell by \$2.11 m-o-m, or 2.6%, to settle at \$79.70/b in November. The spread between the ICE Brent and NYMEX WTI benchmarks narrowed further in November by 33¢ to average \$2.20/b. Hedge funds and other money managers accelerated selling in November, contributing to the decline in oil prices. Combined speculative net length positions linked to ICE Brent and NYMEX WTI dropped to the lowest level since November 2020. The backwardation structure in all three markets weakened considerably in the second half of November.

World Economy

The global GDP growth forecast in 2021 is revised slightly down to 5.5%, from 5.6% in the previous month's assessment, while the 2022 growth forecast remains unchanged at 4.2%. The US is still expected to grow by 5.5% in 2021 and 4.1% in 2022, unchanged from last month's assessment. Similarly, Euro-zone economic growth remains at 5.1% for 2021 and at 3.9% for 2022. Japan's economic growth forecast for 2021 is revised down to 2% from 2.5%, after an unexpectedly strong decline in 3Q21, but forecast for 2022 is revised up to 2.2% from 2%, with ongoing 4Q21 momentum expected to be carried over into next year. Given the softening growth momentum in 2H21, China's economic growth forecast for 2021 is revised down to 8% from 8.3% and to 5.6% from 5.8% for 2022. India's forecast for 2021 is revised down to now stand at 8.8%, compared with 9% in the previous month, but anticipated momentum from 4Q21 has lifted the 2022 growth forecast to 7%. Russia GDP growth forecast remains unchanged at 4% for 2021 and 2.7% for 2022. Brazil's economic growth forecasts for both 2021 and 2022 are also unchanged at 4.7% and 2%, respectively. 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 that require close monitoring.

World Oil Demand

World oil demand is kept unchanged compared to last month's assessment, showing a growth of 5.7 mb/d in 2021. However, oil demand was adjusted higher in 1H21, amid better-than-anticipated transportation fuel consumption in OECD, offset by a downwardly-revised estimate for 3Q21 due to increased COVID-19 cases and softer industrial production in China, as well as easing transportation fuel recovery in India. The 4Q21 oil demand was adjusted slightly lower, mainly to account for COVID-19 containment measures in Europe and the potential impact of the new Omicron COVID-19 variant. The forecast for 2022 is also kept unchanged at 4.2 mb/d. Indeed, some of the recovery previously expected in 4Q21 is now shifted to 1Q22, followed by a more steady recovery throughout 2H22. The impact of the new Omicron variant is expected to be mild and short-lived, as the world becomes better equipped to manage COVID-19 and its related challenges. This is in addition to a steady economic outlook in both the advanced and emerging economies.

World Oil Supply

Non-OPEC liquids supply growth in 2021 remained unchanged at around 0.7 mb/d y-o-y to average 63.7 mb/d. The upward revisions in the US, and Canada were offset by downward adjustments to Brazil, and Norway. The 2021 oil supply forecast primarily sees growth in Canada, Russia, China, US, Norway, Guyana, and Qatar, while output is projected to decline in the UK, Colombia, Indonesia and Brazil. Similarly, the non-OPEC supply growth forecast for 2022 is also kept unchanged at around 3.0 mb/d, to average 66.7 mb/d. The main drivers of liquids supply growth are expected to be the US and Russia, followed by Brazil, Canada, Kazakhstan,

Oil Market Highlights

Norway and Guyana. OPEC NGLs are forecast to grow by 0.1 mb/d both in 2021 and 2022 to average 5.1 mb/d and 5.3 mb/d, respectively. In November, OPEC crude oil production increased by 0.29 mb/d m-o-m, to average 27.72 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Refinery margins in all main trading hubs weakened in November, as the performance of all product across the barrel in all regions lost ground m-o-m with the exception of Naphtha in Asia. This downturn was attributed to a rise in product outputs as refineries ramped-up run rates, following major turnarounds to replenish product inventory levels. In addition, the seasonal demand-side weakness amid renewed lockdown measures as a result of a rise in COVID-19 infection rates further weighed on product markets. Going forward, a potential continuation of a rise in global refinery processing rates will most likely lead to a widening product balance and continued weakness in product markets in the coming month. Moreover, concerns over the spread of the Omicron variant is set to add to the downside and further suppress the robust recovery in jet fuel margins witnessed in the recent months, particularly during the end of the year holiday season.

Tanker Market

Dirty tanker spot freight rates remained steady in November, as the expected year-end upward momentum had yet to show. For VLCCs, the Middle East-to-East route averaged WS43, up 2% m-o-m. While this represented an improvement over November 2020, it is still well below pre-COVID levels for this time of year. For Suezmax, the West Africa-to-US Gulf Coast averaged WS61 for a decline of 6%. In contrast, clean tanker spot rates strengthened, with gains both east and west of Suez. Optimism for the end of the year has been shaken somewhat by the uncertainty around the impact of the Omicron variant on economic activities, as well as the persistent imbalance in the tanker market.

Crude and Refined Products Trade

Preliminary data shows US crude imports in November partly recovered from a dip in the month before to average 6.4 mb/d. US crude exports also rose for the second month to average 2.9 mb/d. China's crude imports averaged 8.9 mb/d in October, the lowest since February 2018, although preliminary customs data shows a recovery in November with crude imports averaging 10.2 mb/d. India's crude imports fell back, following 2 months of gains, averaging 4.0 mb/d in October. In contrast, India's product imports increased, driven by higher inflows of gasoline and fuel oil. Japan's crude imports fell for the second month in a row, averaging 2.4 mb/d in October. In OECD Europe, the latest data for August shows crude imports remaining strong at 8.7 mb/d, while crude exports continued to edge higher reaching 0.5 mb/d.

Commercial Stock Movements

Preliminary October data sees total OECD commercial oil stocks up by 9.9 mb m-o-m. At 2,773 mb, they were 357 mb lower than the same time one year ago, 207 mb lower than the latest five-year average and 174 mb below the 2015-2019 average. Within the components, crude and products stocks rose by 9.4 mb and 0.5 mb m-o-m respectively. At 1,307 mb, OECD crude stocks stood 154 mb below the latest five-year average and 149 mb below the 2015-2019 average. At 1,465 mb, OECD product stocks exhibited a deficit of 52 mb below the latest five-year average, and were 25 mb lower than the 2015-2019 average. In terms of days of forward cover, OECD commercial stocks rose m-o-m by 1.0 day in October to stand at 61.7 days. This is 12.1 days below October 2020 levels, 2.7 days below the latest five-year average, and 0.7 days less than the 2015-2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2021 is revised up by 0.2 mb/d from the previous month's assessment to stand at 27.8 mb/d, around 4.9 mb/d higher than in 2020. Demand for OPEC crude in 2022 was revised up by 0.2 b/d from the previous month's assessment to stand at 28.8 mb/d, around 1.0 mb/d higher than in 2021.

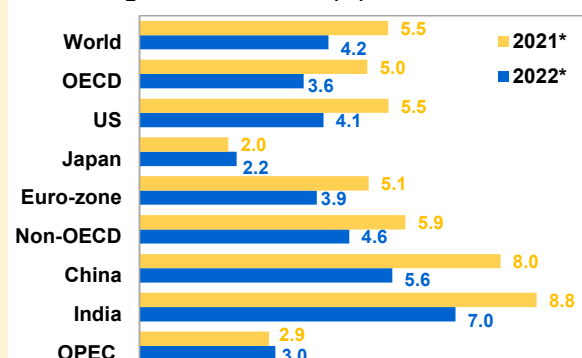
Feature Article

Review of 2021 and outlook for 2022

The global economy recovered strongly in 2021, supported by unprecedented fiscal and monetary stimulus in major economies, pent-up demand and increased investments. World GDP growth is estimated at 5.5% in 2021 and is forecast at 4.2% in 2022.

However, numerous challenges have emerged during the year, as the recovery was increasingly divergent among and within major economies. Moreover, ongoing supply-chain issues, in combination with continued tight labour markets have led to rising core-inflation in some major economies. While some inflationary factors may qualify as temporary, the rise in wages and salaries in affected economies may turn out to be of a more sustained nature. Given the solid economic growth levels in most western economies, the unprecedented monetary stimulus may gradually be reduced in the short-term. This could potentially lead to additional challenges for highly indebted emerging economies, with foreign currency debt.

Graph 1: Real GDP growth for selected countries and regions in 2021-2022 (%)



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

Global oil demand growth is estimated to have rebounded by 5.7 mb/d y-o-y in 2021. The non-OECD region increased 3.2 mb/d, while the OECD is estimated to have added 2.5 mb/d. This increase is driven by a steady rebound in economic activities and improved transportation fuel consumption, despite a resurgence in COVID-19 cases and containment measures.

In 2022, world oil demand is forecast to increase by 4.2 mb/d, y-o-y, given improved COVID-19 management and rising vaccination rates, enabling economic activity and mobility to return to pre-pandemic levels, supporting transportation fuels in particular. OECD oil demand is forecast to grow by 1.8 mb/d in 2022, while the non-OECD region

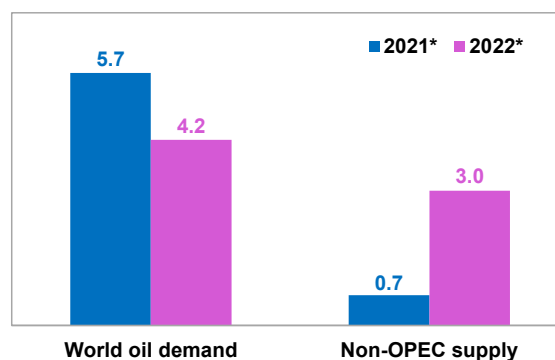
is projected to increase by 2.3 mb/d, supported by steady momentum in economic activities, particularly China, India and Other Asia. Meanwhile, as vaccination rates increase, the impact of the Omicron variant is projected to be mild and short-lived.

On the supply side, non-OPEC growth in 2021 is estimated at 0.7 mb/d, impacted by major production outages in 2H21, due to weather and accidents, prolonged and unforeseen maintenance, as well as COVID-19-related safety measures in offshore platforms and drilling areas. On the other hand, non-OPEC participants in the Declaration of Cooperation (DoC) continue to return their planned volumes to the market. The main drivers of growth in 2021 for non-OPEC supply are estimated to have been Canada, Russia, and China.

In 2022, non-OPEC supply is projected to see robust growth of 3.0 mb/d, y-o-y, on the back of an expected gradual increase in drilling and completion activities in the US, leading to expected growth of 0.6 mb/d for US tight oil output. The US and Russia are forecast to contribute two thirds of total expected growth, followed by Brazil, Canada, Kazakhstan, Norway, and Guyana. However, investment in the non-OPEC upstream sector in 2021 and 2022 is estimated at around \$350 billion each, showing a 50% drop compared to the 2014 level, and thereby limiting growth potential.

While the expected recovery in 2021 was surrounded with challenges, some of these are expected to continue into the next year. The expected market balance continues to be determined by the evolution of the COVID-19 pandemic, as a key factor of uncertainty, but the successful joint efforts of the DoC continue to closely monitor all developments in a timely and vigilant manner, to be able to react to rapidly changing market circumstances.

Graph 2: World oil demand and non-OPEC supply growth in 2021-2022 (mb/d)



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

Table of Contents

Oil Market Highlights	v
Feature Article	vii
<i>Review of 2021 and outlook for 2022</i>	<i>vii</i>
Crude Oil Price Movements	1
Crude spot prices	1
The oil futures market	3
The futures market structure	5
Crude spreads	6
Commodity Markets	7
Trends in selected commodity markets	7
Investment flows into commodities	9
World Economy	10
OECD	12
Non-OECD	17
The impact of the US dollar (USD) and inflation on oil prices	24
World Oil Demand	25
OECD	26
Non-OECD	29
World Oil Supply	34
OECD	37
Non-OECD	44
OPEC NGLs and non-conventional oils	46
OPEC crude oil production	47
World oil supply	48
Product Markets and Refinery Operations	49
Refinery margins	49
Refinery operations	50
Product markets	50
Tanker Market	55
Spot fixtures	55
Sailings and arrivals	55
Dirty tanker freight rates	56
Clean tanker freight rates	57

Crude and Refined Products Trade	59
US	59
China	60
India	61
Japan	62
OECD Europe	63
Eurasia	64
Commercial Stock Movements	65
OECD	65
US	66
Japan	67
EU-14 plus UK and Norway	68
Singapore, Amsterdam-Rotterdam-Antwerp (ARA) and Fujairah	69
Announcement of coordinated SPR release	70
Balance of Supply and Demand	71
Balance of supply and demand in 2021	71
Balance of supply and demand in 2022	72
Appendix	73
Glossary of Terms	79
Abbreviations	79
Acronyms	79

Crude Oil Price Movements

Crude oil spot prices averaged lower in November on fears of the COVID-19 Omicron variant and a surge of COVID-19 cases in Europe and other regions. In November, North Sea Dated and WTI's first month declined m-o-m by \$2.17 and \$2.25, respectively, or 2.6% and 2.8%, to settle at \$81.37/b and \$79.11/b. WTI's first month fell the least among the benchmarks, declining by \$1.17 m-o-m, or 1.4%, to settle at \$80.29/b.

The ORB value fell by \$1.74, or 2.1%, in November to average \$80.37/b. After two consecutive months of strong gains, the ORB fell on lower related crude benchmarks and lower official selling prices of almost all medium and heavy sour grades in all three markets – Asia, Europe and the Americas. Y-t-d, the ORB value was \$28.71, or 70.4%, higher at \$69.45/b, compared to \$40.75/b for the same month in 2020.

Crude oil futures prices ended November sharply lower after broad sell-offs in futures and equity markets triggered by fears that the rapid spread of the Omicron variant could derail the global economic and oil demand recovery. Market sentiment worsened due to a lack of information about the severity of this new variant. Meanwhile, concerns about an energy crisis and higher oil demand from the gas-to-oil switch eased as gas prices moved lower in major hubs. Oil prices were little changed after the US and other large consumer countries announced the release of crude oil from their strategic petroleum reserves (SPRs). The ICE Brent first month fell by \$2.90, or 3.5%, in November to average \$80.85/b, and NYMEX WTI declined by \$2.57, or 3.2%, to average \$78.65/b. DME Oman crude oil futures prices fell in November by \$2.11 m-o-m, or 2.6%, to settle at \$79.70/b.

The spread between the ICE Brent and NYMEX WTI benchmarks narrowed further in November by 33¢ to average \$2.20/b.

The sell-off by hedge funds and other money managers accelerated in November and combined speculative net length positions linked to both ICE Brent and NYMEX WTI dropped to their lowest levels since November 2020. The sell-off was more pronounced in NYMEX WTI as speculators were more bullish about the US futures contract. Hedge funds were net sellers of an equivalent of about 176 mb between the week ending 26 October and the week of 30 November, a decline of 29.2%.

The backwardation structure in all three markets weakened considerably in the second half of November, suggesting that the prospect of a global supply-demand balance in the short-term is swinging from expectations of tightness to over-supply.

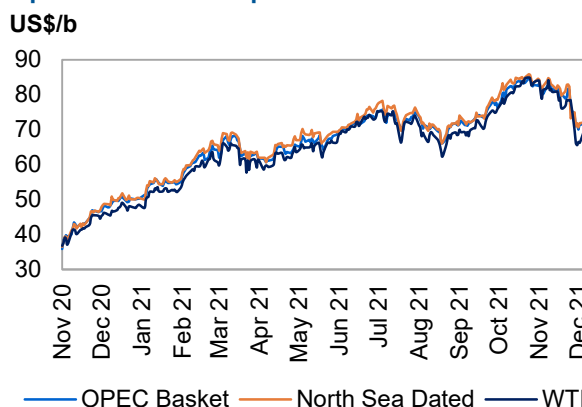
The value of light sweet crude strengthened further in November against the value of medium and heavy sour crude in Asia and the USGC, extending the previous month's trend. However, in Europe, the value of Urals firmed against the North Sea Dated in November supported by strong demand from Europe and prospect for lower supply of the grade in December.

Crude spot prices

Crude oil spot prices averaged lower in November, on fears of the Omicron variant of COVID-19 as well as a surge in COVID-19 cases in Europe and other regions. These developments raised concerns that the reinstatement of lockdown measures and mobility restrictions could dampen demand for transportation fuels.

In November, North Sea Dated and WTI's first month declined m-o-m by \$2.17 and \$2.25, respectively, or 2.6% and 2.8%, to settle at \$81.37/b and \$79.11/b. WTI's first month fell the least among the benchmarks, declining by \$1.17 m-o-m, or 1.4%, to settle at \$80.29/b.

Graph 1 - 1: Crude oil price movement



Sources: Argus, OPEC and Platts.

Crude Oil Price Movements

However, in the first half of the month, the physical crude market showed solid supply/demand fundamentals, which was reflected in healthy refining margins, strong backwardation in all markets, and higher crude oil differentials for all grade qualities. Official data showed higher refinery runs in November m-o-m in Europe, China and the US. Furthermore, refiners raised buying interest in December loading, specifically from Asia-Pacific refiners, on expectations of higher crude runs in November and December and solid refining margins for light and middle distillates. However, refining margins weakened in the second half of November, including in the Asia-Pacific and Europe.

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

OPEC Reference Basket (ORB)	Oct 21	Nov 21	Change		Year-to-date	
			Nov/Oct	%	2020	2021
ORB	82.11	80.37	-1.74	-2.1	40.75	69.45
Arab Light	82.77	80.81	-1.96	-2.4	41.23	70.17
Basrah Light	81.48	79.62	-1.86	-2.3	40.77	69.44
Bonny Light	82.90	80.73	-2.17	-2.6	40.78	70.26
Djeno	76.09	73.92	-2.17	-2.9	35.16	63.03
Es Sider	81.59	80.32	-1.27	-1.6	39.32	68.75
Girassol	84.47	82.29	-2.18	-2.6	41.82	70.94
Iran Heavy	82.14	80.50	-1.64	-2.0	39.98	69.32
Kuwait Export	82.74	81.13	-1.61	-1.9	40.76	70.02
Merey	62.72	61.21	-1.51	-2.4	27.70	51.12
Murban	82.73	82.06	-0.67	-0.8	42.38	69.65
Rabi Light	83.08	80.91	-2.17	-2.6	39.38	70.02
Sahara Blend	83.54	81.97	-1.57	-1.9	41.38	70.44
Zafiro	84.12	82.25	-1.87	-2.2	40.71	70.77
Other Crudes						
North Sea Dated	83.54	81.37	-2.17	-2.6	40.92	70.48
Dubai	81.46	80.29	-1.17	-1.4	41.62	69.00
Isthmus	78.20	75.50	-2.70	-3.5	35.67	65.97
LLS	82.22	79.42	-2.80	-3.4	40.63	69.25
Mars	78.74	75.73	-3.01	-3.8	39.43	66.93
Minas	81.34	79.35	-1.99	-2.4	40.45	68.38
Urals	81.93	80.08	-1.85	-2.3	41.06	69.08
WTI	81.36	79.11	-2.25	-2.8	38.72	67.80
Differentials						
North Sea Dated/WTI	2.18	2.26	0.08	-	2.20	2.68
North Sea Dated/LLS	1.32	1.95	0.63	-	0.29	1.23
North Sea Dated/Dubai	2.08	1.08	-1.00	-	-0.70	1.48

Sources: Argus, Direct Communication, OPEC and Platts.

West African, Mediterranean and Caspian crude oil differentials continued to strengthen in November on firm European refining margins and solid buying interest, which resulted in lower availability of unsold cargoes for December loadings. Strong light distillate margins that benefited from the healthy petrochemical sector added support to light sweet crudes. However, weakening refining margins in the second half of November and wide Brent-Dubai Exchange of Futures for Swaps (EFS) that make west-to-east arbitrage less favourable limited crude differentials gains. Bonny Light, Forcados and Qua Iboe crude differentials rose in November to North Sea Dated, increasing by a monthly average of 30¢, 61¢, and 83¢, respectively, to stand at premiums of 39¢/b, 88¢/b and 88¢/b. Saharan Blend crude differentials also averaged higher, rising by 62¢/b m-o-m to stand at a premium of 87¢/b on average. The Caspian CPC Blend differential rose firmly m-o-m, increasing by 71¢, to an average of 31¢/b discount to North Sea Dated. However, the crude differential of medium-heavy sweet Cabinda weakened m-o-m by 10¢ in November to settle at a premium of 43¢/b, amid soft demand for the grade from China.

In Northwest Europe, the North Sea crude differentials rose on strong demand from European refiners and flow to Asia, although gains were curbed by high crude flow from the US to Europe of similar crude quality, limited arbitrage opportunity and the availability of offshore floating barrels. The Forties and Ekofisk crude differentials rose by 45¢ and 61¢, respectively, on a monthly average in November to settle at a premium of 65¢/b and 88¢/b.

In the Middle East, crude differentials to Dubai mostly rose on strong demand from Asia-Pacific refiners and healthy margins. The value of the Oman crude differential rose by \$1.05 m-o-m in November to a premium of \$3.35/b.

In the USGC, however, coastal crude differentials of Light Louisiana Sweet (LLS) and Mars to WTI weakened m-o-m in November on high WTI futures prices, strong WTI market structure in the first half of the month, and tight Brent-WTI spread, which make these crudes less competitive compared to foreign crudes, specifically in Asia. The oil supply recovery in the Gulf of Mexico and the announcement of the SPR release also added downward pressure on crude differentials. LLS and Mars crude differentials fell by 58¢ and 76¢, respectively, on a monthly average, to a premium of 28¢/b and a discount of \$3.39/b.

OPEC Reference Basket (ORB)

The **ORB** value fell by \$1.74, or 2.1% in November to average at \$80.37/b. After two consecutive months of strong gains, the ORB fell on lower related crude benchmarks and lower official selling prices of almost all medium and heavy sour grades in all three markets – Asia, Europe and the Americas. Y-t-d, the ORB value was \$28.71, or 70.4%, higher at \$69.45/b, compared to \$40.75/b for the same month in 2020. All ORB component values weakened in November, with West and North African Basket components – Bonny Light, Djeno, Es Sider, Girassol, Rabi Light, Sahara Blend and Zafiro – falling \$1.91, or 2.3% m-o-m on average, to \$80.34/b. The multiple regions' destination grades – Arab Light, Basrah Light, Iran Heavy and Kuwait Export – declined by \$1.77, or 2.1% m-o-m on average, to settle at \$80.52/b. Murban crude fell by 67¢, or 0.8% m-o-m on average, to settle at \$82.06/b. Merey component also fell by \$1.51, or 2.4% m-o-m on average, to settle at 61.21/b.

The oil futures market

Crude oil futures prices ended November sharply lower after broad sell-offs in futures and equity markets triggered by fears that the rapid spread of the new Omicron variant could derail the global economic and oil demand recovery. Market sentiment worsened due to a lack of information about the severity of this new variant, while news reports amplified concerns that the Omicron variant could be potentially more transmissible and more resistant to the available vaccines. ICE Brent and NYMEX WTI ended November about 16.7% and 21.3% lower, respectively, compared to early November levels, to reach their lowest since August 2021 on daily basis. The sharp decline in oil prices mirrors a sudden change in sentiment from October's bullish market when oil futures prices hit their highest since 2014.

The drop in oil futures prices in the fourth week of November occurred in a market already under pressure since early in the month. Crude oil futures prices started to retreat in the first half of November from multi-year highs amid easing concerns about an energy crisis and higher oil demand from the gas-to-oil switch as gas prices moved lower in major hubs. The return of lockdowns in Central Europe and Russia due to rising COVID-19 cases earlier in November and in the UK in October, when case numbers reached their highest level since July 2021, raised further concerns about near-term oil demand and weighed on oil prices. Investors were also eyeing a new wave of COVID-19 infections in many areas, including Europe and China, which impacted mobility indexes.

Furthermore, the projections of higher global oil supply in December and the EIA weekly data showing a rise in US crude oil stocks for three consecutive weeks to 5 November, the highest level since August 2021, also contributed to easing worries about tightening the global oil market. Data showed China's manufacturing PMI was lower in October, indicating further economic contraction. Meanwhile, investors were worried that the US Federal Reserve would accelerate plans to boost interest rates to manage inflation, which weighed on market sentiment and prompt some traders to take profits from long positions.

Oil prices resumed their downward trend in the third week of November amid rising volatility as perceptions shifted from a tight oil market in the short term to a risk of an oversupplied market. Market sentiment deteriorated on concerns about the global oil demand outlooks due to the surge of COVID-19 cases in Europe and other regions, and the US dollar jumped against a basket of other major currencies to its highest level since July 2020. Worries about the oil demand outlook intensified further after Austria imposed a national lockdown, while other countries tightened COVID-19-related measures to curb rising infections. Meanwhile, investors weighed the impact of a potential release of crude oil from SPRs in major consuming countries, while the IEA in its November monthly report forecast a 1.5 mb/d increase in global oil supply in November and December. Furthermore, the OPEC Secretariat, IEA and other major agencies projected global oil supply exceeding global oil demand in 1Q22.

Crude Oil Price Movements

Earlier in the fourth week of November, oil prices were little changed after the US and other large consumer countries announced crude oil releases from their SPRs. But the news about the Omicron variant later in the week pushed oil prices sharply lower on worries that further mobility restrictions and lockdowns could dampen oil demand.

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

Crude oil futures	Oct 21	Nov 21	Change		Year-to-date	
			Nov/Oct	%	2020	2021
NYMEX WTI	81.22	78.65	-2.57	-3.2	38.61	67.76
ICE Brent	83.75	80.85	-2.90	-3.5	42.56	70.57
DME Oman	81.81	79.70	-2.11	-2.6	42.35	69.12
Spread						
ICE Brent-NYMEX WTI	2.53	2.20	-0.33	-13.0	3.95	2.81

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

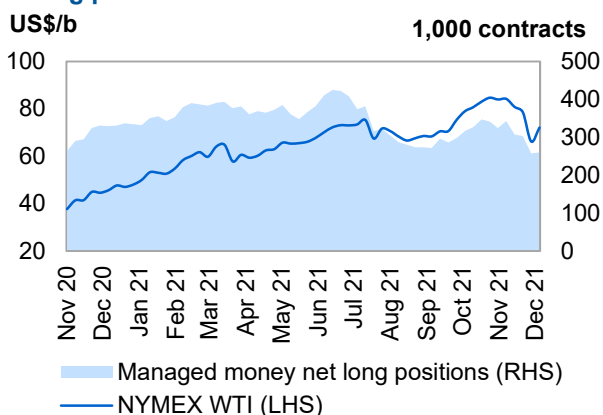
The ICE Brent first-month fell by \$2.90, or 3.5%, in November to average \$80.85/b, and NYMEX WTI declined by \$2.57, or 3.2%, to average \$78.65/b. Y-t-d, ICE Brent was \$28.01, or 65.8%, higher at \$70.57/b, while NYMEX WTI was higher by \$29.15, or 75.5%, at \$67.76/b, compared to the same period a year earlier. DME Oman crude oil futures prices fell in November by \$2.11 m-o-m, or 2.6%, to settle at \$79.70/b. Y-t-d, DME Oman was higher by \$26.77, or 63.2%, at \$69.12/b.

On 10 December, ICE Brent stood at \$75.15/b and NYMEX WTI at \$71.67/b.

The **spread between the ICE Brent and NYMEX WTI** benchmarks narrowed further in November by 33¢ to average \$2.20/b as the NYMEX WTI price declined less than ICE Brent on a monthly average. The Brent-WTI futures spread narrowed in the first half of November to just above \$1/b on average as NYMEX WTI was more supported by low crude stock levels in the Cushing, Oklahoma, trading hub, which fell to their lowest level since September 2018 in the week to 5 November. The gradual rise in US refinery net input of crude oil in November m-o-m added support to WTI futures prices. Furthermore, investors were more bullish on NYMEX WTI contracts compared to ICE Brent, which was reflected in a higher long/short positions ratio. However, The Brent-WTI futures spread widened in the fourth week of November to above \$4/b as NYMEX WTI came under pressure after the US announced the release of 50 mb from its SPR and the sell-off on 26 November was more in NYMEX WTI as speculators were more bullish compared to ICE Brent. However, the North Sea Dated premium to WTI Houston widened in November by 37¢ m-o-m, to average \$1.81/b. Higher US crude oil exports in November, which according to the EIA weekly data averaged about 3 mb/b, and declining crude oil stocks at US PADD3 gave some support to the crude value in the USGC.

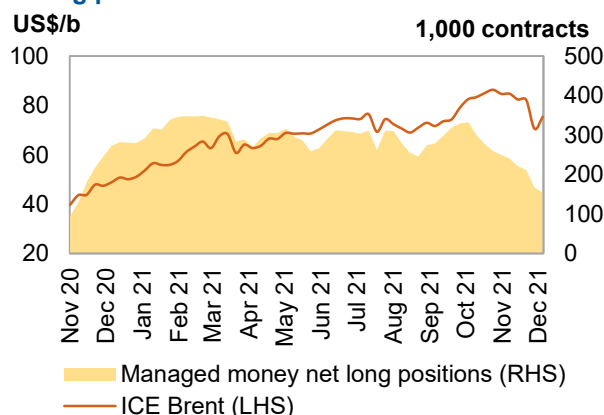
The sell-off by **hedge funds and other money managers** accelerated in November, and combined speculative net length positions linked to both ICE Brent and NYMEX WTI dropped to their lowest levels since November 2020. The sell-off was more pronounced in NYMEX WTI as speculators were more bullish about the US futures contract. Net long positions rose sharply by the end of October and the long/short ratio reached 14:1 in the week to 9 November. Rising concerns about the spread of the Omicron variant and a sharp decline in oil prices prompted speculators to heavily liquidate their long positions.

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.

By the end of the week of 30 November, hedge funds and other money managers held net long positions of 424,797 contracts in the two main crude oil futures and options contracts, the lowest level since November 2020. Hedge funds were net sellers of about 176 mb between the week ending 26 October and the week of 30 November, a decline of 29.2%. Money managers cut their combined futures and options net long positions in ICE Brent by 92,360 contracts, or 35.6%, to reach 167,166 lots between the week of 26 October and the week of 30 November, according to the ICE Exchange. During the same period, gross long positions fell by 80,726 lots, or 23.8%, to 259,068 contracts, while gross short positions rose by 11,634 lots, or 14.5%, to 91,902 contracts.

Hedge funds and other money managers in November also cut their net long positions related to NYMEX WTI by 83,213 lots, or 24.4%, to stand at 257,631 lots in the week of 30 November. This was due to a rise in short positions by 21,828 lots, or 70.3%, to 52,891 contracts, and a decline of 61,385 lots, or 16.5%, in long positions to 310,522 contracts, according to the US Commodity Futures Trading Commission (CFTC).

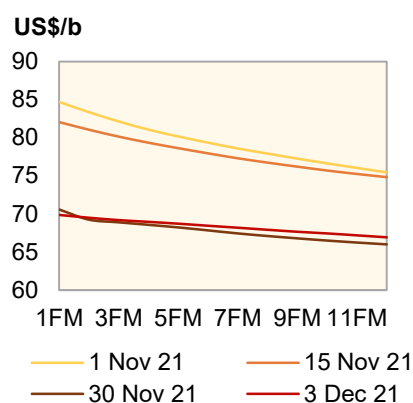
The long-to-short ratio of speculative positions in the ICE Brent contract continued to fall in November, decreasing from about 4:1 in late October to about 3:1 in the week of 30 November. Similarly, the NYMEX WTI long-to-short ratio declined to about 6:1 in the week to 30 November, compared to 12:1 in late October. Total futures and options open interest volumes on the two exchanges fell in November, declining by 6.4%, or 376,996 contracts, to stand at 5.5 million contracts in the week ending 30 November.

The futures market structure

The backwardation structure in all three markets weakened considerably in the second half of November, suggesting that supply/demand expectations are shifting from a tight market to over-supply. This is mainly driven by surging COVID-19 cases in Europe and other areas; the fast spread of the Omicron variant in several countries, which darkened the outlook for global oil demand; and softening expectations of higher oil demand from the gas-to-oil switch. From the supply side, global oil supplies are expected to increase in December from OPEC and non-OPEC producers and SPR releases in several major oil-consuming countries.

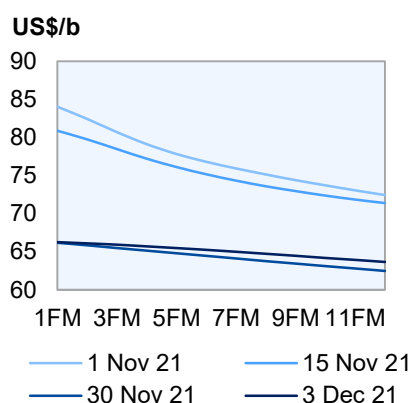
Despite the sharp decline in oil prices, the ICE Brent M1-M3 spread widened in November by 27¢ on a monthly average to a backwardation of \$1.87/b as the front-month contract in the first three weeks of November was supported by positive market sentiment related to the strong oil demand outlook towards the end of the year. The healthy physical crude market and the reduction of crude oil availability in the Atlantic Basin amid a steady recovery in oil refinery buying interest contributed to strengthening the backwardation market structure. However, the ICE Brent forward curve flattened sharply in the fourth week of November and all the curves fell, including those at the middle and the back end, mirroring a shift in market sentiment and forecast of a surplus in the global supply-demand balance. ICE Brent's M1-M6 backwardation was little changed in November, narrowing by 2¢ on monthly average to settle at \$3.92/b on average, compared to a backwardation of \$3.94/b in October.

Graph 1 - 4: ICE Brent forward curves



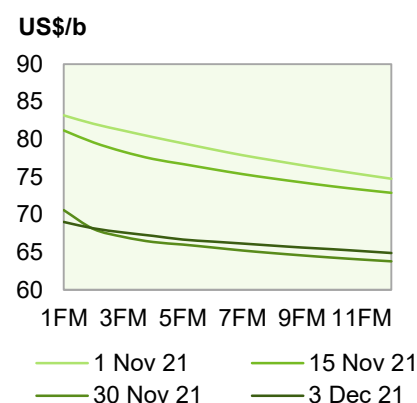
Sources: ICE and OPEC.

Graph 1 - 5: NYMEX WTI forward curves



Sources: CME and OPEC.

Graph 1 - 6: DME Oman forward curves



Sources: DME and OPEC.

The DME Oman market also strengthened in the first three weeks of November on robust crude demand from Asian refiners, amid higher refinery operations in several large oil-consuming countries and strong refinery margins. The rise of Brent-Dubai EFS to above \$5/b made Dubai crude more attractive to Asian buyers than

Crude Oil Price Movements

Brent-related crude in the Atlantic Basin. On a monthly average, the DME Oman M1-M3 backwardation widened by 50¢ m-o-m in November, to \$2.25/b on average, from a backwardation of \$1.75/b in October.

In the US, crude oil stocks at the Cushing, Oklahoma, trading hub fell to their lowest level since October 2018 in the week to 5 November. This, coupled with higher crude demand from US refiners, has largely contributed to the steepening WTI future backwardation structure, with the NYMEX WTI M1-M3 rising to above \$3/b in early November. However, the WTI forward curve flattened significantly in the fourth week of November on the sharp decline in front-month prices due to the worsening oil demand outlook, and as the crude stocks at Cushing started to increase in the second half of November, easing worries about a tighter oil market in PADD2 and a further decline of crude stocks at Cushing.

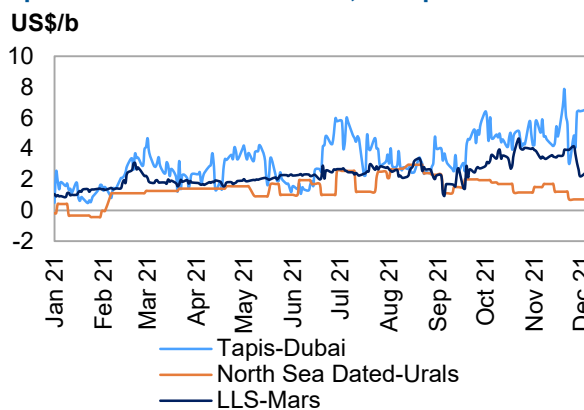
The North Sea Brent M1/M3 spread widened to a backwardation of \$2.05/b in November on a monthly average, compared to a backwardation of \$1.34/b in October, widening by 71¢. In the US, the WTI M1/M3 spread also widened by 14¢ to a backwardation of \$1.80/b on monthly average in November, from a backwardation of \$1.66/b in October. However, the Dubai M1/M3 monthly average spread widened the most by \$1.15 to a backwardation of \$3.33/b on average in November, from a backwardation of \$2.18¢/b in October.

Crude spreads

The value of light sweet crude strengthened further in November against the value of medium and heavy sour crude in Asia and the USGC, extending the previous month's trend. Higher refining margins of light and middle distillate products in the first half of November compared to low margins of sour products, specifically high sulphur fuel oil, contributed to the widening of the sweet-sour spread. Meanwhile, high costs of desulphurization due to high gas prices also weighed on the value of medium and heavy sour crude. However, in Europe, the value of Urals firmed against the North Sea Dated in November supported by strong demand from Europe and prospect for lower supply of the grade in December.

In **Europe**, although North Sea crude differentials of light sweet crudes rose in November, the Urals medium-sour crude discount to North Sea Dated decreased again last month by 32¢ on average m-o-m, to average \$1.29/b, compared to \$1.61/b in October. The Urals grade was supported by firm demand from European refiners for late November and early December cargoes, a lower m-o-m export programme for the grades in December, supportive refining margins, and slow sour crude flow from the east. The Urals crude oil differential to Dated also rose in Northwest Europe and the Mediterranean by 58¢ and 32¢ on average m-o-m, respectively, to stand at a discount of \$1.48//b and \$1.29/b.

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



Sources: Argus, OPEC and Platts.

In the **USGC**, the sweet-sour crude differential widened in November with the LLS premium over medium-sour Mars rising on a monthly average by 21¢ to \$3.69/b. The value of Mars sour crude came under further pressure from soft demand from refiners in the USGC due to maintenance and the prospect of higher sour crude supplies from the US SPR and the recovery of crude production in the GoM, which is mainly sour crude. A wider spread between light distillate and heavy distillate margins in the USGC, specifically HSFO, also contributed to widening the LLS-Mars crude differential in November.

In **Asia**, the sweet-sour crude differential also widened in November with the Tapis premium over Dubai increasing on a monthly average, despite a strong sour crude market in the Middle East amid high demand from Asia-Pacific refiners. The Tapis-Dubai spread widened by 21¢ in November to reach \$5.07/b, as domestic light sweet crudes were supported by lower competition from similar crude quality in the Atlantic Basin amid a wide Brent-Dubai EFS that rose to \$5.42/b in early November, its highest since September 2013. On a monthly average, the Brent-Dubai EFS rose in November by 32¢ to \$4.58/b. Strong gasoline and naphtha margins in the first half of November and strong demand for petrochemical feedstock supported light sweet's value and contributed to widening the Tapis-Dubai spread.

Commodity Markets

Energy commodity prices weakened in November led by a large drop in coal prices. This development came on the back of receding concerns of supply shortages after a ramp up in China's coal production following government instructions to ensure adequate supplies for winter. Natural gas prices receded in Europe on expectations of additional imports from Russia and lower coal prices, while in the US the expectation of warmer than average December weather resulted in a sharp drop that extended into the first week of the month.

Base metals declined, led by a large retreat in aluminium prices on the expectation for a recovery in metals output as energy restrictions in China were relaxed, but low inventories did provide some support. Gold prices advanced, following declines in real interest rates over the month.

Trends in selected commodity markets

The **energy price index** declined m-o-m by 6.4% in November, following two months of gains, with all components declining across regions. The average index level was up by 82.5% in the January–November 2021 timeframe, compared with the same period in 2020.

The **non-energy index** declined m-o-m by 0.2%, with the base metals index dropping by 3.7% and the agricultural index rising by 1.3%. The non-energy index was up by 33.6% in the January–November window, compared to the same period of 2020.

Table 2 - 1: Commodity prices

Commodity	Unit	Monthly averages			% Change	Year-to-date	
		Sep 21	Oct 21	Nov 21	Nov 21/Oct 21	2020	2021
Energy*	Index	105.8	122.3	114.6	-6.4	50.9	92.9
Coal, Australia	US\$/mt	185.7	224.5	157.5	-29.9	58.8	135.2
Crude oil, average	US\$/b	72.8	82.1	79.9	-2.6	40.6	68.7
Natural gas, US	US\$/mbtu	5.1	5.5	5.0	-8.4	2.0	3.9
Natural gas, Europe	US\$/mbtu	22.8	31.1	27.6	-11.0	3.0	14.1
Non-energy*	Index	111.4	115.6	115.4	-0.2	82.9	110.7
Base metal*	Index	124.1	130.0	125.2	-3.7	78.6	117.1
Precious metals*	Index	136.5	136.9	140.5	2.6	132.6	140.5

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

Sources: World Bank and OPEC.

The **Henry Hub natural gas price** dropped m-o-m by around 8.4% to average \$5.0/mmbtu. Prices fell as mild weather resulted in injections to storage extending into mid-November, while prices of European and Asian benchmarks also retreated from panic levels. Temperature forecasts for the month of December increasingly trended toward warmer than average conditions, resulting in a sharp drop in prices during the last couple of weeks of the month, to levels below \$4/mmbtu. According to the EIA, utilities withdrew 59 bcf to working gas underground storage during the week ending 26 November 2021. This build left total working gas in underground storage at 3,564 bcf, around 2.4% below the latest five-year average. At the end of October stocks were 2.7% below the five-year average.

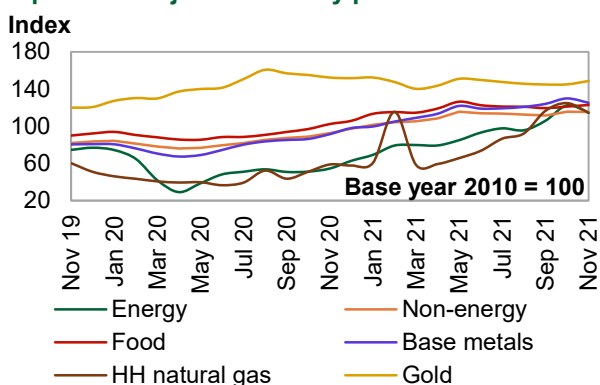
Natural gas prices in Europe declined from the record reached the previous month. The average **Title Transfer Facility price** was down m-o-m by around 11% to \$27.6/mmbtu. Average prices in the January–November period were around four times higher than the same period last year. Prices dropped on the expectation of higher Russian supplies, however, colder than average temperatures, in view of seasonally low inventories, supported prices. Furthermore, carbon emission prices increased – which supported coal to gas switching – on the back of a proposal by the new German coalition government to set a floor price of €60/mt, with the purpose of bringing forward the exit from coal in power generation to 2030, vs. a previous target of 2038. At the same time, some unexpected outages at major facilities also supported liquefied natural gas (LNG) prices in Asia.

Inventory levels in Europe declined amid the arrival of the seasonal colder weather, and ended November around 68% full. This is around 20% below the average of the previous five years, vs. 77% full at the end of October, according to Gas Infrastructure Europe. Last year, inventories were around 88% full at the end of October.

Australian thermal coal prices declined m-o-m by almost 30% in November to average \$157.5/mt. In the January–November timeframe, prices were 130% higher compared to the same period last year. Prices dropped sharply due to the ramp up of China’s coal production, following the directive from the National Development and Reform Commission (NDRC) to ensure adequate winter supplies. This was mentioned in the previous MOMR. According to the *Global Times*, citing NDRC information, output has stabilized around 12 million tonnes per day since mid November – close to the historic high, and inventories at power plants had increased by around 90% since the end of September. At the same time, the forecast of warmer than average weather in North East Asia at the beginning of December, also weighed on prices.

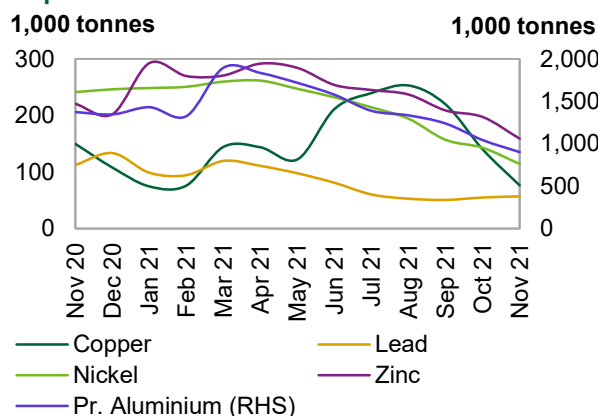
According to the National Bureau of Statistics, China’s thermal power output rose by 5.2% y-o-y in October, compared to an increase of 5.7% y-o-y in September. At the same time, coal output rose by 4.0% y-o-y, vs. a drop of 0.9% y-o-y in September. Hydropower fell by 11.9% y-o-y in October vs. a 0.3% decline y-o-y in September. According to the latest customs data, coal imports increased by 30% m-o-m in November to 35.05 million tonnes. This is up by 10.6% in 2021.

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.

The **base metal price index** declined m-o-m by 3.7% in November, with mixed movement across group components. **Aluminium** fell by 10%, following nine consecutive monthly increases, to average 2,636.5/mt. This was on the expectation that power-rationing measures will be gradually lifted with the increased availability of coal at power plants, mentioned earlier. However, falling warehouse stocks at the London Metal Exchange (LME) provided support. Average prices in the January–November period were 46.2% higher than for the same months of 2020.

Average monthly copper prices dropped m-o-m by 1% in November to average \$ 9,728.9/mt. Average prices in the January–November period were 54.2% higher than for the same months of 2020. Prices dropped following some financial market weakness and the rising dollar value, but the physical market remained supportive. Stock levels at the LME declined by 45% to 76,450 tonnes at the end of November, as expected the previous month. Meanwhile, estimations from the International Copper Study Group (ICGS) for the refined copper balance (adjusted for unreported Chinese inventories) in the January-August period showed a deficit of 120,000 tonnes, vs. a market deficit of 95,000 tonnes in the January-July estimation the previous month. This also supported the view of a tightening balance.

Iron ore prices dropped by 21.7% m-o-m to \$96.2/mt, close to May 2020 levels. Average prices in the January–November window were 58.4% higher than the average for the same period last year. As reported in previous reports, steel making in China is still restricted due to power rationing measures, despite some recent alleviation in this regard. Steel making activity in China dropped by 23.3% y-o-y in October, and was mainly responsible for a y-o-y drop in global steel output of 10.6% during the month, according to the World Steel Association,

In the group of **precious metals**, gold prices advanced, as expectations for real interest rates in the US declined over the month. Gold prices were up by 2.2% in the January-November period, when compared with the similar period of 2020. Silver and platinum prices rose by 3.3% and 2.1% m-o-m, respectively in November.

Investment flows into commodities

Money managers' net length positions increased in gold, but declined in crude oil, copper, and natural gas. Investors held an average net long position in crude oil, copper, and gold, and a net short position in natural gas.

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

Selected commodity	Open interest		Net length			
	Oct 21	Nov 21	Oct 21	%OI	Nov 21	%OI
Crude oil	3,053	2,742	333	11	307	11
Natural gas	1,359	1,315	15	1	-12	-1
Gold	629	737	77	12	127	17
Copper	222	212	41	18	23	11

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

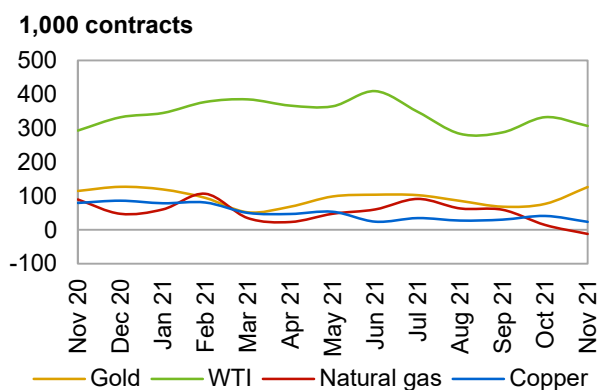
Sources: CFTC and OPEC.

Henry Hub's natural gas open interest (OI) declined by around 3.2% during November. Money managers' switched to an average net short position of 11,517 contracts, from a net long position of 14,678 contracts the previous month, on news of warmer than average weather forecasts.

Copper's OI dropped by 4.5% in November. Money managers' decreased their net length by 42.7% m-o-m to 23,424 contracts from 40,900 contracts the previous month due to receding financial market sentiment.

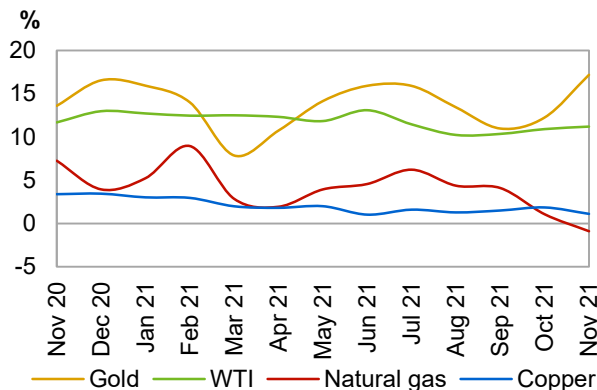
Gold OI rose by 17% in November. Money managers' net length rose by 67% to 126,594 tonnes from 77,048 lots the previous month, as real interest rates fell in the US.

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

Diverging growth trends continue among the various economies and regions. Strong momentum in the commodities sector, which supported growth particularly in 2H21, led to upward revisions in Latin America excluding Brazil, as well as in OPEC and other developing economies. However, the 2H21 soft patch in Asia, impacted by COVID-19-related constraints and corresponding supply-chain issues, led to 2021 downward revisions in Japan, China and India, leading to a lower 2021 global GDP growth forecast of 5.5% compared with 5.6% in the previous month. The global GDP growth forecast for 2022 remains unchanged at 4.2%.

US growth remains unchanged at 5.5% in 2021 and at 4.1% in 2022. Euro-zone economic growth remains unchanged as well at 5.1% for 2021 and at 3.9% for 2022. Japan's economic growth forecast for 2021 is revised down to 2% from 2.5%, after an unexpectedly sharp GDP decline in 3Q21. Japan's forecast for 2022 was revised up to 2.2% from 2%, assuming that ongoing 4Q21 momentum carries over into the next year. Given the softening growth momentum in 2H21, China's economic growth forecast was revised down to 8% from 8.3% for 2021 and to 5.6% from 5.8% for 2022. India's economic growth forecast for 2021 was revised down as well, to 8.8%, compared to 9% in the previous month, while anticipated 4Q21 growth and consequent spill-overs have lifted the 2022 growth forecast to 7%. Russia's GDP growth forecast remains unchanged at 4% for 2021 and at 2.7% for 2022. Brazil's economic growth forecast is also unchanged for both 2021 and 2022 at 4.7% and 2%, respectively.

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.

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

	World	OECD	US	Euro- zone	UK	Japan	China	India	Brazil	Russia
2021	5.5	5.0	5.5	5.1	6.7	2.0	8.0	8.8	4.7	4.0
Change from previous month	-0.1	0.0	0.0	0.0	0.2	-0.5	-0.3	-0.2	0.0	0.0
2022	4.2	3.6	4.1	3.9	3.9	2.2	5.6	7.0	2.0	2.7
Change from previous month	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	0.2	0.0	0.0

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

Source: OPEC.

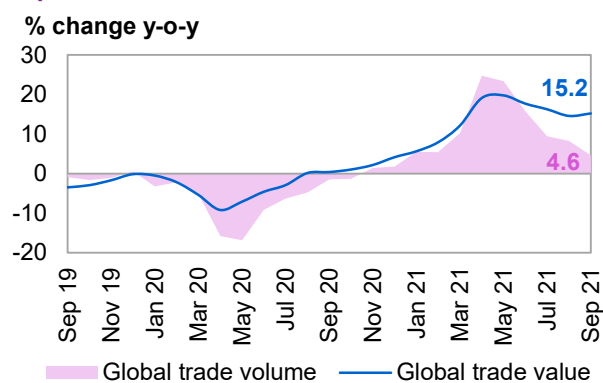
Update on latest global developments

The **global economic recovery has remained firm**. However, recent re-emerging challenges stemming from COVID-19-related issues, the spread of the Omicron variant and weakening Asian growth momentum have highlighted the risks despite the great success of domestic stimulus in key economies and multilateral cooperation to support the global economy. The sharp reaction of markets to the emergence of the Omicron variant has highlighted the fragility of the global growth momentum, which could still be very much impacted by unforeseen COVID-19-related developments.

Moreover, supply chain disruptions and labour market tightness will improve only gradually despite recent positive developments. Inflationary pressures are another important issue, primarily in the US and the Euro-zone given the importance to the US dollar and the Euro. In Brazil and Russia, rising inflation recently led their central banks to hike interest rates significantly, likely impacting the progress of their recoveries in 2022. While India has also experienced rising inflation in 2021, price rises have retracted to more reasonable levels in recent months, in line with the central bank's expectations, allowing it to not hike interest rates. Numerous factors point to the possibility that the current rise in inflation may normalise next year, but given that salaries and wages have already risen in the US and the Euro-zone this trend is expected to continue. Hence, inflation should see an upward level shift when compared to pre-pandemic levels.

Global trade has been impacted by ongoing supply chain disruptions, but has continued to support the global economic recovery amid strong demand. The growth dynamic continues to slow due to the impact of logistical bottlenecks and the base effects of last year, when global trade fell strongly. In September, world trade volumes contracted to stand at 4.6% y-o-y, compared with 8.2% y-o-y growth in August and growth of 9.4% y-o-y in July, based on the CPB World Trade Monitor Index provided by the CPB Netherlands Bureau for Economic Policy Analysis. Supported by the increase of world commodity prices, trade in value terms rose by 15.2% y-o-y compared with 14.6% y-o-y in August.

Graph 3 - 1: Global trade



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

Near-term global expectations

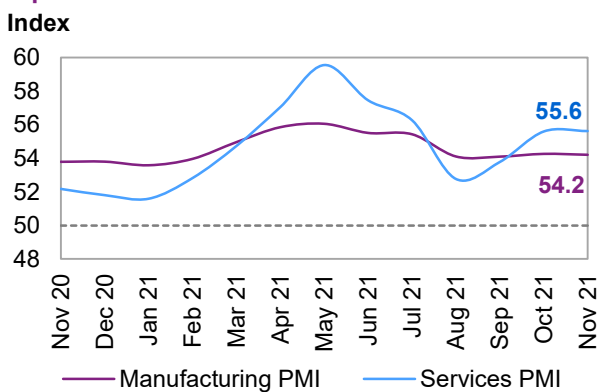
The **global economy is forecast to continue its recovery into 2022** with the return of normalised quarterly growth after high growth rates in 2021, which were driven by base effects and supported by unprecedented fiscal and monetary stimulus, two factors that will not be present to the same extent in 2022. Moreover, growth is forecast to remain regionally divergent in the coming year. The US is expected to perform well and to remain supported by domestic consumption and fiscal stimulus. The Euro-zone will again be impacted by social distancing measures in 1Q22, but is then forecast to recover again for the remainder of the year. The European Central Bank (ECB) is likely to continue its accommodative monetary policies longer than the US Federal Reserve, which is expected to taper its monetary stimulus at a relatively more pronounced pace. Japan is expected to benefit from the ongoing 4Q21 domestic recovery with a spillover into 2022 in combination with the recently announced fiscal stimulus measures, as well as the continuation of loose monetary policy and the rebound in global trade. However, growth levels in Japan will be lower than in the OECD group on average. In the emerging economies, India is forecast to benefit from a recovery in domestic demand and its export-oriented services sector. The continued rebound of growth in India is in contrast to China's momentum that is forecast to remain impacted by challenges in the real-estate sector, among other issues, that the economy will need to handle in the coming year. Furthermore, both Brazil and Russia will experience relatively low growth rates when compared to their emerging market peers. The strong rise in key interest rates in both Brazil and in Russia will impact domestic growth in 2022. Positively, Russia is forecast to continue benefitting from OPEC and non-OPEC efforts to stabilize the oil market.

Importantly, the underlying assumptions for world economic growth in 2021 and 2022 are so far largely unchanged. These include, in particular, the assumption that COVID-19 remains contained in the advanced economies in the sense that it will not dampen the recovery beyond current 4Q21 levels – especially in OECD Europe – and that the pandemic will not pose a significant obstacle to major emerging economies. In addition, labour market tightness is expected to improve gradually, a factor that otherwise may lead to rising inflation at the global level as well. While it currently seems that economic growth risks are tilted towards the downside, upside potential could also materialize. Stimulus measures in the US could turn out to be more effective, while 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 see an acceleration in domestic demand and a strengthening rebound in the export-driven services sector.

With these base assumptions, 1Q21 **global GDP growth is estimated** to stand at 0.6% q-o-q and at 1.4% q-o-q in 2Q21. A deceleration is seen in 3Q21 GDP growth at 0.9% q-o-q, while 4Q21 growth is forecast to decelerate further to 0.5% q-o-q. The growth pattern in 2022 is forecast to be spread relatively equally and in line with average historical patterns.

Global purchasing managers' indices (PMIs) for both the manufacturing and services sectors were relatively stable in November. The global manufacturing PMI stood at 54.2, compared with 54.3 in October and 54.1 in September and August. The global services sector PMI stood at 55.6, the same as 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 diverging growth trends in the global economy and especially the weakening 2H21 GDP growth trend in major Asian economies the 2021 **GDP growth** forecast was revised down slightly to stand at 5.5%, compared with a growth forecast of 5.6% in the previous month. Growth levels in 2022 are forecast to normalize at lower levels, and to remain relatively divergent. GDP growth in 2022 is forecast at 4.2%, unchanged from the previous month. This implies that, among other issues, COVID-19-related

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

	World
2021	5.5
Change from previous month	-0.1
2022	4.2
Change from previous month	0.0

Note: * 2021-2022 = Forecast.

Source: OPEC.

challenges will not derail the recovery. Moreover, it is assumed that inflation will not continue at the high 2H21 levels, particularly in the US and the Euro-zone.

OECD

OECD Americas

US

Update on the latest developments

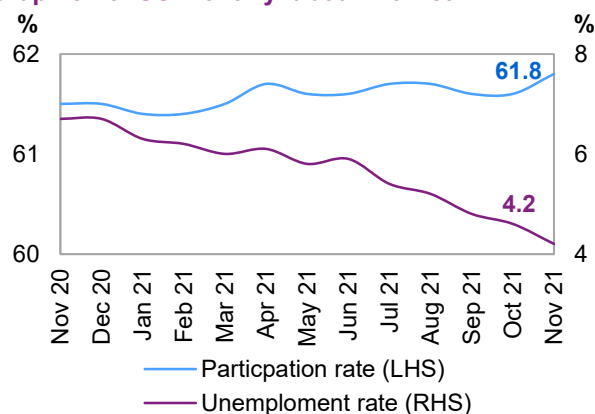
After lacklustre 3Q21 GDP growth amid supply chain bottlenecks and COVID-19 related developments, 4Q21 output has so far been encouraging. **3Q21 GDP growth** was confirmed to have slowed down, standing at only 2.1% q-o-q on seasonally adjusted annualized rate (SAAR), after 6.7% q-o-q SAAR in 2Q21, according to the Bureau of Economic Analysis (BEA). In the meantime, the latest business sentiment measures and other leading indicators are pointing to a rebound in the current quarter. And while the labour market remains tight, this also could be taken more as a signal of the strengthening economy rather than as a sign of weakening. Also, consumer confidence has held up well, and while the US Federal Reserve is likely to continue its monetary tightening, the various asset classes, including equity markets and house prices, have remained at high levels, supporting ongoing consumption. 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. Additional fiscal stimulus measures and the apparent overcoming of budget issues in Congress should support solid growth in the near term. However, the overarching topic remains the new Omicron COVID-19 variant and how it might impact growth in the near term. Thus far, mobility continues to see a positive growth trend across the US.

Consumer confidence held up well in November. The index provided by the Conference Board showed an index level of 109.5 in November, after 111.6 for October and compared with 109.8 in September. US inflation continued rising at 6.2% in October, after 5.4% y-o-y in September. 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 18.7% y-o-y in October, compared with 16.5% y-o-y in September and after 17.6% y-o-y in August. Excluding the volatile components of energy and food, inflation stood at 4.6% y-o-y in October, compared with 4% y-o-y in September and August.

The **unemployment rate** fell again to stand at only 4.2% in November, compared with 4.6% in October and 4.8% in September. The **participation rate** remained low, standing at 61.8% in November, however, rising from 61.6% in October and September, a signal that tightness in the labour market may gradually start easing. The participation rate before the pandemic stood at almost 63%.

Non-farm payrolls improved less in November than expected, marking an increase of 210,000 job additions compared with an upwardly revised increase of 546,000 in October and an increase of 379,000 in September. With ongoing tightness in the labour market, wage developments need close monitoring as they could materially lift inflation. Hourly earnings rose by 4.8% y-o-y in November, the same level as in October, after 4.5% y-o-y in September, constituting a rising trend and 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.

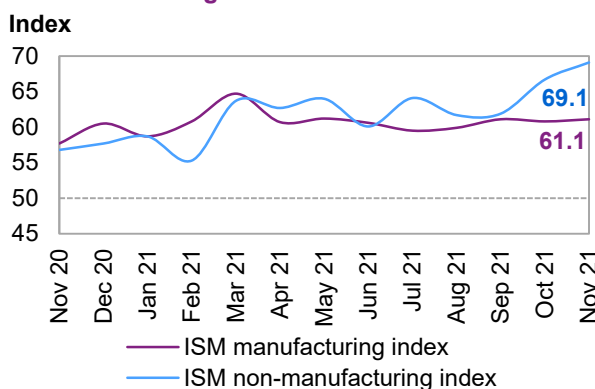
Near-term expectations

Near-term expectations are expected to be well supported, while numerous uncertainties need close monitoring, including near-term inflation, labour market tightness and the corresponding development of labour compensation, the consequent response of the Fed's monetary policy and certainly the near-term development of COVID-19 and the possibility of further restrictions that may impact mobility and hence consumption. Positively, the current quarter's growth levels are forecast to increase with support from solid consumer confidence and the need to replenish inventories. The draw-down from inventories was significant towards the end of 2H21, 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 and rising participation rate point to a gradual improvement in the labour market. Additional fiscal stimulus may provide further 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 2.1% 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 4Q21 and 2022 are forecast to remain sound. Growth in 4Q21 is expected to reach 4.8% q-o-q SAAR, a slight uptick from last month's forecast, when the 4Q21 growth forecast stood at 4.6% q-o-q SAAR. Quarterly growth in 2022 is forecast to be relatively equally distributed at slightly above 4% for the first three quarters of the year, before slowing down to around 2.5% q-o-q SAAR in 4Q22.

The **November 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 to stand at 69.1 in November, compared with 66.7 in October and 61.9 in September, pointing to a strong recovery in the sector. The manufacturing PMI remained almost unchanged in November to stand at 61.1, after 60.8 in October and 61.1 in September.

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



Sources: Institute for Supply Management and Haver Analytics.

Taking a strengthening dynamic in 4Q21 into consideration, the **2021 US GDP growth forecast** remains unchanged at 5.5%. The **current forecast** anticipates that COVID-19 will not materially impact 4Q21 and 2022 growth, and other challenges such as inflation or supply chain disruptions are also not anticipated to hinder growth further. 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 a continued relatively accommodative monetary policy but also by ongoing fiscal stimulus and inventory restocking.

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

	US
2021	5.5
Change from previous month	0.0
2022	4.1
Change from previous month	0.0

Note: * 2021-2022 = Forecast.

Source: OPEC.

Hence, growth in **2022 remains unchanged at 4.1%**. Major uncertainties, mainly associated with the pandemic, but also supply chain issues, inflation and consequent monetary policy adjustments, remain.

OECD Europe

Euro-zone

Update on the latest developments

The **Euro-zone’s growth momentum** has continued to some extent in 4Q21 and the most recent rise in services sector business sentiment indicates there is even the possibility of a surprise to the upside. Additionally, consumer confidence holds up well despite retracting slightly, all pointing at a solid base in domestic consumption. However, the most recent lockdown measures in Austria and other European economies have impacted mobility and lowered growth on a quarterly level. The combination of fiscal stimulus and accommodative monetary policy has continued supporting consumption and investment. The global trade recovery has been another supportive factor, especially for major exporters, such as Germany, France and Italy.

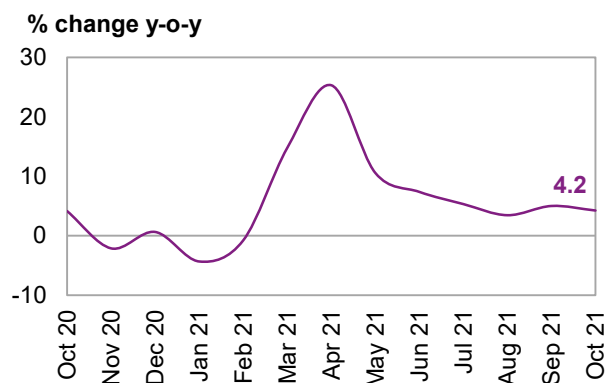
Inflation rose further in November, continuing the rising trend in October and September. Despite this trend, the European Central Bank (ECB) currently appears to be willing to continue monetary stimulus. It is clear that inflationary developments have been further accentuated by global supply issues that have led to price rises for input goods, which has especially impacted the manufacturing sector. Inflation in the Euro-zone rose to 4.8% y-o-y in November, compared with 4.1% y-o-y in October, and after having reached 3.5% y-o-y in September. When excluding volatile items such as food and energy, inflation stood at 2.4% y-o-y in November, compared with 2.2% y-o-y in October and 2% in September. Positively, supported by the monetary easing of the ECB, lending to the private sector by financial institutions continued expanding again in October, rising by 2.8% y-o-y after an increase of 2.6% y-o-y in September and 2.5% y-o-y in August.

The **labour market** continued to see improvements. According to the latest numbers from Eurostat, the unemployment rate stood at 7.3% in October, after 7.4% in September and 7.5% in August.

Retail sales in value terms have risen on a yearly base with growth of 4.2% y-o-y in October, following 5%, y-o-y in September and 3.4% y-o-y expansion in August, all on a seasonally adjusted basis. This translates into a monthly October increase of 0.8% m-o-m.

Industrial production growth stabilised in September, growing by 4.6% y-o-y, the same level as in August and compared with 7.5% y-o-y in July and 10.7% y-o-y in June. This translates into a monthly August decline of 0.2% m-o-m, compared with a monthly decline of 1.7% m-o-m in July. 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 that are also gradually easing now.

Graph 3 - 5: Euro-zone retail sales



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

Near-term expectations

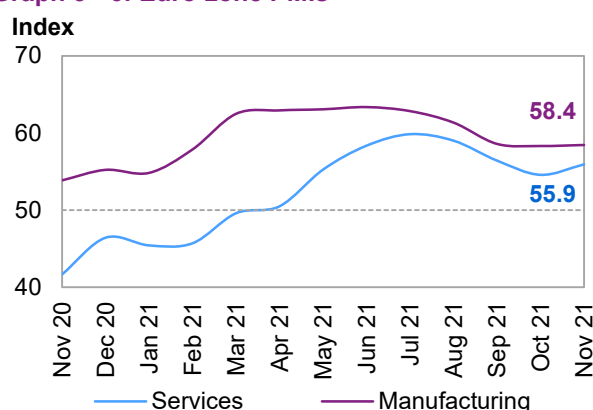
The **4Q21 dynamic** is certainly impacted by again rising COVID-19 infections, which has led to the implementation of social-distancing measures in various economies, including Austria, Germany and the Netherlands, which in turn impacted mobility and consumption patterns. However, the services sector PMI was contradicting the perception of a strong slow-down in the current quarter and there is some possibility that growth will surprise to the upside as it was the case for growth levels in 2Q21 and 3Q21. However, for the time being a significantly softer dynamic is expected to continue into 1Q22.

With regard to the pandemic, it remains to be seen whether vaccination rates will achieve sufficient levels in the rest of the winter to prevent further lockdown measures in 1Q22. There are still numerous economies that have a vaccination at around 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 and 1Q22.

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 1Q22. After reported growth of -0.8% q-o-q SAAR in 1Q21 and 9.1% q-o-q SAAR in 2Q21 and 3Q21, 4Q21 growth is forecast at 2.4% q-o-q SAAR.

The November **PMI** for the Euro-zone economy pointed to an ongoing recovery in manufacturing and services sectors. The PMI for services, the largest sector in the Euro-zone, rose to 55.9, compared with 54.5 in October and 56.4 in September. The manufacturing PMI rose slightly as well slightly to stand at 58.4, compared with 58.3 in October and 58.6 in September.

Graph 3 - 6: Euro-zone PMIs



Sources: IHS Markit and Haver Analytics.

The easing of lockdown measures has led to an again stronger-than-expected growth number in 3Q21. However, as the COVID-19 infections have risen significantly in some important parts of the Euro-zone and consequent social-distancing measures have been implemented a slow-down in 4Q21 is forecast. Hence, **2021 GDP growth** remains at 5.1%, unchanged from last month. GDP growth in **2022** is forecast to slow, similar to other OECD economies. It is forecast to reach 3.9%, as well unchanged from the November MOMR.

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

	Euro-zone
2021	5.1
Change from previous month	0.0
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 experienced a very weak 3Q21 GDP growth**, weaker than expected, given COVID-19 restrictions lowering domestic consumption. 3Q21 GDP was reported to have declined by 3.6% q-o-q SAAR. While government stimulus continued in 3Q21, with government expenditures growing by 4.1% q-o-q SAAR, private consumption declined by 5.1% q-o-q SAAR. As Japan has entered 4Q21 in a very improved situation with vaccination rates now around 80%, consumer confidence has strongly increased and leading

business sentiment indicators are pointing to a considerable improvement in 4Q21. Considering the ongoing recovery in the US, exports should also be well supported in the current quarter. In addition, ongoing fiscal and monetary stimulus is forecast to support the recovery in 4Q21. The government approved a draft for a supplementary 2021/2022 budget of 31.6 trillion yen. This corresponds to around 6% of GDP. However, when reviewing the details, the economic impact will likely be more modest. One natural limitation is the Japanese's economy ability to grow much beyond its potential output level due to capacity constraints in the labour market, but also in capacity utilisation in industrial facilities. Operating rates in manufacturing utilisation are certainly seeing upside from the current low base in 3Q21, standing at a level of 90.2 index points. This compares to more than 100 before the pandemic. But despite the large stimulus and the approximately 10 percentage point upside in this measure, it remains to be seen how quickly higher utilisation can be reached given the ongoing supply chain constraints and it also shows that even with a 10% upside from the 3Q21 level, GDP growth may not be able to move significantly beyond the pre-pandemic growth potential of around 2%.

Industrial production (IP) declined in October on a yearly basis, even as it compares to an already large decline in the previous year. The drop in October stood at 3.1% y-o-y, compared with a decline of 2.4% y-o-y in September. Positively, on a monthly basis, IP rose by 1.1% m-o-m in October, after a decline of 5.8% y-o-y in September.

Impacted by the strong declines in IP, **exports** in October retracted considerably. It shows a yearly growth level of 9.4% after rising by 13% y-o-y in September and 26.2% y-o-y in August, all on a non-seasonally adjusted basis. On a monthly basis, October exports rose by a seasonally adjusted 2.7% m-o-m, compared with a decline of 3.9% m-o-m in September.

Retail sales rose slightly in October at a rate of 0.9% y-o-y, after falling by 0.5% y-o-y in September and declining by 3.2% y-o-y in August. The declining trend in the preceding 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. As these measures were lifted and the vaccination rates in Japan have reached almost 80% the recovery in retail trade is forecast to continue in 4Q21.

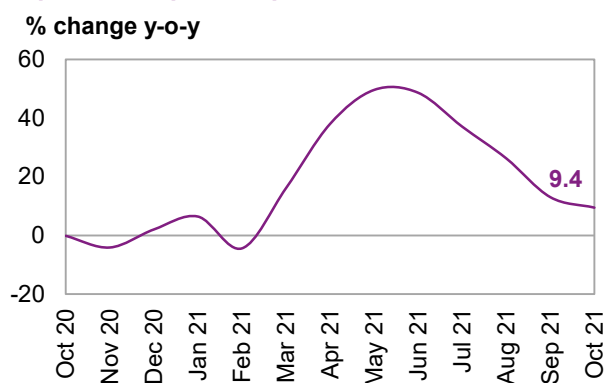
On a positive note, consumer confidence points to a 4Q21 recovery. The consumer confidence index level, as reported by the Cabinet Office, rose to 39.3 in November, compared with 39.2 in October and 37.9 in September. This points to a continued rebound in domestic consumption, which is likely to be supported by further stimulus measures.

Near-term expectations

Growth is forecast to rebound considerably in 4Q21, after the weakness in 3Q21. With rising vaccination rates and generally low infection levels, and with the economy 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 the reported decline in 3Q21 **GDP growth**, the GDP growth forecast for 2021 was lowered considerably. As reported by Japan's statistical office, 1Q21 GDP declined by 2.9% q-o-q SAAR. Despite the lockdown measures in 2Q21, growth was reported to have recovered and reached 2% q-o-q SAAR. As reported, quarterly growth in 3Q21 declined significantly, falling by 3.6% q-o-q SAAR. Supported by the high vaccination rates, fiscal stimulus and the ongoing recovery in global trade, 4Q21 is forecast to rebound significantly, reaching 8.5% q-o-q SAAR. In 2022, 1Q22 GDP growth is forecast to stand at 1.8% q-o-q SAAR and to move towards 1% q-o-q SAAR towards 4Q22.

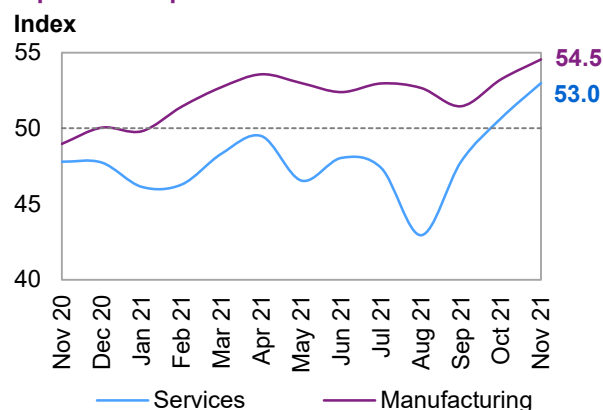
Graph 3 - 7: Japan's exports



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

The gradual rebound in the economy's services sector is also reflected in the **November PMI**, which stands above the growth indicating 50-level for the second consecutive month. The PMI for the service sector, which constitutes around two-thirds of the Japanese economy, rose significantly to 53, compared with 50.7 in October and 47.8 in September. The manufacturing PMI rose to stand at 54.5, after a level of 53.2 in October and 51.5 in September.

Graph 3 - 8: Japan's PMIs



Sources: IHS Markit, Nikkei and Haver Analytics.

By taking into consideration the strong decline in 3Q21 and despite assuming a significant and reasonable rebound in 4Q21, the 2021 GDP growth forecast was revised down to stand at 2%, compared with 2.5% in the previous month. 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, leading to a carry-over of the 4Q21 momentum into 2022.

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

	Japan
2021	2.0
Change from previous month	-0.5
2022	2.2
Change from previous month	0.2

Note: * 2021-2022 = Forecast.

Source: OPEC.

Hence, GDP growth was revised up for **2022** to stand at 2.2%, compared with 2% in the previous month. However, COVID-19 related developments, and most recently the Omicron variant pose downside risk to the expected recovery.

Non-OECD

China

Update on the latest developments

China's economic recovery momentum remained weak in November despite the ease in electricity shortages and as supply-side pressures and the new wave of infections might linger and dampen the recovery in household consumption. Industrial production grew marginally to 3.5% y-o-y in October, but the real estate crisis might dampen industrial production and fixed investment given the strong backward linkages to industrial output. In October, leading nominal fixed asset investment contracted by 2.9% y-o-y while housing sales declined 24.1% y-o-y with no signs of easing regulations on property developers. Yet the government might take some measures following the policy trend to boost coal production and lower coal prices.

For the present, external demand is still supporting the economic recovery but the **trade surplus** was lowered to \$71.7 billion in November 2021 from \$74.25 billion in the same month a year earlier. Export growth slowed due to the strong yuan exchange rate, weakening demand due to the emergence of the Omicron COVID-19 variant and higher costs. Meanwhile, imports rose at a faster pace following the easing of the power crunch. Over the first 11 months of 2021, the trade surplus widened to \$582.3 billion from \$448.2 billion in the same period of 2020.

Similar to other economies around the globe, inflationary pressures on the producer side have increased noticeably, mirroring the power crunch impact as it reached a 25-year high of 13.5% y-o-y in

October. In November 2021, producer price inflation eased to 12.9% y-o-y reflecting the government's efforts to control surging commodity prices and an easing power crunch. Meanwhile, China's 2021 consumer price inflation accelerated to 2.3% y-o-y from 1.5 % y-o-y a month earlier.

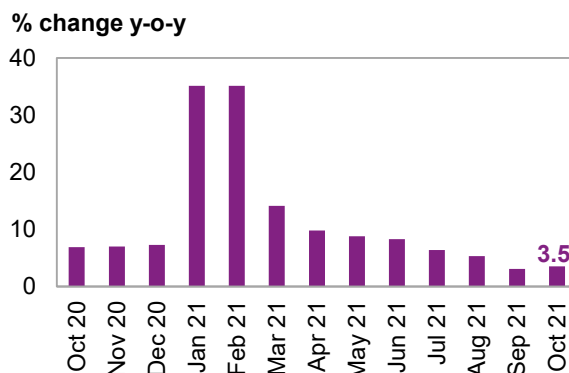
Near-term expectations

The slowdown in the economic recovery continued amid the lingering effects of ongoing COVID-19 outbreaks combined with supply chain disruptions that could continue in the near term. The easing of electricity shortages might help disruptions in manufacturing output, but government-housing control policies are weighing on property investment, and this might lead to a further slowdown. Yet this makes more room for additional 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.

The economic slowdown has closely mirrored recent **PMI indices**, which have also slowed down. The manufacturing PMI plunged into contractionary territory for the second time since April 2020, falling to 49.9 in November 2021 from 50.6 in the prior month, due to COVID-19 outbreaks and weak demand. The services PMI fell to 52.1 in November 2021 from 53.8 in October, the weakest growth seen in three months as business activities and growth in new orders were at the slowest pace in three months and overall business sentiment remained gloomy amid concerns over rising commodity prices and property market stress.

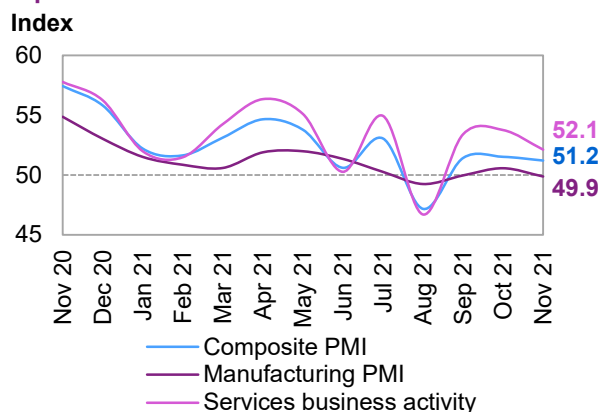
Considering the weak recovery and recent developments, China's real **GDP** forecasts for 2021 and 2022 were both revised down compared to the last MOMR to 8.0% y-o-y from 8.3% y-o-y and to 5.6% from 5.8% y-o-y, respectively. The uncertainties surrounding these forecasts are still high, and the economic outlook is misty, pointing to the downside as the property sector remains under stress with hopes for more policy support.

Graph 3 - 9: China's industrial production



Sources: China National Bureau of Statistics and Haver Analytics.

Graph 3 - 10: China's PMI



Sources: Caixin, IHS Markit and Haver Analytics.

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

	China
2021	8.0
Change from previous month	-0.3
2022	5.6
Change from previous month	-0.2

Note: * 2021-2022 = Forecast.

Source: OPEC.

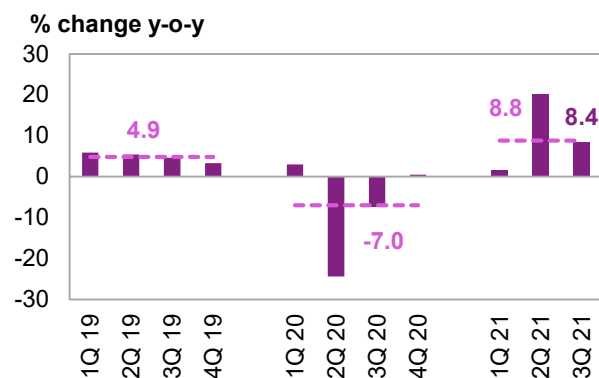
Other Asia

India

Update on the latest developments

India economy expanded by about 8.4% y-o-y in 3Q21 following the record growth of 20.1% in 2Q21. Growth was mainly supported by the recovery in private consumption as well as the public spending and elevated exports, among the expenditure GDP components. While the strong manufacturing output has supported industrial growth amid the increase in both local and external demand, officially, the Reserve Bank of India has forecast growth of 9.5% in the 2021-2022 FY.

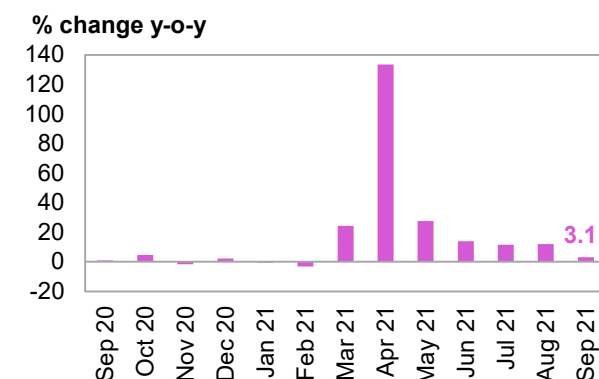
Graph 3 - 11: India's GDP quarterly growth



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

Industrial production 3.1% y-o-y in September of 2021, is down from the upwardly revised 12% y-o-y growth in the previous month as production slowed in all sectors especially mining, manufacturing and electricity. On a monthly basis, industrial output contracted 2.6%, following a downwardly revised drop of 0.1% in August.

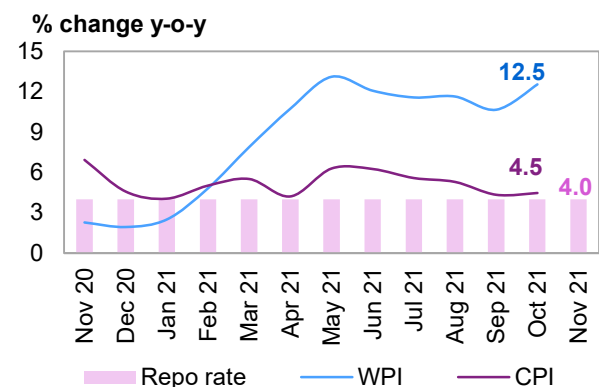
Graph 3 - 12: India's industrial production



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

The **consumer price index (CPI)** increased to 4.48% in October 2021 from 4.35% in September amid the uptick in food prices. Similarly, the **WPI** rose to 12.54% in October 2021 from 10.66% in the previous month. This marked the highest figure since December 1998, following the increased cost for fuel and power. In 3Q21, the CPI averaged 5.08% y-o-y, while the WPI averaged 11.2% y-o-y.

Graph 3 - 13: Repo rate and inflation in India



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

On the monetary policy front, the Reserve Bank of India (RBI) kept the **repo rate** at 4% in December, 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.

World Economy

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, and a substantial fiscal deficit. Indeed, the increasing fiscal deficit is of high concern for rating agencies, despite low external debt and increasing 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 sharply to \$23.3 billion in November of 2021, from \$9.9 billion in November of the previous year. It was the largest monthly trade shortfall as imports jumped 57.2% to \$53.15 billion, boosted by purchases of crude oil and coal/coke/briquettes, as well as gold.

Near-term expectations

India's economic outlook remains cautious, as in-person economic activities might remain restrained amid the new Omicron variant of COVID-19. Nevertheless, the postponed recovery may materialize in the coming year. In the meantime, November's **PMI indices** mirrored a slightly positive sentiment following the easing of COVID-19 restrictions.

The **manufacturing PMI** jumped to 57.6 from 55.9 a month earlier, recording the fifth straight month of expansion and the strongest growth since February 2021 and above the long-term average of 53.6. In contrast, the services PMI edged down to 58.1 in November of 2021 from 58.4 in October. This was the fifth straight month of expansion in the sector, and the second-fastest rise since July 2011.

The slowdown in infections and a pickup in the vaccination rate are factors that supported a further recovery for India that would carry on in 2022. However, **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 was revised down to 8.8% from 9.0%, incorporating the recently released official 3Q21 GDP data, while the 2022 forecast was revised up to 7.0% from 6.8% in the last MOMR.

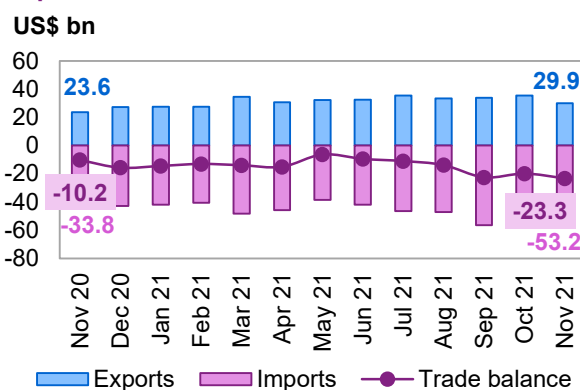
Latin America

Brazil

Update on latest developments

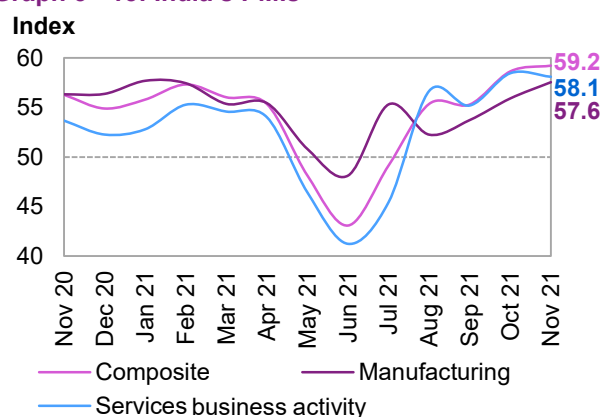
The Brazilian economy grew by 4% y-o-y in 3Q21 slowing from a 12.3% expansion in 2Q21. Meanwhile, recent growth showed a slightly weaker-than-expected performance for the economy. The 3Q21 saw the third consecutive quarter of economic expansion. On the supply side, the service sector edged up by 5.8% y-o-y and industry expanded 1.3% y-o-y. Meanwhile, agricultural activity contracted 9% y-o-y, amid a serious drop in the production of main agricultural products such as coffee, cotton, corn and sugar cane (-7.6%). On the expenditure side, fixed investment advanced 18.8% y-o-y, and household consumption rose 4.2% y-o-y while government spending went up 3.5% y-o-y. In contrast, net trade contributed negatively to the GDP as exports

Graph 3 - 14: India's trade balance



Sources: Ministry of Commerce and Industry and Haver Analytics.

Graph 3 - 15: India's PMIs



Sources: IHS Markit and Haver Analytics.

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

	India
2021	8.8
Change from previous month	-0.2
2022	7.0
Change from previous month	0.2

Note: * 2021-2022 = Forecast.

Source: OPEC.

rose less than imports. On a quarterly basis, GDP contracted 0.1% after a 0.4% decrease in the previous quarter.

Unemployment rates are still well above pre-pandemic levels. In 3Q21, the rate dropped to 12.6%, following an upwardly revised 14.2% in 2Q21, as the pandemic situation in Brazil improved steadily during July through September, largely helped by a faster vaccination drive. Meanwhile, the labour force participation rate increased by 1.1 percentage points to 61.9 %.

The **inflationary pressure kept elevating despite the ongoing normalization of monetary policy**. In October, the CPI jumped to 10.67% y-o-y in October 2021 from 10.25% y-o-y registering the highest reading since January 2016. The reopening of the economy, supply chain issues, weaker currency, and severe droughts continued to weigh on prices. On a monthly basis, consumer prices accelerated 1.25% from a 1.16% increase from September. This was the sharpest increase in 10 months. Recent data showed that producer prices in Brazil increased 33.10% y-o-y in August of 2021.

In response to inflationary concerns, on 8 December 2021, the central bank raised the Selic rate for the seventh time this year as it unanimously decided to

raise the rate by 150 basis points to 9.25%. Both the forecasts from the monetary authority and the consensus suggest that inflation in 2022 could come near to the upper bound of the central bank target (5%).

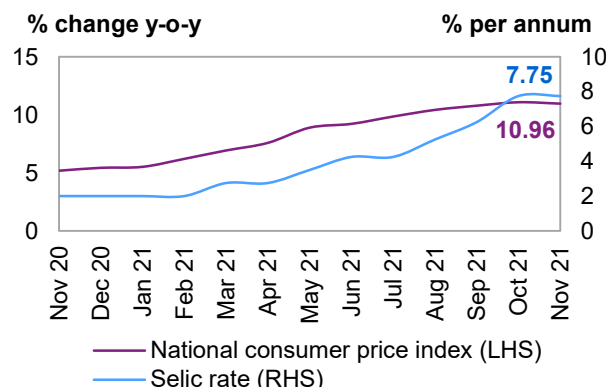
Near-term expectations

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 COVID-19 might dampen the 2022 outlook. Additionally the elevated inflation rates could continue to be a major drag on the economic recovery.

Recent composite **PMIs** suggested that a weakening private sector recovery might carry on into 2022. The manufacturing PMI declined to 49.8 in November of 2021 from 51.7 in October, the lowest since May of 2020 and the first reading below 50 in 18 months, as companies scaled back on production to accommodate the decline in sales. Similarly, the services PMI edged down to 53.6 in November of 2021 from 54.9 in October. Yet the reading pointed to the sixth-successive month of expansion in the services sector, linked to a growing vaccine coverage, reduced Covid-19 cases, and improved market confidence

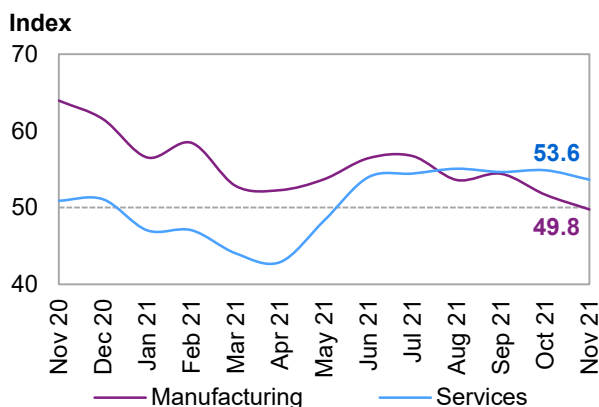
Considering the recent development, the **GDP growth forecast** for 2021 and 2022 was kept the same as in the last MOMR at 4.7% and 2.0% respectively. However the uncertainty is still high and tends more to the down side due to heightened concerns over higher inflation, high fiscal stress following COVID-19 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.

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



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

Graph 3 - 17: Brazil's PMIs



Sources: IHS Markit and Haver Analytics.

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	0.0

Note: * 2021-2022 = Forecast.

Source: OPEC.

Africa

South Africa

Update on the latest developments

The South African economy expanded by 2.9% y-o-y in 3Q21, after a revised record growth of 19.1% y-o-y in 2Q21. This growth points to the second economic expansion after four quarters of contraction due to the pandemic crisis. Yet the country's economic recovery might be at risk by the new COVID-19 variant. 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. The annual inflation rate in South Africa stood at 5% in October of 2021, unchanged from November; however, it remained above the 4.5% midpoint of the South African Reserve Bank's monetary policy target range of 3-6% for six consecutive months. In line with the elevated inflation, the South African Reserve Bank raised its benchmark repo rate by 25 bps to 3.75% for the first time in three years. The Committee believes a gradual rise in the repo rate will be sufficient to keep inflation expectations well anchored and moderate the future path of interest rates. The CPI forecast has been revised slightly higher to 4.5% in 2021 (from 4.4% in September), 4.3% in 2022 (vs 4.2%) and 4.6% in 2023 (vs 4.5%). Meanwhile, official GDP growth projections were lowered to 5.2% in 2021 from 5.3% but kept unchanged at 1.7% in 2022 and 1.8% in 2023.

Near-term expectations

In the near term, the outlook for South Africa's economy is skewed more to the down side, challenged by the Omicron COVID-19 variant 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. In the meantime, the seasonally-adjusted Absa Purchasing Managers' Index rose to 57.2 in November 2021 from 53.6 in the previous month, marking an expansion in South Africa's manufacturing activity, the strongest since June.

Considering recent macroeconomic indicators, the **GDP forecast** for 2021 and 2022 is unchanged from last MOMR at 4.5%, and 2.5% respectively. 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, a possible continuation of supply chain disruptions and a slowdown in China.

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

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

Note: * 2021-2022 = Forecast.

Source: OPEC.

Russia and Central Asia

Russia

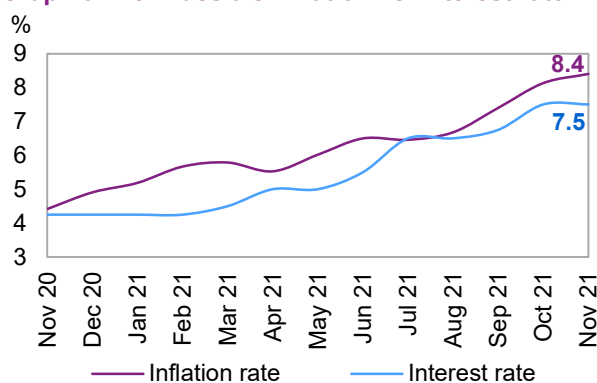
Update on the latest developments

According to recent preliminary official data, Russia real GDP grew 4.3% y-o-y in 3Q21, easing from a 10.5% increase in 2Q21. The growth rate eased from its highest since 2000, amid low base effects. Still, the economy already recovered its pre-pandemic levels supported by a rebound in global commodity prices.

Nonetheless, the **inflation rate** kept elevating, Russia's annual inflation rate increased to 8.4% in November of 2021, from 8.1% in October remarking the highest inflation rate since January of 2016, as prices advanced faster for non-food products and services. On a monthly basis, consumer prices advanced 0.96%, following a 1.11% increase in the previous month.

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



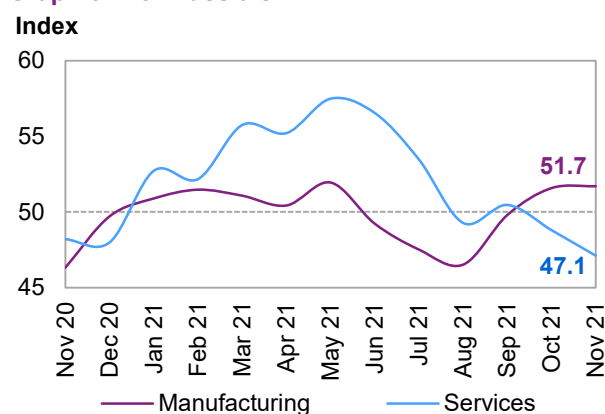
Sources: Federal State Statistics Service, Central Bank of Russia and Haver Analytics.

Near-term expectations

Russia's economic outlook looks rather optimistic, despite a rise in Omicron COVID-19 infections. Indeed the economy is back to pre-pandemic levels, but uncertainties related to current increased restrictions in Europe besides the 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** indicators signalled a slowdown in private business activities, the manufacturing PMI edged up to 51.7 in November of 2021 from 51.6 in the previous month. In contrast, the Services PMI declined to 47.1 in November 2021 from 48.8 in the previous month. The latest reading pointed to the second straight month of contraction in the service sector and the steepest pace since October 2020, amid the reintroduction of COVID-19 restrictions.

Graph 3 - 19: Russia's PMI



Sources: IHS Markit and Haver Analytics.

Despite the elevating overall prices level and COVID-19 developments, 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.

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 non-oil private sector recovery slowed down amid the increased restrictions and overall global negative sentiment due to the Omicron variant. This has been mirrored in the recent manufacturing PMI which declined to 56.9 in November 2021 from 57.7 in October, marking the lowest reading since August, as output grew at a softer rate, while new orders growth slowing to a three-month low. In the meantime, annual inflation rate increased to 0.8% in October of 2021, from 0.6% in September, reaching the highest rate since June. The

main downturn risk for the Saudi recovery might come through the increasing COVID-19 restrictions in the face of the new variant yet this all depends on the transmissibility and severity of Omicron.

Nigeria

The near term outlook of Nigeria economy is hindered by the elevated inflationary and labour market pressures. The improvement in oil prices still supported the economic recovery. The inflation rate has eased to 15.99% in October 2021, from 16.63% in September marking the lowest rate since last December, largely due to a sustained moderation in food prices. On a monthly basis, consumer prices increased by 0.98%, following a 1.15% rise in the previous month. The Stanbic IBTC Bank Nigeria PMI reflected a solid expansion in business conditions despite the ongoing overall prices increase as it rose to a four-month high of 55 in November of 2021, up from 54.1 in October.

The United Arab Emirates (UAE)

The United Arab Emirates' PMI edged up to 55.9 in November 2021 from 55.7 in October mirroring improvement in non-oil private sector activities. This was the highest reading since June 2019, amid rising output and new orders rising fuelled by the increased economic activity driven by Expo 2020. Overall, the business sentiment was weakened by the Omicron variant of COVID-19 but was still steady and the economic outlook is more positive supported by oil prices and government support policies.

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

The **US dollar (USD) advanced against majors**, on the expectation of a faster pace of removal of monetary policy accommodation by the US Federal Reserve in its December meeting, in view of persistent inflationary pressures. The dollar rose on average by 1.5% against the euro m-o-m, by 0.8% against the yen, and by 1.7% against the pound sterling. It dropped slightly by 0.1% against the Swiss franc for the second consecutive month.

The dollar declined against the Chinese yuan by 0.4%, and by 0.6% against the rupee, however the rupee declined during the last couple of weeks, on the overall strengthening of the dollar and the Reserve Bank of India's decision to keep interest rates unchanged. Meanwhile, the dollar rose against the Russian ruble by 1.5% on some declines in energy

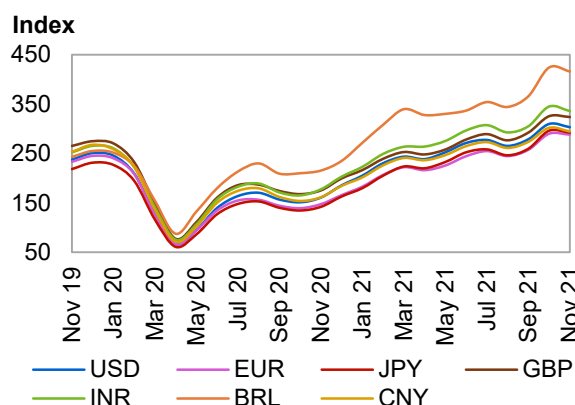
commodity prices, and geopolitical concerns, while it rose by 0.3% against the Brazilian real amid inflationary pressures despite interest rate increases by the Central Bank of Brazil.

In **nominal terms**, the price of the ORB decreased by \$1.74, or 2.1% from \$82.11/b in October to reach \$80.37/b in November.

In **real terms**, after accounting for inflation and currency fluctuations, the ORB decreased to \$49.43 from a revised \$49.92/b (base June 2001=100) the previous month.

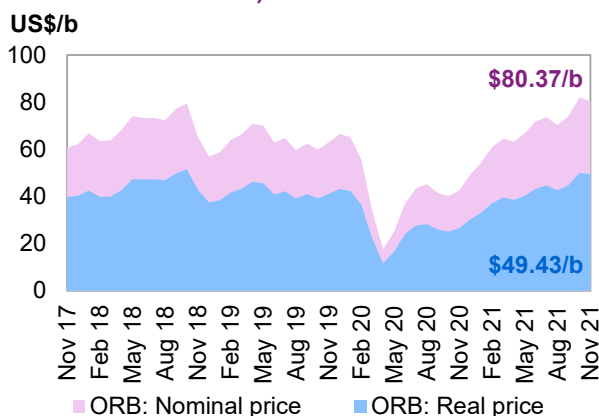
Over the same period, the **USD** increased by 1.0% against the import-weighted modified Geneva I + USD basket, while inflation was stable m-o-m

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



Sources: IMF and OPEC.

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 growth is unchanged from last month's assessment at 5.7 mb/d. Oil demand was adjusted higher in 1H21 amid better-than-anticipated transportation fuel consumption in the OECD and downwardly revised in 3Q21 due to an increase in COVID-19 cases, softer industrial production in China and a slower transportation fuel recovery in India. Additionally, 4Q21 oil demand was adjusted slightly lower mainly to account for COVID-19 containment measures in Europe and their potential impact on transportation fuel demand, as well as the emergence of a new COVID-19 variant (Omicron). Total world oil demand is anticipated to reach 96.5 mb/d on an annualized basis in 2021.

In 2022, world oil demand growth was also kept unchanged at 4.2 mb/d and total global consumption at 100.6 mb/d. Some of the recovery previously expected in 4Q21 has been shifted to 1Q22, followed by a more steady recovery throughout 2H22. Moreover, the impact of the new Omicron variant is projected to be mild and short-lived, as the world becomes better equipped to manage COVID-19 and its related challenges. This is in addition to a steady economic outlook in both the advanced and emerging economies, despite current inflation and supply chain bottlenecks, ongoing trade issues and their impact on industrial and transportation fuel requirements. In terms of fuels, global gasoline demand is projected to continue to recover and surpass pre-pandemic levels. Light distillates and diesel are expected to gain support from recent capacity additions and healthy end-user demand, increases in infrastructure spending and improvements in overall industrial activity.

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

World oil demand	2020	1Q21	2Q21	3Q21	4Q21	2021	Change 2021/20	
							Growth	%
Americas	22.44	22.73	24.33	24.94	24.46	24.13	1.68	7.50
<i>of which US</i>	18.35	18.65	20.21	20.47	20.20	19.89	1.54	8.41
Europe	12.44	11.91	12.65	13.82	13.49	12.98	0.54	4.35
Asia Pacific	7.14	7.67	7.04	7.15	7.63	7.37	0.23	3.24
Total OECD	42.02	42.31	44.02	45.91	45.58	44.48	2.46	5.84
China	13.52	13.79	14.55	14.52	15.11	14.49	0.97	7.20
India	4.51	4.94	4.50	4.59	5.52	4.89	0.38	8.41
Other Asia	8.13	8.56	8.98	8.34	8.62	8.63	0.50	6.10
Latin America	6.01	6.25	6.16	6.46	6.40	6.32	0.31	5.09
Middle East	7.55	7.95	7.77	8.24	8.02	8.00	0.45	6.01
Africa	4.08	4.37	4.08	4.15	4.43	4.26	0.17	4.28
Russia	3.39	3.65	3.42	3.63	3.74	3.61	0.22	6.55
Other Eurasia	1.07	1.23	1.24	1.09	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	48.96	51.52	51.43	51.74	53.91	52.16	3.20	6.54
Total World	90.98	93.83	95.45	97.66	99.49	96.63	5.65	6.22
Previous Estimate	90.79	92.87	95.38	97.89	99.49	96.44	5.65	6.23
Revision	0.19	0.95	0.06	-0.23	0.00	0.19	0.00	-0.01

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	24.13	24.04	25.42	25.97	25.27	25.18	1.06	4.38
of which US	19.89	19.69	21.07	21.44	20.92	20.79	0.90	4.51
Europe	12.98	12.63	13.23	14.46	14.01	13.59	0.61	4.73
Asia Pacific	7.37	7.91	7.22	7.29	7.73	7.54	0.17	2.27
Total OECD	44.48	44.58	45.87	47.71	47.01	46.31	1.84	4.13
China	14.49	14.64	15.44	15.00	15.55	15.16	0.66	4.58
India	4.89	5.48	4.82	4.97	5.84	5.28	0.39	7.99
Other Asia	8.63	9.25	9.59	8.93	8.95	9.18	0.55	6.38
Latin America	6.32	6.49	6.33	6.61	6.56	6.50	0.18	2.84
Middle East	8.00	8.30	8.01	8.49	8.26	8.27	0.27	3.34
Africa	4.26	4.54	4.21	4.27	4.56	4.40	0.14	3.22
Russia	3.61	3.75	3.47	3.68	3.79	3.67	0.07	1.81
Other Eurasia	1.21	1.30	1.29	1.12	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	52.16	54.55	53.90	53.82	55.62	54.47	2.32	4.44
Total World	96.63	99.13	99.77	101.53	102.64	100.79	4.15	4.30
Previous Estimate	96.44	98.02	99.88	101.75	102.63	100.59	4.15	4.31
Revision	0.19	1.11	-0.11	-0.22	0.01	0.20	0.00	-0.01

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

OECD

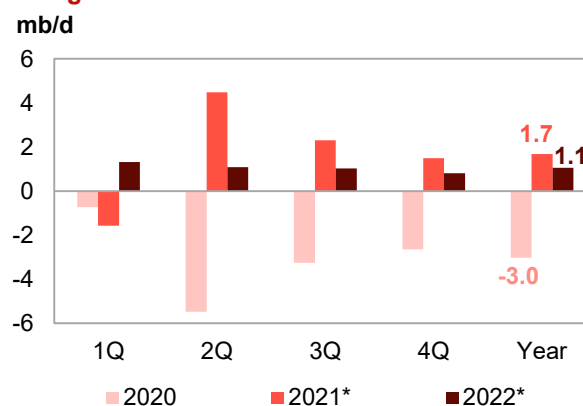
OECD Americas

Update on the latest developments

The latest available oil demand data in **OECD Americas** implies an increase of 2.2 mb/d y-o-y in **September**, following a similar increase y-o-y in August. Gasoline demand in the region remained robust during the last month of 3Q21 and accounted for around 27% of the overall increase, while jet kerosene requirements accounted for a 30% overall growth share. September 2021 oil demand gains point to an approximately 80% overlap of the losses during the same month in 2020; while during the first nine months of 2021 the recovery stood at 94%. Gasoline demand in September remained on a upward trajectory for the seventh month in a row with gains of 0.6 mb/d y-o-y despite high retail prices. Oil demand remained lower than September 2019 levels, with the differential at 0.6 mb/d. All countries in the region posted demand gains on top of a lower baseline in 2020.

The latest available **US** monthly demand data for **September** implies a strong increase of approximately 1.8 mb/d y-o-y, making up 99% of losses incurred during September 2020 and lower than September 2019 by a mere 0.02 mb/d. LPG, gasoline, jet kerosene and diesel requirements contributed to the bulk of the increases, with LPG and gasoline gaining in September 2021 by 0.4 mb/d each y-o-y, while jet kerosene increased by 0.6 mb/d and diesel 0.3 mb/d, y-o-y. The demand for gasoline, jet kerosene and diesel fell in September 2020 by 0.7 mb/d, 0.8 mb/d and 0.1 mb/d y-o-y respectively. According to the Federal Highway Administration (FHA), vehicle miles of travel in the US increased by 7.7% y-o-y in September this year after rising by 8.5% y-o-y in August. In September 2020, the indicator fell by 10.4% y-o-y. Light vehicle retail sales, as reported by Autodata and Haver Analytics, were at 12.4 million units according to seasonally adjusted annual rates (SAAR), compared with 13.2 million units in August; in September 2020 total sales were 16.5 million units and 17.2 million units were sold in September 2019. Industrial production was higher by 4.6% y-o-y in September 2021 after increasing by 5.6% y-o-y in the previous month. Preliminary figures for October based on weekly

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



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

data indicate a continuation of a recovery in transportation fuel performance, with both gasoline and jet kerosene demand increasing by almost 1.6 mb/d y-o-y in total.

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

By product	Sep 20	Sep 21	Change Sep 21/Sep 20	
			Growth	%
LPG	2.72	3.09	0.37	13.6
Naphtha	0.17	0.20	0.03	16.4
Gasoline	8.54	8.97	0.42	5.0
Jet/kerosene	0.93	1.50	0.57	61.4
Diesel	3.81	4.08	0.26	6.8
Fuel oil	0.32	0.32	0.00	-0.9
Other products	2.21	2.36	0.16	7.1
Total	18.71	20.51	1.81	9.7

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

Near-term expectations

Despite recent increases in COVID-19 cases in the US and the emergence of the Omicron variant, the overall picture calls for optimism for short-term future demand in the region. The current forecast assumes that the effects of the variant on oil demand will be short-lived and not significant, as previous pandemic management experience will control potential impacts and minimize government restrictions. The economy is expected remain strong despite challenges in supply chains and rising inflation.

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. As is the case for 4Q21, any negative impact from the Omicron variant and the pandemic is expected to be small and limited during the first three to four months of the year. The petrochemical and transportation sectors will be the drivers of oil demand in 2022. Gasoline demand will be backed by increases in vehicle sales and strong economic growth. Several expansions in the petrochemical industry will support demand for light distillates in 2022. Downside risks relate to a lesser degree to the COVID-19 pandemic and inflationary and supply challenges.

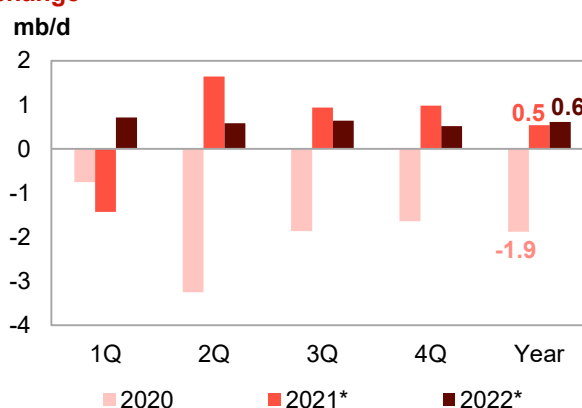
OECD Europe

Update on the latest developments

Oil demand in OECD Europe rose by 0.9 mb/d y-o-y in **September**, driven by a steady recovery in transportation fuel consumption, following higher growth in August of 1.3 mb/d y-o-y. However, oil demand in OECD Europe remained below September 2019 by more than 0.3 mb/d mainly due to the lag in jet fuel recovery in light of reduced travel within and outside the continent.

In September of the current year, demand for jet fuel rose by around 0.4 mb/d y-o-y mainly due to a large distortion in the baseline as demand for the product fell by more than 1.0 mb/d y-o-y in September 2020. This implies a modest recovery of around 37%. Other transportation fuels, gasoline and on road diesel, performed rather well in September, boosted by an uptick in driving activities locally and across borders.

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



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

Mobility has increased to nearly 13% above January 2020 according to Google Maps and Apple's mobility index. Driving in Italy recoded the highest gains at 28% above pre-pandemic levels, while the mobility index in Spain and Germany was respectively 22% and 18% higher before the pandemic. Gasoline grew by around 0.1 mb/d y-o-y compared to similar growth levels in August, and the product is trending higher above September 2019 by around 0.1 mb/d. Petrochemical feedstock demand, led by naphtha, recorded healthy gains in September of nearly 0.2 mb/d y-o-y after rising by 0.1 y-o-y in August. Indeed, naphtha has benefited from high LPG prices and healthy petrochemical margins and consumption of the product is now above September 2019 by around 0.25 mb/d. Petrochemical demand is supported by stable plastics requirements in the health sector, packaging, construction and end-user demand.

October initial oil demand data suggests a softening momentum in oil requirements in the big four consuming countries, Germany, France, Italy and the UK. Demand is assumed to have increased by only 0.2 mb/d y-o-y in October compared to an increase of round 0.5 mb/d y-o-y in September. Data indicates positive developments in Germany, Italy and the UK. On the other hand, oil demand declined marginally in France.

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

By product	Sep 20	Sep 21	Change Sep 21/Sep 20	
			Growth	%
LPG	0.40	0.40	0.00	1.0
Naphtha	0.48	0.54	0.06	13.1
Gasoline	1.16	1.24	0.08	7.0
Jet/kerosene	0.40	0.57	0.17	41.4
Diesel	3.19	3.40	0.21	6.6
Fuel oil	0.15	0.18	0.03	16.2
Other products	0.54	0.49	-0.05	-9.2
Total	6.32	6.82	0.50	7.9

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

Looking ahead, concerns about the recent resurgence in COVID-19 in many countries in the region could pose downward pressure on oil demand during the months of December and January. Transportation fuel demand, which softens during the winter, is expected to ease further due to measures to contain the virus. Austria, Italy, the Netherlands and others have announced measures projected to slow the oil demand recovery in the region during the coming months.

Oil demand has been adjusted lower in 4Q21 and 1Q22 as a result. Uncertainties around the new Omicron variant and indeed the depth and the magnitude of the current wave will remain high and tilted to the downside as the region enters the winter season. That said, **2022** projections account for a steady rebound in OECD Europe macroeconomic indexes, including industrial production, and the return of some levels of normality towards 2H22. As a result, oil demand is anticipated to rise in 2022 supported by transportation and by industrial fuels.

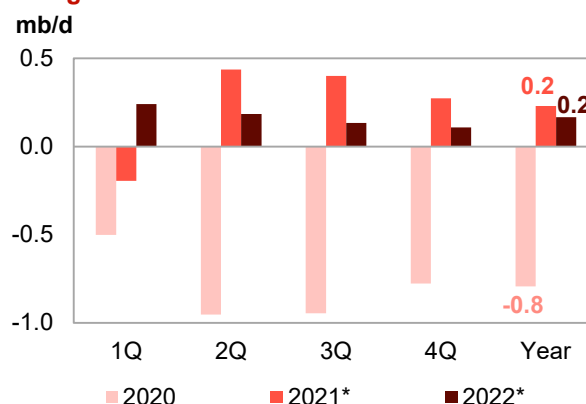
OECD Asia Pacific

Update on the latest developments

Naphtha staged a strong rebound in Japan and South Korea, supporting solid gains in **Asia-Pacific oil demand in September**. Oil demand rose by more than 0.6 mb/d y-o-y after posting an increase of 0.3 mb/d in August. Despite this solid y-o-y rise in September, demand remained lower than September 2019 due to lagging transportation fuel recovery and jet fuel in particular.

Looking at the product mix, demand was supported by naphtha, which rose by more than 0.3 mb/d y-o-y, as naphtha became the feedstock of choice for stem cracker operators in light of high LPG prices. Healthy petrochemical margins supported by steady end-user demand has also given steam cracker operators incentives to maximize utilization rates and consume additional naphtha volumes.

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



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

LPG demand marginally increased in September due to the preference to consume naphtha in the petrochemical sector. Naphtha and LPG rose strongly above pre-pandemic levels by nearly 0.3 mb/d compared to September 2019.

For transportation fuels, gasoline consumption declined marginally while jet fuel was higher by nearly 0.1 mb/d y-o-y. Gasoline is pressured by increased efficiency in new vehicles, particularly in Japan, where total demand

for gasoline dropped from around 1.0 mb/d in 2010 to around 0.7 mb/d in 2021. On the other hand, demand for jet fuel increased in September backed by a continued recovery in the aviation sector.

Preliminary data from by Japan's Ministry of Economy, Trade and Industry (METI) indicates a y-o-y increase of around 0.1 mb/d in October, mainly driven by strong petrochemical feedstock demand.

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

By product	Oct 20	Oct 21	Change Oct 21/Oct 20	
			Growth	%
LPG	0.36	0.36	0.00	0.3
Naphtha	0.67	0.74	0.07	9.9
Gasoline	0.76	0.74	-0.02	-2.0
Jet/kerosene	0.27	0.29	0.02	8.2
Diesel	0.71	0.71	0.01	1.1
Fuel oil	0.23	0.26	0.03	12.6
Other products	0.20	0.20	0.00	1.6
Total	3.19	3.31	0.11	3.6

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

Near-term expectations

Containment measures in Japan, South Korea and Australia seemed to have curbed further increases in COVID-19 cases. As a result, demand for industrial fuels and petrochemical feedstock is expected to gain momentum in the coming months. In addition, Japan's announcement that it would provide subsidies for gasoline, jet/kerosene, gasoil and fuel oil as an emergency mitigation measure is anticipated to provide a cushion to oil demand over the winter.

Overall oil demand is projected to rebound in the region on the back of the economic recovery. Petrochemical feedstock consumption is assumed to be the main contributor to oil demand growth going forward, while jet/kerosene demand is projected to continue to lag 2019 as international business and leisure travel remain under pressure.

Non-OECD

China

Update on the latest developments

Continued healthy petrochemical feedstock demand and rebounding mobility supported a strong rise in **China's oil demand in October**. Demand increased by more than 0.7 mb/d y-o-y in October compared to and mere 0.1 mb/d y-o-y in September. Demand exceed October 2019 by almost 0.8 mb/d, driven by strong naphtha and LPG needs.

In October, naphtha's economic advantage over LPG favoured its use in steam cracking. LPG prices compared to naphtha remained elevated in recent months, encouraging higher demand for naphtha in China and across many countries globally. Naphtha demand rose by nearly 0.3 mb/d y-o-y in October following a 0.3 mb/d y-o-y increase in September. Solid consumption over the past few months raised naphtha demand above pre-pandemic levels by around 0.6 mb/d compared to October 2019.

Despite challenging competition from naphtha, demand for LPG also increased albeit at a slower pace than naphtha. The main driver for this increase was the return of propane dehydrogenation plants (PDH) from planned maintenance activities and steady end-user demand for polypropylene. LPG increased by around 0.2 mb/d y-o-y in October followed by a similar rise in September. LPG demand is now higher by more 0.2 mb/d in contrast with October 2019.

Transportation fuels were mixed, with gasoline posting strong gains supported by advancing mobility m-o-m, while jet fuel lagged. On-road mobility increased to 102% compared to mid-January 2020, after posting 96% in September, according to Google Maps and Apple's mobility index. The zero-COVID-19 policy implemented in China called for localized measures in August and September that limited mobility.

Jet fuel was impacted by the reduction in local and international flights to counter the spread of COVID-19. According to China's National Bureau of Statistics and Haver Analytics, passenger turnover in civil aviation remained depressed y-o-y, falling by 22.6% in October after posting similar declines in September.

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

By product	Oct 20	Oct 21	Change Oct 21/Oct 20	
			Growth	%
LPG	2.01	2.17	0.16	7.9
Naphtha	1.25	1.53	0.28	22.3
Gasoline	2.73	2.90	0.17	6.2
Jet/kerosene	0.86	0.61	-0.25	-28.8
Diesel	3.39	3.60	0.21	6.3
Fuel oil	0.58	0.74	0.17	28.6
Other products	2.49	2.47	-0.02	-0.7
Total	13.30	14.02	0.72	5.4

Note: * Apparent oil demand. Totals may not add up due to independent rounding.

Sources: Argus Global Markets, China OGP (Xinhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.

Near-term expectations

Recent macroeconomic indicators, especially the industrial production index, showed trends that are pressuring industrial fuel demand and especially diesel and fuel oil. These indicators, coupled with the emergence of the Omicron variant, will pose some downside risks to oil demand going into 2022.

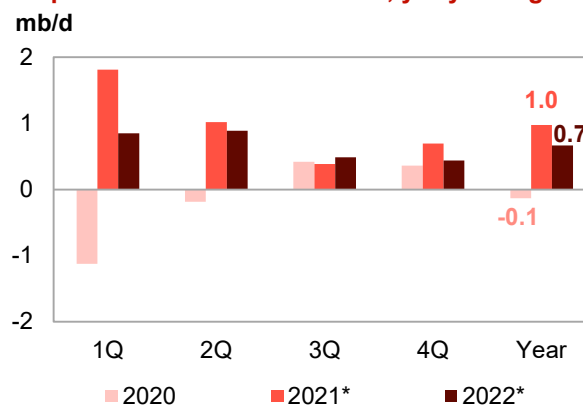
On the other hand, the winter Olympic Games, scheduled to take place in Beijing in February **2022**, and the uptick in transportation fuel demand during the Chinese New Year should provide support to oil demand going into the new year. Petrochemical feedstock, especially naphtha, is assumed to be supported by strong end-user demand and by capacity additions in recent years. Jet fuel is expected to recover more slowly next year and will not reach 2019 levels due to international travel restrictions.

India

Update on the latest developments

Indian oil demand inched up by a marginal 0.04 mb/d y-o-y in **October** compared to a rise of more than 0.2 mb/d in September. However, in comparison with October 2019, pre-pandemic oil demand showed an increase of around 0.2 mb/d driven by strong household LPG consumption and rebounding mobility and gasoline demand. In September, transportation fuels, gasoline and jet fuel, grew by a combined 0.1 mb/d y-o-y, supported by gradually improving mobility indexes. Google Maps and the Apple mobility index showed a continuation of the mobility recovery from May's low of 52%. In October, the index hovered around 131%

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

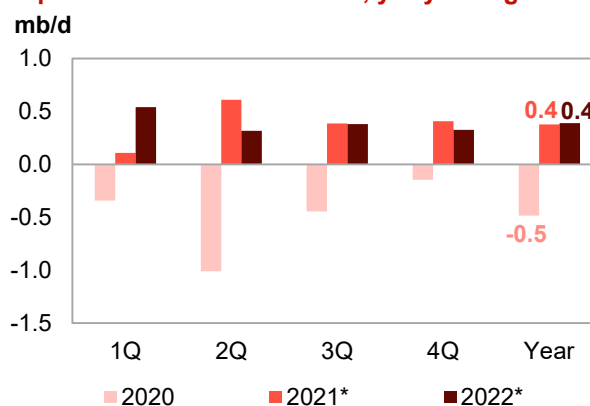


Note: * 2021-2022 = Forecast. Source: OPEC.

after registering 122% in September, using January 2020 as a reference point. A pickup in domestic flights also supported the improvement in jet fuel demand.

Jet fuel demand was nearly 0.1 mb/d lower than October 2019 and jet fuel was the only product below pre-pandemic levels, affected by a slower recovery in international flights in the transportation sector and substitution by LPG for cooking fuel in the residential sector. The other product category, which includes bitumen for road construction, increased by around 0.1 mb/d y-o-y, similar to August and September growth levels, an indication of an uptick in infrastructure projects. LPG benefited primarily from an increase in household cooking in line with past trends. On the other hand, diesel dropped by around 0.1 mb/d y-o-y after a marginal increase in September, although diesel demand rose marginally in contrast with October 2019. The high baseline of comparison has minimized the magnitude of growth despite improvements in macroeconomic indicators and recovering demand in the agriculture sector.

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



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

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

By product	Oct 20	Oct 21	Change Oct 21/Oct 20	
			Growth	%
LPG	0.97	0.99	0.03	2.6
Naphtha	0.31	0.29	-0.02	-5.9
Gasoline	0.75	0.78	0.03	3.5
Jet/kerosene	0.17	0.20	0.03	15.1
Diesel	1.52	1.43	-0.09	-5.6
Fuel oil	0.29	0.30	0.01	3.3
Other products	0.57	0.63	0.05	9.5
Total	4.58	4.62	0.04	0.8

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

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

Near-term expectations

Oil demand in India is on track to record respectable gains in 2021, making up more than 80% of the demand lost in 2020. This steady growth is assumed to continue for the remainder of 2021 and into 2022. Over the short term, demand is assumed to be supported by steady macroeconomic indicators despite retail price challenges. The government's announcement that it would reduce excise taxes on gasoline and diesel should bring relief to consumers and support demand going forward.

For **2022**, due to the encouraging economic outlook and the improvement in demand for transportation and industrial fuels, total oil demand is projected to exceed 2019 by around 0.3 mb/d on average for the year. The 2022 oil demand outlook for India takes into account the positive economic outlook supported by stimulus packages as well as better management of COVID-19. The outlook will of course remain subject to uncertainty related to COVID-19 developments, particularly in relation to the emergence of new variants such as Omicron, economic challenges and unusual weather conditions.

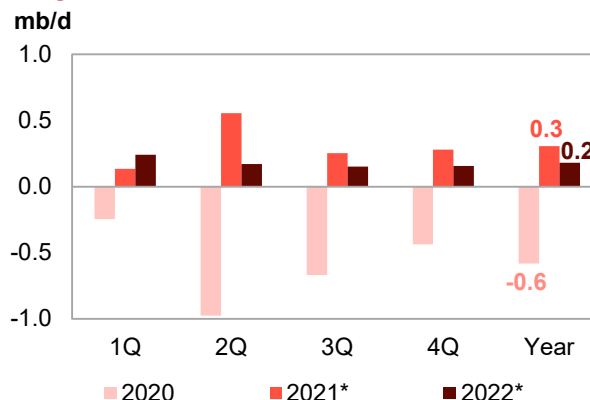
Latin America

Update on the latest developments

Supported by a healthy gasoline and diesel rebound, **Latin America's oil demand** showed positive y-o-y increases in **September**. Demand increased by more than 0.2 mb/d y-o-y compared to more than 0.3 mb/d in August.

Latin America’s oil demand was also higher than September 2019 and rose marginally for the first time in 2021. Diesel demand was a supportive product in line with the steady recovery from the economic side supporting industrial production, especially in Brazil. Oil demand developments show a steady y-o-y rise in all fuels with the exception of the other product category and LPG, which dropped marginally. Gasoline continued to drive demand growth in September and rose by more than 0.1 mb/d y-o-y, driven by rising mobility across the region’s main economies. The region’s mobility index rose from 104% in August to 107% in September with January 2020 used as reference.

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



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

Brazil led the positive recovery in mobility with an increase from 112% in August to 115% in September, using Google Maps and Apple’s mobility indicator. The stimulus packages introduced by governments in the region have boosted economic activity and encouraged demand for industrial fuels. Diesel posted an increase of nearly 0.1 mb/d y-o-y in September after a similar level of growth in the previous three months. Demand for diesel has already exceeded pre-pandemic levels and this is anticipated to continue for the remainder of the year.

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

By product	Oct 20	Oct 21	Change Oct 21/Oct 20	
			Growth	%
LPG	0.23	0.22	-0.01	-4.5
Naphtha	0.14	0.14	0.00	2.9
Gasoline	0.69	0.73	0.04	5.6
Jet/kerosene	0.06	0.09	0.03	42.5
Diesel	1.12	1.14	0.02	1.6
Fuel oil	0.07	0.11	0.04	49.0
Other products	0.50	0.38	-0.12	-24.1
Total	2.82	2.81	-0.01	-0.3

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, oil demand expectations remain as highlighted in last month’s MOMR and show continued recovery from the historical decline in 2020 for most fuels, led by diesel. Demand is assumed to benefit from shortages in hydropower generation due to drought conditions, thus lending support to fuel oil. Assuming that COVID-19 will have limited impact on the economic recovery, a steady return of mobility to pre-pandemic levels and with stimulus packages providing additional support to the economy, oil demand is projected to increase for the rest of 2021 and into 2022. Brazil is assumed to lead oil demand growth in the coming months, led by transportation fuel followed by industrial fuels, namely diesel and fuel oil. Uncertainties are currently balanced as COVID-19 appears to be contained to a certain extent. On the other hand, economic hardships including unemployment and currency challenges may weigh on oil demand projections going forward.

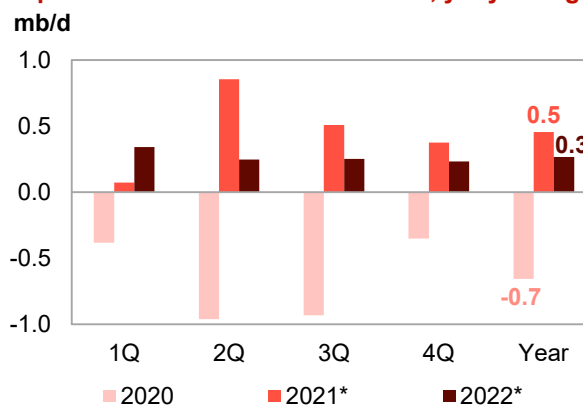
Middle East

Update on the latest developments

Middle Eastern oil demand rose by a strong 0.5 mb/d y-o-y in **September** following an increase of around 0.4 y-o-y in August. Unlike India and Latin America, where oil demand exceeded pre-pandemic levels, oil demand in the Middle East fell by more than 0.1 mb/d compared to September 2019, led by lagging jet fuel and fuel oil demand. Mobility supported y-o-y increases in gasoline consumption during September as the mobility index reached 104% when compared to January 2020, according to Google Maps and the Apple mobility index. The index was at 96% of pre-pandemic levels in May 2021.

Gasoline demand increased by more than 0.2 mb/d after rising by a similar level in August. The significant reduction in the baseline of comparison contributed to this y-o-y rise. Gasoline rose the most in Saudi Arabia and Iraq. Industrial fuels, led by diesel, remained supported. An uptick in economic activities supported infrastructure development across the region. In Saudi Arabia, for example, cement deliveries of 4.1 million tons in September matched August levels and were higher than July deliveries of 3.6 million tons, according to the Yamama cement company and Haver Analytics. Saudi Arabia's industrial production supported increases in industrial fuel requirements. The index increased to 119.8% in September when using 2010 as a reference point. The index was at 119.1% in August and 114.9 in July.

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



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

In Saudi Arabia, oil demand data for October show a decline despite a y-o-y rise in some products such as diesel and jet fuel. Fuel oil and crude oil for power generation have dropped by more than 0.1 mb/d y-o-y collectively, mainly due to seasonal factors. Conversely, diesel grew by around 0.1 mb/d, supported by a pickup in industrial activities while jet fuel posted some gains supported by increases in domestic and international flights. Demand declined by around 0.1 mb/d y-o-y after posting steady gains in September. Demand remained sharply lower than October 2019 by nearly 0.3 mb/d.

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

By product	Oct 20	Oct 21	Change Oct 21/Oct 20	
			Growth	%
LPG	0.04	0.04	0.00	-6.0
Gasoline	0.53	0.50	-0.03	-4.9
Jet/kerosene	0.03	0.06	0.03	87.8
Diesel	0.45	0.50	0.06	12.9
Fuel oil	0.71	0.64	-0.06	-8.8
Other products	0.49	0.42	-0.07	-15.0
Total	2.25	2.17	-0.08	-3.4

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

Sources: JODI and OPEC.

Near-term expectations

Going forward, oil demand in the Middle East is projected to continue to recover in the final months of 2021. Steady economic developments should support industrial fuel demand in the coming months. Additionally, the easing of COVID-19 measures in the region's main consuming countries should provide strong upside potential for transportation fuels going forward. Jet fuel should gain support from the resumption of international flights in Saudi Arabia, the United Arab Emirates (UAE) and Qatar, the main travel hubs in the region. However, jet fuel demand is not anticipated to reach pre-pandemic levels in 2022 amid lagging intercontinental business travel.

World Oil Supply

Non-OPEC liquids supply growth in 2021 (including processing gains of 0.13 mb/d) is kept unchanged at around 0.7 mb/d y-o-y, to average of 63.7 mb/d. Some upward revisions to the US and Canada were offset by downward revisions in the supply forecasts of other countries such as Brazil and Norway due to unexpected lower output in 4Q21. Following an upward adjustment in 4Q21, due to a faster-than-expected production recovery in the GoM and steady monthly growth in the main shale plays, particularly in the Permian, the US liquids supply growth forecast was revised up to stand at 0.05 mb/d y-o-y. Canadian liquids production in October hit a new record at 5.8 mb/d, boosted by oil sands producers in Alberta and pipeline capacity expansion. The 2021 oil supply forecast primarily sees growth in Canada, Russia, China, US, Norway, Guyana and Qatar, while output is projected to decline in the UK, Colombia, Indonesia and Brazil.

Non-OPEC supply growth for 2022 also remains broadly unchanged at 3.0 mb/d y-o-y, to average 66.7 mb/d. Upward revisions to the supply forecast of the US were offset by downward revisions in the UK, Brazil, Colombia and Latin America others. The main drivers of liquids supply growth are expected to be the US (1.03 mb/d) and Russia (0.98 mb/d), followed by Brazil, Canada, Norway, Kazakhstan and Guyana.

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 for an average of 5.2 mb/d. Growth of 0.1 mb/d y-o-y is forecast in 2022 for an average of 5.3 mb/d. OPEC-13 crude oil production in October increased by 0.29 mb/d m-o-m to average 27.72 mb/d, according to secondary sources.

Preliminary non-OPEC liquids production in November, including OPEC NGLs, is estimated to have grown by 0.6 mb/d m-o-m to average 70.6 mb/d, up by 3.0 mb/d y-o-y. As a result, preliminary data indicates that global oil supply in November has grown by 0.88 mb/d m-o-m to average 98.28 mb/d, up by 5.62 mb/d y-o-y.

Non-OPEC liquids production growth in 2021 was broadly unchanged from the previous month's assessment to average 0.68 mb/d.

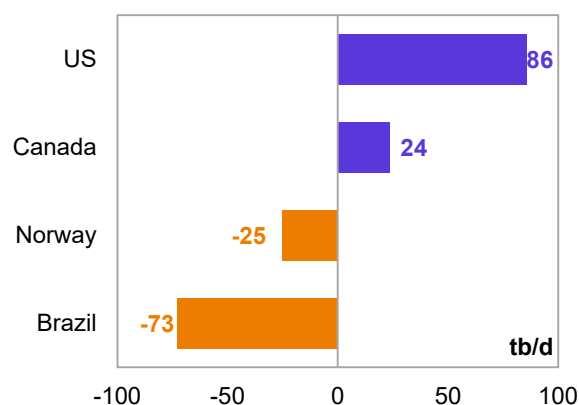
In the OECD, upward revisions by 75 tb/d in 3Q21, and at the same time upward revisions by 277 tb/d in 4Q21, led to an upward revision of 89 tb/d for the year. The main drivers for this revision were the US and Canada with 86 tb/d and 24 tb/d, respectively.

These revisions were offset by a few downward revisions, mainly in Norway, by 25 tb/d.

However, the non-OECD supply forecast for 2021 was revised down by 72 tb/d, mainly due to downward revisions in Brazil and Latin America others by 73 tb/d and 12 tb/d, respectively.

With these offsetting revisions, the non-OPEC absolute liquids supply forecast for this year was broadly unchanged to average 63.65 mb/d.

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



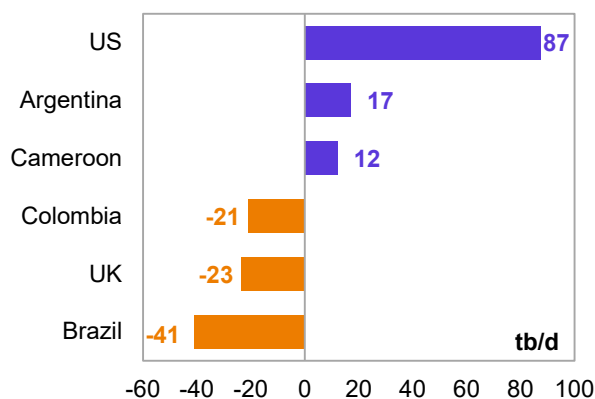
Note: * 2021 = Forecast. Source: OPEC.

The **non-OPEC supply growth forecast for 2022**, despite showing a few upward and downward revisions, remained unchanged to average 3.02 mb/d.

The revisions mainly came from the US, as next year's forecast was adjusted up based on revisions made in 4Q21. Hence, US liquids supply for 2022 was revised up by 87 tb/d to stand at 1.03 mb/d y-o-y due to the re-assessment of tight crude and NGL output. Moreover, the liquids supply forecasts of Argentina and Cameroon were also revised up.

Part of this month's upward revisions were offset by downward adjustments in the UK, Brazil, Colombia and Latin America others. With these revisions, the non-OPEC absolute liquids supply forecast for 2022 was revised up by 13 tb/d to average 66.67 mb/d, but in terms of growth, it remains unchanged at 3.02 mb/d.

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

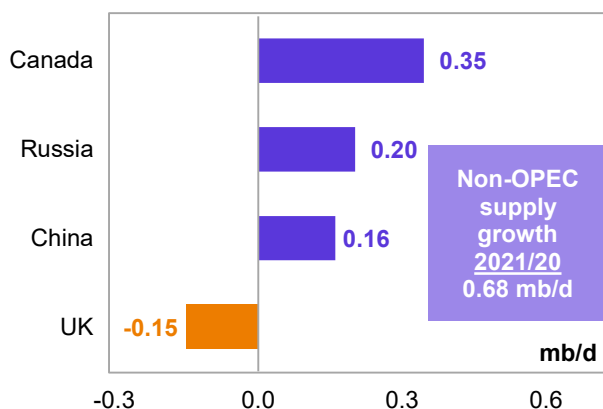


Note: * 2022 = Forecast. Source: OPEC.

Key drivers of growth and decline

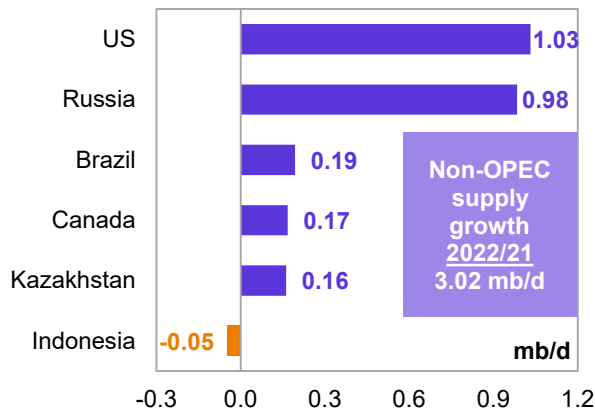
The **key drivers of non-OPEC liquids supply growth in 2021** are estimated to have been Canada, Russia, China, US, Norway, Guyana, Qatar and Argentina. Oil production is expected to have declined, mainly in the UK, while Indonesia, Colombia, Egypt, Ghana and Brazil also expected to have shown a y-o-y 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 the US, Russia, Brazil, Canada, Kazakhstan, Norway, Guyana and other non-OPEC countries participating in the DoC, while oil production is projected to decline, mainly in Indonesia, Egypt, Thailand and Colombia.

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	25.21	25.94	25.11	0.41	1.66
<i>of which US</i>	17.61	16.63	17.93	17.83	18.23	17.66	0.05	0.30
Europe	3.90	3.96	3.52	3.81	3.91	3.80	-0.10	-2.58
Asia Pacific	0.52	0.50	0.45	0.53	0.53	0.51	-0.02	-2.98
Total OECD	29.12	28.56	29.13	29.56	30.37	29.41	0.29	1.01
China	4.16	4.30	4.34	4.33	4.32	4.32	0.16	3.86
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	2.34	2.42	2.43	-0.07	-2.85
Latin America	6.04	5.96	5.99	6.11	6.10	6.04	0.00	0.04
Middle East	3.19	3.22	3.23	3.24	3.29	3.24	0.05	1.57
Africa	1.41	1.37	1.35	1.32	1.31	1.34	-0.08	-5.33
Russia	10.59	10.47	10.74	10.81	11.15	10.79	0.20	1.91
Other Eurasia	2.91	2.96	2.89	2.79	3.04	2.92	0.00	0.17
Other Europe	0.12	0.12	0.11	0.11	0.11	0.11	-0.01	-4.66
Total Non-OECD	31.71	31.67	31.86	31.80	32.50	31.96	0.25	0.80
Total Non-OPEC production	60.82	60.23	61.00	61.36	62.87	61.37	0.55	0.90
Processing gains	2.15	2.28	2.28	2.28	2.28	2.28	0.13	6.03
Total Non-OPEC liquids production	62.97	62.51	63.28	63.64	65.15	63.65	0.68	1.08
Previous estimate	62.98	62.51	63.28	63.60	65.14	63.64	0.66	1.05
Revision	0.00	0.00	0.00	0.04	0.01	0.01	0.02	0.03

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	25.11	26.02	26.06	26.44	26.82	26.34	1.23	4.89
<i>of which US</i>	17.66	18.35	18.60	18.75	19.06	18.69	1.03	5.84
Europe	3.80	3.87	3.76	3.82	4.14	3.90	0.10	2.68
Asia Pacific	0.51	0.54	0.54	0.53	0.53	0.54	0.03	5.94
Total OECD	29.41	30.43	30.36	30.79	31.50	30.77	1.36	4.62
China	4.32	4.33	4.33	4.37	4.45	4.37	0.04	1.02
India	0.75	0.73	0.75	0.78	0.80	0.77	0.01	1.59
Other Asia	2.43	2.45	2.42	2.40	2.38	2.41	-0.02	-0.91
Latin America	6.04	6.35	6.29	6.23	6.44	6.32	0.28	4.67
Middle East	3.24	3.34	3.34	3.36	3.36	3.35	0.11	3.29
Africa	1.34	1.29	1.27	1.25	1.22	1.25	-0.08	-6.26
Russia	10.79	11.51	11.83	11.88	11.88	11.78	0.98	9.12
Other Eurasia	2.92	3.10	3.12	3.16	3.22	3.15	0.23	7.86
Other Europe	0.11	0.11	0.11	0.10	0.10	0.10	-0.01	-6.90
Total Non-OECD	31.96	33.19	33.45	33.52	33.86	33.51	1.55	4.84
Total Non-OPEC production	61.37	63.62	63.81	64.31	65.35	64.28	2.91	4.73
Processing gains	2.28	2.39	2.39	2.39	2.39	2.39	0.11	4.91
Total Non-OPEC liquids production	63.65	66.02	66.20	66.70	67.74	66.67	3.02	4.74
Previous estimate	63.64	65.97	66.21	66.69	67.73	66.66	3.02	4.74
Revision	0.01	0.05	-0.01	0.01	0.01	0.01	0.00	0.00

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

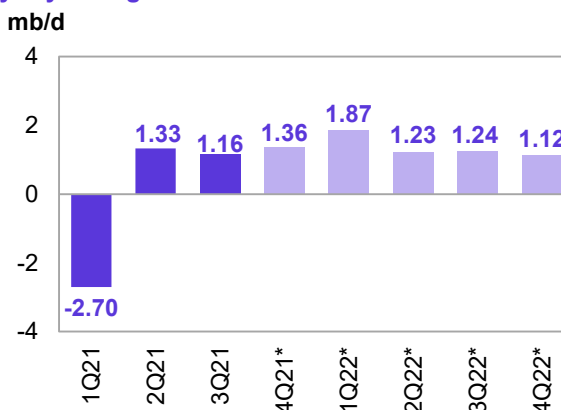
OECD

OECD liquids production in 2021 is forecast to increase by 0.29 mb/d y-o-y to average 29.41 mb/d, revised up by 0.09 mb/d m-o-m owing to an upward revision of 0.11 mb/d in the production forecast for OECD Americas, which is now projected to grow by 0.41 mb/d to average 25.11 mb/d. OECD Europe is forecast to decline by 0.10 mb/d, with an average supply of 3.80 mb/d. The supply forecast in OECD Asia Pacific is also forecast to decline by 0.02 mb/d y-o-y to average 0.51 mb/d.

For 2022, oil production in the OECD is forecast to increase by 1.36 mb/d y-o-y to average 30.77 mb/d, revised up by 0.06 mb/d compared to a month earlier, amid upward revisions in OECD Americas by 90 tb/d, which are offset by a downward adjustment in the supply forecast of OECD Europe by 23 tb/d.

Based on these revisions, OECD Americas is forecast to grow by 1.23 mb/d to average 26.34 mb/d. Oil production in OECD Europe and OECD Asia Pacific is anticipated to grow respectively by 0.10 mb/d and 0.03 mb/d y-o-y to average 3.90 mb/d and 0.54 mb/d.

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



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

OECD Americas

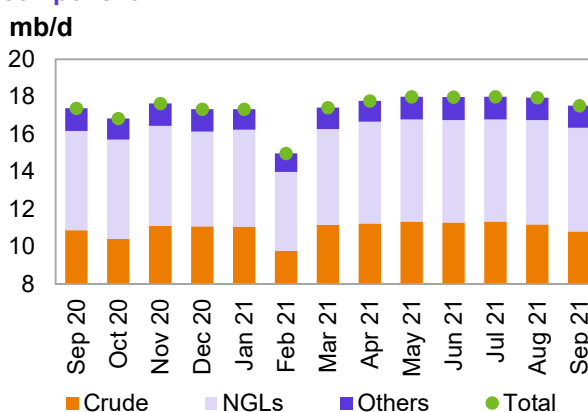
US

US liquids production in September 2021 was down by 0.43 mb/d m-o-m to average 17.52 mb/d, higher by 0.14 mb/d compared with September 2020.

Crude oil and condensate production decreased in September 2021 by 380 tb/d m-o-m to average 10.81 mb/d, down by 0.06 mb/d y-o-y. Regarding the crude and condensate production breakdown by region (PADDs), production decreased on the US Gulf Coast (USGC) by 418 tb/d to average 7.49 mb/d, while it increased in the Midwest, Rocky Mountains and the West Coast. Production on the East Coast was flat at 77 tb/d in September.

NGL production was down by 28 tb/d m-o-m to average 5.54 mb/d in September, higher by 0.23 mb/d y-o-y. Meanwhile, production of **non-conventional liquids** (mainly ethanol) in August decreased by 28 tb/d m-o-m to average 1.19 mb/d, according to the

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



Source: OPEC.

Department of Energy (DOE). It is estimated that

Production in the Gulf of Mexico (GoM) declined by 464 tb/d m-o-m in September to average 1,065 tb/d, following the impact of Hurricane Ida.

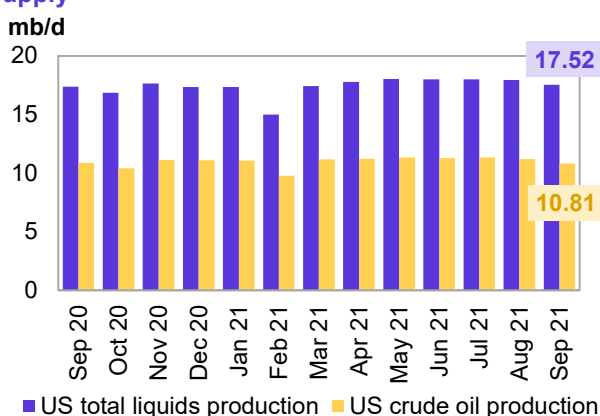
Looking at states, oil production in New Mexico declined by 21 tb/d m-o-m to average 1.35 mb/d, while production in Texas increased by 87 tb/d to average 4.95 mb/d, 306 tb/d higher than a year ago. Production in North Dakota increased by 8 tb/d m-o-m to average 1.1 mb/d, but was lower by 124 tb/d y-o-y. Production in Alaska was up by 21 tb/d at an average of 0.43 mb/d. Oil output in Oklahoma and Colorado showed an increase m-o-m by 13 tb/d and 5 tb/d, respectively. In the onshore lower 48, September production increased by 118 tb/d m-o-m to average 9.3 mb/d.

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

State			Change
	Aug 21	Sep 21	Sep 21/Aug 21
Oklahoma	381	394	13
Colorado	391	396	5
Alaska	409	430	21
North Dakota	1,091	1,099	8
Gulf of Mexico (GoM)	1,529	1,065	-464
New Mexico	1,373	1,352	-21
Texas	4,859	4,946	87
Total	11,189	10,809	-380

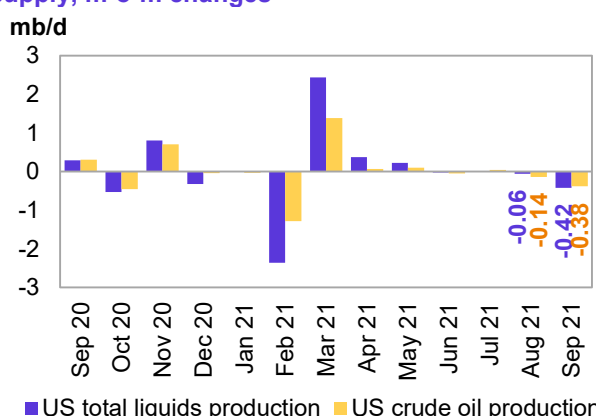
Sources: EIA and OPEC.

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.

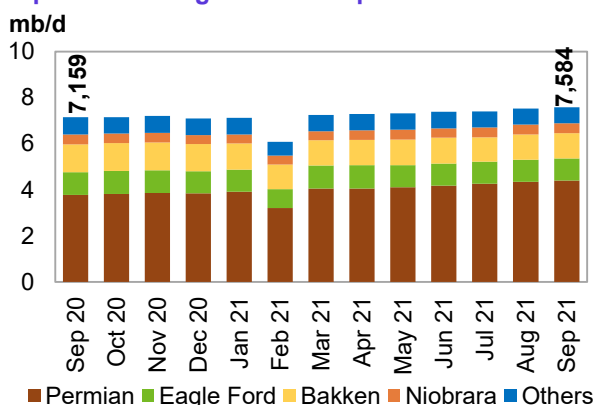
US tight crude output in September increased by 56 tb/d m-o-m to average 7.58 mb/d, which was 425 tb/d higher than the same month a year earlier, according to EIA estimates.

The m-o-m increase from shale and tight formations through horizontal wells came mostly from the Permian, rising by 54 tb/d to average 4.41 mb/d, higher by 0.63 mb/d y-o-y.

In the Williston Basin, production in the Bakken shale rose by a minor 5 tb/d to average 1.1 mb/d, down by 107 tb/d y-o-y. Tight crude output at Eagle Ford in Texas declined by 4 tb/d to average 0.95 mb/d, while production in Niobrara-Codell in Colorado and Wyoming was up by 5 tb/d to average 0.41 mb/d.

Average tight crude output in the first nine months of the year was estimated at 7.22 mb/d.

Graph 5 - 9: US tight crude output breakdown



Sources: EIA, Rystad Energy and OPEC.

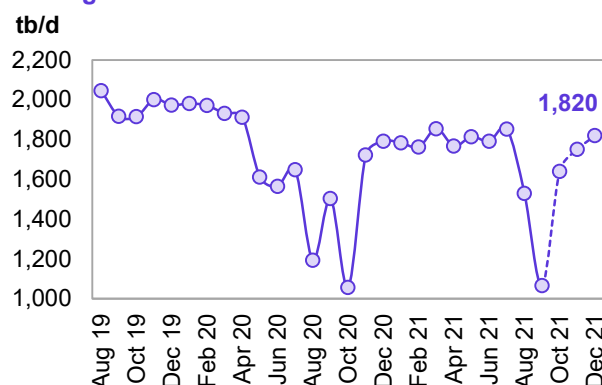
Hurricane Ida and its impact on US Gulf of Mexico (GoM) production

Oil production in the **GoM** declined by 464 tb/d m-o-m to average 1,065 tb/d in September following Hurricane Ida-related disruptions, according to EIA monthly crude production estimates. Production had declined before by 323 tb/d in August, compared to July.

Given the faster-than-expected recovery due to re-starting of production in the Mars and Ursa fields, production is expected to recover to the July production level – before the hurricane – by the end of the year. Average oil production from the GoM in 2021 is now forecast to grow by 0.06 mb/d and stand at 1.70 mb/d.

For next year, GoM production is expected to grow by 0.18 mb/d to average 1.88 mb/d.

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

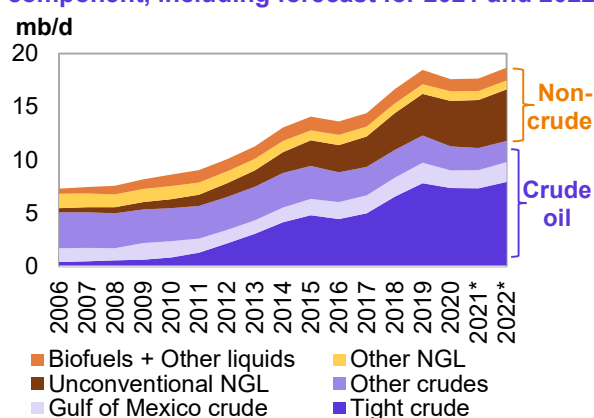


Note: Sep 20-Dec 21 = Forecast by OPEC.
Sources: EIA and OPEC.

The **US liquids production growth forecast for 2021** was revised up by 0.09 mb/d and now stands to grow by 0.05 mb/d y-o-y to average 17.66 mb/d. The US liquids supply 2021 exit rate has been adjusted higher due to an upward revision to 4Q21 by 216 tb/d, compared to a previously projected decline of 0.03 mb/d. 3Q21 was also revised upward by 124 tb/d, following higher-than-expected NGL and tight crude production in the Permian.

Regarding the liquids breakdown, US crude and condensate production for 2021 is expected to decline by 0.15 mb/d to average 11.14 mb/d. Growth of NGLs and non-conventional liquids is forecast at 0.18 mb/d and 0.02 mb/d to average 5.36 mb/d and 1.17 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 crude oil production is expected to exit December 2021 at 11.50 mb/d. US tight and conventional crude oil production are forecast to see contractions of 0.04 mb/d and 0.17 mb/d in 2021, to average 7.35 mb/d and 2.09 mb/d, respectively.

US liquids production in 2022, excluding processing gains, is anticipated to grow by 1.03 mb/d y-o-y to average 18.69 mb/d, revised up by 0.09 mb/d. The 2022 gains are due primarily to forecast tight crude production growth of 0.6 mb/d and projected growth of 0.18 mb/d in the GoM. However, the expected growth from shale and tight formations as well as from the GoM will be partially offset by natural declines in onshore conventional fields by 0.13 mb/d y-o-y.

Given the current pace of drilling and well completion in oil fields, **production of crude oil** is forecast to grow by 0.65 mb/d y-o-y to average 11.78 mb/d and to finish 2022 at 12.3 mb/d. This forecast assumes ongoing capital discipline, limited active drilling rigs, completion crews and labour shortages.

Production of NGLs, mainly from unconventional shale sources, is forecast to increase by 0.33 mb/d to average 5.7 mb/d, and non-conventional liquids are projected to grow by 0.06 mb/d.

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

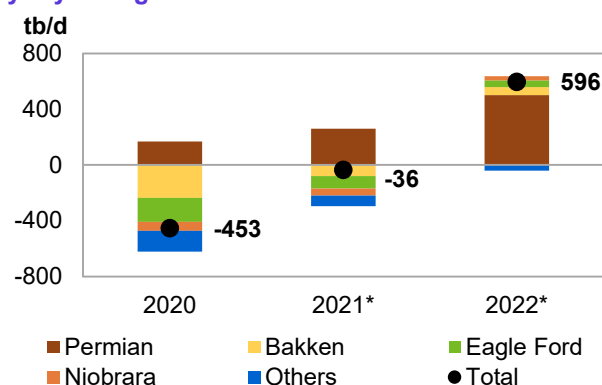
US liquids	Change		Change		Change	
	2020	2020/19	2021*	2021/20	2022*	2022/21
Tight crude	7.38	-0.45	7.35	-0.04	7.94	0.60
Gulf of Mexico crude	1.64	-0.25	1.70	0.06	1.88	0.18
Conventional crude oil	2.26	-0.30	2.09	-0.17	1.96	-0.13
Total crude	11.28	-1.01	11.14	-0.15	11.78	0.65
Unconventional NGLs	4.27	0.35	4.50	0.23	4.85	0.36
Conventional NGLs	0.91	0.00	0.86	-0.05	0.84	-0.02
Total NGLs	5.17	0.35	5.36	0.18	5.69	0.33
Biofuels + Other liquids	1.15	-0.20	1.17	0.02	1.22	0.06
US total supply	17.61	-0.86	17.66	0.05	18.69	1.03

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

US tight crude production in 2021 (based on the recent revisions done by EIA) and 2022 is expected to show continuous y-o-y growth in the Permian Basin by 260 tb/d and 501 tb/d to average 4.18 mb/d and 4.68 mb/d, respectively.

The decline rate in Bakken shale production slowed in 2021 compared to 2020, from a contraction of 235 tb/d to a decline of 71 tb/d, and is now expected to stand at an average of 1.1 mb/d in 2021. For 2022, tight crude production from the Bakken shale is forecast to grow by 57 tb/d on the back of increased drilling activities in North Dakota.

The Eagle Ford in Texas is expected to decline this year by 0.08 mb/d to average 0.95 mb/d, but is forecast to grow next year by 0.05 mb/d to average 1.0 mb/d. The rig-weighted average productivity (new-well oil production per rig) is still showing a y-o-y decline by 49 b/d, or 2%, in the Eagle Ford, according to the EIA-DPR (Drilling Productivity Report) forecast for December 2021. However, production is forecast to increase by 70 tb/d in December m-o-m.

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	Change		Change		Change	
	2020	2020/19	2021*	2021/20	2022*	2022/21
Permian tight	3.92	0.17	4.18	0.26	4.68	0.50
Bakken shale	1.18	-0.23	1.10	-0.08	1.16	0.06
Eagle Ford shale	1.04	-0.17	0.95	-0.09	1.00	0.05
Niobrara shale	0.47	-0.06	0.42	-0.05	0.45	0.03
Other tight plays	0.77	-0.15	0.69	-0.08	0.65	-0.04
Total	7.38	-0.45	7.35	-0.04	7.94	0.60

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

Production in the Niobrara, following an expected decline of 50 tb/d this year, is likely to grow by 30 tb/d y-o-y in 2022, to average 0.45 mb/d. Other shale plays are not expected to show growth in 2021 or 2022, given current drilling and completion activities.

US tight crude saw a contraction of 453 tb/d in 2020 and is expected to decline by 35 tb/d y-o-y this year. In 2022, production is forecast to grow by 596 tb/d to average 7.94 mb/d.

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. The forecast for tight crude in 2022 is revised down by 0.01 mb/d m-o-m.

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

Total **US active drilling rigs** remained unchanged w-o-w at 569 rigs in the week ended 3 December. The number of active offshore rigs declined by 2 to stand at 13, the same count as a year ago. Moreover, 554 rigs (oil & gas) were active onshore and 2 in inland waters.

The US horizontal rig count also remained unchanged at 513 rigs, compared to 246 horizontal rigs a year ago.

While the rig count in the Permian rose by 3 w-o-w to 283 rigs, the number of active rigs remains unchanged at 27 in the Williston Basin, 42 in Eagle Ford, 23 in Cana Woodford and 11 in DJ-Niobrara.

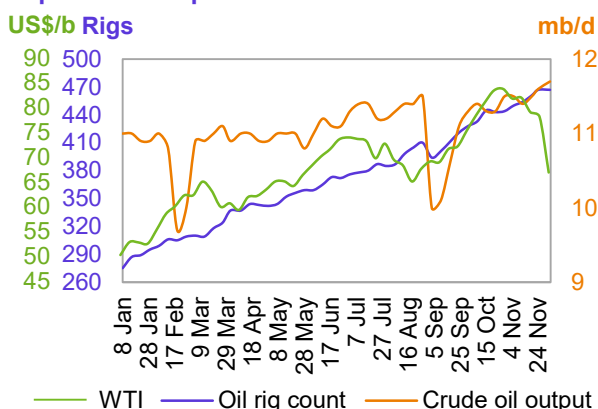
Drilling and completion (D&C) activities for spudded, completed and started wells in all US shale plays saw 469 horizontal wells spudded in November (as per preliminary data), down by 45 m-o-m, but 27% higher than in November 2020.

In November 2021, preliminary data indicates a lower number of completed wells at 505, as well as a lower number of started wells at 712. However, the number of completed and started wells increased by 25% and 94% y-o-y, respectively.

Regarding identified US oil and gas fracking operations by region, Rystad Energy reported that following 1,050 fracked wells seen in October, 892 started fracking in November. This preliminary number is based almost exclusively on analysis of high-frequency satellite data.

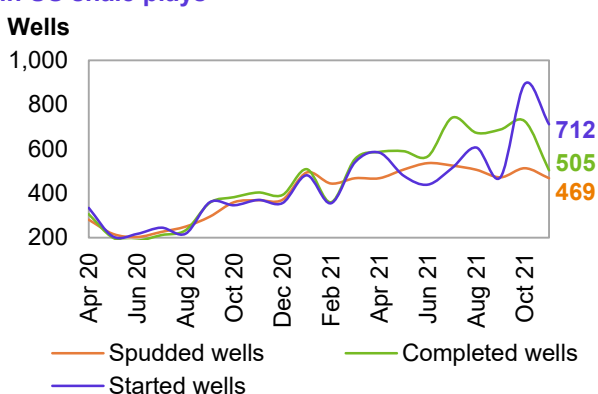
Preliminary data on fracking in November shows that 196 and 246 wells were fracked in the Permian Midland Tight and Permian Delaware Tight, respectively. In comparison with October, 257 wells in the Midland and 199 wells in the Delaware tight were fracked. Data also indicated that 86 wells were fracked in the DJ Basin compared with 113 in the Eagle Ford and only 36 in the Bakken in North Dakota.

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



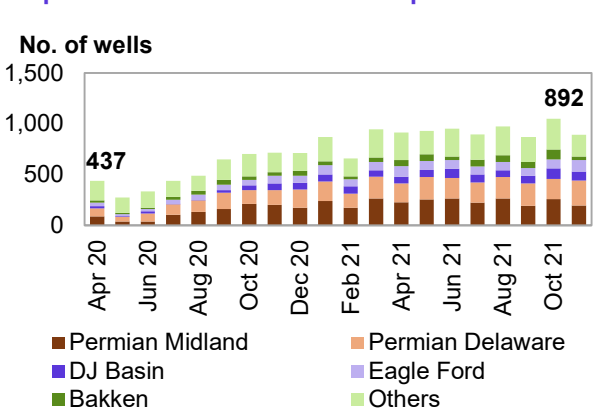
Sources: Baker Hughes, EIA and OPEC.

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



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

Graph 5 - 15: Fracked wells count per month



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

Canada

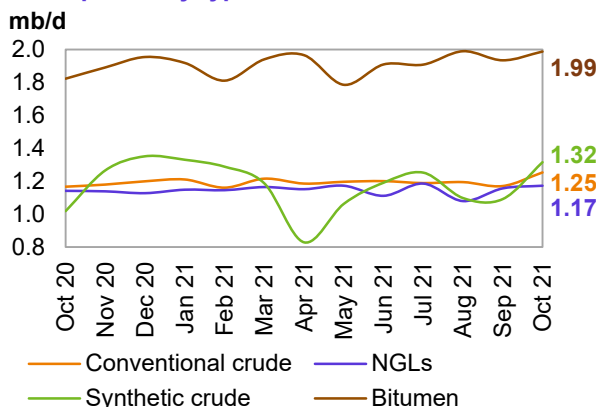
Canada's liquids production in October is estimated to have increased by 375 tb/d m-o-m, to average 5.77 mb/d. Crude bitumen and synthetic crude output increased, following the return of oil sands facilities from maintenance, and production of conventional crude was higher by 0.08 mb/d, to average 1.25 mb/d, mainly owing to recovered production from the Hebron offshore field in the North Atlantic Ocean following a m-o-m decline in September.

Production of synthetic crude in Alberta's upgraders has been down since July, but production recovered in October to average 1.32 mb/d, almost the same level as in January 2021, while production of crude bitumen and NGLs was up m-o-m to average 1.99 mb/d and 1.17 mb/d, respectively. Alberta production is expected to increase through December and into the next year.

Higher monthly liquids output in October and expected higher output in November and December, led to an upward revision for Canadian liquids supply for **2021** by 24 tb/d to 0.35 mb/d and average 5.51 mb/d.

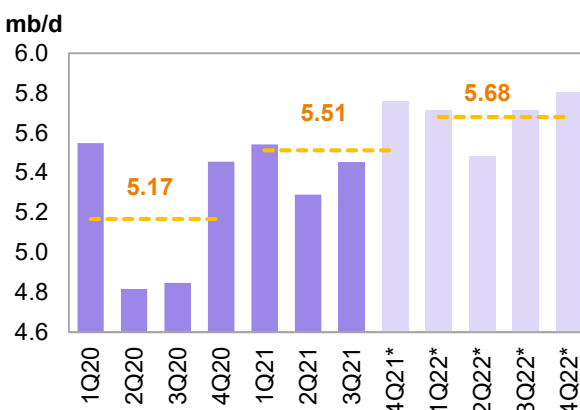
For **2022**, Canada's liquids production is forecast to increase at a slower pace compared with the current year, rising by 0.18 mb/d to average 5.70 mb/d, revised up by 0.01 mb/d from the previous month's assessment.

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



Sources: National Energy Board and OPEC.

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



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

Mexico

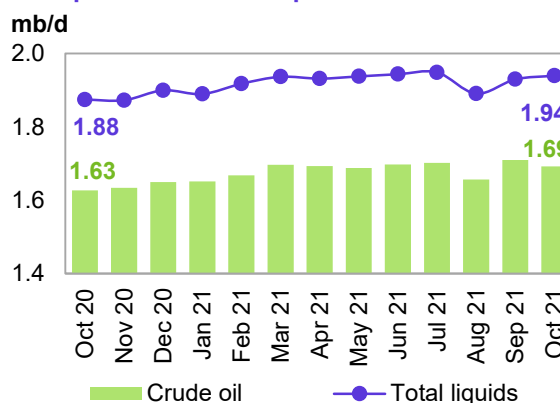
Mexico's crude output was down in October by 0.02 mb/d to average 1.69 mb/d. However, this decline was more than offset by higher NGL output by 27 tb/d. Therefore, Mexico's total liquids output in October was up by 10 tb/d m-o-m to average 1.94 mb/d.

According to Pemex, since 2019, new oil fields produced 280 tb/d, lifting average output to 1.74 mb/d in the quarter.

For **2021**, liquids production in Mexico is forecast to grow by 0.01 mb/d to average 1.93 mb/d.

For **2022**, growth is forecast at 0.03 mb/d to average 1.96 mb/d.

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



Sources: PEMEX and OPEC.

OECD Europe

Norway

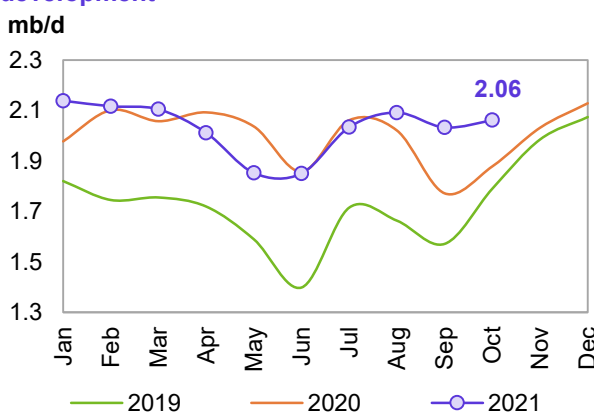
Norwegian crude production in October rose by 36 tb/d m-o-m to average 1.82 mb/d, and was up by 200 tb/d y-o-y. Production of NGLs and condensates declined by a minor 7 tb/d m-o-m to average 0.25 mb/d.

The higher oil output in October was due to first oil from Aurfugl Phase 2 by operator Aker BP as well as rising production in Martin Linge, which started-up in July. Part of this monthly increase is also due to the return of some fields from seasonal maintenance. Moreover, after years of delays, the Yme field in the southeastern part of the Norwegian sector of the North Sea started production on 25 October. At its peak, the field should deliver around 56 tboe/d.

For **2021**, Norway's liquids supply growth forecast has been revised down by 25 tb/d m-o-m due to lower-than-expected output in 4Q21 by 100 tb/d. Production is now expected to average 2.05 mb/d, with growth of 0.05 mb/d y-o-y.

For **2022**, Norwegian liquids production is expected to grow by 0.12 mb/d to average 2.17 mb/d, unchanged from last month's assessment. It is worth noting that the second phase of the Johan Sverdrup facility is planned to start up in 4Q22. Thereby, oil production capacity of the field will increase by 0.22 mb/d to 0.76 mb/d at the peak.

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



Sources: NPD and OPEC.

UK

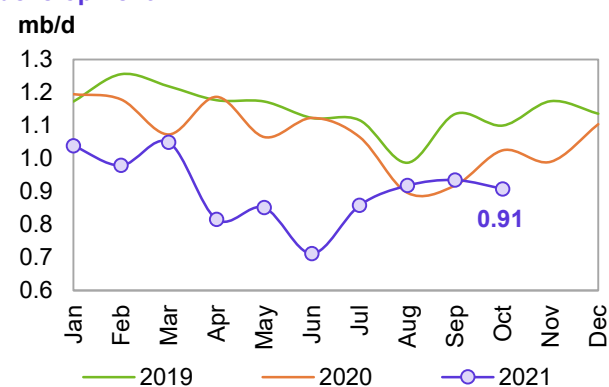
UK liquids production in October, following three consecutive months of production increases, declined by 0.03 mb/d m-o-m to average 0.91 mb/d.

Crude oil output fell by 0.02 mb/d m-o-m to average 0.79 mb/d, according to official data, down by 0.07 mb/d y-o-y. NGL output also decreased by 6 tb/d m-o-m in October to average 92 tb/d.

For **2021**, UK liquids production is forecast to contract by 0.15 mb/d to average 0.92 mb/d, revised down by 7 tb/d m-o-m.

For **2022**, UK liquids production is forecast to grow by a minor 0.01 mb/d to average 0.93 mb/d, following two consecutive years of heavy declines.

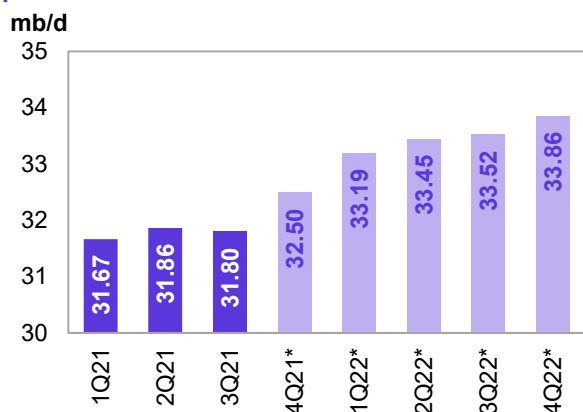
Graph 5 - 20: UK monthly liquids production development



Sources: Department of Energy & Climate Change and OPEC.

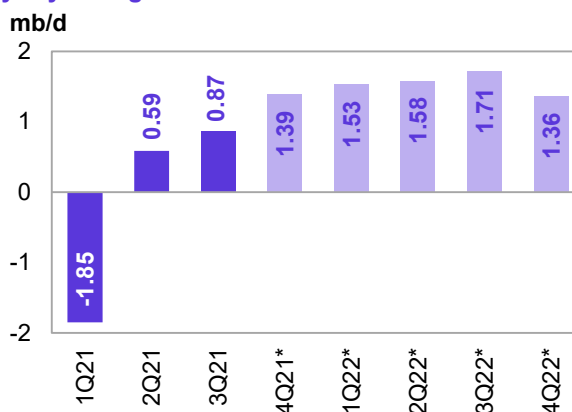
Non-OECD

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

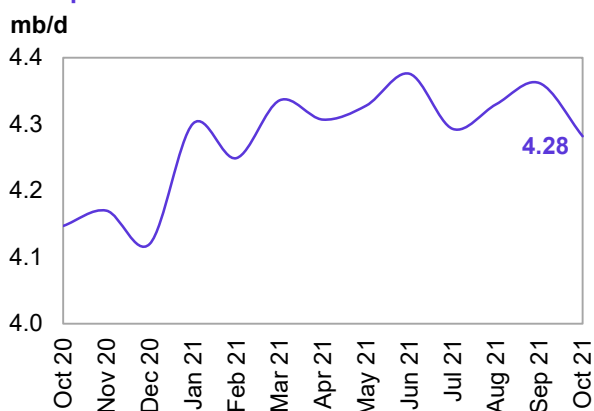


Note: * 4Q21-4Q22 = Forecast. Source: OPEC.

China

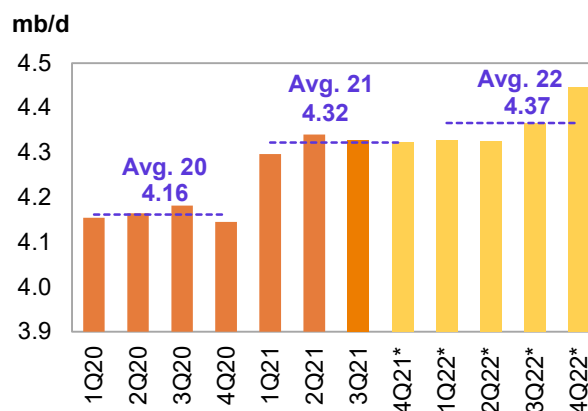
China's liquids production was down by 0.08 mb/d m-o-m to average 4.28 mb/d in October, but still higher by 0.13 mb/d y-o-y, according to official data. Crude oil output in October decreased by 80 tb/d to average 3.96 mb/d and was higher by around 98 tb/d y-o-y. The average of crude oil output in Jan-Oct was pegged at 4.0 mb/d, higher by 105 tb/d compared with the same period in 2020.

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 to average 4.32 mb/d. For **2022**, growth of 0.04 mb/d is anticipated for an average of 4.37 mb/d.

Latin America

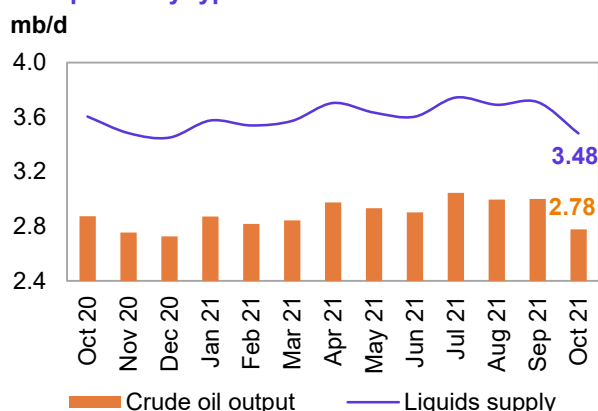
Brazil

Brazil's crude output in October fell by 0.22 mb/d m-o-m to average 2.78 mb/d, mainly due to maintenance in the P-76 FPSO in Buzios field. In October, total liquids production was pegged at 3.48 mb/d, including NGLs that were down by 6 tb/d to average 80 tb/d, and biofuels which were flat at 623 tb/d. Average crude production in Brazil during January-October 2021, despite the production ramp-up in the Sepia and Buzios fields, declined by 0.06 mb/d, compared with the same period in 2020. This is far from the initial expected growth for 2021. Maintenance has impacted crude production in 2021, and this is expected to continue until the end of the year. Moreover, COVID-19-related health and safety measures at production platforms, delays in project start-ups and heavy natural declines at offshore mature fields, particularly in the Campos Basin, have also contributed to under-performance in production.

Hence, the initial liquids supply forecast for **2021** has been revised down m-o-m to now stand at a decline of 0.03 mb/d y-o-y to average 3.64 m/d, including non-crude, mainly biofuels.

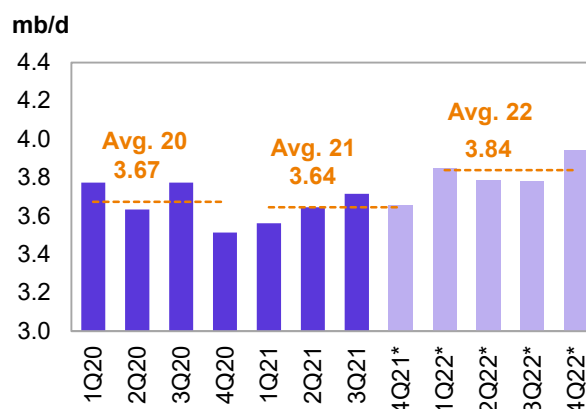
For **2022**, Brazil's liquids supply forecast, including biofuels, is forecast to increase by 0.19 mb/d y-o-y to average 3.84 mb/d, revised down by 0.04 mb/d. Crude oil production is expected to rise through two new project start-ups: Mero-1 (Guanabara), which was initially planned to start up in 2021 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.

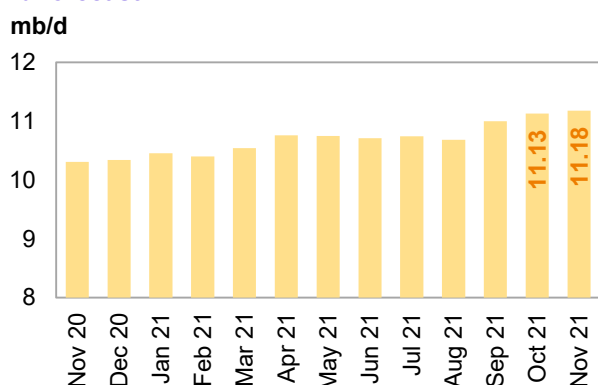
Russia

Russia's liquids production in October grew by 0.13 mb/d m-o-m to average 11.13 mb/d. This includes 9.92 mb/d of crude oil and 1.21 mb/d of condensate and NGLs. The monthly increase of 98 tb/d of crude oil was provided by four main companies – Rosneft, Lukoil, Bashneft, and Surutneftegas – according to Energy Intelligence. A preliminary estimate for Russia's liquids production in November based on the Ministry of Energy's production data shows an increase of 0.05 mb/d m-o-m to average 11.18 mb/d, higher by 0.87 mb/d y-o-y. Regarding condensate and NGL output in November, production is estimated at the same level as last month, at 1.21 mb/d.

Annual liquids production in **2021** is forecast to increase by 0.20 mb/d y-o-y to average 10.79 mb/d, revised up by 0.1 mb/d m-o-m.

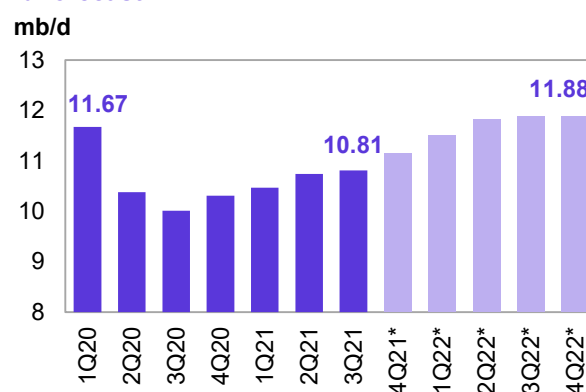
For **2022**, Russian liquids output is expected to increase by 0.98 mb/d to average 11.78 mb/d, with 3Q22 and 4Q22 both expected to reach 11.88 mb/d, unchanged from the previous assessment.

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



Sources: Nefte Compass, The Ministry of Energy of the Russian Federation and OPEC.

Graph 5 - 28: Russia's quarterly liquids production and forecast



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

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan increased by 0.27 mb/d m-o-m to average 1.93 mb/d in October, following the end of maintenance in the Tengiz field and higher flows from two main fields, including the Kashagan. Oil output from Tengiz, the country's largest oil field, averaged 0.6 mb/d prior to maintenance in August and September. Kazakh crude production recovered by 0.19 mb/d m-o-m in October to average 1.57 mb/d, the highest output since April 2020, and higher by 0.16 mb/d y-o-y. At the same time, production of condensate and NGLs was up by 77 tb/d m-o-m to average 357 tb/d in October. This was lower by 16 tb/d compared to 1Q21 at 373 tb/d.

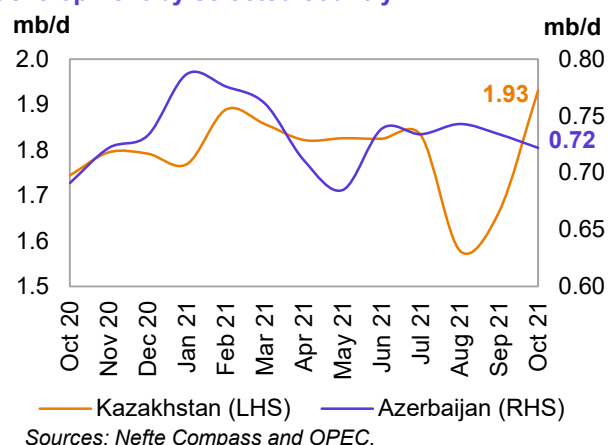
Kazakhstan's liquids supply forecast for **2021** is estimated to have declined by 0.01 mb/d and average 1.82 mb/d, while for **2022**, liquids supply is forecast to grow by 0.16 mb/d to average 1.98 mb/d.

Azerbaijan's liquids production in October declined by 0.01 mb/d m-o-m to average 0.72 mb/d, up by 0.03 mb/d y-o-y. Crude production declined by a minor 4 tb/d m-o-m to average 582 tb/d as maintenance continued on the Chirag platform up to mid-October.

Condensate output also fell marginally to around 140 tb/d, according to official sources. Azeri oil production is expected to increase in November to average 0.77 mb/d as maintenance ended in October.

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 **2022**, growth of 0.08 mb/d y-o-y for an average of 0.82 mb/d is anticipated.

Graph 5 - 29: Caspian monthly liquids production development by selected country



OPEC NGLs and non-conventional oils

OPEC NGLs and non-conventional liquids in 2021 are estimated to have grown by 0.10 mb/d, following a decline of 0.17 mb/d in 2020, to average 5.14 mb/d, revised down by 6 tb/d from last month's assessment due to lower-than-expected output in 1Q21, 2Q21 and 4Q21.

For **2022**, OPEC NGL production is expected to grow by 0.13 mb/d to average 5.16 mb/d, while non-conventional liquids are projected to remain unchanged at 0.11 mb/d.

Graph 5 - 30: OPEC NGLs and non-conventional liquids quarterly production and forecast

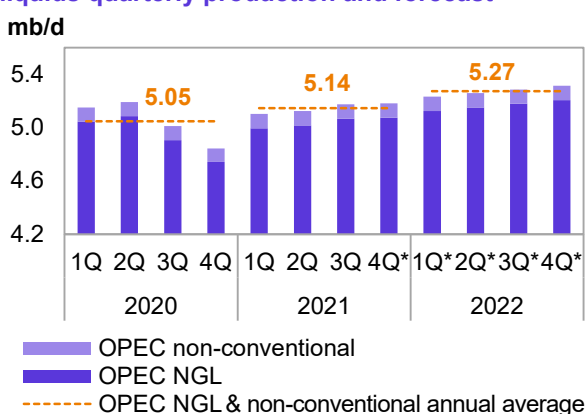


Table 5 - 6: OPEC NGL + non-conventional oils, mb/d

OPEC NGL and non-conventional oils	Change		Change		Change					
	2020	20/19	2021	21/20	1Q22	2Q22	3Q22	4Q22	2022	22/21
OPEC NGL	4.94	-0.18	5.04	0.09	5.12	5.15	5.18	5.20	5.16	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	5.14	0.10	5.23	5.26	5.29	5.31	5.27	0.13

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

OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 27.72 mb/d in November 2021, higher by 0.29 mb/d m-o-m. Crude oil output increased mainly in Saudi Arabia, Iraq and Nigeria, while production in Angola, Libya and Congo declined.

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

Secondary sources	2019	2020	1Q21	2Q21	3Q21	Sep 21	Oct 21	Nov 21	Change Nov/Oct
Algeria	1,022	897	870	886	922	934	945	954	9
Angola	1,398	1,255	1,141	1,109	1,106	1,126	1,120	1,082	-38
Congo	324	288	271	261	258	264	275	261	-14
Equatorial Guinea	118	115	106	106	99	102	88	88	1
Gabon	215	195	185	186	186	197	176	184	9
IR Iran	2,356	1,988	2,218	2,440	2,482	2,483	2,483	2,474	-9
Iraq	4,678	4,049	3,881	3,940	4,053	4,142	4,149	4,240	91
Kuwait	2,687	2,432	2,328	2,356	2,445	2,470	2,502	2,531	29
Libya	1,097	367	1,175	1,151	1,154	1,149	1,155	1,140	-15
Nigeria	1,786	1,579	1,413	1,423	1,349	1,365	1,335	1,420	85
Saudi Arabia	9,794	9,182	8,445	8,502	9,536	9,646	9,766	9,867	101
UAE	3,094	2,802	2,610	2,644	2,762	2,790	2,829	2,850	21
Venezuela	796	500	517	514	535	542	610	625	15
Total OPEC	29,365	25,650	25,159	25,521	26,885	27,210	27,432	27,717	285

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	Sep 21	Oct 21	Nov 21	Change Nov/Oct
Algeria	1,023	899	874	886	924	937	949	959	10
Angola	1,373	1,271	1,136	1,125	1,114	1,110	1,106	1,110	4
Congo	329	300	276	265	266	279	270	253	-16
Equatorial Guinea	110	114	104	99	94	82	81	71	-10
Gabon	218	207	183	179	180	175	171	188	16
IR Iran	..	..	..	..	..	..	..	..	..
Iraq	4,576	3,997	3,846	3,890	3,979	4,093	4,070	4,208	138
Kuwait	2,678	2,438	2,327	2,355	2,447	2,474	2,503	2,532	29
Libya	..	389	1,214	1,213	1,220	1,161	1,244	1,211	-33
Nigeria	1,737	1,493	1,404	1,343	1,270	1,247	1,228	1,275	47
Saudi Arabia	9,808	9,213	8,473	8,535	9,565	9,662	9,780	9,903	123
UAE	3,058	2,779	2,610	2,645	2,758	2,786	2,833	2,852	19
Venezuela	1,013	569	533	556	635	650	756	824	68
Total OPEC	..	..	..	..	..	..	..	..	..

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

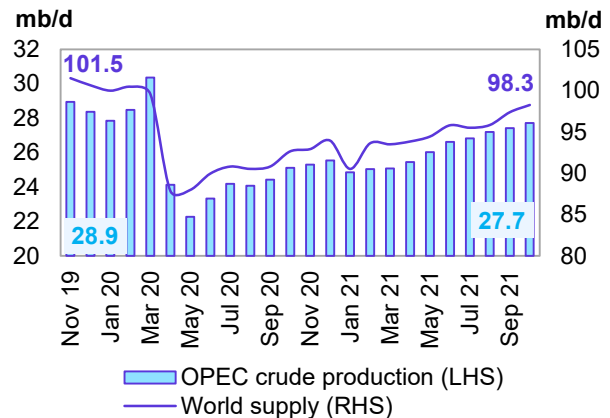
World oil supply

Preliminary data indicates that global liquids production in November increased by 0.88 mb/d to average 98.28 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) increased in November by 0.59 mb/d compared with the previous month to average 70.56 mb/d, higher by 3.03 mb/d y-o-y. Preliminary increases in production in November were driven by the non-OECD, particularly Latin America, while output is likely to increase in the OECD by 0.09 mb/d m-o-m, mainly from OECD Europe.

The **share of OPEC crude oil in total global production** remains unchanged at 28.2% in November 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 - 31: OPEC crude production and world oil supply development



Source: OPEC.

Product Markets and Refinery Operations

Refinery margins in all main trading hubs weakened in November as the performance of products across the barrel in all regions lost ground m-o-m, with naphtha in Asia being an exception. This downturn was attributed to a rise in product outputs as refineries ramped up run rates following major turnarounds to replenish product inventory levels. The seasonal demand-side weakness amid renewed lockdown measures as a result of a rise in COVID-19 infection rates further weighed on product markets. Going forward, the potential continuation of a rise in global refinery processing rates will most likely lead to a widening of the product balance and continued weakness in product markets in the coming month. Moreover, concerns over the spread of the Omicron variant of COVID-19 are set to add to the downside and further suppress the robust recovery in jet fuel margins witnessed in the recent months, particularly during the year-end holiday season.

Refinery margins

US Gulf Coast (USGC) refining margins reversed their upward trend witnessed since June and stepped down from the one-year record high reached in the previous month. The return of refineries from major turnarounds led to a rise in product output and provided relief to the severe product tightness witnessed in the recent months. In addition, weakness attributed to seasonality further weighed on US refining economics as product inventory levels started to recover. This led to poor performance all across the barrel in the USGC, especially in the gasoline and gasoil segment.

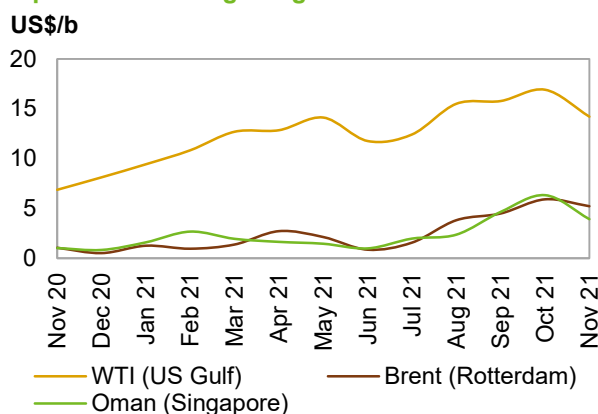
A decline in feedstock prices over the month amid the weakness in the product market allowed product prices to retreat from the record high levels of the previous month.

Although the Thanksgiving holiday season lent support to US gasoline markets on a weekly basis, this upside was insufficient to counterbalance the negative impact brought by the surge in product supplies and seasonality. USGC margins against WTI averaged \$14.19/b in November, down by \$2.70 m-o-m but up by \$7.34/b y-o-y.

Refining margins in Europe trended downward in response to a rise in refinery processing rates and consequently a widening product balance. In addition, renewed lockdowns in some European countries in light of a hike in COVID-19 infection rates further suppressed fuel consumption and ultimately adversely impacted European product markets. Similar to what was witnessed in the USGC, the downturn in European refining economics was derived from all across the barrel. However, the largest contributors to the poor performance came from the jet fuel and fuel oil segments. Jet fuel margins stepped down from their robust performance of recent months backed by a positive recovery in demand for the same product. However, the growing fuel availability as well as reimposed air travel restrictions have overturned the upward trend. European refinery run rates in November increased by 240 tb/d m-o-m, according to preliminary data, as the peak maintenance season in the region ended. In the near term, offline capacity is expected to lose further ground in line with historical trends, which should provide added supply-side pressure to European product markets in the coming month. Refinery margins for Brent in Europe averaged \$5.21/b in November, down by 69¢ compared with a month earlier but was up by \$4.16 y-o-y.

In Asia, margins weakened, affected by a contraction in product margins all across the barrel with the exception of naphtha as the overall estimated rise in Asian product output was 520 tb/d higher relative to the previous month. Moreover, mobility indicators in India eased during November and likely contributed to the weakness. China's daily crude oil throughput was reported to have rebounded in October from its lowest level in more than a year, as refiners there were prompted to ramp up operations in response to the energy crisis amid high fuel prices and strong demand. On the other hand, renewed lockdowns in China added demand-side pressure to the fuel market. Refinery margins for Oman in Asia lost \$2.41 m-o-m to average \$3.93/b in November, which was higher by \$2.90 y-o-y.

Graph 6 - 1: Refining margins



Sources: Argus and OPEC.

Refinery operations

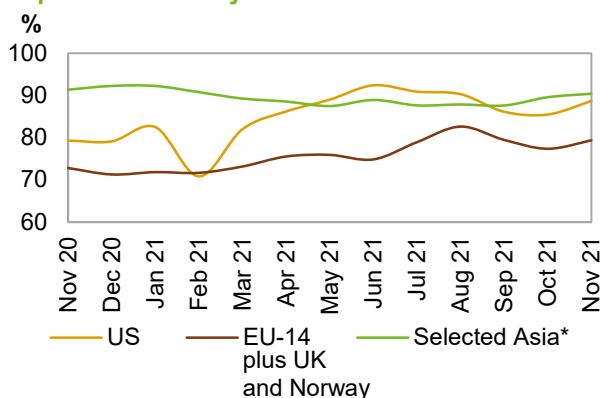
US refinery utilization rates increased in November to average 88.7%, which corresponds to a throughput of 16.08 mb/d. This represented a rise of 3.2 pp and 580 tb/d, respectively, compared with the previous month. Y-o-y, the November refinery utilization rate was up by 9.4 pp, with throughput showing a rise of 1.5 mb/d.

European refinery utilization averaged 79.4% in November, corresponding to a throughput of 9.46 mb/d. This is a m-o-m rise of 2.0 pp or 240 tb/d. On a y-o-y basis, utilization rates increased by 6.6 pp, while throughput was up by 481 tb/d.

In selected Asia – comprising Japan, China, India, Singapore and South Korea – refinery utilization rates rose, and averaged 90.4% in November,

corresponding to a throughput of 26.17 mb/d. Compared with the previous month, throughputs were up by 0.8 pp and 520 tb/d. Meanwhile, they were down y-o-y by 1.0 pp but up by 202 tb/d.

Graph 6 - 2: Refinery utilization rates



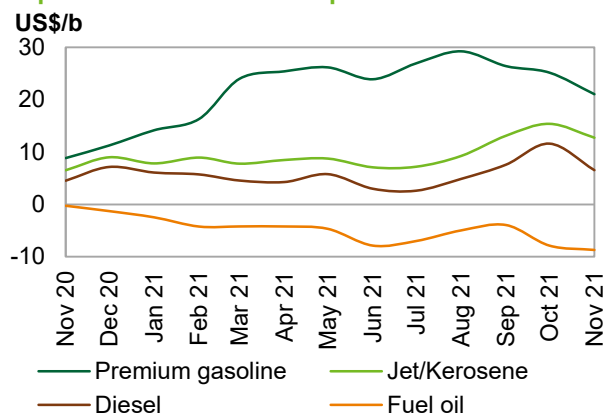
Note: * China, India, Japan, Singapore and South Korea.
Sources: Argus, EIA, Euroilstock, PAJ and OPEC.

Product markets

US market

US gasoline crack spreads extended the downward trend witnessed since August and lost considerable ground, pressured by the seasonal slowdown in gasoline demand. Although gasoline inventory levels remain at relatively low levels, the rise in refinery run rates resulted in a significant build in total gasoline commercial stocks during the last week of November. This sign of a recovery in gasoline inventories is most likely to see an extension in the coming months amid seasonal demand-side pressure and the potential for a further rise in processing rates over the coming month. In response to the changing supply-side fundamentals, as well as a decline in crude prices, US gasoline prices in November stepped down from the multi-year record high marks registered in the previous month, to settle at \$101.25/b in November, compared with \$106.51/b reached in October.

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



Sources: Argus and OPEC.

On a weekly basis, mobility activity data showed an improvement in domestic vehicle miles travelled over the Thanksgiving holidays, according to external sources. However, this temporary support proved insufficient to overturn the overall supply- and demand-side pressure witnessed throughout the month. The USGC gasoline crack spreads lost \$4.12 m-o-m to average \$21.04/b in November, but were up by \$12.21 y-o-y.

USGC **jet/kerosene crack spreads** reversed course and declined in November following four months of consecutive gains, as jet fuel production rates increased m-o-m. Although jet/kerosene fuel inventory levels continued to decline in November, it was the supply-side upturn that had a stronger impact on the market performance of the same product. The robust improvement in jet fuel markets in the most recent months appeared to come to a halt in November, with concerns over the spread of the Omicron variant, and stricter international air travel measures posing a threat to jet fuel crack spreads in the near term. The US jet/kerosene crack spread against WTI averaged \$12.75/b, down by \$2.65 m-o-m but higher by \$6.22 y-o-y.

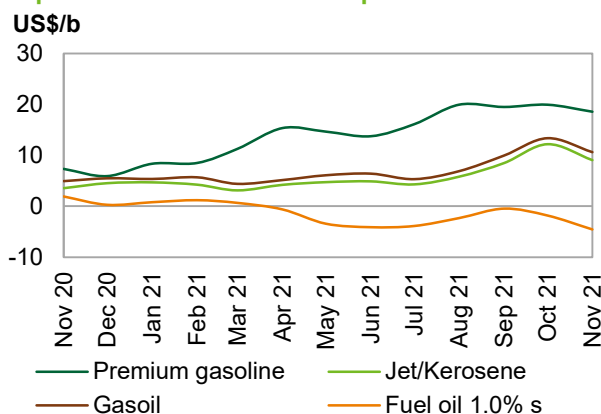
US **gasoil crack spreads** against WTI lost ground and exhibited the strongest negative performance across the barrel in November, affected by a rise in refinery output despite healthy demand. In addition, requirements for heating oil in the US remained subdued due to mild temperatures. Despite the overall poor performance, positive global economic indicators, as well as firm gasoil exports to South America, continued to offer limited support to the gasoil market and likely limited further losses. The US gasoil crack spread against WTI averaged \$6.53/b, down by \$5.08 m-o-m but up by \$2.01 y-o-y.

US fuel oil 3.5% crack spreads against WTI declined further in November, 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 product stocks are expected to boost gasoline and diesel yields to the detriment of fuel oil. In November, the US fuel oil crack spread against WTI averaged minus-\$8.73/b, lower by 83¢ m-o-m, and lower as well by \$8.47 y-o-y.

European market

Gasoline crack spreads reversed course again and declined as domestic consumption weakened. The re-implementation of lockdowns and mobility restrictions in Europe in response to a hike in COVID-19 infection rates had a negative impact on mobility levels in key European countries and ultimately weighed on gasoline margins. This resulting negative impact was further exacerbated by rise in refinery output levels, which signalled further upward pressure on ARA gasoline inventory levels going forward, although firm gasoline exports to West African countries in particular ahead of the year-end holiday season may limit the downside impact. The gasoline crack spread against Brent averaged \$18.56/b in November, down by \$1.38 m-o-m but was up by \$11.24 y-o-y.

Graph 6 - 4: Rotterdam crack spreads vs. Brent



Sources: Argus and OPEC.

In November, **jet/kerosene crack spreads** against Brent showed the second largest loss compared to all other key products across the barrel in Europe, following 3.5% s fuel oil. Jet fuel inventory levels remained relatively low, and jet/kerosene imports from Asia were reported lower. However, weaker market sentiment due to a recovery in refinery output amid tighter air travel restrictions linked to an increase in COVID-19 infection rates exerted pressure on European jet/kerosene margins. The Rotterdam jet/kerosene crack spread against Brent averaged \$9.05/b, down by \$3.14 m-o-m but up by \$5.52 y-o-y.

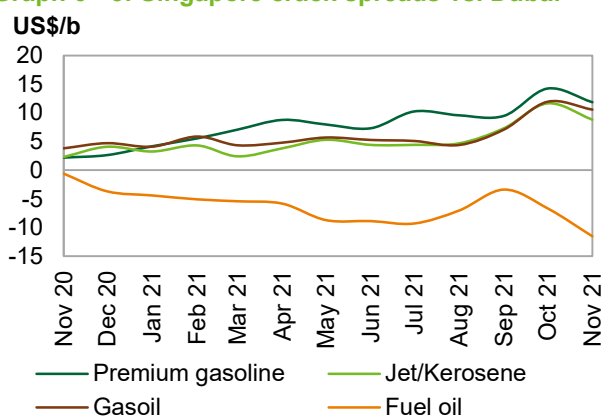
Gasoil crack spreads performed poorly in November as diesel balances in the Atlantic Basin started to widen. Strong support from the freight and agricultural sectors amid rising heating oil demand continued to provide limited support. European gasoil prices fell by \$4.09 from the highest level recorded since October 2018 in the previous month, to average \$92.83/b in November. The gasoil crack spread against Brent averaged \$10.62/b, which was lower by \$2.76 m-o-m but up by \$5.71 y-o-y.

At the bottom of the barrel, **fuel oil 1.0% crack spreads** continued to weaken, affected by stronger fuel oil availability as well as ample volume arrivals to Amsterdam-Rotterdam-Antwerp storage hub from Russia. Meanwhile, gas-to-liquids switching in European power sector was insignificant due to logistical and technical constraints and thus failed to provide any support to European fuel oil markets. In Europe, fuel oil cracks averaged minus-\$4.56/b in November, having lost \$2.74 m-o-m and \$6.48 y-o-y.

Asian market

The **Asian gasoline 92 crack spread** weakened on rising gasoline availability despite firm regional demand, particularly in India. The strong gasoline price environment incentivized Asian refiners to increase gasoline yields which, leading to strong exports from Japan, India and South Korea. Moreover, Chinese refiners were also reported to have ramped up processing rates under government directives to address the energy crisis in the country experienced in the previous month. This resulted in higher gasoline availability in the region and weighed further on crack spreads for the same product. At the same time, the return of refineries from the peak maintenance season in the US and Europe likely suppressed interregional gasoline requirements. The Singapore gasoline crack spread against Oman in November averaged \$11.86/b, down by \$2.39 m-o-m but up by \$9.68 y-o-y.

Graph 6 - 5: Singapore crack spreads vs. Dubai



Sources: Argus and OPEC.

Product Markets and Refinery Operations

Asian **naphtha crack spreads** represented the sole positive performer across the barrel in November, likely supported by firm demand from the petrochemical sector and relatively high liquefied natural gas (LNG) prices. The Singapore naphtha crack spread against Oman averaged \$3.92/b, having increased by 93¢ m-o-m, and \$6.54 y-o-y.

In the middle of the barrel, **jet/kerosene crack spreads** in Asia lost ground despite an uptick in Japan of kerosene consumption for heating in the second half of November. Although some Asian countries are departing from the zero-tolerance approach for COVID-19 measures as the vaccinated percentage of the region doubled in the last three months to almost 50%, several countries (including Japan, South Korea and Australia) promptly blocked travel from most countries or postponed reopenings. This adversely affect jet/kerosene margins. The Singapore jet/kerosene crack spread against Oman averaged \$8.80/b, down by \$2.83 m-o-m but up by \$6.49 y-o-y.

The Singapore **gasoil crack spread** declined following the robust performance of the previous month as refiners returned from maintenance. However, recovering regional demand, as well as expectations of a cold snap amid low inventories, could provide some support to crack spreads in the short term. The Singapore gasoil crack spread against Oman averaged \$10.55/b, down by \$1.37 m-o-m but up by \$6.73 y-o-y.

The Singapore **fuel oil 3.5% crack spread** weakened in response to ample supplies, high production rates in China and a decline in demand from Pakistan. In contrast, the low sulphur fuel oil market in Northeast Asia benefitted from robust demand from the power generation sector. The regional boost in refinery processing rates and government plans to release additional bunker fuel export quotas point to further pressure in the near term. Singapore fuel oil cracks against Oman averaged minus-\$11.53/b, down by \$4.88 m-o-m and \$10.92 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	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.
Omicron	Dec 21	↓ Negative impact on jet fuel	↓ Negative impact on jet fuel	↓ Negative impact on jet fuel	Refining economics could come under added pressure as a result of heightened travel restrictions which may slow or reverse the robust jet fuel recovery trend witnessed in the recent months.
Current product tightness	Dec 21	↑ Positive impact on product markets	↑ Positive impact on product markets	↑ Positive impact on product markets	This is set to boost support processing rate in the immediate short term as refiners, traders, 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, %			
	Sep 21	Oct 21	Nov 21	Change	Sep 21	Oct 21	Nov 21	Change
				Nov/Oct				Nov/Oct
US	15.62	15.50	16.08	0.58	86.13	85.47	88.71	3.2 pp
Euro-14, plus UK and Norway	9.47	9.22	9.46	0.24	79.49	77.39	79.41	2.0 pp
France	0.76	0.63	0.66	0.03	66.12	55.00	57.39	2.4 pp
Germany	1.78	1.85	1.88	0.02	86.77	90.32	91.48	1.2 pp
Italy	1.33	1.30	1.33	0.04	70.11	68.16	70.16	2.0 pp
UK	0.94	0.90	0.93	0.03	80.39	76.55	79.36	2.8 pp
Selected Asia*	25.09	25.65	26.17	0.52	87.59	89.55	90.37	0.8 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	18.32	18.20
of which US	17.31	16.99	14.72	14.32	14.20	16.17	16.16	16.14
OECD Europe	12.17	12.13	10.64	10.36	10.17	10.66	11.30	11.15
of which:								
France	1.10	1.00	0.67	0.71	0.58	0.65	0.79	0.71
Germany	1.80	1.78	1.72	1.67	1.58	1.66	1.77	1.84
Italy	1.35	1.35	1.11	1.08	1.06	1.24	1.27	1.29
UK	1.06	1.08	0.92	0.89	0.75	0.94	0.99	0.96
OECD Asia Pacific	6.98	6.79	5.89	5.88	5.82	5.49	5.80	5.86
of which Japan	3.11	3.02	2.48	2.51	2.56	2.22	2.51	2.77
Total OECD	38.46	37.88	33.07	32.49	32.28	34.33	35.41	35.21
Latin America	4.31	4.09	3.27	3.37	3.48	3.37	3.43	3.52
Middle East	6.98	6.84	6.02	6.37	6.46	6.54	6.86	6.99
Africa	2.16	2.12	1.96	1.94	2.08	2.02	2.01	2.07
India	4.89	5.04	4.42	4.73	4.93	4.55	4.40	4.99
China	12.03	13.02	13.48	14.14	14.12	14.38	13.76	13.96
Other Asia	5.18	4.95	4.62	4.49	4.47	4.70	4.69	4.83
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	1.35	1.42
Other Europe	0.63	0.62	0.49	0.50	0.46	0.53	0.51	0.57
Total Non-OECD	43.23	43.68	40.75	42.07	42.70	42.84	42.64	44.06
Total world	81.70	81.56	73.83	74.55	74.98	77.16	78.06	79.27

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.

Product Markets and Refinery Operations

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

	Oct 21	Nov 21	Change Nov/Oct	Annual avg. 2020	Year-to-date 2021
US Gulf (Cargoes FOB)					
Naphtha*	85.42	82.41	-3.01	38.31	70.22
Premium gasoline (unleaded 93)	106.51	101.25	-5.26	51.89	91.25
Regular gasoline (unleaded 87)	101.61	95.98	-5.63	47.72	86.48
Jet/Kerosene	96.75	92.96	-3.79	46.83	77.43
Gasoil (0.2% S)	92.96	86.74	-6.22	44.92	73.42
Fuel oil (3.0% S)	72.89	66.27	-6.62	34.72	59.51
Rotterdam (Barges FoB)					
Naphtha	84.42	81.41	-3.01	39.00	69.49
Premium gasoline (unleaded 98)	103.48	100.77	-2.71	51.34	85.47
Jet/Kerosene	95.73	91.26	-4.47	45.72	76.35
Gasoil/Diesel (10 ppm)	96.92	92.83	-4.09	49.17	77.58
Fuel oil (1.0% S)	81.72	77.65	-4.07	40.87	68.70
Fuel oil (3.5% S)	73.48	66.93	-6.55	37.71	61.10
Mediterranean (Cargoes FOB)					
Naphtha	83.83	80.76	-3.07	37.58	68.85
Premium gasoline**	96.60	91.69	-4.91	45.41	80.06
Jet/Kerosene	93.58	89.29	-4.29	43.06	74.33
Diesel	96.36	91.88	-4.48	48.55	77.07
Fuel oil (1.0% S)	83.38	79.64	-3.74	43.54	70.04
Fuel oil (3.5% S)	71.40	64.50	-6.90	33.31	58.78
Singapore (Cargoes FOB)					
Naphtha	84.45	84.21	-0.24	40.66	70.19
Premium gasoline (unleaded 95)	98.48	95.01	-3.47	46.59	79.59
Regular gasoline (unleaded 92)	95.71	92.15	-3.56	44.99	77.60
Jet/Kerosene	93.09	89.09	-4.00	44.75	74.34
Gasoil/Diesel (50 ppm)	95.09	91.14	-3.95	49.19	76.60
Fuel oil (180 cst)	93.10	90.65	-2.45	47.86	74.91
Fuel oil (380 cst 3.5% S)	74.81	68.76	-6.05	36.75	61.92

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

Sources: Argus and OPEC.

Tanker Market

Dirty tanker spot freight rates were steady in November, although the expected year-end upward momentum has yet to materialize.

For VLCCs, the spot freight rates on the Middle East-to-East route averaged WS43, up 2% m-o-m. While this represented an improvement over the same month last year, it is still well below pre-COVID levels for this time of year. For Suezmax, rates on the West Africa-to-US Gulf Coast (USGC) averaged WS61 for a decline of 6%. Aframax rates on the Med to Northwest Europe route averaged WS105, representing a gain of 2% m-o-m.

In contrast, clean tanker spot rates strengthened, with gains both east and west of Suez. Middle East to East flows averaged WS118, indicating a gain of 4% m-o-m.

Optimism for the end of the year has been shaken somewhat by the uncertainty around the impact of a new COVID-19 variant on economic activities.

Spot fixtures

The latest estimates show **global spot fixtures** declined in November, falling for the second-straight month. Fixtures averaged 13.23 mb/d, representing a decline of 2.5 mb/d, or 16%. Compared to the previous year, spot fixtures were 2.9 mb/d, or around 18%, lower.

Table 7 - 1: Spot fixtures, mb/d

Spot fixtures	Sep 21	Oct 21	Nov 21	Change Nov 21/Oct 21
All areas	16.21	15.75	13.23	-2.52
OPEC	11.11	9.94	8.32	-1.62
Middle East/East	6.98	5.68	5.35	-0.33
Middle East/West	0.87	1.32	0.58	-0.74
Outside Middle East	3.26	2.94	2.39	-0.55

Sources: Oil Movements and OPEC.

OPEC spot fixtures fell m-o-m in November, dropping 1.6 mb/d, or around 16%, to average 8.32 m/b. Compared with the same month last year, OPEC spot fixtures were about 2.2 mb/d, or around 21%, lower.

Middle East-to-East fixtures declined 0.3 mb/d m-o-m, or around 6%, to average 5.4 mb/d. This was a drop of close to 1.0 mb/d, or 15%, compared to the same month last year.

Fixtures from the **Middle East-to-West** fell 0.7 mb/d m-o-m in November, or 56%, to average 0.6 mb/d. The route was around 0.3 mb/d, or 34%, lower compared to the same month last year.

Outside the Middle East, fixtures declined 0.6 mb/d m-o-m, or almost 19%, to average 2.4 mb/d. Y-o-y, fixtures were around 0.9 mb/d, or close to 28%, lower.

Sailings and arrivals

OPEC sailings increased in November to average 22.2 mb/d. M-o-m, OPEC sailings were 0.2 mb/d, or about 1%, higher. Compared to the same month last year, OPEC sailings were 1.8 mb/d, or close to 9%, higher.

Middle East sailings were up 2.1 mb/d in November, or about 1%, to average 16.6 mb/d. Y-o-y, sailings from the region rose 2.2 mb/d, or around 16%, compared with the same month last year.

Crude arrivals were higher in all regions except Europe in November. Arrivals in North America rose around 0.4 mb/d, or 4%, to average 9.1 mb/d. Compared with the same month last year, arrivals were 1.5 mb/d, or over 19%, higher. Arrivals in Europe were broadly flat m-o-m in November, averaging 12.6 mb/d, but some 2.2 mb/d, or 22%, higher than the same month last year.

In the Far Asia, arrivals increased 2.0 mb/d m-o-m, or around 15%, to average 15.6 mb/d. Y-o-y, arrivals were 4.6 mb/d, or 41%, higher. West Asia arrivals rose around 0.7 mb/d, or 9%, in November to average just under 8.0 mb/d, representing a gain of 2.6 mb/d, or almost 49%, compared to the same month last year.

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

Sailings				Change
	Sep 21	Oct 21	Nov 21	Nov 21/Oct 21
OPEC	22.04	21.97	22.18	0.21
Middle East	16.49	16.36	16.57	0.21
Arrivals				
North America	9.07	8.76	9.11	0.35
Europe	12.62	12.59	12.55	-0.04
Far East	13.02	13.62	15.64	2.02
West Asia	7.06	7.34	7.99	0.65

Sources: Oil Movements and OPEC.

Dirty tanker freight rates

Very large crude carriers (VLCCs)

The expected year-end upward momentum failed to materialize in November, with **VLCC** spot rates rising only sluggishly from an already low level. On average, VLCC spot freight rates rose 3% m-o-m in November, with rates to the east showing an improvement while rates on western voyages remained flat. However, y-o-y, VLCC rates were up 54% over the very poor performance seen in the previous year.

Rates on the **Middle East-to-East** route rose 2% m-o-m to average WS43 points. Y-o-y, rates were 65% higher. Rates on the **Middle East-to-West** route were unchanged m-o-m, averaging WS24 points. Y-o-y, rates were 41% higher.

The **West Africa-to-East** route edged higher, gaining 2% m-o-m in November to average WS45. Rates were 55% higher compared with November 2020.

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

VLCC	Size				Change
	1,000 DWT	Sep 21	Oct 21	Nov 21	Nov 21/Oct 21
Middle East/East	230-280	36	42	43	1
Middle East/West	270-285	22	24	24	0
West Africa/East	260	37	44	45	1

Sources: Argus and OPEC.

Suezmax

Suezmax rates lost some of the previous month's gains, declining 6% m-o-m in November, amid a softer market in the Atlantic basin. Rates were 93% higher than the exceptional lows seen in November 2020.

After a strong gain in the previous month, rates on **West Africa-to-USGC** route fell back, declining 6% m-o-m to average WS61. Compared to the same month last year, rates were 97% higher.

Spot freight rates on the **USGC-to-Europe** route also edged lower following the strong gains seen over the previous two months, dropping 5% m-o-m to average WS56 points. This was still a 93% gain compared to the same month last year.

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

Suezmax	Size				Change
	1,000 DWT	Sep 21	Oct 21	Nov 21	Nov 21/Oct 21
West Africa/US Gulf Coast	130-135	48	65	61	-4
US Gulf Coast/ Europe	150	49	59	56	-3

Sources: Argus and OPEC.

Aframax

Aframax rates maintained the improvements seen over previous months, rising 2% m-o-m in November. Y-o-y, rates were 93% higher.

Med routes continued to see gains in November. The **Cross-Med** route averaged WS117, representing an increase of 7% compared with the previous month. Y-o-y, rates were 92% higher. On the **Mediterranean-to-NWE** route, rates rose 2% m-o-m to average WS105. Compared with the same month last year, rates on the route were 102% higher.

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

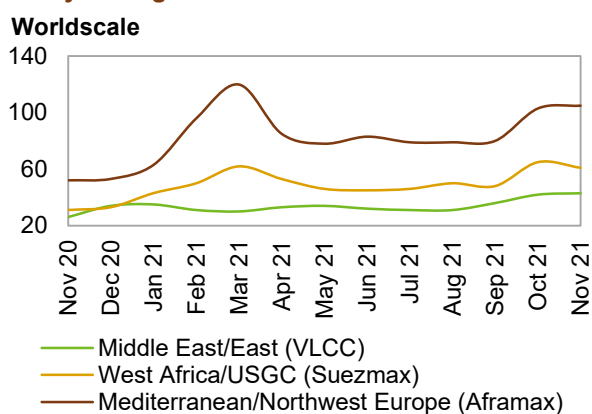
Aframax	Size 1,000 DWT				Change Nov 21/Oct 21
		Sep 21	Oct 21	Nov 21	
Indonesia/East	80-85	89	98	105	7
Caribbean/US East Coast	80-85	105	130	124	-6
Mediterranean/Mediterranean	80-85	89	109	117	8
Mediterranean/Northwest Europe	80-85	80	103	105	2

Sources: Argus and OPEC.

In contrast, the **Caribbean-to-US East Coast (USEC)** route fell back from the strong showing the month before, declining 5% m-o-m to average WS124, while rates were 80% higher y-o-y.

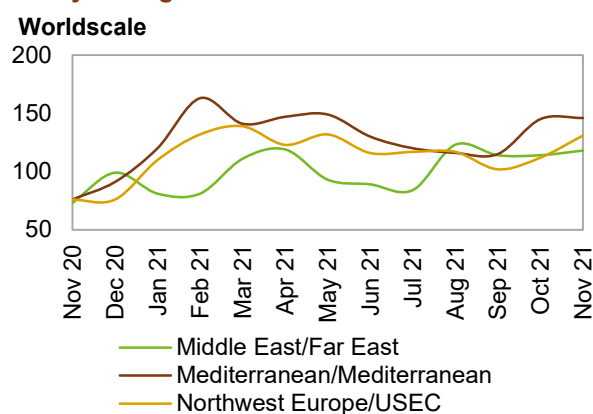
The **Indonesia-to-East** route continued to move higher for the second month in a row, gaining 7% m-o-m to average WS105 in November. Y-o-y, rates on the route were 102% higher.

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** were broadly higher in November, with gains both east and West of Suez. Clean rates in the west increased 5% m-o-m, while East of Suez rates rose 2% m-o-m, after declining over the previous two months.

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

East of Suez	Size 1,000 DWT				Change Nov 21/Oct 21
		Sep 21	Oct 21	Nov 21	
Middle East/East	30-35	114	114	118	4
Singapore/East	30-35	155	139	138	-1
West of Suez					
Northwest Europe/US East Coast	33-37	102	112	131	19
Mediterranean/Mediterranean	30-35	115	145	146	1
Mediterranean/Northwest Europe	30-35	121	154	156	2

Sources: Argus and OPEC.

In the East of Suez, rates on the **Middle East-to-East** route averaged WS118, representing a m-o-m gain of 4% and a 62% increase y-o-y. In contrast, freight rates on the **Singapore-to-East** route showed a slight decline of 1% m-o-m to average WS138. Rates were still 47% higher compared with November 2020.

Tanker Market

In the West of Suez market, rates on the **NWE-to-USEC** route rose 17% m-o-m to average WS131 points. Compared to the same month last year, rates were 72% higher.

Rates in the **Cross-Med** and **Med-to-NWE** increased by 1% across both routes to average WS146 and WS156 points, respectively. Y-o-y, rates were up by 92% in the Cross-Med and 88% on the Med-to-NWE route.

Crude and Refined Products Trade

Preliminary data shows US crude imports partly recovered from a dip the previous month, averaging 6.4 mb/d in November. US crude exports averaged 2.9 mb/d, representing the second-consecutive monthly gain, amid higher flows to Asia.

China's crude imports averaged 8.9 mb/d in October, the lowest since February 2018, as independent refiners lacked import quotas and state-owned refiners were encouraged to draw down inventories. With the issuance of a final round of crude import quotas, preliminary data shows crude imports rebounded in November, averaging 10.2 mb/d.

India's crude imports declined in October after rising sharply over the previous two months to average 4.0 mb/d, amid the country's peak holiday season. Crude imports are expected to recover in November, as the economy gains momentum and refiners boost runs.

Japan's crude imports fell further in October, averaging 2.4 mb/d and despite rising refinery runs. Product imports were flat, averaging 940 tb/d, as lower gasoline and naphtha inflows were offset by increased imports of heating fuels.

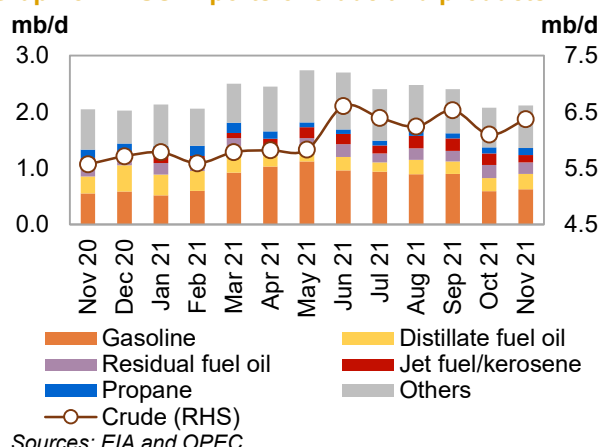
The most recent data for OECD Europe shows crude imports remained strong in August, averaging 8.7mb/d. Crude exports continued to edge higher, increasing for the fourth consecutive month, to average 0.4 mb/d in August, amid higher flows to India and China.

US

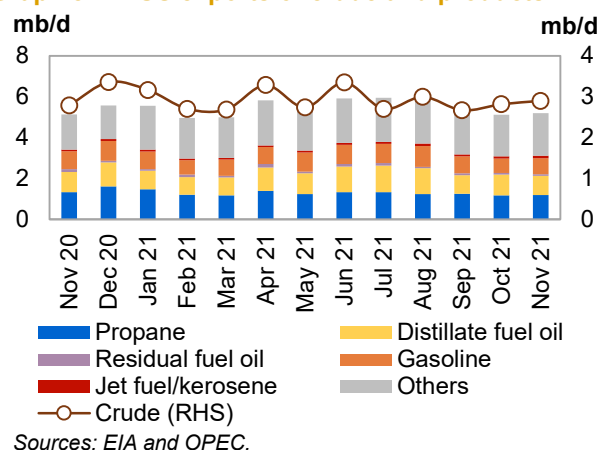
Preliminary data shows **US crude imports** mostly recovered from a dip the previous month, averaging 6.4 mb/d in **November**. Crude inflows rose 0.3 mb/d m-o-m, or around 5%. Compared with the same month last year, crude imports were 0.8 mb/d, or 14%, higher.

US crude exports averaged 2.9 mb/d in November, representing the second-straight month of gains, driven by higher flows to Asia, particularly South Korea. Exports rose 83 tb/d m-o-m, or 3%, and 0.1 mb/d, or 4%, compared with the same month last year.

Graph 8 - 1: US imports of crude and products



Graph 8 - 2: US exports of crude and products



Preliminary data for **US crude imports by source** for November shows a decline in inflows from Canada, which remained the top supplier with a share of 56%. Mexico was in second place, with 8%, despite a slight decline in volumes, followed by Saudi Arabia and Russia with 6% and 3%. The latest monthly data for September shows **US crude exports by destination** witnessed a general decline, led by the UK, while the Netherlands experienced the largest increase to hold the top spot in terms of share of exports in September. India was in second place followed by South Korea.

US net crude imports averaged 3.5 mb/d in November, compared with 3.3 mb/d in October and 2.8 mb/d in the same month last year.

Crude and Refined Products Trade

On the **product** side, preliminary data shows **US product imports** edged up following the previous month's losses to average 2.1 mb/d. This represents a m-o-m increase of less than 2%. Compared with the same period last year, product imports were 3% higher.

Product exports ticked higher, averaging 5.2 mb/d in November, amid higher distillate outflows. Product outflows were up by less than 2% m-o-m. Compared with the same month last year, product exports were also less than 2% higher.

As a result, preliminary data shows **US net product exports** averaged around 3.1 mb/d in November, compared with 3.0 mb/d in October and 3.1 mb/d in the same month last year.

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

US	Sep 21	Oct 21	Nov 21	Change Nov 21/Oct 21
Crude oil	3.86	3.28	3.48	0.19
Total products	-2.74	-3.04	-3.08	-0.04
Total crude and products	1.12	0.24	0.39	0.15

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

Sources: EIA and OPEC.

Preliminary data indicates that US **net crude and product imports** averaged 0.4 mb/d in November, with gains on the import side outpacing increases on the export side. This compares with net imports of 0.2 mb/d the month before and net exports of almost 0.3 mb/d in November 2020.

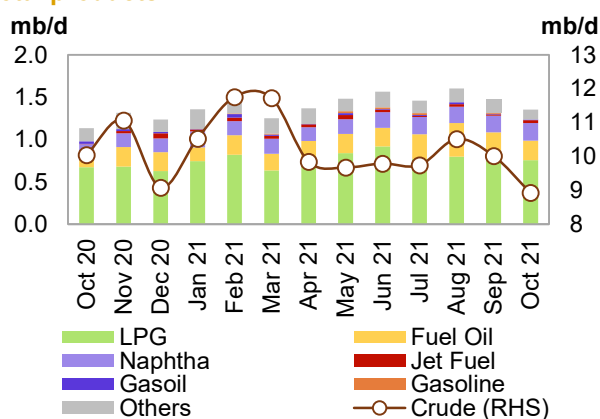
Looking ahead, US crude imports should pick up again in the final month of the year, while crude exports are expected to be capped at around current levels. Product flows should continue to be supported by seasonal demand.

China

China's crude imports averaged 8.9 mb/d in October, the lowest since February 2018, as independent refiners lacked import quotas and state-owned refiners were encouraged to draw down inventories. M-o-m, crude imports were 1.1 mb/d, or almost 11%, lower. However, more recent data shows crude imports rebounded in **November**, averaging 10.2 mb/d, representing a m-o-m gain of 0.2 mb/d or around 2%. This followed with the issuance of a final round of crude import quotas.

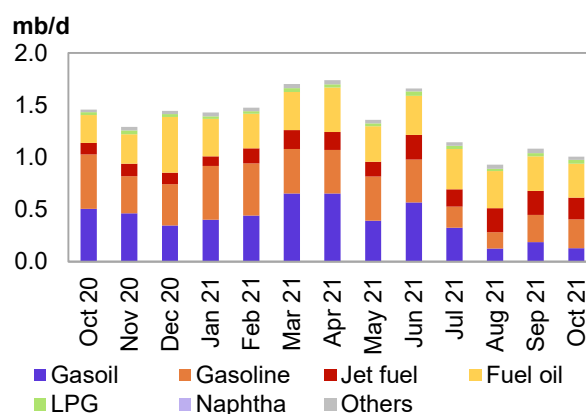
In terms of **crude imports by source**, Saudi Arabia remained in the top position in October, with a share of around 19%. Russia was second at about 18% and Iraq third with just over 12%.

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 around 8% to average 1.4 mb/d in October, driven by declines in LPG, fuel oil and petroleum coke. Product imports rose 19%, or 0.2 mb/d, compared to the same month last year.

Product exports slipped in October, averaging 1.0 mb/d, as outflows of diesel and jet fuel were sharply lower. Product exports declined by 75 tb/d or 7% m-o-m. They were almost 0.5 mb/d, or 31%, lower y-o-y.

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

China	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	10.52	10.00	8.90	-1.09
Total products	0.67	0.40	0.35	-0.05
Total crude and products	11.19	10.39	9.25	-1.14

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 fourth-consecutive month in October. Net product imports averaged 347 tb/d, compared with net imports of 396 tb/d in September and net exports of 323 tb/d in the same month last year.

Looking ahead, crude imports will likely see upward support from winter demand and preparations for the Winter Olympics and the Lunar New Year holiday. Meanwhile, diesel exports are expected to decline as the government has told refiners to prioritize the domestic market.

India

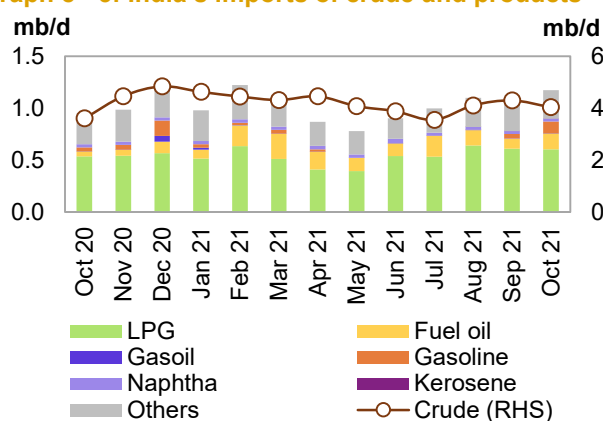
India's crude imports declined after rising sharply over the previous two months to average 4.0 mb/d in October, amid the country's peak holiday season. Compared with September, crude imports declined 0.3 mb/d, or around 6%. Imports were 0.4 mb/d, or 12%, higher than in the same month last year.

In terms of **crude imports by source**, the latest data for September shows Iraq continuing in the top position and with an increased share of almost 23%. Saudi Arabia was second with around 16%, followed by the UAE with around 12%. The US was fourth with 8%.

For **products, imports** were higher, averaging 1.2 mb/d, led by gasoline and fuel oil. Product inflows in October increased by around 10% m-o-m, or 0.1 mb/d, and were 0.2 mb/d, or 24%, higher compared to the same month last year.

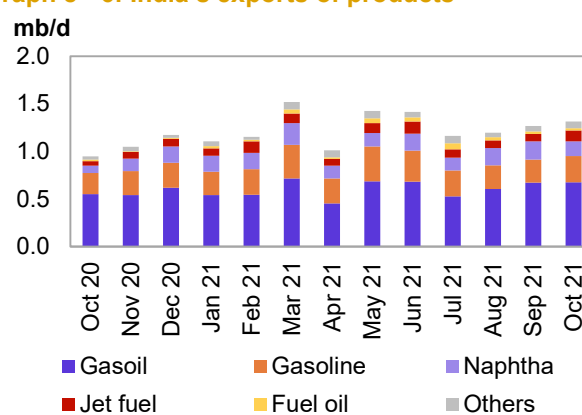
Product exports continued to climb, averaging 1.3 mb/d in October, as diesel outflows remained strong and jet fuel exports increased. Product outflows were around 4%, or 45 tb/d, higher m-o-m and up almost 39%, or 0.3 mb/d, y-o-y.

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 139 tb/d in October, compared with 198 tb/d the month before and broadly balanced compared to the same month last year.

Looking ahead, crude imports are expected to recover in November, as the economy gains momentum and refiners boost runs. Refiners are likely to continue to enjoy rising domestic demand and increased demand for exports in the Asian region.

Crude and Refined Products Trade

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

India	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	4.11	4.30	4.03	-0.26
Total products	-0.10	-0.20	-0.14	0.06
Total crude and products	4.01	4.10	3.90	-0.20

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

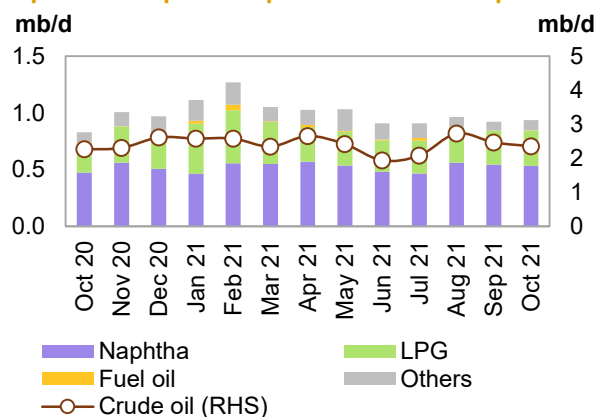
India data table does not include information for crude import and product export by Reliance Industries.

Sources: PPAC and OPEC.

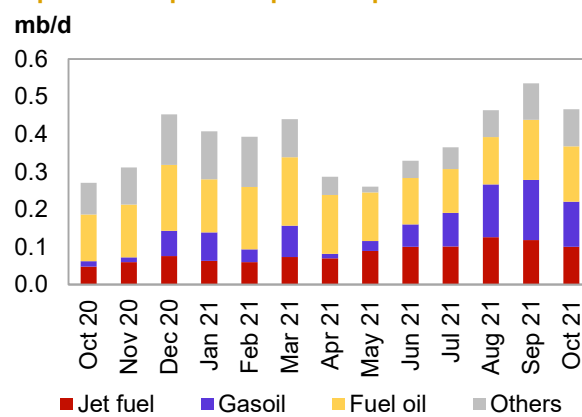
Japan

Japan's crude imports fell further in October, averaging 2.4 mb/d despite rising refinery runs. Crude imports were 113 tb/d, or around 5%, lower than in September, but were 91 tb/d, or 4%, higher y-o-y.

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



Sources: METI and OPEC.



Sources: METI and OPEC.

In terms of **crude imports by source**, Saudi Arabia returned to the top spot with a share of almost 38%. The UAE was second, with a share of 35%, followed by Qatar and Kuwait, with around 13% and 7%, respectively.

Product imports including LPG were flat and relatively stable, averaging 940 tb/d, as lower gasoline and naphtha inflows were offset by increased imports of heating fuels. Compared with September, product imports were 16 tb/d, or around 2%, higher. Y-o-y, product inflows were 108 mb/d, or 13%, higher.

Product exports including LPG slipped in October, averaging 470 tb/d, amid a drop in gasoil, jet fuel and fuel oil exports. Product outflows were down 69 tb/d, or around 13%, from the previous month, but rose by 196 mb/d, or around 72%, compared with the same month last year.

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

Japan	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	2.73	2.47	2.35	-0.11
Total products	0.50	0.39	0.47	0.08
Total crude and products	3.23	2.85	2.82	-0.03

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

Sources: METI and OPEC.

As a result, Japan's **net product imports** averaged 470 tb/d in October, down from 386 tb/d the month before and 558 tb/d in October 2020.

Looking ahead, with policy makers concerned about ensuring sufficient supplies with the onset of colder weather, Japan's crude imports are likely to strengthen over the winter months, as refiners increase runs.

OECD Europe

The most recent available official data shows **OECD Europe crude imports** from outside the region remained strong in August, averaging 8.7 mb/d. Imports were 0.2 mb/d or 2.8% higher m-o-m and showed an even stronger increase of 0.9 mb/d, or almost 11%, compared to the same month of 2020.

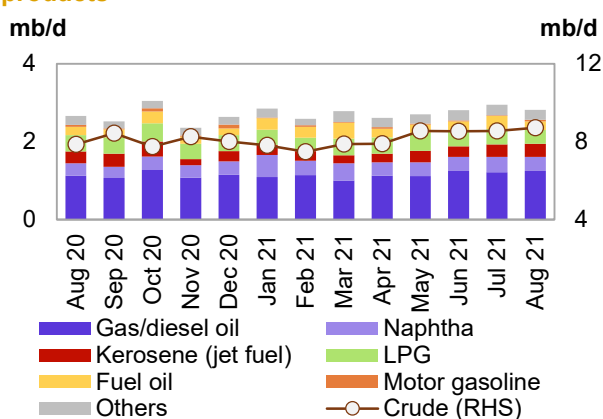
In terms of the **source of imports**, Iraq took over the spot of top supplier from outside the region, with a share of 9%. Kazakhstan was in second place with 7%, followed by Nigeria with 6.6% and Libya with 6.5%.

Crude exports outside the region continued to edge higher in August, the third-consecutive monthly rise, to average 0.5 mb/d amid higher flows to India and China. This represents an increase of 136 tb/d, or around 34%. Compared with the same period last year, crude exports rose 216 tb/d, or just under 67%.

In terms of **destinations**, China remained the top buyer of OECD Europe crude exports outside the region in August. India was second, followed by Turkey and South Korea.

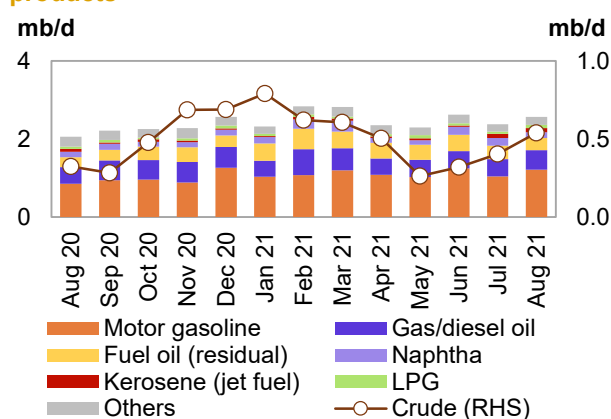
As a result, **net crude imports** averaged around 8.2 mb/d in August, slightly higher than the month before and up from an average of 7.5 mb/d in August 2020.

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** declined in August, averaging 2.8 mb/d, amid a drop in fuel oil and LPG inflows. Product imports were around 4%, or 0.1 mb/d, lower m-o-m but 6%, or 0.2 mb/d, higher than the level seen in August 2020.

Product exports increased to 2.6 mb/d, driven by higher outflows of gasoline and diesel. Outflows were around 0.2 mb/d, or just over 8%, higher than in July, and around 0.5 mb/d, or close to 25%, higher y-o-y.

The region continued to be a **net product importer** in August, registering net inflows of 0.3 mb/d, compared with 0.6 mb/d the month before and 0.6 mb/d in the same month last year.

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

OECD Europe	Jun 21	Jul 21	Aug 21	Change Aug 21/Jul 21
Crude oil	8.21	8.15	8.18	0.03
Total products	0.18	0.56	0.25	-0.31
Total crude and products	8.39	8.71	8.43	-0.28

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

Sources: IEA and OPEC.

Combined, **net crude and product imports** averaged 8.4 mb/d in August, down from 8.7 mb/d the month before and 8.1 mb/d in August 2020.

Looking ahead, tanker tracking data from Vortexa shows crude imports strengthened in October and November, while crude exports also rose above August levels.

Eurasia

Total crude oil exports from Russia and Central Asia showed strong gains in October, averaging 6.6 mb/d. M-o-m, crude exports from the region were just under 0.5 mb/d, or 8%, higher. Compared to the same month last year, total crude exports from the region were over 0.5 mb/d, or 9%, higher.

Crude exports through the **Transneft system** supported the increase in October, with gains across most outlets. Outflows via the Transneft system rose by 0.3 mb/d, or about 8%, to average just under 4.0 mb/d. Compared with the same month last year, exports were 0.4 mb/d, or 13%, higher.

Within the system, total shipments from the **Black Sea** declined m-o-m by 13 tb/d, or 3%, to average 399 tb/d. In contrast, **Baltic Sea** exports grew by 205 tb/d m-o-m, or almost 17%, to average 1.4 mb/d. This was almost solely due to higher outflows from Primorsk, which rose m-o-m by 203 tb/d, or 30%, to average 872 tb/d. Shipments from Ust-Luga were marginally higher at 530 tb/d.

Shipments via the **Druzhba** pipeline rose 11 tb/d m-o-m, or around 1%, to average 787 tb/d. **Kozmino** shipments were up 35 tb/d, or 5%, m-o-m. Exports to China via the **ESPO pipeline** erased the previous month's loss, rising 63 tb/d or 11% m-o-m to average 633 tb/d in October.

In the **Lukoil system**, exports via the Barents Sea increased by 50 tb/d m-o-m, or around 56%, to average 139 tb/d in October, while those from the Baltic Sea dipped by about 16%.

On other routes, **Russia's Far East** exports declined by almost 10% m-o-m in October to average 0.3 mb/d. This was 14% lower compared with the same month last year.

Central Asia's exports averaged around 0.2 mb/d in October, representing an increase of over 11% compared with the month before and a gain of 13% y-o-y.

Black Sea total exports improved in October, increasing by 205 mb/d, or over 16%, compared to the previous month. They were around 13% higher compared to the same month last year. Outflows from the Novorossiysk port terminal (CPC) rose 209 tb/d, or just under 18%, while exports from Supsa slipped 4%. Exports via the **Baku-Tbilisi-Ceyhan (BTC) pipeline** declined 49 tb/d, or almost 10%, and were down 12% y-o-y.

Total product exports from Russia and Central Asia increased by almost 0.4 mb/d m-o-m, or 16%, to average just under 3.0 mb/d in October. M-o-m gains were seen across all major products, led in volume terms by fuel oil, naphtha and VGO. Y-o-y, total product exports were 0.3 mb/d, or 12% higher, in October, driven primarily by strong gains in naphtha and gasoil.

Commercial Stock Movements

Preliminary October data sees total OECD commercial oil stocks up by 9.9 mb m-o-m. At 2,773 mb, they were 357 mb lower than the same time one year ago, 207 mb lower than the latest five-year average and 174 mb below the 2015-2019 average. Within the components, crude and products stocks rose m-o-m by 9.4 mb and 0.5 mb, respectively.

At 1,307 mb, crude stocks in the OECD were 154 mb less than the latest five-year average and 149 mb below the 2015-2019 average. OECD product stocks stood at 1,465 mb, representing a deficit of 52 mb compared with the latest five-year average and 25 mb below the 2015-2019 average.

In terms of days of forward cover, OECD commercial stocks rose m-o-m by 1.0 day in October to stand at 61.7 days. This is 12.1 days below October 2020 levels, 2.7 days less than the latest five-year average and 0.7 days lower than the 2015-2019 average.

Preliminary data for November showed that total US commercial oil stocks fell m-o-m by 11.8 mb to stand at 1,222 mb. This is 167 mb lower than the same month a year ago and 87 mb below the latest five-year average. Crude and product stocks fell m-o-m by 1.0 mb and 10.8 mb, respectively

OECD

Preliminary October data sees **total OECD commercial oil stocks** up by 9.9 mb m-o-m. At 2,773 mb, they were 357 mb lower than the same time one year ago, 207 mb lower than the latest five-year average and 174 mb below the 2015-2019 average.

Within the components, crude and products stocks rose m-o-m by 9.4 mb and 0.5 mb, respectively. Total commercial oil stocks in October rose in OECD Americas and OECD Europe, while they fell in OECD Asia Pacific.

OECD **commercial crude stocks** rose m-o-m in October by 9.4 mb to stand at 1,307 mb. This is 210 mb lower than the same time a year ago and 154 mb below the latest five-year average. Compared with the previous month, OECD Americas saw a stock build of 13.8 mb, OECD Europe rose by 1.8 mb, and OECD Asia Pacific had a stock draw of 6.1 mb.

Total product inventories rose m-o-m in October by 0.5 mb to stand at 1,465 mb. This is 146.4 mb less than the same time a year ago, and 52.5 mb lower than the latest five-year average. Product stocks in OECD Asia Pacific and OECD Europe rose m-o-m by 1.8 mb and 12.3 mb, respectively, while OECD Americas fell by 13.6 mb.

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

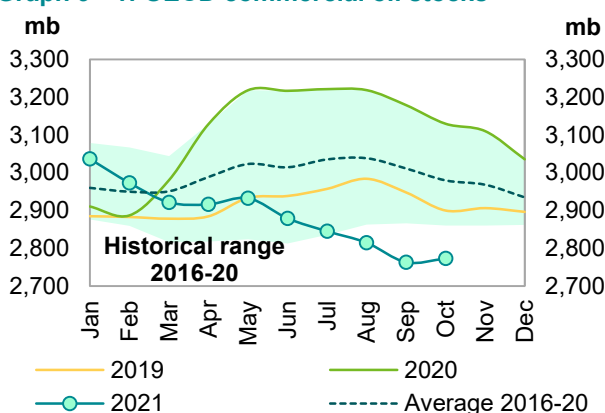
OECD stocks	Oct 20	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	1,518	1,326	1,298	1,307	9.4
Products	1,612	1,488	1,465	1,465	0.5
Total	3,129	2,814	2,763	2,773	9.9
Days of forward cover	73.8	61.7	60.6	61.7	1.0

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 rose m-o-m by 1.0 day in October to stand at 61.7 days. This is 12.1 days below October 2020 levels, 2.7 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:

Graph 9 - 1: OECD commercial oil stocks



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

Commercial Stock Movements

the Americas by 1.4 days at 62.6 days, Asia Pacific by 4.7 days at 46.0 days and Europe by 4.1 days at 69.0 days.

OECD Americas

OECD Americas total commercial stocks rose slightly by 0.1 mb m-o-m in October to settle at 1,518 mb. This is 133 mb less than the same month last year and 58 mb lower than the latest five-year average.

Commercial crude oil stocks in OECD Americas rose m-o-m by 13.8 mb in October to stand at 771 mb, which is 59 mb lower than in October 2020 and 23 mb less than the latest five-year average. The stock build came on the back of higher October crude production.

By contrast, **total product stocks** in OECD Americas fell m-o-m by 13.6 mb in October to stand at 747 mb. This was 74 mb lower than the same month one year ago and 35 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 rose m-o-m by 14.1 mb in October to settle at 902 mb. This is 162 mb less than the same month last year and 82 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** in October rose m-o-m by 1.8 mb to end the month at 372 mb, which is 83 mb lower than one year ago and 59 mb below the latest five-year average. The build in crude oil inventories came on the back of lower m-o-m refinery throughputs in the EU-14, plus the UK and Norway.

OECD Europe's **commercial product stocks** rose m-o-m by 12.3 mb to end October at 530 mb. This is 79 mb lower than a year ago and 23 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks fell m-o-m by 4.3 mb in October to stand at 353 mb. This is 61 mb lower than a year ago and 67 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** fell by 6.1 mb m-o-m to end October at 164 mb, which is 68 mb lower than one year ago and 73 mb below the latest five-year average.

In contrast, OECD Asia Pacific's **total product inventories** increased by 1.8 mb m-o-m to end October at 189 mb. This is 7 mb higher than the same time a year ago and 6 mb above the latest five-year average.

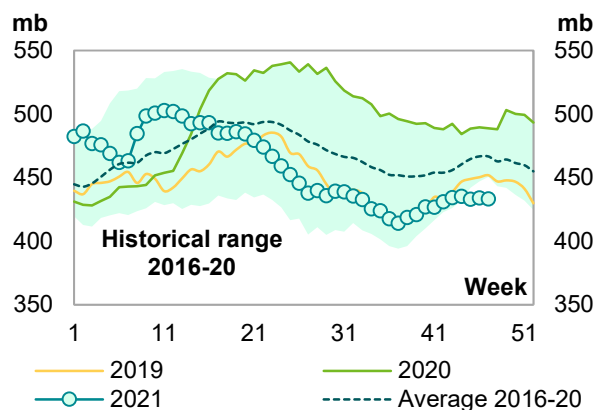
US

Preliminary data for November showed that **total US commercial oil stocks** fell m-o-m by 11.8 mb to stand at 1,222 mb. This is 166.6 mb, or 12.0%, lower than the same month a year ago and 87.0 mb, or 6.6%, below the latest five-year average. Crude and product stocks fell m-o-m by 1.0 mb and 10.8 mb, respectively.

US commercial crude stocks in November fell m-o-m by 1.0 mb to stand at 433.1 mb. This is 67.6 mb, or 13.5%, lower than the same month last year, and 34.9 mb, or 7.4%, below the latest five-year average. The stock draw came on the back of higher crude runs.

Total product stocks in November fell m-o-m by 10.8 mb to stand at 789.0 mb. This is 98.9 mb, or 11.1%, below November 2020 levels, and 52.1 mb, or 6.2%, 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 November rose m-o-m by 1.2 mb to settle at 215.4 mb. This is 25.8 mb, or 10.7%, below the same month last year, and 17.4 mb, or 7.5%, lower than the latest five-year average. The monthly stock build came mainly on the back of lower gasoline consumption.

In contrast, **distillate stocks** dropped m-o-m in November by 3.2 mb to stand at 123.9 mb. This is 33.3 mb, or 21.2%, lower than the same month last year, and 17.0 mb, or 12.1%, below the latest five-year average.

Jet fuel stocks fell m-o-m by 3.6 mb, ending November at 36.1 mb. This is 1.6 mb, or 4.2%, lower than the same month last year, and 4.7 mb, or 11.5%, below the latest five-year average.

Residual fuel oil stocks fell m-o-m in November, decreasing by 1.5 mb. At 27.9 mb, this was 3.3 mb, or 10.4%, lower than a year ago, and 5.0 mb, or 15.1%, below the latest five-year average.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Nov 20	Sep 21	Oct 21	Nov 21	Change Nov 21/Oct 21
Crude oil	500.8	420.4	434.1	433.1	-1.0
Gasoline	241.2	227.0	214.3	215.4	1.2
Distillate fuel	157.2	131.7	127.1	123.9	-3.2
Residual fuel oil	31.1	28.0	29.4	27.9	-1.5
Jet fuel	37.7	42.0	39.6	36.1	-3.6
Total products	888.0	820.4	799.8	789.0	-10.8
Total	1,388.7	1,240.7	1,233.9	1,222.2	-11.8
SPR	638.1	617.8	612.5	602.6	-10.0

Sources: EIA and OPEC.

Japan

In **Japan**, **total commercial oil stocks** in October fell m-o-m by 4.3 mb to settle at 121.3 mb. This is 23.1 mb, or 16.0%, lower than the same month last year, and 26.7 mb, or 18.0%, below the latest five-year average. Crude stocks fell by 6.1 mb, while products stocks rose m-o-m by 1.8 mb.

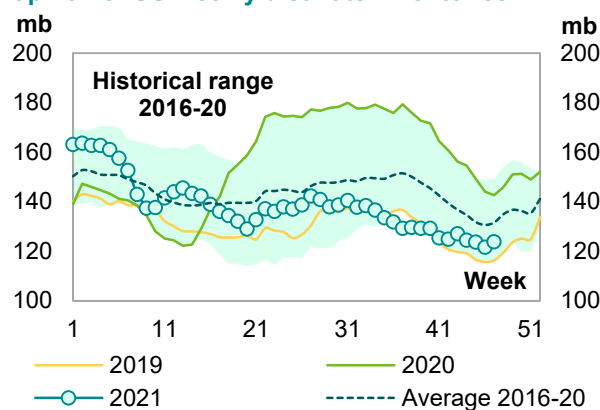
Japanese **commercial crude oil stocks** fell in October to stand at 55.9 mb. This is 22.5 mb, or 28.7%, below the same month a year ago, and 27.1 mb, or 32.6%, lower than the latest five-year average. The drop came on the back of higher crude runs, which increased by 0.5%.

By contrast, Japan's **total product inventories** rose m-o-m by 1.8 mb to end October at 65.4 mb. This is 0.6 mb, or 0.9%, lower than the same month last year, but 0.4 mb, or 0.6%, above the latest five-year average.

Gasoline stocks rose m-o-m by 1.4 mb to stand at 11.7 mb. This was 0.5 mb, or 4.0%, lower than a year ago, and 1.2 mb, or 11.4%, higher than the latest five-year average. Higher production, which rose by 1.4%, was behind the gasoline stock build.

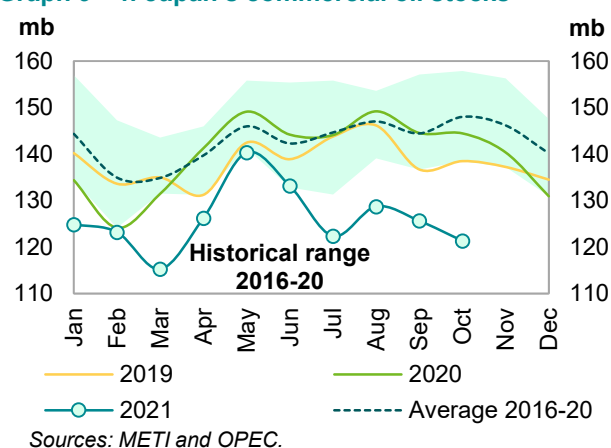
Distillate stocks rose m-o-m by 0.4 mb to end October at 31.9 mb. This is 1.6 mb, or 4.9%, lower than the same month a year ago, and 0.5 mb, or 1.5%, below the latest five-year average. Within the distillate components, **gasoil and kerosene** rose m-o-m by 3.5% and 5.6%, respectively, while **jet fuel** fell by 13.8%.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Commercial Stock Movements

Total residual fuel oil stocks fell m-o-m by 0.4 mb to end October at 12.0 mb. This is 0.1 mb, or 0.6%, lower than the same month last year, and 1.0 mb, or 7.9%, below the latest five-year average. Within the components, fuel oil A stocks rose by 0.1%, while fuel oil B.C stocks fell by 5.7%.

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

Japan's stocks	Oct 20	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	78.4	67.1	62.0	55.9	-6.1
Gasoline	12.2	10.0	10.3	11.7	1.4
Naphtha	8.2	9.4	9.4	9.8	0.4
Middle distillates	33.5	29.8	31.4	31.9	0.4
Residual fuel oil	12.1	12.4	12.5	12.0	-0.4
Total products	66.0	61.6	63.6	65.4	1.8
Total**	144.4	128.7	125.6	121.3	-4.3

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

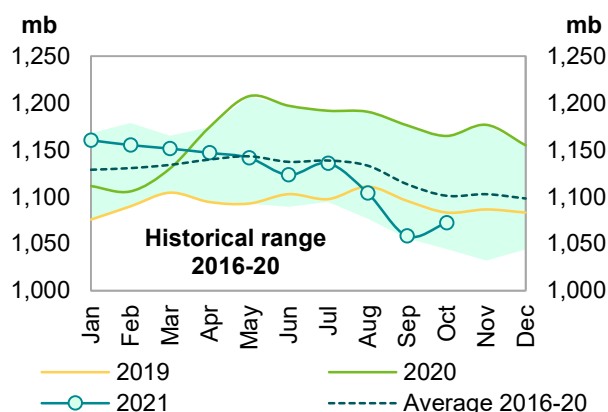
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for October showed that **total European commercial oil stocks** rose m-o-m by 14.1 mb to stand at 1,072.5 mb. At this level, they were 92.4 mb, or 7.9%, below the same month a year ago, and 28.8 mb, or 2.6%, lower than the latest five-year average. Crude and product stocks rose m-o-m by 1.8 mb and 12.3 mb, respectively.

European **crude inventories** rose in October to stand at 443.2 mb. This is 43.5 mb, or 8.9%, lower than the same month a year ago and 34.6 mb, or 7.2%, lower than the latest five-year average. The build in crude oil inventories came on the back of lower m-o-m refinery throughputs in the EU-14, plus the UK and Norway, which fell by around 250 tb/d to 9.22 mb/d in October.

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



Sources: Argus, Euroilstock and OPEC.

Total European product stocks rose m-o-m by 12.3 mb to end October at 629.3 mb. This is 49.0 mb, or 7.2%, lower than the same month a year ago, but 5.7 mb, or 0.9%, above the latest five-year average.

Gasoline stocks rose m-o-m by 8.8 mb in October to stand at 108.6 mb. At this level, they were 9.2 mb, or 7.8%, lower than the same time a year ago and 2.7 mb/d, or 2.4%, less than the latest five-year average.

Distillate stocks increased m-o-m by 3.8 mb in October to stand at 432.0 mb. This is 33.7 mb, or 7.2%, below the same month last year, but 12.2 mb, or 2.9%, above the latest five-year average.

Residual fuel stocks rose m-o-m by 0.2 mb in October to 62.8 mb. This is 1.5 mb, or 2.3%, lower than the same month one year ago, and 2.7 mb, or 4.1%, below the latest five-year average.

In contrast, **naphtha stocks** fell in October, ending the month at 25.9 mb. This is 4.5 mb, or 14.8%, below October 2020 levels, and 1.2 mb, or 4.3%, below the latest five-year average.

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

EU stocks	Oct 20	Aug 21	Sep 21	Oct 21	Change Oct 21/Sep 21
Crude oil	486.6	458.7	441.4	443.2	1.8
Gasoline	117.8	112.1	99.9	108.6	8.8
Naphtha	30.4	30.8	26.2	25.9	-0.3
Middle distillates	465.7	439.3	428.3	432.0	3.8
Fuel oils	64.3	63.3	62.6	62.8	0.2
Total products	678.2	645.5	617.0	629.3	12.3
Total	1,164.9	1,104.2	1,058.4	1,072.5	14.1

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In October, **total product stocks in Singapore** rose m-o-m by 1.8 mb to 43.1 mb. This is 7.5 mb, or 14.8%, lower than the same month a year ago.

Light distillate stocks dropped m-o-m by 0.8 mb in October to stand at 11.0 mb. This is 0.9 mb, or 7.9%, lower than the same month one year ago.

Middle distillate stocks fell m-o-m by 0.5 mb in October to stand at 10.0 mb. This is 5.5 mb, or 35.4%, lower than a year ago.

By contrast, **residual fuel oil stocks** rose m-o-m by 3.1 mb, ending October at 22.1 mb, which is 1.1 mb, or 4.6%, lower than in October 2020.

ARA

Total product stocks in ARA fell for the eighth consecutive month in October, down by 1.0 mb m-o-m to 38.1 mb. This is 12.4 mb, or 24.6%, lower than the same month a year ago.

Gasoline stocks in October rose m-o-m by 0.6 mb to stand at 7.5 mb, which is 2.2 mb, or 22.5%, lower than the same month one year ago.

Jet oil stocks fell m-o-m by 0.2 mb to end October at 7.0 mb. This is 2.3 mb, or 24.6%, below the level registered one year ago.

In contrast, **fuel oil stocks** dropped m-o-m by 1.0 mb in October to stand at 6.5 mb, which is 2.3 mb, or 25.7%, lower than in October 2020.

Gasoil stocks remained unchanged to end October at 15.0 mb. This is 4.4 mb, or 22.6%, lower than the level seen one year ago.

Fujairah

During the week ending 29 November 2021, **total oil product stocks in Fujairah** rose w-o-w by 1.84 mb to stand at 18.1 mb, according to data from Fed Com and S&P Global Platts. At this level, total oil stocks were 2.50 mb lower than the same time a year ago. While middle distillates witnessed a stock draw w-o-w, light and heavy distillate stocks saw a stock build.

Light distillate stocks rose by 0.04 mb w-o-w to stand at 4.31 mb in the week to 29 November 2021, which is 2.29 mb lower than the same period a year ago. **Heavy distillate stocks** increased by 2.75 mb to stand at 11.91 mb, which is 3.30 mb higher than the same time last year. In contrast, **middle distillate stocks** fell by 0.95 mb to stand at 1.88 mb, which is 3.50 mb lower than a year ago.

Announcement of coordinated SPR release

In November 2021, the US Administration announced the release of 50 mb of crude oil from their strategic Reserve (SPR). Of these proposed volumes, some 32 mb have been classified as an exchange, to be returned at a later stage, while the remaining 18 mb are to be deemed an advance of a planned future sale.

Moreover, Japan, South Korea and the United Kingdom (UK) also announced SPR releases. In Japan, the government announced a planned release of 4.2 mb, and in South Korea some 3.8 mb are expected to be released, with the timing as yet not defined. In the UK, companies have been authorized to voluntarily release up to 1.5 mb. In the non-OECD, India has announced a release of 5 mb to refineries.

Balance of Supply and Demand

Demand for OPEC crude in 2021 was revised up by 0.2 mb/d from the previous MOMR to stand at 27.8 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, 1.1 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, 1.9 mb/d lower than demand for OPEC crude.

Demand for OPEC crude in 2022 was also revised up by 0.2 mb/d from the previous month to stand at 28.8 mb/d, around 1.0 mb/d higher than in 2021.

Balance of supply and demand in 2021

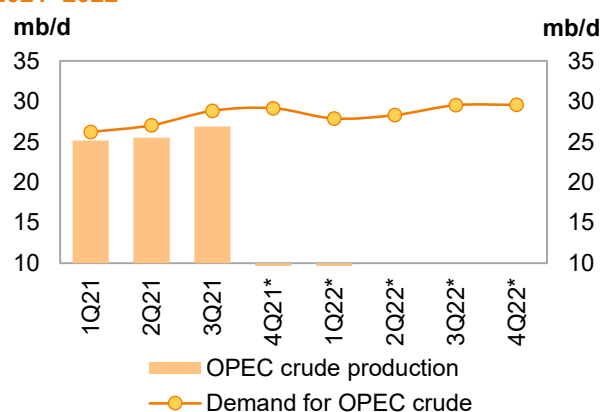
Demand for OPEC crude in 2021 was revised up by 0.2 mb/d from the previous MOMR to stand at 27.8 mb/d, around 4.9 mb/d higher than in 2020.

Compared with the previous assessment, 1Q21 and 2Q21 were revised up by 1.0 mb/d and 0.1 mb/d respectively, while 3Q21 was revised down by 0.3 mb/d. Meanwhile, 4Q21 remained unchanged.

When compared with the same quarters in 2020, demand for OPEC crude in 1Q21 and 2Q21 is estimated to be higher by 3.8 mb/d and 9.6 mb/d, respectively. In 3Q21 and 4Q21, there is an expected rise of 4.0 mb/d and 2.1 mb/d, respectively.

According to secondary sources, OPEC crude production averaged 25.2 mb/d in 1Q21, 1.1 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, 1.9 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	90.98	93.83	95.45	97.66	99.49	96.63	5.65
Non-OPEC liquids production	62.97	62.51	63.28	63.64	65.15	63.65	0.68
OPEC NGL and non-conventionals	5.05	5.10	5.12	5.17	5.18	5.14	0.10
(b) Total non-OPEC liquids production and OPEC NGLs	68.02	67.61	68.40	68.81	70.33	68.80	0.78
Difference (a-b)	22.96	26.22	27.04	28.84	29.16	27.84	4.88
OPEC crude oil production	25.65	25.16	25.52	26.89			
Balance	2.69	-1.06	-1.52	-1.96			

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 up by 0.2 mb/d from the previous month to stand at 28.8 mb/d, around 1.0 mb/d higher than in 2021.

Compared with the previous assessment, 1Q22 was revised up by 1.1 mb/d, while 2Q22 and 3Q22 were revised down by 0.1 mb/d, 0.2 mb/d, respectively. 4Q22 remains unchanged.

Compared with the same quarters in 2021, demand for OPEC crude in 1Q22 and 2Q22 is forecast to be higher by 1.7 mb/d and 1.3 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	96.63	99.13	99.77	101.53	102.64	100.79	4.15
Non-OPEC liquids production	63.65	66.02	66.20	66.70	67.74	66.67	3.02
OPEC NGL and non-conventionals	5.14	5.23	5.26	5.29	5.31	5.27	0.13
(b) Total non-OPEC liquids production and OPEC NGLs	68.80	71.25	71.46	71.99	73.06	71.94	3.15
Difference (a-b)	27.84	27.89	28.31	29.54	29.58	28.85	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	24.94	24.46	24.13	24.04	25.42	25.97	25.27	25.18
of which US	20.60	20.65	18.35	18.65	20.21	20.47	20.20	19.89	19.69	21.07	21.44	20.92	20.79
Europe	14.31	14.31	12.44	11.91	12.65	13.82	13.49	12.98	12.63	13.23	14.46	14.01	13.59
Asia Pacific	8.01	7.93	7.14	7.67	7.04	7.15	7.63	7.37	7.91	7.22	7.29	7.73	7.54
Total OECD	47.73	47.72	42.02	42.31	44.02	45.91	45.58	44.48	44.58	45.87	47.71	47.01	46.31
China	13.01	13.65	13.52	13.79	14.55	14.52	15.11	14.49	14.64	15.44	15.00	15.55	15.16
India	4.93	4.99	4.51	4.94	4.50	4.59	5.52	4.89	5.48	4.82	4.97	5.84	5.28
Other Asia	8.91	9.06	8.13	8.56	8.98	8.34	8.62	8.63	9.25	9.59	8.93	8.95	9.18
Latin America	6.53	6.59	6.01	6.25	6.16	6.46	6.40	6.32	6.49	6.33	6.61	6.56	6.50
Middle East	8.13	8.20	7.55	7.95	7.77	8.24	8.02	8.00	8.30	8.01	8.49	8.26	8.27
Africa	4.33	4.35	4.08	4.37	4.08	4.15	4.43	4.26	4.54	4.21	4.27	4.56	4.40
Russia	3.55	3.57	3.39	3.65	3.42	3.63	3.74	3.61	3.75	3.47	3.68	3.79	3.67
Other Eurasia	1.21	1.19	1.07	1.23	1.24	1.09	1.28	1.21	1.30	1.29	1.12	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	52.38	48.96	51.52	51.43	51.74	53.91	52.16	54.55	53.90	53.82	55.62	54.47
(a) Total world demand	99.07	100.10	90.98	93.83	95.45	97.66	99.49	96.63	99.13	99.77	101.53	102.64	100.79
Y-o-y change	1.40	1.03	-9.12	-0.72	11.84	6.21	5.22	5.65	5.30	4.32	3.87	3.14	4.15
Non-OPEC liquids production													
Americas	24.03	25.81	24.70	24.10	25.17	25.21	25.94	25.11	26.02	26.06	26.44	26.82	26.34
of which US	16.66	18.47	17.61	16.63	17.93	17.83	18.23	17.66	18.35	18.60	18.75	19.06	18.69
Europe	3.84	3.71	3.90	3.96	3.52	3.81	3.91	3.80	3.87	3.76	3.82	4.14	3.90
Asia Pacific	0.41	0.52	0.52	0.50	0.45	0.53	0.53	0.51	0.54	0.54	0.53	0.53	0.54
Total OECD	28.28	30.04	29.12	28.56	29.13	29.56	30.37	29.41	30.43	30.36	30.79	31.50	30.77
China	3.98	4.05	4.16	4.30	4.34	4.33	4.32	4.32	4.33	4.33	4.37	4.45	4.37
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	2.34	2.42	2.43	2.45	2.42	2.40	2.38	2.41
Latin America	5.79	6.08	6.04	5.96	5.99	6.11	6.10	6.04	6.35	6.29	6.23	6.44	6.32
Middle East	3.19	3.19	3.19	3.22	3.23	3.24	3.29	3.24	3.34	3.34	3.36	3.36	3.35
Africa	1.49	1.51	1.41	1.37	1.35	1.32	1.31	1.34	1.29	1.27	1.25	1.22	1.25
Russia	11.52	11.61	10.59	10.47	10.74	10.81	11.15	10.79	11.51	11.83	11.88	11.88	11.78
Other Eurasia	3.08	3.07	2.91	2.96	2.89	2.79	3.04	2.92	3.10	3.12	3.16	3.22	3.15
Other Europe	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10
Total Non-OECD	32.75	33.14	31.71	31.67	31.86	31.80	32.50	31.96	33.19	33.45	33.52	33.86	33.51
Total Non-OPEC production	61.03	63.19	60.82	60.23	61.00	61.36	62.87	61.37	63.62	63.81	64.31	65.35	64.28
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	62.97	62.51	63.28	63.64	65.15	63.65	66.02	66.20	66.70	67.74	66.67
OPEC NGL + non-conventional oils	5.29	5.21	5.05	5.10	5.12	5.17	5.18	5.14	5.23	5.26	5.29	5.31	5.27
(b) Total non-OPEC liquids production and OPEC NGLs	68.66	70.76	68.02	67.61	68.40	68.81	70.33	68.80	71.25	71.46	71.99	73.06	71.94
Y-o-y change	3.05	2.10	-2.74	-4.54	2.20	2.24	3.15	0.78	3.64	3.06	3.18	2.73	3.15
OPEC crude oil production (secondary sources)	31.35	29.36	25.65	25.16	25.52	26.89							
Total liquids production	100.01	100.13	93.67	92.77	93.92	95.71							
Balance (stock change and miscellaneous)	0.94	0.03	2.69	-1.06	-1.52	-1.95							
OECD closing stock levels, mb													
Commercial	2,873	2,896	3,035	2,921	2,879	2,763							
SPR	1,552	1,535	1,541	1,546	1,524	1,514							
Total	4,425	4,432	4,577	4,467	4,402	4,276							
Oil-on-water	1,058	1,033	1,148	1,138	1,131	1,169							
Days of forward consumption in OECD, days													
Commercial onland stocks	60	69	68	66	63	61							
SPR	33	37	35	35	33	33							
Total	93	105	103	101	96	94							
Memo items													
(a) - (b)	30.41	29.34	22.96	26.22	27.04	28.84	29.16	27.84	27.89	28.31	29.54	29.58	28.85

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	-	-	-	-	-	-0.05	-	-0.01	-	-	-0.05	-	-0.01
of which US	-	-	-	-	-	0.09	-	0.02	-	-	0.09	-	0.02
Europe	-	-	-	-	0.04	0.11	-0.10	0.01	0.07	-0.05	0.12	-0.09	0.01
Asia Pacific	-	-	-	-	-	0.01	0.05	0.01	-	-	-0.01	0.05	0.01
Total OECD	-	-	-	-	0.04	0.06	-0.05	0.02	0.07	-0.05	0.07	-0.04	0.02
China	-	0.03	0.15	0.50	-	0.05	-	0.14	0.50	-	0.05	-	0.14
India	-	-	-	-	-	-0.08	-	-0.02	0.08	-0.08	-0.08	-	-0.02
Other Asia	-	0.06	-	0.20	-	-0.14	-	0.01	0.20	-	-0.14	-	0.01
Latin America	-	-	-	0.10	-	-0.08	-	-	0.11	-	-0.08	-	0.01
Middle East	-	-	-	-	-	-	0.05	0.01	0.01	-	-	0.05	0.02
Africa	-	-0.02	0.02	0.02	0.02	-0.01	-0.01	0.01	0.01	0.02	-0.01	-0.01	-
Russia	-	-	0.02	0.08	-	0.02	-	0.02	0.08	-	0.02	-	0.02
Other Eurasia	-	-	-	0.05	-	-0.05	-	-	0.05	-	-0.05	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	0.07	0.19	0.95	0.02	-0.30	0.05	0.18	1.04	-0.06	-0.30	0.05	0.18
(a) Total world demand	-	0.07	0.19	0.95	0.06	-0.23	-	0.19	1.11	-0.11	-0.22	0.01	0.20
Y-o-y change	-	0.07	0.12	0.11	0.04	-0.12	-0.02	-	0.16	-0.17	0.01	0.01	-
Non-OPEC liquids production													
Americas	-	-	-	-	-	0.07	0.36	0.11	0.24	0.17	0.19	0.19	0.20
of which US	-	-	-	-	-	0.12	0.22	0.09	0.22	0.15	0.17	0.17	0.17
Europe	-	-	-	-	-	0.01	-0.07	-0.01	-0.04	-0.04	-0.04	-0.04	-0.04
Asia Pacific	-	-	-	-	-	-0.01	-0.01	-	-0.01	-0.01	-0.01	-0.01	-0.01
Total OECD	-	-	-	-	-	0.08	0.28	0.09	0.19	0.13	0.15	0.14	0.15
China	-	-	-	-	-	-0.02	0.04	0.01	0.01	0.01	0.01	0.01	0.01
India	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-0.02	-0.02	-0.01	-	-	-	-	-
Latin America	-	-	-	-0.01	-0.01	0.01	-0.36	-0.09	-0.17	-0.17	-0.17	-0.17	-0.17
Middle East	-	-	-	-	-	-	-0.02	-	-	-	-	-	-
Africa	-	-	-	-	-	-0.01	0.01	-	-	0.01	0.01	0.01	0.01
Russia	-	-	-	-	-	-	0.04	0.01	-	-	-	-	-
Other Eurasia	-	-	-	-	-	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Other Europe	-	-	-	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Total Non-OECD	-	-	-	-	-	-0.04	-0.27	-0.08	-0.14	-0.14	-0.14	-0.14	-0.14
Total Non-OPEC production	-	-	-	-	-	0.04	0.01	0.01	0.05	-0.01	0.01	0.01	0.01
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC liquids production	-	-	-	-	-	0.04	0.01	0.01	0.05	-0.01	0.01	0.01	0.01
OPEC NGL + non-conventional oils	-	-	-	-0.01	-0.01	-	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
(b) Total non-OPEC liquids production and OPEC NGLs	-0.01	-0.01	-0.01	-0.01	-	0.04	-	0.01	0.04	-0.02	-	-	0.01
Y-o-y change	-0.01	-	-	-	-	0.04	-	0.01	0.05	-0.02	-0.04	0.01	-
OPEC crude oil production (secondary sources)	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Total liquids production	-	-	-0.01	-0.01	-0.01	0.04	-	-	-	-	-	-	-
Balance (stock change and miscellaneous)	-	-0.07	-0.20	-0.96	-0.07	0.28	-	-	-	-	-	-	-
OECD closing stock levels, mb													
Commercial	-	-	-	-4	-4	-42	-	-	-	-	-	-	-
SPR	-	-	-	-	-	-2	-	-	-	-	-	-	-
Total	-	-	-	-4	-4	-45	-	-	-	-	-	-	-
Oil-on-water	-	-	-	-	-	1	-	-	-	-	-	-	-
Days of forward consumption in OECD, days													
Commercial onland stocks	-	-	-	-	-	-1	-	-	-	-	-	-	-
SPR	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-1	-	-	-	-	-	-	-
Memo items													
(a) - (b)	0.01	0.08	0.20	0.96	0.07	-0.27	0.00	0.19	1.07	-0.09	-0.23	0.01	0.19

Note: * This compares Table 11 - 1 in this issue of the MOMR with Table 11 - 1 in the November 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	3,035	2,948	2,896	2,980	3,217	3,179	3,035	2,921	2,879	2,763
Americas	1,542	1,525	1,612	1,559	1,525	1,581	1,718	1,688	1,612	1,573	1,548	1,518
Europe	930	978	1,043	988	978	1,033	1,099	1,079	1,043	1,002	973	888
Asia Pacific	402	394	380	401	394	366	400	411	380	346	358	357
OECD SPR	1,552	1,535	1,541	1,544	1,535	1,537	1,561	1,551	1,541	1,546	1,524	1,514
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	484
Asia Pacific	420	416	414	416	416	416	416	417	414	413	413	410
OECD total	4,425	4,432	4,577	4,492	4,432	4,517	4,778	4,730	4,577	4,467	4,402	4,276
Oil-on-water	1,058	1,033	1,148	1,012	1,033	1,187	1,329	1,174	1,148	1,138	1,131	1,169
Days of forward consumption in OECD, days												
OECD onland commercial	60	69	68	62	64	80	76	74	72	66	63	61
Americas	61	68	67	61	63	80	76	73	71	65	62	62
Europe	65	79	80	70	73	94	85	86	88	79	70	66
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	28	25	26	32	29	28	28	26	25	25
Europe	34	39	38	34	36	44	38	39	41	39	35	36
Asia Pacific	53	59	57	51	53	63	62	57	54	59	58	54
OECD total	94	107	104	94	97	121	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	Change												
	2018	2019	2020	3Q21	4Q21	2021	21/20	1Q22	2Q22	3Q22	4Q22	2022	22/21
US	16.7	18.5	17.6	17.8	18.2	17.7	0.1	18.3	18.6	18.7	19.1	18.7	1.0
Canada	5.3	5.4	5.2	5.5	5.8	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	25.2	25.9	25.1	0.4	26.0	26.1	26.5	26.8	26.4	1.2
Norway	1.9	1.7	2.0	2.0	2.1	2.0	0.0	2.1	2.1	2.1	2.3	2.2	0.1
UK	1.1	1.1	1.1	0.9	0.9	0.9	-0.2	0.9	0.9	0.9	1.0	0.9	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	0.8	0.8	0.0	0.7	0.7	0.7	0.7	0.7	0.0
OECD Europe	3.8	3.7	3.9	3.8	3.9	3.8	-0.1	3.9	3.8	3.8	4.1	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	29.6	30.4	29.4	0.3	30.4	30.4	30.8	31.5	30.8	1.4
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	2.3	2.4	2.4	-0.1	2.4	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	3.7	3.6	0.0	3.9	3.8	3.8	4.0	3.9	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	0.7	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	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Latin America	5.8	6.1	6.0	6.1	6.1	6.0	0.0	6.4	6.3	6.3	6.5	6.4	0.3
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	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	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	0.1	0.1	0.1	0.1	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	1.3	1.2	1.3	-0.1
Russia	11.5	11.6	10.6	10.8	11.2	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	0.4	0.4	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	32.5	32.0	0.3	33.2	33.5	33.6	33.9	33.6	1.6
Non-OPEC	61.0	63.2	60.8	61.4	62.9	61.4	0.5	63.7	63.9	64.4	65.4	64.3	3.0
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	65.5	63.0	63.6	65.1	63.7	0.7	66.1	66.3	66.8	67.8	66.7	3.1
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	5.1	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	71.3	71.5	72.1	73.1	72.0	3.2

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

Appendix

Table 11 - 5: World rig count, units

World rig count	2018	2019	Change		4Q20	1Q21	2Q21	3Q21	Oct 21	Nov 21	Change
			2020	2020/19							Nov/Oct
US	1,031	944	436	-508	311	393	452	498	538	560	22
Canada	191	134	90	-44	89	145	73	151	166	167	1
Mexico	27	37	41	4	38	46	42	43	49	48	-1
OECD Americas	1,251	1,116	567	-549	438	585	568	694	755	776	21
Norway	15	17	16	-1	17	16	18	17	18	17	-1
UK	7	15	6	-9	7	8	8	9	7	8	1
OECD Europe	62	74	59	-15	55	54	59	59	59	62	3
OECD Asia Pacific	21	29	22	-7	18	16	21	28	27	26	-1
Total OECD	1,334	1,219	648	-571	511	656	648	781	841	864	23
Other Asia*	222	221	187	-34	160	161	170	181	178	184	6
Latin America	129	128	58	-70	60	76	89	93	101	106	5
Middle East	64	68	57	-11	48	57	56	57	56	60	4
Africa	46	55	43	-12	32	33	39	47	45	50	5
Other Europe	13	14	12	-2	12	12	7	9	9	9	0
Total Non-OECD	474	486	357	-129	312	338	362	385	389	409	20
Non-OPEC rig count	1,808	1,705	1,005	-700	823	994	1,010	1,166	1,230	1,273	43
Algeria	50	45	31	-14	25	22	27	24	29	31	2
Angola	4	4	3	-1	3	4	4	4	4	6	2
Congo	3	3	1	-2	0	0	0	0	1	1	0
Equatorial Guinea**	0	1	0	-1	0	0	0	0	1	1	0
Gabon	3	7	3	-4	0	1	1	3	3	4	1
Iran**	157	117	117	0	117	117	117	117	117	117	0
Iraq	59	74	47	-27	28	32	36	42	46	44	-2
Kuwait	51	46	45	-1	29	28	23	25	21	24	3
Libya	5	14	12	-2	10	12	12	14	14	14	0
Nigeria	13	16	11	-5	7	6	5	10	9	7	-2
Saudi Arabia	117	115	93	-22	63	62	62	59	68	60	-8
UAE	55	62	54	-8	40	43	44	39	42	43	1
Venezuela	32	25	24	-1	25	25	25	25	25	25	0
OPEC rig count	549	529	441	-88	347	352	356	361	380	377	-3
World rig count***	2,357	2,234	1,446	-788	1,170	1,346	1,366	1,527	1,610	1,650	40
<i>of which:</i>											
Oil	1,876	1,788	1,125	-663	896	1,044	1,076	1,212	1,279	1,326	47
Gas	448	415	275	-140	238	269	257	281	298	294	-4
Others	33	31	46	15	36	33	33	34	33	30	-3

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

Glossary of Terms

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



down 1.74 in November

November 2021	80.37
October 2021	82.11
Year-to-date	69.45

November OPEC crude production

mb/d, according to secondary sources



up 0.29 in November

November 2021	27.72
October 2021	27.43

Economic growth rate

per cent

	World	OECD	US	Euro-zone	Japan	China	India
2021	5.5	5.0	5.5	5.1	2.0	8.0	8.8
2022	4.2	3.6	4.1	3.9	2.2	5.6	7.0

Supply and demand

mb/d

2021		21/20	2022		22/21
World demand	96.6	5.7	World demand	100.8	4.2
Non-OPEC liquids production	63.7	0.7	Non-OPEC liquids production	66.7	3.0
OPEC NGLs	5.1	0.1	OPEC NGLs	5.3	0.1
Difference	27.8	4.9	Difference	28.8	1.0

OECD commercial stocks

mb

	Oct 20	Aug 21	Sep 21	Oct 21	Oct 21/Sep 21
Crude oil	1,518	1,326	1,298	1,307	9.4
Products	1,612	1,488	1,465	1,465	0.5
Total	3,129	2,814	2,763	2,773	9.9
Days of forward cover	74	62	61	62	1.0

Next report to be issued on 18 January 2022.