

Oil Market Report

19 January 2022

- While the number of Omicron cases is surging worldwide, oil demand defied expectations in 4Q21, rising by 1.1 mb/d to 99 mb/d. In 1Q22, demand is set for a seasonal decline, exacerbated by more teleworking and less air travel. We have raised our global demand estimates by 200 kb/d for 2021 and 2022 – resulting in growth of 5.5 mb/d and 3.3 mb/d, respectively – due to softer Covid restrictions.
- World oil supply in 2022 has the potential for a Saudi-driven gain of 6.2 mb/d if OPEC+ fully unwinds its cuts. Oil output from OPEC+ could rise this year by 4.4 mb/d, resulting in reduced effective spare capacity in 2H22 of 2.6 mb/d, held primarily by Saudi Arabia and the United Arab Emirates. Non-OPEC+ growth of 1.8 mb/d in 2022 will be led by the United States.
- The global refining industry ended 2021 on a high note, with both runs and margins improving. Refinery throughputs averaged 79.8 mb/d in 4Q21, up 4.6 mb/d on a year ago. In 2021, global refining capacity fell for the first time in 30 years, by 730 kb/d, as new capacity was outweighed by closures. In 2022, net additions are expected to amount to 1.2 mb/d, with runs forecast to gain 3.7 mb/d.
- OECD total industry stocks declined by 6.1 mb in November, as rising crude and gasoline stocks were more than offset by draws in other products. At 2 756 mb, stocks were down 354 mb on a year ago and at their lowest level in seven years. Preliminary data for December show OECD industry stocks falling by another 45 mb while volumes of oil on the water rose.
- Crude prices struggled under demand uncertainties in December before a vigorous post-holiday rebound. North Sea Dated rose from an average \$74.01/bbl last month to \$87.30/bbl on 18 January, its highest level since 2014. ICE Brent backwardation doubled, reflecting tight oil stocks.



Table of contents

A tighter balance	3
Demand	4
Overview	4
OECD	6
Non-OECD	12
Supply	17
Overview	17
Saudi to drive 2022 OPEC crude supply	18
Non-OPEC supply poised for growth	23
Refining	27
Overview	27
Product cracks and refinery margins	28
Regional refining developments	32
Stocks	37
Overview	37
Recent OECD industry stock changes	38
Other stock developments	40
Prices	44
Overview	44
Futures markets	45
Spot crude oil prices	48
Freight	50
Tables	53

List of boxes

Box 1.	Russia needs to drill hard, spend more to approach record highs	21
Box 2.	Global observed oil stocks slip to lowest level since 2018	42

A tighter balance

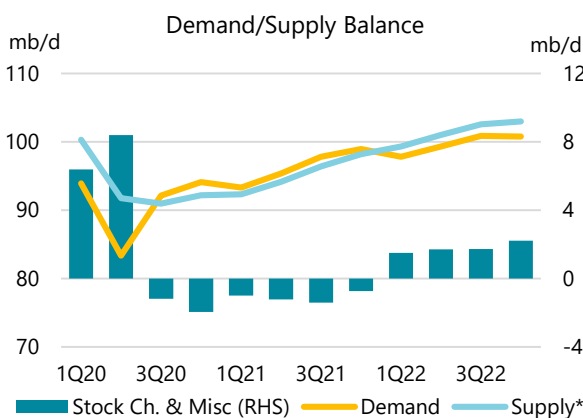
Upward revisions to our demand estimates and a slightly lower outlook for world oil supply have tightened our balances for 2022, although they still show a 1Q22 surplus. Robust demand, unscheduled supply outages and strong stock draws in December pushed benchmark oil prices to seven-year highs. At the time of writing, Brent was trading at around \$87/bbl and WTI at \$85/bbl, up nearly \$20/bbl from December lows.

Two years after first shaking markets, Covid-19 is once again causing record infections. But this time around, the surge is having a more muted impact on oil use. Indeed, mobility indicators remain robust and oil demand has been stronger than expected in recent months. As a result, we have revised up our 2021-22 demand estimates by 200 kb/d. World oil demand is now seen rising by 5.5 mb/d in 2021 and by 3.3 mb/d in 2022, returning to its pre-Covid levels of 99.7 mb/d. In 1Q22, demand is set for a seasonal decline, exacerbated by increased teleworking and reduced air travel.

As for supply, disruptions and production shortfalls by some OPEC+ members are tempering growth expectations for 2022. In December, world oil supply rose by a modest 130 kb/d to 98.6 mb/d, as outages in Libya and Ecuador and a smaller than scheduled increase from OPEC+ wiped out much of the expected growth. Producers taking part in the output deal delivered gains of 250 kb/d, well below the allocated amount, and were 790 kb/d lower than the group's target. This shortfall was mostly due to under-production in Nigeria, Angola and Malaysia, all faced with technical and operational issues. Russia pumped below its quota for the first time since record cuts were enforced.

Even so, world oil supply is forecast to grow sharply this year, with the United States, Canada and Brazil set to pump at their highest ever annual levels. US oil output is forecast to rise by 1 mb/d on average, to 17.7 mb/d, as operators respond to higher prices by putting more rigs to work. Additionally, Ecuador, Libya and Nigeria are already ramping back up. Finally, Saudi Arabia and Russia could set records if remaining OPEC+ cuts are fully unwound. In this case, global supply would soar by 6.2 mb/d on average in 2022 compared with a 1.5 mb/d rise in 2021.

While the steady rise in supply could see a significant surplus materialise in 1Q22 and going forward, available data suggest that 2022 is starting off with global oil inventories well below pre-pandemic levels. A growing discrepancy between observed and calculated stock changes suggests demand could be higher or supply lower than reported or assumed. Moreover, higher output would also result in lower OPEC+ spare capacity. By the second half of the year, effective spare capacity (excluding Iranian crude shut in by sanctions) could shrink from around 5 mb/d currently to below 3 mb/d – most of it held by Saudi Arabia and the United Arab Emirates. If demand continues to grow strongly or supply disappoints, the low level of stocks and shrinking spare capacity mean that oil markets could be in for another volatile year in 2022.



* Assumes OPEC+ unwinds cuts. Iran remains under sanctions.

Demand

Overview

The number of Covid cases is exploding worldwide but measures taken by governments to contain the virus are less severe than during earlier waves and their impact on economic activity and oil demand remain relatively subdued. As a result, global demand defied expectations in 4Q21, rising by 1.1 mb/d to 99 mb/d, an upward revision of 345 kb/d versus our previous *Report*. Our demand estimates have also been raised by 200 kb/d for both 2021 and 2022, growing by 5.5 mb/d and 3.3 mb/d, respectively. Uncertainty surrounding demand forecasting is increasing with successive Covid waves, virus mutations, supply chain disruptions and the lack of reliability of some demand data.

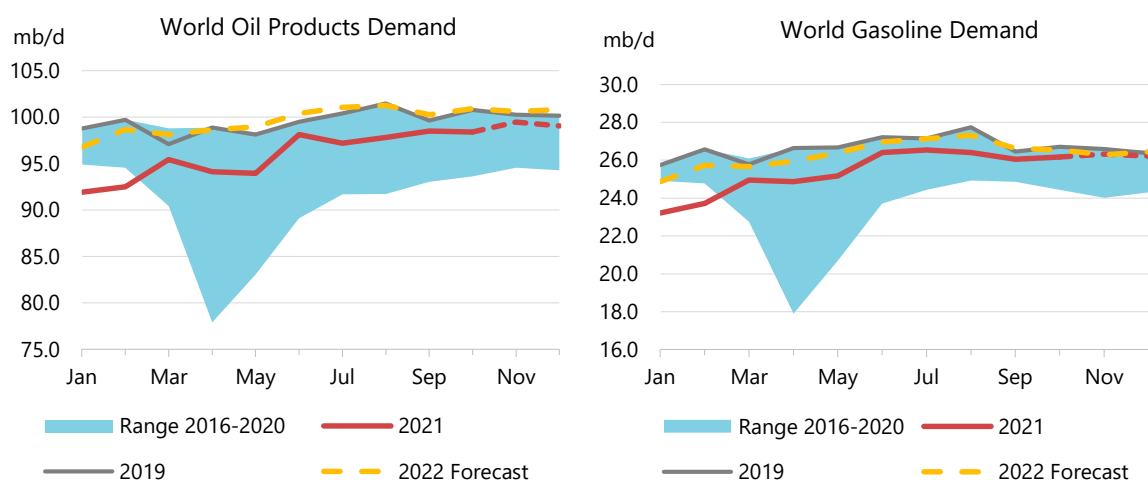
Past waves of Covid had a significant impact on mobility and oil demand through the restrictions put in place by governments to avoid a collapse of their healthcare systems, but the Omicron virus, although more transmissible than previous variants, appears to be far less dangerous. The main impact of Omicron on economic activity appears to be the temporary removal, and mandatory quarantining, of staff from the workforce that have been infected or have come into contact with someone who has.

This could temporarily increase difficulties currently experienced by manufacturers (transportation bottlenecks, semiconductor shortages), in particular if China continues to pursue a zero-Covid policy resulting in large disruptions to the supply chain. After a difficult 1Q22, supply bottlenecks are likely to diminish through the end of the year. Given the muted impact of the recent Covid wave, our GDP assumptions have only been revised slightly lower in the forecast, from an average of 4.6% for 2022 to 4.5% for countries we cover. Uncertainties remain regarding China's overall economic performance given the impact of restrictions linked to the Winter Olympics as well as the country's efforts to revive infrastructure investment after the 2021 real-estate debacle.

Fuel switching from natural gas to oil in power generation remains a source of exceptional demand in Europe and China and we expect this to continue through 1Q22. Complete October data for Europe indicates about 100 kb/d of additional oil demand, compared with a typical year. Widespread use of small-scale backup generators has likely contributed at least as much to the strength of October and November gasoil demand in China. In contrast, countries like India and Brazil saw problems in coal and hydroelectric power generation resolved in 4Q21, resulting in little additional oil consumption.

Heading into 2022, a retrospective view shows the difficulty over the past two years of reliably analysing and forecasting supply and demand. On the one hand, complications have arisen from the consistency of regular data sources in estimating the most recent levels of demand and stocks. This is particularly the case where apparent demand calculations are concerned. As well, the rapidly shifting context of the pandemic has made use of high frequency indicators imperative, but finding relevant correlations to historical demand numbers has suffered from a limited number of data points. Generating forecasts has required strong assumptions beyond the usual GDP and price inputs to account for lockdowns, travel restrictions, working from home, among other reasons that at times poorly captured outcomes. Lessons learned will improve the work in 2022 and allow us to better understand our market.

Our oil price assumption (based on the forward curve) has been revised up. Prices used in this forecast are roughly 12% higher for 2022 than in last month's *Report*. Brent prices average \$70.60/bbl in 2021 and \$76/bbl in 2022.



World oil demand is projected to decline by 1.1 mb/d quarter-on-quarter (q-o-q) in 1Q22, following the usual seasonality and with surging new Covid cases. This represents a 55 kb/d downward revision from last month's *Report*. In contrast, demand has been revised up by 245 kb/d on average in the subsequent three quarters, as Covid restrictions will remain limited if a large part of the population achieves immunity from infection or vaccination. For 2022 as a whole, our demand forecast reaches pre-Covid levels of 99.7 mb/d.

Global Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
LPG & Ethane	12 648	12 697	13 321	13 644	624	322	4.9	2.4
Naphtha	6 306	6 322	6 858	7 052	536	194	8.5	2.8
Motor Gasoline	26 636	23 528	25 513	26 327	1 985	814	8.4	3.2
Jet Fuel & Kerosene	7 926	4 633	5 163	6 133	530	971	11.4	18.8
Gas/Diesel Oil	28 229	26 405	27 569	28 153	1 164	584	4.4	2.1
Residual Fuel Oil	6 145	5 697	6 048	6 311	351	263	6.2	4.3
Other Products	11 660	11 617	11 909	12 085	291	177	2.5	1.5
Total Products	99 549	90 901	96 381	99 705	5 480	3 325	6.0	3.4

There remain plenty of unknowns, but the known characteristics of the Omicron variant could actually support a faster rebound in oil demand in the second half of 2022. At the current speed of transmission, a large part of the population will likely have gained immunity by infection or vaccination by the end of the first quarter. As a result, restrictions to mobility could be minimal in the second half of the year, supporting a faster recovery in transportation demand. Of course those countries maintaining a zero-Covid policy may not benefit from this "positive" effect of the new variant.

Global Demand by Region								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
Africa	4 250	3 815	4 007	4 104	192	97	5.0	2.4
Americas	31 767	28 053	30 118	31 048	2 066	930	7.4	3.1
Asia/Pacific	35 472	33 627	35 696	37 163	2 069	1 467	6.2	4.1
Europe	15 093	13 176	13 794	14 363	618	569	4.7	4.1
FSU	4 723	4 501	4 783	4 926	282	143	6.3	3.0
Middle East	8 244	7 728	7 982	8 100	254	118	3.3	1.5
World	99 549	90 901	96 381	99 705	5 480	3 325	6.0	3.4
OECD	47 720	42 018	44 548	46 174	2 530	1 626	6.0	3.7
Non-OECD	51 829	48 883	51 832	53 531	2 950	1 698	6.0	3.3

OECD

Total OECD oil demand for October tumbled by 540 kb/d month-on-month (m-o-m), in contrast to the seasonal trend of a modest increase. Use of LPG/ethane by petrochemical producers (-300 kb/d) and reduced gasoil consumption (-260 kb/d), especially in the US, accounted for the biggest declines. Naphtha demand also fell (-140 kb/d), mainly due to petrochemical outages in Korea.

Based on provisional indications, we estimate November deliveries rebounded by 620 kb/d m-o-m. The stronger growth is driven by higher LPG demand (+690 kb/d) as US petrochemical producers returned to normal operations after maintenance and rising fuel requirements (heating oil, LPG) with the onset of winter in key markets.

Average 4Q21 demand is expected to have increased both quarterly (+430 kb/d) and yearly (+3.3 mb/d), to a total of 46.1 mb/d. Yet it remains 1.8 mb/d lower than pre-pandemic 4Q19 levels, with jet/kerosene (-1.1 mb/d), gasoline (-530 kb/d) and gasoil (-400 kb/d) all still in deficit. The deficit versus 2019 is expected to widen slightly to 2.2 mb/d in 1Q22, partly as a result of the impact of Omicron-related restrictions on jet fuel consumption and of the anticipated displacement of petrochemical activity to non-OECD markets (especially China) following new plant start-ups.

OECD Demand based on Adjusted Preliminary Submissions - November 21															
(million barrels per day)															
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		LPG/Ethane		RFO		Other		Total Products
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d % pa
OECD Americas	10.68	12.7	1.74	37.8	4.82	6.6	0.56	-13.4	4.00	4.7	0.45	14.6	2.99	-1.8	25.15 9.1
US*	9.02	12.3	1.54	33.7	4.07	7.2	0.18	-13.5	3.13	2.1	0.30	19.2	2.45	-1.8	20.61 9.0
Canada	0.89	19.1	0.10	58.7	0.25	-6.2	0.36	-9.1	0.48	18.9	0.03	8.8	0.36	0.4	2.47 9.1
Mexico	0.69	12.8	0.08	110.8	0.31	12.4	0.02	-50.2	0.35	20.3	0.10	10.1	0.17	-0.1	1.72 13.3
OECD Europe	1.96	22.5	0.91	45.5	5.07	8.0	1.68	9.5	1.04	-2.8	0.77	17.9	2.40	-0.3	13.58 10.1
Germany	0.46	11.9	0.11	23.6	0.72	3.0	0.37	19.1	0.09	-7.2	0.05	-1.0	0.43	6.3	2.22 8.1
United Kingdom	0.29	25.0	0.22	34.9	0.52	9.3	0.16	5.2	0.10	-22.2	0.02	11.2	0.11	-5.2	1.39 11.3
France	0.21	65.0	0.12	74.9	0.74	20.0	0.14	27.2	0.13	15.0	0.04	27.3	0.22	0.4	1.59 24.5
Italy	0.18	46.5	0.07	60.0	0.51	22.8	0.09	-4.2	0.09	11.3	0.07	32.4	0.29	2.6	1.28 18.9
Spain	0.11	21.9	0.09	169.5	0.44	10.4	0.25	7.6	0.05	-13.1	0.12	23.7	0.20	-5.7	1.21 12.5
OECD Asia & Oceania	1.36	-4.8	0.60	-4.3	1.37	-7.3	0.53	1.6	0.77	-3.3	0.49	6.9	2.51	22.5	7.60 3.6
Japan	0.72	-5.1	0.33	-13.8	0.40	-4.0	0.31	-0.9	0.42	-0.6	0.26	9.5	1.07	13.2	3.51 1.0
Korea	0.22	-9.9	0.16	-4.1	0.36	-14.7	0.15	8.4	0.29	-8.1	0.21	-0.9	1.27	35.8	2.62 8.8
Australia	0.29	-0.8	0.10	74.3	0.54	-5.6	-	-	0.04	-1.4	0.01	48.8	0.11	2.2	1.10 1.3
OECD Total	14.00	12.0	3.26	29.2	11.26	5.3	2.77	2.5	5.81	2.2	1.71	13.7	7.90	5.3	46.33 8.4

* Including US territories

OECD oil demand for 2021 is now projected to grow by 2.5 mb/d to 44.5 mb/d and for 2022 rise by 1.6 mb/d to 46.2 mb/d. Demand in 2022 will remain 1.5 mb/d lower than 2019, with only LPG and naphtha above pre-pandemic levels.

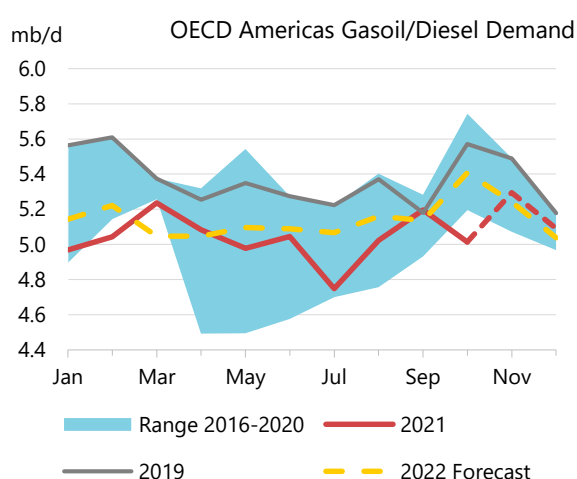
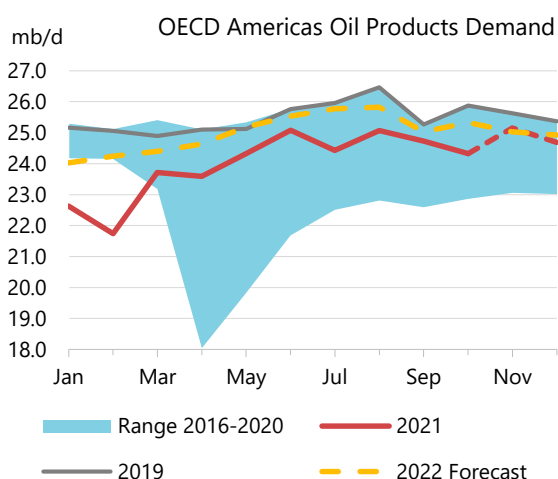
OECD Americas

Provisional November data indicate an 820 kb/d increase in OECD Americas demand from October. LPG/ethane posted the largest increase at 620 kb/d m-o-m, reflecting a combination of the typical seasonal increase for heating and a rebound in US petrochemical consumption from October. Gasoil increased by 280 kb/d and gasoline by 70 kb/d.

Despite strong year-on-year (y-o-y) growth of 2.1 mb/d in November, deliveries remain 480 kb/d lower than in 2019. For 4Q21 demand looks set to be 910 kb/d below pre-pandemic levels, with the gap forecast to narrow slightly, to 820 kb/d, in 1Q22. The recovery in jet/kerosene is expected to stall with new waves of Covid-19 cases, but should gather momentum later in the year, to average 200 kb/d below 2019 for 2022. We forecast that overall 2022 OECD Americas demand will grow by 860 kb/d y-o-y, led by jet/kerosene (+300 kb/d), gasoline (+270 kb/d) and LPG (+170 kb/d). Nonetheless overall deliveries will be 480 kb/d short of 2019.

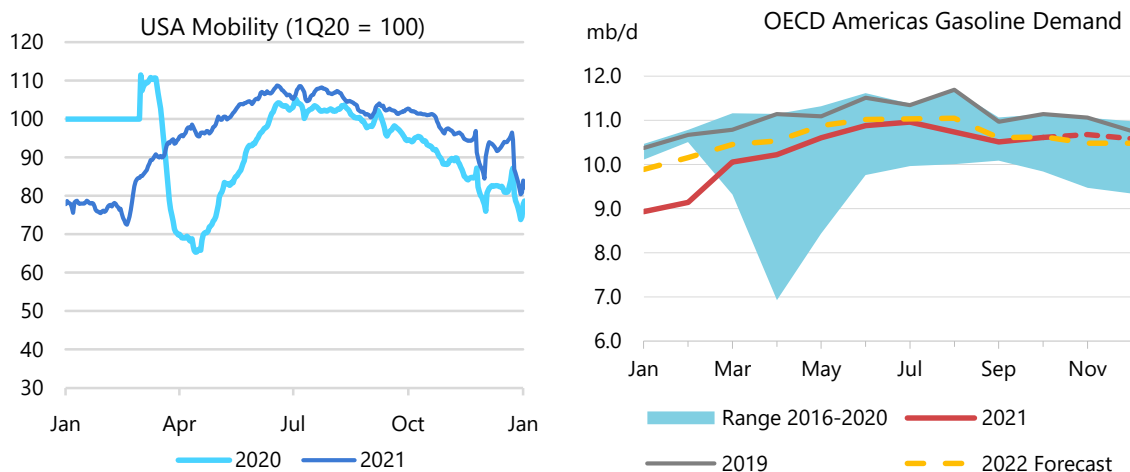
October demand has been revised down by 650 kb/d following the submission of more complete data. The largest contribution to this was the much weaker-than-expected ethane consumption in the US (LPG/ethane -200 kb/d m-o-m). Final US gasoline deliveries were also 300 kb/d lower than suggested by provisional data and Canada (-140 kb/d) posted a larger than normal contraction.

Prompt data from the US Bureau of Transportation Statistics (BTS) suggest that mobility reached 2019 levels during October before surpassing them in November and December. While not directly translating into oil demand, they suggest that mobility in the US has largely recovered from the impacts of the pandemic and that 2022 as a whole is likely to see a substantial y-o-y gain.



Provisional November data from the US indicates 490 kb/d m-o-m growth based on rebounding gasoil demand (+240 kb/d), rising above the five-year average once again. As has been common in recent months, October deliveries were revised lower for gasoline based on more complete statistics. Notwithstanding this, gasoline demand in October was flat m-o-m and 640 kb/d higher y-o-y, reflecting strong mobility data.

The *IHS Markit US Manufacturing PMI* indicates that expansion slowed in December, with the index contracting to 57.7 from 58.3 in November. We expect this to be reflected in continued but more moderate oil demand growth through the remainder of the quarter. However, expectations for GDP growth in 4Q21 have been revised higher (as have those in the first three quarters of 2022), helping to boost our December estimate versus last month's *Report*. US road fuel demand is expected to continue its gradual recovery, with aggregate diesel and gasoline demand growing y-o-y by 980 kb/d in 4Q21, 660 kb/d in 1Q22 and 170 kb/d for 2022 as a whole.



US jet/kerosene demand was 60 kb/d higher m-o-m in November. Data from *Radarbox* indicates that domestic US flights were roughly steady compared with October and that US international flights increased in line with seasonal holiday trends in November and early December. We forecast that jet/kerosene deliveries will be unchanged m-o-m in December but will fall faster than the seasonal trend in January due to flight restrictions and operational difficulties for airlines.

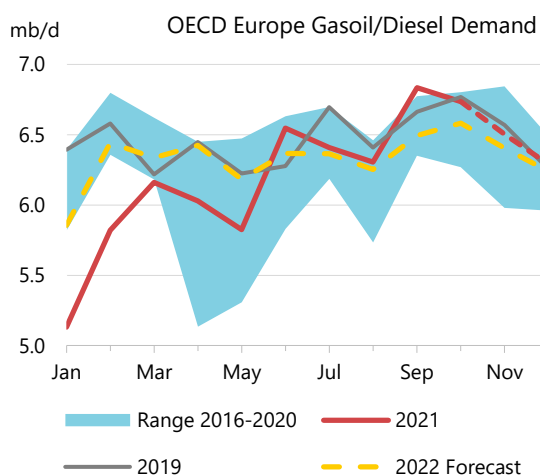
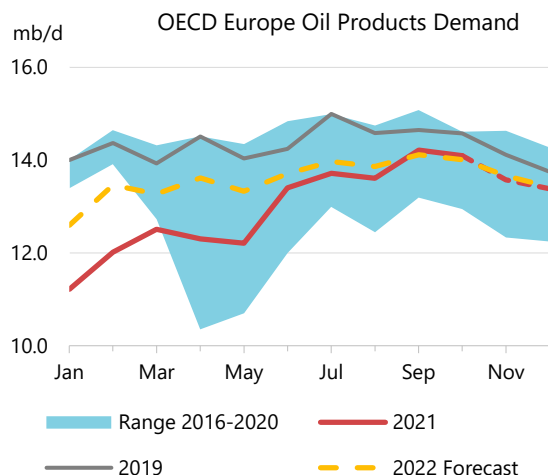
Following the surprisingly high ethane demand reported for September by the US Energy Information Administration's Petroleum Supply Monthly (PSM), the October data indicates an unexpected fall in consumption. This contributed to a 200 kb/d fall m-o-m for LPG/ethane demand, which was the result of continued operational issues at some hurricane-affected plants, several maintenance shutdowns and some restocking of tertiary ethane inventories. Our expectation is that operators were able to regain much of the losses in November and December. Along with increased winter heating demand this means that 4Q21 should average 110 kb/d higher than 4Q19 but 55 kb/d lower than 4Q20.

Canadian deliveries fell by 140 kb/d m-o-m in October (250 kb/d higher y-o-y and 320 kb/d below 2019). LPG deliveries declined by 80 kb/d. We expect demand to rebound by 160 kb/d in November and to average 2.3 mb/d for 2021, well below the 2.5 mb/d recorded in 2019. Mexican demand bounced back strongly in November, according to provisional data. After six months of m-o-m declines, Mexican oil demand rose by 190 kb/d in November. Both gasoline and gasoil demand posted very strong growth, increasing m-o-m by 65 kb/d and 50 kb/d, respectively. We expect q-o-q growth of 70 kb/d in 4Q21.

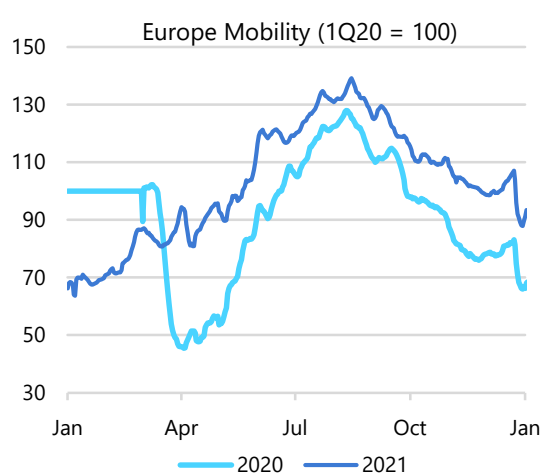
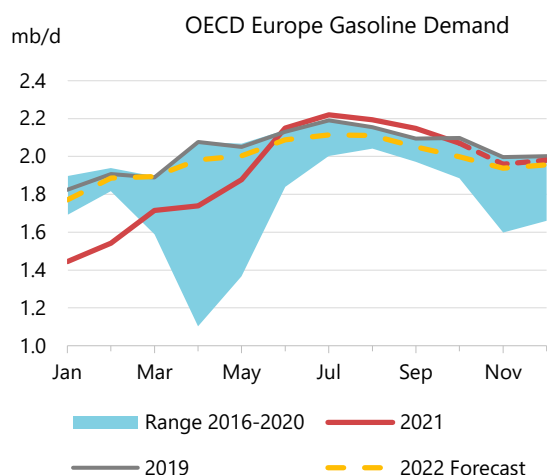
OECD Europe

Overall OECD Europe deliveries for October declined by 120 kb/d m-o-m, tracking typical changes for the month. Provisional November data indicates a decline of 520 kb/d m-o-m, a little

faster than the normal seasonal drop. The December *IHS Markit Eurozone Manufacturing PMI* indicates continued expansion – despite the index slowing to 58 from 58.4 in November. We expect this to result in substantial growth of 1.2 mb/d y-o-y for 4Q21, which will continue into 1Q22.



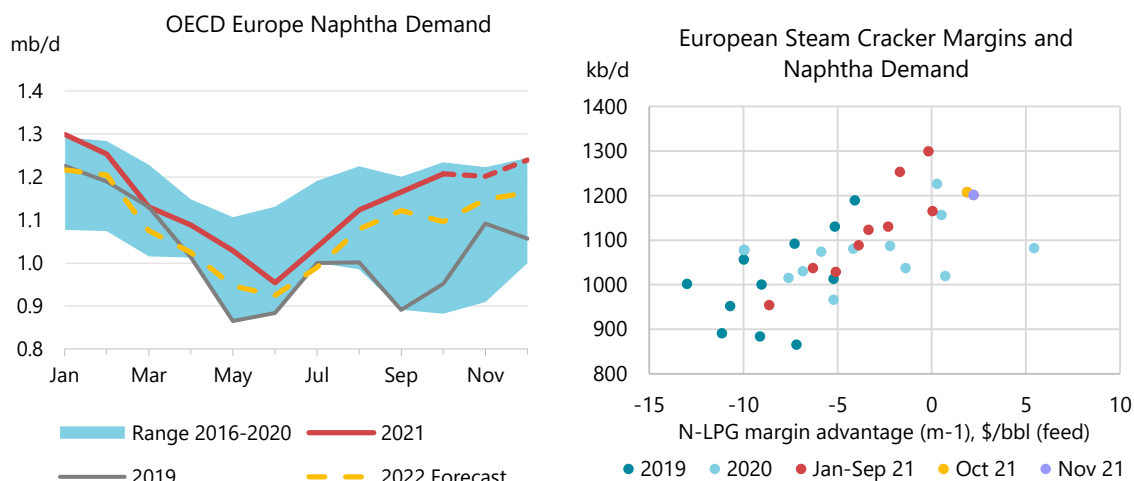
Provisional November data from Germany suggests that there may have been a little less support from oil in power generation, compared with the previous month, as spot natural gas prices eased slightly in late-October. We expect some renewed growth from this fuel switching in Europe, concentrated in other gasoil (gasoil excluding diesel) and fuel oil, in December and January as gas prices remained volatile through end-2021, spiking in late-December. By October, aggregate other gasoil and fuel oil deliveries had increased by 100 kb/d more than the normal seasonal trend, we expect this to widen to 120 kb/d of extra demand in December and 160 kb/d in January.



Resurgent gasoil and gasoline demand have underpinned the relative recovery seen in recent months and each stood only 30 kb/d below 2019 levels in October. This recent strength has resulted from the release of pent-up demand, higher mobility, and lower use of public transport. By and large, these factors have not been significantly eroded by the autumn wave of Covid-19 Delta variant cases. As a result, we are continuing with our assumption that there will not be a large negative impact on these fuels going forward from the recent explosion in cases due to the Omicron variant.

OECD Europe demand growth is pegged at 590 kb/d in 2021 and forecast to rise by a further 560 kb/d in 2022, driven primarily by gasoil (+260 kb/d) and gasoline (+170 kb/d) in 2021 and by recovering jet/kerosene (+300 kb/d) in 2022. The Omicron variant is expected to slow the ongoing recovery in jet/kerosene demand during 1Q22, but growth should gather pace in 2Q22 and return to close to the five-year average throughout the remainder of the year.

Prompt flight traffic data from *Radarbox* shows that activity gained momentum during December, with intra-European flights approaching 2019 levels by the end of the month. Early January saw a substantial decline in numbers, however, with demand now expected to fall by 120 kb/d for the month.

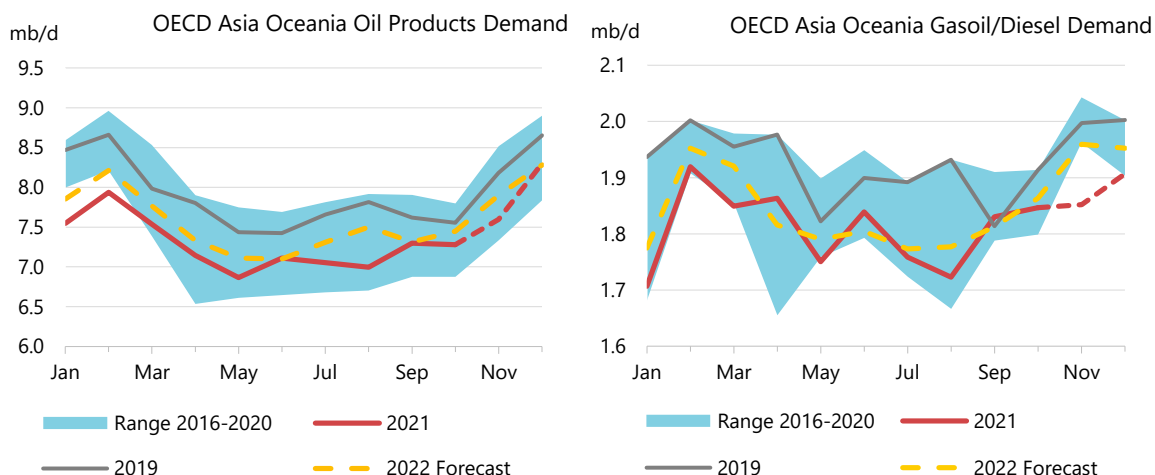


'Naphtha – LPG margin advantage (m-1)' is the difference between the indicative margins for steam cracking using naphtha and using LPG. This has been applied on a month-1 basis.

Naphtha demand in Europe has been particularly strong in recent months, with October deliveries 260 kb/d above the level of 2019, when no other major oil product surpassed its pre-pandemic level. The higher levels reflect the general strength of petrochemical demand, and the very competitive naphtha costs versus LPG as a feedstock for olefins production. Many European steam cracker operators have flexibility to replace some of their naphtha intake with LPG. Recent tightness lifted prices, making global LPG less attractive and boosting naphtha consumption. However, with prices rebalancing, this margin advantage began to fade late in the year, suggesting that naphtha demand will begin to soften in 2022.

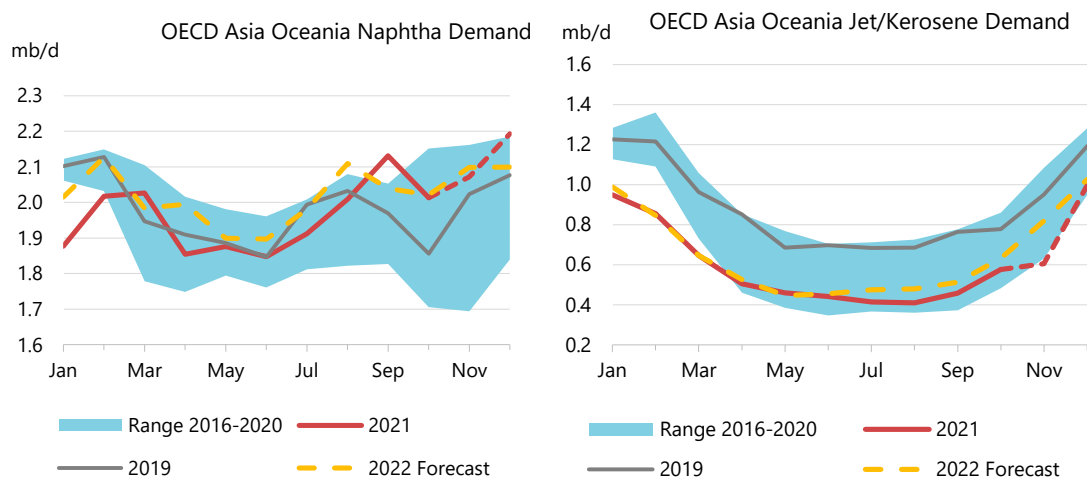
OECD Asia Oceania

In October, OECD Asia Oceania oil demand slipped by 20 kb/d, less than the typical -40 kb/d. Naphtha (-120 kb/d) and LPG (-40 kb/d) posted the largest declines, in part due to petrochemical plant maintenance in Korea. In contrast, jet/kerosene demand climbed by 120 kb/d, concentrated in Japan (+100 kb/d). Japanese demand for kerosene typically rises in October as heating requirements increase but this was supplemented by higher air traffic activity. *Radarbox* data suggest that both Japanese domestic and international flight numbers saw a modest increase.



Preliminary data for November show deliveries climbing by 320 kb/d, which is considerably less than the typical seasonal increase. LPG is set to rise by 70 kb/d, in line with the five-year average driven by heating. While demand for all products rose, the increase for gasoil was less than 10 kb/d, in contrast to an average rise of 130 kb/d over the last five years.

Japanese demand growth in November (+160 kb/d) was roughly half of the average seasonal change, with gasoil flat instead of rising, and gasoline demand falling counter-seasonally. Gasoline deliveries remain firmly at the bottom of the five-year range. However, mobility indicators suggest growth relative to 2020 in late-November, December and early January. The current spike in Covid cases in Japan should impact mobility in 1Q22. Nevertheless, we expect y-o-y growth of 70 kb/d in gasoline demand for the quarter.



Although hard data is not yet available, we expect that Australia will see increases to jet/kerosene and gasoline demand from November in line with the relaxation of pandemic-restrictions and the beginning of summer. Mobility data shows continuous growth through 4Q21, with December 2021 averaging a 4% y-o-y gain. Prompt data showed that the number of domestic flights increased strongly from the end of October, exceeding pre-pandemic levels by the end of 2021. *Official Aviation Guide (OAG)* data shows that Australian passenger demand increased by 27% m-o-m in November and 76% m-o-m in December (although remaining 40 % below 2019 levels). The current spike in Covid case in Australia is likely to reduce mobility in the short term.

Non-OECD

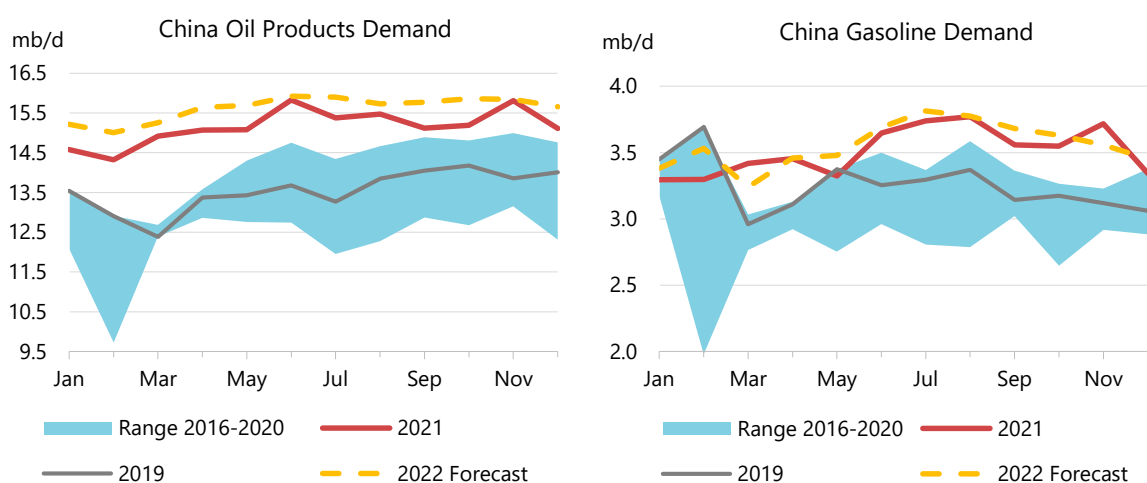
Non-OECD oil demand rose by 430 kb/d m-o-m in October, well above the typical seasonal increase. Demand continued to increase in November (+450 kb/d), according to data available for some countries.

Several large non-OECD oil users started imposing strong restrictions in response to the jump of Covid cases in December, and we expect demand in non-OECD countries to drop by 470 kb/d for the month.

Non-OECD oil demand reached pre-pandemic levels on average in 2021, marginally ahead of 2019. Demand will decline by 260 kb/d in 1Q22, but nonetheless it will stand 1.6 mb/d above pre-pandemic levels. Due to restrictions in India and China, jet/kerosene will remain 1.2 mb/d below 1Q19. For 2022, non-OECD oil demand is projected to increase by 1.7 mb/d.

China

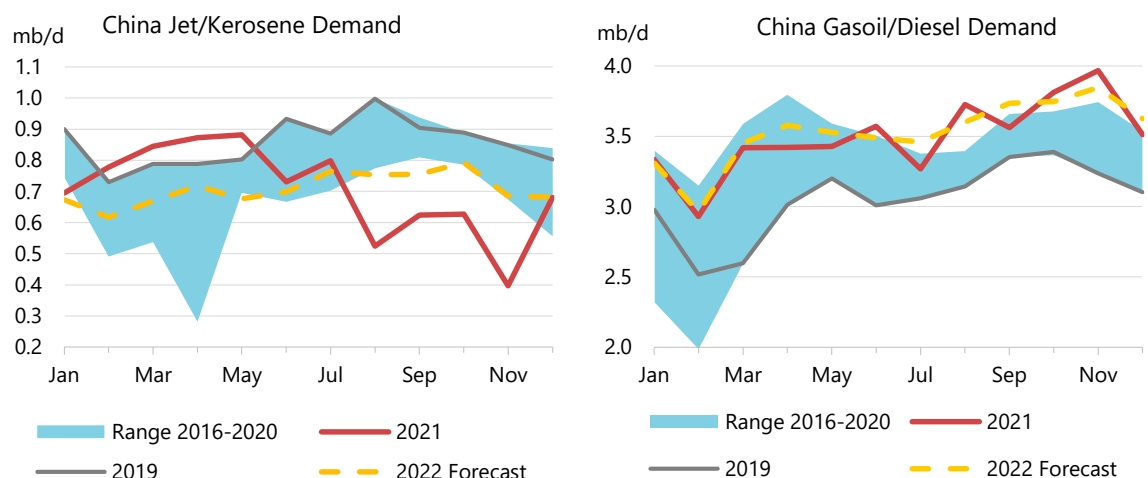
Chinese apparent oil demand increased by 620 kb/d m-o-m in November, reflecting a stabilisation in economic activity. The *Caixin Manufacturing PMI* rose from 49.9 in November to 50.9 in December. Gasoil and gasoline demand went up strongly in November, increasing by 155 kb/d and 170 kb/d m-o-m, respectively. However, new lockdown measures coming weeks ahead of the Winter Olympic Games are likely to reduce mobility and demand.



At the time of writing, about 20 million people are currently under lockdowns (13 million in Xi'an, 1.1 million in Yuzhou and 5.5 million in Anyang). This represents an effort to control the spread of Covid cases ahead of Winter Olympics (4 February).

November jet/kerosene demand dropped by 230 kb/d m-o-m with the new travel restrictions. However, it is projected to increase by 280 kb/d in December, as the number of domestic flights surged in the second half of the month according to daily data from *Radarbox*. OAG flight capacity data also show that global scheduled flights rose by 12.5% m-o-m in December. Air traffic should remain at this level for a while, as China is unlikely to remove international air transport restrictions while domestic flights may plateau.

In this *Report* we have increased our estimates of ethane demand in China in 2021 by 60 kb/d as we are now using new estimates for ethane imports based on cargo tracking.



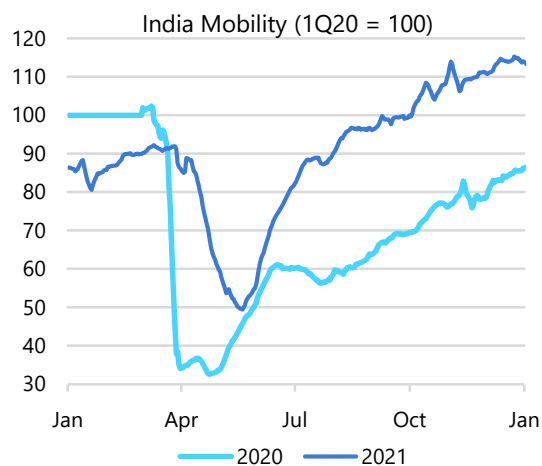
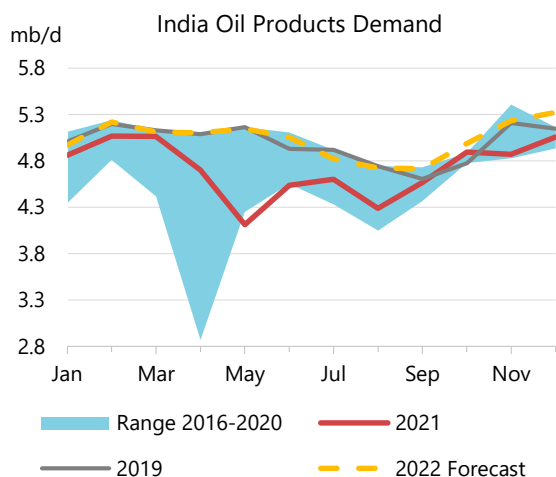
China's 4Q21 apparent oil demand is projected to rise 40 kb/d q-o-q (+510 kb/d y-o-y). Quarterly increases for naphtha (+200 kb/d) and gasoil (+240 kb/d) will more than offset declines in gasoline (-160 kb/d) and other products (-100 kb/d).

China: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
LPG & Ethane	1 737	1 869	2 209	2 288	341	79	18.2	3.6
Naphtha	1 338	1 444	1 643	1 822	199	179	13.8	10.9
Motor Gasoline	3 248	3 200	3 511	3 558	310	47	9.7	1.3
Jet Fuel & Kerosene	857	702	704	708	2	3	0.3	0.5
Gas/Diesel Oil	3 052	3 161	3 498	3 531	338	32	10.7	0.9
Residual Fuel Oil	432	424	466	495	41	29	9.7	6.3
Other Products	2 881	3 093	3 126	3 226	34	100	1.1	3.2
Total Products	13 546	13 893	15 158	15 627	1 265	469	9.1	3.1

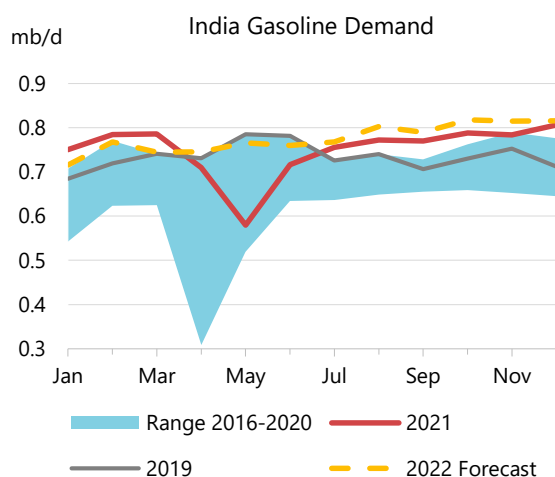
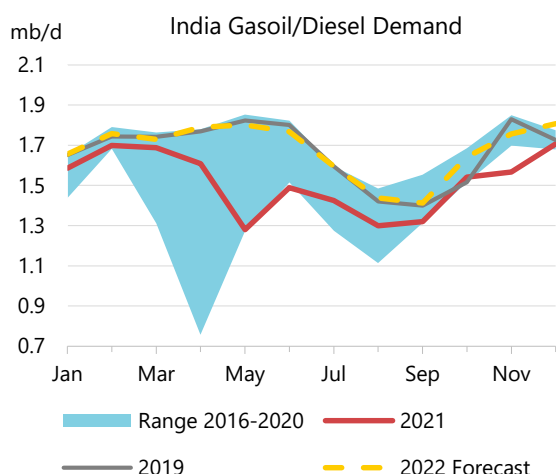
We estimate 2021 demand at 15.2 mb/d (+1.3 mb/d y-o-y). Demand in 2022 is forecast to increase to 15.6 mb/d (+470 kb/d y-o-y). We expect demand for all oil products to expand further in 2022, with petrochemical feedstocks – naphtha (+180 kb/d y-o-y) and LPG/Ethane (+80 kb/d y-o-y) – accounting for over 50% of Chinese growth.

India

The economic environment in India deteriorated slightly in December, with the *IHS Markit Manufacturing PMI* slowing to 55.5 from 56.3 in November. Mobility data remained strong, despite showing a slight slowdown at the end of the month.



The Omicron variant arrived in India in December with measures taken by the states to control the spread of the virus ranging from partial lockdowns and curfews, to restrictions on mass gatherings. Average Indian deliveries rose by 190 kb/d m-o-m in December (+20 kb/d y-o-y). Deliveries were 90 kb/d below 2019 levels. While gasoline demand remained very strong (+90 kb/d versus pre-pandemic levels) jet/kerosene deliveries were affected by travel restrictions.



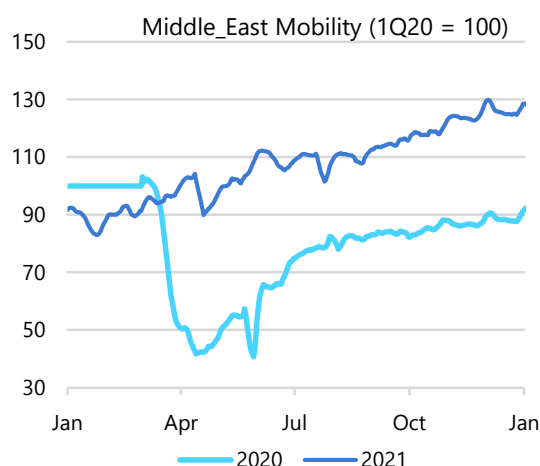
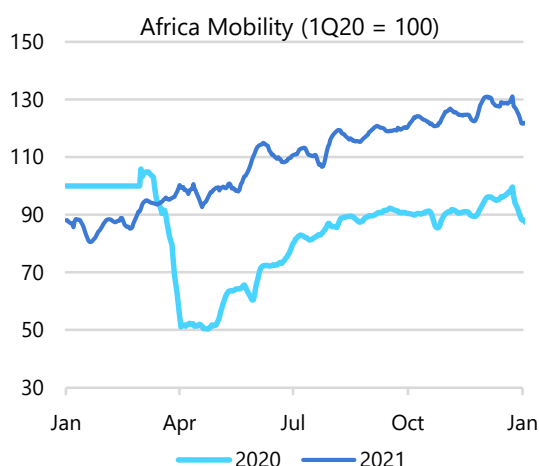
Data from *OAG* show an 8.4% increase in air traffic in December, which was 11.6% below 2019 levels. Jet/kerosene demand increased by 10 kb/d m-o-m in both November and December. November jet/kerosene demand remains 50 kb/d below pre-pandemic levels.

Indian oil demand is forecast to increase by 320 kb/d in 2022. Gasoil will post the strongest gains versus relatively weak 2021 growth. Indian oil demand is expected to slightly surpass 2019 levels (+40 kb/d) in 2022 at 5.03 mb/d.

India: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
LPG & Ethane	837	869	888	883	19	- 5	2.1%	-0.6%
Naphtha	308	318	317	339	- 1	22	-0.2%	6.8%
Motor Gasoline	734	667	750	776	83	26	12.4%	3.4%
Jet Fuel & Kerosene	225	120	128	152	9	24	7.1%	18.4%
Gas/Diesel Oil	1 667	1 414	1 516	1 679	102	163	7.2%	10.7%
Residual Fuel Oil	145	136	141	146	5	4	4.0%	3.2%
Other Products	1 076	1 016	974	1 058	- 42	84	-4.2%	8.6%
Total Products	4 991	4 540	4 715	5 032	175	317	3.8%	6.7%

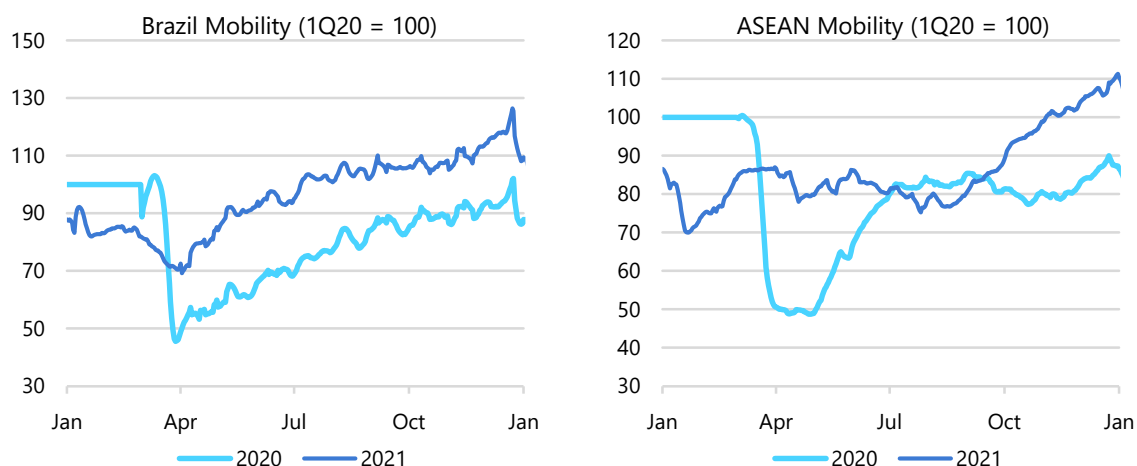
Other Non-OECD

In **Africa**, demand is projected to increase by 115 kb/d q-o-q in 4Q21, leaving consumption 220 kb/d below 4Q19 levels. Mobility remains strong. In 2022, oil demand growth is projected to increase by 100 kb/d y-o-y, but will still be 150 kb/d below pre-pandemic levels on average.



In the **Middle East**, 2022 demand is projected to increase by 120 kb/d. However, oil use in the power sector will be largely displaced by natural gas and renewables in several countries. 2022 oil demand will remain 140 kb/d below pre-pandemic levels, with jet/kerosene (-180kb/d) and other products – which include direct crude use- (-80 kb/d) having lost the most ground.

Russian deliveries fell by 30 kb/d m-o-m in November. Russian demand in 2021 was very robust, increasing by 230 kb/d to 85 kb/d above its pre-pandemic levels. Jet kerosene demand rose on a strong rebound in air transport demand, increasing by 40 kb/d on average for the year (and 40 kb/d y-o-y in November 2021) to reach 2019 levels. In 1Q22, demand is projected to drop by 160 kb/d q-o-q, in line with seasonal trend. Jet/kerosene demand is 10 kb/d above the level of 2019, based on the strength of domestic aviation. In 2022, Russian oil demand is projected to increase by 110 kb/d y-o-y to 3.8 mb/d and to exceed pre-pandemic levels by 200 kb/d.



Brazilian oil deliveries dropped by 110 kb/d m-o-m in November. Deliveries of gasoline fell by 40 kb/d and gasoil by 70 kb/d. Average 4Q21 demand is estimated to be 20 kb/d lower than pre-pandemic levels. Total 2022 demand is forecast to be 40 kb/d lower y-o-y. Gasoil deliveries will decline by 60 kb/d y-o-y, in the absence of exceptional drought-related support, but will still remain 20 kb/d above 2019 levels.

Total Latin America oil demand growth is projected to slow to 65 kb/d in 2022, as the return to normal levels of rainfall will reduce the need to use gasoil for irrigation and in the power sector. Oil demand will reduce its gap versus pre-Covid levels from 320 kb/d in 2021 to 260 kb/d in 2022. Gasoline and jet/kerosene will post the strongest growth.

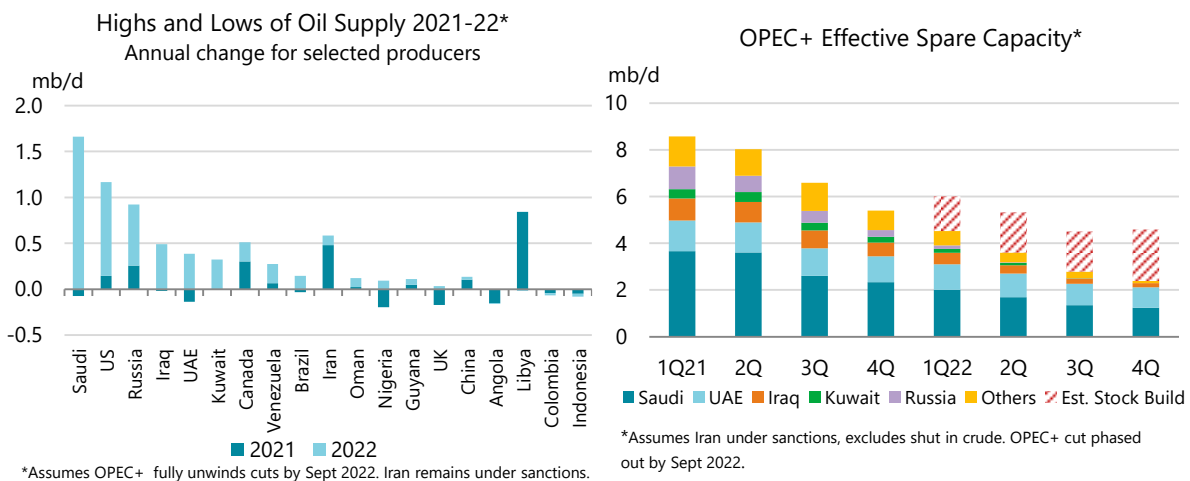
Non-OECD: Demand by Region								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
Africa	4 250	3 815	4 007	4 104	192	97	5.0	2.4
Asia	27 537	26 489	28 311	29 572	1 822	1 261	6.9	4.5
FSU	4 723	4 501	4 783	4 926	282	143	6.3	3.0
Latin America	6 293	5 608	5 982	6 050	374	68	6.7	1.1
Middle East	8 244	7 728	7 982	8 100	254	118	3.3	1.5
Non-OECD Europe	782	741	768	779	27	11	3.6	1.4
Total Products	51 829	48 883	51 832	53 531	2 950	1 698	6.0	3.3

Supply

Overview

The global oil supply growth story this year looks markedly different from 2021, with the world's big three producers – the US, Saudi Arabia and Russia – eyeing volumes at or near annual records. Canada and Brazil are also aiming for their highest ever levels. World oil supply in 2022 has the potential for a massive Saudi-driven gain of 6.2 mb/d, provided the OPEC+ alliance continues to unwind the remainder of its record 2020 supply cut.

In 2021, annual production gains of 1.5 mb/d were led by Libya, exempt from OPEC+ cuts. Iran, also spared from curbs but under US sanctions, took the number two spot. Nigeria, the UK and Angola posted the biggest losses, although they could all see output at least stabilise in 2022.



With OPEC+ total oil supply, including condensates and NGLs, set to expand this year by an average 4.4 mb/d (adjusting for modest downward revisions in Russia and Nigeria), the bloc's market share would rise to 53% from 51% in 2021. That would result in reduced effective OPEC+ spare capacity in 2H22 of 2.6 mb/d - held primarily by Saudi Arabia along with the UAE. Russia is expected to pump virtually flat out from May onwards.

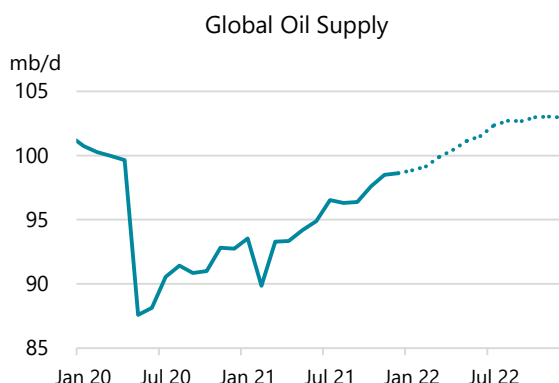
Led by the US, oil output from those outside the alliance (non-OPEC+) is expected to rise by 1.8 mb/d y-o-y. With Canada and Brazil also set to deliver solid growth, these three countries combined will account for 75% of non-OPEC+ gains in 2022.

That said, supply disruptions and underperformance by OPEC+ are tempering growth expectations for 2022. And the more restrained rise in supply this year, combined with our higher demand estimate, has tightened the balances compared to last month's *Report*. Still, we expect OPEC+ to pump 1.5 mb/d above the call on its crude in 1Q22, provided it continues to unwind its cuts and assuming Iran remains under sanctions. By 2Q22, OPEC+ crude oil output could rise to 1.7 mb/d above the call.

December saw world oil output edge up by 130 kb/d to 98.6 mb/d after combined outages of over 400 kb/d in Ecuador, Libya and Nigeria partly offset higher flows from the US, Saudi Arabia, Norway, Canada and elsewhere in OPEC+. The rise in December would have been higher had OPEC+ delivered a monthly increase of 400 kb/d as per its existing supply pact. In the end, gains were only 250 kb/d after Nigerian output sank and Russia pumped below its December quota. As a result, the gap between the group's output and its target widened to 790 kb/d.

This month could see a larger increase in world oil output, with recoveries in Ecuador and Libya and higher exports from Nigeria under way. OPEC+ is due to boost supply by a further 400 kb/d, but the additional increment is likely to be lower as nations outside the Middle East continue to struggle with technical issues and capacity constraints. Kazakh production, which has been running above its OPEC+ quota, looks set to fall m-o-m after flows at Tengiz, its biggest oil field, were briefly disrupted by protests at the start of January.

The 23-member OPEC+ bloc has meanwhile confirmed that it will proceed with monthly increases through February and is due to meet again on 2 February to review policy. As for non-OPEC+, cold weather during January has hampered operations in parts of the US and Canada, temporarily reducing supply.



* Assumes OPEC+ cut phased out by Sept 2022. Iran remains under sanctions.

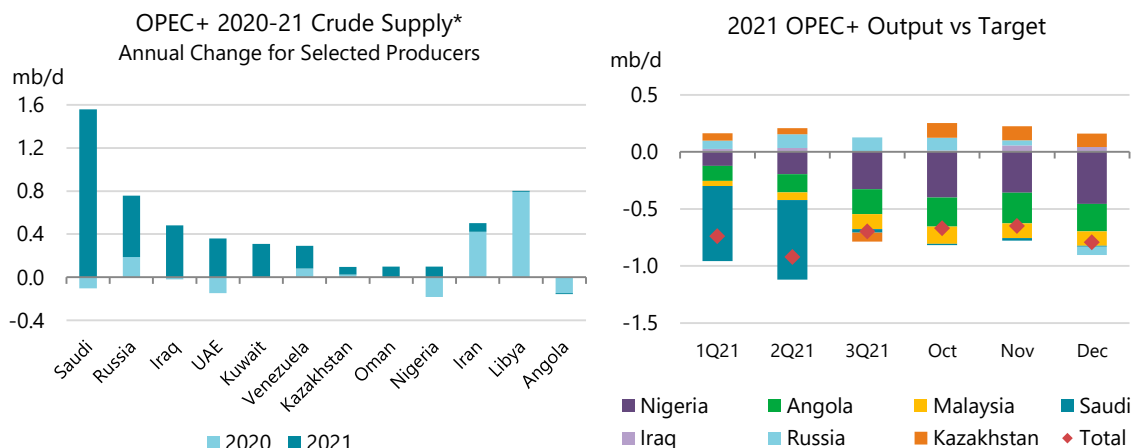
Saudi to drive 2022 OPEC crude supply

Saudi Arabia, potentially the biggest source of growth this year, could propel OPEC+ crude oil gains of around 4 mb/d in 2022, provided the group fully unwinds its curbs. During 2021, output of crude from the 23-member bloc rose 830 kb/d to 41.4 mb/d – driven by Libya and Iran, both exempt from cuts. Covid-related maintenance delays along with technical and operational issues cut Nigerian output to an annual level last seen in 1987 and knocked Angolan supply to a 17-year low.

The continuing erosion in Nigerian and Angolan capacity, along with others outside the Middle East, is likely to prevent OPEC+ from fulfilling the agreed monthly 400 kb/d increase for the 19 members subject to cuts. We foresee an average 270 kb/d monthly gain through September unless Saudi Arabia and the UAE, the only producers with substantial spare, pump more to compensate. By 2H22, effective spare capacity, excluding Iranian crude shut in by sanctions, could shrink to 2.6 mb/d.

It was Saudi Arabia that led December OPEC+ crude supply higher, hitting 10 mb/d and overtaking Russia as the bloc's largest producer for the first time since April 2020. At 43.54 mb/d, output from all 23 members of OPEC+ rose 190 kb/d m-o-m. Taking into account only the 19 members bound by cuts, output was up 250 kb/d, well short of the planned 400 kb/d increase. As a result, their combined production trailed 790 kb/d below target in December compared to a gap of 650 kb/d the month before. Compliance with the OPEC+ agreement reached 121%, the highest since record cuts were enforced in May 2020.

Production of crude from OPEC countries increased by 190 kb/d during December to 27.99 mb/d. At their January meeting, OPEC members unanimously elected Kuwait's Haitham al-Ghais, a 30-year oil industry veteran, to succeed Nigeria's Mohammed Barkindo as the new OPEC Secretary General in August.



* Assumes OPEC+ cut phased out by Sept 2022. Iran remains under sanctions.

As for the alliance's non-OPEC countries, flows of crude were flat m-o-m at 15.55 mb/d, with Russia pumping a touch less for the month. In line with its agreement, OPEC+ is further easing curbs in January, with cuts versus baseline production at 3.4 mb/d, down from the record 9.7 mb/d when they were adopted in May 2020.

OPEC+ Crude Oil Production ¹								
	Nov 2021 Supply	Dec 2021 Supply	December Compliance	Dec 2021 Target	Sustainable Capacity ²	Spare Cap vs Dec	2021 Avg Production	Chg vs 2020 Output
Algeria	0.96	0.97	92%	0.96	0.99	0.02	0.91	0.01
Angola	1.11	1.15	278%	1.39	1.17	0.02	1.12	-0.15
Congo	0.26	0.28	155%	0.30	0.29	0.01	0.27	-0.03
Equatorial Guinea	0.07	0.10	245%	0.12	0.12	0.02	0.10	-0.01
Gabon	0.19	0.21	-135%	0.17	0.21	-0.01	0.18	-0.02
Iraq	4.25	4.28	90%	4.24	4.82	0.54	4.03	-0.02
Kuwait	2.53	2.55	103%	2.56	2.78	0.23	2.42	0.00
Nigeria	1.29	1.21	380%	1.67	1.53	0.32	1.31	-0.18
Saudi Arabia	9.89	10.01	101%	10.02	12.22	2.21	9.12	-0.09
UAE	2.86	2.88	102%	2.89	4.03	1.15	2.72	-0.14
Total OPEC-10	23.41	23.64	128%	24.30	28.15	4.52	22.19	-0.62
Iran ³	2.47	2.50			3.80	1.30	2.42	0.42
Libya ³	1.14	1.05			1.23	0.18	1.15	0.79
Venezuela ³	0.78	0.80			0.81	0.01	0.61	0.08
Total OPEC	27.80	27.99			34.00	6.01	26.36	0.68
Azerbaijan	0.59	0.60	189%	0.65	0.60	0.00	0.59	-0.01
Kazakhstan	1.66	1.67	23%	1.56	1.69	0.02	1.52	0.02
Mexico ⁴	1.67	1.64		1.75	1.69	0.05	1.67	0.01
Oman	0.78	0.80	111%	0.80	0.87	0.08	0.75	-0.01
Russia	9.96	9.95	107%	10.02	10.23	0.28	9.61	0.19
Others ⁵	0.89	0.89	218%	1.01	0.93	0.04	0.89	-0.05
Total Non-OPEC	15.55	15.55	110%	15.79	16.01	0.46	15.04	0.15
OPEC+19 in cut deal*	37.29	37.55	121%	38.34	42.47	4.93	35.56	-0.48
Total OPEC+	43.35	43.54			50.01	6.47	41.40	0.83

1 Excludes condensates.

2 Capacity levels can be reached within 90 days and sustained for extended period.

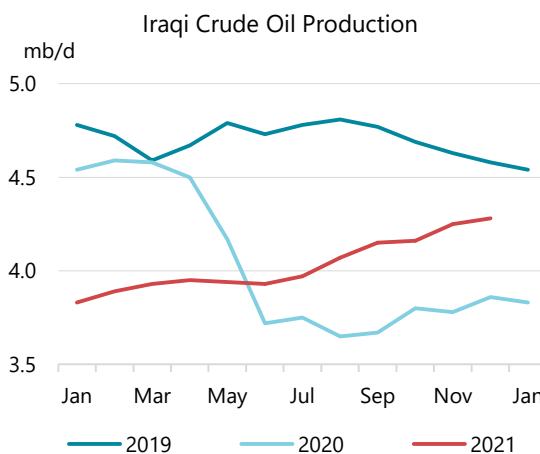
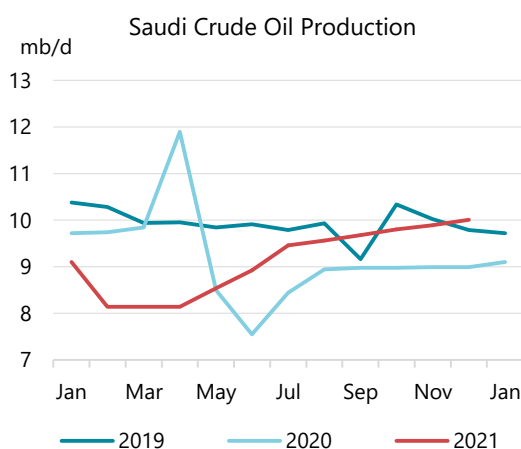
3 Iran, Libya, Venezuela exempt from cuts.

4 Mexico excluded from OPEC+ compliance. Only cut in May, June 2020.

5 Bahrain, Brunei, Malaysia, Sudan and South Sudan.

Saudi Arabia pumped 10.01 mb/d during December (+120 kb/d m-o-m), just a touch below its higher quota. For 2021 as a whole, the Kingdom's crude supply declined by 90 kb/d to 9.1 mb/d

due to several months of extra voluntary OPEC+ cuts. Its annual production of crude this year could rise to an annual record of 10.7 mb/d, reducing its spare capacity to 1.6 mb/d.



Supply from **Iraq**, including the Kurdistan Regional Government, increased 30 kb/d to 4.28 mb/d, leaving it 40 kb/d above its December quota. For 2021 as a whole, crude oil production dipped to 4 mb/d. Supply could increase by as much as 500 kb/d this year. Baghdad has meanwhile given its approval for the Iraqi National Oil Co to acquire ExxonMobil's share in the 500 kb/d West Qurna-1 field. Other partners in the giant southern oil field are PetroChina (32.7%), Itochu (19.6%), Pertamina (10%) and Iraq's Oil Exploration Co (5%).

Total Iraqi shipments of crude oil edged up in December to 3.66 mb/d after exports increased from the north. Shipments of Basra crude accounted for roughly 3.2 mb/d of the total. Baghdad says export capacity at its Gulf terminals will rise by around 200 kb/d to 3.45 mb/d from 2Q22 after finishing the installation of new pumps. That is still far below nameplate capacity of more than 4 mb/d. Due to lingering bottlenecks in ageing southern infrastructure, we have lowered Iraq's sustainable production capacity by around 100 kb/d to 4.8 mb/d.

Production during December rose modestly elsewhere in the Gulf. In **Kuwait**, crude oil output increased to 2.55 mb/d last month, well above the average 2021 level of 2.4 mb/d. Supply also edged up in the **UAE** to 2.88 mb/d. We have raised production capacity in the UAE by roughly 100 kb/d to 4 mb/d after the Upper Zakum oil field reached capacity of 1 mb/d three years ahead of schedule. For 2021, annual production in the UAE was 2.7 mb/d, down 140 kb/d on 2020 when it pumped far above its OPEC+ target for several months. This year, output could reach an average 3.1 mb/d, leaving it with nearly 1 mb/d of spare capacity. Output in **Bahrain** dipped to 180 kb/d while production from **Oman** increased slightly to 800 kb/d.

Crude oil supply from **Iran**, exempt from output cuts, rose marginally to 2.5 mb/d in December. Talks to revive its 2015 nuclear deal with world powers are continuing. If sanctions are eased, we believe Iran will be able to ramp up swiftly towards sustainable production capacity of 3.8 mb/d. Undeterred by sanctions, Iran expects by 2023 to double capacity to 320 kb/d at its southern Azadegan field, which straddles the border with Iraq. Iran managed to boost its crude supply in 2021 to 2.4 mb/d (up 420 kb/d y-o-y) after it ramped up oil exports to China.

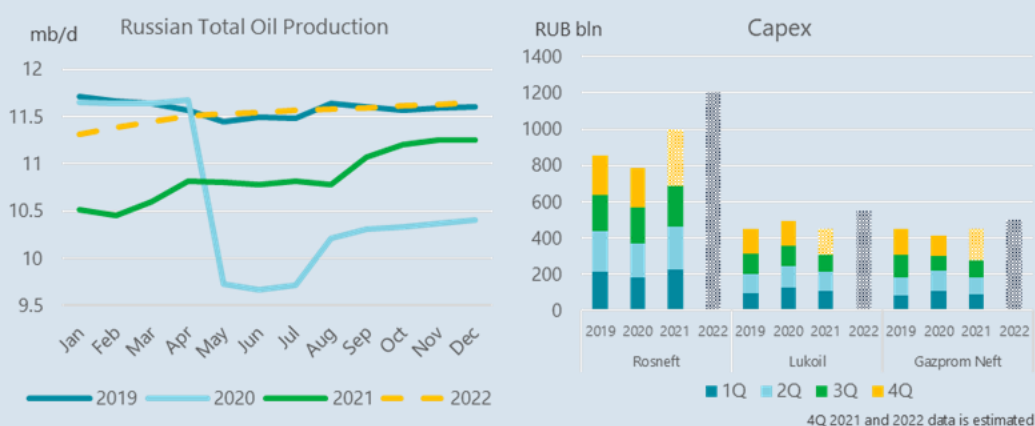
Russian crude supply eased 10 kb/d in December to 9.95 mb/d, with compliance rising to 107%. A sharp decline at Rosneft's fields, the country's largest producer, was the main factor behind the dip in December that saw Russia pump below quota for the first time since record OPEC+ cuts

were enforced in May 2020. Total supply, including condensates and NGLs, was flat m-o-m at 11.25 mb/d.

Box 1. Russia needs to drill hard, spend more to approach record highs

In 2021, Russia pumped 260 kb/d above year-ago levels, bringing its total oil output (including condensates and NGLs) to 10.9 mb/d for the year. This increase was far more than any other OPEC+ producer subject to cuts and output gains could more than double this year, provided there's a full phase-out. That would push Russia close to an all-time high in 2022 but will require more capital, potential easing of fiscal terms and front loaded drilling schedules.

Most Russian companies increased production in 2021 but output from Rosneft and Gazprom Neft fell by 77 kb/d and 5 kb/d, respectively. For Rosneft, the decline was mostly due to the divestment of marginal brownfield assets. Gazprom Neft's Novoportovskoye was hit hard after the company revised the field's development plan due to a tax status issue. Most of the Lukoil and Surgutneftegaz core assets increased production.



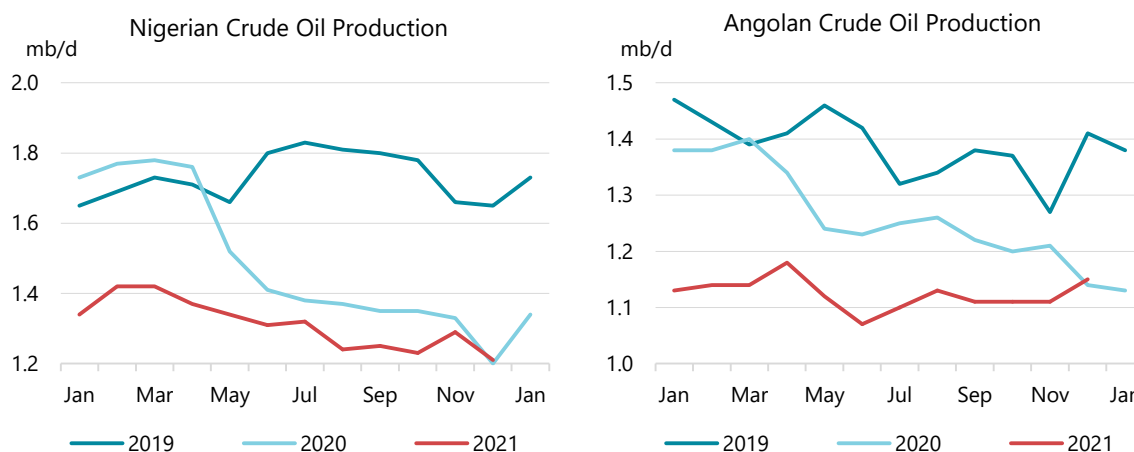
Market consensus is that Russia will struggle to reach its OPEC+ crude oil target of 11 mb/d given its previous pre-pandemic best was 10.6 mb/d. Our 2022 outlook has been revised down by 130 kb/d, with crude oil capacity pegged around 10.2 mb/d, to reflect the latest official targets. Russian deputy prime minister Alexander Novak has said Russia can reach its pre-Covid level by April or May, with crude and condensate production rising in 2022 to between 540-560 million tonnes (mt) (10.8-11.2 mb/d using a 7.3 bbl/t conversion rate). Meanwhile, Russia's largest oil producers are planning a significant uptick in investment for 2022 aimed at bolstering output. Rosneft and Lukoil plan to hike capital expenditure by around 20% this year, while Gazprom Neft has announced a 10% increase.

Kazakhstan's crude oil output inched up to 1.67 mb/d in December, but is likely to ease this month after deadly protests briefly reduced flows at Tengiz, its biggest oil field. The country's two other giant fields, Kashagan and Karachaganak, have kept pumping as normal but there were disruptions at some smaller fields. During 2021, Kazakh crude production ran at an average 1.5 mb/d, up 20 kb/d y-o-y. **Azeri** crude oil production in December crept up to 600 kb/d.

Nigerian crude supply fell 80 kb/d to 1.21 mb/d in December due to *force majeure* on exports from the Forcados crude stream and lingering issues with Bonny Light. Official data show Bonny Light production slipping to 70 kb/d compared to an average 170 kb/d in 1H21. Forcados declined by 60 kb/d to 150 kb/d.

However, production looks set to recover this month after the Forcados *force majeure* was lifted at the end of December and tanker tracking shows higher overall shipments. Persistent technical and operational issues, sabotage and pipeline leaks cut Nigerian output in 2021 to just 1.3 mb/d (-180 kb/d y-o-y) – a 34-year low.

In **Angola**, crude oil output in December rose 40 kb/d m-o-m to 1.15 mb/d, supported by the recent start-up of new fields. TotalEnergies has brought on Phase 2 of its CLOV development which is due to reach a 40 kb/d peak in mid-2022 and BP has started up the 30 kb/d Platina deepwater field. Apart from the two new oil fields, recent months have seen Eni start up the 15 kb/d Cabaca North and 10 kb/d Cuica fields, while TotalEnergies brought on its 40 kb/d Zinia Phase 2 project. Nagging technical issues and lack of investment have seen production slump to 17-year lows. For 2021, production fell 150 kb/d to 1.12 mb/d.



Supply edged up modestly in **Equatorial Guinea, Gabon, Congo and Algeria**. Production held steady in **Sudan** and eased in **South Sudan**.

Libya, exempt from official OPEC+ cuts, posted the biggest decline in December. Output fell 90 kb/d to 1.05 mb/d, after a blockade by armed groups linked with the Petroleum Facilities Guards forced three core fields to close and disrupted exports. A deal struck by the interim government allowed production to restart at the fields of El Sharara, El Feel and Wafa on 10 January. Lower average output levels are still expected this month, however, after brief pipeline maintenance and bad weather curbed supply.

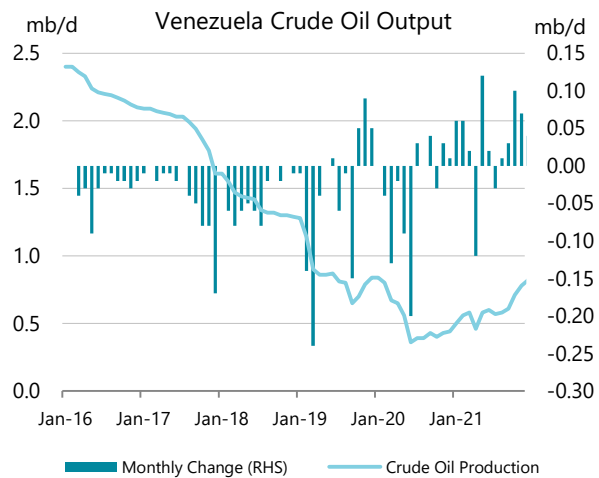
At the time of writing, oil production had recovered to around 1.2 mb/d from roughly 700 kb/d at the start of the month. The country's oil sector is suffering from a lack of funding to rebuild infrastructure that has been hit hard by a prolonged civil war and remains vulnerable to unrest and political instability. Despite these risks, Libyan output rose 790 kb/d in 2021 to reach 1.15 mb/d – the highest annual average since 2012.

For Latin American members, spared from OPEC+ curbs, Venezuela saw a further increase while **Mexico's** total oil production eased to 1.95 mb/d, down 30 kb/d m-o-m, on lower condensates and lower crude from the Ku-Maloob-Zaap production area. Supply increases of 60 kb/d are

expected through 2022 in Mexico as new fields offset existing declines; including production ramping up from Ichalkil-Pokoch, brought online in November, and Hokchi. Additionally, Eni's Area 1 second phase FPSO is still on track to start up in 2022.

Venezuela may finally have halted a five-year decline, with production in 2021 of 610 kb/d up 80 kb/d y-o-y. Further gains could be in store this year if it can sustain recent levels that have been boosted by the arrival of Iranian condensate used to dilute extra heavy Orinoco crude.

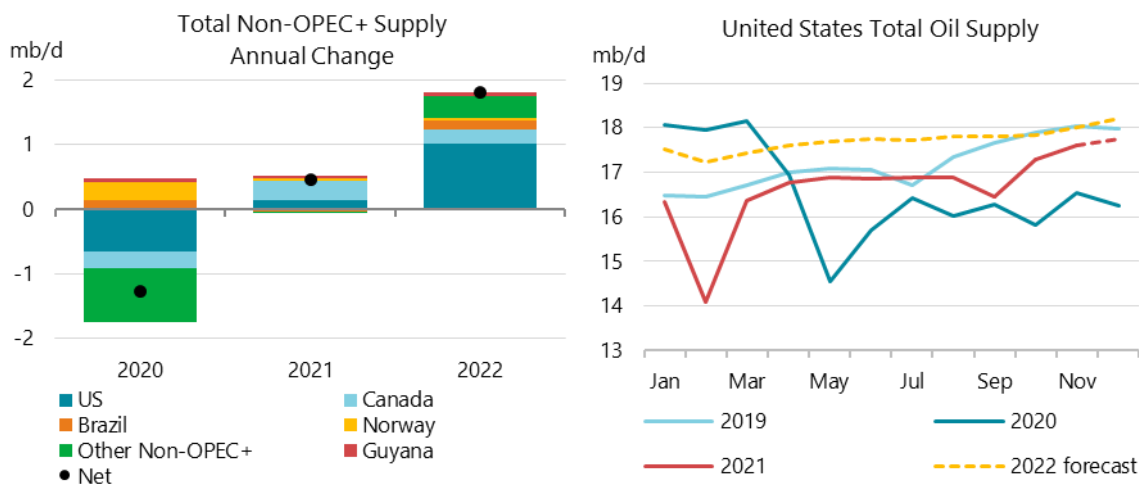
During December, Venezuela pumped 800 kb/d, up 20 kb/d. Production briefly topped 1 mb/d, but that level appears fleeting due to the country's battered infrastructure that urgently needs investment.



In Asia, **Malaysian** crude oil production edged up to 420 kb/d during December. In **Brunei**, crude supply inched higher to 90 kb/d.

Non-OPEC supply poised for growth

Volumes from non-OPEC+ countries retreated by 60 kb/d m-o-m in December as pipeline issues in Ecuador and seasonally lower biofuel supply offset gains seen in the US, Canada and Norway. At 47.4 mb/d, production plateaued around last month's high at volumes previously not seen since March 2020. Expected growth in 2022 is unchanged since last month's *Report* at 1.8 mb/d. The US, Canada and Brazil account for 75% of the gains.

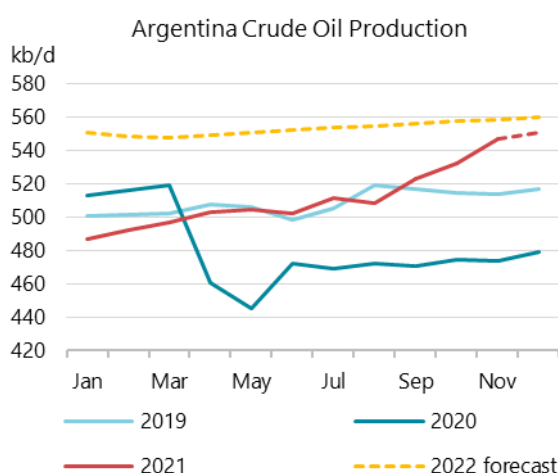
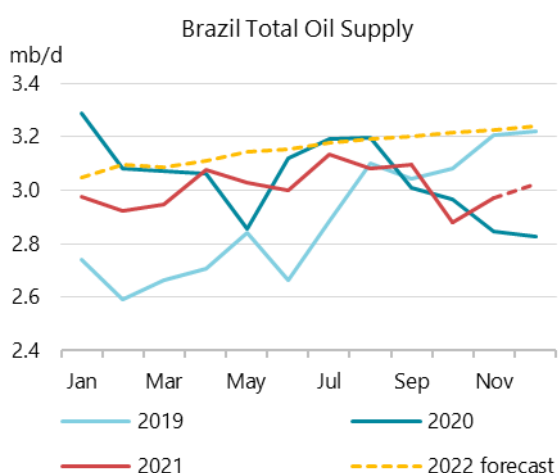
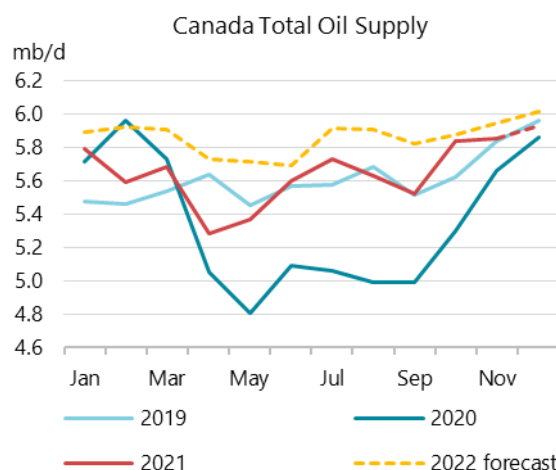


For the **United States**, we expect overall oil supplies to increase by 1 mb/d y-on-y in 2022. A strong market in 2021 encouraged US energy firms to boost activity, return capital to shareholders, and pay down debt. Those trends should continue through 2022 with majors and US independents having recently reiterated those commitments. Budgets will increase in real and nominal terms in 2022 but will be challenged by cost escalation of around 10% and

uncertainties regarding supply chain issues, labour costs and price volatility. Investment dollars will target cost- and carbon-advantaged barrels as companies focus on meeting targets for reducing the carbon intensity of their portfolios or to meet Environmental, Social and Governance (ESG) pressures. An acceleration of capital redeployment from traditional projects towards decarbonisation efforts either through acquisitions, strategic partnerships, or joint ventures would not come as a surprise.

December showed another US production increase of 140 kb/d, a slower rate than previous months, bringing total liquids to 17.8 mb/d. Gains were primarily driven by the US Gulf of Mexico (GoM), US light tight oil (LTO), and natural gas liquids (NGLs). US oil volumes are forecast to exit the year 170 kb/d higher than our previous *Report*, due primarily to NGLs (+125 kb/d). In October, the latest month for which official data is available, total oil supply jumped m-o-m by 820 kb/d to 17.3 mb/d with the majority of GoM volumes returning (+680 kb/d) after Hurricane Ida struck in late August and early September. Additional increases of 170 kb/d from NGLs were partially offset by reduced crude output in New Mexico and Texas.

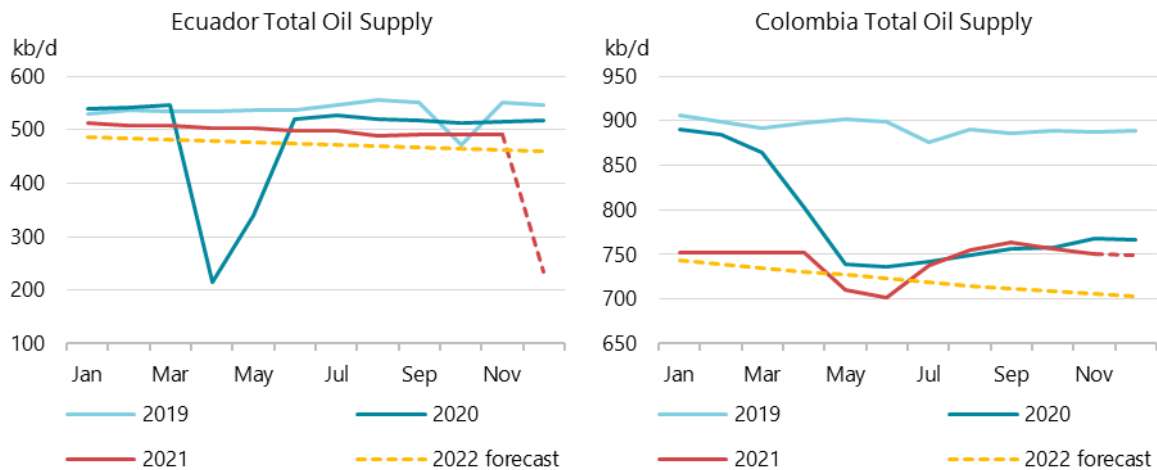
In November, **Canadian** supply edged up 20 kb/d m-o-m on higher bitumen production, according to data from the Alberta Energy Regulator. We estimate volumes increased in December for the third month by 70 kb/d to 5.9 mb/d, on continued growth from Alberta and the Atlantic offshore. This would represent a return to pre-Covid highs and is in line with our 2022 forecast, which sees supply 210 kb/d higher than 2021 and above pre-pandemic levels on an annual basis. Growth is driven by incremental expansions, optimization and debottlenecking projects.



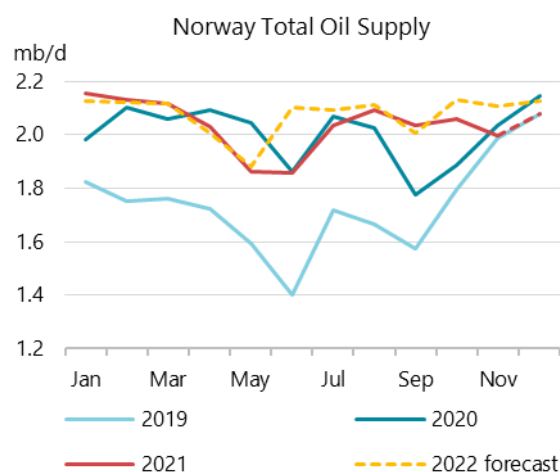
Brazilian supply stayed relatively flat at 3 mb/d in December (+50 kb/d m-o-m) according to provisional daily data from the Agencia Nacional do Petroleo (ANP). Brazil's 2022 full year production is now expected to increase y-o-y by 150 kb/d. These volumes would more than offset the decline of 30 kb/d seen in 2021. December's Transfer of Rights (TOR) area bid round generated close to \$2 billion in signing bonuses and significantly more interest than the previous

TOR round in 2019. It is estimated that the awarded blocks will allow for an increase in production of up to a 12% over the next six years.

Argentina beat our expectations in November and rose by 20 kb/d to 680 kb/d on strong LTO production. Last year saw fracking activity in the Vaca Muerta, Argentina's largest shale play, increase by 66% with state-owned YPF and Shell leading the way. We expect overall production to rise 40 kb/d y-o-y to average 680 kb/d this year from increases in the Neuquén basin offsetting other declines, leading to the strongest supply numbers since 2010.



Elsewhere in Latin America, production in **Ecuador** plunged 255 kb/d m-o-m due to flows in two pipelines being halted for most of the month on threats of erosion. They were both returned to service on 2 January according to data from Ecuadorian energy regulators. Supply is expected to remain flat this year at 470 kb/d after a 10 kb/d annual decline in 2021. Production in **Colombia** was largely unchanged in December at 750 kb/d. Output is expected to decline for the third straight year in 2022, averaging 720 kb/d. Colombia's December oil auction received bids on 30 of the 53 offered blocks with initial commitments close to \$150 million. Both the Colombian and Ecuadorian governments have stated they are seeking to boost upstream investment over the next five years.



North Sea production in December jumped by 80 kb/d m-o-m to 3.1 b/d thanks to gains from **Norway**. Norwegian supply looks set to exit 2021 at 2.1 mb/d, roughly on par with 2020's exit rate. Volumes are expected to rise this year by 40 kb/d, primarily driven by the Johan Sverdrup project. Aker BP announced an acquisition of Lundin Energy, creating the largest Norwegian pure play exploration and production company and only second to state-run Equinor in terms of volumes produced from Norway. This a positive sign and

may pave the way for continued future development in Norway's oil and gas sector, which has some of the lowest carbon-intensity barrels in the world.

Oil production in **Denmark** and the **UK** meanwhile was essentially flat m-o-m in December. In a move welcomed by regulators and trade organizations, the UK government proposed more checkpoints and possible tests to assess if new licenses ensure that future oil and gas developments support the UK's net-zero transition strategy.

Global **biofuel** supplies are expected to increase in 2022 by 250 kb/d, or 9%, to 3 mb/d. Gains are driven by the US (75 kb/d) and Brazil (40 kb/d). This comes on the heels of a 110 kb/d annual gain in 2021. The 2021/2022 forecast has been at risk due to adverse weather in Brazil. The ethanol season spans two calendar years due to harvesting geographies.

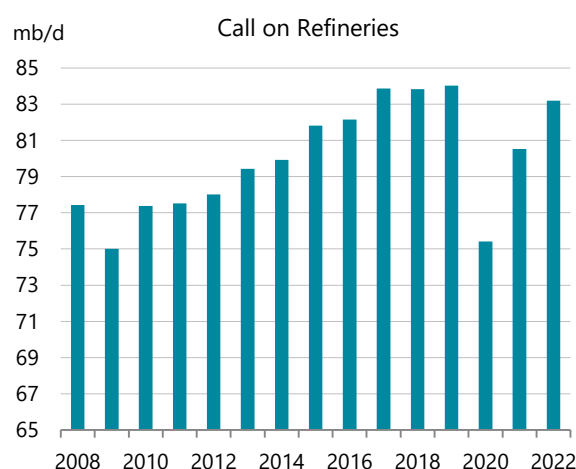
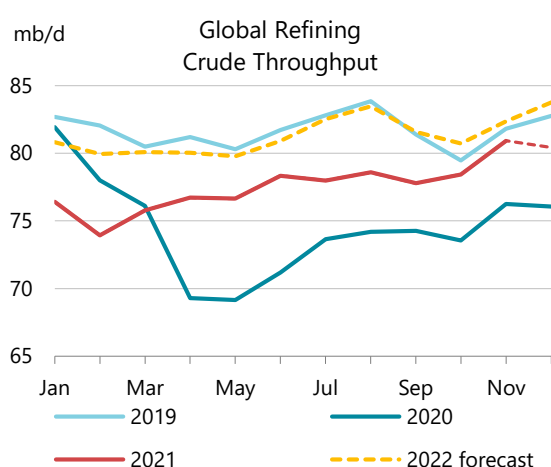
Chinese production held steady in December at around 4.1 mb/d and is projected to remain at that level for 2022. Supplies from the rest of the non-OPEC+ countries in Asia Pacific were also flat m-o-m in December. Elsewhere in **non-OPEC+ Asia Pacific**, supply drops in 2022 by 90 kb/d to 2.7 mb/d, driven by India (-20 kb/d), Indonesia (-30 kb/d), Thailand (-30 kb/d) and Vietnam (-20 kb/d), with 20 kb/d of growth in Australia partly offsetting the declines. India offered more details about its upcoming discovered small fields (DSF) bid round in what is expected to be the country's largest offering yet. It will include 75 tracts in a total of 32 contract areas. The previous two rounds of DSF offerings awarded over 50 blocks with \$1.76 billion in up-front commitments combined.

In Africa, **Ghanaian** supply rose 10 kb/d m-o-m to 170 kb/d in December and is expected to maintain those levels through 2022. **Egypt** completed a digital international bid round which generated interest from seven companies including Eni and BP, with deals to drill at least 33 wells. Additionally, Apache Corp and Egypt renegotiated and streamlined their production sharing contract (PSC) that anticipates Apache's gross oil output increasing by 10-15% this year and at an annual growth rate of 5-10% through 2025. These volumes are incorporated into this month's *Report* and partially arrest the decline expected y-o-y in Egypt to 10 kb/d for a total production of 560 kb/d for 2022.

Refining

Overview

The global refining industry ended 2021 on a high note, with both processing rates and margins improving amid continuously tight product markets in 4Q21. Latest data for November led to an upward revision of the global refinery intake by almost 1 mb/d to 80.8 mb/d, on stronger than expected activity in China, India and Europe. Runs are forecast to ease by 500 kb/d month-on-month (m-o-m) in December, due to weaker throughput in China.



Global Refinery Crude Throughput ¹														
	2019	2020	1Q21	2Q21	3Q21	Oct-21	Nov-21	Dec-21	4Q21	2021	Jan-22	Feb-22	1Q22	2022
Americas	19.1	16.5	16.5	18.1	18.2	17.6	18.1	18.4	18.0	17.7	18.1	17.8	18.0	18.7
Europe	12.2	10.7	10.2	10.7	11.4	11.4	11.7	11.4	11.5	10.9	11.6	11.4	11.4	11.4
Asia Oceania	6.8	5.9	5.8	5.5	5.8	5.8	5.9	6.0	5.9	5.7	5.9	5.9	5.7	5.7
Total OECD	38.0	33.1	32.5	34.2	35.4	34.7	35.7	35.8	35.4	34.4	35.6	35.1	35.2	35.8
FSU	6.8	6.4	6.6	6.6	6.7	6.7	7.0	7.0	6.9	6.7	7.0	6.9	7.0	6.9
Non-OECD Europe	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
China	13.0	13.4	14.1	14.3	13.7	13.7	14.4	13.8	14.0	14.0	14.1	14.0	14.1	14.3
Other Asia	10.3	9.2	9.5	9.4	9.2	9.7	10.2	10.1	10.0	9.5	10.3	10.3	10.3	10.2
Latin America	3.2	3.0	3.2	3.1	3.3	3.4	3.3	3.4	3.4	3.2	3.4	3.4	3.4	3.4
Middle East	7.8	6.9	7.3	7.3	7.5	7.9	7.8	8.0	7.9	7.5	7.9	7.6	7.7	8.1
Africa	2.0	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9
Total Non-OECD	43.6	41.3	42.8	42.9	42.6	43.6	45.1	44.5	44.4	43.2	45.1	44.8	45.0	45.4
Total	81.6	74.4	75.3	77.1	78.0	78.3	80.8	80.3	79.8	77.6	80.7	79.8	80.2	81.2
Year-on-year change	-0.6	-7.2	-3.3	7.3	4.1	4.9	4.7	4.4	4.6	3.2	4.4	6.0	4.9	3.7

¹ Preliminary and estimated runs based on capacity, known outages, economic runcuts and global demand forecast

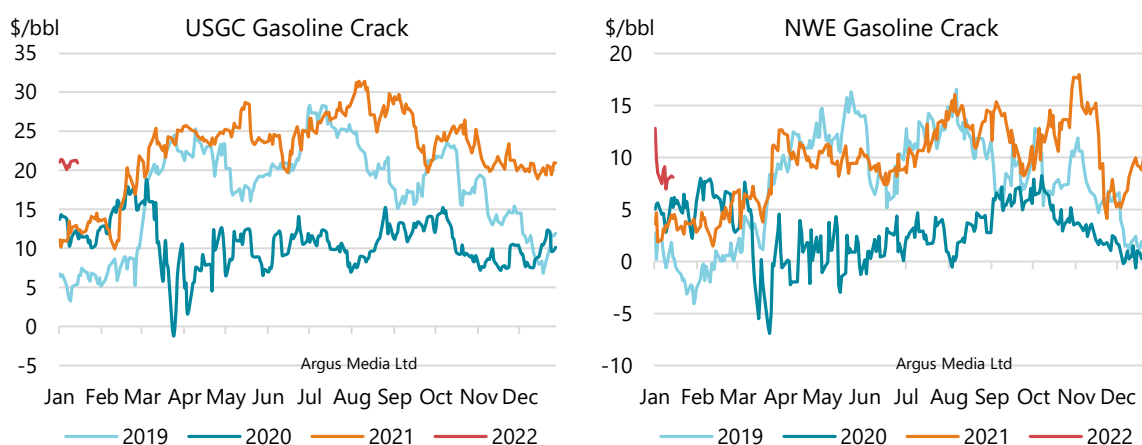
Despite the large 1.8 mb/d quarter-on-quarter (q-o-q) growth in global throughput, refined product balances implied a draw of 1.3 mb/d in 4Q21, as runs increased from a low base in 3Q21. Refinery intake could theoretically have been higher, if not for the unusual occurrence of a global capacity decline. In 2021, close to 1.6 mb/d of global refinery capacity was permanently shut or converted into bio-refineries, while only 850 kb/d of new capacity came online. The net decline

of 730 kb/d was the first one observed in the past 30 years. This was an important factor in the performance of refinery margins, which reached multi-year highs in Singapore and Europe at the end of 2021.

While headline oil demand is forecast to grow by 3.3 mb/d this year and surpass 2019 levels, demand for refined products (excluding products supplied from non-refinery sources) will increase by 2.7 mb/d and lag 2019 levels by 850 kb/d. At the same time, 2022 refinery runs are expected to rise by 3.7 mb/d y-o-y, with some 1.2 mb/d of new capacity coming online in 2022. Product markets may switch to a product stock build mode, possibly leading to an unwinding of some of the refinery margin gains from late last year.

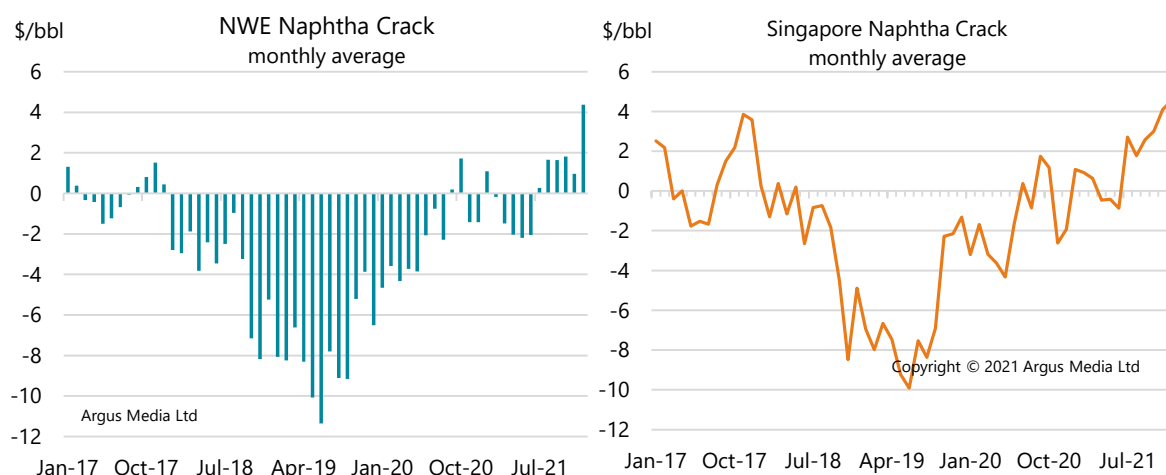
Product cracks and refinery margins

The estimated 500 kb/d m-o-m fall in refinery throughput in December contributed to stronger product cracks. Sharply lower crude prices, down \$7/bbl on average m-o-m, also led to higher product cracks. Both factors supported middle distillates and fuel oil, but light distillate were mostly driven by cyclical and structural dynamics.



For gasoline, seasonal factors dominated, pushing down US Gulf Coast and European cracks m-o-m. The \$1.05/bbl drop in USGC cracks was split equally into lower Renewable Identification Number (RINs) prices and the underlying petroleum gasoline margin. In Europe, gasoline cracks declined by a much larger \$3/bbl, but remained at record seasonal levels of \$9/bbl. In Singapore, gasoline cracks fell by just \$0.13/bbl to \$14.70/bbl, comparable with US cracks net of RVO costs.

Naphtha cracks continued thriving on strong demand, high LPG prices and constrained supply from refineries. Naphtha demand in 4Q21 is estimated to have risen 445 kb/d q-o-q to 7.2 mb/d, crossing the 7 mb/d mark on a quarterly basis for the first time. LPG/ethane demand was also at record levels in 4Q21, therefore, feedstock substitution for petrochemical crackers was no longer an option. With naphtha demand almost 900 kb/d higher compared to 4Q19, and refinery runs 1.4 mb/d lower, a tight balance will continue to support cracks until refinery runs are back to pre-pandemic levels or naphtha use gives way to cheaper propane during the warmer months of the year.

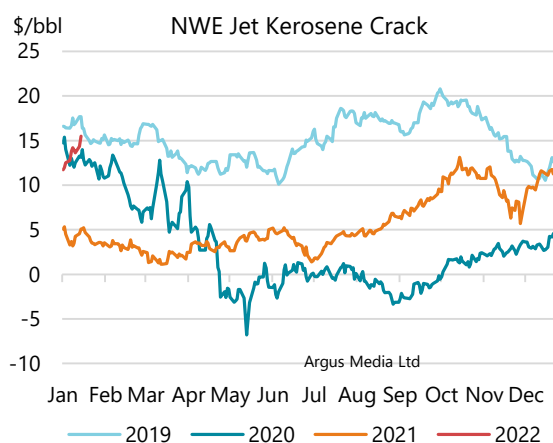
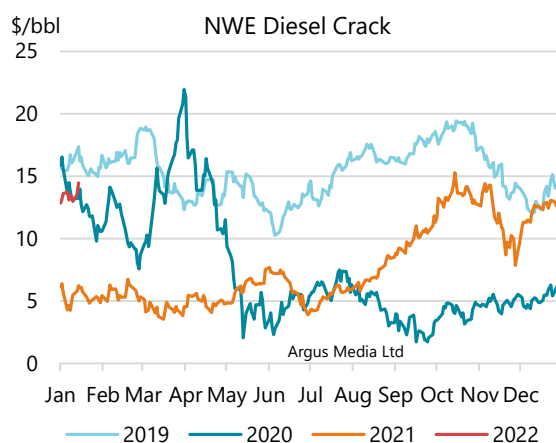


Spot Product Prices														
(monthly and weekly averages, \$/bbl)														
	Oct	Nov	Dec	Dec-Nov		Week Ending					Oct	Nov	Dec	Chg
				Chg	%	17 Dec	24 Dec	31 Dec	07 Jan	14 Jan				
Rotterdam, Barges FOB														
Gasoline EBOB oxy	95.92	93.21	82.88	-10.33	-11.1	83.23	82.78	89.01	89.78	93.12	12.38	11.84	8.87	-2.97
Naphtha	85.37	82.33	78.27	-4.05	-4.9	78.21	78.78	82.92	82.94	85.11	1.82	0.96	4.27	3.31
Jet/Kerosene	94.81	90.46	85.18	-5.28	-5.8	85.20	85.29	89.36	93.88	99.39	11.27	9.09	11.17	2.08
ULSD 10ppm	96.92	92.83	86.38	-6.45	-6.9	86.40	86.10	90.39	94.51	98.63	13.38	11.46	12.38	0.92
Gasoil 0.1%	95.22	90.67	84.69	-5.98	-6.6	84.80	84.47	88.85	93.10	97.25	11.68	9.30	10.68	1.38
VGO 2.0%	85.81	83.71	77.13	-6.59	-7.9	77.29	76.50	79.95	83.45	85.07	2.27	2.34	3.12	0.77
Fuel Oil 0.5%	90.22	86.70	82.84	-3.86	-4.5	82.22	81.94	87.28	88.47	94.05	6.68	5.33	8.83	3.50
LSFO 1%	82.72	78.61	74.57	-4.05	-5.1	75.49	74.04	76.90	79.38	81.46	-0.82	-2.76	0.56	3.32
HSFO 3.5%	74.26	67.40	64.43	-2.96	-4.4	64.58	64.90	68.53	70.65	72.57	-9.28	-13.97	-9.57	4.40
Mediterranean, FOB Cargoes														
Premium Unl 10 ppm	96.59	91.68	84.94	-6.74	-7.4	85.27	84.51	89.97	91.84	94.60	14.66	11.60	11.86	0.26
Naphtha	83.83	80.76	75.50	-5.26	-6.5	74.69	75.74	80.23	80.78	83.08	1.90	0.69	2.43	1.74
Jet Aviation fuel	93.58	89.29	83.07	-6.22	-7.0	82.39	82.98	87.40	92.39	97.96	11.64	9.21	10.00	0.79
ULSD 10ppm	96.44	91.96	85.03	-6.93	-7.5	84.74	84.56	89.07	93.65	97.61	14.51	11.88	11.96	0.08
Gasoil 0.1%	95.03	90.64	83.90	-6.74	-7.4	83.61	83.66	88.19	92.49	96.93	13.09	10.57	10.83	0.26
LSFO 1%	84.08	80.30	76.33	-3.97	-4.9	77.08	76.23	79.47	82.12	84.10	2.15	0.23	3.26	3.03
HSFO 3.5%	73.08	66.01	62.67	-3.34	-5.1	62.53	63.28	66.95	69.08	70.96	-8.86	-14.07	-10.40	3.67
US Gulf, FOB Pipeline														
Super Unleaded	106.50	101.25	93.14	-8.11	-8.0	92.11	93.64	98.40	100.19	104.00	24.40	21.33	20.28	-1.05
Jet/Kerosene	96.22	92.43	87.63	-4.80	-5.2	87.25	88.14	92.46	95.73	101.99	14.12	12.51	14.77	2.26
ULSD 10ppm	103.07	97.70	91.78	-5.92	-6.1	91.03	92.88	96.92	100.03	105.82	20.96	17.78	18.92	1.14
Heating Oil	92.43	86.21	79.14	-7.07	-8.2	78.61	80.03	84.36	87.76	93.77	10.33	6.29	6.29	0.00
No. 6 3%*	72.89	66.25	63.04	-3.21	-4.8	62.96	64.36	67.95	70.10	73.32	-9.22	-13.67	-9.81	3.85
Singapore, FOB Cargoes														
Premium Unleaded	98.48	95.01	87.92	-7.09	-7.5	88.87	87.72	92.53	93.51	95.77	17.03	14.80	14.67	-0.13
Naphtha	84.45	84.21	77.82	-6.39	-7.6	78.70	76.76	81.79	80.86	83.21	2.99	4.00	4.57	0.57
Jet/Kerosene	93.09	89.09	83.47	-5.62	-6.3	84.64	82.68	87.18	88.63	94.47	11.64	8.88	10.22	1.34
Gasoil 0.001%	95.49	91.49	85.86	-5.63	-6.2	86.66	85.01	90.69	92.53	97.21	14.04	11.28	12.61	1.33
Fuel Oil 0.5%	91.94	92.51	89.50	-3.01	-3.3	89.25	88.16	94.28	92.88	98.74	10.48	12.30	16.25	3.95
HSFO 180 CST	77.52	71.15	65.86	-5.28	-7.4	66.07	65.42	70.26	71.13	73.53	-3.93	-9.07	-7.39	1.68
HSFO 380 CST 4%	76.02	69.87	64.79	-5.08	-7.3	65.07	64.50	69.25	69.13	71.93	-5.43	-10.34	-8.46	1.88

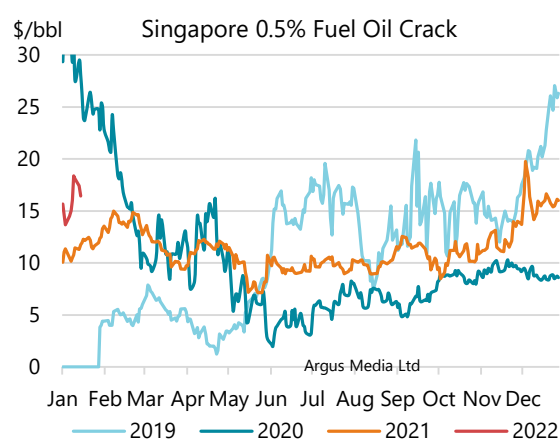
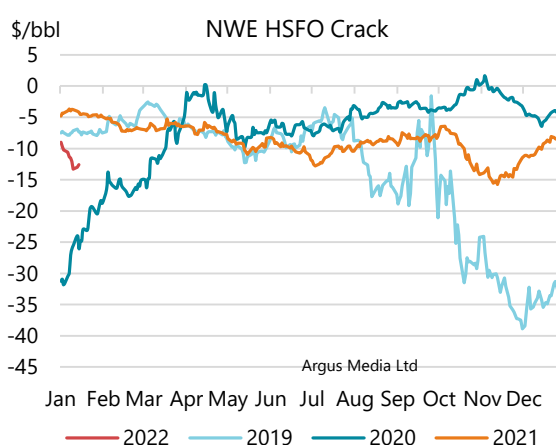
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*Waterborne

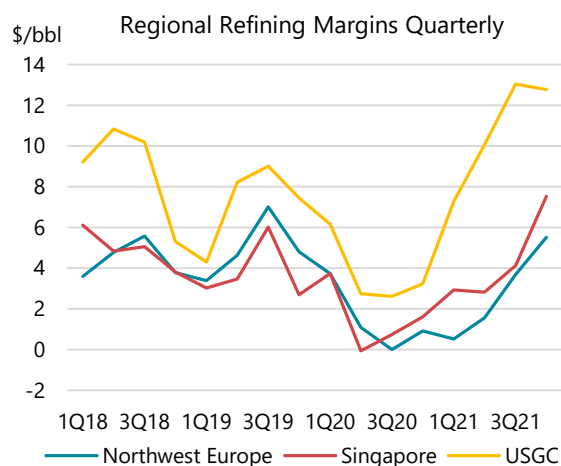
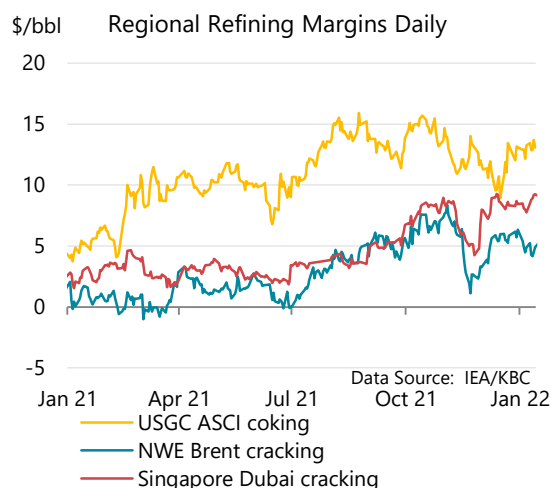
In Europe and the US, jet fuel cracks increased by around \$2/bbl, roughly twice the gains for diesel that only averaged \$1/bbl. In Singapore, cracks for both fuels rose by \$1.33/bbl. These small gains, when compared to larger falls in crude prices, show a relatively less constrained supply-demand balance for middle distillates in December, when the initial spread of Omicron reintroduced travel restrictions. From a product supply perspective, the 2 mb/d increase in 4Q21 refinery runs would have helped largely cover incremental middle distillates demand of about 1.1 mb/d.



Higher fuel oil cracks were also mostly a reaction to lower crude prices and higher demand for both bunkers for scrubber-fitted vessels and for power generation. High sulphur fuel oil cracks in Europe rose \$4.50/bbl and \$2/bbl in Singapore. Cracks for 0.5% sulphur marine fuel oil gained \$4/bbl to \$16.20/bbl, the highest product crack level in Singapore.



Refinery margin trends diverged, with gasoline-exposed US margins falling m-o-m, while distillates-oriented European and Singapore margins rose. Simple margins, dominated by straight-run naphtha and fuel oil, registered the largest increases. In Singapore, complex margins hit their highest level since 2016. Average refinery margins in 4Q21 reached multi-year highs in Singapore and Europe, but fell in the US due to seasonally lower gasoline cracks.



IEA/KBC Global Indicator Refining Margins¹
(\$/bbl)

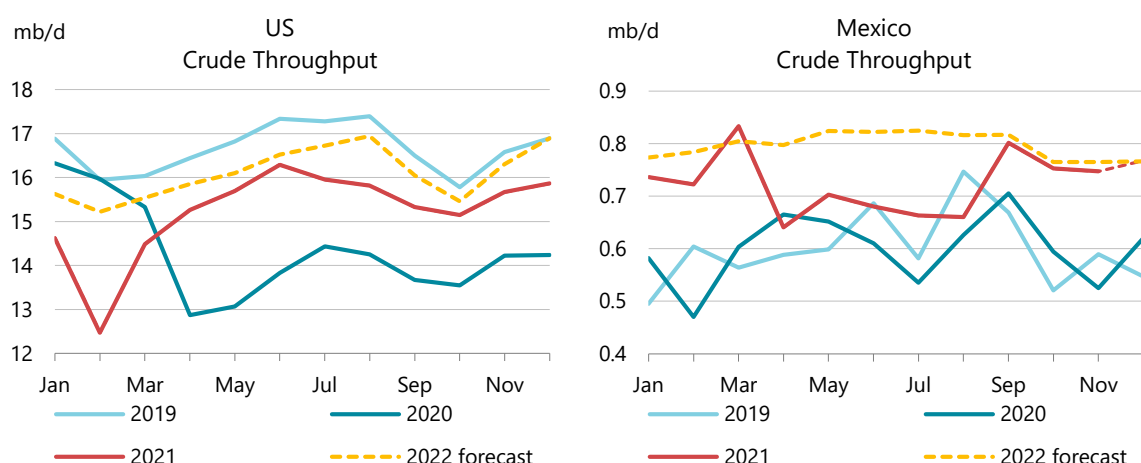
	Monthly Average				Change	Average for week ending:					
	Sep 21	Oct 21	Nov 21	Dec 21	Dec-Nov	17 Dec	24 Dec	31 Dec	07 Jan	14 Jan	
NW Europe											
Brent (Cracking)	5.11	6.44	5.01	5.11	↑ 0.09	5.66	5.61	6.08	4.92	4.61	
Urals (Cracking)	5.84	7.23	4.67	5.14	↑ 0.47	5.47	5.99	6.68	5.42	4.37	
Brent (Hydroskimming)	2.60	3.22	1.64	2.89	↑ 1.25	3.58	3.29	3.15	2.09	1.37	
Urals (Hydroskimming)	1.23	1.97	-1.42	0.53	↑ 1.95	0.82	1.54	1.80	0.57	-0.90	
Mediterranean											
Es Sider (Cracking)	6.65	7.43	4.84	6.52	↑ 1.67	6.89	6.79	7.02	6.57	5.91	
Urals (Cracking)	5.38	6.71	3.91	5.31	↑ 1.40	5.72	6.18	6.29	5.74	4.89	
Es Sider (Hydroskimming)	4.88	4.92	2.44	4.58	↑ 2.14	5.08	4.87	4.85	4.19	3.10	
Urals (Hydroskimming)	0.76	1.09	-2.41	-0.31	↑ 2.10	0.02	0.76	0.68	-0.25	-1.62	
US Gulf Coast											
Mars (Cracking)	8.10	9.51	6.63	6.04	↓ -0.60	4.73	6.90	7.86	7.81	7.85	
50/50 HLS/LLS (Coking)	16.25	17.48	14.87	14.18	↓ -0.68	12.81	14.92	15.35	15.09	15.65	
50/50 Maya/Mars (Coking)	11.22	12.12	9.73	10.70	↑ 0.96	9.81	11.35	11.95	11.50	11.91	
ASCI (Coking)	12.91	14.64	12.46	11.21	↓ -1.25	9.84	11.80	12.59	12.81	13.19	
US Midwest											
30/70 WCS/Bakken (Cracking)	14.03	13.06	10.59	10.65	↑ 0.06	10.24	9.88	10.14	8.87	7.60	
Bakken (Cracking)	16.55	14.78	10.98	11.45	↑ 0.47	10.70	10.67	11.19	10.42	8.55	
WTI (Coking)	17.29	15.58	11.14	11.87	↑ 0.73	11.15	11.26	11.67	11.94	10.81	
30/70 WCS/Bakken (Coking)	17.12	16.08	13.84	13.59	↓ -0.25	12.91	12.30	12.66	11.29	9.98	
Singapore											
Dubai (Hydroskimming)	0.03	0.30	-2.74	-1.12	↑ 1.61	-0.49	-0.83	-1.00	-1.49	-1.29	
Tapis (Hydroskimming)	2.25	3.50	2.40	3.45	↑ 1.05	4.52	3.58	4.64	1.64	1.72	
Dubai (Hydrocracking)	5.18	7.78	6.58	8.24	↑ 1.66	8.93	8.30	8.47	8.08	8.93	
Tapis (Hydrocracking)	2.22	4.70	2.91	3.23	↑ 0.32	4.52	3.53	4.29	1.80	1.34	

¹ Global Indicator Refining Margins are calculated for various complexity configurations, each optimised for processing the specific crude(s) in a specific refining centre. Margins include energy cost, but exclude other variable costs, depreciation and amortisation. Consequently, reported margins should be taken as an indication, or proxy, of changes in profitability for a given refining centre. No attempt is made to model or otherwise comment upon the relative economics of specific refineries running individual crude slates and producing custom product sales, nor are these calculations intended to infer the marginal values of crude for pricing purposes.

Source: IEA, KBC Advanced Technologies (KBC)

Regional refining developments

US refinery throughput rose 200 kb/d in December, to 15.8 mb/d, slightly less than expected. Shell's Norco refinery restarted in the second half of the month, but Exxon's 550 kb/d Baytown refinery suffered a serious fire in late December and has been operating at reduced rates since. Seasonal maintenance will cut runs in 1Q22. We have not made provisions for a potential repeat of the 2021 Arctic freeze this year. In February 2021, US runs fell 2.2 mb/d m-o-m to 12.4 mb/d, even lower than in April 2020, with winter storm Uri paralysing Midwest and Gulf Coast refining systems.

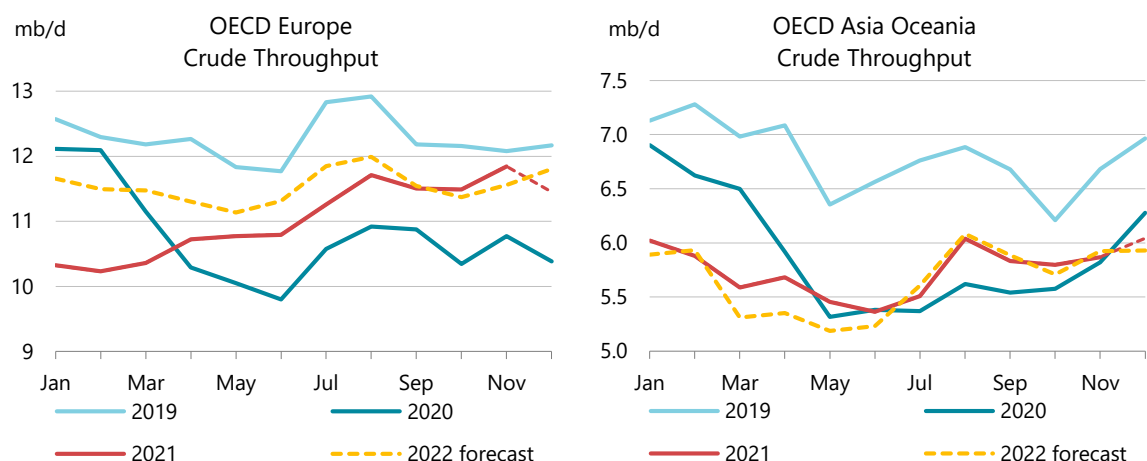


Mexican throughput fell slightly m-o-m in November to below 740 kb/d. Pemex announced that it will stop exporting its heavy Maya crude in 2023, redirecting the volumes to its refining system, which also includes the 275 kb/d Deer Park refinery in Houston, purchased from Shell last year.

The 200 kb/d Limetree Bay refinery in the **US Virgin Islands** was sold at auction as part of a bankruptcy procedure. The former Hovensa refinery was shut down in 2012 but was restarted at one-third of its capacity at end-2020 and operated for just six months before being closed again on the order of the US Environmental Protection Agency (EPA). The winning bid came from a bunkering company that intends to double the operating capacity. We have not assumed a restart of the refinery this year, given the amount of work that needs to be completed to meet the conditions set by the EPA.

Finalised data for **European** throughput in October showed rare upward revisions, with intake 260 kb/d higher. November preliminary data were also stronger than our forecast, with regional runs up 360 kb/d m-o-m. Based on indications for December for a smaller group of countries, regional runs likely fell m-o-m. Personnel at TotalEnergies refineries in France resorted to strikes in mid-January, but we do not expect a material impact on processing rates.

In contrast to Europe, OECD Asia data for October and November came in lower than preliminary numbers. In **Japan**, October throughput fell 120 kb/d m-o-m to 2.5 mb/d, instead of a previously estimated increase, and November runs were only back to September levels. Nevertheless, weekly data for December support an estimate of a 260 kb/d increase m-o-m. **Korean** throughput in November was at 2.7 mb/d, unchanged from October.



Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Change from		Utilisation rate	
							Oct 21	Nov 20	Nov 21	Nov 20
US ¹	16.19	15.85	15.72	15.23	15.05	15.57	0.52	1.45	87%	77%
Canada	1.71	1.71	1.73	1.75	1.59	1.70	0.11	0.02	85%	84%
Chile	0.18	0.17	0.21	0.20	0.18	0.14	-0.05	-0.03	61%	84%
Mexico	0.67	0.65	0.65	0.79	0.74	0.74	-0.01	0.22	45%	74%
OECD Americas¹	18.75	18.39	18.31	17.97	17.56	18.15	0.59	1.59	83%	74%
France	0.72	0.79	0.82	0.75	0.72	0.79	0.07	0.04	69%	60%
Germany	1.58	1.71	1.81	1.73	1.90	1.80	-0.10	0.12	89%	83%
Italy	1.31	1.21	1.26	1.33	1.38	1.39	0.00	0.28	86%	63%
Netherlands	0.98	0.99	1.01	1.04	1.13	1.11	-0.01	0.04	92%	89%
Spain	1.04	1.17	1.24	1.22	1.12	1.21	0.08	0.09	85%	79%
United Kingdom	0.96	1.01	1.03	0.94	0.91	1.04	0.13	0.17	87%	72%
Other OECD Europe ²	4.10	4.28	4.44	4.39	4.23	4.41	0.18	0.32	87%	80%
OECD Europe	10.69	11.16	11.61	11.41	11.39	11.75	0.36	1.07	86%	76%
Japan	2.12	2.25	2.67	2.62	2.50	2.61	0.11	0.13	76%	72%
South Korea	2.56	2.63	2.76	2.65	2.72	2.71	-0.01	0.15	77%	73%
Other Asia Oceania ³	0.67	0.62	0.61	0.56	0.56	0.53	-0.03	-0.24	82%	88%
OECD Asia Oceania	5.35	5.50	6.03	5.82	5.79	5.86	0.07	0.05	77%	74%
OECD Total	34.80	35.04	35.96	35.20	34.74	35.75	1.01	2.71	83%	75%

¹ US includes US50, OECD Americas include Chile and US territories

² Includes Lithuania

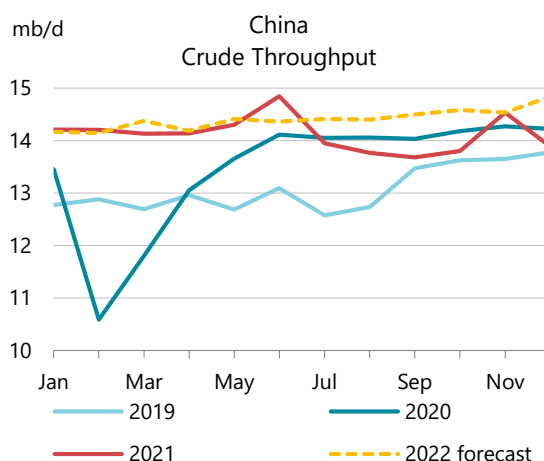
³ Includes Israel

Chinese reported refinery intake in November surged well past the expected 14 mb/d mark. Official data show throughput up 730 kb/d m-o-m to 14.4 mb/d, the second-highest level ever reported. The y-o-y declines that started in July finally reversed, to a gain of 260 kb/d. In December, official numbers showed a steep 650 kb/d m-o-m fall in runs to 13.8 mb/d, down 340 kb/d y-o-y. For 2021 as a whole, refinery intake rose 625 kb/d y-o-y.

Half of China's monthly increase in November came from the Zhejiang province, home to the largest independent petrochemical refinery, Rongsheng's 800 kb/d site. The province's crude throughput reached a record high of 1.3 mb/d in November (data by province for December will be reported at end-January). With the rest of the gains coming mostly from Hebei, Shandong and Liaoning provinces, the independent refining sector was clearly behind the large increase in activity, despite state-owned majors officially announcing higher throughputs to increase domestic product supply. Chinese independents effectively act as the swing refiners, and the

government has several tools to set the direction, from crude imports quotas to fiscal and administrative controls.

In November, despite crude imports rebounding by 1.3 mb/d m-o-m, the implied balance still indicated a 700 kb/d draw. The December balance, with lower crude runs and higher imports, implied builds of a similar size. Nevertheless, crude oil imports fell overall in 2021 by 540 kb/d y-o-y, and the implied balance for the year shows an average draw of 45 kb/d, the first annual decline of stocks observed in official statistics. The first batch of crude import quotas for 2022 sets the stage for tighter feedstock supply to independent refiners. It was 10% below the first round of allocations in 2021, equivalent to a 200 kb/d annual reduction. Quotas were issued to 36 refiners, down from 44 last year. Three refineries that shutdown their processing capacity in exchange for a stake in the proposed 400 kb/d Yulong refinery, and five refineries implicated in government investigations in 2021, were not awarded any quotas.



Product export quotas, which, in contrast to crude import allocations, are issued to mainly state-owned refiners, were reduced in size by a substantial 55% versus the first batch issued in 2021. In annualised terms, this is a reduction of about 400 kb/d, mostly concerning transport fuels (diesel, kerosene and gasoline). A relatively small volumetric increase (of about 30 kb/d in annualised terms) of VLSFO exports indicate China intends to grow its bunkering operations in the country's main export ports (deliveries of international marine bunkers count as exports)

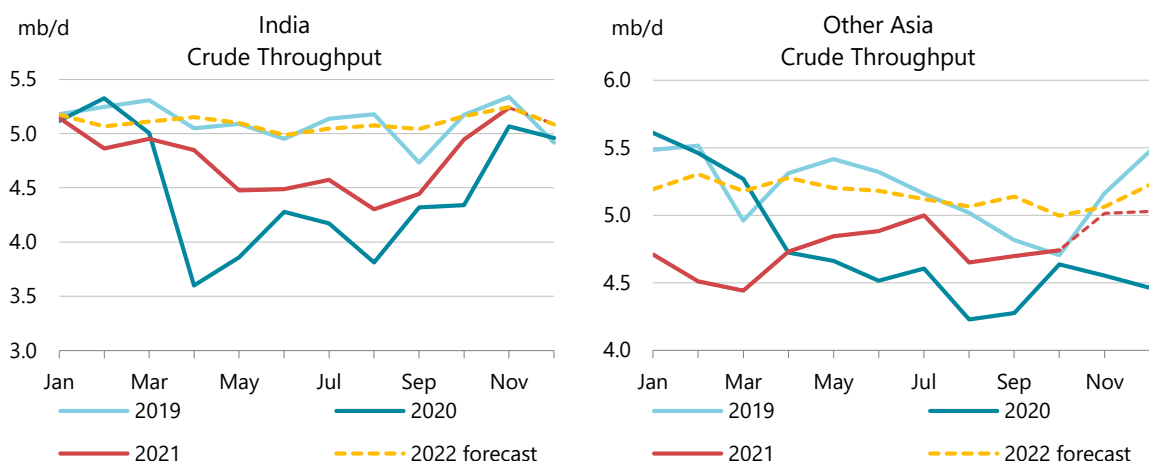
With the headwinds from lower crude imports and tighter product export quotas, Chinese refining activity growth should decelerate from the heady growth of 630 kb/d on average in recent years, to just under 300 kb/d in 2022.

Lower Chinese throughput growth and a reduction in transport fuels exports, if combined with a steady demand recovery, will provide a boost to Asian refiners that have been exposed to intense competition from China for several years. Over the last two years, almost 900 kb/d of refining capacity in Asia, excluding China has been either shut or programmed to permanently close before end-2022.

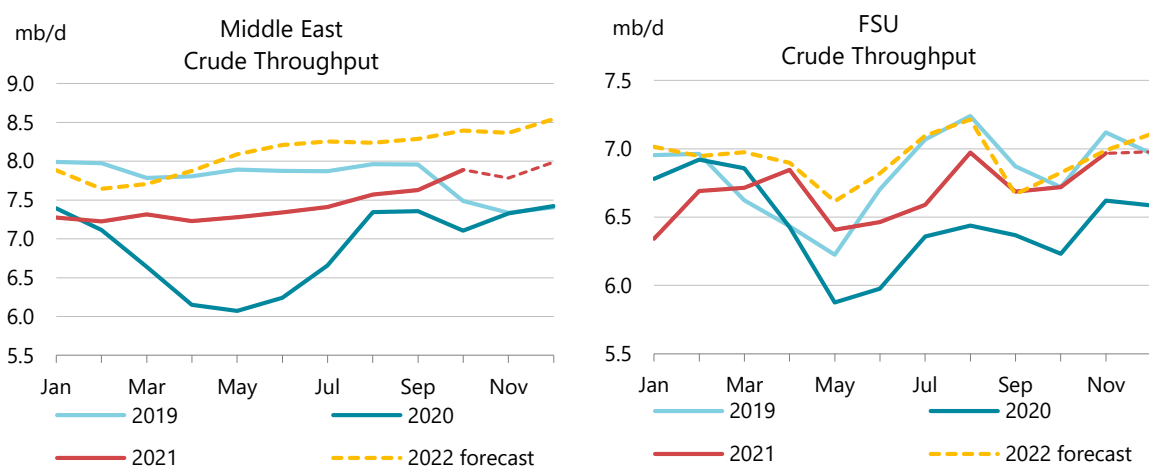
India, which has a structural excess of refining capacity, has perhaps already started seeing the benefits of the more subdued Chinese competition. November runs surged by another 300 kb/d to 5.2 mb/d, up almost 1 mb/d from this year's low point in August. Overall, in 2021, Indian refining activity increased more than demand. Refinery throughputs recovered almost half of the 620 kb/d loss in 2020, but demand for refined products recovered only by one third. In 2022, demand is expected to slightly surpass the pre-pandemic peak of 2019, with refinery runs also back to 2019 levels.

The recovery in the rest of developing Asia is slower. After a 900 kb/d decline in 2020, demand for refined products increased by 360 kb/d in 2021, and is forecast to gain another 480 kb/d in 2022. But it will remain below the peak registered in 2018. This group of countries combined is about 2 mb/d short of refined products, but its refinery capacity utilisation suffers from relatively

inefficient operations, logistics costs, quality mismatch, among other factors. Nevertheless, with less competition in the regional markets, throughputs could recover almost fully to 2019 levels if Malaysia's RAPID refinery manages to restart this year. The latest data indicate that a fall of refining activity last year in **Indonesia** and **Malaysia** was more than offset by increases in **Singapore, Thailand and Vietnam**.

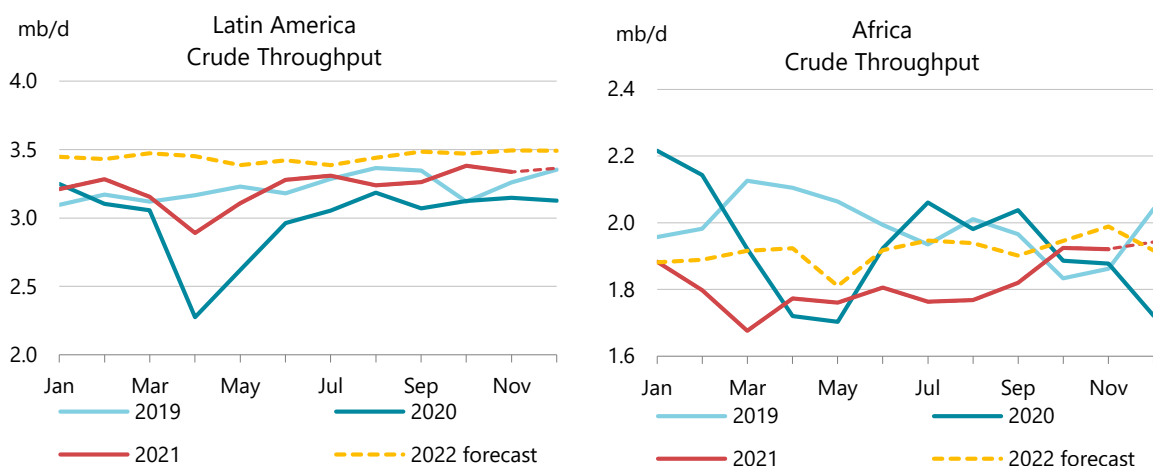


Middle East throughput data for October were generally stronger than expectations. **Saudi** runs climbed 120 kb/d m-o-m to 2.6 mb/d, its highest since February 2019. **Iraqi** throughput rose 80 kb/d m-o-m to 550 kb/d, but remained well below the 700 kb/d target set earlier for 2021. Despite this, there has been a flurry of announcements regarding new downstream projects in the country, both for greenfield sites and repairs and expansions at existing units. In **Iran**, the head of the refining segment of the National Iranian Oil Company said the country's crude and condensate runs reached almost 2.2 mb/d last year, which would imply close to 100% utilisation rates. It is not clear if this was an average figure for the period, or the highest rate observed over that period. Iran last reported data in 2018, showing 92% average utilisation rates. **UAE's** Abu Dhabi National Oil Company announced that it permanently shut the 85 kb/d Umm al-Nar refinery last December. The potential closure was first mentioned in 2019 but timing was not known.



Russia reported December runs flat from November's 5.8 mb/d. In 2021, runs rose 240 kb/d y-o-y, recovering most of the 320 kb/d fall in 2020. **Kazakhstan** refinery throughputs rebounded 70 kb/d

m-o-m in November as the Pavlodar refinery came back from maintenance. The protests in January also affected the three cities hosting the country's major refineries, but no damage or operational issues have been reported so far. LPG price increases were widely acknowledged as the formal cause for the protests. In 2021, Kazakh crude throughput reached record high levels, but product deliveries to the domestic market were periodically strained, possibly due to smuggling to neighbouring countries where prices are higher. Refiners supply little LPG, with most of it coming from natural gas fractionation. The production of natural gas liquids is predominantly in the west of the country, from where it is easier to export the liquids in raw or fractionated form than to deliver to the more densely populated eastern part of the country.

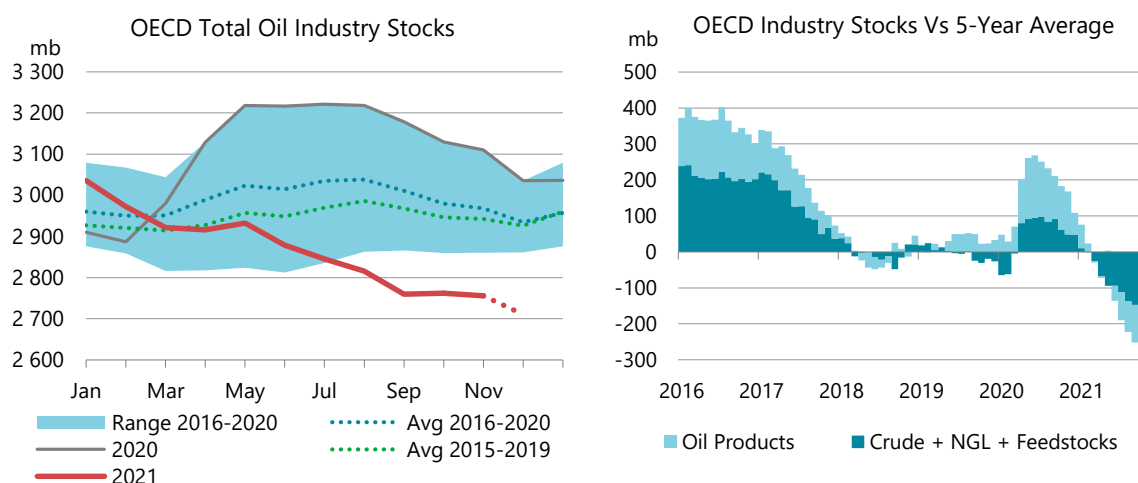


In Latin America, November throughput was estimated lower m-o-m due to a fall in **Brazilian** intake. Estimates for **Venezuelan** runs for January onwards have been revised up by 30-40 kb/d to reflect higher reported product output. In Africa, we have pushed back the start-up of the Lekki refinery in **Nigeria** to 2023 from 4Q22.

Stocks

Overview

OECD industry stocks declined to seven-year lows in November, down 6.1 mb month-on-month (m-o-m) and a steep 354 mb year-on-year (y-o-y) to 2 756 mb. Rising crude and gasoline stocks were partly offset by hefty seasonal declines in other products across the regions. OECD industry stocks were last reported at comparable levels in 1Q15. Industry stocks in November covered 60.9 days of forward demand, 1.3 days lower than the latest five-year average. Preliminary data for December show OECD stocks plunged by a further 45.2 mb. While December typically has the highest monthly stock draws, the latest decline was 35% more than normal.



In November, OECD crude stocks jumped by 12 mb, well above the average of 1.1 mb, to close the month at 1 050 mb. OECD Europe led the way with a counter-seasonal 16.7 mb increase. By contrast, crude stocks in the Americas fell counter-seasonally by 1.6 mb m-o-m. In addition, Asia Pacific crude volumes drew 3 mb, largely in line with historical trends.

Product inventories in the OECD drew by a large 17.8 mb (593 kb/d) in November, more than double the normal draw of 8.8 mb. Product stocks were down across all OECD regions. European stocks dropped by 7.2 mb, Asia Pacific was down by 6.4 mb, while the Americas declined by 4.2 mb. Total gasoline stocks grew by 3 mb, much less than the usual build of 9 mb. Middle distillates and other refined products fell cyclically by 8.6 mb and 8.9 mb, respectively. Notably, fuel oil drew by 3.4 mb, when they typically build 9 mb. Days of forward demand fell 0.3 days in November to 31.1 days.

Preliminary data for December show total OECD inventories plunged by a further 45.2 mb. US stocks declined by a large 29.8 mb. In addition, Europe and Japan both posted further draws, down by 10.5 mb and 4.9 mb, respectively. US crude and NGL inventories fell by a large 22.2 mb, while product stocks decreased by 7.6 mb. Europe showed a similar trend, with crude inventories down 3.8 mb m-o-m and product stocks 6.7 mb lower. Oil stocks in Japan eased by 4.9 mb, compared with a more normal decline of 13.1 mb. Crude, including NGLs, fell by 3.8 mb, while product stocks declined by 1.1 mb.

Preliminary Industry Stock Change in November 2021 and Fourth Quarter 2021												
November 2021 (preliminary)					Fourth Quarter 2021							
(million barrels)				(million barrels per day)				(million barrels per day)				
	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total
Crude Oil	-1.6	16.7	-3.0	12.0	-0.1	0.6	-0.1	0.4	-0.3	-0.5	-0.2	-1.0
Gasoline	4.6	-0.4	-1.1	3.0	0.2	0.0	0.0	0.1	-0.1	-0.1	0.0	-0.2
Middle Distillates	-2.5	-5.2	-0.9	-8.6	-0.1	-0.2	0.0	-0.3	-0.1	-0.3	0.1	-0.3
Residual Fuel Oil	-2.2	-0.5	-0.7	-3.4	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Other Products	-4.1	-1.0	-3.7	-8.9	-0.1	0.0	-0.1	-0.3	0.3	0.0	0.1	0.4
Total Products	-4.2	-7.2	-6.4	-17.8	-0.1	-0.2	-0.2	-0.6	0.0	-0.4	0.2	-0.2
Other Oils ¹	-2.4	1.6	0.4	-0.3	-0.1	0.1	0.0	0.0	0.0	-0.1	0.0	-0.1
Total Oil	-8.2	11.1	-9.0	-6.1	-0.3	0.4	-0.3	-0.2	-0.3	-0.9	0.0	-1.3

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD stock data for the month of October were revised up by 24.7 mb on the receipt of more complete data. The largest adjustment was for Japan, adding 9.5 mb to the crude stock total. Crude volumes in the Americas were also revised higher, by 8.1 mb. Conversely, crude stocks in the OECD Europe were lowered by 8.3 mb. Changes to product stock data were made across all regions, totalling 17.4 mb. Product inventories were revised higher by 9.6 mb in Europe, 7.6 mb in the Americas, but just 0.3 mb in Asia Oceania.

Revisions versus December 2021 Oil Market Report								
(million barrels)								
	Americas		Europe		Asia Oceania		OECD	
	Sep-21	Oct-21	Sep-21	Oct-21	Sep-21	Oct-21	Sep-21	Oct-21
Crude Oil	-3.0	8.1	0.0	-8.3	0.0	9.5	-2.9	9.3
Gasoline	0.0	1.8	3.3	6.1	0.2	-0.6	3.5	7.4
Middle Distillates	0.0	4.7	1.9	2.5	0.1	1.0	2.0	8.2
Residual Fuel Oil	0.0	-0.3	-1.0	-1.5	0.0	-0.3	-1.0	-2.1
Other Products	0.0	1.4	0.1	2.4	0.0	0.1	0.1	3.9
Total Products	0.0	7.6	4.4	9.6	0.3	0.3	4.7	17.4
Other Oils ¹	0.0	-2.3	-0.8	0.3	0.0	-0.1	-0.8	-2.0
Total Oil	-3.0	13.4	3.6	1.5	0.3	9.8	0.9	24.7

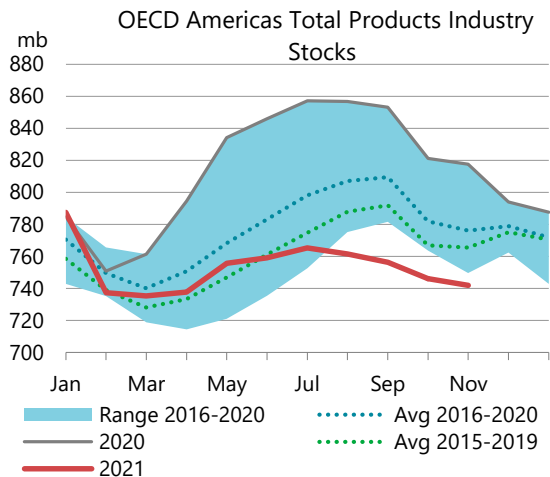
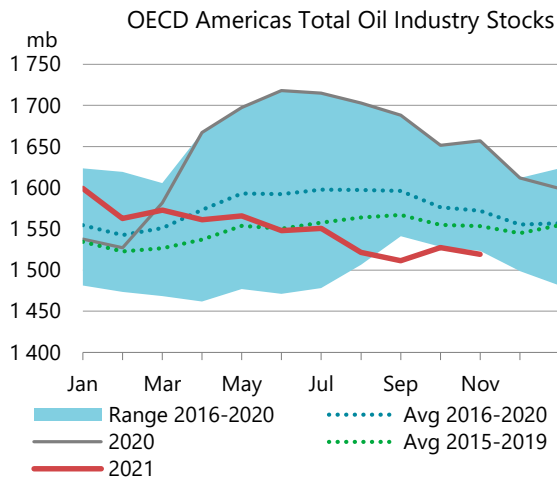
¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Recent OECD industry stock changes

OECD Americas

Industry stocks in the OECD Americas fell by 8.2 mb in November, double the normal seasonal draw. Inventories were pegged at 1 519 mb, 138 mb less than the prior year. Crude stocks declined by 1.6 mb, versus the typical 5.2 mb build. Crude inventories were drawn down as US refinery runs increased (+524 kb/d m-o-m) and crude exports rose (+181 kb/d m-o-m).

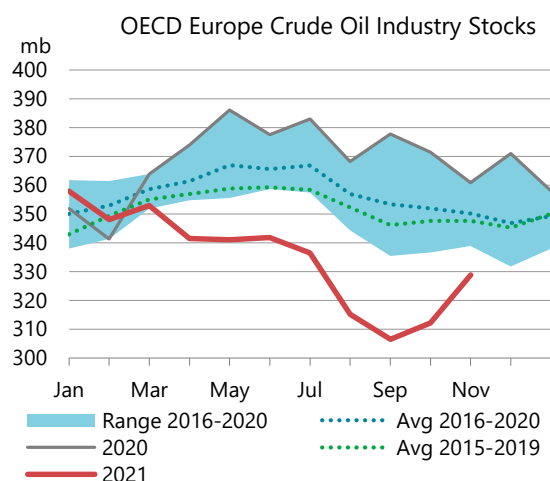
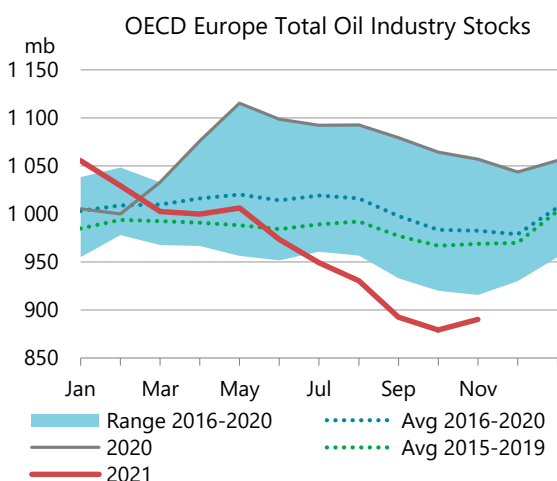
Regional product inventories drew 4.2 mb, just shy of the annual average (5.8 mb). Gasoline stocks rose 4.6 mb, in line with the typical seasonal build. However, gains were offset by declines in middle distillates (-2.5 mb) and fuel oil (-2.2 mb), both falling counter-seasonally. In addition, other refined products, including LPG and ethane, fell by only 4.1 mb, a third of the normal drop of 15.3 mb.



Weekly data from the US Energy Information Administration (EIA) show stocks plunging by another 29.8 mb in December. Crude inventories, including NGLs, drew 22.2 mb, while total product stocks declined by 7.6 mb. US gasoline stocks surged by 15.1 mb, still in line with the seasonal trend. However, any gains in gasoline stocks were offset by a sharp decline in other refined products (-21.3 mb).

OECD Europe

Industry stocks in OECD Europe soared by 11.1 mb in November, in contrast to the normal seasonal decline of 1.1 mb. Stock builds were driven by crude inventories that rose 16.7 mb, to 328.8 mb (versus a typical decline of 1.8 mb) and by increases in NGLs of 1.6 mb (versus a normal 0.1 mb draw). The increase was led by the Netherlands adding 11.6 mb, significantly more than their typical 1.1 mb build. In addition, stocks in Italy and Germany rose by 4.4 mb and 2.8 mb, respectively, partly offset by declines in the UK (-1.5 mb) and France (-0.6 mb).

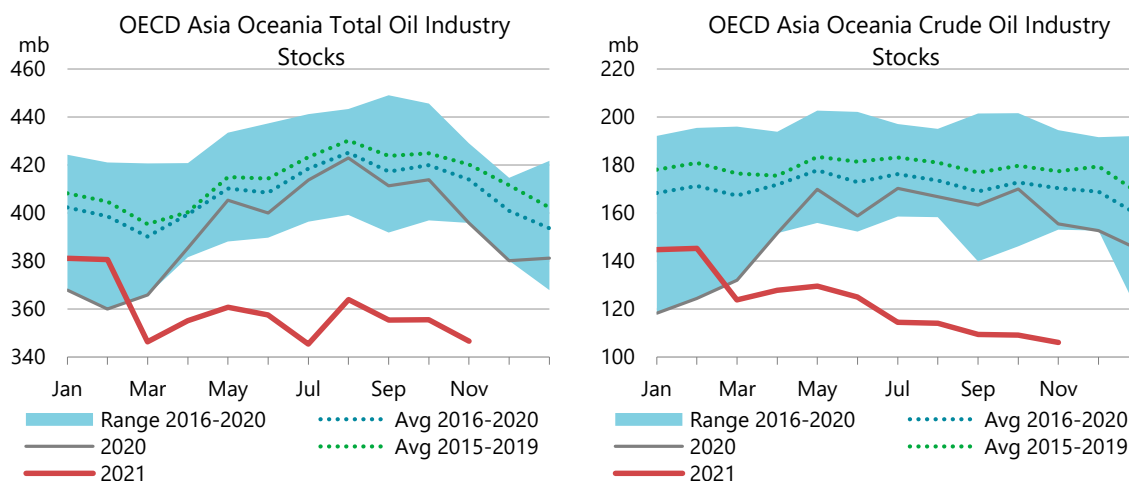


Product stocks fell counter-seasonally by 7.2 mb (versus +typical 0.5 mb normally). Product inventories in November dipped to a record low of 487 mb. Regional trends across the countries show 72% of product draws in November were in middle distillates (-5.2 mb). Declines were led by Portugal (-3.5 mb), Sweden (-2.4 mb), Belgium (-1.6 mb), Italy (-1.3 mb) and Finland (-1.2 mb), offset by increases from Poland (+1.4 mb), Greece (+1.4 mb), and France (+1.1 mb).

Preliminary data for Europe from *Euroilstock* shows overall inventories in December drew by 10.5 mb, with crude down 3.8 mb and products 6.7 mb lower. Crude stocks in France and Portugal each fell by 3.3 mb, while German stocks decreased by 1.8 mb. This was offset by a 3.3 mb build of crude volumes in Italy, (likely a result of the Livorno Refinery explosion). The remaining countries partially offset the draw by adding 1.3 mb. Product stocks fell 6.7 mb, with decreases in middle distillates amounting to 5 mb. Additionally, gasoline stocks fell by 1.1 mb and naphtha down 1.1 mb. Fuel oil stocks held largely steady.

OECD Asia Oceania

OECD Pacific Asia industry stocks declined by 9 mb in November, slightly more than the usual draw of 6 mb. Among the three OECD regions, the Asia Pacific has the lowest industry stock levels relative to historical levels. Crude stocks fell by 3 mb, compared with the normal 2.3 mb decline. Crude stocks stood at 106 mb, a steep 64.3 mb below the 2016-2020 average. Regional crude stocks were at their lowest levels since 2003.



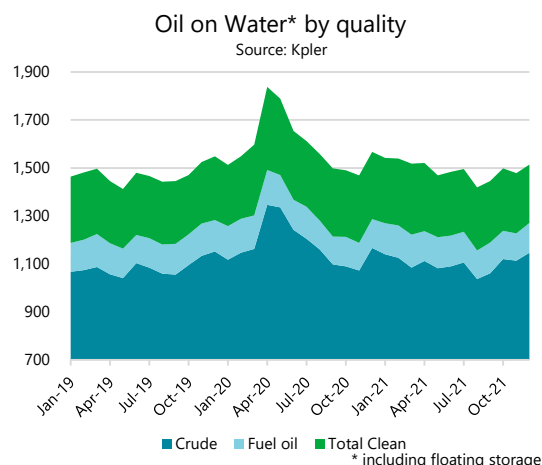
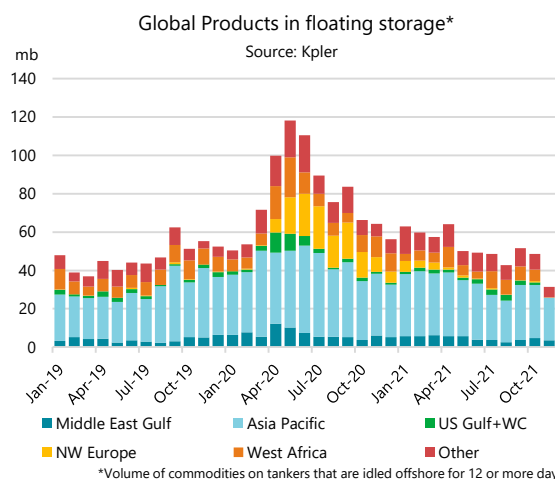
Product stocks fell 6.4 mb, to 179 mb by end-November, when they normally trend down 3.5 mb. In terms of forward demand, they covered 22.1 days, down 1.3 days from the prior month. Japanese product stocks drew by 4 mb, while inventories in Korea decreased by 2.4 mb.

Preliminary data from the Petroleum Association of Japan show crude and NGL stocks fell by 3.8 mb in December, in line with the seasonal trend. Product stocks dropped 1.1 mb, compared with a more normal decline of 3.8 mb.

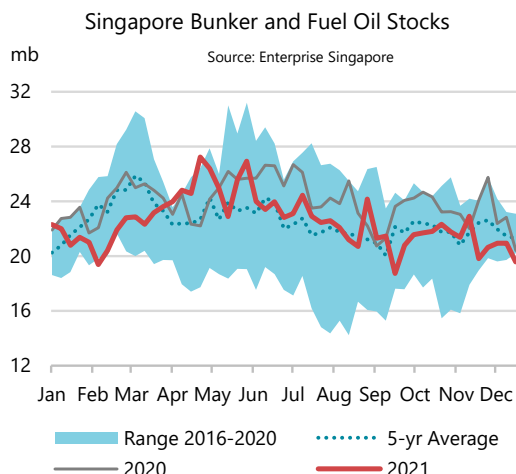
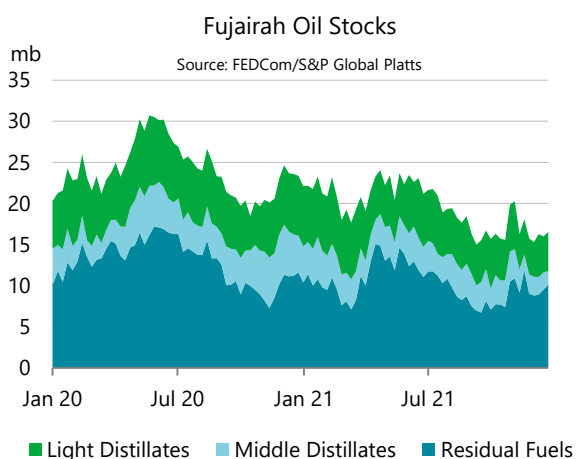
Other stock developments

Volumes of oil on the water (including floating storage), increased by 35.6 mb in December to 1 515 mb, according to *Kpler*. The increase was due to a swell in crude oil, up by 33.2 mb, while total products added a further 2.4 mb.

Crude and condensate held in floating storage in December decreased by a 5.9 mb, with overall crude volumes in floating storage at 114.2 mb. At the same time, products in short-term floating storage decreased by 2 mb, to close end-December at 37.2 mb.



In Fujairah, independent product stocks eased in December by 2.9 mb according to data from *FEDCom* and *S&P Global Platts*. Middle distillates led the decline (-1.8 mb), followed by light distillates (-1.0 mb) and residual fuel oil (-0.2 mb).



Independent product stocks in Singapore, the world's largest bunkering hub, fell by 0.5 mb in December, according to data from *Enterprise Singapore*. Residual fuel oil inventories led the way with a 0.3 mb reduction. Middle distillate stocks also drew by 0.1 mb along with light distillate stocks down by 0.1 mb.

Total oil stocks in 16 non-OECD economies reported to the *JODI-Oil* database drew 1.8 mb m-o-m in October, led by a decrease in oil products. Oil product stocks fell by 5.6 mb in total, led by Chinese Taipei (-2.9 mb), Saudi Arabia (-0.9 mb), Bulgaria (-1.4 mb) and India (-2.8 mb), with remaining countries adding 2.5 mb. Crude and NGL stocks built by 3.7 mb with notable gains in Chinese Taipei (4.1 mb) and Nigeria (2.6 mb).

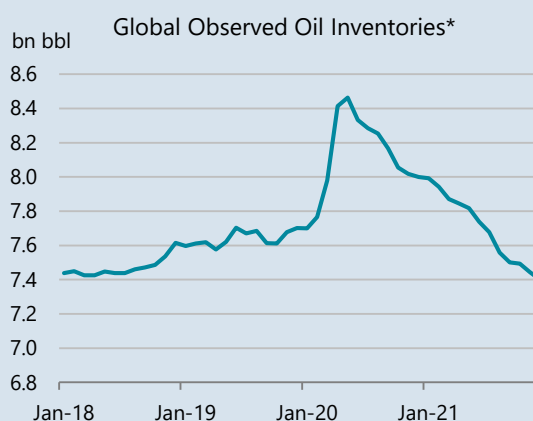
Box 2. Global observed oil stocks plunge by 600 mb in 2021

Preliminary data available to date show global observable oil stocks drew by a massive 1.66 mb/d on average during 2021, more than reversing the 920 kb/d build in 2020. At around 7.4 billion barrels, oil stocks at end-December 2021 were just over 1 billion barrels lower than their May-2020 peak and well below pre-pandemic levels.

These changes were mostly reflected in OECD industry and government stocks, which fell by 1.06 mb/d y-o-y, following a 390 kb/d build in 2020. Oil on water volumes, which include crude oil and products in transit and floating storage, declined by 140 kb/d, as both lower Chinese crude imports and product exports, along with continued OPEC+ production caps, limited seaborne oil trade.

For other oil stock changes, we have amended our methodology to include only directly observable inventories, rather than calculated estimations. Non-OECD crude oil stocks, derived from Kayrros satellite observations of above-ground, floating-roof storage, drew by 400 kb/d in 2021, compared to a 350 kb/d build in 2020. Product stocks reported to JODI for a limited set of countries, along with inventory changes from Fujairah and Singapore, fell by 60 kb/d in 2021, compared to a build of 120 kb/d in 2020.

Overall, observed global stock changes do not fully correspond to the difference between our global supply and demand estimates, which show a build of 2.92 mb/d in 2020 and a draw of 1.11 mb/d last year. The unaccounted for balance amounted to 2.0 mb/d in 2020 and 540 kb/d in 2021. Part of the difference may be explained by underground crude storage builds, new pipeline line-fill, product stocks in non-reporting countries (of which China is one, with no estimate available for product stock developments), missing observations of natural gas liquids and biofuels storage. The large unaccounted for balance also suggests supply estimates could be overstated or demand understated. Further analysis and the publication of more comprehensive annual oil statistics for 2020 over the coming months should help close the gap.



*Excludes JODI product data

Global Oil Balance and Observed Stock Changes (mb/d)										
	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021
Global oil balance	6.37	8.45	-1.20	-1.95	2.92	-1.04	-1.25	-1.42	-0.74	-1.11
Observed stock changes										
OECD total stocks	0.90	2.86	-0.53	-1.65	0.39	-1.25	-0.72	-1.42	-0.83	-1.06
Non-OECD crude stocks*	1.44	0.33	0.51	-0.90	0.35	0.38	-0.40	-0.58	-0.99	-0.40
Selected non-OECD product stocks**	0.07	0.50	-0.10	0.01	0.12	0.10	-0.08	-0.21	-0.06	-0.06
Oil on water	0.55	0.64	-1.70	0.74	0.06	-0.54	-0.36	-0.40	0.73	-0.14
Total observed stock changes	2.96	4.33	-1.81	-1.81	0.92	-1.30	-1.56	-2.61	-1.15	-1.66
Unaccounted for balance	3.40	4.12	0.62	-0.14	2.00	0.26	0.31	1.19	0.41	0.54

*Crude stock change data from Kayrros. Data are available for selected countries and include only, and not all, above-ground storage.

**JODI data adjusted for monthly gaps in reporting, latest data for Oct 2021, plus Fujairah and Singapore inventories.

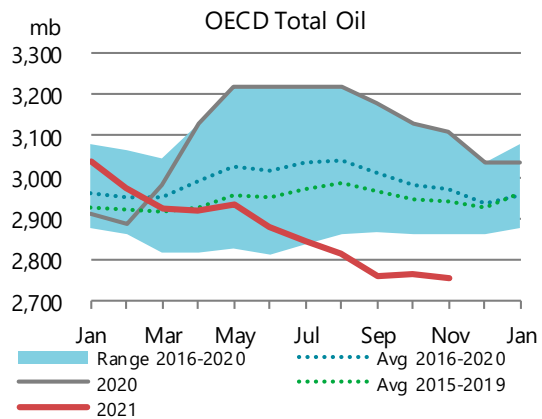
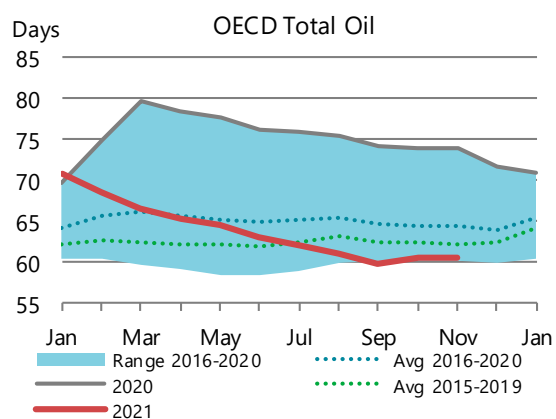
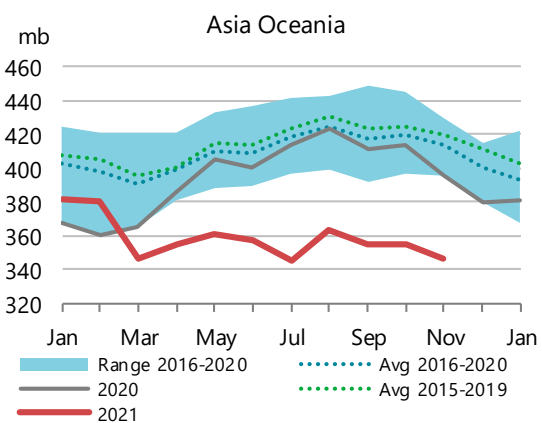
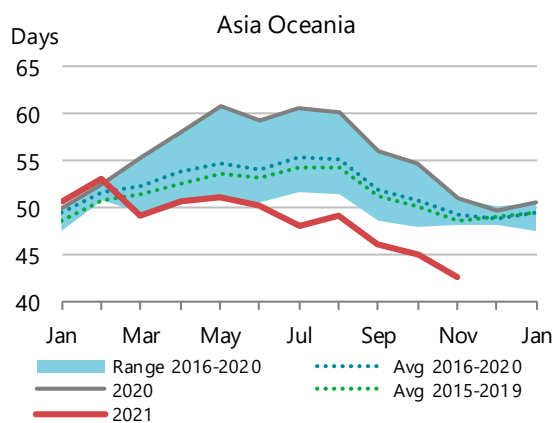
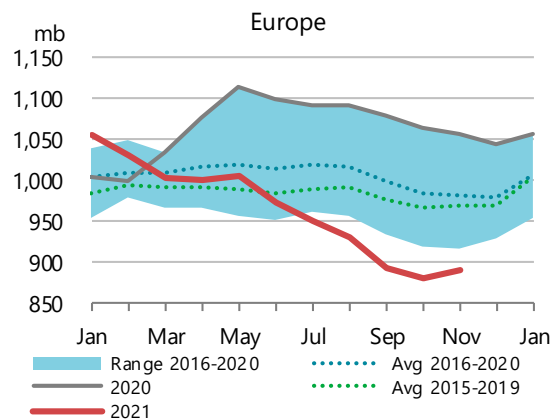
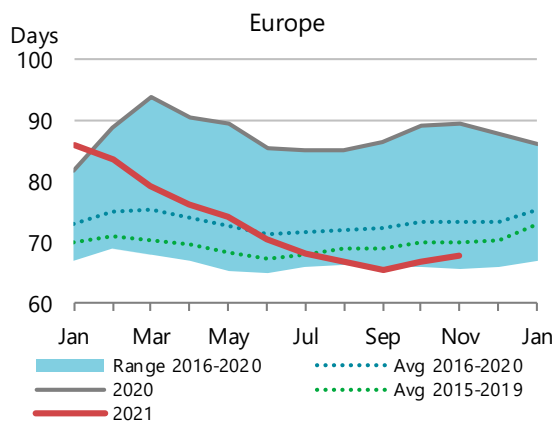
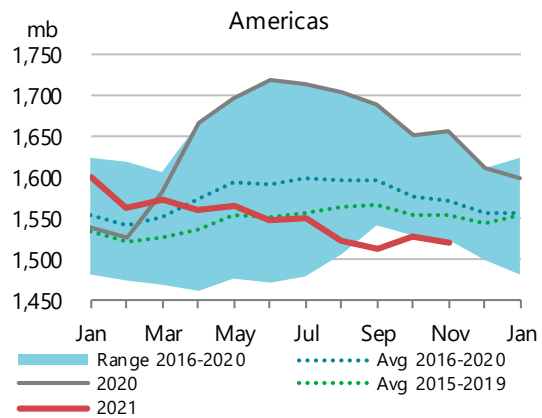
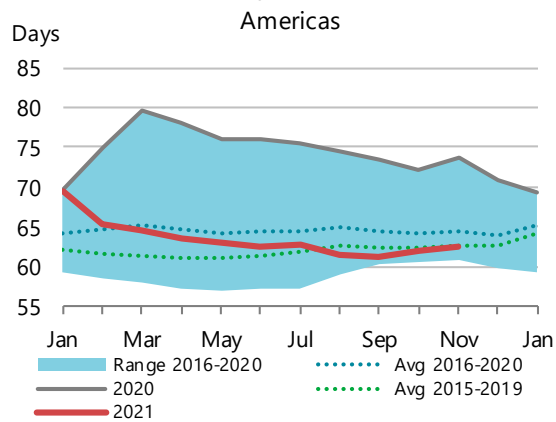
Sources: IEA, EIA, PAJ, Euroilstock, Kayrros, JODI, Kpler, FEDCom/S&P Global Platts, Enterprise Singapore.

Regional OECD End-of-Month Industry Stocks

(in days of forward demand and million barrels of total oil)

Days¹

Million Barrels



¹ Days of forward demand are based on average OECD demand over the next three months.

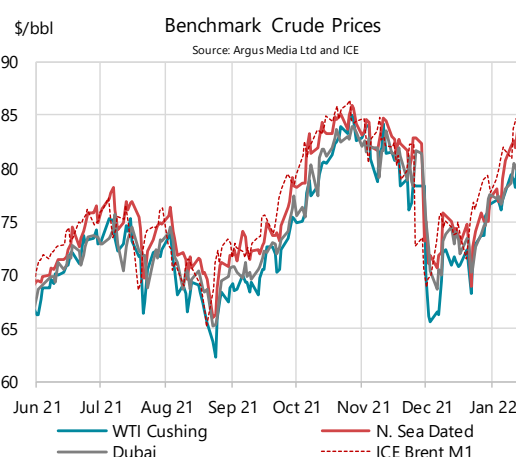
Prices

Overview

Following their late November meltdown, crude prices struggled through most of December before making a vigorous post-holiday rebound. Producers and refiners appear unable to keep up with the start-stop demand uncertainties of Covid and the broader economic context. Since 20 December, crude prices have surged and backwardation on futures contracts has jumped. Demand remains robust, despite efforts to limit Omicron's contagion, supply growth is restrained, and refinery margins solid. Available data show crude and product stocks globally and in the OECD have fallen to exceptionally low levels. Despite abiding economic worries, clarity on Omicron's reduced virulence and geopolitical tensions have reinforced robust fundamentals.

Crude Prices and Differentials (\$/bbl)							
	Month			Week of		Last Day	Chng Dec-21
	Dec-20	Nov-21	Dec-21	10 Jan	18 Jan	m-o-m	y-o-y
Crude Futures (M1)							
NYMEX WTI	47.07	78.65	71.69	81.61	84.83	-6.96	24.62
ICE Brent	50.22	80.85	74.80	83.96	87.16	-6.05	24.58
Crude Marker Grades							
North Sea Dated	49.72	81.37	74.01	85.07	86.84	-7.36	24.28
WTI (Cushing)	47.05	79.18	71.53	81.61	83.82	-7.65	24.48
Dubai	49.78	80.21	73.25	81.46	83.11	-6.96	23.47
Differential to North Sea Dated							
WTI (Cushing)	-2.67	-2.19	-2.47	-3.46	-3.02	-0.28	0.20
Dubai	0.05	-1.16	-0.76	-3.60	-3.73	0.40	-0.81
Differential to ICE Brent							
North Sea Dated	-0.50	0.52	-0.79	1.11	-0.32	-1.31	-0.30
NYMEX WTI	-3.15	-2.20	-3.11	-2.35	-2.33	-0.91	0.04

Sources: Argus Media Ltd, ICE, NYMEX (NYMEX WTI = NYMEX Light Sweet Crude)



The early December low point for prices reflected both Covid-driven oil demand concerns and technical trading dynamics. Prices remained under pressure through 20 December as oil and financial markets progressively gained a better understanding of Omicron's impact. As well, at the end of November, the US had announced a coordinated release of SPR barrels from several countries in a hope of driving oil product prices lower for consumers.

Over the past six weeks, several central banks have hiked interest rates or announced timelines to wind down liquidity injections before increasing rates, both notionally bearish for economic growth. As well, indicators for China and Europe showed weaker economic development linked in part to high energy costs. China has also suffered from a serious slowdown in the real estate sector and in infrastructure investment.

Crude futures fell some \$6-7/bbl m-o-m in December but peak-to-trough losses from 9 November to 1 December drove down ICE Brent by \$16/bbl to \$68.87/bbl and NYMEX WTI by \$19/bbl to \$65.57/bbl. Prices then clawed back some \$6/bbl over the next 4 days before stagnating in a \$3/bbl range until around Christmas. The post-holiday rally has assured equally large trough-to-peak gains of \$17.19/bbl to \$86.06/bbl for ICE Brent and \$18.25/bbl to \$83.82/bbl for NYMEX WTI on 14 January versus 1 December.

It took two to three weeks to begin to clarify Omicron's impact for oil demand. Its frightful contagiousness quickly drove governments to impose mobility restrictions, limit office presence,

discourage large gatherings, block travellers arriving from certain countries, and to accelerate vaccination programmes, including making vaccines mandatory for many activities in a number of countries. While the peaks in the waves of Omicron infections continue to rise to very high levels, the disease now appears less incapacitating. With the margin of flexibility maintained by governments and the growing frustration with restrictions, life has carried on with much less impact for oil demand than markets initially feared.

On the supply side, disruptions in Libya, Nigeria, Ecuador, and Canada (amongst others) took almost 30 mb of crude out of the market in December and early January. OPEC+ has stuck to its policy of gradually easing production cuts, yet has failed to meet its announced production targets. Non-OPEC increases have accelerated but not nearly enough to offset the foregoing dearth at the margin of crude supply. Finally, the reopening of nuclear negotiations with Iran in early December rapidly showed that the country's intransigence could delay a full crude production increase until later in 2022.

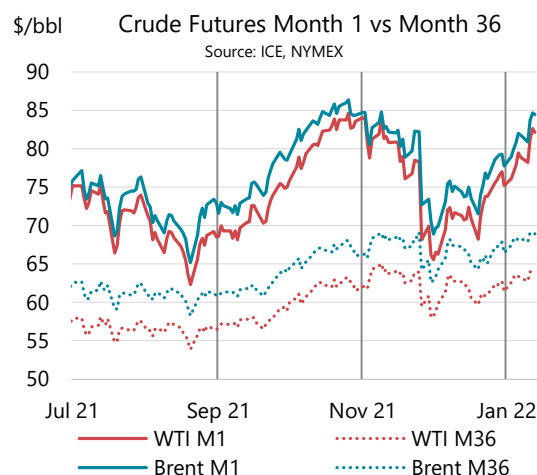
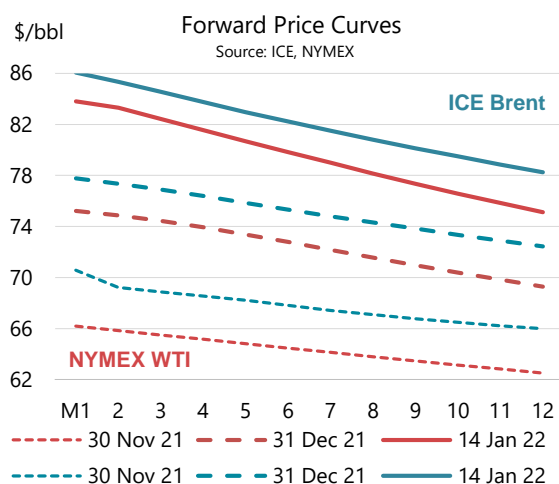
Inflation has taken root worldwide, partly linked to rising energy prices. Some central banks have already moved to increase interest rates in an effort to stem further gains. Other banks, like the US Federal Reserve and the European Central Bank, have accelerated the unwinding of quantitative easing in anticipation of interest rate hikes in 2022. However, given the levels of inflation already attained in most major economies, these measures will still leave negative real interest rates for months to come, continuing to stimulate economic growth. Consequently, central bank action may be less bearish than expected for the world economy and global oil demand. However, this overlaps with fragile Chinese economic growth where zero-Covid measures regularly affect manufacturing and logistics while a property sector slump has disrupted infrastructure investment.

Geopolitical tensions increased steadily over the past weeks. The abiding threat of a Russian attack on Ukraine has mobilized negotiations. The ongoing impact for Europe's energy crisis highlights the vulnerability of its energy systems, the broader implications for global markets, and the consequences of possible sanctions for Russian gas availability. The cost of energy in Europe and worldwide has undermined industrial activity in several countries, forcing extended plant shutdowns and impacting economic perspectives.

Futures markets

The month-on-month fall in crude futures prices took December contracts to \$74.80/bbl for ICE Brent (-\$6.05/bbl) and to \$71.89/bbl for NYMEX WTI (-\$6.96/bbl). Pressure was greater on WTI than Brent in November while its recovery over December into January has been slightly faster. While the ICE Brent premium to NYMEX WTI widened overall by \$0.91/bbl to \$3.11/bbl in December, it narrowed rapidly at the end of the month as WTI's recovery accelerated with the continued draw in US crude stocks.

The sell-off on crude futures drove net long positions on contracts to their lowest in a year by mid-December. Contract values were affected in January by rebalancing commodity investment indices, notably the Goldman Sachs Commodity Index (GSCI) and the Bloomberg Commodity Index (BCOM). Investors tracking these indices adjust their portfolios to ensure identical performance. Exposure to WTI falls in both indices while that for Brent falls in the BCOM but increases in the GSCI.



As prices fell in November, the futures price structure flattened significantly. Some position holders may have rolled out of prompt contracts, toward longer forward positions to reduce their exposure to volatility. This helped lift the back of the curve as the front declined. However, the structure recovered in late December as views shifted with better demand perspectives. For NYMEX WTI, the 1-12 month contract spread widened through end-December by \$2.25/bbl to \$5.93/bbl and reached \$8.71/bbl on 14 January. For ICE Brent, the spread widened by only about \$1/bbl to \$5.33/bbl at end-December but reached \$7.09/bbl on 14 January. The greater tension on the NYMEX contract reflects low crude stock levels but also the demand recovery and concern about potentially slower growth in US crude production. The stability of longer-dated prices at the 36-month contract horizon has resulted in a much steeper long-term backwardation for Brent and WTI, akin to the levels of early November.

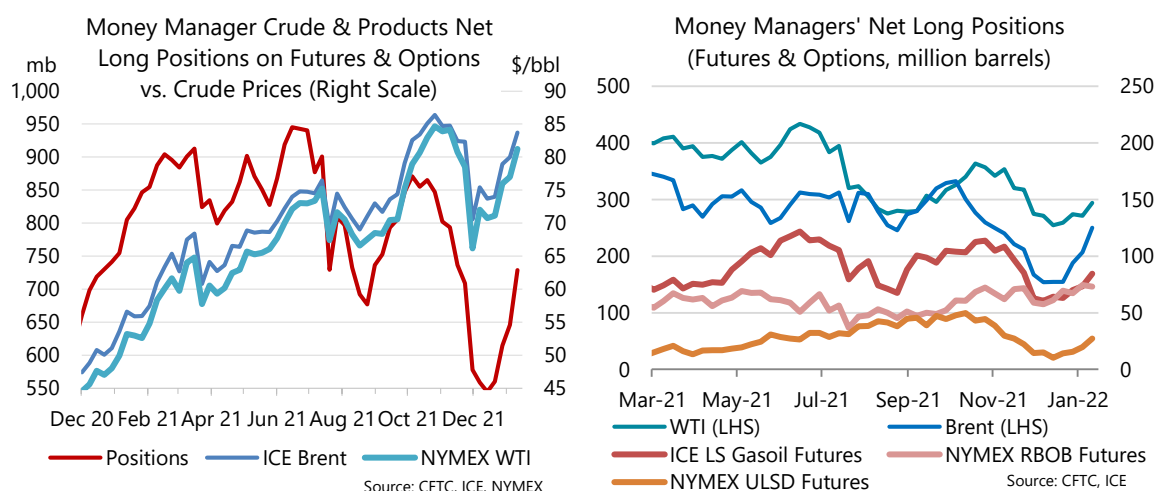
Of note during the month, one of the large independent shale patch producers exited all 2022 hedges. The move reflects the company's preference for remuneration at spot prices rather than those locked-in by hedging forward in a significantly backwardated market.

Product futures showed somewhat greater stability than crude over the past month, resulting in stronger crack spreads. The ICE gasoil crack was roughly flat m-o-m at \$12/bbl in December but reached \$14/bbl in the week of 10 January. The NYMEX ULSD crack rose \$1.73/bbl to \$22.80/bbl in December and to \$26.65/bbl in the week of 10 January. Tight Atlantic Basin gasoil stocks and cold weather supported both cracks. The NYMEX RBOB crack rose \$0.84/bbl in December to \$17.99/bbl and to \$18.99/bbl in the week of 20 December before easing below \$18/bbl into January. Cracks fell on a collapse in ethanol prices after mid-month that accelerated into January.

On 7 December, the US EPA announced an update to the Renewable Volume Obligations for 2020, 2021, and 2022. Those for 2020 and 2021 were in line with actual production levels (avoiding deficits for meeting historical obligations). Those for 2022 were lower than expected for FAME and HVO but higher for ethanol, though the E10 blend wall will cap volumes used. While awaiting further public comment before finalisation, the Biden administration suggested in the week of 10 January that the 15 million gallon ethanol blending obligation could be reduced, further undercutting the price of ethanol and contributing to weaker NYMEX RBOB prices.

Money Managers net long positions in futures and options, covering crude and products, halted their steep decline around mid-December before rebuilding their length almost as quickly. By 11 January, outright long positions had only partly recovered their mid-October levels while outright short positions had fully returned. Products appeared stronger than crude. The combined net length fell over 37% from mid-October through the second week of December,

before rising 35% to 11 January when positions reached 25% above their end-November level. Outright longs had recovered less than outright short positions by 11 January.



Net long positions on crude contracts fell by about 7% from end-November to 14 December before recovering over 30% by 4 January. Outright short positions fell 30% over this period, highlighting a loss of confidence in an anticipated drop in oil prices and capitulation with the price recovery. On the other hand, outright long positions rose to 10% above their level of 30 November. While net long positions on ICE Brent contracts rose overall from end-November into early January by 50%, those on WTI contracts only gained 7%. This is relatively consistent with the rebalancing of positions in the GSCI and BCOM indices.

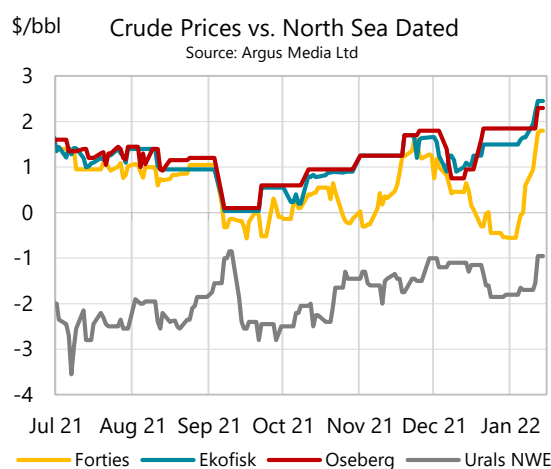
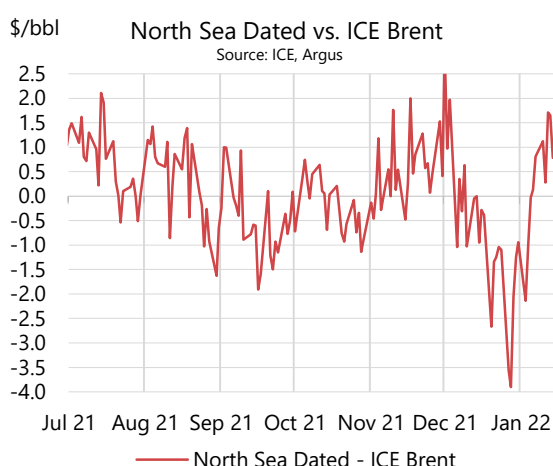
Net long positions on product contracts were relatively stable over the first half of December before rising strongly into January, for an overall gain of 36%. As for crude, outright longs on the combined product contracts increased (+18%) while outright shorts fell much more sharply (-34%). The biggest gains were made on gasoil (ICE Gasoil +35%, NYMEX ULSD +89%) while the NYMEX RBOB gasoline contract rose significantly less (+24%). RBOB contracts reflect the pressure from RVO costs and the risk of weaker demand due to rising prices.

Prompt Month Oil Futures Prices (monthly and weekly averages, \$/bbl)													
	Dec-20	Oct-21	Nov-21	Dec-21	Dec-21		Week Commencing:						Last Day
					m-o-m Chg	y-o-y Chg	06 Dec	13 Dec	20 Dec	27 Dec	03 Jan	10 Jan	14 Jan
NYMEX													
Light Sweet Crude Oil (WTI)	47.07	81.22	78.65	71.69	-6.96	24.62	71.30	71.23	71.48	76.06	77.86	81.61	83.82
RBOB	55.79	101.65	95.81	89.68	-6.12	33.90	88.68	89.50	90.47	94.74	96.00	99.34	101.60
ULSD	60.81	105.66	99.72	94.49	-5.23	33.68	93.74	93.73	95.24	99.36	102.25	108.26	110.64
ULSD (\$/mmbtu)	10.72	18.63	17.59	16.66	-0.92	5.94	16.53	16.53	16.80	17.52	18.03	19.09	2.63
Henry Hub Natural Gas (\$/mmbtu)	2.58	5.57	5.12	3.86	-1.26	1.28	3.78	3.76	3.85	3.89	3.83	4.34	4.26
ICE													
Brent	50.22	83.75	80.85	74.80	-6.05	24.58	74.78	74.10	74.76	78.77	80.70	83.96	86.06
Gasoil	55.36	97.04	92.81	86.81	-5.99	31.46	86.68	86.47	86.15	90.52	93.66	97.98	100.98
Prompt Month Differentials													
NYMEX WTI - ICE Brent	-3.15	-2.53	-2.20	-3.11	-0.91	0.04	-3.48	-2.87	-3.28	-2.71	-2.84	-2.35	-2.24
NYMEX ULSD - WTI	13.74	24.44	21.07	22.80	1.73	9.06	22.44	22.50	23.76	23.30	24.39	26.65	26.82
NYMEX RBOB - WTI	8.72	20.43	17.16	17.99	0.84	9.28	17.38	18.27	18.99	18.68	18.14	17.74	17.78
NYMEX 3-2-1 Crack (RBOB)	10.39	21.77	18.46	19.60	1.13	9.21	19.07	19.68	20.58	20.22	20.22	20.71	20.79
NYMEX ULSD - Natural Gas (\$/mmbtu)	8.14	13.06	12.47	12.80	0.33	4.66	12.75	12.77	12.94	13.64	14.21	14.75	-1.63
ICE Gasoil - ICE Brent	5.14	13.29	11.96	12.01	0.06	6.88	11.90	12.37	11.39	11.75	12.96	14.02	14.92

Source: ICE, NYMEX.

Spot crude oil prices

The physical-crude-to-futures price premium of November swung to a discount in December. The sudden appearance and the uncertainties of the Omicron variant sidelined crude purchases. Refiners reassessed their requirements while drawing on stocks. The North Sea Dated premium to ICE Brent flipped to a discount in the first week of December that deepened regularly into the end of the month. The holiday season delayed any recovery in demand for physical barrels while paper markets leapt higher after 20 December. This exaggerated the physical discount to futures which blew out to \$2.34/bbl in the week of 27 December (and over \$3.50/bbl on a couple of days). With Christmas over and Omicron appearing less menacing, refinery demand recovered and physical prices moved rapidly back to a premium versus futures that averaged \$1.11/bbl in the week of 10 January.

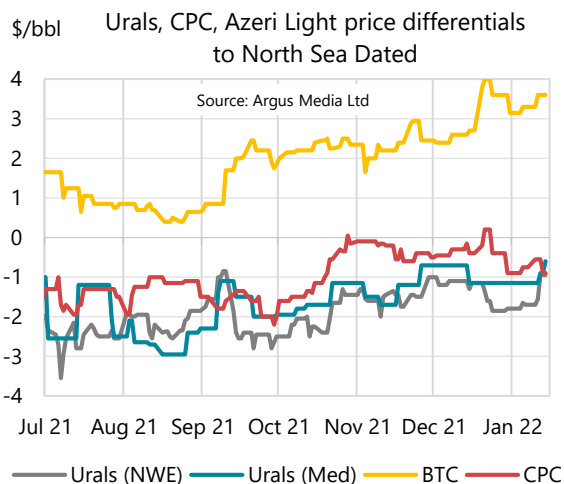
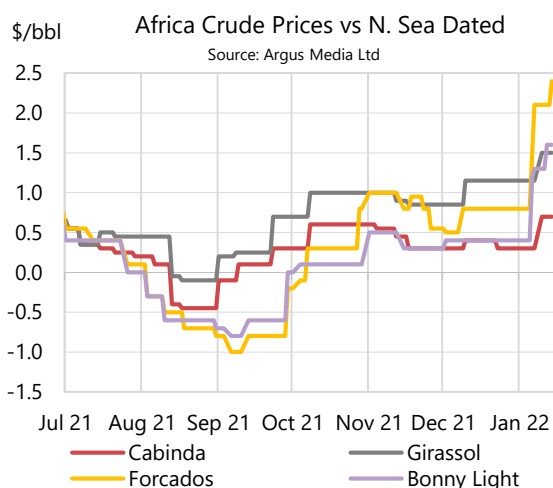


The rapid rise in crude prices did not undermine refinery margins that remained robust. Margin strength arose in particular from tight gasoline and middle distillate markets, but LPG and naphtha remained well supported as well. Refiners focussed particularly on light grades as opposed to heavier crudes. This benefitted North Sea and West African barrels, which saw their prices strengthen relative to North Sea Dated.

North Sea Dated prices lagged the recovery in WTI and Dubai prices, narrowing the premiums versus both grades. The arrival of light sweet US barrels in the European market (loaded in late November) capped North Sea crude price differentials in the first part of December. This opened the west-east arbitrage, facilitating West African exports to Asia. The Asian call on Atlantic Basin barrels (China and India), in addition to strong European buying, helped sustain West African crude prices versus North Sea Dated.

The Mediterranean market tightened with the loss of Libyan exports until roughly 7 January. This supported European demand for West African barrels as well as light sweet BTC barrels, boosting their differentials versus North Sea Dated. CPC values (CIF MED) versus North Sea Dated fell due to the easing of Turkish Straits' transit delays, which allowed more crude to move to the Mediterranean. There was no apparent crude export impact from the civil unrest in Kazakhstan.

Urals crude prices in Northwest Europe were well supported in early December by strong fuel prices while the narrow Brent premium to Dubai attracted Asian buyers. The discounts widened in mid-December versus North Sea Dated as the latter surged to catch-up with Brent futures. Urals discounts eventually recovered with the overall tightening of the regional market.

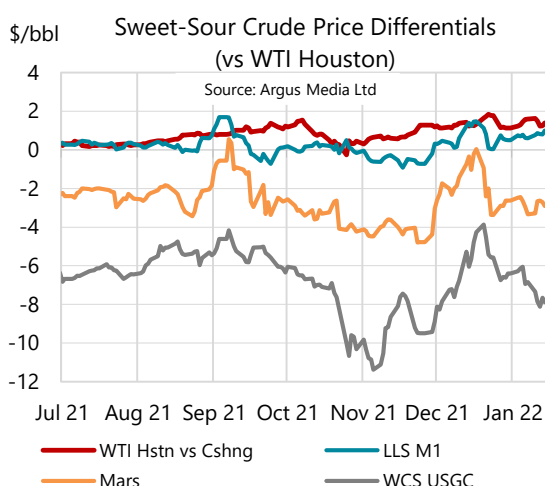
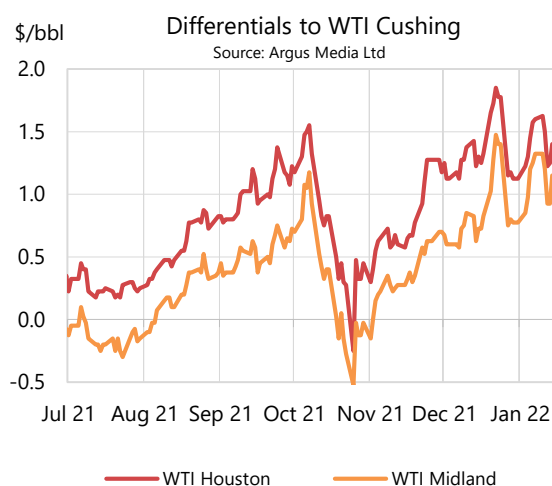


East of Suez, Middle East grade differentials were supported by steady crude demand, despite impending spring refinery maintenance schedules and the demand impact of Omicron restrictions. However, Chinese refinery buying (including independent refiners) remains weak ahead of the Chinese New Year and the Olympic games. Differentials suffered from ample crude availability for regional refiners that capped prices versus Dubai through most of December. Competition arose from Atlantic Basin grades (including WTI) while Gulf producers allocated full term volumes to most Asian clients. The trends reversed in late December as a recovery in North Sea Dated prices undermined the competitive position of West African grades, boosting Middle Eastern values.

As of January, Iraq's State Oil Marketing Organization (SOMO) stopped marketing and exporting its Basrah Light crude grade. It will now export only Basrah Medium and Basrah Heavy. The dwindling Basrah Light barrels will be provided to domestic refiners. Iraq exported 2.1 mb/d of Basrah Light and 800 kb/d of Basrah Heavy in 2020. After its creation in January 2021, Basrah Medium became the largest export stream (1.1 mb/d in 2021) by cannibalising part of Basrah Light (down to 900 kb/d of exports). After a couple of years of deteriorating density for Basrah Light, the introduction of Basrah Medium has provided an outlet for denser new streams and allowed the density of the light grade to return to more typical levels in 2020 around 31° API.

The mid-month sell-off in NYMEX light crude futures drove prices for WTI lower at Cushing, Oklahoma, leading to a spike in price premiums at Midland and Houston in December. While differentials fell back in late December, the continued tightening of crude stocks in PADD3 and the sharp rise in North Sea Dated prices helped narrow discounts for WTI at Cushing versus Houston and Midland. Steady draws on US crude stocks have pushed them to their lowest levels since October 2018. The demand for light sweet grades like LLS and WTI has widened premiums to heavier sour Mars or Western Canadian Select (WCS) on the US Gulf Coast.

WCS discounts narrowed on average in December. At Houston, they reduced by \$3.10/bbl to -\$6.28/bbl versus WTI and at Hardisty, Alberta they tightened by \$4.20/bbl to -\$17/bbl versus WTI at Cushing. Differentials narrowed throughout December and into early January, thanks to strong US refinery margins and throughputs. In late December, extreme cold that carried over into January impacted oil sands operations, rail loadings and pipelines, leading to a deterioration of discounts in January. The ramp-up of regional refinery maintenance into January and February has also marginally impacted prices in January for Canadian crude; whose shipment by pipeline takes three weeks to Chicago and four weeks to refiners at Houston.



Spot Crude Oil Prices and Differentials (monthly and weekly averages, \$/bbl)													
	Dec-20	Oct-21	Nov-21	Dec-21	Dec-21		Week Commencing:						
					m-o-m Chg	y-o-y Chg	06 Dec	13 Dec	20 Dec	27 Dec	03 Jan	10 Jan	Last Day
Crudes													
North Sea Dated	49.72	83.54	81.37	74.01	-7.36	24.28	74.50	73.77	73.28	77.36	81.11	85.07	86.84
North Sea Mth 1	50.28	84.42	82.17	74.69	-7.48	24.41	75.01	74.30	74.30	78.81	82.42	84.72	86.20
North Sea Mth 2	50.16	83.80	81.13	74.49	-6.63	24.33	74.83	74.22	74.13	78.45	81.41	83.99	85.61
WTI (Cushing) Mth 1	47.05	81.36	79.18	71.53	-7.65	24.48	71.30	71.23	71.53	76.28	77.86	81.61	83.82
WTI (Cushing) Mth 2	47.21	80.62	78.31	71.35	-6.97	24.14	71.12	71.02	71.57	75.89	77.48	81.06	83.30
WTI (Houston) Mth 1	48.59	82.10	79.92	72.86	-7.06	24.27	72.55	72.53	73.28	77.42	79.29	83.01	85.22
Urals (NWE)	49.01	81.49	79.89	72.69	-7.20	23.68	73.38	72.61	71.77	75.54	79.40	83.85	85.89
Urals (Mediterranean)	50.07	81.93	80.08	73.07	-7.00	23.01	73.80	72.80	72.13	76.21	79.96	84.13	86.24
Dubai (1st month)	49.78	81.46	80.21	73.25	-6.96	23.47	72.88	73.24	72.41	77.31	78.18	81.46	83.11
Tapis (Dated)	50.88	86.39	85.09	78.88	-6.21	28.00	79.20	78.47	77.98	82.19	85.11	89.77	91.54
Differentials to Futures													
North Sea Dated vs. ICE Brent	-0.50	-0.21	0.52	-0.79	-1.31	-0.30	-0.28	-0.33	-1.48	-1.41	0.41	1.11	0.78
WTI (Cushing) Mth1 vs. NYMEX	-0.02	0.14	0.53	-0.16	-0.69	-0.14	0.00	0.00	0.05	0.22	0.00	0.00	0.00
Differentials to Physical Markers													
WTI (Houston) versus North Sea Mth 1	-1.69	-2.32	-2.25	-1.83	0.42	-0.14	-2.46	-1.77	-1.02	-1.39	-3.13	-1.72	-0.98
WTI (Houston) versus WTI (Cushing) Mth 1	1.54	0.75	0.74	1.33	0.59	-0.21	1.24	1.31	1.75	1.14	1.43	1.40	1.40
Urals (NWE) versus North Sea Dated	-0.71	-2.06	-1.48	-1.31	0.16	-0.61	-1.12	-1.16	-1.51	-1.82	-1.71	-1.22	-0.95
Urals (Med) versus North Sea Dated	0.34	-1.61	-1.29	-0.94	0.36	-1.28	-0.70	-0.97	-1.15	-1.15	-1.15	-0.94	-0.60
Dubai versus North Sea Mth 2	-0.39	-2.34	-0.91	-1.24	-0.33	-0.86	-1.95	-0.98	-1.72	-1.13	-3.23	-2.52	-2.50
Dubai versus WTI (Cushing) Mth 2	2.56	0.83	1.90	1.90	0.00	-0.66	1.76	2.22	0.84	1.42	0.70	0.40	-0.19
Prompt Month Differentials													
Forward North Sea Mth1-Mth2	0.12	0.63	1.04	0.19	-0.85	0.07	0.18	0.08	0.17	0.36	1.01	0.74	0.59
Forward WTI Cushing Mth1-Mth2	-0.16	0.73	0.87	0.19	-0.68	0.35	0.18	0.20	-0.04	0.38	0.38	0.54	0.52
Forward Dubai Mth1-Mth2	0.34	1.09	1.91	1.00	-0.91	0.66	1.31	1.03	0.93	0.58	0.85	0.91	0.92

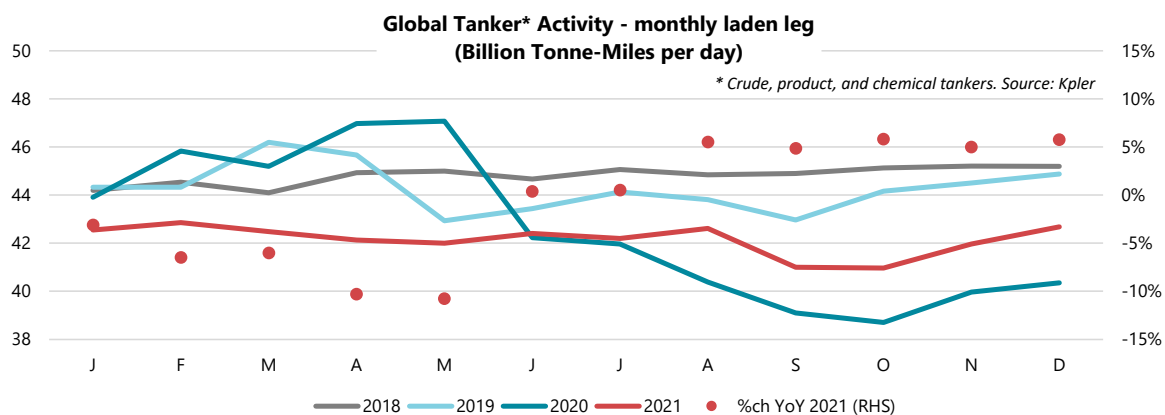
Source: Argus Media Ltd, ICE

Freight

Global tanker activity rose by around 2% m-o-m in December and was almost 6% higher than a year ago. Despite the improvement, activity continued to lag the 2019 level by around 5%.

Two years into the crisis, the dirty tanker fleet has yet to adjust to the weaker activity level. After expanding slightly in 2020 as scrapping stalled, the tanker fleet increased again in 2021 (+2.3% according to shipbrokers quoted by *S&P Global Platts*). Dirty tanker scrapping accelerated in 2021 due to weak freight rates and the high cost of new regulations that oblige older tankers to retrofit ballast water treatment facilities at their next five-year Special Survey (that confirms fitness for chartering). At the same time, new tanker tonnage deliveries in 2021 continued to offset scrapping as in 2020. According to ship broker and charterer Barry Rogliano Salles (BRS),

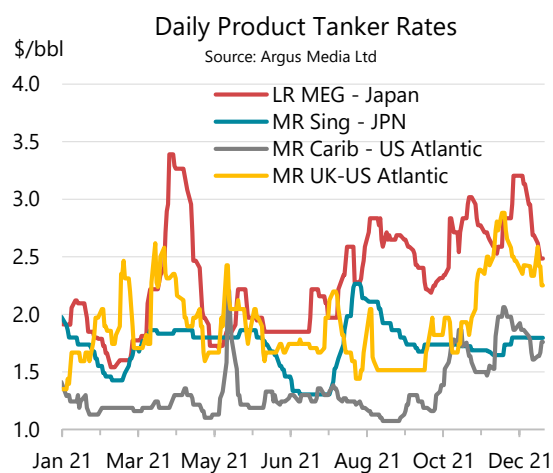
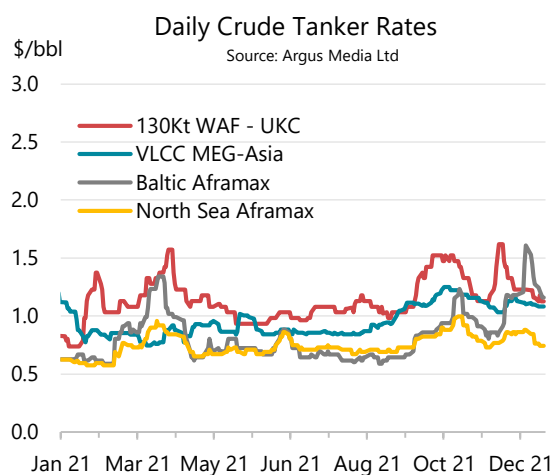
deliveries will accelerate in 2022 for Aframaxes, Suezmaxes, and VLCCs, but they expect the scrapping in 2022 to only be on par with the modest level seen in 2021 (107 tankers over 34 thousand tonnes forecast to be scrapped). The dirty tonnage surplus will thus persist.



On the other hand, the clean tanker surplus has narrowed over the past year as product trading has steadily recovered since its mid-2020 low point. The drawdown in on-land stocks has benefitted this product trading, providing a fillip to chartering. Nevertheless, the significant increase in vessel supply has largely offset this trend in 2021, due to more deliveries than demolitions for both MR and LR vessels (according to *S&P Global Platts*). Additional competition has come from the use of new build dirty tankers (VLCCs, Suezmaxes, Aframaxes) that typically transport clean product on their maiden voyage (and for as many trips as possible) in order to benefit from the higher average returns.

Dirty tanker freight rates remained almost unchanged on average in December. Pre-Christmas gains on chartering for January and February mostly held over the holiday hiatus. However, there is ample VLCC and Suezmax tanker availability in the Middle East and West Africa. The Mediterranean Aframax market weakened due to production losses in Libya and easing Turkish Straits transit delays, although winter weather has increased loading delays in North Africa. In Northwest Europe, the Baltic Aframax market tightened initially as a late month spike in cold weather increased the call on ice-class vessels, but the gains were lost in early January.

The recent rise of certain clean tanker market segments peaked in December before dropping at the end of the year and into January. The holiday lull in chartering combined with ample MR tonnage availability pressured Atlantic Basin rates. However, chartering eliminated much of the regional tanker surplus by early January, readying the market for a rebound. Rates from the Middle East to Asia have benefitted from reduced Chinese clean product exports. Gulf refiners have provided much of the supply to offset the shortfall of Chinese cargoes. China issued a lower-than-expected first batch of 2022 clean product export quotas, supporting the continued call on Middle Eastern exports.



Freight Costs (monthly and weekly averages, \$/bbl)												
	Dec-21						Week Commencing					
	Dec-20	Oct-21	Nov-21	Dec-21	m-o-m chg	y-o-y chg	06-Dec	13-Dec	20-Dec	27-Dec	03-Jan	10-Jan
Crude Tankers												
VLCC MEG-Asia	1.10	1.14	1.18	1.09	-0.08	0.0	1.05	1.07	1.14	1.11	1.10	1.08
130Kt WAF - UKC	0.92	1.38	1.31	1.32	0.01	0.4	1.41	1.45	1.26	1.23	1.19	1.14
Baltic Aframax	0.58	0.85	1.01	1.06	0.05	0.5	0.85	1.07	1.17	1.42	1.40	1.19
North Sea Aframax	0.61	0.82	0.87	0.81	-0.06	0.2	0.77	0.83	0.85	0.87	0.82	0.75
Product Tankers												
LR MEG - Japan	2.25	2.35	2.80	2.86	0.06	0.6	2.58	2.78	3.08	3.17	2.82	2.52
MR Sing - JPN	1.83	1.73	1.71	1.72	0.01	-0.1	1.64	1.70	1.79	1.80	1.80	1.80
MR Carib - US Atlantic	1.18	1.27	1.67	1.83	0.17	0.7	1.75	2.02	1.91	1.88	1.69	1.69
MR UK-US Atlantic	1.37	1.70	1.99	2.60	0.61	1.2	2.67	2.81	2.50	2.40	2.36	2.39

Source: Argus Media Ltd

Tables

Table 1
WORLD OIL SUPPLY AND DEMAND
(million barrels per day)

	2018	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
OECD DEMAND																	
Americas	25.4	25.5	24.3	19.8	22.6	23.0	22.4	22.7	24.3	24.7	24.7	24.1	24.2	25.1	25.5	25.1	25.0
Europe	14.3	14.3	13.3	11.0	12.9	12.5	12.4	11.9	12.6	13.8	13.7	13.0	13.1	13.5	14.0	13.7	13.6
Asia Oceania	8.0	7.9	7.9	6.6	6.8	7.3	7.1	7.7	7.0	7.1	7.7	7.4	7.9	7.2	7.4	7.9	7.6
Total OECD	47.7	47.7	45.5	37.5	42.3	42.8	42.0	42.3	44.0	45.7	46.1	44.5	45.3	45.8	46.9	46.7	46.2
NON-OECD DEMAND																	
FSU	4.7	4.7	4.6	4.1	4.7	4.7	4.5	4.6	4.7	4.9	5.0	4.8	4.7	4.8	5.1	5.1	4.9
Europe	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8
China	13.0	13.5	11.9	14.2	14.6	14.9	13.9	14.6	15.3	15.3	15.4	15.2	15.2	15.8	15.8	15.8	15.6
Other Asia	14.0	14.0	13.5	11.3	12.2	13.4	12.6	13.5	12.8	12.5	13.8	13.2	14.1	14.0	13.5	14.2	13.9
Americas	6.3	6.3	5.8	5.0	5.7	5.9	5.6	5.8	5.8	6.2	6.1	6.0	5.9	6.0	6.2	6.1	6.0
Middle East	8.2	8.2	7.9	7.1	8.1	7.8	7.7	7.7	8.0	8.4	7.8	8.0	7.9	8.0	8.5	8.0	8.1
Africa	4.2	4.3	4.1	3.5	3.7	3.9	3.8	4.1	4.0	3.9	4.0	4.0	4.1	4.1	4.0	4.2	4.1
Total Non-OECD	51.1	51.8	48.4	45.9	49.9	51.3	48.9	51.0	51.4	52.1	52.8	51.8	52.6	53.5	54.0	54.1	53.5
Total Demand¹	98.9	99.5	93.9	83.3	92.1	94.1	90.9	93.3	95.4	97.8	99.0	96.4	97.8	99.3	100.9	100.8	99.7
OECD SUPPLY																	
Americas	23.0	24.8	25.9	22.6	23.2	23.7	23.8	23.3	24.2	24.3	25.4	24.3	25.3	25.4	25.7	26.0	25.6
Europe	3.5	3.4	3.7	3.6	3.4	3.5	3.6	3.6	3.1	3.4	3.4	3.4	3.5	3.4	3.4	3.5	3.5
Asia Oceania	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total OECD⁴	26.9	28.6	30.1	26.8	27.1	27.8	27.9	27.4	27.8	28.3	29.4	28.2	29.4	29.3	29.6	30.0	29.6
NON-OECD SUPPLY																	
FSU	14.6	14.6	14.8	13.2	12.8	13.2	13.5	13.4	13.7	13.7	14.3	13.8	14.4	14.5	14.6	14.8	14.6
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.8	3.9	4.0	4.0	4.0	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Other Asia	3.4	3.3	3.2	3.0	2.9	3.0	3.0	3.0	2.9	2.8	2.8	2.9	2.8	2.8	2.8	2.7	2.8
Americas	5.1	5.3	5.6	5.1	5.4	5.2	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.6	5.6	5.5
Middle East	3.1	3.0	3.1	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.3	3.3	3.2
Africa	1.5	1.5	1.4	1.4	1.4	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Non-OECD⁴	31.6	31.8	32.2	29.9	29.6	29.7	30.3	30.2	30.5	30.5	30.9	30.5	31.3	31.5	31.7	31.9	31.6
Processing gains ³	2.4	2.4	2.3	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4
Global Biofuels	2.7	2.8	2.3	2.5	3.1	2.6	2.6	2.2	2.9	3.2	2.7	2.7	2.4	3.1	3.4	3.0	3.0
Total Non-OPEC Supply	63.5	65.6	66.8	61.1	61.9	62.2	63.0	61.9	63.5	64.3	65.3	63.7	65.4	66.3	67.1	67.3	66.5
OPEC²																	
Crude	31.4	29.6	28.2	25.6	24.1	24.9	25.7	25.3	25.5	26.9	27.7	26.4					
NGLs	5.4	5.3	5.3	5.1	5.0	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.3	5.4	5.4	5.4	5.4
Total OPEC	36.8	35.0	33.5	30.6	29.1	30.0	30.8	30.4	30.7	32.1	33.0	31.6					
Total Supply	100.3	100.5	100.3	91.7	91.0	92.2	93.8	92.3	94.1	96.4	98.2	95.3					
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.1	0.1	1.0	2.6	-0.4	-1.6	0.4	-1.3	-0.5	-1.3							
Government	-0.1	0.0	0.0	0.3	-0.1	-0.1	0.0	0.0	-0.2	-0.1							
Total	0.0	0.0	1.0	2.9	-0.5	-1.7	0.4	-1.2	-0.7	-1.4							
Floating storage/Oil in transit	0.3	0.1	0.6	0.4	-1.6	0.8	0.0	-0.6	-0.4	-0.4							
Miscellaneous to balance ⁵	1.1	0.9	4.7	5.1	1.0	-1.0	2.4	0.8	-0.1	0.4							
Total Stock Ch. & Misc	1.4	1.0	6.4	8.4	-1.2	-2.0	2.9	-1.0	-1.2	-1.4	-0.7	-1.1					
Memo items:																	
Call on OPEC crude + Stock ch. ⁶	30.0	28.7	21.8	17.2	25.3	26.9	22.8	26.3	26.7	28.3	28.5	27.5	27.1	27.6	28.3	28.0	27.8

¹ Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply. Includes biofuels.

² OPEC data based on today's membership throughout the time series.

³ Net volumetric gains and losses in the refining process and marine transportation losses.

⁴ Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.

⁵ Includes changes in non-reported stocks in OECD and non-OECD areas.

⁶ Total demand minus total non-OPEC supply minus OPEC NGLs.

Table 1a
WORLD OIL SUPPLY AND DEMAND: CHANGES FROM LAST MONTH'S TABLE 1
(million barrels per day)

	2018	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
OECD DEMAND																	
Americas	-	-	-	-	-	-	-	-	-	-	-0.2	-	-0.1	-	-0.1	-	-
Europe	-	-	-	-	-	-	-	-	-	-	0.3	0.1	0.1	0.1	0.1	0.2	0.1
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.1	-
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	0.1	0.1	0.3	0.1	-	-	-	0.3	0.1
Other Asia	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-	-	-	-0.1
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	0.1	-	-0.1	-	-	-	0.1	0.1	-	-	0.1	0.1	0.1	-	0.1
Africa	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.1	-	-	-
Total Non-OECD	-	-	0.1	0.2	-	-	0.1	-	0.2	0.1	0.2	0.2	-0.1	0.1	0.1	0.4	0.1
Total Demand	-	-	0.1	0.2	-	-	0.1	-	0.2	0.2	0.3	0.2	-0.1	0.2	0.1	0.5	0.2
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	-	0.2	-	0.1	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-0.1	-0.1	-0.1
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	-	-0.1	-0.1	-
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-0.2	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-0.2	-0.1	-0.1	-0.1
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-0.2	-	0.1	-	-
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	-	-	-	-	-0.2	-0.1	-0.1	-0.2	-0.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Supply	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-	-	-	-0.2	-	-	-0.1	-	-0.2	-0.2	-	-	-	-	-	-	-
Total Stock Ch. & Misc	-	-	-	-0.2	-	-	-0.1	-	-0.2	-0.2	-	-	-	-	-	-	-
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	-	0.2	-	-	0.1	-	0.2	0.2	0.3	0.2	0.1	0.3	0.1	0.6	0.3

Note: When submitting monthly oil statistics, OECD member countries may update data for prior periods. Similar updates to non-OECD data can also occur.

Table 1b
WORLD OIL SUPPLY AND DEMAND (Including OPEC+ based on current agreement¹)
(million barrels per day)

	2018	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
Total Demand	98.9	99.5	93.9	83.3	92.1	94.1	90.9	93.3	95.4	97.8	99.0	96.4	97.8	99.3	100.9	100.8	99.7
OECD SUPPLY																	
Americas ²	20.9	22.8	23.9	20.7	21.3	21.8	21.9	21.3	22.3	22.4	23.4	22.4	23.3	23.4	23.7	24.0	23.6
Europe	3.5	3.4	3.7	3.6	3.4	3.5	3.6	3.6	3.1	3.4	3.4	3.4	3.5	3.4	3.4	3.5	3.5
Asia Oceania	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total OECD (non-OPEC+)	24.8	26.7	28.1	24.8	25.2	25.9	26.0	25.5	25.9	26.3	27.4	26.3	27.4	27.3	27.6	28.0	27.6
NON-OECD SUPPLY																	
FSU ³	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.8	3.9	4.0	4.0	4.0	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Other Asia ⁴	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.1
Latin America	5.1	5.3	5.6	5.1	5.4	5.2	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.6	5.6	5.5
Middle East ⁵	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0
Africa ⁶	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1
Total Non-OECD (non-OPEC+)	15.1	15.3	15.5	14.9	15.1	14.8	15.1	15.1	15.1	15.2	14.9	15.1	15.1	15.2	15.2	15.3	15.2
Processing Gains	2.4	2.4	2.3	2.0	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4
Global Biofuels	2.7	2.8	2.3	2.5	3.1	2.6	2.6	2.2	2.9	3.2	2.7	2.7	2.4	3.1	3.4	3.0	3.0
Total Non-OPEC+	44.9	47.1	48.2	44.3	45.5	45.4	45.9	44.8	46.1	47.0	47.3	46.3	47.3	48.0	48.6	48.6	48.1
OPEC+ CRUDE																	
Algeria	1.0	1.0	1.0	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Angola	1.5	1.4	1.4	1.3	1.2	1.2	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Azerbaijan	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Brunei	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Congo	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Equatorial Guinea	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gabon	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Iran	3.6	2.4	2.0	1.9	2.0	2.1	2.0	2.3	2.4	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5
Iraq	4.6	4.7	4.6	4.1	3.7	3.8	4.0	3.9	3.9	4.1	4.2	4.0	4.3	4.5	4.6	4.7	4.5
Kazakhstan	1.6	1.6	1.7	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.7	1.5	1.6	1.5	1.6	1.7	1.6
Kuwait	2.7	2.7	2.7	2.4	2.2	2.3	2.4	2.3	2.4	2.4	2.5	2.4	2.6	2.7	2.8	2.8	2.7
Libya	1.0	1.1	0.3	0.1	0.1	0.9	0.4	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Malaysia	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Mexico	1.8	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Nigeria	1.6	1.7	1.8	1.6	1.4	1.3	1.5	1.4	1.3	1.3	1.2	1.3	1.3	1.4	1.4	1.4	1.4
Oman	0.9	0.8	0.9	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9
Russia	10.4	10.4	10.4	9.2	8.9	9.1	9.4	9.3	9.5	9.7	9.9	9.6	10.1	10.2	10.2	10.2	10.2
Saudi Arabia	10.3	9.9	9.8	9.3	8.8	9.0	9.2	8.5	8.5	9.6	9.9	9.1	10.2	10.6	10.9	11.0	10.7
South Sudan	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sudan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
UAE	3.0	3.2	3.2	2.9	2.8	2.5	2.9	2.6	2.6	2.8	2.9	2.7	2.9	3.0	3.1	3.2	3.1
Venezuela	1.4	0.9	0.8	0.5	0.4	0.4	0.5	0.5	0.5	0.6	0.8	0.6	0.8	0.8	0.8	0.8	0.8
OPEC+ Crude	47.8	45.9	44.6	40.2	38.2	39.3	40.6	39.9	40.5	41.9	43.3	41.4	44.2	45.1	45.9	46.3	45.4
OPEC+ NGLs & Condensate	7.4	7.4	7.5	7.1	7.1	7.3	7.3	7.4	7.5	7.4	7.6	7.5	7.7	7.8	7.9	7.9	7.8
OPEC+ Nonconventionals	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total OPEC+	55.3	53.4	52.1	47.5	45.4	46.7	47.9	47.5	48.0	49.4	50.9	49.0	52.0	53.1	53.9	54.4	53.4
Total Supply Oil	100.3	100.5	100.3	91.7	91.0	92.2	93.8	92.3	94.1	96.4	98.2	95.3	99.3	101.0	102.6	103.0	101.5

Memo items:

Call on OPEC+ crude + Stock ch 46.4 44.9 38.2 31.8 39.4 41.3 37.7 40.9 41.7 43.3 44.0 42.5 42.7 43.4 44.2 44.1 43.6

¹ From Jan 2022, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2022.

² OECD Americas excludes Mexico

³ FSU excludes Russia, Kazakhstan, Azerbaijan

⁴ Other Asia excludes Brunei, Malaysia

⁵ Middle East excludes Oman, Bahrain

⁶ Africa excludes Sudan, South Sudan

Table 2
SUMMARY OF GLOBAL OIL DEMAND

	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
Demand (mb/d)																
Americas	25.47	24.31	19.85	22.64	22.98	22.44	22.73	24.33	24.74	24.72	24.14	24.22	25.12	25.55	25.09	25.00
Europe	14.31	13.33	11.02	12.87	12.51	12.43	11.91	12.63	13.84	13.69	13.03	13.10	13.55	13.98	13.70	13.58
Asia Oceania	7.93	7.86	6.60	6.75	7.35	7.14	7.67	7.04	7.11	7.73	7.39	7.94	7.18	7.38	7.88	7.59
Total OECD	47.72	45.50	37.46	42.26	42.84	42.02	42.30	44.00	45.70	46.13	44.55	45.25	45.85	46.90	46.67	46.17
Asia	27.54	25.33	25.47	26.86	28.28	26.49	28.10	28.15	27.87	29.12	28.31	29.25	29.73	29.32	29.98	29.57
Middle East	8.24	7.90	7.12	8.12	7.76	7.73	7.73	7.96	8.38	7.85	7.98	7.92	8.04	8.48	7.95	8.10
Americas	6.29	5.77	5.03	5.72	5.90	5.61	5.78	5.85	6.18	6.11	5.98	5.88	5.99	6.17	6.15	6.05
FSU	4.72	4.57	4.09	4.67	4.67	4.50	4.56	4.68	4.93	4.95	4.78	4.66	4.82	5.14	5.08	4.93
Africa	4.25	4.13	3.47	3.74	3.92	3.82	4.08	3.99	3.92	4.04	4.01	4.11	4.11	4.03	4.18	4.10
Europe	0.78	0.74	0.69	0.77	0.77	0.74	0.74	0.74	0.83	0.76	0.77	0.74	0.77	0.82	0.78	0.78
Total Non-OECD	51.83	48.45	45.88	49.87	51.30	48.88	51.00	51.37	52.12	52.83	51.83	52.56	53.47	53.96	54.11	53.53
World	99.55	93.95	83.34	92.14	94.13	90.90	93.30	95.37	97.82	98.96	96.38	97.82	99.32	100.86	100.78	99.71
of which:																
United States ¹	20.46	19.50	16.07	18.45	18.72	18.19	18.45	20.03	20.21	20.12	19.71	19.63	20.38	20.54	20.24	20.20
Europe five ²	8.20	7.62	5.93	7.11	7.03	6.92	6.68	7.08	7.67	7.70	7.29	7.50	7.58	7.77	7.71	7.64
China	13.55	11.86	14.21	14.63	14.85	13.89	14.61	15.32	15.32	15.36	15.16	15.16	15.75	15.80	15.79	15.63
Japan	3.74	3.78	2.93	3.06	3.53	3.33	3.73	3.08	3.18	3.66	3.41	3.91	3.21	3.31	3.70	3.53
India	4.99	4.92	3.89	4.25	5.10	4.54	4.99	4.45	4.48	4.94	4.72	5.10	5.10	4.75	5.18	5.03
Russia	3.57	3.52	3.08	3.58	3.50	3.42	3.49	3.59	3.79	3.73	3.65	3.57	3.68	3.97	3.84	3.77
Brazil	3.08	2.95	2.64	2.99	3.13	2.93	2.97	2.98	3.19	3.13	3.07	2.97	2.97	3.08	3.10	3.03
Saudi Arabia	3.12	2.93	2.77	3.30	3.01	3.00	2.77	3.07	3.29	2.97	3.03	2.81	2.92	3.28	2.91	2.98
Canada	2.51	2.42	1.97	2.25	2.14	2.19	2.12	2.16	2.41	2.42	2.28	2.32	2.34	2.60	2.51	2.44
Korea	2.60	2.53	2.45	2.36	2.40	2.44	2.55	2.50	2.59	2.65	2.57	2.59	2.52	2.63	2.66	2.60
Mexico	1.96	1.85	1.40	1.50	1.58	1.58	1.62	1.63	1.56	1.64	1.61	1.73	1.86	1.88	1.81	1.82
Iran	1.93	2.01	1.78	1.81	1.85	1.86	1.97	1.89	1.89	1.89	1.91	2.00	1.94	1.93	1.91	1.95
Total	69.70	65.89	59.10	65.29	66.86	64.29	65.96	67.78	69.60	70.20	68.40	69.29	70.25	71.52	71.36	70.62
% of World	70.0%	70.1%	70.9%	70.9%	71.0%	70.7%	70.7%	71.1%	71.2%	70.9%	71.0%	70.8%	70.7%	70.9%	70.8%	70.8%
Annual Change (% per annum)																
Americas	0.2	-2.9	-21.6	-12.6	-10.3	-11.9	-6.5	22.6	9.3	7.6	7.5	6.6	3.2	3.3	1.5	3.6
Europe	0.0	-5.4	-22.8	-12.7	-11.6	-13.1	-10.7	14.7	7.5	9.4	4.8	10.0	7.2	1.0	0.1	4.3
Asia Oceania	-1.0	-6.0	-12.6	-12.3	-9.6	-10.0	-2.5	6.7	5.4	5.1	3.5	3.5	2.0	3.7	1.9	2.8
Total OECD	-0.0	-4.2	-20.5	-12.6	-10.6	-11.9	-7.0	17.5	8.1	7.7	6.0	7.0	4.2	2.6	1.2	3.7
Asia	2.0	-6.9	-7.7	-1.5	0.8	-3.8	10.9	10.5	3.8	3.0	6.9	4.1	5.6	5.2	3.0	4.5
Middle East	0.2	-1.5	-11.8	-6.2	-5.5	-6.3	-2.2	11.8	3.2	1.1	3.3	2.4	1.1	1.2	1.3	1.5
Americas	0.6	-6.5	-19.8	-10.4	-6.8	-10.9	0.2	16.2	8.1	3.4	6.7	1.7	2.5	-0.2	0.7	1.1
FSU	0.8	1.6	-11.8	-4.7	-3.7	-4.7	-0.3	14.5	5.7	6.1	6.3	2.3	3.0	4.1	2.5	3.0
Africa	0.8	-4.3	-19.1	-9.6	-8.0	-10.2	-1.2	14.9	4.8	3.1	5.0	0.7	2.9	2.6	3.4	2.4
Europe	3.4	-1.8	-12.0	-3.6	-3.1	-5.2	0.6	6.9	7.5	-0.5	3.6	0.2	4.2	-0.4	1.7	1.4
Total Non-OECD	1.4	-5.0	-11.2	-4.4	-2.3	-5.7	5.3	12.0	4.5	3.0	6.0	3.1	4.1	3.5	2.4	3.3
World	0.7	-4.6	-15.7	-8.3	-6.2	-8.7	-0.7	14.4	6.2	5.1	6.0	4.8	4.1	3.1	1.8	3.4
Annual Change (mb/d)																
Americas	0.06	-0.73	-5.48	-3.26	-2.65	-3.03	-1.58	4.48	2.10	1.74	1.69	1.49	0.79	0.81	0.38	0.86
Europe	0.00	-0.76	-3.24	-1.87	-1.64	-1.88	-1.42	1.62	0.97	1.18	0.59	1.19	0.92	0.14	0.01	0.56
Asia Oceania	-0.08	-0.50	-0.95	-0.95	-0.78	-0.80	-0.19	0.44	0.36	0.38	0.25	0.27	0.14	0.26	0.15	0.21
Total OECD	-0.01	-1.99	-9.68	-6.08	-5.06	-5.70	-3.20	6.54	3.44	3.30	2.53	2.95	1.85	1.20	0.54	1.63
Asia	0.55	-1.89	-2.14	-0.42	0.24	-1.05	2.77	2.68	1.02	0.84	1.82	1.15	1.58	1.45	0.86	1.26
Middle East	0.02	-0.12	-0.95	-0.54	-0.45	-0.52	-0.17	0.84	0.26	0.09	0.25	0.18	0.08	0.10	0.10	0.12
Americas	0.04	-0.40	-1.24	-0.67	-0.43	-0.68	0.01	0.82	0.47	0.20	0.37	0.10	0.15	-0.01	0.04	0.07
FSU	0.04	0.07	-0.55	-0.23	-0.18	-0.22	-0.02	0.59	0.26	0.29	0.28	0.10	0.14	0.20	0.12	0.14
Africa	0.03	-0.18	-0.82	-0.40	-0.34	-0.44	-0.05	0.52	0.18	0.12	0.19	0.03	0.12	0.10	0.14	0.10
Europe	0.03	-0.01	-0.09	-0.03	-0.02	-0.04	0.00	0.05	0.06	0.00	0.03	0.00	0.03	0.00	0.01	0.01
Total Non-OECD	0.71	-2.53	-5.79	-2.28	-1.19	-2.95	2.55	5.49	2.24	1.53	2.95	1.57	2.10	1.84	1.29	1.70
World	0.69	-4.52	-15.47	-8.36	-6.26	-8.65	-0.65	12.03	5.68	4.83	5.48	4.52	3.95	3.04	1.82	3.32
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.15	-0.03	-0.05	-0.02	-0.08	-0.05	-0.05
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.08	0.08	0.06	0.07	0.19	0.10
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.01	0.00	-0.01	-0.01	-0.02	-0.01
Total OECD	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.03	0.11	0.03	0.03	0.04	-0.01	0.12	0.05
Asia	0.00	0.01	0.04	0.02	0.02	0.02	0.00	0.07	0.09	0.20	0.09	-0.14	-0.06	-0.06	0.27	0.00
Middle East	0.00	0.05	0.03	-0.05	-0.02	0.00	0.03	0.13	0.05	-0.03	0.05	0.08	0.11	0.10	0.03	0.08
Americas	0.00	0.00	0.05	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00	0.00	-0.01
FSU	0.00	0.00	0.04	0.02	0.00	0.01	0.00	0.00	0.00	0.06	0.02	-0.03	0.02	0.02	0.05	0.01
Africa	0.00	0.00	0.06	0.02	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.07	0.03	0.03	0.04
Europe	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.01	0.01	0.00	-0.01	0.00
Total Non-OECD	0.00	0.06	0.23	0.02	0.00	0.08	0.02	0.20	0.15	0.24	0.15	-0.09	0.14	0.08	0.36	0.13
World	0.00	0.05	0.22	0.02	0.00	0.07	0.02	0.20	0.18	0.35	0.19	-0.06	0.18	0.07	0.48	0.17
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.00	0.05	0.22	0.02	0.00	0.07	-0.03	-0.02	0.16	0.34	0.11	-0.08	-0.02	-0.11	0.14	-0.02

¹ US figures exclude US territories.

² France, Germany, Italy, Spain and UK

Table 2a
OECD REGIONAL OIL DEMAND¹
(million barrels per day)

	Latest month vs.									
	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21 ²	Sep 21 Oct 20
Americas										
LPG and ethane	3.40	3.46	3.75	3.66	3.50	3.54	3.64	3.67	3.37	-0.30 -0.03
Naphtha	0.25	0.25	0.26	0.23	0.27	0.26	0.26	0.26	0.20	-0.06 -0.05
Motor gasoline	11.04	9.53	9.55	9.38	10.57	10.74	10.73	10.51	10.61	0.10 0.77
Jet and kerosene	2.05	1.23	1.24	1.28	1.49	1.72	1.78	1.69	1.65	-0.03 0.51
Gasoil/diesel oil	5.37	4.92	5.08	5.08	5.03	4.99	5.02	5.20	5.01	-0.18 -0.18
Residual fuel oil	0.54	0.40	0.41	0.54	0.51	0.55	0.57	0.52	0.56	0.03 0.09
Other products	2.82	2.66	2.70	2.56	2.95	2.94	3.06	2.88	2.92	0.03 0.36
Total	25.47	22.44	22.98	22.73	24.33	24.74	25.06	24.73	24.33	-0.40 1.47
Europe										
LPG and ethane	1.20	1.08	1.06	1.12	1.06	1.10	1.09	1.01	1.04	0.04 -0.02
Naphtha	1.02	1.07	1.16	1.23	1.02	1.11	1.12	1.17	1.21	0.04 0.12
Motor gasoline	2.04	1.75	1.72	1.57	1.92	2.19	2.19	2.15	2.07	-0.08 0.17
Jet and kerosene	1.56	0.73	0.65	0.61	0.67	1.01	1.04	1.05	1.07	0.02 0.40
Gasoil/diesel oil	6.46	5.96	6.07	5.70	6.13	6.51	6.31	6.84	6.74	-0.10 0.47
Residual fuel oil	0.84	0.68	0.68	0.69	0.69	0.73	0.71	0.75	0.69	-0.06 -0.01
Other products	1.20	1.15	1.17	1.00	1.14	1.19	1.14	1.26	1.28	0.02 0.03
Total	14.31	12.43	12.51	11.91	12.63	13.84	13.61	14.22	14.10	-0.12 1.15
Asia Oceania										
LPG and ethane	0.82	0.78	0.79	0.86	0.77	0.73	0.70	0.74	0.70	-0.04 -0.03
Naphtha	1.98	1.82	1.75	1.97	1.86	2.02	2.01	2.13	2.01	-0.12 0.31
Motor gasoline	1.52	1.35	1.42	1.32	1.37	1.36	1.37	1.35	1.33	-0.02 -0.02
Jet and kerosene	0.89	0.61	0.69	0.82	0.47	0.43	0.41	0.46	0.58	0.12 0.09
Gasoil/diesel oil	1.93	1.79	1.89	1.82	1.82	1.77	1.72	1.83	1.85	0.02 0.04
Residual fuel oil	0.43	0.43	0.44	0.50	0.41	0.44	0.45	0.43	0.46	0.04 0.04
Other products	0.37	0.35	0.38	0.37	0.35	0.36	0.35	0.37	0.35	-0.02 -0.04
Total	7.93	7.14	7.35	7.66	7.04	7.11	6.99	7.30	7.28	-0.02 0.40
OECD										
LPG and ethane	5.41	5.32	5.59	5.64	5.33	5.38	5.42	5.42	5.12	-0.30 -0.08
Naphtha	3.26	3.15	3.16	3.43	3.16	3.38	3.39	3.56	3.42	-0.14 0.38
Motor gasoline	14.59	12.64	12.69	12.27	13.86	14.29	14.29	14.00	14.01	0.01 0.92
Jet and kerosene	4.50	2.57	2.58	2.71	2.62	3.16	3.23	3.20	3.30	0.10 1.01
Gasoil/diesel oil	13.75	12.67	13.04	12.61	12.98	13.27	13.05	13.86	13.60	-0.26 0.33
Residual fuel oil	1.81	1.51	1.53	1.73	1.60	1.73	1.73	1.70	1.72	0.02 0.12
Other products	4.40	4.16	4.25	3.92	4.45	4.50	4.55	4.51	4.54	0.03 0.35
Total	47.72	42.02	42.84	42.30	44.00	45.70	45.67	46.25	45.71	-0.54 3.03

¹ Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils. North America comprises US 50 states, US territories, Mexico, Canada and Chile.

² Latest official OECD submissions (MOS).

Table 2b
OIL DEMAND IN SELECTED OECD COUNTRIES¹
(million barrels per day)

	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21 ²	Latest month vs.	
										Sep 21	Oct 20
United States³											
LPG and ethane	2.63	2.74	3.01	2.85	2.76	2.73	2.80	2.83	2.62	-0.20	-0.09
Naphtha	0.21	0.18	0.19	0.16	0.21	0.20	0.18	0.20	0.15	-0.05	-0.04
Motor gasoline	9.27	8.05	8.06	8.00	9.07	9.13	9.11	8.97	8.95	-0.02	0.63
Jet and kerosene	1.75	1.08	1.10	1.14	1.34	1.52	1.58	1.50	1.45	-0.05	0.44
Gasoil/diesel oil	4.08	3.78	3.94	3.97	3.93	3.87	3.89	4.08	3.89	-0.18	-0.15
Residual fuel oil	0.27	0.21	0.22	0.26	0.25	0.33	0.35	0.32	0.38	0.06	0.12
Other products	2.24	2.13	2.21	2.05	2.47	2.43	2.60	2.34	2.45	0.11	0.36
Total	20.46	18.19	18.72	18.45	20.03	20.21	20.51	20.22	19.89	-0.33	1.28
Japan											
LPG and ethane	0.43	0.41	0.42	0.50	0.40	0.37	0.33	0.39	0.35	-0.04	0.00
Naphtha	0.74	0.68	0.71	0.74	0.68	0.70	0.69	0.78	0.74	-0.04	0.07
Motor gasoline	0.85	0.76	0.78	0.71	0.71	0.78	0.79	0.76	0.74	-0.02	-0.02
Jet and kerosene	0.47	0.36	0.44	0.55	0.24	0.21	0.21	0.23	0.32	0.10	0.05
Diesel	0.44	0.40	0.42	0.41	0.39	0.39	0.37	0.41	0.41	0.00	0.00
Other gasoil	0.33	0.30	0.33	0.35	0.28	0.27	0.26	0.29	0.31	0.02	0.01
Residual fuel oil	0.23	0.21	0.23	0.27	0.21	0.23	0.23	0.22	0.24	0.02	0.01
Other products	0.24	0.20	0.20	0.20	0.18	0.23	0.22	0.24	0.23	-0.01	0.03
Total	3.74	3.33	3.53	3.73	3.08	3.18	3.11	3.32	3.35	0.03	0.15
Germany											
LPG and ethane	0.12	0.11	0.10	0.12	0.13	0.12	0.12	0.11	0.11	0.00	0.02
Naphtha	0.27	0.29	0.32	0.35	0.31	0.32	0.31	0.35	0.36	0.02	0.04
Motor gasoline	0.50	0.45	0.44	0.40	0.44	0.48	0.49	0.48	0.47	-0.01	-0.02
Jet and kerosene	0.22	0.10	0.08	0.09	0.11	0.16	0.16	0.18	0.16	-0.02	0.08
Diesel	0.76	0.71	0.71	0.60	0.71	0.77	0.76	0.77	0.77	0.01	0.00
Other gasoil	0.34	0.36	0.33	0.22	0.26	0.26	0.25	0.32	0.38	0.06	0.06
Residual fuel oil	0.06	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	-0.01	-0.01
Other products	0.08	0.08	0.07	0.05	0.06	0.07	0.07	0.09	0.09	0.00	0.00
Total	2.35	2.15	2.11	1.89	2.07	2.23	2.21	2.35	2.40	0.05	0.18
Italy											
LPG and ethane	0.10	0.09	0.10	0.11	0.09	0.09	0.09	0.09	0.10	0.01	0.00
Naphtha	0.11	0.10	0.12	0.11	0.10	0.09	0.10	0.10	0.10	0.01	-0.01
Motor gasoline	0.18	0.14	0.14	0.13	0.17	0.19	0.19	0.18	0.18	0.00	0.02
Jet and kerosene	0.11	0.04	0.04	0.02	0.04	0.07	0.07	0.06	0.05	-0.01	0.01
Diesel	0.47	0.42	0.45	0.44	0.49	0.52	0.48	0.54	0.51	-0.03	0.03
Other gasoil	0.07	0.06	0.07	0.05	0.06	0.07	0.06	0.07	0.07	0.00	-0.01
Residual fuel oil	0.06	0.06	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.00	-0.01
Other products	0.15	0.14	0.15	0.14	0.16	0.16	0.12	0.17	0.17	0.00	0.01
Total	1.26	1.05	1.13	1.04	1.15	1.25	1.19	1.29	1.24	-0.05	0.04
France											
LPG and ethane	0.14	0.11	0.11	0.12	0.13	0.11	0.12	0.10	0.08	-0.01	-0.02
Naphtha	0.11	0.12	0.14	0.15	0.12	0.13	0.12	0.14	0.16	0.02	0.02
Motor gasoline	0.20	0.17	0.17	0.18	0.20	0.24	0.24	0.24	0.22	-0.02	0.02
Jet and kerosene	0.17	0.09	0.08	0.08	0.07	0.11	0.12	0.11	0.11	0.00	0.03
Diesel	0.76	0.67	0.69	0.68	0.72	0.78	0.73	0.80	0.78	-0.02	0.02
Other gasoil	0.14	0.14	0.13	0.17	0.09	0.11	0.09	0.15	0.15	0.00	0.03
Residual fuel oil	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.02	-0.02	-0.01
Other products	0.11	0.09	0.09	0.07	0.09	0.12	0.10	0.12	0.10	-0.02	-0.02
Total	1.69	1.42	1.44	1.47	1.45	1.63	1.56	1.70	1.63	-0.07	0.06
United Kingdom											
LPG and ethane	0.13	0.13	0.12	0.13	0.09	0.10	0.10	0.10	0.10	0.00	-0.03
Naphtha	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-0.01
Motor gasoline	0.29	0.22	0.23	0.20	0.26	0.28	0.28	0.29	0.30	0.01	0.05
Jet and kerosene	0.34	0.19	0.17	0.17	0.14	0.16	0.16	0.20	0.21	0.01	0.05
Diesel	0.52	0.43	0.46	0.42	0.50	0.50	0.50	0.53	0.49	-0.05	0.02
Other gasoil	0.14	0.11	0.11	0.11	0.14	0.14	0.14	0.14	0.13	-0.01	0.02
Residual fuel oil	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.00	0.00
Other products	0.12	0.10	0.10	0.09	0.11	0.11	0.12	0.11	0.10	-0.01	-0.01
Total	1.58	1.21	1.22	1.16	1.25	1.31	1.32	1.39	1.35	-0.05	0.09
Canada											
LPG and ethane	0.39	0.37	0.37	0.46	0.40	0.45	0.47	0.48	0.40	-0.08	0.09
Naphtha	0.02	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.02	-0.01	-0.01
Motor gasoline	0.88	0.75	0.74	0.67	0.77	0.86	0.89	0.81	0.86	0.05	0.10
Jet and kerosene	0.17	0.07	0.06	0.05	0.05	0.10	0.10	0.10	0.09	0.00	0.03
Diesel	0.26	0.27	0.26	0.27	0.27	0.27	0.26	0.27	0.26	-0.01	0.00
Other gasoil	0.38	0.33	0.35	0.32	0.32	0.36	0.37	0.38	0.38	-0.01	0.04
Residual fuel oil	0.04	0.04	0.03	0.04	0.03	0.02	0.02	0.02	0.02	0.00	-0.01
Other products	0.36	0.33	0.29	0.28	0.28	0.32	0.27	0.36	0.27	-0.08	0.01
Total	2.51	2.19	2.14	2.12	2.16	2.41	2.43	2.45	2.31	-0.14	0.25

¹ Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.

² Latest official OECD submissions (MOS).

³ US figures exclude US territories.

Table 3
WORLD OIL PRODUCTION
(million barrels per day)

	2020	2021	2022	3Q21	4Q21	1Q22	2Q22	3Q22	Oct 21	Nov 21	Dec 21
OPEC											
Crude Oil											
Saudi Arabia	9.21	9.12		9.57	9.90				9.80	9.89	10.01
Iran	2.00	2.42		2.47	2.48				2.48	2.47	2.50
Iraq	4.05	4.03		4.06	4.23				4.16	4.25	4.28
UAE	2.86	2.72		2.76	2.86				2.83	2.86	2.88
Kuwait	2.41	2.42		2.44	2.53				2.50	2.53	2.55
Angola	1.27	1.12		1.11	1.12				1.11	1.11	1.15
Nigeria	1.49	1.31		1.27	1.24				1.23	1.29	1.21
Libya	0.35	1.15		1.16	1.12				1.16	1.14	1.05
Algeria	0.90	0.91		0.92	0.96				0.95	0.96	0.97
Congo	0.30	0.27		0.27	0.27				0.27	0.26	0.28
Gabon	0.20	0.18		0.18	0.19				0.17	0.19	0.21
Equatorial Guinea	0.11	0.10		0.10	0.08				0.08	0.07	0.10
Venezuela	0.53	0.61		0.59	0.76				0.71	0.78	0.80
Total Crude Oil	25.69	26.36		26.90	27.75				27.45	27.80	27.99
of which Neutral Zone ¹	0.11	0.25		0.24	0.28				0.27	0.27	0.30
Total NGLs²	5.10	5.19	5.40	5.22	5.22	5.30	5.40	5.44	5.22	5.22	5.22
Total OPEC³	30.78	31.55		32.12	32.96				32.67	33.02	33.21
NON-OPEC⁴											
OECD											
Americas											
United States	16.56	16.70	17.72	16.75	17.55	17.40	17.69	17.77	17.28	17.61	17.75
Mexico	1.93	1.95	2.01	1.95	1.96	1.96	1.99	2.03	1.97	1.97	1.95
Canada	5.35	5.65	5.86	5.63	5.87	5.90	5.71	5.88	5.84	5.85	5.92
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe											
UK	1.08	0.90	0.94	0.88	0.94	0.98	0.94	0.92	0.89	0.97	0.98
Norway	2.01	2.04	2.08	2.05	2.05	2.12	2.00	2.07	2.06	2.00	2.08
Others	0.48	0.45	0.44	0.45	0.46	0.44	0.44	0.44	0.46	0.46	0.45
Asia Oceania											
Australia	0.52	0.51	0.52	0.54	0.54	0.53	0.53	0.52	0.54	0.55	0.55
Others	0.45	0.44	0.46	0.46	0.48	0.47	0.46	0.46	0.47	0.48	0.48
Others	0.07	0.07	0.06	0.08	0.07	0.07	0.07	0.06	0.07	0.06	0.07
Total OECD	27.93	28.22	29.58	28.26	29.38	29.35	29.30	29.64	29.04	29.42	29.69
NON-OECD											
Former USSR											
Russia	13.50	13.77	14.56	13.67	14.30	14.40	14.48	14.59	14.21	14.34	14.35
Azerbaijan	10.61	10.86	11.53	10.89	11.23	11.38	11.52	11.58	11.20	11.25	11.25
Kazakhstan	0.70	0.70	0.72	0.71	0.71	0.71	0.72	0.72	0.71	0.71	0.72
Others	1.84	1.85	1.94	1.70	1.99	1.94	1.87	1.92	1.94	2.02	2.02
Others	0.36	0.36	0.37	0.36	0.36	0.37	0.37	0.37	0.36	0.36	0.36
Asia											
China	6.99	6.93	6.89	6.88	6.86	6.93	6.91	6.87	6.80	6.88	6.90
China	3.97	4.07	4.10	4.08	4.06	4.12	4.11	4.10	4.04	4.07	4.08
Malaysia	0.60	0.57	0.59	0.53	0.55	0.59	0.59	0.59	0.53	0.56	0.57
India	0.75	0.73	0.71	0.73	0.72	0.72	0.71	0.70	0.72	0.72	0.72
Indonesia	0.73	0.68	0.65	0.68	0.67	0.66	0.66	0.65	0.67	0.67	0.67
Others	0.93	0.88	0.83	0.86	0.85	0.84	0.83	0.83	0.84	0.86	0.85
Europe											
Europe	0.12	0.11	0.10	0.11	0.11	0.11	0.11	0.10	0.11	0.11	0.11
Americas											
Brazil	5.32	5.31	5.52	5.44	5.23	5.41	5.48	5.57	5.23	5.33	5.13
Brazil	3.04	3.01	3.16	3.10	2.96	3.08	3.14	3.19	2.88	2.97	3.02
Argentina	0.61	0.64	0.68	0.64	0.67	0.68	0.68	0.68	0.66	0.68	0.68
Colombia	0.79	0.74	0.72	0.75	0.75	0.74	0.73	0.72	0.76	0.75	0.75
Ecuador	0.48	0.48	0.47	0.49	0.40	0.48	0.48	0.47	0.49	0.49	0.24
Others	0.40	0.44	0.49	0.44	0.44	0.44	0.46	0.51	0.44	0.44	0.44
Middle East											
Middle East	3.01	3.09	3.24	3.10	3.13	3.21	3.23	3.25	3.11	3.13	3.15
Oman	0.96	0.98	1.08	0.98	1.01	1.05	1.07	1.10	1.00	1.01	1.02
Qatar	1.77	1.82	1.85	1.82	1.83	1.85	1.85	1.85	1.83	1.83	1.83
Others	0.28	0.29	0.30	0.29	0.29	0.31	0.31	0.30	0.28	0.30	0.30
Africa											
Africa	1.39	1.31	1.27	1.30	1.29	1.29	1.25	1.27	1.28	1.29	1.29
Egypt	0.60	0.57	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Others	0.79	0.74	0.71	0.73	0.73	0.73	0.70	0.72	0.72	0.73	0.73
Total Non-OECD	30.33	30.52	31.58	30.49	30.91	31.34	31.46	31.65	30.75	31.08	30.92
Processing gains ⁵	2.11	2.25	2.38	2.34	2.32	2.38	2.38	2.38	2.27	2.33	2.37
Global biofuels	2.63	2.74	2.99	3.19	2.65	2.38	3.13	3.43	2.88	2.64	2.44
TOTAL NON-OPEC	63.01	63.74	66.53	64.28	65.27	65.45	66.27	67.10	64.93	65.48	65.42
TOTAL SUPPLY	93.79	95.29		96.40	98.24				97.60	98.50	98.63

¹ Neutral Zone production is already included in Saudi Arabia and Kuwait production with their respective shares.

² Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. GTL in Nigeria and non-oil inputs to Saudi Arabian MTBE.

³ OPEC data based on today's membership throughout the time series.

⁴ Comprises crude oil, condensates, NGLs and oil from non-conventional sources

⁵ Net volumetric gains and losses in refining and marine transportation losses.

Table 3a
OIL SUPPLY IN OECD COUNTRIES¹
(thousand of barrels per day)

	2020	2021	2022	3Q21	4Q21	1Q22	2Q22	3Q22	Oct 21	Nov 21	Dec 21
United States											
Alaska	448	440	460	406	455	469	466	432	437	456	472
California	404	371	355	368	364	360	357	353	365	364	363
Texas	4854	4788	5127	4875	5061	5064	5128	5140	4906	5171	5110
Federal Gulf of Mexico ²	1644	1711	1892	1486	1768	1875	1901	1914	1744	1733	1826
Other US Lower 48	3934	3907	4187	3988	4108	4152	4169	4215	4022	4119	4183
NGLs ³	5175	5384	5592	5521	5686	5375	5557	5604	5713	5660	5685
Other Hydrocarbons	100	103	110	109	106	102	109	116	96	109	113
Total	16558	16703	17722	16753	17548	17397	17688	17774	17283	17612	17751
Canada											
Alberta Light/Medium/Heavy	423	436	447	438	458	452	449	446	458	463	452
Alberta Bitumen	1718	1942	2194	1941	2045	2142	2184	2283	1987	2012	2135
Saskatchewan	435	442	431	443	440	437	433	429	441	441	439
Other Crude	490	454	404	456	421	392	405	405	418	416	429
NGLs	949	1013	1036	1021	1013	1038	1027	1045	1012	1019	1008
Other Upgraders	219	180	181	178	201	194	163	171	204	202	196
Synthetic Crudes	1116	1184	1167	1148	1294	1249	1051	1102	1315	1300	1266
Total	5349	5651	5860	5627	5871	5904	5713	5880	5835	5853	5925
Mexico											
Crude	1721	1778	1849	1784	1794	1796	1830	1864	1798	1804	1780
NGLs	206	170	159	165	166	163	160	158	167	166	165
Total	1932	1953	2013	1955	1964	1964	1995	2026	1970	1975	1949
UK											
Brent Fields	35	24	16	12	18	20	19	12	16	19	19
Forties Fields	297	212	219	209	248	242	209	201	244	252	247
Ninian Fields	31	23	16	23	19	17	17	16	21	19	16
Flotta Fields	51	52	52	57	54	54	50	52	52	56	54
Other Fields	575	525	563	508	532	573	569	567	482	551	563
NGLs	88	68	73	69	74	74	74	73	73	75	76
Total	1078	904	939	879	944	980	937	921	887	971	976
Norway⁵											
Ekofisk-Ula Area	132	142	131	145	143	140	132	120	145	142	142
Oseberg-Troll Area	234	212	237	207	223	237	231	234	210	220	239
Statfjord-Gullfaks Area	230	264	255	271	275	267	260	246	279	273	271
Haltenbanken Area	280	281	296	274	284	286	293	297	285	283	283
Sleipner-Frigg Area	743	820	867	800	853	864	861	854	852	845	863
Other Fields	101	67	57	96	24	83	-21	93	58	-23	35
NGLs	288	252	234	260	245	244	239	227	232	257	246
Total	2007	2038	2078	2053	2047	2121	1995	2071	2062	1999	2079
Other OECD Europe											
Denmark	71	65	58	67	61	60	59	57	60	63	61
Italy	101	98	102	103	105	104	103	102	107	103	104
Turkey	62	66	66	67	67	67	66	66	67	66	67
Other	90	99	90	99	96	93	91	89	98	96	93
NGLs	7	7	6	7	7	7	6	6	7	7	7
Non-Conventional Oils	145	118	114	109	120	114	114	114	118	121	122
Total	475	452	437	452	456	444	440	435	457	457	453
Australia											
Gippsland Basin	8	4	4	4	4	4	4	4	4	4	4
Cooper-Eromanga Basin	35	23	19	21	21	20	20	19	21	21	20
Carnarvon Basin	106	112	110	121	117	114	112	109	117	116	117
Other Crude	202	200	211	208	224	214	212	210	225	225	223
NGLs	102	102	113	108	113	114	114	113	104	119	116
Total	453	442	458	462	479	466	461	456	470	485	481
Other OECD Asia Oceania											
New Zealand	21	18	17	18	18	17	17	17	17	18	18
Japan	4	4	4	4	4	4	4	4	4	4	4
NGLs	11	11	9	11	10	10	9	9	11	10	10
Non-Conventional Oils	34	37	35	43	34	35	35	35	33	33	37
Total	71	70	65	75	66	66	65	65	65	65	68
OECD											
Crude Oil	19480	19582	20739	19502	20302	20620	20631	20853	19940	20334	20634
NGLs	6834	7014	7231	7169	7322	7033	7195	7243	7327	7320	7320
Non-Conventional Oils ⁴	1618	1627	1612	1592	1760	1698	1477	1542	1772	1770	1738
Total	27932	28222	29582	28264	29385	29351	29303	29638	29039	29425	29692

1 Subcategories refer to crude oil only unless otherwise noted.

2 Only production from Federal waters is included.

3 To the extent possible, condensates from natural gas processing plants are included with NGLs, while field condensates are counted as crude oil.

4 Does not include biofuels.

5 North Sea production is grouped by area including all fields being processed through the named field complex, ie, not just the field of that name.

6 Other North Sea NGLs are included.

Table 3b
WORLD OIL PRODUCTION (Including OPEC+ based on current agreement¹)
(million barrels per day)

	2020	2021	2022	1Q21	2Q21	3Q21	4Q21	1Q22	Oct 21	Nov 21	Dec 21
OPEC+											
Crude Oil											
Algeria	0.90	0.91	0.99	0.87	0.89	0.92	0.96	0.98	0.95	0.96	0.97
Angola	1.27	1.12	1.11	1.14	1.12	1.11	1.12	1.14	1.11	1.11	1.15
Azerbaijan	0.61	0.59	0.59	0.59	0.60	0.60	0.59	0.59	0.59	0.59	0.60
Bahrain	0.17	0.17	0.19	0.17	0.17	0.18	0.18	0.19	0.17	0.18	0.18
Brunei	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.09	0.08	0.08	0.09
Congo	0.30	0.27	0.29	0.28	0.27	0.27	0.27	0.29	0.27	0.26	0.28
Equatorial Guinea	0.11	0.10	0.12	0.11	0.11	0.10	0.08	0.12	0.08	0.07	0.10
Gabon	0.20	0.18	0.18	0.17	0.18	0.18	0.19	0.17	0.17	0.19	0.21
Iran	2.00	2.42	2.50	2.32	2.40	2.47	2.48	2.50	2.48	2.47	2.50
Iraq	4.05	4.03	4.51	3.88	3.94	4.06	4.23	4.33	4.16	4.25	4.28
Kazakhstan	1.50	1.52	1.59	1.49	1.52	1.41	1.66	1.59	1.65	1.66	1.67
Kuwait	2.41	2.42	2.72	2.34	2.35	2.44	2.53	2.61	2.50	2.53	2.55
Libya	0.35	1.15	1.16	1.15	1.15	1.16	1.12	1.08	1.16	1.14	1.05
Malaysia	0.46	0.42	0.44	0.45	0.43	0.39	0.40	0.44	0.38	0.41	0.42
Mexico	1.66	1.67	1.69	1.67	1.69	1.66	1.66	1.65	1.67	1.67	1.64
Nigeria	1.49	1.31	1.41	1.39	1.34	1.27	1.24	1.33	1.23	1.29	1.21
Oman	0.76	0.75	0.85	0.73	0.74	0.76	0.78	0.82	0.77	0.78	0.80
Russia	9.42	9.62	10.19	9.26	9.54	9.72	9.94	10.08	9.92	9.96	9.95
Saudi Arabia	9.21	9.12	10.67	8.47	8.53	9.57	9.90	10.23	9.80	9.89	10.01
South Sudan	0.16	0.15	0.15	0.14	0.16	0.16	0.15	0.15	0.16	0.16	0.15
Sudan	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
UAE	2.86	2.72	3.08	2.61	2.64	2.76	2.86	2.95	2.83	2.86	2.88
Venezuela	0.53	0.61	0.82	0.55	0.55	0.59	0.76	0.82	0.71	0.78	0.80
Total Crude Oil	40.57	41.41	45.40	39.94	40.48	41.91	43.26	44.20	42.89	43.35	43.54
<i>of which Neutral Zone</i>	<i>0.11</i>	<i>0.22</i>		<i>0.23</i>	<i>0.26</i>	<i>0.24</i>	<i>0.28</i>		<i>0.27</i>	<i>0.27</i>	<i>0.30</i>
Total NGLs	7.36	7.57	7.95	7.53	7.57	7.49	7.68	7.81	7.63	7.71	7.71
TOTAL OPEC+	47.9	49.0	53.4	47.5	48.0	49.4	50.9	52.0	50.5	51.1	51.2
NON-OPEC+											
OECD											
Americas²											
United States	16.56	16.70	17.72	15.64	16.85	16.75	17.55	17.40	17.28	17.61	17.75
Canada	5.35	5.65	5.86	5.69	5.42	5.63	5.87	5.90	5.84	5.85	5.92
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.56	3.39	3.45	3.63	3.12	3.38	3.45	3.55	3.41	3.43	3.51
UK	1.08	0.90	0.94	1.03	0.77	0.88	0.94	0.98	0.89	0.97	0.98
Norway	2.01	2.04	2.08	2.14	1.92	2.05	2.05	2.12	2.06	2.00	2.08
Others	0.48	0.45	0.44	0.46	0.44	0.45	0.46	0.44	0.46	0.46	0.45
Asia Oceania	0.52	0.51	0.52	0.51	0.46	0.54	0.54	0.53	0.54	0.55	0.55
Australia	0.45	0.44	0.46	0.44	0.39	0.46	0.48	0.47	0.47	0.48	0.48
Others	0.07	0.07	0.06	0.07	0.07	0.08	0.07	0.07	0.07	0.06	0.07
Total OECD (non-OPEC+)	26.00	26.27	27.57	25.48	25.85	26.31	27.42	27.39	27.07	27.45	27.74
Non-OECD											
FSU	0.36	0.36	0.37	0.35	0.35	0.36	0.36	0.37	0.36	0.36	0.36
Asia	6.27	6.25	6.18	6.29	6.28	6.25	6.20	6.23	6.17	6.21	6.21
China	3.97	4.07	4.10	4.06	4.09	4.08	4.06	4.12	4.04	4.07	4.08
India	0.75	0.73	0.71	0.74	0.72	0.73	0.72	0.72	0.72	0.72	0.72
Indonesia	0.73	0.68	0.65	0.70	0.68	0.68	0.67	0.66	0.67	0.67	0.67
Others	0.82	0.77	0.72	0.79	0.79	0.76	0.74	0.73	0.74	0.75	0.74
Europe	0.12	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Americas	5.32	5.31	5.52	5.27	5.31	5.44	5.23	5.41	5.23	5.33	5.13
Brazil	3.04	3.01	3.16	2.95	3.04	3.10	2.96	3.08	2.88	2.97	3.02
Argentina	0.61	0.64	0.68	0.62	0.63	0.64	0.67	0.68	0.66	0.68	0.68
Colombia	0.79	0.74	0.72	0.75	0.72	0.75	0.75	0.74	0.76	0.75	0.75
Ecuador	0.48	0.48	0.47	0.51	0.50	0.49	0.40	0.48	0.49	0.49	0.24
Others	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Middle East	1.87	1.93	1.96	1.92	1.92	1.93	1.93	1.96	1.93	1.93	1.93
Qatar	1.77	1.82	1.85	1.82	1.82	1.82	1.83	1.85	1.83	1.83	1.83
Others	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11
Africa	1.2	1.1	1.1	1.11	1.11	1.08	1.07	1.08	1.07	1.07	1.08
Egypt	0.60	0.57	0.56	0.57	0.58	0.56	0.56	0.56	0.56	0.56	0.56
Others	0.57	0.53	0.50	0.54	0.53	0.52	0.51	0.52	0.51	0.51	0.52
Total non-OECD (non-OPEC+)	15.11	15.05	15.20	15.06	15.09	15.16	14.90	15.15	14.88	15.02	14.82
Processing gains	2.11	2.25	2.38	2.13	2.22	2.34	2.32	2.38	2.27	2.33	2.37
Global biofuels	2.63	2.74	2.99	2.18	2.93	3.19	2.65	2.38	2.88	2.64	2.44
TOTAL NON-OPEC+	45.86	46.32	48.14	44.84	46.10	47.00	47.30	47.29	47.09	47.44	47.38
TOTAL SUPPLY	93.79	95.29	101.49	92.31	94.14	96.40	98.24	99.30	97.60	98.50	98.63

¹ From Jan 2022, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2022.

² Excludes Mexico

Table 4
OECD STOCKS AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS ² in Million Barrels					PRIOR YEARS' STOCKS ² in Million Barrels			STOCK CHANGES in mb/d			
	Jul2021	Aug2021	Sep2021	Oct2021	Nov2021 ³	Nov2018	Nov2019	Nov2020	4Q2020	1Q2021	2Q2021	3Q2021
OECD INDUSTRY-CONTROLLED STOCKS¹												
OECD Americas												
Crude	616.5	597.8	591.8	616.5	614.9	610.5	594.0	664.9	-0.10	0.26	-0.57	-0.33
Motor Gasoline	258.5	251.5	253.2	243.5	248.1	257.6	259.2	270.2	0.17	-0.06	-0.02	-0.13
Middle Distillate	211.9	207.1	198.7	197.7	195.2	193.8	190.1	218.9	-0.11	-0.16	-0.01	-0.12
Residual Fuel Oil	36.1	36.4	34.9	35.6	33.5	35.1	37.9	38.0	-0.01	0.02	-0.01	-0.04
Total Products ⁴	765.3	761.5	756.3	746.0	741.8	749.6	769.6	817.7	-0.65	-0.65	0.26	-0.03
Total⁴	1550.8	1521.3	1511.4	1527.3	1519.2	1526.7	1527.3	1657.1	-0.83	-0.44	-0.27	-0.40
OECD Europe												
Crude	336.5	315.1	306.4	312.1	328.8	338.8	355.9	360.9	-0.07	-0.20	-0.12	-0.38
Motor Gasoline	80.3	80.3	80.5	85.5	85.1	88.3	90.4	102.2	0.09	-0.10	-0.04	-0.07
Middle Distillate	295.1	294.7	272.9	253.7	248.5	239.6	270.5	328.5	-0.19	-0.06	-0.06	-0.36
Residual Fuel Oil	63.5	65.1	63.4	58.6	58.1	56.3	65.0	66.1	-0.02	0.00	-0.03	-0.01
Total Products ⁴	537.0	540.7	514.3	494.0	486.8	496.9	542.9	612.3	-0.19	-0.26	-0.20	-0.44
Total⁵	949.0	930.5	892.5	879.0	890.1	915.6	979.8	1057.1	-0.39	-0.46	-0.32	-0.88
OECD Asia Oceania												
Crude	114.5	114.0	109.4	109.1	106.1	160.7	153.0	155.5	-0.12	-0.33	0.01	-0.17
Motor Gasoline	26.1	28.3	26.7	28.1	27.0	26.1	25.7	25.5	-0.01	0.04	0.00	-0.03
Middle Distillate	66.2	75.0	72.1	72.6	71.7	78.5	75.6	71.4	-0.06	-0.03	0.02	0.07
Residual Fuel Oil	17.7	18.2	18.7	16.4	15.7	19.2	19.1	16.1	-0.02	0.02	0.00	0.02
Total Products ⁴	169.5	186.9	184.3	185.3	178.9	189.9	181.2	178.3	-0.16	-0.02	0.05	0.15
Total⁵	345.4	363.9	355.4	355.5	346.5	418.0	399.2	395.8	-0.34	-0.38	0.12	-0.02
Total OECD												
Crude	1067.4	1026.9	1007.6	1037.7	1049.8	1110.0	1102.8	1181.3	-0.29	-0.27	-0.67	-0.89
Motor Gasoline	364.9	360.1	360.4	357.1	360.1	371.9	375.4	397.9	0.26	-0.12	-0.06	-0.22
Middle Distillate	573.1	576.8	543.6	524.0	515.4	511.9	536.2	618.8	-0.36	-0.25	-0.05	-0.41
Residual Fuel Oil	117.3	119.7	116.9	110.7	107.3	110.6	122.0	120.2	-0.04	0.03	-0.04	-0.03
Total Products ⁴	1471.8	1489.1	1454.9	1425.3	1407.5	1436.3	1493.6	1608.2	-0.99	-0.93	0.11	-0.31
Total⁵	2845.2	2815.7	2759.3	2761.9	2755.8	2860.2	2906.4	3109.9	-1.56	-1.28	-0.47	-1.30
OECD GOVERNMENT-CONTROLLED STOCKS⁶												
OECD Americas												
Crude	621.3	621.3	617.8	610.7	600.9	649.6	635.0	638.1	-0.04	0.00	-0.18	-0.04
Products	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.00	0.00	0.00	0.00
OECD Europe												
Crude	204.4	204.0	205.3	203.2	202.5	211.9	209.3	207.1	-0.02	0.02	-0.02	0.00
Products	277.8	278.0	277.7	274.7	275.9	266.6	273.7	282.1	0.00	0.03	-0.05	-0.01
OECD Asia Oceania												
Crude	373.9	371.3	369.5	369.5	370.4	380.8	377.4	374.5	-0.03	0.00	0.00	-0.05
Products	38.8	38.8	38.8	38.9	38.9	38.7	38.9	39.1	0.00	0.00	0.00	0.00
Total OECD												
Crude	1199.6	1196.5	1192.5	1183.4	1173.8	1242.3	1221.6	1219.7	-0.10	0.02	-0.20	-0.10
Products	318.6	318.9	318.5	315.6	316.8	307.4	314.6	323.2	-0.01	0.03	-0.05	-0.01
Total⁵	1519.8	1517.1	1512.7	1500.7	1492.5	1552.4	1537.9	1544.8	-0.11	0.05	-0.24	-0.12

¹ Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.

² Closing stock levels.

³ Estimated.

⁴ Total products includes gasoline, middle distillates, fuel oil and other products.

⁵ Total includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.

⁶ Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

Table 4a
INDUSTRY STOCKS¹ ON LAND IN SELECTED COUNTRIES

(million barrels)

	June			July			August			September			October		
	2020	2021	%	2020	2021	%	2020	2021	%	2020	2021	%	2020	2021	%
United States²															
Crude	532.7	448.0	-15.9	520.1	438.9	-15.6	504.4	421.7	-16.4	497.7	420.4	-15.5	493.9	436.6	-11.6
Motor Gasoline	254.5	237.2	-6.8	250.4	230.8	-7.8	237.5	225.7	-5.0	227.6	227.0	-0.3	227.6	216.7	-4.8
Middle Distillate	220.5	186.4	-15.5	221.9	187.5	-15.5	222.2	182.4	-17.9	215.0	176.3	-18.0	196.4	175.5	-10.6
Residual Fuel Oil	39.5	31.1	-21.3	35.9	29.1	-18.9	34.4	29.4	-14.5	32.1	28.0	-12.8	31.2	28.4	-9.0
Other Products	256.7	225.9	-12.0	273.7	239.5	-12.5	291.1	246.9	-15.2	306.1	251.1	-18.0	292.7	250.8	-14.3
Total Products	771.2	680.6	-11.7	781.9	686.9	-12.1	785.2	684.4	-12.8	780.8	682.4	-12.6	747.9	671.4	-10.2
Other ³	153.8	142.9	-7.1	152.0	143.0	-5.9	147.9	135.1	-8.7	144.7	137.9	-4.7	144.4	139.4	-3.5
Total	1457.7	1271.5	-12.8	1454.0	1268.8	-12.7	1437.5	1241.2	-13.7	1423.2	1240.7	-12.8	1386.2	1247.4	-10.0
Japan															
Crude	91.0	76.0	-16.5	94.1	70.5	-25.1	94.2	73.9	-21.5	90.2	70.8	-21.5	89.7	72.8	-18.8
Motor Gasoline	11.5	14.3	24.3	11.9	9.9	-16.8	12.1	9.9	-18.2	12.2	10.2	-16.4	12.1	11.6	-4.1
Middle Distillate	31.9	31.5	-1.3	33.0	30.8	-6.7	37.1	34.4	-7.3	37.7	36.2	-4.0	38.3	36.6	-4.4
Residual Fuel Oil	7.5	7.0	-6.7	7.4	7.1	-4.1	7.2	7.3	1.4	6.9	7.4	7.2	6.9	6.9	0.0
Other Products	36.6	31.9	-12.8	36.0	31.7	-11.9	38.4	36.3	-5.5	38.5	37.7	-2.1	36.0	39.1	8.6
Total Products	87.5	84.7	-3.2	88.3	79.5	-10.0	94.8	87.9	-7.3	95.3	91.5	-4.0	93.3	94.2	1.0
Other ³	55.7	51.3	-7.9	53.6	51.1	-4.7	56.1	52.9	-5.7	54.4	51.4	-5.5	52.5	49.9	-5.0
Total	234.2	212.0	-9.5	236.0	201.1	-14.8	245.1	214.7	-12.4	239.9	213.7	-10.9	235.5	216.9	-7.9
Germany															
Crude	51.4	48.7	-5.3	49.9	50.6	1.4	50.2	47.8	-4.8	49.6	45.5	-8.3	48.8	46.6	-4.5
Motor Gasoline	9.6	9.4	-2.1	8.9	9.1	2.2	10.0	9.5	-5.0	9.3	9.6	3.2	10.2	10.6	3.9
Middle Distillate	25.3	24.1	-4.7	25.5	25.4	-0.4	27.6	25.2	-8.7	22.3	21.9	-1.8	21.7	21.3	-1.8
Residual Fuel Oil	8.2	7.9	-3.7	7.4	7.9	6.8	8.3	8.1	-2.4	7.9	8.1	2.5	7.1	8.1	14.1
Other Products	9.3	9.9	6.5	9.5	10.1	6.3	9.6	10.6	10.4	9.7	10.4	7.2	9.7	10.8	11.3
Total Products	52.4	51.3	-2.1	51.3	52.5	2.3	55.5	53.4	-3.8	49.2	50.0	1.6	48.7	50.8	4.3
Other ³	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	0.0	0.0
Total	103.8	100.0	-3.7	101.2	103.1	1.9	105.7	101.2	-4.3	98.8	95.5	-3.3	97.5	97.4	-0.1
Italy															
Crude	41.6	42.7	2.6	43.2	36.0	-16.7	40.8	32.9	-19.4	40.0	33.6	-16.0	40.4	31.8	-21.3
Motor Gasoline	13.0	10.4	-20.0	11.5	9.4	-18.3	11.4	9.3	-18.4	11.5	9.6	-16.5	11.8	11.7	-0.8
Middle Distillate	32.9	29.4	-10.6	31.2	22.6	-27.6	31.3	26.6	-15.0	30.1	26.6	-11.6	29.2	25.1	-14.0
Residual Fuel Oil	9.2	7.5	-18.5	8.0	7.0	-12.5	8.4	7.5	-10.7	7.9	7.0	-11.4	7.9	7.1	-10.1
Other Products	17.8	10.8	-39.3	17.4	10.8	-37.9	19.0	11.5	-39.5	19.9	11.0	-44.7	19.4	11.1	-42.8
Total Products	72.9	58.1	-20.3	68.1	49.8	-26.9	70.1	54.9	-21.7	69.4	54.2	-21.9	68.3	55.0	-19.5
Other ³	17.5	15.0	-14.3	17.8	13.9	-21.9	17.6	14.3	-18.8	17.3	14.8	-14.5	16.1	15.4	-4.3
Total	132.0	115.8	-12.3	129.1	99.7	-22.8	128.5	102.1	-20.5	126.7	102.6	-19.0	124.8	102.2	-18.1
France															
Crude	11.9	13.0	9.2	14.0	13.6	-2.9	11.6	13.4	15.5	13.9	12.2	-12.2	9.4	12.6	34.0
Motor Gasoline	4.9	3.6	-26.5	4.5	3.8	-15.6	5.0	4.2	-16.0	4.9	4.0	-18.4	5.4	4.0	-25.9
Middle Distillate	22.9	22.9	0.0	22.0	21.6	-1.8	25.9	21.3	-17.8	24.7	19.5	-21.1	24.4	17.0	-30.3
Residual Fuel Oil	1.6	1.7	6.2	1.6	2.0	25.0	1.5	1.7	13.3	1.6	2.0	25.0	1.5	1.6	6.7
Other Products	4.1	3.2	-22.0	4.2	3.3	-21.4	4.1	3.1	-24.4	3.9	3.2	-17.9	4.1	3.3	-19.5
Total Products	33.5	31.4	-6.3	32.3	30.7	-5.0	36.5	30.3	-17.0	35.1	28.7	-18.2	35.4	25.9	-26.8
Other ³	8.7	8.4	-3.4	8.7	7.6	-12.6	9.1	7.0	-23.1	8.2	7.0	-14.6	8.2	7.0	-14.6
Total	54.1	52.8	-2.4	55.0	51.9	-5.6	57.2	50.7	-11.4	57.2	47.9	-16.3	53.0	45.5	-14.2
United Kingdom															
Crude	32.1	26.5	-17.4	31.8	26.8	-15.7	28.4	24.0	-15.5	27.7	24.9	-10.1	27.8	24.8	-10.8
Motor Gasoline	9.5	9.0	-5.3	9.8	9.4	-4.1	9.3	9.3	0.0	9.9	8.7	-12.1	10.4	9.5	-8.7
Middle Distillate	32.3	24.2	-25.1	32.1	24.5	-23.7	32.0	23.7	-25.9	30.6	21.4	-30.1	32.5	21.3	-34.5
Residual Fuel Oil	1.8	1.3	-27.8	1.5	1.5	0.0	1.8	1.2	-33.3	1.2	1.3	8.3	1.1	1.3	18.2
Other Products	6.3	6.4	1.6	7.2	6.3	-12.5	7.3	6.9	-5.5	6.5	7.1	9.2	6.6	6.5	-1.5
Total Products	49.9	40.9	-18.0	50.6	41.7	-17.6	50.4	41.1	-18.5	48.2	38.5	-20.1	50.6	38.6	-23.7
Other ³	7.9	8.8	11.4	7.8	8.8	12.8	7.3	8.2	12.3	7.8	8.2	5.1	8.5	9.0	5.9
Total	89.9	76.2	-15.2	90.2	77.3	-14.3	86.1	73.3	-14.9	83.7	71.6	-14.5	86.9	72.4	-16.7
Canada⁴															
Crude	137.5	141.3	2.8	133.5	143.3	7.3	130.9	142.1	8.6	129.0	137.5	6.6	128.1	145.9	13.9
Motor Gasoline	15.6	14.9	-4.5	15.0	15.1	0.7	14.3	14.3	0.0	15.0	14.7	-2.0	15.6	15.3	-1.9
Middle Distillate	12.5	13.7	9.6	13.1	15.0	14.5	11.6	15.2	31.0	10.6	12.8	20.8	11.7	12.3	5.1
Residual Fuel Oil	2.6	2.9	11.5	2.7	3.1	14.8	2.7	2.4	-11.1	3.0	2.8	-6.7	2.7	3.0	11.1
Other Products	9.4	10.1	7.4	9.6	10.3	7.3	8.6	10.8	25.6	8.1	9.2	13.6	8.4	8.8	4.8
Total Products	40.1	41.6	3.7	40.4	43.5	7.7	37.2	42.7	14.8	36.7	39.5	7.6	38.4	39.4	2.6
Other ³	24.8	23.2	-6.5	28.4	25.7	-9.5	30.9	26.7	-13.6	30.0	25.2	-16.0	30.3	25.3	-16.5
Total	202.4	206.1	1.8	202.3	212.5	5.0	199.0	211.5	6.3	195.7	202.2	3.3	196.8	210.6	7.0

1 Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entropot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.

2 US figures exclude US territories.

3 Other includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.

4 Canadian stock information for recent months is the administration's best estimate. Data are usually finalised three months after first publication.

Table 5
TOTAL STOCKS ON LAND IN OECD COUNTRIES¹
(millions of barrels² and 'days')

	End September 2020		End December 2020		End March 2021		End June 2021		End September 2021 ³	
	Stock	Days Fwd ²	Stock	Days Fwd	Stock	Days Fwd	Stock	Days Fwd	Stock	Days Fwd
	Level	Demand	Level	Demand	Level	Demand	Level	Demand	Level	Demand
OECD Americas										
Canada	195.7	92	199.1	94	201.0	93	206.1	86	202.2	-
Chile	11.9	32	11.0	33	9.7	30	11.7	31	10.4	-
Mexico	35.1	25	36.3	26	38.1	27	36.4	26	36.0	-
United States ⁴	2067.4	110	1983.4	108	1941.5	97	1894.8	94	1860.5	-
Total⁴	2332.2	102	2252.0	100	2212.4	92	2171.2	88	2131.2	86
OECD Asia Oceania										
Australia	40.9	39	40.2	39	43.5	40	39.8	40	41.1	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	559.5	158	532.4	143	506.5	164	528.6	166	525.1	-
Korea	219.4	91	213.3	84	201.5	81	194.9	75	189.3	-
New Zealand	8.4	51	8.0	51	8.3	57	7.6	56	8.3	-
Total	828.2	113	793.8	104	759.7	108	770.9	108	763.7	99
OECD Europe⁵										
Austria	24.4	107	23.6	113	23.6	97	23.0	84	21.2	-
Belgium	52.8	94	51.7	82	51.2	82	51.0	83	47.1	-
Czech Republic	22.7	115	23.8	134	23.1	108	21.8	93	21.7	-
Denmark	32.1	241	32.3	256	31.7	229	28.1	189	25.3	-
Estonia	3.6	139	3.7	150	2.9	107	2.9	99	2.7	-
Finland	43.3	235	38.5	235	39.1	230	39.5	209	37.3	-
France	167.7	116	158.4	107	162.1	112	163.0	100	157.3	-
Germany	276.6	131	278.2	147	278.0	134	275.8	124	270.5	-
Greece	34.9	150	35.0	153	34.4	144	30.5	100	26.4	-
Hungary	26.9	152	26.8	172	25.8	147	25.6	135	25.9	-
Ireland	12.2	85	11.9	94	11.7	87	12.0	82	10.6	-
Italy	139.9	124	135.8	130	126.8	110	128.9	103	118.0	-
Latvia	3.5	103	3.2	101	3.0	82	3.0	70	2.7	-
Lithuania	7.6	120	7.9	146	7.8	116	8.5	113	9.1	-
Luxembourg	0.6	12	0.6	13	0.6	13	0.8	14	0.5	-
Netherlands	165.5	194	156.6	195	158.1	196	147.2	181	125.8	-
Norway	31.8	136	30.1	114	28.2	146	23.6	99	20.2	-
Poland	82.2	122	81.6	131	82.7	126	80.0	103	78.1	-
Portugal	22.3	108	22.4	123	20.7	98	19.9	90	19.0	-
Slovak Republic	12.6	157	12.7	171	12.4	144	12.4	136	12.2	-
Slovenia	5.4	131	5.3	126	5.3	117	5.3	104	4.9	-
Spain	126.7	112	123.1	110	121.7	106	118.1	95	111.6	-
Sweden	66.5	268	62.7	219	48.8	162	45.2	144	38.3	-
Switzerland	34.5	196	34.0	206	33.7	192	32.9	178	33.4	-
Turkey	89.9	98	85.4	107	84.4	91	85.1	74	85.6	-
United Kingdom	83.5	68	85.5	74	76.9	61	76.2	58	71.6	-
Total	1569.6	125	1531.0	129	1495.0	118	1460.4	106	1377.1	101
Total OECD	4730.0	111	4576.8	109	4467.1	102	4402.4	97	4272.0	93
DAYS OF IEA Net Imports⁶ -	254	-	245	-	241	-	167	-	160	-

¹ Total Stocks are industry and government-controlled stocks (see breakdown in the table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entropot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.

² Note that days of forward demand represent the stock level divided by the forward quarter average daily demand and is very different from the days of net imports used for the calculation of IEA Emergency Reserves.

³ End September 2021 forward demand figures are IEA Secretariat forecasts.

⁴ US figures exclude US territories. Total includes US territories.

⁵ Data not available for Iceland.

⁶ Reflects stock levels and prior calendar year's net imports adjusted according to IEA emergency reserve definitions (see www.iea.org/netimports.asp). Net exporting IEA countries are excluded.

TOTAL OECD STOCKS

CLOSING STOCKS	Total	Government ¹ controlled Millions of Barrels	Industry	Total	Government ¹ controlled Days of Fwd. Demand ²	Industry
3Q2018	4436	1570	2866	93	33	60
4Q2018	4425	1552	2873	93	33	61
1Q2019	4435	1557	2878	94	33	61
2Q2019	4487	1549	2938	93	32	61
3Q2019	4492	1544	2948	94	32	62
4Q2019	4432	1535	2896	98	34	64
1Q2020	4517	1537	2980	121	41	80
2Q2020	4778	1561	3217	114	37	76
3Q2020	4730	1551	3179	111	36	75
4Q2020	4577	1541	3035	109	37	72
1Q2021	4467	1546	2921	102	35	67
2Q2021	4402	1524	2879	97	33	63
3Q2021	4272	1513	2759	93	33	60

¹ Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

² Days of forward demand calculated using actual demand except in 3Q2021 (where latest forecasts are used).

Table 6
IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS¹
(million barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	change
Saudi Light & Extra Light												
Americas	0.66	0.20	0.26	0.11	0.18	0.31	0.45	0.40	0.53	0.33	0.06	0.27
Europe	0.69	0.68	0.59	0.51	0.43	0.40	0.55	0.61	0.49	0.59	0.52	0.07
Asia Oceania	1.45	1.42	1.39	1.44	1.41	1.12	1.18	1.35	1.25	1.25	1.41	-0.16
Saudi Medium												
Americas	0.30	0.12	0.14	0.03	0.06	-	-	-	-	-	0.09	-
Europe	0.01	0.02	0.02	0.01	0.01	-	0.02	0.03	0.01	-	0.02	-
Asia Oceania	0.41	0.23	0.25	0.26	0.22	0.17	0.19	0.18	0.18	0.26	0.27	-0.01
Canada Heavy												
Americas	2.41	2.27	2.39	2.55	2.62	2.43	2.47	2.46	2.55	2.65	2.56	0.09
Europe	0.04	0.04	0.03	0.03	0.04	0.03	0.04	0.04	0.02	0.02	0.01	0.01
Asia Oceania	0.00	0.00	0.00	-	0.01	0.04	0.01	0.01	0.01	-	-	-
Iraqi Basrah Light ²												
Americas	0.50	0.31	0.11	0.05	0.06	0.05	0.04	-	-	0.13	0.08	0.05
Europe	0.76	0.85	0.58	0.54	0.56	0.63	0.60	0.63	0.58	0.75	0.53	0.22
Asia Oceania	0.43	0.37	0.22	0.20	0.15	0.17	0.16	0.16	0.13	0.13	0.11	0.02
Kuwait Blend												
Americas	0.02	-	-	-	-	-	-	-	-	-	-	-
Europe	0.13	0.11	0.04	-	-	-	-	-	-	-	-	-
Asia Oceania	0.66	0.61	0.55	0.47	0.47	0.45	0.47	0.43	0.46	0.54	0.48	0.05
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.16	0.00	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.01	0.00	-	-	-	-	-	-	-	-	-	-
Iranian Heavy ³												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.35	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.28	0.14	-	-	-	-	-	-	-	-	-	-
BFOE												
Americas	0.00	0.00	-	-	-	0.00	0.01	-	-	-	-	-
Europe	0.35	0.37	0.42	0.43	0.39	0.28	0.36	0.39	0.26	0.36	0.40	-0.04
Asia Oceania	0.09	0.01	0.03	0.03	0.08	0.07	-	-	-	0.10	0.07	0.03
Kazakhstan												
Americas	-	-	-	-	-	0.03	-	-	-	-	-	-
Europe	0.75	0.76	0.74	0.71	0.73	0.73	0.68	0.69	0.50	0.61	0.72	-0.11
Asia Oceania	0.19	0.18	0.07	0.03	0.07	0.10	0.10	0.10	0.09	0.10	-	-
Venezuelan 22 API and heavier												
Americas	0.44	0.05	-	-	-	-	-	-	-	-	-	-
Europe	0.03	0.09	0.04	0.01	-	-	-	-	-	-	0.03	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.63	0.51	0.48	0.37	0.36	0.45	0.45	0.48	0.49	0.30	0.30	0.00
Europe	0.21	0.19	0.16	0.18	0.15	0.15	0.13	0.13	0.13	0.10	0.15	-0.06
Asia Oceania	0.08	0.13	0.12	0.16	0.15	0.12	0.14	0.13	0.10	0.15	0.20	-0.05
Russian Urals												
Americas	0.01	0.01	-	-	-	-	-	-	-	-	-	-
Europe	1.40	1.37	1.12	0.96	0.97	0.99	1.08	1.15	0.98	1.22	1.02	0.20
Asia Oceania	0.00	-	-	-	0.01	-	0.03	-	0.08	-	-	-
Cabinda and Other Angola												
North America	0.06	0.01	0.01	-	-	-	-	-	-	-	-	-
Europe	0.14	0.15	0.12	0.10	0.02	0.04	0.03	0.06	0.03	0.09	0.16	-0.07
Pacific	0.01	0.00	-	-	-	-	-	-	-	-	-	-
Nigerian Light ⁴												
Americas	0.01	0.03	-	-	-	0.06	0.03	0.03	0.03	-	-	-
Europe	0.53	0.51	0.49	0.52	0.41	0.30	0.40	0.41	0.33	0.60	0.46	0.15
Asia Oceania	0.02	0.02	0.02	0.02	0.00	0.01	-	-	-	0.02	0.03	-0.01
Libya Light and Medium												
Americas	-	0.00	-	-	-	0.03	0.06	0.09	-	-	-	-
Europe	0.62	0.67	0.19	0.49	0.75	0.79	0.87	0.72	0.91	0.76	0.11	0.65
Asia Oceania	0.02	0.03	0.01	-	0.01	0.02	0.01	0.01	-	0.01	-	-

¹ Data based on monthly submissions from IEA countries to the crude oil import register (in '000 bbl), subject to availability. May differ from Table 8 of the Report. IEA Americas includes United States and Canada. IEA Europe includes all countries in OECD Europe except Estonia, Hungary, Slovenia and Latvia. IEA Asia Oceania includes Australia, New Zealand, Korea and Japan.

² Iraqi Total minus Kirkuk.

³ Iranian Total minus Iranian Light.

⁴ 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

Table 7
REGIONAL OECD IMPORTS^{1,2}
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	% change
Crude Oil												
Americas	3759	2698	1880	1625	1698	2111	2369	2307	2437	2066	1721	20%
Europe	9814	9872	8349	8053	7780	8382	8717	8791	8754	9354	7814	20%
Asia Oceania	6697	6542	5603	5511	5336	5459	5431	5813	5478	5821	5462	7%
Total OECD	20269	19111	15833	15189	14814	15952	16517	16911	16669	17242	14997	15%
LPG												
Americas	22	26	28	26	21	16	22	16	26	20	14	48%
Europe	457	434	422	429	394	421	388	355	401	336	470	-28%
Asia Oceania	553	582	559	506	642	555	528	504	507	516	495	4%
Total OECD	1032	1042	1009	961	1057	992	937	874	933	873	979	-11%
Naphtha												
Americas	8	5	7	5	7	7	11	6	14	4	6	-34%
Europe	391	347	409	410	526	514	448	376	437	588	406	45%
Asia Oceania	1021	993	1005	889	1087	1076	1229	1265	1254	1168	740	58%
Total OECD	1420	1345	1422	1303	1620	1597	1687	1647	1706	1760	1151	53%
Gasoline ³												
Americas	773	817	567	565	598	1074	973	939	937	662	551	20%
Europe	110	112	109	108	102	159	100	120	146	69	106	-35%
Asia Oceania	113	114	126	116	155	196	135	163	108	141	126	11%
Total OECD	996	1043	802	789	854	1429	1208	1222	1192	871	784	11%
Jet & Kerosene												
Americas	140	175	158	145	108	166	207	219	253	238	163	46%
Europe	509	520	337	295	281	291	364	358	348	382	457	-16%
Asia Oceania	89	76	63	58	100	71	43	28	51	43	25	69%
Total OECD	738	771	558	498	489	528	615	605	652	664	646	3%
Gasoil/Diesel												
Americas	124	118	135	256	267	149	154	150	197	267	176	52%
Europe	1339	1300	1192	1178	1099	1172	1155	1250	971	1265	1323	-4%
Asia Oceania	253	262	328	320	336	353	345	347	319	366	312	17%
Total OECD	1716	1680	1656	1754	1701	1674	1654	1748	1487	1899	1812	5%
Heavy Fuel Oil												
Americas	161	116	143	129	116	96	91	120	81	129	189	-32%
Europe	197	223	295	310	368	315	414	341	535	216	388	-44%
Asia Oceania	162	101	88	80	109	116	121	112	115	101	63	62%
Total OECD	520	440	526	519	594	527	627	573	730	446	639	-30%
Other Products												
Americas	679	713	592	515	507	698	607	632	541	536	557	-4%
Europe	1011	865	574	491	515	512	574	594	545	743	414	80%
Asia Oceania	263	268	241	232	246	260	267	206	285	281	234	20%
Total OECD	1952	1846	1406	1238	1268	1470	1447	1432	1372	1559	1204	29%
Total Products												
Americas	1908	1971	1629	1641	1623	2206	2064	2082	2050	1856	1655	12%
Europe	4013	3800	3339	3221	3286	3384	3443	3393	3383	3600	3564	1%
Asia Oceania	2454	2397	2410	2200	2674	2627	2668	2625	2638	2616	1996	31%
Total OECD	8374	8168	7378	7062	7583	8217	8175	8100	8071	8072	7215	12%
Total Oil												
Americas	5666	4669	3510	3266	3321	4317	4433	4389	4487	3922	3376	16%
Europe	13827	13672	11688	11274	11066	11766	12159	12184	12137	12954	11378	14%
Asia Oceania	9151	8939	8014	7711	8011	8087	8100	8439	8116	8437	7458	13%
Total OECD	28644	27279	23211	22251	22397	24169	24692	25011	24740	25314	22212	14%

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.

2 Excludes intra-regional trade.

3 Includes additives.

Table 7a
REGIONAL OECD IMPORTS FROM NON-OECD COUNTRIES^{1,2}
 (thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	% change
Crude Oil												
Americas	3606	2553	1820	1547	1615	2007	2277	2216	2373	1942	1622	20%
Europe	9088	8913	7115	6786	6643	7109	7408	7463	7374	8171	6645	23%
Asia Oceania	6249	5914	5076	5003	4710	4840	4785	5112	4868	5169	4816	7%
Total OECD	18943	17380	14011	13336	12968	13957	14470	14792	14615	15282	13083	17%
LPG												
Americas	15	23	22	18	19	16	22	16	26	20	14	48%
Europe	350	303	252	231	244	229	250	277	230	229	231	-1%
Asia Oceania	158	74	57	65	58	60	35	22	25	33	78	-58%
Total OECD	523	400	331	314	321	304	307	315	282	282	323	-13%
Naphtha												
Americas	4	2	1	1	4	2	5	2	7	2	0	6321%
Europe	360	320	390	377	427	452	377	334	348	486	362	34%
Asia Oceania	924	898	835	744	870	948	1012	1108	1069	1027	660	56%
Total OECD	1288	1220	1226	1122	1301	1402	1394	1444	1424	1514	1021	48%
Gasoline³												
Americas	271	308	194	167	174	330	312	349	261	214	181	19%
Europe	105	108	104	103	98	152	94	116	140	65	101	-36%
Asia Oceania	90	88	109	116	144	189	135	163	108	141	126	11%
Total OECD	466	504	406	386	417	671	542	628	509	420	408	3%
Jet & Kerosene												
Americas	56	39	54	47	31	63	65	75	73	110	45	144%
Europe	445	464	297	278	248	273	319	301	328	347	423	-18%
Asia Oceania	89	76	63	58	100	71	43	28	51	43	25	69%
Total OECD	590	579	414	382	378	406	428	404	452	501	493	1%
Gasoil/Diesel												
Americas	100	86	103	190	203	94	94	105	108	161	146	11%
Europe	1160	1126	1062	1082	1027	1095	1042	1107	901	1187	1150	3%
Asia Oceania	253	261	324	316	336	353	345	347	319	366	302	21%
Total OECD	1513	1473	1489	1588	1566	1541	1480	1559	1328	1715	1598	7%
Heavy Fuel Oil												
Americas	147	102	110	97	105	84	78	98	67	95	122	-23%
Europe	185	202	279	295	340	281	394	313	526	170	371	-54%
Asia Oceania	162	100	88	80	109	116	121	112	115	101	63	62%
Total OECD	493	404	477	472	554	481	593	523	708	366	556	-34%
Other Products												
Americas	522	542	514	466	469	631	556	589	503	507	492	3%
Europe	702	629	352	334	358	337	371	356	371	555	267	108%
Asia Oceania	182	184	164	162	176	198	178	127	203	195	159	23%
Total OECD	1406	1355	1030	962	1004	1166	1105	1072	1078	1257	918	37%
Total Products												
Americas	1115	1103	998	986	1005	1219	1131	1234	1045	1110	1000	11%
Europe	3307	3152	2735	2699	2742	2817	2847	2802	2846	3039	2905	5%
Asia Oceania	1857	1681	1640	1540	1793	1934	1871	1908	1890	1906	1413	35%
Total OECD	6279	5936	5373	5225	5540	5971	5849	5945	5780	6055	5317	14%
Total Oil												
Americas	4721	3656	2818	2533	2620	3227	3408	3451	3418	3052	2622	16%
Europe	12395	12064	9850	9485	9385	9927	10255	10266	10219	11210	9550	17%
Asia Oceania	8106	7595	6716	6543	6503	6775	6656	7020	6758	7075	6229	14%
Total OECD	25223	23316	19384	18561	18508	19928	20319	20736	20395	21336	18400	16%

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.

² Excludes intra-regional trade

³ Includes additives

Table 7b
INTER-REGIONAL OECD TRANSFERS^{1,2}
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	% change
Crude Oil												
Americas	153	145	60	78	83	104	92	90	64	125	99	26%
Europe	726	959	1234	1268	1137	1272	1309	1328	1380	1184	1169	1%
Asia Oceania	448	628	527	508	627	619	646	701	610	652	646	1%
Total OECD	1326	1731	1821	1853	1846	1995	2047	2119	2054	1960	1914	2%
LPG												
Americas	7	3	6	8	3	0	0	0	0	0	0	0%
Europe	107	131	171	197	150	193	138	78	170	108	239	-55%
Asia Oceania	395	508	501	442	584	495	493	482	482	483	417	16%
Total OECD	508	642	678	647	737	688	631	560	652	591	656	-10%
Naphtha												
Americas	4	3	6	4	3	4	6	4	7	1	5	-75%
Europe	31	27	20	33	99	62	71	42	89	103	44	132%
Asia Oceania	97	96	170	144	217	128	216	157	185	141	80	76%
Total OECD	132	125	196	181	319	195	293	203	281	245	130	89%
Gasoline³												
Americas	502	509	373	398	423	744	661	590	676	448	371	21%
Europe	5	4	5	5	3	7	5	4	6	3	5	-31%
Asia Oceania	23	26	18	0	11	8	0	0	0	0	0	54%
Total OECD	530	539	396	403	437	759	666	594	683	451	376	20%
Jet & Kerosene												
Americas	84	136	104	99	77	103	142	144	180	128	118	8%
Europe	64	56	40	18	33	19	45	57	19	35	35	1%
Asia Oceania	0	0	0	0	0	0	0	0	0	0	0	na
Total OECD	148	192	144	116	110	122	187	201	199	163	153	7%
Gasoil/Diesel												
Americas	25	32	32	66	64	55	60	45	90	106	30	248%
Europe	178	174	131	96	72	77	113	143	70	78	173	-55%
Asia Oceania	0	1	4	3	0	0	0	0	0	0	10	-100%
Total OECD	203	207	167	166	136	132	173	188	159	184	213	-14%
Heavy Fuel Oil												
Americas	15	14	33	33	11	12	13	22	13	34	66	-48%
Europe	12	21	16	15	29	34	20	28	9	46	17	170%
Asia Oceania	0	1	0	0	0	0	0	0	0	0	0	na
Total OECD	27	36	49	47	39	46	34	50	22	80	83	-4%
Other Products												
Americas	157	171	78	48	38	67	51	43	38	29	65	-56%
Europe	308	236	222	158	157	175	203	239	174	188	147	28%
Asia Oceania	81	83	77	70	70	62	88	79	81	86	75	15%
Total OECD	546	490	377	276	264	304	342	361	294	303	287	6%
Total Products												
Americas	793	867	631	655	618	986	933	847	1005	746	655	14%
Europe	706	649	604	522	543	566	595	591	538	561	660	-15%
Asia Oceania	597	716	770	660	881	693	797	717	748	711	583	22%
Total OECD	2095	2232	2005	1836	2043	2246	2326	2156	2290	2017	1898	6%
Total Oil												
Americas	945	1012	691	733	701	1090	1025	938	1069	870	754	15%
Europe	1432	1608	1838	1789	1681	1839	1904	1919	1918	1745	1829	-5%
Asia Oceania	1044	1343	1297	1168	1508	1312	1444	1419	1358	1363	1229	11%
Total OECD	3421	3963	3827	3690	3889	4241	4373	4275	4345	3977	3811	4%

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.

² Excludes intra-regional trade

³ Includes additives

Table 8
REGIONAL OECD CRUDE IMPORTS BY SOURCE¹
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier Oct 20	change
OECD Americas												
Venezuela	506	81	-	-	-	-	-	-	-	-	-	-
Other Central & South America	795	867	745	750	648	689	809	808	961	674	703	-29
North Sea	150	143	60	78	83	93	92	90	64	125	99	26
Other OECD Europe	1	2	1	-	-	11	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	145	189	91	96	128	295	308	346	271	213	145	68
Saudi Arabia	983	601	572	293	333	370	484	444	577	386	375	11
Kuwait	78	45	21	16	7	20	36	24	46	23	25	-2
Iran	-	-	-	-	12	-	-	-	-	-	-	-
Iraq	519	331	177	107	115	172	128	131	29	185	121	65
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	5	3	5	10	-	-	44	31	69	33	31	3
Other Middle East	-	-	-	-	-	-	-	-	-	-	-	-
West Africa ²	317	267	145	188	207	273	255	244	187	177	169	8
Other Africa	196	137	45	67	149	172	167	172	157	217	21	196
Asia	61	32	17	11	17	16	46	16	77	32	32	0
Other	3	0	3	10	-	-	-	-	-	-	-	-
Total	3759	2698	1880	1625	1698	2111	2369	2307	2437	2066	1721	346
of which Non-OECD	3606	2553	1820	1547	1615	2007	2277	2216	2373	1942	1622	320
OECD Europe												
Canada	81	60	95	117	108	81	89	94	67	44	107	-63
Mexico + USA	645	900	1139	1150	1029	1191	1220	1233	1313	1139	1062	77
Venezuela	57	106	44	13	-	-	-	-	-	-	38	-
Other Central & South America	132	118	208	205	143	272	246	307	208	122	202	-80
Non-OECD Europe	12	14	25	34	23	19	28	23	27	24	54	-30
Former Soviet Union	4149	4240	3506	3270	3306	3466	3498	3526	3471	3802	3392	410
Saudi Arabia	818	792	756	602	517	484	589	602	599	614	585	29
Kuwait	137	97	48	30	-	-	0	-	-	0	-	-
Iran	536	74	6	2	-	-	6	17	-	-	2	-
Iraq	962	1124	814	759	783	916	928	915	898	1099	757	342
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2	2	-	-	-	-	-	-	-	-	-	-
Other Middle East	-	3	8	1	6	12	12	18	18	18	2	16
West Africa ²	1115	1140	1074	976	780	719	855	928	696	1001	1101	-101
Other Africa	1161	1180	596	858	1071	1204	1217	1085	1417	1470	487	983
Asia	-	-	0	-	-	-	0	-	0	-	-	-
Other	9	13	11	5	-	-	5	15	-	16	14	2
Total	9816	9863	8330	8022	7767	8364	8692	8764	8714	9349	7803	1546
of which Non-OECD	9088	8913	7115	6786	6643	7109	7408	7463	7374	8171	6645	1526
OECD Asia Oceania												
Canada	3	5	1	-	17	38	5	6	10	-	-	-
Mexico + USA	344	613	477	444	493	491	554	593	497	497	578	-82
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	35	48	91	114	107	145	93	76	88	60	131	-71
North Sea	100	10	49	64	116	90	87	102	103	156	68	88
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	435	435	300	295	328	372	265	321	264	435	234	200
Saudi Arabia	2040	1878	1867	1976	1868	1574	1601	1766	1650	1729	1964	-235
Kuwait	672	666	584	508	482	484	493	437	495	570	514	56
Iran	274	137	-	-	-	-	-	-	-	-	-	-
Iraq	435	364	224	205	151	165	160	161	131	126	111	15
Oman	56	59	22	19	15	43	49	65	17	49	39	10
United Arab Emirates	1098	1256	1096	960	908	1094	1143	1275	1118	1039	1001	38
Other Middle East	450	449	387	374	396	383	371	332	466	313	293	20
West Africa ²	95	56	65	49	46	119	77	76	65	124	53	70
Other Africa	105	90	42	23	59	35	68	100	60	33	23	9
Non-OECD Asia	319	220	161	207	193	161	174	184	191	181	212	-31
Other	235	255	234	268	155	264	285	304	322	504	239	264
Total	6697	6542	5602	5505	5336	5455	5424	5797	5478	5815	5462	353
of which Non-OECD	6249	5914	5076	5003	4710	4840	4785	5112	4868	5169	4816	353
Total OECD Trade	20271	19103	15812	15152	14801	15931	16484	16867	16629	17230	14986	2244
of which Non-OECD	18943	17380	14011	13336	12968	13957	14470	14792	14615	15282	13083	2199

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes, and converted to barrels at 7.37 barrels per tonne. Data will differ from Table 6 which is based on submissions in barrels.

² West Africa includes Angola, Nigeria, Gabon, Equatorial Guinea, Congo and Democratic Republic of Congo.

Table 9
REGIONAL OECD GASOLINE IMPORTS BY SOURCE¹
 (thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	change
OECD Americas												
Venezuela	23	4	-	-	-	-	-	-	-	-	-	-
Other Central & South America	64	83	40	24	10	67	37	50	49	72	14	58
ARA (Belgium Germany Netherlands)	167	189	146	138	127	312	240	227	211	97	75	22
Other Europe	323	293	207	241	275	380	381	328	418	299	289	10
FSU	80	100	67	89	100	112	105	147	69	79	82	-4
Saudi Arabia	11	7	6	-	4	50	41	41	16	-	-	-
Algeria	1	-	4	-	4	-	-	-	-	-	-	-
Other Middle East & Africa	19	14	13	20	23	12	15	13	10	-	51	-
Singapore	8	5	1	-	4	3	8	9	10	9	-	-
OECD Asia Oceania	13	28	21	19	21	52	43	44	47	52	7	45
Non-OECD Asia (excl. Singapore)	84	116	72	53	47	99	116	107	110	73	54	19
Other	0	0	-	-	0	-	-	-	-	-	-	-
Total²	794	838	578	585	615	1088	986	967	941	680	572	108
of which Non-OECD	271	308	194	167	174	330	312	349	261	214	181	34
OECD Europe												
OECD Americas	4	3	3	4	2	5	4	3	4	3	5	-2
Venezuela	0	0	0	-	1	1	5	-	10	-	-	-
Other Central & South America	5	3	4	5	8	2	6	6	11	14	1	13
Non-OECD Europe	11	18	16	12	9	16	10	10	10	3	14	-12
FSU	70	62	44	41	25	16	34	50	24	11	13	-1
Saudi Arabia	2	0	8	21	-	-	12	-	36	0	64	-63
Algeria	0	0	1	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	4	8	3	3	8	6	2	1	3	4	2	2
Singapore	2	3	2	1	-	-	0	0	0	0	2	-2
OECD Asia Oceania	1	1	1	1	1	2	1	1	2	0	-	-
Non-OECD Asia (excl. Singapore)	2	0	0	2	3	2	2	4	2	4	-	-
Other	20	21	37	27	57	117	40	60	54	37	11	26
Total²	122	121	120	116	113	168	116	135	157	77	112	-36
of which Non-OECD	105	108	104	103	98	152	94	116	140	65	101	-36
OECD Asia Oceania												
OECD Americas	4	6	4	0	2	0	0	0	0	0	0	0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	13	14	4	-	9	7	0	-	0	-	-	-
Other Europe	7	5	10	-	-	-	-	-	-	-	-	-
FSU	1	0	2	-	-	-	-	-	-	-	-	-
Saudi Arabia	0	1	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	1	-	1	-	-	-	-	-	-	-	-	-
Singapore	49	46	51	44	86	98	97	119	86	121	36	85
Non-OECD Asia (excl. Singapore)	19	21	37	52	39	58	19	25	2	0	71	-71
Other	20	21	19	19	20	33	19	19	20	19	19	0
Total²	114	114	128	116	155	196	135	163	108	141	126	14
of which Non-OECD	90	88	109	116	144	189	135	163	108	141	126	14
Total OECD Trade²	1029	1073	826	816	883	1451	1238	1264	1205	897	811	86
of which Non-OECD	466	504	406	386	417	671	542	628	509	420	408	12

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 10
REGIONAL OECD GASOIL/DIESEL IMPORTS BY SOURCE¹
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	change
OECD Americas												
Venezuela	4	1	-	-	-	-	-	-	-	-	-	-
Other Central and South America	30	38	34	39	40	30	24	24	19	16	46	-30
ARA (Belgium Germany Netherlands)	6	5	11	36	51	31	30	9	56	45	25	19
Other Europe	3	2	5	4	3	9	1	-	1	8	5	3
FSU	16	6	12	26	35	21	10	1	24	38	15	23
Saudi Arabia	17	3	8	17	23	9	11	25	8	34	2	32
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	8	2	9	29	48	8	18	30	23	25	25	0
Singapore	1	0	-	-	-	2	8	17	7	-	-	-
OECD Asia Oceania	15	24	16	26	10	15	29	36	33	53	0	53
Non-OECD Asia (excl. Singapore)	23	30	34	64	48	16	12	9	9	24	54	-29
Other	-	7	6	15	8	8	11	-	17	23	4	19
Total²	124	118	135	256	267	149	154	150	197	267	176	91
of which Non-OECD	100	86	103	190	203	94	94	105	108	161	146	16
OECD Europe												
OECD Americas	154	138	99	64	34	38	63	88	18	25	134	-109
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	4	0	3	2	-	1	1	2	0	1	4	-3
Non-OECD Europe	39	41	30	33	28	30	27	25	26	34	31	3
FSU	714	685	661	633	721	717	583	547	548	506	552	-46
Saudi Arabia	225	205	193	260	131	114	137	151	109	155	334	-179
Algeria	-	0	2	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	76	83	71	73	65	129	196	221	233	210	81	129
Singapore	14	27	17	13	10	18	20	17	13	20	19	0
OECD Asia Oceania	25	36	32	32	38	39	51	55	51	53	39	15
Non-OECD Asia (excl. Singapore)	151	152	101	89	72	108	119	165	83	170	104	66
Other	12	10	15	10	23	7	-17	4	-83	123	52	72
Total²	1413	1378	1224	1210	1122	1201	1180	1275	999	1298	1350	-53
of which Non-OECD	1160	1126	1062	1082	1027	1095	1042	1107	901	1187	1150	37
OECD Asia Oceania												
OECD Americas	-	1	4	3	-	-	-	-	-	-	10	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	0	0	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	0	-	-	0	0	-	0	0	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	4	4	2	1	1	1	2	4	2	3	2	1
Saudi Arabia	3	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	8	7	13	8	13	-	-	-	-	-	-	-
Singapore	141	111	91	85	82	92	153	179	149	105	57	48
Non-OECD Asia (excl. Singapore)	91	133	208	215	229	249	182	150	162	254	234	20
Other	5	5	10	8	11	11	9	15	5	5	10	-5
Total²	253	262	328	320	336	353	345	347	319	366	312	54
of which Non-OECD	253	261	324	316	336	353	345	347	319	366	302	64
Total OECD Trade²	1790	1758	1687	1785	1724	1703	1679	1772	1515	1931	1839	92
of which Non-OECD	1513	1473	1489	1588	1566	1541	1480	1559	1328	1715	1598	117

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 11
REGIONAL OECD JET AND KEROSENE IMPORTS BY SOURCE¹
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	change
OECD Americas												
Venezuela	6	0	-	-	-	-	-	-	-	-	-	-
Other Central and South America	2	7	5	5	3	-	-	-	-	-	10	-
ARA (Belgium Germany Netherlands)	0	-	-	-	4	0	14	19	15	-	-	-
Other Europe	0	0	4	4	6	5	6	2	0	29	10	19
FSU	0	-	0	-	-	0	0	0	-	9	-	-
Saudi Arabia	1	2	6	14	-	4	4	2	3	32	-	-
Algeria	-	-	1	-	9	0	3	7	3	5	-	-
Other Middle East and Africa	2	10	11	18	6	31	14	25	4	28	29	-1
Singapore	6	3	4	-	-	2	5	11	6	-	-	-
OECD Asia Oceania	84	136	100	95	67	98	122	123	165	98	107	-9
Non-OECD Asia (excl. Singapore)	27	14	22	10	13	25	34	20	57	37	7	30
Other	11	3	4	-	-	-	4	11	-	-	-	-
Total²	140	175	158	145	108	166	207	219	253	238	163	75
of which Non-OECD	56	39	54	47	31	63	65	75	73	110	45	65
OECD Europe												
OECD Americas	32	20	13	1	1	2	3	7	0	8	2	6
Venezuela	1	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	2	1	0	-	-	-	-	-	-	1	-	-
Non-OECD Europe	6	2	0	-	-	-	-	-	-	0	-	-
FSU	40	45	22	26	34	25	31	22	30	25	17	8
Saudi Arabia	98	105	40	30	36	39	12	5	17	-	41	-
Algeria	9	11	9	6	6	8	6	9	10	-	18	-
Other Middle East and Africa	197	199	155	153	137	136	174	183	141	169	240	-71
Singapore	25	29	10	8	3	4	18	31	24	19	22	-3
OECD Asia Oceania	32	36	27	16	32	17	42	50	19	27	33	-6
Non-OECD Asia (excl. Singapore)	69	73	50	54	17	59	62	52	103	116	37	78
Other	1	2	10	2	12	2	18	0	6	21	48	-27
Total²	512	523	337	296	278	292	366	360	351	385	459	-74
of which Non-OECD	445	464	297	278	248	273	319	301	328	347	423	-75
OECD Asia Oceania												
OECD Americas	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	1	-	-	-	3	-	-	-	-	-	-	-
Singapore	28	21	14	10	6	18	20	20	22	20	1	19
Non-OECD Asia (excl. Singapore)	26	29	28	28	55	37	15	1	20	5	16	-12
Other	33	26	21	19	36	17	8	8	8	18	8	10
Total²	89	76	63	58	100	71	43	28	51	43	25	18
of which Non-OECD	89	76	63	58	100	71	43	28	51	43	25	18
Total OECD Trade²	741	774	558	499	486	529	617	607	654	666	648	18
of which Non-OECD	590	579	414	382	378	406	428	404	452	501	493	7

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 12
REGIONAL OECD RESIDUAL FUEL OIL IMPORTS BY SOURCE¹
(thousand barrels per day)

	2018	2019	2020	4Q20	1Q21	2Q21	3Q21	Aug 21	Sep 21	Oct 21	Year Earlier	
											Oct 20	change
OECD Americas												
Venezuela	42	7	-	-	-	-	-	-	-	-	-	-
Other Central and South America	72	50	52	38	29	25	39	32	47	58	47	11
ARA (Belgium Germany Netherlands)	7	6	12	15	3	2	9	14	12	10	28	-18
Other Europe	7	8	21	17	8	10	4	6	1	24	38	-14
FSU	23	30	44	51	62	36	19	23	15	29	69	-39
Saudi Arabia	-	2	2	-	-	0	-	-	-	-	-	-
Algeria	-	8	2	-	8	4	3	0	-	6	-	-
Other Middle East and Africa	7	5	10	7	6	11	15	43	-	1	6	-6
Singapore	-	1	1	-	-	-	2	-	6	-	-	-
OECD Asia Oceania	-	-	-	-	-	-	1	2	-	-	-	-
Non-OECD Asia (excl. Singapore)	0	0	-	-	-	8	0	0	-	-	-	-
Other	2	-	-	-	-	-	-	-	-	-	-	-
Total²	161	117	145	129	116	96	91	120	81	129	189	-60
of which Non-OECD	147	102	110	97	105	84	78	98	67	95	122	-28
OECD Europe												
OECD Americas	4	7	12	12	28	32	16	28	2	39	17	22
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	3	5	6	5	5	1	18	23	29	1	9	-8
Non-OECD Europe	17	21	13	21	12	13	12	21	9	9	21	-12
FSU	154	154	149	156	272	154	282	151	410	238	238	0
Saudi Arabia	1	-	2	-	-	-	-	-	-	-	-	-
Algeria	1	0	2	-	3	-	2	6	-	8	-	-
Other Middle East and Africa	15	19	13	14	14	10	14	11	20	5	16	-11
Singapore	-	1	3	4	2	7	2	7	-	7	6	1
OECD Asia Oceania	8	14	4	3	0	2	5	0	7	7	-	-
Non-OECD Asia (excl. Singapore)	0	3	-	-	-	-	-	-	-	-	-	-
Other	5	8	93	99	48	94	78	128	60	-93	100	-193
Total²	208	232	295	315	384	313	429	375	536	220	407	-187
of which Non-OECD	185	202	279	295	340	281	394	313	526	170	371	-200
OECD Asia Oceania												
OECD Americas	0	1	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	0	0	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	16	6	5	-	1	-	-	-	-	-	-	-
Saudi Arabia	-	1	1	-	-	14	13	3	-	24	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	23	27	38	35	32	27	31	30	31	-	32	-
Singapore	37	25	18	14	27	44	22	26	26	29	9	20
Non-OECD Asia (excl. Singapore)	85	40	26	31	49	30	56	53	57	48	21	27
Other	0	1	-	-	-	-	-	-	-	-	-	-
Total²	162	101	88	80	109	116	121	112	115	101	63	39
of which Non-OECD	162	100	88	80	109	116	121	112	115	101	63	39
Total OECD Trade²	531	450	528	524	609	524	641	607	731	450	658	-208
of which Non-OECD	493	404	477	472	554	481	593	523	708	366	556	-189

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 13
AVERAGE IEA CIF CRUDE COST AND SPOT CRUDE AND PRODUCT PRICES
 (\$/bbl)

	2018	2019	2020	1Q20	2Q20	3Q20	4Q20	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21
CRUDE OIL PRICES													
IEA CIF Average Import¹													
IEA Americas	60.02	56.93	37.31	44.57	24.30	39.34	40.17	68.38	65.88	67.72	75.35		
IEA Europe	70.52	64.25	42.91	53.74	28.30	43.29	44.02	73.44	70.34	72.52	80.47		
IEA Asia Oceania	72.46	66.38	46.28	64.01	30.10	42.99	44.27	73.53	74.49	74.12	78.50		
IEA Total	67.77	62.75	42.19	53.85	27.58	42.11	43.01	72.00	70.13	71.45	78.59		
FOB Spot													
North Sea Dated	71.27	64.12	41.76	50.02	29.57	42.82	44.03	74.99	70.75	74.40	83.54	81.37	74.01
Brent (Asia) Mth 1	72.23	64.86	44.86	52.63	36.46	44.20	45.86	75.36	71.12	75.70	84.27	82.58	74.82
WTI (Cushing) Mth 1	65.20	57.03	39.25	45.57	27.95	40.90	42.63	72.46	67.73	71.56	81.36	79.18	71.53
Urals (Mediterranean)	70.17	64.31	41.93	48.97	30.29	43.39	44.49	73.09	68.08	72.65	81.93	80.08	73.07
Dubai (1st month)	69.65	63.49	42.36	50.41	31.17	42.80	44.62	72.88	69.32	72.57	81.46	80.21	73.25
Tapis (Dated)	72.16	43.28	72.80	56.06	28.66	43.69	44.21	77.33	72.22	76.30	86.39	85.09	78.88
PRODUCT PRICES													
Rotterdam, Barges FOB													
Premium Unl 10 ppm	78.78	71.35	44.65	53.77	30.56	46.58	46.99	86.22	84.32	86.31	95.92	93.21	82.88
Naphtha	64.48	56.27	39.64	45.86	26.52	41.90	43.64	75.26	72.43	76.04	85.37	82.33	78.27
Jet/Kerosene	86.39	79.24	44.79	60.06	29.76	41.92	46.75	78.49	75.92	82.07	94.81	90.46	85.18
ULSD 10ppm	86.22	79.45	49.32	62.85	37.55	47.49	48.86	80.29	77.67	84.35	96.92	92.83	86.38
Gasoil 0.1 %	84.28	77.73	48.10	61.41	36.43	45.99	48.05	79.15	76.03	82.90	95.22	90.67	84.69
LSFO 1%	63.22	62.21	42.78	52.84	30.10	41.34	46.27	72.02	69.35	74.86	82.72	78.61	74.57
HSFO 3.5%	61.13	50.31	34.43	33.39	24.05	38.33	41.40	63.99	61.71	66.05	74.26	67.40	64.43
Mediterranean, FOB Cargoes													
Premium Unl 10 ppm	79.41	71.31	45.59	54.91	31.91	47.45	47.42	86.87	84.87	87.66	96.59	91.68	84.94
Naphtha	66.08	54.43	37.81	43.27	23.72	40.74	42.80	74.03	71.28	74.92	83.83	80.76	75.50
Jet Aviation Fuel	85.37	77.76	43.28	58.08	27.43	40.88	46.01	77.48	75.05	81.21	93.58	89.29	83.07
ULSD 10ppm	86.03	79.05	48.76	61.86	36.15	47.45	49.02	80.19	77.54	84.05	96.44	91.96	85.03
Gasoil 0.1 %	84.74	77.70	47.60	60.94	34.06	46.32	48.48	79.20	76.65	82.81	95.03	90.64	83.90
LSFO 1%	64.31	63.90	44.06	54.94	31.39	42.26	47.07	72.71	70.60	75.89	84.08	80.30	76.33
HSFO 3.5%	62.06	52.17	34.36	35.67	24.32	37.23	39.72	62.36	60.35	65.26	73.08	66.01	62.67
US Gulf, FOB Pipeline													
Super Unleaded	85.71	79.24	50.64	60.05	39.80	52.55	52.94	98.99	96.43	97.33	105.98	100.72	92.61
Unleaded	80.10	72.28	46.02	54.57	34.95	49.24	49.93	92.39	91.17	91.63	101.08	95.45	88.83
Jet/Kerosene	85.12	78.81	46.20	58.25	32.58	45.02	49.16	79.25	76.45	84.05	96.22	92.43	87.63
ULSD 10 ppm	85.94	79.09	50.17	61.81	38.27	48.59	52.24	87.04	84.70	90.38	103.07	97.70	91.78
No. 6 3% ²	60.20	52.57	34.63	35.91	24.69	37.70	40.20	60.93	60.92	65.20	72.89	66.25	63.04
Singapore, FOB Cargoes													
Premium Unleaded	80.21	72.55	46.65	56.85	33.23	47.32	48.72	85.14	81.13	84.06	98.48	95.01	87.92
Naphtha	67.50	57.15	40.77	47.72	28.05	43.29	43.51	75.57	71.01	75.15	84.45	84.21	77.82
Jet/Kerosene	85.05	77.26	44.83	58.88	30.73	42.13	47.08	77.25	74.05	79.88	93.09	89.09	83.47
Gasoil 0.05%	84.33	77.23	48.43	61.38	36.58	47.00	48.38	77.93	73.77	79.66	93.38	90.84	84.94
HSFO 180 CST	67.04	58.62	39.32	43.14	29.24	40.35	44.09	66.22	65.07	73.48	77.52	71.15	65.86
HSFO 380 CST 4%	66.01	57.57	38.25	41.71	27.95	39.59	43.26	64.56	63.34	70.30	76.02	69.87	64.79

¹ IEA CIF Average Import price for October is an estimate.

IEA Americas includes United States and Canada.

IEA Europe includes all countries in OECD Europe except Estonia, Hungary and Slovenia.

IEA Asia Oceania includes Australia, New Zealand, Korea and Japan.

² Waterborne

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Table 14
MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS

December 2021

NATIONAL CURRENCY *							US DOLLARS					
Total	% change from		Ex-Tax	% change from			Total	% change from		Ex-Tax	% change from	
Price	Nov-21	Dec-20	Price	Nov-21	Dec-20		Price	Nov-21	Dec-20	Price	Nov-21	Dec-20
GASOLINE ¹ (per litre)												
France	1.633	- 1.6	20.8	0.670	-3.2	53.7	1.846	-2.5	12.2	0.757	-4.1	42.7
Germany	1.665	- 4.4	30.8	0.744	-8.0	68.3	1.882	-5.3	21.5	0.841	-8.9	56.4
Italy	1.726	- 1.2	21.6	0.687	-2.4	57.9	1.951	-2.1	13.0	0.776	-3.3	46.7
Spain	1.482	- 1.9	26.2	0.752	-3.0	51.3	1.675	-2.8	17.3	0.850	-3.9	40.5
United Kingdom	1.458	-	27.8	0.635	-	71.2	1.941	-1.0	26.7	0.845	-1.0	69.7
Japan	166.3	- 1.5	23.4	94.6	-2.4	43.6	1.460	-1.4	12.4	0.830	-2.3	30.8
Canada	1.419	- 2.9	32.2	0.939	-3.9	45.8	1.109	-4.6	32.4	0.734	-5.6	46.0
United States	0.874	- 2.6	50.7	0.744	-3.0	64.2	0.874	-2.6	50.7	0.744	-3.0	64.2
AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)												
France	1.537	- 1.1	22.5	0.672	-2.0	53.8	1.737	-2.0	13.8	0.759	-2.9	42.8
Germany	1.523	- 2.7	38.3	0.810	-4.3	69.1	1.721	-3.6	28.5	0.915	-5.1	57.1
Italy	1.591	- 1.3	23.0	0.687	-2.4	54.7	1.798	-2.2	14.2	0.776	-3.3	43.7
Spain	1.349	- 2.4	28.1	0.736	-3.5	49.9	1.525	-3.3	19.0	0.832	-4.4	39.2
United Kingdom	1.496	0.1	25.8	0.667	-	62.3	1.992	-0.9	24.7	0.888	-1.0	60.9
Japan	146.3	- 1.5	26.8	101.0	-2.0	38.5	1.284	-1.5	15.5	0.887	-2.0	26.2
Canada	1.446	- 1.2	35.3	1.011	-1.6	46.7	1.130	-3.0	35.4	0.790	-3.3	46.9
United States	0.962	- 2.3	40.8	0.812	-2.8	51.8	0.962	-2.3	40.8	0.812	-2.8	51.8
DOMESTIC HEATING OIL (per litre)												
France	1.003	- 4.9	34.2	0.679	-5.9	45.7	1.133	-5.8	24.7	0.768	-6.8	35.3
Germany	0.846	- 7.8	62.6	0.650	-8.5	67.8	0.956	-8.7	51.0	0.734	-9.4	55.8
Italy	1.380	- 1.6	21.5	0.728	-2.4	38.0	1.560	-2.5	12.9	0.823	-3.3	28.1
Spain	0.818	- 4.3	45.9	0.579	-5.0	58.0	0.925	-5.2	35.5	0.655	-5.9	46.7
United Kingdom	0.701	- 2.9	46.7	0.556	-3.4	61.9	0.933	-3.8	45.4	0.740	-4.4	60.4
Japan ²	107.2	0.6	36.9	94.7	0.6	38.4	0.941	0.7	24.7	0.831	0.7	26.1
Canada	1.360	- 1.0	39.9	1.185	-1.0	38.0	1.063	-2.8	40.0	0.926	-2.8	38.1
United States	-	-	-	-	-	-	-	-	-	-	-	-
LOW SULPHUR FUEL OIL FOR INDUSTRY ³ (per kg)												
France	0.648	- 4.3	32.7	0.509	-5.4	45.7	0.733	-5.2	23.2	0.575	-6.3	35.3
Germany	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0.589	- 3.9	46.4	0.558	-4.2	50.3	0.666	-4.8	35.9	0.630	-5.0	39.6
Spain	0.527	0.1	60.3	0.510	0.1	63.6	0.595	-0.9	48.9	0.576	-0.9	52.0
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-	-	-	-

¹ Unleaded premium (95 RON) for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States.

² Kerosene for Japan.

³ VAT excluded from prices for low sulphur fuel oil when refunded to industry.

* Prices for France, Germany, Italy and Spain are in Euros; UK in British Pounds, Japan in Yen, Canada in Canadian Dollars.

Table 15
IEA/KBC Global Indicator Refining Margins¹
 (\$/bbl)

	Monthly Average					Change	Average for week ending:				
	Sep 21	Oct 21	Nov 21	Dec 21		Dec-Nov	17 Dec	24 Dec	31 Dec	07 Jan	14 Jan
NW Europe											
Brent (Cracking)	5.11	6.44	5.01	5.11	↑	0.09	5.66	5.61	6.08	4.92	4.61
Urals (Cracking)	5.84	7.23	4.67	5.14	↑	0.47	5.47	5.99	6.68	5.42	4.37
Brent (Hydroskimming)	2.60	3.22	1.64	2.89	↑	1.25	3.58	3.29	3.15	2.09	1.37
Urals (Hydroskimming)	1.23	1.97	-1.42	0.53	↑	1.95	0.82	1.54	1.80	0.57	-0.90
Mediterranean											
Es Sider (Cracking)	6.65	7.43	4.84	6.52	↑	1.67	6.89	6.79	7.02	6.57	5.91
Urals (Cracking)	5.38	6.71	3.91	5.31	↑	1.40	5.72	6.18	6.29	5.74	4.89
Es Sider (Hydroskimming)	4.88	4.92	2.44	4.58	↑	2.14	5.08	4.87	4.85	4.19	3.10
Urals (Hydroskimming)	0.76	1.09	-2.41	-0.31	↑	2.10	0.02	0.76	0.68	-0.25	-1.62
US Gulf Coast											
Mars (Cracking)	8.10	9.51	6.63	6.04	↓	-0.60	4.73	6.90	7.86	7.81	7.85
50/50 HLS/LLS (Coking)	16.25	17.48	14.87	14.18	↓	-0.68	12.81	14.92	15.35	15.09	15.65
50/50 Maya/Mars (Coking)	11.22	12.12	9.73	10.70	↑	0.96	9.81	11.35	11.95	11.50	11.91
ASCI (Coking)	12.91	14.64	12.46	11.21	↓	-1.25	9.84	11.80	12.59	12.81	13.19
US Midwest											
30/70 WCS/Bakken (Cracking)	14.03	13.06	10.59	10.65	↑	0.06	10.24	9.88	10.14	8.87	7.60
Bakken (Cracking)	16.55	14.78	10.98	11.45	↑	0.47	10.70	10.67	11.19	10.42	8.55
WTI (Coking)	17.29	15.58	11.14	11.87	↑	0.73	11.15	11.26	11.67	11.94	10.81
30/70 WCS/Bakken (Coking)	17.12	16.08	13.84	13.59	↓	-0.25	12.91	12.30	12.66	11.29	9.98
Singapore											
Dubai (Hydroskimming)	0.03	0.30	-2.74	-1.12	↑	1.61	-0.49	-0.83	-1.00	-1.49	-1.29
Tapis (Hydroskimming)	2.25	3.50	2.40	3.45	↑	1.05	4.52	3.58	4.64	1.64	1.72
Dubai (Hydrocracking)	5.18	7.78	6.58	8.24	↑	1.66	8.93	8.30	8.47	8.08	8.93
Tapis (Hydrocracking)	2.22	4.70	2.91	3.23	↑	0.32	4.52	3.53	4.29	1.80	1.34

¹ Global Indicator Refining Margins are calculated for various complexity configurations, each optimised for processing the specific crude(s) in a specific refining centre. Margins include energy cost, but exclude other variable costs, depreciation and amortisation. Consequently, reported margins should be taken as an indication, or proxy, of changes in profitability for a given refining centre. No attempt is made to model or otherwise comment upon the relative economics of specific refineries running individual crude slates and producing custom product sales, nor are these calculations intended to infer the marginal values of crude for pricing purposes.

Source: IEA, KBC Advanced Technologies (KBC)

Table 16
REFINED PRODUCT YIELDS BASED ON TOTAL INPUT (%)¹

	Aug-21	Sep-21	Oct-21	Oct-20	Oct 21 vs Previous Month	Oct 21 vs Previous Year	Oct 21 vs 5 Year Average	5 Year Average
OECD Americas								
Naphtha	1.2	1.2	1.1	1.3	-0.2	-0.3	-0.4	1.5
Motor gasoline	45.7	46.7	47.1	49.7	0.5	-2.6	-0.5	47.6
Jet/kerosene	7.9	7.7	7.5	5.2	-0.2	2.3	-0.8	8.3
Gasoil/diesel oil	27.4	27.4	28.6	28.5	1.2	0.1	0.1	28.5
Residual fuel oil	2.7	2.9	3.0	2.7	0.1	0.3	-0.2	3.2
Petroleum coke	4.3	4.2	4.1	4.4	-0.1	-0.3	-0.4	4.5
Other products	14.3	12.9	12.3	12.1	-0.6	0.2	1.3	10.9
OECD Europe								
Naphtha	8.4	8.8	8.7	8.5	-0.1	0.2	0.8	8.0
Motor gasoline	21.2	21.3	21.7	22.8	0.4	-1.1	0.5	21.2
Jet/kerosene	6.6	6.3	6.3	4.4	0.0	1.9	-1.5	7.8
Gasoil/diesel oil	40.5	40.8	40.5	42.1	-0.3	-1.7	0.6	39.8
Residual fuel oil	7.7	7.8	8.1	6.9	0.3	1.2	-0.9	9.0
Petroleum coke	1.6	1.5	1.4	1.5	-0.1	-0.2	0.0	1.4
Other products	16.6	16.4	15.9	15.7	-0.6	0.2	0.9	14.9
OECD Asia Oceania								
Naphtha	15.6	16.3	16.6	15.5	0.4	1.1	1.0	15.7
Motor gasoline	22.0	22.4	22.6	22.9	0.2	-0.3	0.4	22.2
Jet/kerosene	12.2	12.4	12.3	11.3	0.0	1.0	-2.5	14.8
Gasoil/diesel oil	30.6	30.6	30.7	32.3	0.1	-1.6	1.0	29.7
Residual fuel oil	8.0	7.8	8.0	7.4	0.2	0.7	0.6	7.4
Petroleum coke	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.4
Other products	12.9	12.9	12.4	12.8	-0.5	-0.5	0.4	11.9
OECD Total								
Naphtha	6.0	6.3	6.3	6.2	0.0	0.1	0.2	6.1
Motor gasoline	33.8	34.2	34.6	36.2	0.3	-1.7	0.1	34.4
Jet/kerosene	8.2	8.0	7.9	6.0	-0.1	1.9	-1.4	9.3
Gasoil/diesel oil	32.2	32.3	32.9	33.6	0.6	-0.7	0.4	32.4
Residual fuel oil	5.2	5.3	5.6	4.9	0.2	0.7	-0.3	5.9
Petroleum coke	2.8	2.7	2.6	2.8	-0.1	-0.2	-0.2	2.7
Other products	14.8	14.0	13.5	13.4	-0.6	0.1	1.0	12.4

¹ Due to processing gains and losses, yields in % will not always add up to 100%

Table 17
WORLD BIOFUELS PRODUCTION
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21
ETHANOL									
OECD Americas¹	1059	934	999	1021	993	1049	1068	1026	1051
United States	1029	906	969	991	963	1019	1038	996	1021
Other	30	28	30	30	30	30			
OECD Europe²	96	93	103	105	122	104	122	96	96
France	20	16	17	17	27	14	24	9	9
Germany	12	11	12	15	17	8	22	1	1
Spain	9	8	10	9	9	13	9	15	15
United Kingdom	5	5	9	9	11	9	12	7	7
Other	50	52	55	55	58	61			
OECD Asia Oceania³	4	4	5	5	4	5	4	5	5
Australia	4	4	4	5	3	5	4	5	5
Other	0	0	0	0	0	0			
Total OECD Ethanol	1160	1031	1106	1131	1119	1158	1194	1127	1152
Total Non-OECD Ethanol	796	735	702	873	1131	510	728	514	287
Brazil	621	560	513	683	942	320	538	324	97
China	67	69	76	76	76	76			
Argentina	19	15	18	18	18	18			
Other	89	90	96	96	96	96	190	190	190
TOTAL ETHANOL	1957	1766	1809	2004	2250	1668	1922	1641	1439
BIODIESEL									
OECD Americas¹	151	159	164	160	162	186	181	188	188
United States	145	153	156	154	156	175	175	175	175
Other	7	6	7	6	6	11			
OECD Europe²	291	282	316	314	320	349	328	359	359
France	43	41	43	44	50	38	50	31	31
Germany	66	60	66	63	71	75	69	78	78
Italy	18	28	30	30	30	34			
Spain	42	31	39	37	37	45	37	50	50
Other	122	123	138	141	132	157	139	166	166
OECD Asia Oceania³	14	14	14	18	16	12	8	14	14
Australia	0	0	0	0	0	0	0	0	0
Other	14	14	14	18	16	12			
Total OECD Biodiesel	457	455	494	492	498	547	518	562	562
Total Non-OECD Biodiesel	394	411	437	437	437	437	437	437	437
Brazil	102	111	117	117	117	118	125	111	118
Argentina*	42	27	36	36	36	36			
Other	251	274	284	284	285	283			
TOTAL BIODIESEL	851	866	931	930	935	984	955	999	999
GLOBAL BIOFUELS	2808	2632	2740	2933	3185	2652	2878	2640	2438

* monthly data not available.

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