

Oil Market Report

16 March 2022

- Surging commodity prices and international sanctions levied against Russia following its invasion of Ukraine are expected to appreciably depress global economic growth. As a result, we have revised down our forecast for world oil demand by 1.3 mb/d for 2Q22-4Q22, resulting in 950 kb/d slower growth for 2022 on average. Total demand is now projected at 99.7 mb/d in 2022, an increase of 2.1 mb/d from 2021.
- The prospect of large-scale disruptions to Russian oil production is threatening to create a global oil supply shock. We estimate that from April, 3 mb/d of Russian oil output could be shut in as sanctions take hold and buyers shun exports. OPEC+ is, for now, sticking to its agreement to increase supply by modest monthly amounts. Only Saudi Arabia and the UAE hold substantial spare capacity that could immediately help to offset a Russian shortfall.
- Global refinery throughput estimates for 2022 have been revised down by 860 kb/d since last month's *Report* as a 1.1 mb/d reduction in Russian runs is not expected to be fully offset by increases elsewhere. In 2022, refinery intake globally is projected to rise by 2.9 mb/d year-on-year to 80.8 mb/d. Despite a downgrade to demand, product markets remain tight with further stock draws expected throughout the year.
- OECD total industry stocks were drawn down by 22.1 mb in January. At 2 621 mb, inventories were 335.6 mb below the 2017-2021 average and at their lowest level since April 2014. Industry stocks covered 57.2 days of forward demand, down by 13.6 days from a year earlier. Preliminary data for the US, Europe and Japan indicate that industry stocks decreased by a further 29.8 mb in February.
- As this *Report* went to print, ICE Brent oil futures slid to around \$100/bbl after touching an intraday high of nearly \$140/bbl on 8 March. Prices jumped from \$90/bbl in early February following the invasion of Ukraine and as supply concerns mounted. Prices have eased again on economic concerns, surging Covid cases in China and traders reducing positions due to extreme volatility.



Table of contents

At a crossroads	3
Demand	6
Overview	6
OECD	9
Non-OECD	11
Other Non-OECD	14
Supply	15
Overview	15
Seeking alternatives	15
Sanctions easing would free up extra oil	17
OPEC+ sees no shortage	18
Non-OPEC+ gains offer partial relief	20
Refining	22
Overview	22
Product cracks and refinery margins	23
Regional refining developments	27
Stocks	32
Overview	32
Implied balance	33
Recent OECD industry stock changes	34
Other stock developments	36
Prices	40
Overview	40
Futures markets	42
Spot crude oil prices	44
Freight	46
Tables	49

List of boxes

Box 1.	Gauging the extent of potential Russian oil supply losses	4
Box 2.	IEA member countries agree record 62.7 mb emergency stock release	37

At a crossroads

Faced with what could turn into the biggest supply crisis in decades, global energy markets are at a crossroads. Russia's invasion of Ukraine has brought energy security back to the forefront of political agendas as commodity prices surge to new heights. While it is still too early to know how events will unfold, the crisis may result in lasting changes to energy markets.

The implications of a potential loss of Russian oil exports to global markets cannot be understated. Russia is the world's largest oil exporter, shipping 8 mb/d of crude and refined oil products to customers across the globe. Unprecedented sanctions imposed on Russia to date exclude energy trade for the most part, but major oil companies, trading houses, shipping firms and banks have backed away from doing business with the country. For now, we see the potential for a shut-in of 3 mb/d of Russian oil supply starting from April, but losses could increase should restrictions or public condemnation escalate.

Russian oil continues to flow for the time being due to term deals and trades made before Moscow sent its troops into Ukraine, but new business has all but dried up. Urals crude is being offered at record discounts, with limited uptake so far. Some Asian oil importers have shown interest in the much cheaper barrels, but are for the most part sticking to traditional suppliers in the Middle East, Latin America and Africa for the bulk of their purchases.

Refiners, particularly in Europe, are scrambling to source alternative supplies and risk having to reduce activity just as very tight oil product markets hit consumers. There are scant signs of increased supplies coming from the Middle East, or of a significant reallocation of trade flows. The OPEC+ alliance agreed on 2 March to stick with a modest, scheduled output rise of 400 kb/d for April, insisting no supply shortage exists. Saudi Arabia and the UAE – the only producers with substantial spare capacity – are, so far, showing no willingness to tap into their reserves.

Prospects of any additional supplies from Iran could be months off. Talks over a nuclear deal that paves the way for sanction relief have apparently stalled just before the finish line. Should an agreement be reached, exports could ramp up by around 1 mb/d over a six-month period. Outside of the OPEC+ alliance, growth will come from the US, Canada, Brazil and Guyana, but any near-term upside potential is limited.

In the absence of a faster ramp up in production, oil stocks will have to balance the market in the coming months. But even before the conflict Russia's attacks on Ukraine, the industry's oil inventories were depleting rapidly. At the end of January, OECD inventories were 335 mb below their five-year average and at eight-year lows. IEA emergency stocks will provide a welcome buffer, and member countries stand ready to release more oil from strategic reserves if and when needed, in addition to the 62.7 mb of crude and products already pledged.

Surging oil and commodity prices, if sustained, will have a marked impact on inflation and economic growth. While the situation remains in flux, we have lowered our expectations for GDP and oil demand in this *Report*. We now see oil demand growing by 2.1 mb/d on average in 2022, a downgrade of around 1 mb/d from our previous forecast. There are actions governments and consumers can take to cut short-term demand for oil more rapidly to ease the strains and the IEA will publish recommendations for how to do so later this week. The current crisis comes with major challenges for energy markets, but it also offers opportunities. Indeed, today's alignment of energy security and economic factors could well accelerate the transition away from oil.

Box 1. Gauging the extent of potential Russian oil supply losses

Russia's invasion into Ukraine at the end of February has triggered a wide range of responses across the globe, including financial sanctions and outright embargoes of Russian oil imports. At the time of writing, there were no legally binding restrictions on imports into Russia's most important markets – the European Union and China, which collectively account for two thirds of Russian oil exports.

As sanctions expand, companies shun barrels and, at the same time, opportunistic buying of massively discounted Russian crude sets in, the total amount of Russian oil lost to world markets is a moving target. Our initial assessment is that 3 mb/d of Russian oil could be shut in from April through the end of our forecast period. Of the cutback, we see a reduction in total exports of 2.5 mb/d, of which crude accounts for 1.5 mb/d and products 1 mb/d. These losses could deepen should bans or public censure accelerate.

Our current assumptions for Russian crude supply are based on restricted crude and product exports and lower domestic demand for oil products. Before its invasion of Ukraine, Russia exported about 5 mb/d of crude oil and 3 mb/d of products. We assume that shipments through pipelines to EU countries and China as well as Belarus will continue. This flow accounts for about 1.9 mb/d. Russian oil companies Rosneft and Lukoil own refining assets in Europe, which would continue taking another 500 kb/d of seaborne Russian crude oil. We also expect that the normal 800 kb/d to 900 kb/d of seaborne shipments to China will be maintained and perhaps even increase. Thus, we foresee a potential disruption in crude oil exports of 1.5 mb/d.

We project a 33% reduction in offtake of Russian products exports, which amounts to 1 mb/d. This, combined with the decline in domestic demand, translates into 1.5 mb/d of domestic refinery run cuts. As a result, the total impact on Russian crude demand is 3 mb/d, which we think will turn into production shut-ins of an equivalent amount.

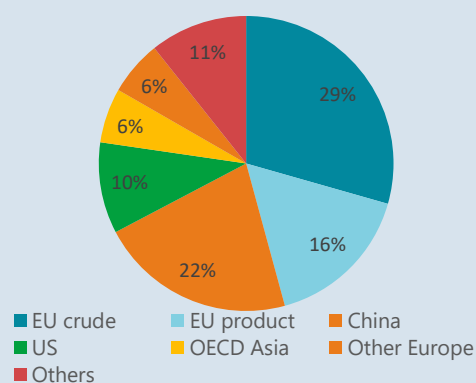
We have not accounted for stock builds in Russia or offshore.

With outright import bans announced by Canada, US, UK and Australia, only some 13% of Russian oil exports are directly affected. However, major oil companies have stepped away from Russian oil for reputational reasons and uncertainty over possible future sanctions.

For now, Moscow's oil continues to move to the market on the back of deals made prior to its invasion of Ukraine. Total oil loadings from Russian ports increased in the week ending 13 March, according to *Kpler* data, even though shipments to Europe were roughly 500 kb/d lower than before the invasion. At the same time, there has been a notable increase in Urals volumes on the water, suggesting sellers are struggling to find buyers or tankers are sailing to destinations further afield.

Term-contract holders are meanwhile increasing efforts to move Russian crude to non-European buyers such as India and China. However, financing arrangements, high shipping costs and

Russian oil exports by destination
2021 average



reputational risks are complicating sales. Chinese state-controlled trading firm Unipet and Vitol have chartered very large crude carriers (VLCCs) to ship crude to China from Northwest Europe. Indian Oil Corp, the country's top refiner, bought 3 million barrels of Russian Urals from trader Vitol for May delivery, its first purchase of the grade since Russia invaded Ukraine on 24 February.

Given it is early days in the crisis, we expect oil companies, traders and shipping firms to tread carefully as they adapt to the new market dynamics.

Russian crude and product exports by selected destination							
	(million barrels per day)						
	1Q21	2Q21	3Q21	4Q21	2021.0	Jan 22	2021 average share
Total Russian oil exports	7.3	7.7	7.3	7.7	7.5	8.0	100%
Total crude oil exports¹	4.4	4.8	4.7	4.9	4.7	5.0	62%
European Union	2.0	2.2	2.3	2.3	2.2		29%
Pipeline	0.7	0.7	0.7	0.7	0.7	0.7	9%
Seaborne	1.4	1.5	1.6	1.6	1.5		20%
Other Europe ²	0.1	0.2	0.2	0.2	0.2		2%
China	1.8	1.5	1.6	1.7	1.6		22%
Pipeline	0.8	0.8	0.8	0.8	0.8	0.8	11%
Seaborne	1.0	0.7	0.8	0.8	0.8		11%
US	0.1	0.2	0.3	0.2	0.2		3%
OECD Asia	0.2	0.3	0.2	0.3	0.2		3%
Total product exports	3.0	2.9	2.7	2.8	2.8	3.0	38%
European Union	1.3	1.1	1.3	1.2	1.2		16%
Diesel	0.5	0.5	0.5	0.4	0.5		6%
Naphtha	0.2	0.2	0.2	0.2	0.2		3%
Fuel oil	0.2	0.2	0.3	0.3	0.2		3%
Other products	0.3	0.3	0.3	0.3	0.3		4%
Other Europe ²	0.3	0.3	0.2	0.3	0.3		3%
US	0.5	0.6	0.5	0.4	0.5		7%
China	0.0	0.0	0.0	0.0	0.0		0%
OECD Asia	0.2	0.2	0.2	0.2	0.2		2%

Demand

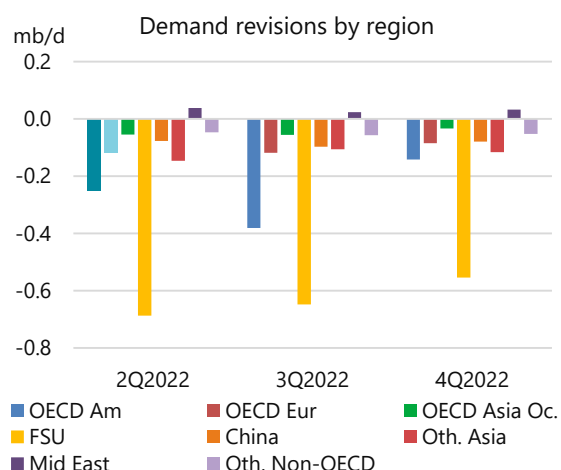
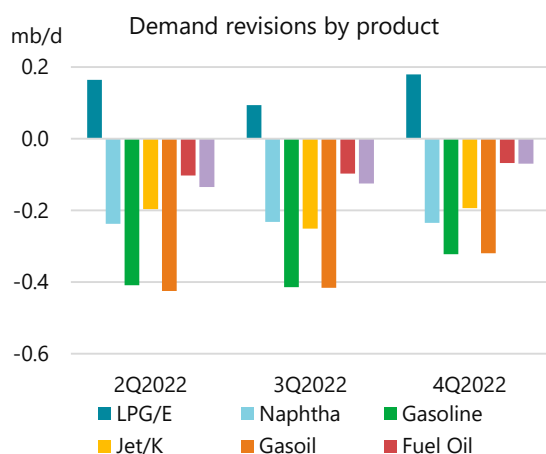
Overview

Surging energy and other commodity prices, along with financial and oil sanctions against Russia, are expected to depress world GDP and oil demand. While the outlook remains highly uncertain, we have adjusted lower our GDP forecast and raised our oil price assumptions for the remainder of the year. As a result, global oil demand has been revised down by 1.3 mb/d for 2Q22-4Q22 resulting in 950 kb/d slower growth for 2022 on average. Demand is now projected to average 99.7 mb/d in 2022, up 2.1 mb/d from 2021.

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	13 251	13 311	13 890	14 328	579	439	4.3	3.2
Naphtha	6 351	6 381	6 920	7 004	539	84	8.4	1.2
Motor Gasoline	26 715	23 631	25 665	26 033	2 034	368	8.6	1.4
Jet Fuel & Kerosene	7 931	4 664	5 210	6 040	546	830	11.7	15.9
Gas/Diesel Oil	28 310	26 512	27 791	27 919	1 279	128	4.8	0.5
Residual Fuel Oil	6 136	5 716	6 069	6 240	353	171	6.2	2.8
Other Products	11 744	11 705	11 973	12 062	268	89	2.3	0.7
Total Products	100 437	91 921	97 519	99 626	5 598	2 107	6.1	2.2

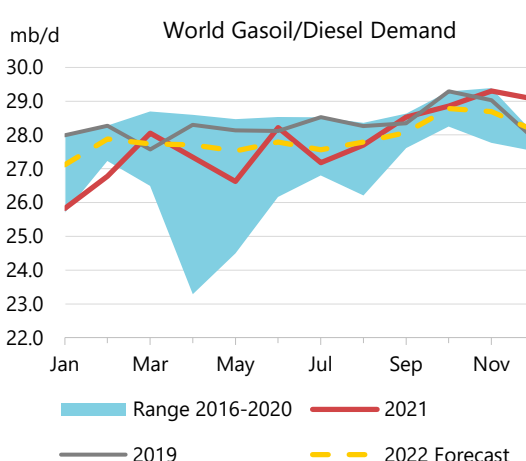
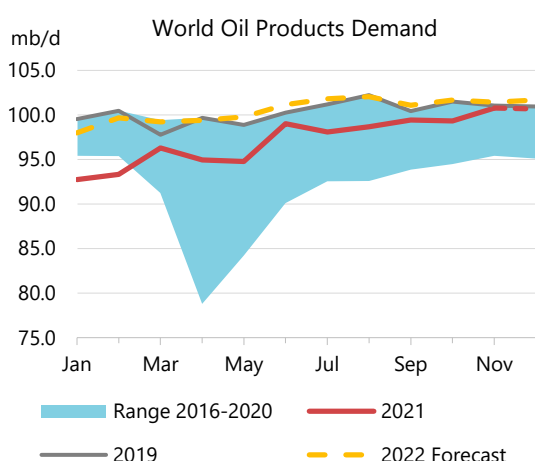
Since last month's Report, the ICE Brent forward curve, used as an input into these projections, has increased by 12%, to \$96/bbl on average for 2022 (as of 1 March 2022) and by 13% for 2Q22-4Q22. The impact on demand is estimated at -400 kb/d on average for the remainder of the year versus last month's forecast. This is equivalent to an average elasticity for total product demand of about -0.03, relative to Brent pricing. The impact of prices on oil demand varies by fuel and by country, with gasoline and jet kerosene more responsive (elasticity close to -0.05) than diesel (-0.03) in OECD countries. Diesel is more commonly a factor of production and used for the transportation of goods, while gasoline is largely consumed by households which can more easily limit their mobility when prices are increasing.

World GDP growth measured in constant US dollar purchasing power parity (PPP) for the rest of the year has been revised down by 0.9 percentage points (ppt) to 3.4%. We expect this to reduce global oil demand by around 500 kb/d during 2Q22-4Q22. The effect of the change to GDP assumptions on oil demand is calculated through our estimates of GDP elasticities for each fuel and for different countries. For total products across the world as a whole, GDP elasticity is around 0.55. The strong downward adjustment in Russia –from an annual growth of 3.2% in our previous forecast to a contraction of 11% in current projections – weighs heavily on the outlook for the global economy. Russian GDP is projected to decline by 23% year-on-year (y-o-y) in 2Q22, and by 11% y-o-y in 2H22. In addition, lower growth rates in Europe, the US, and Asia more than offset stronger economic activity in the Middle East, Latin America and some African countries – regions benefitting in the short term from much higher commodity prices. However, the impact of loftier prices for oil and other commodities will not stop with income redistribution across regions. They will also increase inflation, reduce household purchasing power and are likely to trigger policy reactions from central banks worldwide – with a strong negative impact on growth.



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	3 818	4 031	4 122	213	91	5.6	2.3
Americas	31 826	28 166	30 261	30 876	2 095	615	7.4	2.0
Asia/Pacific	35 834	34 061	36 069	37 312	2 008	1 243	5.9	3.4
Europe	15 093	13 175	13 844	14 281	669	437	5.1	3.2
FSU	4 723	4 497	4 791	4 419	294	- 372	6.5	-7.8
Middle East	8 711	8 204	8 523	8 616	319	93	3.9	1.1
World	100 437	91 921	97 519	99 626	5 598	2 107	6.1	2.2
OECD	47 778	42 128	44 749	46 005	2 621	1 255	6.2	2.8
Non-OECD	52 659	49 793	52 769	53 621	2 976	852	6.0	1.6

Finally, disruptions to Russian air traffic are expected to reduce jet fuel use compared to last month's forecast by 160 kb/d on average in 2Q22-3Q22. Changes to historical data and minor updates to mobility assumptions explain the rest of the global revisions (-200 kb/d) in 2Q22-4Q22.



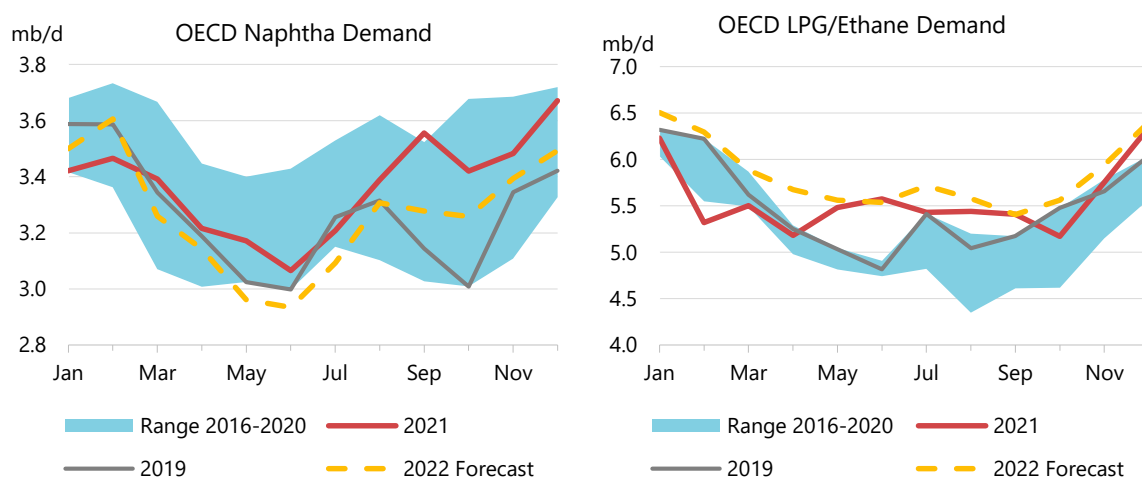
On a regional basis, the Former Soviet Union (FSU) sees the most intense drop in our consumption forecast, but downward revisions for demand in OECD Europe, OECD Americas and China are also substantial. Just under half of the total adjustment will be in the FSU, with 33% in OECD countries and 7% in China. Oil consumption in the Middle East is expected to increase

slightly, the only such region, due to stronger GDP growth because of elevated energy prices and higher forecast output for petrochemical producers in the Gulf.

Of the total 1.3 mb/d demand reduction in the final three quarters of the year, gasoline (-380 kb/d), gasoil (-390 kb/d), naphtha (-230 kb/d) and jet/kerosene (-210 kb/d) are expected to post the largest declines relative to our previous outlook. These changes result from higher prices and lower GDP, as well as direct disruptions to some air traffic and the internal dynamics of the petrochemical industry. We expect a comparatively limited impact on fuel oil demand (-90 kb/d). LPG and ethane demand may actually be higher (+150 kb/d) as a result of increased competitiveness relative to naphtha in petrochemical production.

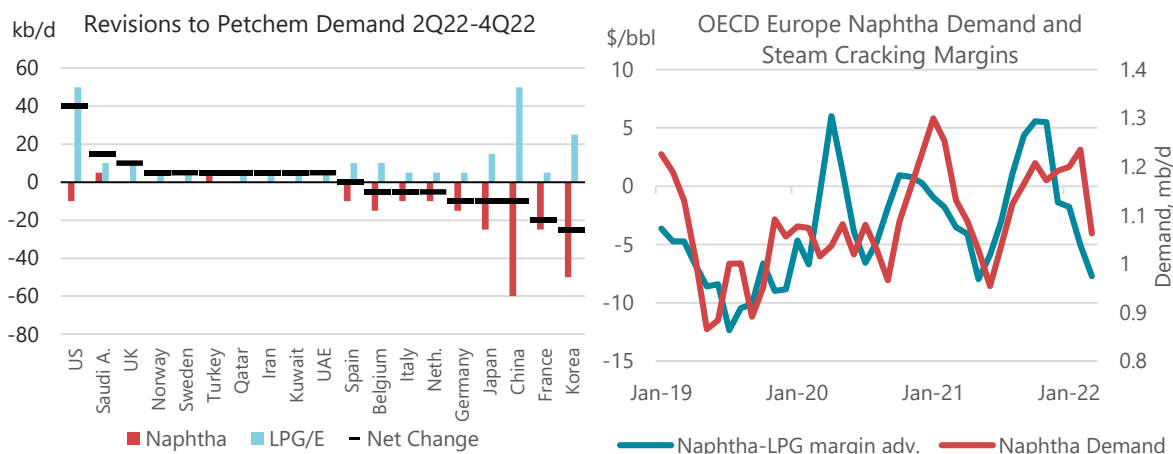
Our outlook for gasoline deliveries has been downgraded, largely as a result of lofty prices and its relatively high price elasticity. Outside of the FSU, we expect the largest absolute decline in demand to come in OECD Americas, mainly because of the size of its market. Gasoil use is also expected to be significantly lower than our previous forecast through the remainder of 2022. Gasoil prices have risen dramatically relative to other oil products, with March gasoil crack spreads averaging close to \$30/bbl at the time of writing. This rise, combined with a reduction in expected GDP growth, will be sufficient to cut demand by 1.5% (-410 kb/d) from our estimate in the February *Report*. In particular, any significant disruption to European imports of low sulphur diesel from Russia will be difficult to replace, constraining availability.

A drop in Russian exports may create significant challenges for petrochemical producers. During the first two months of 2022, Russia was the world's largest exporter of naphtha. January and February exports from Russia accounted for roughly 20% of total international seaborne exports (equivalent to 7% of global demand), according to data from *Kpler*. Of total loadings of close to 500 kb/d in this period, approximately 260 kb/d were directed to Europe and 140 kb/d to Asia, both major centres for the petrochemical industry.



However, substantial flexibility exists at individual petrochemical plants and between producing regions to partially mitigate the impact of this disruption. Many naphtha-consuming steam-crackers, especially those located in Northwest Europe and Northeast Asia, are capable of utilising a large share of LPG in olefins production. Since Russia exports little LPG, its availability is likely to be much less impacted than that of naphtha. Naphtha demand can vary by a maximum of around 300 kb/d in Europe and 250 kb/d in OECD Asia, while maintaining olefin output. We expect that European petrochemical plants will use a large share of their flexibility and that this will begin in late March, accentuating the typical seasonal development, with substantial moves away from naphtha also taking place in Korea, Japan and China.

In comparison to 2021, when tight LPG markets resulted in relatively high levels of naphtha use into the summer, we expect naphtha demand in Europe to be 110 kb/d lower across the final three quarters of 2022, which is 80 kb/d below our previous forecast. Similar changes will reduce Northeast Asian demand by more than 100 kb/d compared with last month's expectations for 2Q22 onwards. Additionally, across global petrochemical markets, some additional NGL-based capacity exists to produce commodity chemicals for export. Attractive margins should result in some naphtha to ethane substitution between producers, driving higher LPG/ethane consumption in 2022 in the US (+30 kb/d) and to a lesser extent in the Middle East (+20 kb/d).

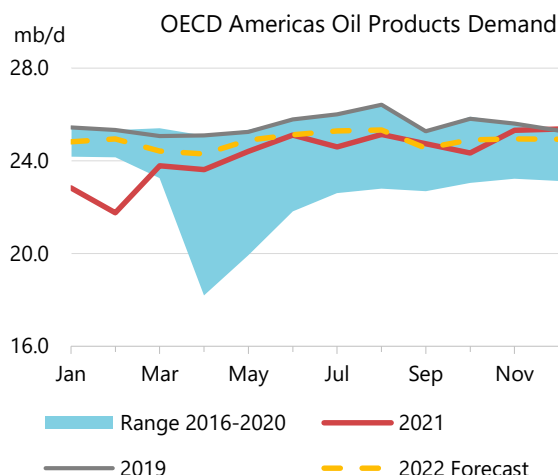
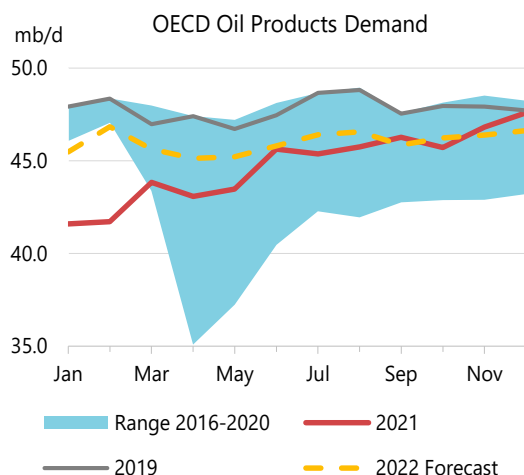


Aside from the very large drop in jet fuel for Russia, we have made a modest reduction to our forecast for other countries, averaging 50 kb/d overall for the rest of the year. This is in part related to the cancellation of flights to and from Russia, but is also an outcome of lower GDP growth. While the impact of Russian flight cancellations will act as a drag on European air traffic, the closure of Russian and Ukrainian airspace will also increase the length of flights between Europe and Asia, supporting demand.

OECD

Average 2022 demand for the OECD is set to rise by 1.3 mb/d to 46 mb/d, considerably slower than the 2.6 mb/d growth of 2021 and still lagging 1.8 mb/d behind pre-Covid levels.

Total OECD demand was 550 kb/d higher than anticipated in December and January (including an upwards revision to Canadian historical data), contributing to increasingly tight global markets at the beginning of 2022. Deliveries rose by 3.9 mb/d y-o-y in January. Preliminary data indicate that demand further outperformed expectations, by 660 kb/d, in February. Due to the impact on markets of the war in Ukraine, average demand will be 410 kb/d lower for the OECD during 2Q22-4Q22 than estimated in February's Report.

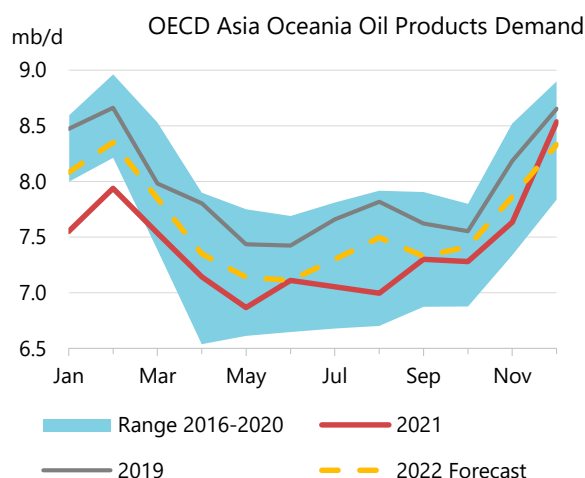
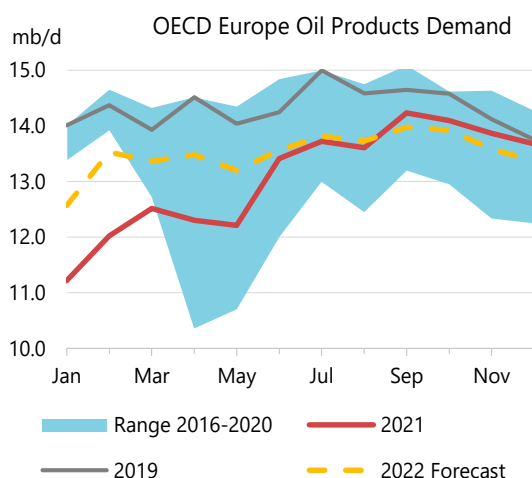


OECD Americas

We now forecast annual OECD Americas demand growth will slow to 600 kb/d in 2022, from 1.7 mb/d in 2021. Gasoil is expected to be virtually flat, while gasoline should gain 120 kb/d, with the rise in oil prices slowing recent growth.

The principal driver of our upward revision for OECD demand in December and January was US LPG/ethane consumption. December data indicates that consumption spiked by 420 kb/d month-on-month (m-o-m), well ahead of the seasonal average of 200 kb/d. Ethane deliveries increased by 260 kb/d, a remarkable m-o-m increase of 14% to reach a new record level of more than 2.1 mb/d. This most likely reflects a convergence of higher cracker operating rates and a general lightening of feedstock slates. We have also revised up our forecast for US petrochemical ethane consumption throughout 2022, in line with our expectation for tighter global naphtha markets and stronger product margins.

Baseline Canadian oil demand data have been revised up by 100 kb/d on average from 2019, largely due to changes to LPG-ethane estimates made in official data sources and the integration of a new survey on biofuels.



OECD Europe

Preliminary data indicates that demand in OECD Europe was 90 kb/d lower than expected in January, falling by 1.1 mb/d m-o-m, roughly double the normal decline. In part, this reflects the most recent period of tightened public health restrictions following the spread of the Omicron variant, which were introduced in several large European economies.

Our forecast for 2022 demand is now for a y-o-y increase of 430 kb/d, with minimal growth in gasoil and gasoline, and a contraction in petrochemical output reducing net naphtha and LPG/ethane consumption by 30 kb/d. Most of the growth is coming from the ongoing rebound in jet/kerosene use (+290 kb/d).

OECD Asia Oceania

OECD Asia deliveries fell in line with the seasonal trend in January, having risen by 900 kb/d m-o-m in December, three times faster than the multi-year average. January demand was up 530 kb/d y-o-y and 80 kb/d higher than in 2019. We expect that 2022 average deliveries will grow by 220 kb/d, despite our downward revision. Demand will remain 300 kb/d below pre-pandemic levels.

OECD Demand based on Adjusted Preliminary Submissions - January 22																
(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	9.67	7.3	1.71	32.7	3.36	6.4	2.12	10.2	4.46	5.8	0.64	36.1	2.94	2.8	24.82	8.7
US*	8.18	6.3	1.50	29.6	2.67	6.9	1.73	10.8	3.55	7.1	0.46	63.3	2.34	1.2	20.36	8.7
Canada	0.79	14.6	0.10	53.9	0.25	-3.5	0.35	5.3	0.53	0.1	0.05	45.7	0.40	25.8	2.49	11.0
Mexico	0.62	11.5	0.09	76.8	0.26	12.4	0.05	27.7	0.34	3.0	0.11	-21.3	0.17	-14.1	1.63	6.0
OECD Europe	1.79	24.3	0.90	47.2	4.37	12.7	1.64	10.5	1.10	-2.2	0.80	17.3	2.21	-0.4	12.57	12.0
Germany	0.43	20.8	0.15	84.8	0.60	14.5	0.31	60.3	0.10	-4.2	0.06	36.8	0.38	-7.6	2.03	18.5
United Kingdom	0.27	29.5	0.24	37.0	0.43	14.6	0.13	7.9	0.14	6.1	0.02	36.0	0.13	27.6	1.34	20.8
France	0.19	18.3	0.14	48.3	0.64	4.2	0.17	-9.7	0.11	-4.5	0.04	42.4	0.22	4.7	1.50	7.1
Italy	0.15	40.8	0.03	199.7	0.44	11.9	0.04	-0.9	0.11	5.6	0.06	36.8	0.24	-6.6	1.07	12.0
Spain	0.10	26.0	0.07	111.5	0.41	19.7	0.28	9.0	0.08	-6.8	0.12	17.7	0.20	-1.5	1.20	13.6
OECD Asia & Oceania	1.31	6.1	0.97	2.3	1.29	4.9	0.58	12.3	0.95	6.4	0.55	5.1	2.49	10.8	8.08	7.0
Japan	0.69	3.4	0.62	-5.9	0.38	2.6	0.35	1.9	0.52	2.6	0.29	-2.3	0.99	5.0	3.83	1.4
Korea	0.23	20.6	0.23	10.7	0.37	13.0	0.17	41.2	0.37	14.1	0.23	12.2	1.32	16.8	2.88	16.1
Australia	0.27	-0.5	0.09	68.3	0.48	1.4	-	-	0.04	5.0	0.01	46.8	0.11	3.0	1.01	5.9
OECD Total	12.78	9.3	3.58	25.7	9.01	9.1	4.34	10.6	6.51	4.5	1.98	18.8	7.64	4.3	45.47	9.3

Non-OECD

Non-OECD oil demand is projected to grow by only 850 kb/d in 2022, a downward revision of 730 kb/d compared to our previous forecast. Adjustments to Russian oil demand account for more than half (440 kb/d) of the non-OECD reduction. African and Latin American economies are instead benefitting in the short term from the increase in commodity prices but high oil prices take their toll on oil demand. African oil demand was reduced by only 10 kb/d and Latin America by 45 kb/d. Asian demand (excluding China) was revised lower by 110 kb/d and China by 70 kb/d. Non-OECD Europe is roughly unchanged and Middle East oil demand was raised by 30 kb/d.

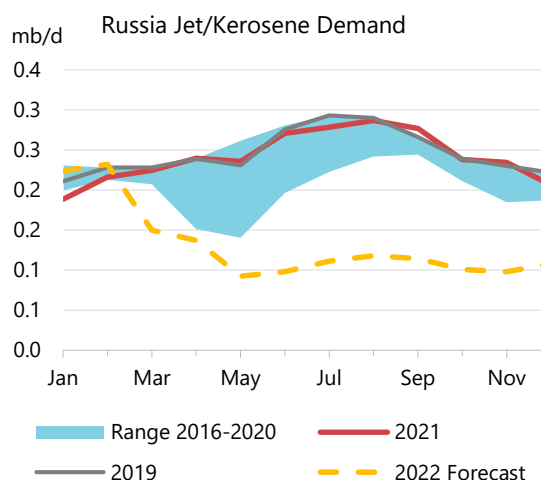
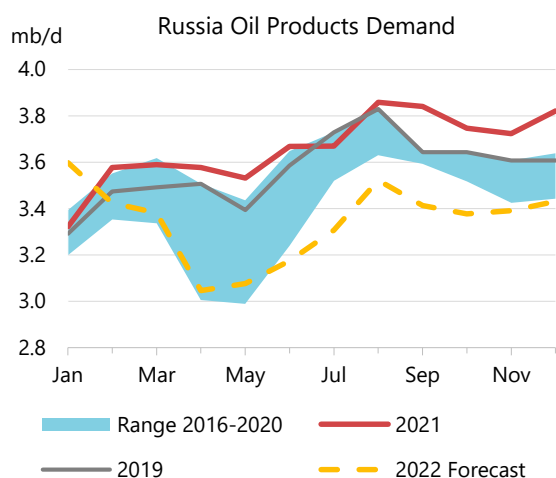
Russia

Oil demand in Russia is forecast to drop by 315 kb/d in 2022 on a sharp contraction in GDP and with aviation highly disrupted. Russian GDP is projected to plummet by 11% in 2022 due to

international sanctions and difficulties in exporting commodities that will reduce the country's revenues. All fuels are forecast to decline in 2022, reflecting the sharp contraction in economic activity. Gasoline demand is expected to fall by 8% y-o-y in 2022 on lower household income and gasoil will drop by 6% on weaker industrial activity.

Russia: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2019	2020	2021	2022	2021	2022	2021	2022
LPG & Ethane	661	695	716	714	21	- 2	3.0%	-0.3%
Naphtha	215	216	214	204	- 3	- 10	-1.3%	-4.5%
Motor Gasoline	792	751	824	760	74	- 64	9.8%	-7.8%
Jet Fuel & Kerosene	246	205	241	131	36	- 110	17.5%	-45.6%
Gas/Diesel Oil	951	913	972	870	58	- 102	6.4%	-10.5%
Residual Fuel Oil	143	86	71	65	- 15	- 6	-17.8%	-8.3%
Other Products	559	554	623	602	69	- 21	12.4%	-3.3%
Total Products	3 568	3 421	3 661	3 345	240	- 315	7.0%	-8.6%

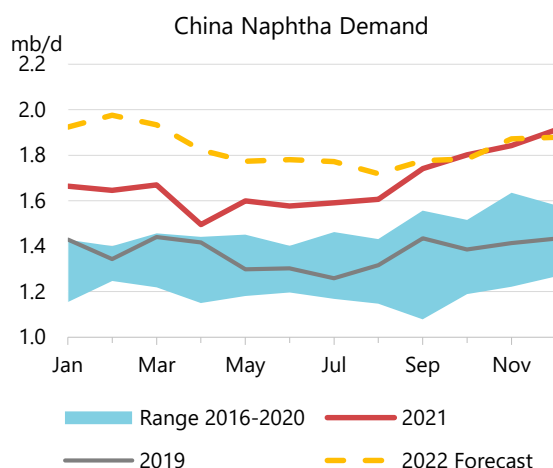
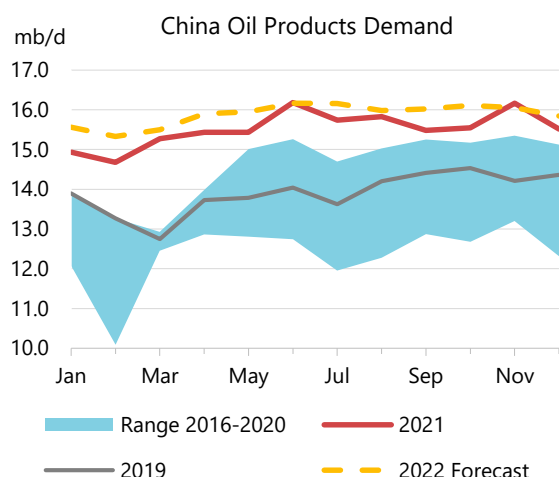
Jet kerosene demand will experience the strongest contraction, with aviation disrupted by the cancellation of international flights. Some countries have closed their airspace to Russian airlines. Airports across south-western Russia remained closed to all flights at the time of writing and the government has ordered the grounding of most international traffic to avoid the seizure of leased aircraft (80% of the fleet). We estimate that these factors could reduce Russian jet fuel demand by almost half in 2022.



China

Due to New Year celebrations, the usual monthly update of data for China was unavailable for January at the time of writing. Chinese forecasts have been revised down on higher oil prices and the resurgence of Covid cases in parts of the country.

The government announced during its 13th National People's Congress (5 March) an annual economic growth target of 5.5%. While higher than most forecasts, it was the lowest since 1991. The Chinese outlook has weakened with slowing real estate activity, the war in Ukraine and new outbreaks of Covid.



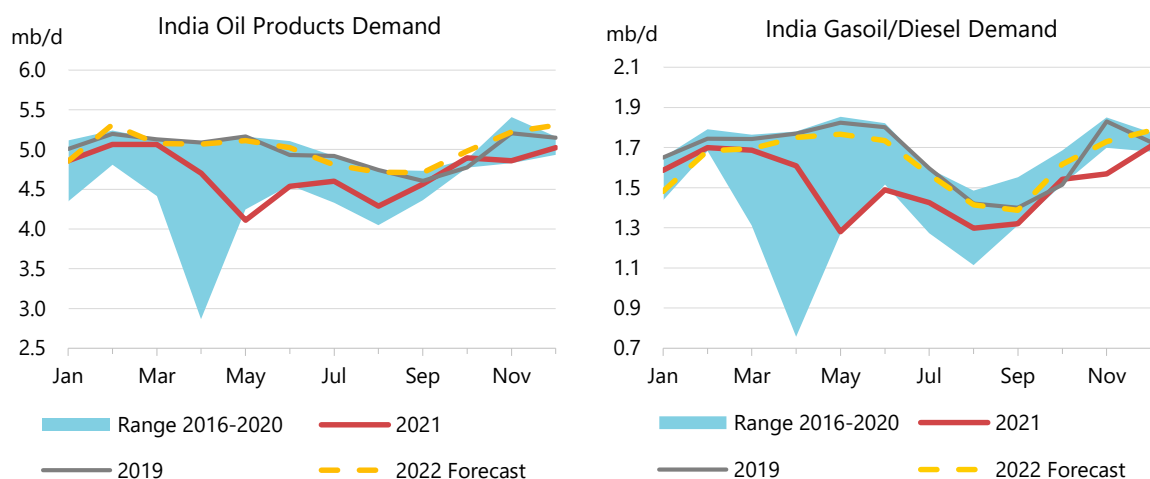
The China *Caixin Manufacturing PMI* rose to 50.4 in February after a low reading of 49.1 in January. However, March could show a decline as a new wave of Omicron is forcing the closure of large manufacturing centres. The city of Changchun, the provincial capital of Jilin which is home to 9 million people, was put under lockdown on 11 March. At the same time, Shanghai closed schools. Similar measures were imposed in Qingdao in the Shandong province. On 13 March the city of Shenzhen (17 million residents), a major manufacturing centre, was put under lockdowns as China reported 1800 new cases. In our forecasts we assume that this new Covid wave will come relatively rapidly under control. If this is not the case and China opts to maintain a “zero Covid policy”, Chinese economic activity (and the world supply chain) could be severely disrupted in the coming months.

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	1 781	1 912	2 230	2 348	317	119	16.6	5.3
Naphtha	1 373	1 478	1 679	1 833	201	154	13.6	9.2
Motor Gasoline	3 332	3 284	3 630	3 598	345	- 32	10.5	-0.9
Jet Fuel & Kerosene	877	722	700	712	- 21	11	-3.0	1.6
Gas/Diesel Oil	3 151	3 259	3 636	3 601	377	- 35	11.6	-1.0
Residual Fuel Oil	444	445	481	519	36	37	8.1	7.8
Other Products	2 948	3 197	3 165	3 272	- 32	108	-1.0	3.4
Total Products	13 905	14 298	15 521	15 883	1 223	362	8.6	2.3

India

Indian oil demand rose by 460 kb/d m-o-m in February, supported by a rebound in gasoil and gasoline as many states relaxed Covid restrictions. However, gasoil still remained 110 kb/d below 2019 levels.

At the start of March, India increased gasoline and diesel prices for the first time in more than four months. State-run companies had not raised domestic prices since 4 November 2021 due to assembly elections in key states. The government may reduce taxes on different fuels in April to partially counter the impact of high prices. The increase in domestic oil prices will fuel inflation, which already reached 6% y-o-y in January – a level which may provoke the Central Bank to intervene.



Indian oil demand growth has been revised down by 20 kb/d to 300 kb/d for 2022. Average 2022 oil deliveries will be 20 kb/d above 2019 levels.

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	920	19	32	2.1%	3.6%
Naphtha	308	318	319	337	2	18	0.5%	5.6%
Motor Gasoline	734	667	750	767	83	17	12.4%	2.3%
Jet Fuel & Kerosene	225	120	128	149	9	20	7.2%	15.7%
Gas/Diesel Oil	1 667	1 414	1 516	1 633	102	117	7.2%	7.7%
Residual Fuel Oil	145	136	141	145	6	3	4.1%	2.3%
Other Products	1 076	1 016	968	1 062	- 49	94	-4.8%	9.7%
Total Products	4 991	4 540	4 711	5 013	171	302	3.8%	6.4%

Other Non-OECD

Several African economies, among the continent's largest commodity exporters, will benefit in the short term from higher prices. Gabon, Angolan and South African trade balances will post significant improvements at current commodity prices. For Africa as a whole, however, oil consumption was revised slightly lower as higher oil prices reduce domestic oil use. In 2021, demand was just above 4 mb/d and is projected to increase by 90 kb/d in 2022.

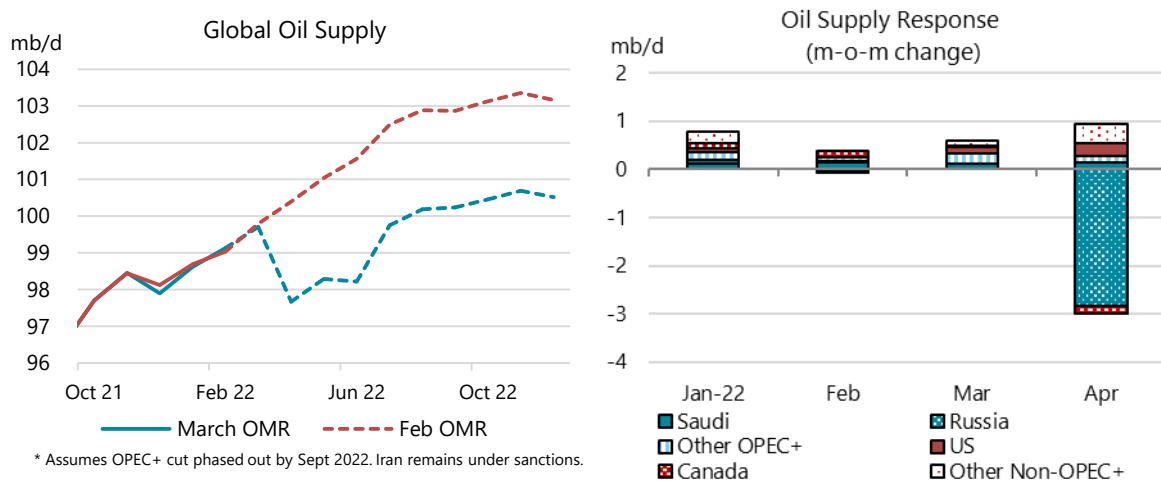
Middle Eastern demand has been revised up by 30 kb/d for 2022. Higher oil and gas prices will result in stronger GDP and have a relatively small impact on domestic consumption. Total 2022 demand is expected to increase 95 kb/d y-o-y.

Demand in Latin America has been revised down by 45 kb/d for 2022, as increased oil prices offset slightly higher GDP growth. Latin America would benefit in the short term from higher commodity prices. GDP in Brazil and Argentina have been revised higher, up by 0.6 ppt and by 0.3 ppt, respectively. On the other hand, higher fuel prices will weigh on demand. At the start of March, Brazil's national oil company, Petrobras, increased domestic wholesale gasoline and diesel prices by 8.8% and 5.5%, respectively.

Supply

Overview

The prospect of large-scale disruptions in Russian production due to wide-ranging sanctions as well as decisions by companies to shun exports after Moscow's invasion of Ukraine is threatening to create a global oil supply shock. We estimate that from April, 3 mb/d of Russian oil output may be shut in as more buyers spurn cargoes from the country. If this level of disruption is sustained, scheduled monthly OPEC+ increases from Saudi Arabia and other Middle East members along with non-OPEC+ gains driven by the US would leave world oil markets undersupplied in the second and third quarters of 2022. Although oil prices flirting with triple digits are expected to lead to some reduction in demand, our current balances (under this scenario) show a potential supply deficit of 700 kb/d in 2Q22.



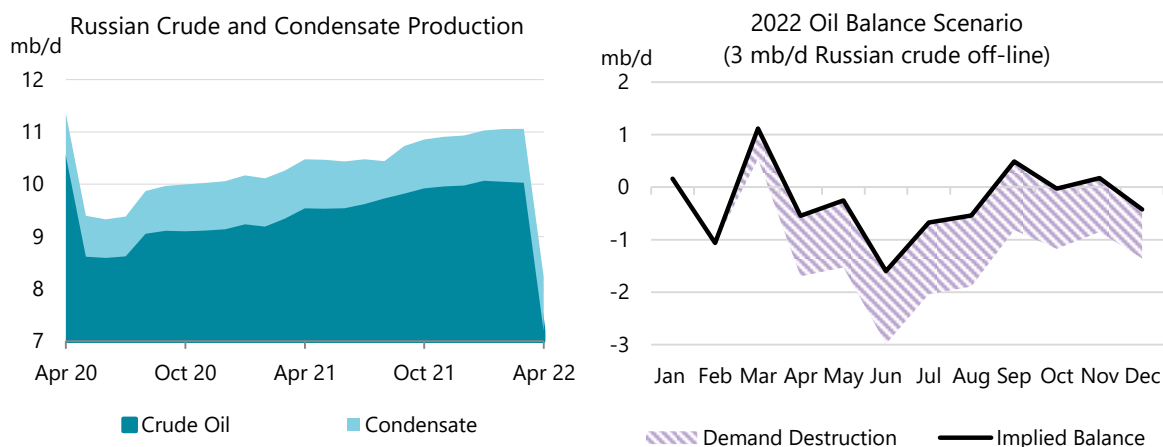
World oil production rose 510 kb/d to 99.1 mb/d in February, with OPEC+ delivering 420 kb/d of the increase. Although it accounts for 80% of the monthly gain, the group's supply gap compared to official output targets widened to 1.1 mb/d. The long-running inability of the bloc to meet its agreed quotas, mostly due to technical issues and other capacity constraints, has already led to sharp draws in global inventories.

Only Saudi Arabia and the UAE hold substantial, readily available spare capacity that could help offset a Russian shortfall. For now, they are standing by the existing OPEC+ agreement to increase supply by a modest monthly amount. The 23-member bloc, led by Saudi Arabia and Russia, is due to meet on 31 March. Excluding Russia, we expect OPEC+ to gradually increase production by 1.6 mb/d between March and September if it fully unwinds OPEC+ cuts in line with existing policy. Non-OPEC+ producers are forecast to boost output by 1.7 mb/d over the same period (March to September), with the US accounting for one-third.

Seeking alternatives

Moscow may soon be forced to turn down the taps as a fall in domestic demand combines with a widening customer-driven voluntary embargo while sanctions drive away still more buyers. We

estimate that from April, 3 mb/d of Russian oil production could be off-line (see *Gauging the extent of potential Russian oil supply losses*). As a result, total oil production plunges to around 8.6 mb/d in April and – because we cannot know how long the crisis will continue - we have held that level through the end of the year. Given the rapidly evolving circumstances, our estimate is under continuous review and will be revised as necessary.

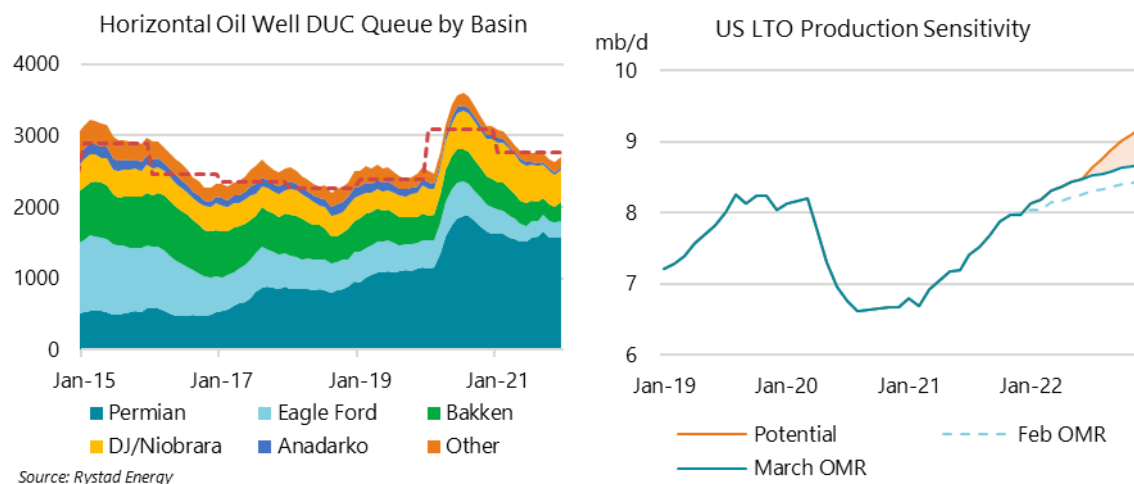


Sanctions and buyer boycotts of Russian exports have oil traders and companies now scrambling for alternatives but there are very few other sources of supply. OPEC+ producers Saudi Arabia (2 mb/d) and the UAE (1.1 mb/d) between them hold the majority of the world's effective spare capacity, but all of this is not immediately available. If a decision to boost output beyond the current agreed OPEC+ targets is made, it would take around four to eight weeks for the extra Gulf barrels to reach consuming markets. Contributions from other countries will be marginal in the very near term, with industry and government stocks needed to fill the gap.

So far, the core Gulf producers are raising production broadly in line with their previously-agreed OPEC+ quotas. During February, Saudi Arabia pumped 10.23 mb/d of crude oil, up 130 kb/d month-on-month (m-o-m) as exports rose. Production in the UAE was relatively steady in February at 2.96 mb/d.

Unfortunately, non-OPEC+ supply levers that can be immediately pulled as a rebalancing mechanism for a large supply shock are limited. US light tight oil (LTO) theoretically has the potential to buffer a supply disruption but given the current multitude of constraints facing the industry, any response in less than four to six months would be considered lightning fast. More likely, any cohesive supply response would only materialise towards year-end.

The closest thing that US LTO has to spare capacity is its collective queue of drilled but uncompleted wells (DUCs). The number of DUCs built up substantially early on in the Covid crisis, but they are now back down to the previous five-year annual average. Aside from DUCs, companies have permits to drill new wells in the US. However, having an inventory of drilling locations, in and of itself, is necessary but far from sufficient to bring on new volumes. Time is needed to revise plans, redirect capital, mobilise crews, drill and bring on new production. *Rystad Energy* estimates it takes, on average, almost eight months from the time a well is started (spud) to the time oil flows to market in the Permian Basin. Within that period, there are about 75 calendar days associated with drilling and completing the well, the remainder of the time includes hooking up facilities to bring oil to market as well as safety and operational buffers to space crews out between the different associated steps.



Source: Rystad Energy

In a sustained supply shock scenario, our analysis shows that US LTO production could potentially grow by an incremental 500 kb/d during our current forecast to December 2022. Importantly, this scenario would result in a near tripling of service cost inflation (upwards of 20-30% y-o-y) and a frac crew utilisation rate of close to 100% (currently above 80%). Take-away capacity constraints would also be reached in 2023 unless additional midstream pipeline capacity is brought online.

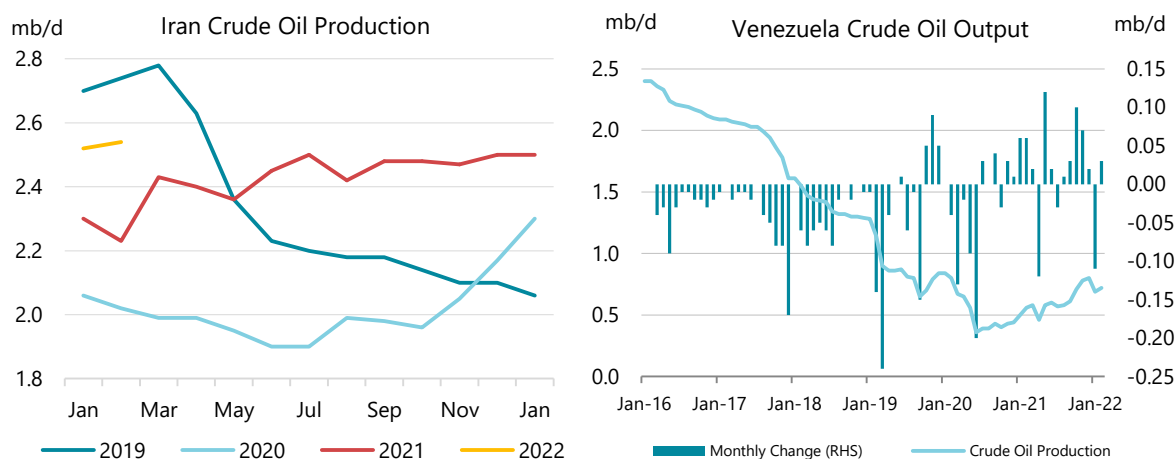
Outside of the US shale patch, additional LTO volumes could be brought onstream in Canada and Argentina, but given the small starting size, doubling both countries growth rates could only bring on an incremental 100 kb/d. Production in Brazil, Norway and Guyana is already expected to rise by a combined 350 kb/d this year and further upside is limited. Due to the nature of large offshore projects, any deviations from existing plans to speed up commissioning, production ramp-ups, or turnarounds could increase safety and operational risks. Similarly, in Canada where the bulk of estimated supply gains are driven by large complex oil sands facilities with stable production profiles, outside of incremental expansions and optimization projects, improving operational efficiency is the best bet to ensure volumes.

Sanctions easing would free up extra oil

Iran could be another source of substantial additional supply if sanctions are lifted, but its return to the market would not be immediate. Talks between Tehran and the West to revive the 2015 nuclear deal have hit pause, but if and when a deal is struck it could take at least another month before sanctions are formally eased. At that point, we expect production to ramp up by more than 1 mb/d within six months to reach full capacity of 3.8 mb/d. Iran would also act swiftly to sell 100 million barrels of oil in floating storage but it would likely take many months to fully off-load the oil (Iranian tankers, for example, would need to be re-certified and insured). In February, Iranian crude oil supply rose 40 kb/d m-o-m to 2.56 mb/d - the highest level in nearly three years.

Despite tough financial constraints, Iran ranked as the world's second largest source of supply growth in 2021. Its annual crude oil production rose 420 kb/d to 2.4 mb/d after exports of oil, including condensates, increased to around 700 kb/d thanks to hefty purchases from China. In addition to China, we expect the National Iranian Oil Co (NIOC) to quickly re-establish supply contracts with customers in India, Korea, Japan, Turkey and Europe if sanctions are lifted. It is likely to offer competitive pricing and, as in the past, may be open to deferred payment as it seeks to reclaim market share.

Some buyers in Asia have already signalled their willingness to load Iranian barrels once sanctions are eased. South Korea, for example, held working-level talks on resuming imports of Iranian crude oil and unfreezing Iranian funds. But it will take some time to secure access to banking channels and get logistics in place. Before Washington re-imposed sanctions in 2018, Iran was exporting 2.4 mb/d of oil, including condensates, with China the single biggest lifter at 670 kb/d. India imported 490 kb/d, Europe 590 kb/d, Korea 260 kb/d and Japan 150 kb/d.

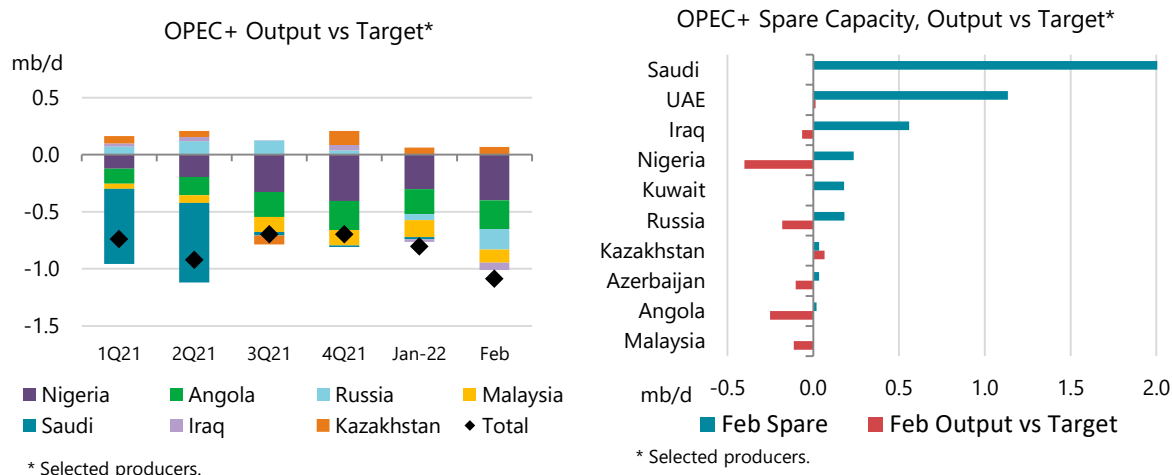


Venezuela could provide a modest amount of extra oil, if US sanctions were eased. If that were the case, we believe it could increase production by an additional 200-300 kb/d in three to four months, lifting supply to around 1 mb/d. We do not expect that levels above 1 mb/d could be sustained without significant investment and repairs to battered infrastructure and there is no evidence that either is underway. Crude oil production in February edged up to 720 kb/d after the country received much needed diluent from Iran that it uses to blend with its extra-heavy crude. Venezuela's oil production last year recovered from chronic declines to average 610 kb/d. US officials met Venezuelan President Nicolas Maduro in Caracas for the first bilateral talks in years in early March.

With its vast, and comparatively low-cost oil resources, Iraq should be able to provide a significant amount of extra barrels. However, lingering bottlenecks in ageing infrastructure in the southern part of the country are currently restricting sustainable capacity. Despite the shutdown of its West Qurna-2 and Nasiriyah oil fields, Iraq managed to hold supply steady during February by tapping capacity at other fields. Even so, production of 4.26 mb/d was 60 kb/d below its quota. Oil exports nevertheless increased by 120 kb/d m-o-m as stocks were drawn. The 400 kb/d West Qurna 2 oil field, operated by Russia's Lukoil, returned from maintenance on 8 March. It was closed on 21 February for repairs that were expected to last for a month. Flows at the 80 kb/d Nasiriyah field, halted due to protests, restarted on 5 March after a seven-day outage.

OPEC+ sees no shortage

Insisting that no supply shortage exists, the OPEC+ alliance agreed on 2 March to stick with a modest output rise for April. The bloc has repeatedly spurned requests from the US and other oil consuming countries for higher volumes to tame the oil price rally. OPEC+ is due to meet again on 31 March to review policy. The global oil market was already very tight due to the strong demand rebound seen in 2021 and chronic under-performance by OPEC+ in meeting its output quotas. Assuming that OPEC+ continues to pump as per its agreement, the higher volumes would not make up for a large-scale disruption from Russia.



During February, crude oil production from all 23 members of the OPEC+ bloc rose 350 kb/d to 44.14 mb/d after Libyan output rebounded and Saudi Arabia delivered its planned increase. Taking into account only the 19 members bound by the supply deal, output was up 120 kb/d, far short of the planned 400 kb/d increase. Nigeria, plagued by sabotage, saw output fall 80 kb/d to 1.3 mb/d in February – 400 kb/d below its target.

OPEC+ Crude Oil Production ¹						
	Jan 2022	Feb 2022	February	Feb 2022	Sustainable	Spare Cap
	Supply	Supply	Compliance	Target	Capacity ²	vs Feb
Algeria	0.98	0.98	103%	0.98	0.99	0.01
Angola	1.19	1.17	335%	1.42	1.19	0.02
Congo	0.28	0.28	205%	0.30	0.29	0.01
Equatorial Guinea	0.09	0.09	411%	0.12	0.11	0.02
Gabon	0.18	0.19	-21%	0.17	0.21	0.02
Iraq	4.26	4.26	120%	4.33	4.82	0.56
Kuwait	2.57	2.61	101%	2.61	2.79	0.18
Nigeria	1.38	1.30	413%	1.70	1.54	0.24
Saudi Arabia	10.10	10.23	100%	10.23	12.23	2.00
UAE	2.96	2.96	94%	2.95	4.09	1.13
Total OPEC-10	23.99	24.07	139%	24.81	28.26	4.19
Iran ³	2.52	2.56			3.80	1.24
Libya ³	1.00	1.16			1.20	0.04
Venezuela ³	0.69	0.72			0.75	0.03
Total OPEC	28.20	28.51			34.02	5.51
Azerbaijan	0.58	0.57	303%	0.67	0.60	0.03
Kazakhstan	1.63	1.65	45%	1.59	1.69	0.04
Mexico ⁴	1.65	1.65		1.75	1.69	0.04
Oman	0.81	0.82	105%	0.82	0.87	0.05
Russia	10.07	10.05	123%	10.23	10.23	0.18
Others ⁵	0.85	0.90	272%	1.03	0.93	0.03
Total Non-OPEC	15.60	15.63	132%	16.09	16.01	0.38
OPEC+–19 in cut deal⁶	37.93	38.06	137%	39.14	42.58	4.53
Total OPEC+	43.80	44.14			50.03	5.88

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.

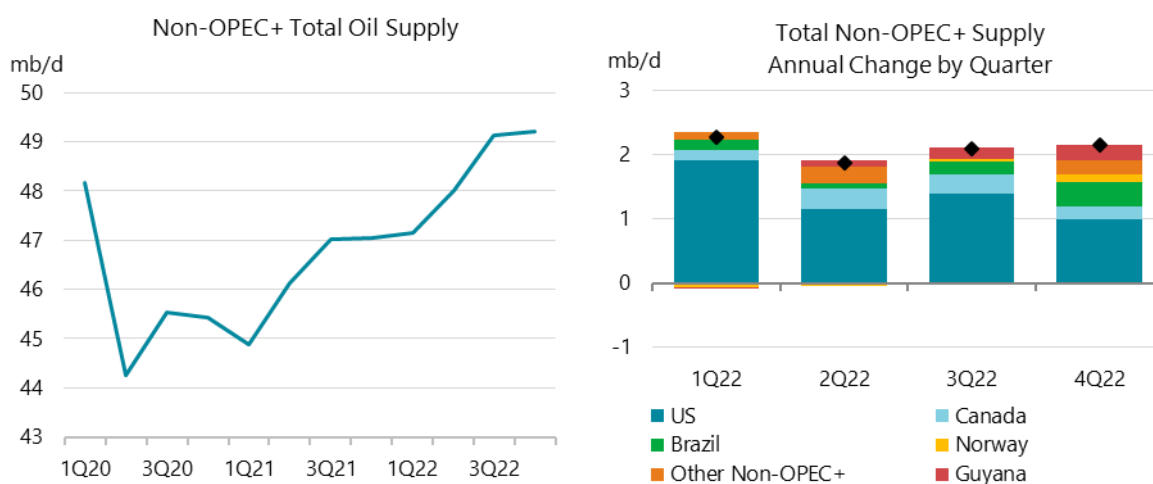
Altogether, 11 countries produced below their quotas, underscoring the bloc's shrinking spare capacity and reduced operational efficiency. As a result, their combined production trailed 1.1 mb/d below target in February compared to a gap of 810 kb/d the previous month. Those exempt from supply cuts – Libya, Iran and Venezuela – contributed two-thirds of the total OPEC+ gains.

Production of crude from OPEC countries increased by 310 kb/d to 28.51 mb/d in February. Libya posted the largest increase, rising to 1.16 mb/d (+160 m-o-m), after supply rebounded from a series of blockades and maintenance. The country is vulnerable to output disruptions due to its ongoing political crisis.

Non-OPEC partners, led by Russia, produced 15.63 mb/d, up 40 kb/d. February marked the third month running that Russia pumped below its OPEC+ target and supply is expected to tumble in the coming months as buyers spurn the country's oil. Crude supply eased by 20 kb/d in February to 10.05 mb/d.

Non-OPEC+ gains offer partial relief

Volumes from non-OPEC+ countries grew by 100 kb/d to 47.1 mb/d in February, with increases in Norway and Canada offset by losses in Brazil and the US. Non-OPEC+ is projected to exit 2022 at 49.2 mb/d, up 300 kb/d from last month's *Report* and 2.6 mb/d higher than December 2021. On an annual average basis, the US is expected to account for 65% of the non-OPEC+ 2022 gains (of 2.1 mb/d in total), with Canada and Guyana making up another 20%.



US output rose in January by an estimated 80 kb/d m-o-m to 17.6 mb/d on a strong crude recovery offsetting seasonal declines in NGLs. In December, the latest month for which official data from the Energy Information Administration (EIA) is available, total oil supply fell by 230 kb/d. Declines were driven primarily by the Gulf of Mexico, New Mexico, and North Dakota. US production for 2022 has been revised up in this month's *Report* by 130 kb/d, bringing total oil gains to 1.4 mb/d, of which 1.1 mb/d is crude.

Canadian volumes increased by 110 kb/d m-o-m in January according to data from the Alberta Energy Regulator. February production rose 140 kb/d m-o-m on increases in Alberta bitumen and upgrader output. Canadian full-year production is expected to be a record setting 5.9 mb/d, driven by incremental expansions, optimization and debottlenecking projects. Growth will come in the second half of the year, however, as upcoming spring maintenance at oil sands' projects takes 250-300 kb/d off the market for almost an entire quarter.

Brazilian supply fell by 90 kb/d m-o-m to 3.1 mb/d in February, according to provisional daily data from the Agencia Nacional do Petroleo (ANP), after having jumped by 200 kb/d to 3.1 mb/d in January. Brazil's 2022 production is expected to increase by 200 kb/d y-o-y. There is little room for incremental increases above and beyond this, relying primarily on strong operational

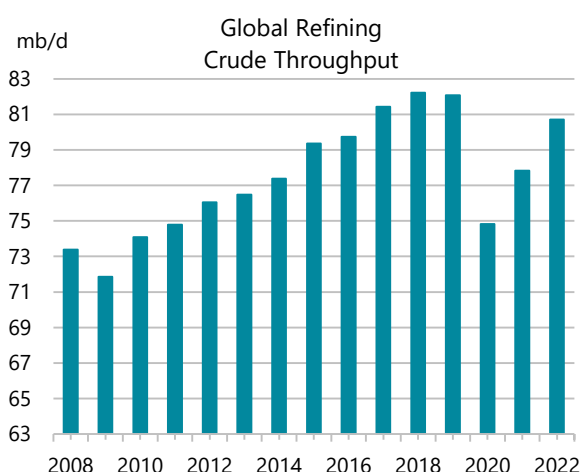
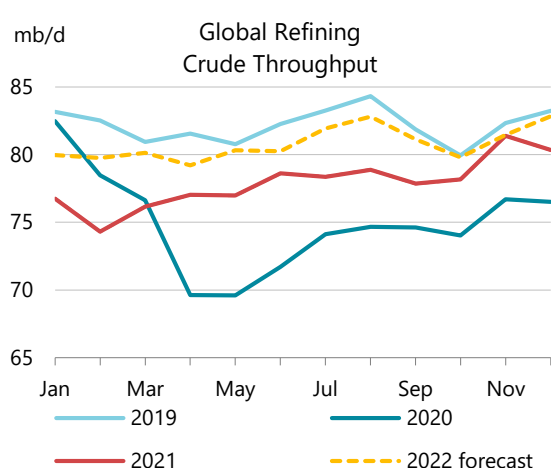
discipline and reduced unplanned downtime at large offshore fields. Elsewhere in Latin America, Guyanese volumes were revised up on the year by 20 kb/d on the earlier-than-expected hook-up of Liza Unity, the second floating production, storage and offloading (FPSO) vessel at the ExxonMobil-led Stabroek block project.

Data from the Norwegian Petroleum Directorate indicates that production dropped 170 kb/d m-o-m in January to 2 mb/d. Volumes recovered by 150 kb/d in February and are in-line with their December 2021 output. Norway's full-year production has been revised down by 50 kb/d to 2.1 kb/d on greater-than-expected planned turnaround activities occurring in May and June.

Refining

Overview

Overstretched global product markets are set for further shortages this year as financial sanctions and voluntary customer action could reduce imports from Russia. While the range of the potential impact on product markets could be very wide, in our current assumption of a 2.5 mb/d reduction in Russian oil exports, 40% comes from refined products. Filling the product gap will be a major challenge for refiners, as they scramble to source alternative feedstocks and are faced with limited operable refining capacity. Middle distillate markets were already tight going into this crisis, and a potential loss of 1 mb/d of Russian diesel exports would be difficult for refiners to replace. To help address this, in the latest IEA stock release, of the 63 mb total, 17 mb is product inventories, predominantly middle distillates.



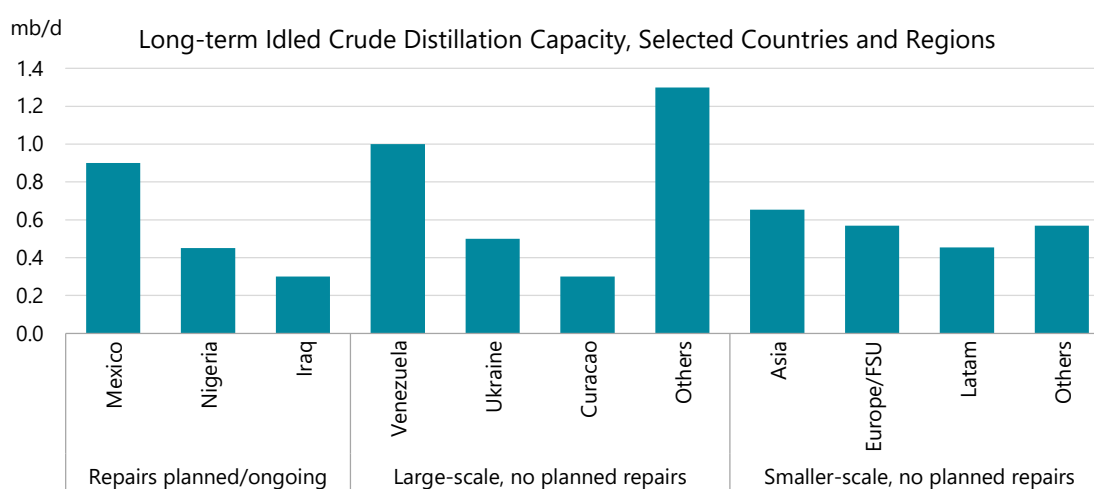
Global Refinery Crude Throughput ¹														
	(million barrels per day)													
	2019	2020	Nov-21	Dec-21	4Q21	2021	Jan-22	Feb-22	Mar-22	1Q22	2Q22	3Q22	4Q22	2022
Americas	19.2	16.6	18.4	18.5	18.2	17.8	18.1	17.9	18.4	18.1	19.1	19.2	18.7	18.8
Europe	12.2	10.7	11.8	11.4	11.5	11.0	11.3	11.7	11.2	11.4	11.5	12.0	11.8	11.7
Asia Oceania	6.8	5.9	5.9	6.3	6.0	5.8	6.3	6.1	5.6	6.0	5.3	6.0	6.0	5.8
Total OECD	38.1	33.2	36.1	36.2	35.7	34.5	35.7	35.7	35.2	35.5	35.9	37.3	36.4	36.3
FSU	6.8	6.4	6.9	6.9	6.8	6.7	6.9	6.9	6.7	6.8	5.0	5.0	5.2	5.5
Non-OECD Europe	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4
China	13.4	13.8	14.5	13.9	14.1	14.2	14.2	14.0	14.3	14.2	14.6	14.7	14.7	14.5
Other Asia	10.3	9.2	10.2	9.8	9.8	9.5	10.1	10.0	10.1	10.1	10.4	10.6	10.6	10.4
Latin America	3.2	3.0	3.3	3.3	3.3	3.2	3.3	3.2	3.3	3.3	3.5	3.5	3.5	3.4
Middle East	7.8	6.9	8.0	7.7	7.8	7.5	7.2	7.5	8.0	7.6	8.4	8.6	8.6	8.3
Africa	2.0	1.9	2.0	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8
Total Non-OECD	44.0	41.6	45.2	44.0	44.1	43.3	44.1	44.0	44.9	44.3	44.1	44.6	44.9	44.5
Total	82.1	74.8	81.3	80.2	79.8	77.8	79.9	79.6	80.0	79.9	79.9	81.9	81.3	80.8
Year-on-year change	-0.1	-7.2	4.7	3.8	4.2	3.0	3.2	5.4	4.0	4.2	2.5	3.7	1.4	2.9

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

Russian refinery throughputs have been revised down by 1.5 mb/d for the April-December period in this *Report* to take account of a reduced export customer base and lower domestic demand. As a result, we have maximised our forecast in several other regions to offset the loss. The net

impact on global crude runs is nevertheless a downward revision of 860 kb/d. With this adjustment, global crude runs will not recover to pre-pandemic levels this year, and will be below 2017 levels. The year-on-year (y-o-y) gain of 2.9 mb/d in 2022 is ahead of the 2.1 mb/d in demand growth, but doesn't offset the net throughput losses of the previous two years which leaves product markets still in deficit.

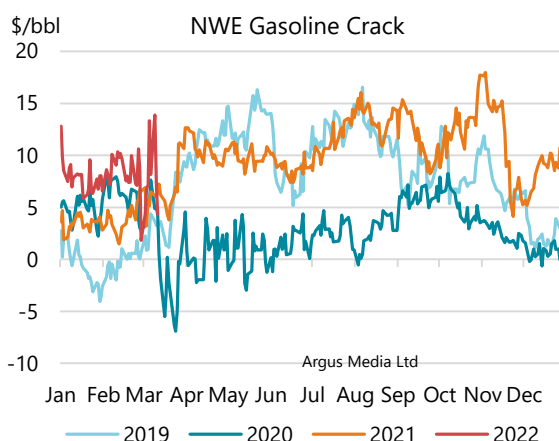
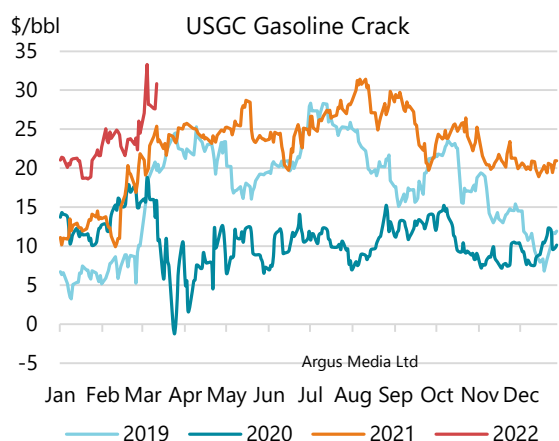
In refining, as attested by the longest stretch of product draws observed in our balances over the last six quarters, spare usable capacity has emerged as an issue. On paper, refiners sit on some 20 mb/d of excess crude distillation capacity globally, derived from nameplate capacity of 101 mb/d and crude processing volumes peaking seasonally at 82 mb/d. In reality, most of this is not practically usable. In countries, where average annual utilisation rates are above 80%, unused crude distillation capacity is mostly due to bottlenecks in secondary processing units, restricting production of on-specification transport fuels such as gasoline and diesel. Elsewhere, some 7 mb/d of long-term idled refining capacity has not been utilised for the best part of the last decade, either due to armed conflicts, or for financial and operational reasons. Some countries, such as Iraq, Mexico and Nigeria, have announced plans for ambitious and costly repairs to eventually restart the long-shuttered capacity over the coming years, amounting to 1.7 mb/d in total. But most of the rest is likely to formally shut down and be decommissioned in the near future.



Product cracks and refinery margins

Crude oil prices strengthened by another \$11/bbl on average in February, with most of the increase occurring in the last week of the month, following the Russian invasion into Ukraine. There was a lag in regional product price responses to higher crude, resulting in a divergence in refinery margin trends. As the military action and government responses progressed, in early March extreme volatility was observed in global crude and product markets, affecting flat prices, product cracks and refinery margins.

In February, gasoline cracks increased counter-seasonally in all regions, particularly in the US Gulf Coast and Singapore. In Europe, gasoline cracks were up by a more modest \$0.50/bbl, charting new seasonal record levels. Before the invasion, in the US there was discussion of lowering renewable fuel blending mandates to ease some of the upward pressure on pump prices for transport fuels. It is not clear if this proposal will stay on the table given the worldwide push to lower dependence on oil imports.

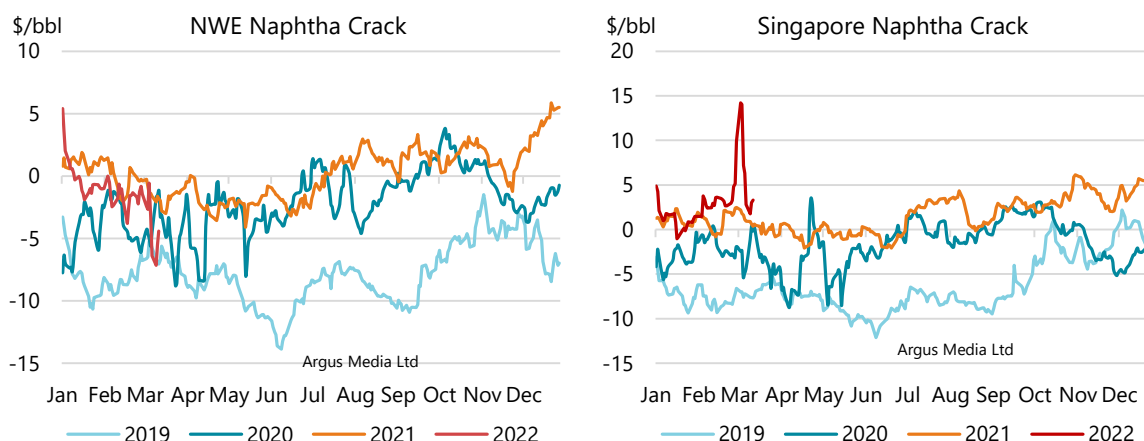


Spot Product Prices														
(monthly and weekly averages, \$/bbl)														
	Dec	Jan	Feb	Feb-Jan Chg	%	Week Ending					Dec	Jan	Feb	Chg
						11 Feb	18 Feb	25 Feb	04 Mar	11 Mar				
Rotterdam, Barges FOB											Differential to North Sea Dated			
Gasoline EBOB oxy	82.88	94.85	106.55	11.70	12.3	106.15	106.90	109.41	120.28	136.85	8.87	7.75	8.54	0.79
Naphtha	78.27	86.87	96.44	9.57	11.0	95.10	96.17	99.32	112.96	122.16	4.27	-0.23	-1.57	-1.34
Jet/Kerosene	85.18	100.65	109.98	9.33	9.3	109.15	109.19	111.54	134.95	170.70	11.17	13.54	11.97	-1.58
ULSD 10ppm	86.38	101.18	112.77	11.59	11.5	112.41	112.45	114.17	140.03	173.01	12.38	14.08	14.76	0.68
Gasoil 0.1%	84.69	99.18	110.26	11.09	11.2	109.49	110.30	111.83	137.22	169.44	10.68	12.08	12.25	0.18
VGO 2.0%	77.13	87.75	97.83	10.08	11.5	96.44	97.99	101.53	114.15	130.05	3.12	0.65	-0.18	-0.83
Fuel Oil 0.5%	82.84	95.85	106.08	10.23	10.7	104.88	105.74	107.99	121.51	142.17	8.83	8.75	8.07	-0.68
LSFO 1%	74.57	83.98	91.90	7.93	9.4	90.87	92.33	93.21	104.44	123.18	0.56	-3.13	-6.11	-2.98
HSFO 3.5%	64.43	75.42	81.00	5.58	7.4	80.31	81.37	82.41	89.51	105.33	-9.57	-11.69	-17.01	-5.33
Mediterranean, FOB Cargoes											Differential to Urals			
Premium Unl 10 ppm	84.94	96.68	108.01	11.32	11.7	107.17	107.92	111.53	122.54	136.99	11.86	9.92	13.07	3.15
Naphtha	75.50	84.89	93.90	9.01	10.6	93.19	93.33	96.17	109.67	118.67	2.43	-1.87	-1.04	0.83
Jet Aviation fuel	83.07	99.21	108.03	8.82	8.9	107.79	106.99	109.08	132.19	167.74	10.00	12.45	13.09	0.64
ULSD 10ppm	85.03	99.81	110.31	10.50	10.5	109.52	109.57	112.27	137.07	169.62	11.96	13.05	15.37	2.32
Gasoil 0.1%	83.90	99.18	109.08	9.91	10.0	108.70	108.12	110.62	135.20	162.61	10.83	12.42	14.14	1.73
LSFO 1%	76.33	86.30	93.09	6.79	7.9	91.83	93.22	94.68	107.60	127.00	3.26	-0.46	-1.85	-1.39
HSFO 3.5%	62.67	73.78	78.87	5.09	6.9	78.29	79.06	80.10	87.33	102.95	-10.40	-12.99	-16.07	-3.09
US Gulf, FOB Pipeline											Differential to WTI Houston			
Super Unleaded	93.14	105.10	116.98	11.88	11.3	116.59	117.13	117.94	136.57	144.12	20.28	20.48	23.75	3.27
Jet/Kerosene	87.63	102.12	112.50	10.37	10.2	113.91	111.60	111.67	133.80	145.82	14.77	17.50	19.27	1.77
ULSD 10ppm	91.78	106.71	118.06	11.35	10.6	118.46	118.17	117.59	143.21	156.81	18.92	22.09	24.83	2.74
Heating Oil	79.14	94.52	104.17	9.65	10.2	104.25	104.55	104.06	126.48	140.59	6.29	9.90	10.94	1.05
No. 6 3%*	63.04	74.91	80.13	5.22	7.0	80.98	79.13	79.47	88.24	100.94	-9.81	-9.71	-13.10	-3.38
Singapore, FOB Cargoes											Differential to Dubai			
Premium Unleaded	87.92	98.04	110.72	12.68	12.9	107.89	111.22	113.99	123.87	142.23	14.67	14.70	18.25	3.54
Naphtha	77.82	84.56	95.75	11.20	13.2	92.83	95.37	99.05	114.94	123.32	4.57	1.22	3.28	2.06
Jet/Kerosene	83.47	95.78	106.17	10.39	10.8	104.38	106.03	107.96	119.88	145.33	10.22	12.44	13.69	1.25
Gasoil 0.001%	85.86	99.19	110.70	11.51	11.6	109.01	110.74	112.67	128.15	159.63	12.61	15.85	18.22	2.37
Fuel Oil 0.5%	89.50	99.08	111.24	12.16	12.3	108.49	110.94	114.01	128.19	146.95	16.25	15.74	18.76	3.02
HSFO 180 CST	65.86	76.17	82.63	6.45	8.5	80.71	82.22	84.76	91.70	109.86	-7.39	-7.17	-9.85	-2.68
HSFO 380 CST 4%	64.79	74.15	81.08	6.93	9.3	79.11	81.05	83.25	89.81	106.69	-8.46	-9.19	-11.40	-2.21
Copyright © 2021Argus Media Ltd - All rights reserved														
* Waterborne														

Copyright © 2021 Argus Media Ltd - All rights reserved

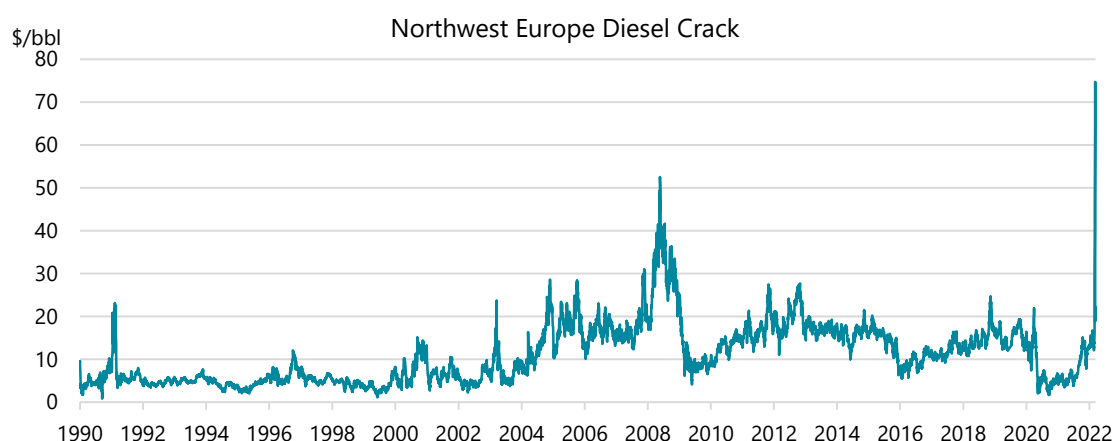
* Waterborne

Average monthly naphtha cracks in Europe moved into a negative territory, falling to their lowest levels since June 2021. Meanwhile, in Singapore, which prices the extremely deficient Asian naphtha markets, cracks increased by \$1.90/bbl m-o-m.

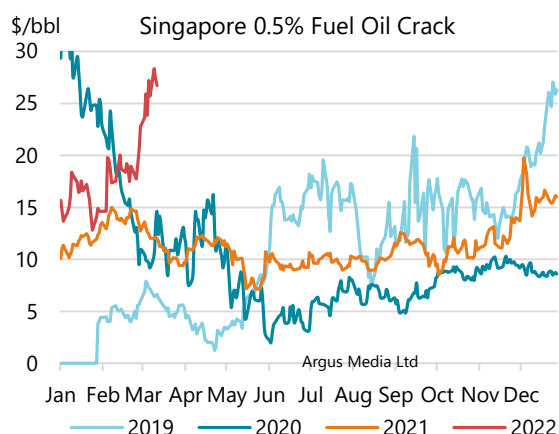
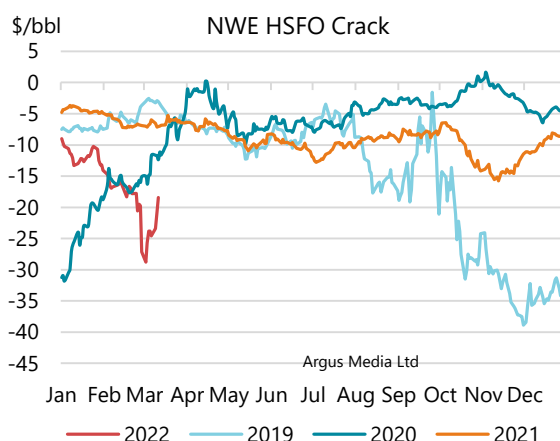


Middle distillate cracks increased m-o-m in the US Gulf Coast and Singapore, but diverged in Europe. In February, European diesel cracks saw muted gains, of \$0.70/bbl on average, while jet kerosene cracks actually declined by \$1.50/bbl. However, the price action in early March entered into an uncharted territory, with diesel cracks reaching an all-time high of \$74/bbl, even above the previous record registered in 2Qo8. Middle distillate markets were already tight before the war, and the potential for Russian diesel export disruptions sent panic waves through the market. Russia normally exports over 1 mb/d of diesel.

Europe, which is the pricing hub for middle distillates globally, relies on Russian imports for 10% of its diesel consumption. This is largely driven by the logistics of oil product trade. Oil products are transported in smaller vessels than crude oil and thus, their freight component is more sensitive to distance. Diesel trade globally is largely shaped between major regional neighbours. Most of diesel flows happen on the shortest distance between importer and exporter (Russia-Europe, US-Latin America, Middle East-Africa). Besides, Russian refiners have invested into upgrading units to be able to meet the stricter European specifications. With some of the kerosene cut going into the diesel pool, Russia was able to meet European winter diesel specification, which has proven challenging for refiners from other regions aiming to export diesel to Europe.



Fuel oil cracks fell in February on higher crude oil prices, while 0.5% sulphur marine fuel oil in Singapore was up \$2.60/bbl m-o-m. Russia is also the world's largest exporter of fuel oil, but prices for the grade plunged with the spike in crude oil in early March.

IEA/KBC Global Indicator Refining Margins¹

(\$/bbl)

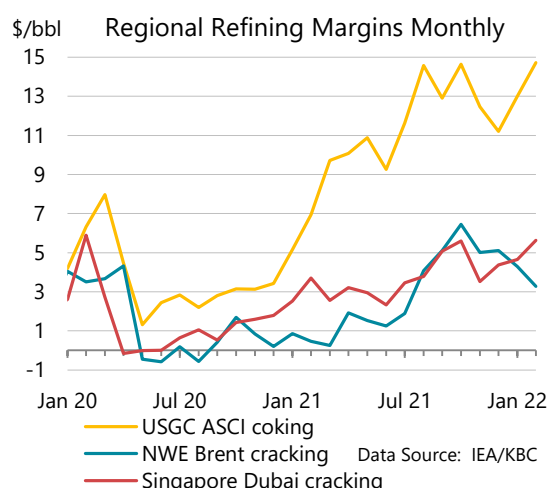
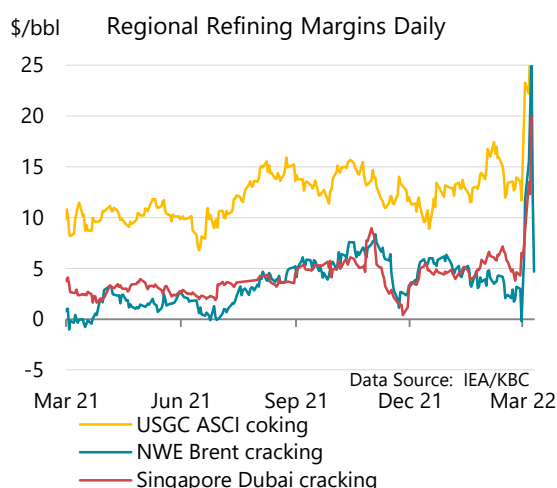
	Monthly Average				Change	Average for week ending:				
	Nov 21	Dec 21	Jan 22	Feb 22	Feb-Jan	11 Feb	18 Feb	25 Feb	04 Mar	11 Mar
NW Europe										
Brent (Cracking)	5.01	5.11	4.29	3.28	↓ -1.01	3.87	2.90	2.37	4.79	15.71
Urals (Cracking)	4.67	5.14	4.14	7.04	↑ 2.91	5.74	5.81	9.04	23.87	41.51
Brent (Hydroskimming)	1.64	2.89	1.29	-0.37	↓ -1.65	0.16	-0.62	-1.58	-0.13	10.05
Urals (Hydroskimming)	-1.42	0.53	-0.84	0.76	↑ 1.61	-0.54	-0.37	2.47	15.18	31.42
Mediterranean										
Es Sider (Cracking)	4.84	6.52	5.66	4.21	↓ -1.45	4.38	3.54	3.63	8.48	21.01
Urals (Cracking)	3.91	5.31	4.21	5.16	↑ 0.95	3.84	3.21	7.17	23.52	41.43
Es Sider (Hydroskimming)	2.44	4.58	2.95	0.79	↓ -2.16	0.91	0.25	0.03	3.26	13.99
Urals (Hydroskimming)	-2.41	-0.31	-2.05	-2.40	↓ -0.36	-3.61	-4.19	-0.69	12.16	26.85
US Gulf Coast										
Mars (Cracking)	6.63	6.04	7.84	8.11	↑ 0.27	10.16	6.28	6.27	6.80	11.05
50/50 HLS/LLS (Coking)	14.87	14.18	15.17	17.29	↑ 2.12	18.71	16.24	15.84	22.22	25.38
50/50 Maya/Mars (Coking)	9.73	10.70	11.43	12.33	↑ 0.91	14.04	11.16	10.40	14.27	16.74
ASCI (Coking)	12.46	11.21	13.01	14.73	↑ 1.72	16.51	13.35	13.27	16.86	20.53
US Midwest										
30/70 WCS/Bakken (Cracking)	10.59	10.65	8.21	9.14	↑ 0.93	8.90	7.21	10.00	10.52	14.66
Bakken (Cracking)	10.98	11.45	9.29	11.05	↑ 1.76	10.36	9.04	12.62	14.69	17.45
WTI (Coking)	11.14	11.87	10.74	11.89	↑ 1.15	12.00	8.52	13.59	16.05	19.65
30/70 WCS/Bakken (Coking)	13.84	13.59	10.49	12.22	↑ 1.73	11.63	10.23	13.53	15.59	19.27
Singapore										
Dubai (Hydroskimming)	-2.74	-1.12	-1.31	-1.47	↓ -0.16	-1.04	-0.82	-2.67	-2.24	2.95
Tapis (Hydroskimming)	-1.74	-1.79	-4.28	-7.16	↓ -2.88	-7.00	-6.59	-7.92	-10.34	-1.58
Dubai (Hydrocracking)	3.53	4.38	4.65	5.64	↑ 0.98	6.06	6.34	4.47	6.59	13.90
Tapis (Hydrocracking)	2.83	3.13	0.85	-1.13	↓ -1.98	-0.99	-0.51	-1.85	-3.03	7.04

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)

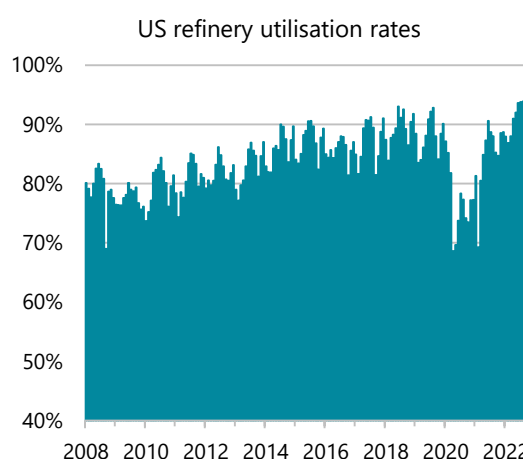
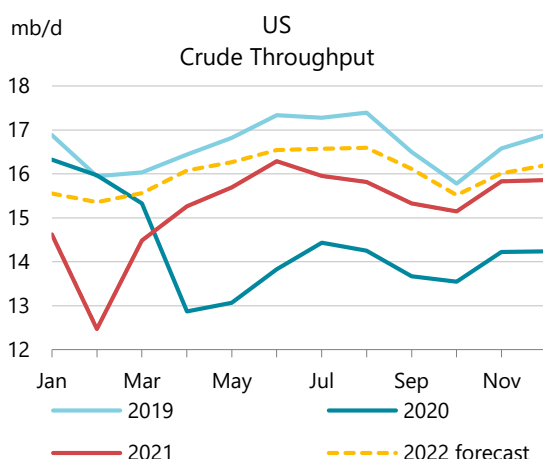
Refinery margin dynamics diverged between Europe and the rest of the world. In February, Brent margins fell in Europe on lower naphtha, jet kerosene and fuel oil cracks. All observed margins

were up m-o-m in the US Gulf Coast and Midcontinent. In Singapore, simple refinery margins fell due to lower fuel oil cracks, but complex margins were higher m-o-m. Dubai cracking margins reached \$10.40/bbl, their highest since April 2008. In early March, refinery margins in Europe shot up to record daily highs on the spike in distillate cracks. While we continue showing Urals grade margins for Europe, the high levels reflect steep discounts estimated by *Argus*.



Regional refining developments

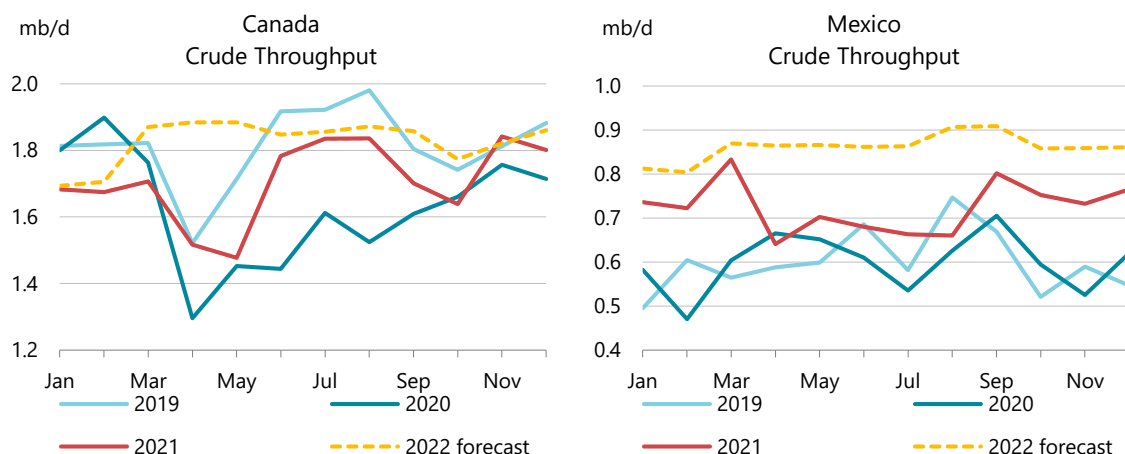
US refinery intake in February suffered a more modest impact from weather-related disruptions than expected. Runs were down only 200 kb/d m-o-m to 15.3 mb/d. Compared to February 2021, when the sector suffered the worst winter weather impact in recent years, throughputs were up by 2.9 mb/d y-o-y.



We forecast runs to average 15.9 mb/d in 2022, 1 mb/d below their historical peak in 2018, but given the 1.4 mb/d capacity closures since 2018, implied utilisation rates would be at record high rates. We believe further upside is extremely limited. The US was the largest importer of Russian oil among the five countries that announced a unilateral embargo on imports from Russia, but we do not expect it to have a material impact on US processing rates.

Canadian historical refinery intake data was revised higher starting in 2019 due to new data received from January 2019. On average, refinery intake is now higher by 60 kb/d, with baseline

revisions also affecting the forecast. **Mexican** refinery intake crossed the 800 kb/d mark for the first time since March 2021. We believe this rate will be maintained for several months, but do not expect a major breakthrough in ongoing repair and overhaul of several refinery assets that could help utilisation rates to rise significantly, from 49% in January.



Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Change from Dec 21	Jan 21	Utilisation rate Jan 22	Jan 21
US ¹	15.72	15.23	15.05	15.73	15.76	15.46	-0.30	0.93	88%	81%
Canada	1.83	1.69	1.63	1.83	1.79	1.68	-0.11	0.01	89%	83%
Chile	0.21	0.20	0.18	0.14	0.19	0.19	0.01	0.03	86%	83%
Mexico	0.65	0.79	0.74	0.72	0.76	0.80	0.05	0.08	49%	73%
OECD Americas¹	18.40	17.91	17.60	18.43	18.49	18.14	-0.36	0.96	85%	79%
France	0.82	0.75	0.72	0.79	0.78	0.80	0.02	0.25	70%	48%
Germany	1.81	1.73	1.90	1.93	1.88	1.85	-0.03	0.25	92%	79%
Italy	1.26	1.33	1.38	1.39	1.25	1.13	-0.12	0.09	65%	60%
Netherlands	1.01	1.04	1.13	1.05	0.95	0.95	0.00	0.00	79%	79%
Spain	1.24	1.22	1.12	1.20	1.23	1.23	0.00	0.19	87%	74%
United Kingdom	1.03	0.94	0.91	1.04	1.03	1.05	0.01	0.21	87%	70%
Other OECD Europe ²	4.44	4.39	4.23	4.38	4.32	4.29	-0.03	0.09	85%	85%
OECD Europe	11.61	11.41	11.39	11.77	11.44	11.30	-0.14	1.08	82%	74%
Japan	2.67	2.62	2.50	2.62	2.93	2.85	-0.08	0.15	83%	78%
South Korea	2.76	2.65	2.72	2.71	2.81	2.91	0.10	0.36	83%	72%
Other Asia Oceania ³	0.61	0.56	0.56	0.58	0.57	0.54	-0.03	-0.22	83%	87%
OECD Asia Oceania	6.03	5.82	5.79	5.92	6.31	6.30	-0.01	0.29	83%	77%
OECD Total	36.05	35.14	34.78	36.12	36.24	35.74	-0.50	2.33	84%	77%

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

² Includes Lithuania

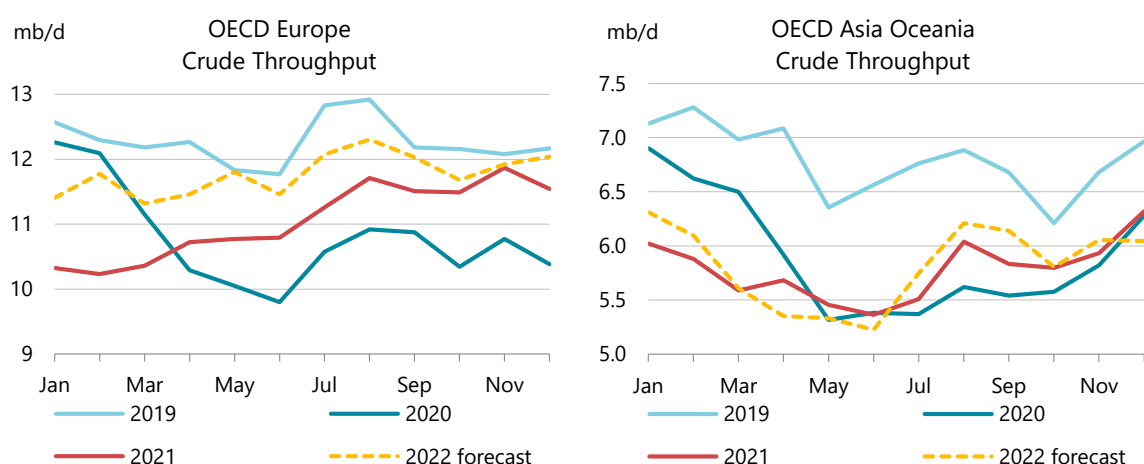
³ Includes Israel

In **OECD Europe**, January data came in 175 kb/d below expectations. Early indications for February show a counter-seasonal m-o-m increase, likely driven by the extremely tight product markets. In 2021, OECD Europe accounted for over half of Russia's oil export market. In turn, Russian crude oil accounted for 30% of imports into OECD Europe. Russian diesel imports supplied about 10% of European consumption of the fuel. There is also a sizeable dependence on Russian naphtha, fuel oil and refinery feedstocks.

At the time of writing, it was not clear yet how possible embargoes or traders' unwillingness to deal with Russian oil could affect supplies to Europe. Full displacement of Russian oil product

imports would require some combination of redirection of product flows from other regions (for example, US distillate exports to Latin America and Middle East distillate exports to Africa to redirect towards Europe), and higher refinery runs. The latter assumption would also require redirection of oil flows to not only replace lost Russian crude oil barrels but to increase processing rates to substitute for lost product imports.

However, European refiners do not have enough capacity to fully replace Russian product imports, especially the 750 kb/d of diesel flows, even if incremental crude oil was made available. In particular, refiners in Northwest Europe are generally geared towards light and medium grades. While Saudi, UAE might fill the gap in crude oil market, they tend to be higher in sulphur than Urals and might not be suitable for the setup of most of European refiners, which are also struggling with desulphurisation costs due to record-high natural gas prices. Therefore, we have assumed only a modest upward revision in European run rates from March to December, of about 85 kb/d on average.

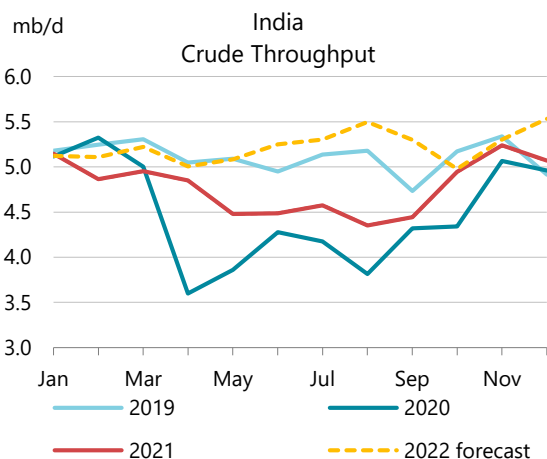
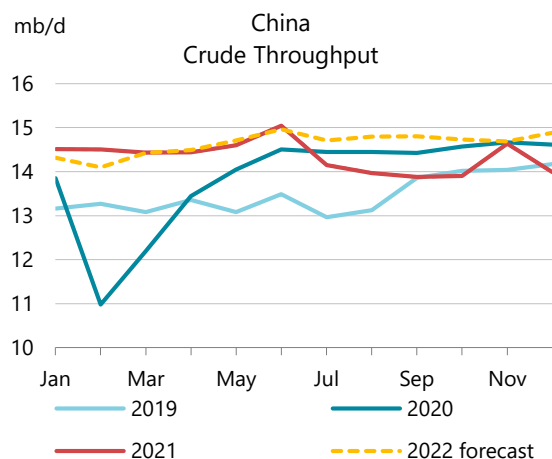


In **Japan** and **Korea**, refinery throughputs in January continued to recover, up by 150 kb/d and 360 kb/d y-o-y, respectively. Both countries ran at 83% utilisation, their highest post-pandemic rates. Total government and industry crude oil stocks could replace 130 days of crude oil imports into Japan, and 35 days of Korean imports, based on our forecast for refinery throughputs. In March, the Japanese government increased subsidies to refineries to 24 yen/litre, equivalent to \$32/bbl. Subsidies are expected to be capped at 25 yen/litre.

China reported combined January and February throughputs, at about 14 mb/d on average, which we adjusted upwards to 14.1 mb/d. Runs were up 200 kb/d from December, and down 300 kb/d y-o-y. On paper, China sits on the largest spare refining capacity globally, of some 4 mb/d, but most of this excess capacity is constrained by several factors: lack of crude refining and/or crude import quotas, bottlenecks in secondary processing units or a landlocked location with limited access to crude oil or product markets. This is why we do not see a material uptick in Chinese refinery run rates even with the expected product deficit in global markets. In early March, the National Development and Reform Commission asked refiners to limit transport fuel exports in April, prioritising domestic deliveries.

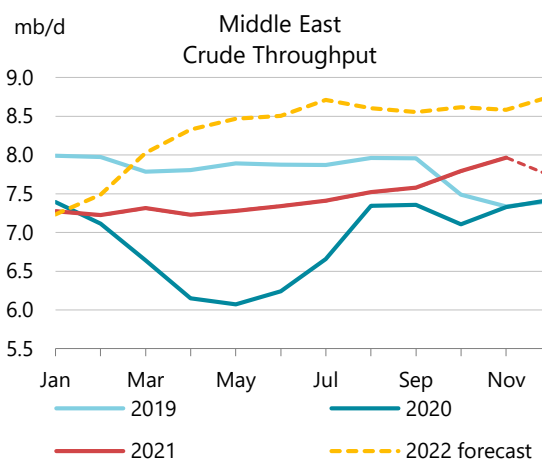
China imported about 1.6 mb/d of Russian crude oil in 2021, split equally into pipeline and seaborne flows. Chinese refiners may be able to continue purchases despite the Western financial sanctions and banks' unwillingness to provide credit financing for the deals. However, it remains to be seen if they will substantially increase crude oil imports from Russia, and free up volumes from their purchases in other regions. While Chinese imports account for one-third of Russian

crude oil exports, its uptake of products is very small, less than 2% of total Russian supplies. Most of seaborne crude oil imports from Russia come from the country's Pacific port of Kozmino and the Sakhalin offshore installations. Russian product exports, however, are heavily skewed towards the Baltic and Black Sea outlets, with shortest voyages to China, via the Suez Canal, requiring 50 and 35 days, respectively. Thus, increased product imports from Russia are not very likely.

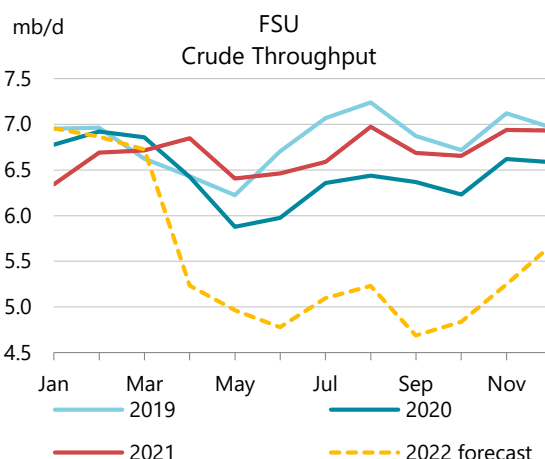


Indian refinery intake was up 50 kb/d m-o-m in January to 5.1 mb/d. After a projected rise to 5.2 mb/d in March, refinery runs are forecast to fall in April-May on seasonal maintenance. We have revised up the June through December refinery forecast by 200 kb/d on average on higher product export requirements. India is set to become the third largest refiner after our downward revision to the Russian throughput forecast. The country is the closest market located to the Middle East, the world's largest crude export hub. Elsewhere in Asia, most of the countries are net product importers and there is limited potential to increase crude processing. Petronas expects its 300 kb/d Pengerang refinery in **Malaysia** to restart in 2Q22, but we have assumed it in 3Q22.

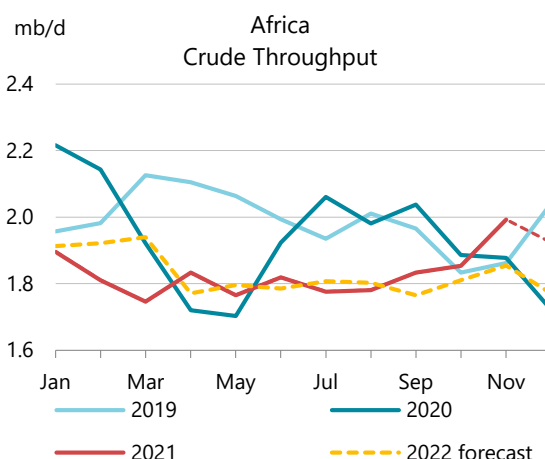
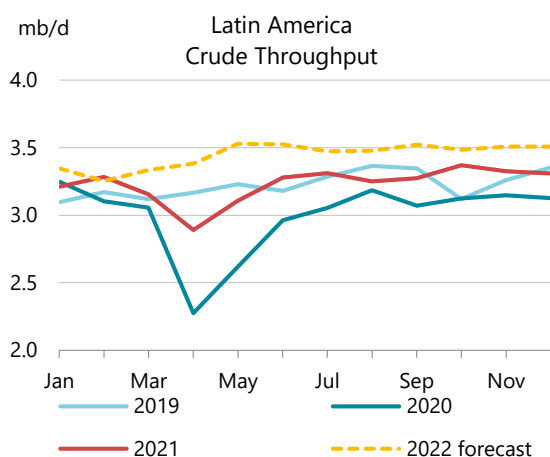
In the Middle East, December throughputs fell 240 kb/d m-o-m to 7.7 mb/d, with declines reported in all three countries that submitted data to JODI: **Saudi Arabia**, **Iraq** and **Bahrain**. Refinery intake in January is estimated 500 kb/d lower m-o-m on heavy outages in Saudi Arabia and Kuwait. Throughputs are expected to rebound in March to just above 8 mb/d, for the first time since November 2018, and further increases are expected over the course of the year. Regional runs are forecast to reach a new record at 8.7 mb/d in December, mostly on the ramp-up of **Kuwait's** 615 kb/d Al-Zour site that is set to start up in 2Q22.



Russian refinery throughput has been revised down on an expected reductions in refined product exports, as well as the fall in domestic consumption stemming from lower economic activity and reduced flights. Runs are forecast to fall 1.1 mb/d y-o-y. About 40-45% of Russian refinery output is exported. The forecast for **Belarus** crude runs is also reduced due to similar export issues faced by refiners there that normally export almost two-thirds of their product output. Pre-war, **Ukrainian** refining activity was already at a small fraction of the installed capacity, with utilisation rates around 10-15%. Damage has reportedly been sustained by condensate processing plants, and feedstock supply is now problematic for the country's sole operating crude refinery. As a result, we now assume no processing activity takes place until at least August 2022. **Kazakh** refiners processed 340 kb/d in January. We expect a ramp-up of 35 kb/d to full utilisation rates in 2Q22.



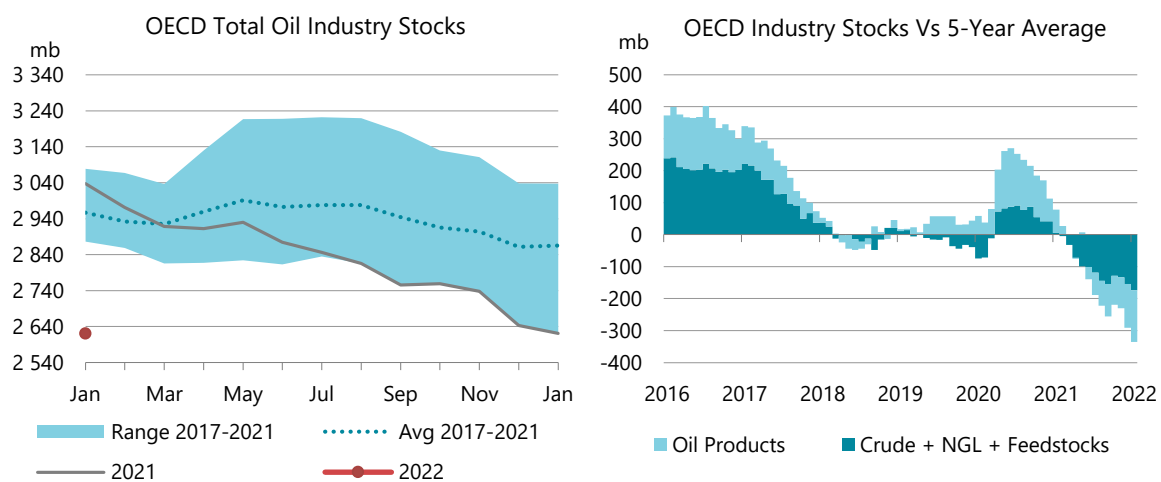
In Latin America, January refinery intake was slightly lower m-o-m in **Brazil** and **Argentina**, but this was offset by a recovery in **Ecuador** following disruption to pipeline flows a month earlier. Latin America is one of the largest product importing regions and is potentially set to struggle with securing supplies if product flows are diverted towards Europe. We forecast refinery runs at 3.4 mb/d on average in 2022, their highest level since 2018, but an expected demand recovery will still lead to increased product deficits. Africa too, a large net product importer, may find it hard to secure product supplies this year. Regional runs were estimated lower m-o-m in December, with little room for improvement in the first half of 2022. In **Egypt**, runs are expected to ramp up to record levels in 4Q22, with new capacity coming online. The 650 kb/d Lekki refinery in Nigeria has an official start-up date this year, but we do not expect it online before 2023.



Stocks

Overview

OECD industry oil stocks declined by 21.9 mb (707 kb/d) month-on-month (m-o-m) in January, with OECD America accounting for over 90% of the drawdown. Preliminary data for February show OECD inventories fell by an even steeper 1.06 mb/d. At 2 621 mb, stocks at end-January were 335.6 mb below the five-year average, and at the lowest level since April 2014. Compared with a year ago, OECD total industry inventories were down by a steep 416 mb year-on-year (y-o-y), with crude falling 168 mb and products off 226 mb. In terms of forward demand, industry stocks covered 57.2 days at end-January, a decrease of 13.6 days y-o-y and 8.2 days below the 2017-2021 average.



OECD crude stocks drew by 18.7 mb m-o-m in January, 10 times larger than the normal trend. OECD Europe accounted for 66% of the decline at 12.3 mb. OECD Americas stocks fell 4.8 mb counter-seasonally and Asia Pacific posted a modest drop of 1.6 mb. Total OECD crude stocks in January stood at 968 mb and were 154 mb below the five-year average.

In January, OECD products inventories decreased by 4.9 mb to 1 368 mb, 161 mb below the five-year average. OECD Americas saw a significant draw of 18.9 mb, led by steep declines in other products. Middle distillates showed only a modest increase of 0.5 mb compared to the five-year average of 17.5 mb of the five-year average. Motor gasoline built 22.6 mb in line with the seasonal pattern.

February preliminary data show OECD inventories down by a further 29.8 mb, versus a seasonal trend of a 24.8 mb draw. Declines were observed in the US, Europe and Japan. Data from the US Energy Information Administration (EIA) show stocks declined by 23.7 mb, with a sharp drop in products of 25.8 mb, while crude and NGLs built by 2.1 mb. Japan's inventories drew 2.8 mb in total when they usually fall by 7.6 mb. Crude stocks rose 4.3 mb, marginally higher than the five-year average. Data from *Euroilstock* show European inventories down 3.3 mb, led by a 4.8 mb decrease in gasoline along with a 1.8 mb decline in fuel oil.

IEA member countries decided to take collective action to release 62.7 mb oil stocks, about 3% of the total emergency reserves. The US will provide 30 mb of the total, which will be crude oil. European members will collectively release 18.7 mb with two-thirds of the volumes expected to be refined products, in light of tightening markets. Asia Pacific countries will contribute 14 mb, mainly crude oil (see. IEA member countries agree record 62.7 mb emergency stock release).

Preliminary Industry Stock Change in January 2022 and Fourth Quarter 2021												
	January 2022 (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	-4.8	-12.3	-1.6	-18.7	-0.2	-0.4	-0.1	-0.6	-0.3	-0.5	-0.2	-1.0
Gasoline	15.2	5.7	1.8	22.6	0.5	0.2	0.1	0.7	-0.1	-0.1	0.0	-0.2
Middle Distillates	-2.0	4.8	-2.3	0.5	-0.1	0.2	-0.1	0.0	-0.1	-0.3	0.1	-0.3
Residual Fuel Oil	0.2	-0.9	0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Products	-32.3	0.1	4.5	-27.7	-1.0	0.0	0.1	-0.9	0.3	0.0	0.1	0.4
Total Products	-18.9	9.7	4.3	-4.9	-0.6	0.3	0.1	-0.2	0.0	-0.4	0.2	-0.2
Other Oils ¹	3.9	2.3	-4.4	1.7	0.1	0.1	-0.1	0.1	0.0	-0.1	0.0	-0.1
Total Oil	-19.9	-0.3	-1.7	-21.9	-0.6	0.0	-0.1	-0.7	-0.3	-0.9	0.0	-1.3

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

December stock levels were revised down by a substantial 36.7 mb since last month's *Report* upon the receipt of more complete information. The majority of the adjustments were made to crude oil stocks, which were lowered by 15.1 mb in the OECD Americas, 8.9 mb in OECD Europe and 9 mb in OECD Asia Oceania. Crude oil stocks in Canada were revised from January 2019 onwards following the receipt of new data. Oil product inventories in OECD Europe were revised lower by 4.6 mb in total, with middle distillates accounting for most of the decline.

Revisions versus February 2022 Oil Market Report								
	(million barrels)							
	Americas		Europe		Asia Oceania		OECD	
	Nov-21	Dec-21	Nov-21	Dec-21	Nov-21	Dec-21	Nov-21	Dec-21
Crude Oil	-10.4	-15.1	0.0	-8.9	0.0	-9.0	-10.4	-33.0
Gasoline	-0.1	-3.7	0.1	0.7	0.0	0.3	0.0	-2.7
Middle Distillates	4.5	4.0	2.4	-3.2	0.0	0.5	6.9	1.3
Residual Fuel Oil	-0.3	-2.3	-0.1	-0.5	0.0	-0.1	-0.3	-2.9
Other Products	1.9	2.4	-0.1	-1.6	0.0	-0.8	1.8	0.0
Total Products	6.1	0.4	2.2	-4.6	0.0	0.0	8.3	-4.3
Other Oils ¹	0.0	0.3	-0.1	-0.1	0.0	0.4	0.0	0.5
Total Oil	-4.3	-14.4	2.2	-13.6	0.0	-8.7	-2.1	-36.7

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Implied balance

Global oil supply and demand figures show that implied stock draws in 2021 averaged 2.23 mb/d, compared with an observed decline of 1.76 mb/d. Product stock draws outside of the OECD could partially explain the 490 kb/d unaccounted for balance.

In January, global total reported and observed stocks fell 1.17 mb/d. OECD total industry inventories fell 710 kb/d. Crude oil, NGLs and feedstocks decreased by 550 kb/d compared to the much higher 1.7 mb/d decline in December. Product stocks were also down by 160 kb/d in January compared with the steep 1.4 mb/d fall in the previous month. Additionally, OECD government stocks dropped 200 kb/d, with crude down 210 kb/d while products were mostly unchanged.

In non-OECD regions, crude oil inventories (including China) increased by 1.4 mb/d in January, according to Kayrros satellite observations. Product stocks in Singapore and Fujairah built by 330 kb/d. By contrast, a significant draw of 2 mb/d was observed in oil on the water, including short-term floating storage, according to shipping data from Kpler.

Global Oil Balance and Observed Stock Changes (mb/d)												
	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	Jan-22	Feb-22
Global oil balance	5.43	7.27	-2.11	-2.99	1.88	-1.95	-2.12	-2.39	-2.47	-2.23	0.25	-0.97
Observed stock changes												
OECD total stocks	0.95	2.85	-0.51	-1.66	0.41	-1.31	-0.74	-1.42	-1.53	-1.25	-0.91	-1.06
Non-OECD crude stocks*	1.43	0.33	0.51	-0.92	0.35	0.40	-0.38	-0.58	-1.01	-0.39	1.43	-0.69
Selected non-OECD product stocks**	0.07	0.50	-0.10	0.01	0.12	0.10	-0.08	-0.20	-0.05	-0.06	0.33	-0.14
Oil on water	0.57	0.60	-1.63	0.71	0.07	-0.58	-0.39	-0.34	1.05	-0.06	-2.02	
Total observed stock changes	3.02	4.28	-1.73	-1.86	0.95	-1.40	-1.60	-2.53	-1.55	-1.76	-1.17	
Unaccounted for balance	2.36	2.99	-0.41	-1.12	0.96	-0.62	-0.54	0.12	-0.91	-0.49	1.43	

*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 Dec 2021, plus Fujairah and Singapore inventories.

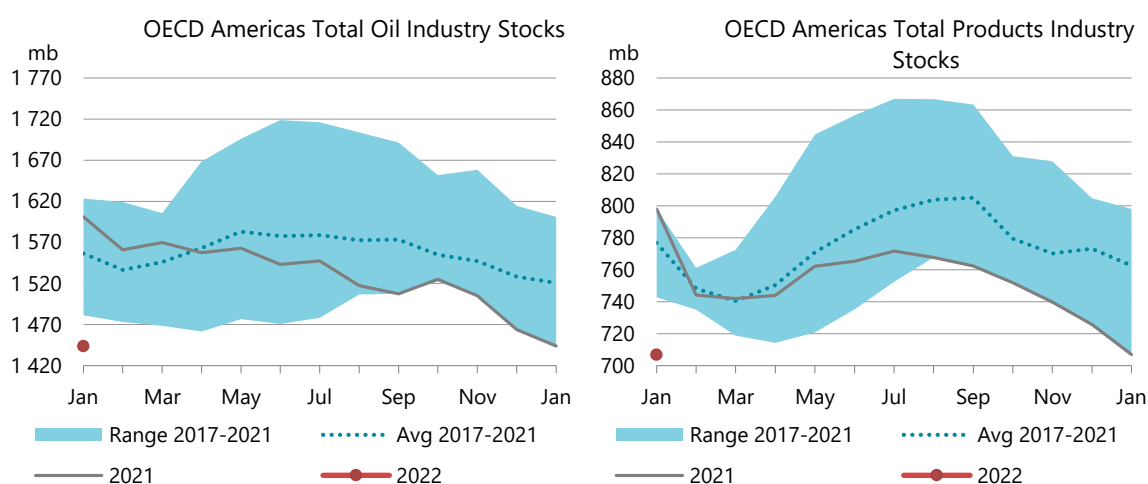
Sources: IEA, EIA, PAJ, Euroilstock, Kayrros, JODI, Kpler, FEDCom/S&P Global Platts, Enterprise Singapore.

Recent OECD industry stock changes

OECD Americas

Industry stocks in the OECD Americas fell by 19.9 mb m-o-m in January and were 157 mb lower y-o-y. At 1 444 mb, inventories remain 113 mb below the five-year average. Crude drew by 4.8 mb m-o-m contrary to seasonal increases of 5.5 mb, reaching 580 mb. In addition, middle distillates dropped 2 mb against a 2.5 mb typical build.

Total product inventories fell by 18.9 mb, three times the normal seasonal draw. Gasoline stocks built by 15.2 mb in line with their five-year average, while other products (including propane, butane, naphtha and others) dropped by 32.3 mb.



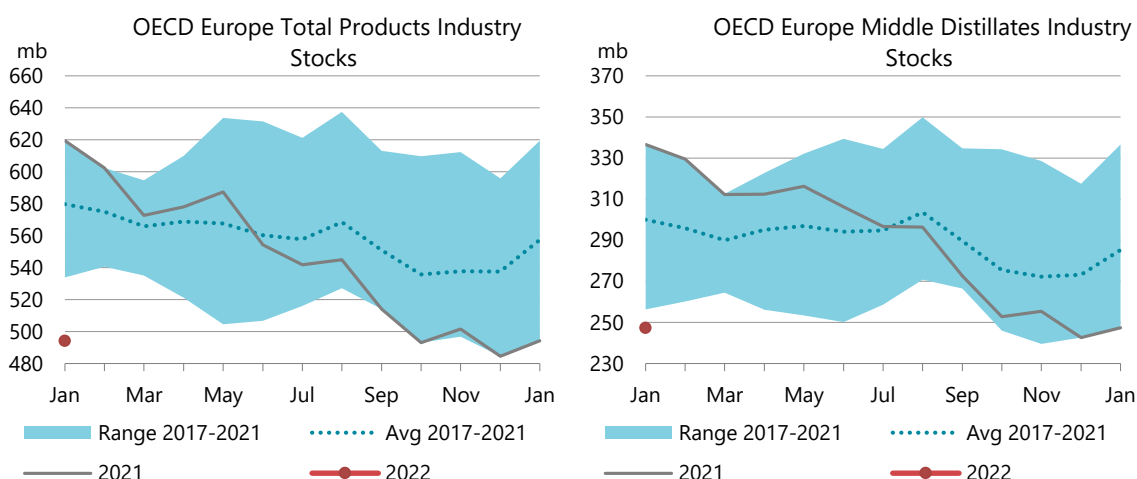
Preliminary data from the EIA indicates a further decline of 23.7 mb in February compared to the normal 15.3 mb drawdown. Other products led the decrease with an 18.2 mb drop versus the five-year average of 10.7 mb. Middle distillates and gasoline fell by 4.6 mb and 3.9 mb,

respectively, in line with seasonal trends. Crude oil drew counter-seasonally by 0.5 mb. Residual fuel oil stocks built by 1 mb in February.

OECD Europe

OECD industry stocks in Europe fell 0.3 mb to 855 mb in January and were 200 mb lower y-o-y, and 151 mb below the five-year average. Crude oil drew counter-seasonally by 12.3 mb to 290 mb. The draw in crude was led by UK (-3.9 mb), the Netherlands (-3.8 mb) and Italy (-3.1 mb), while inventories in France rose by 2.2 mb.

Product stocks increased by 9.7 mb, less than half of the five-year average build (23.3 mb). Middle distillates rose by 4.8 mb against a more normal 14 mb seasonal rise. Fuel oil fell 0.9 mb counter-seasonally versus a typical 2.5 mb build. Motor gasoline built by 5.7 mb in line with the seasonal trend. The product stocks build was led by Italy (7.1 mb) and France (2.3 mb), while there was a draw in the Netherlands (-3.1 mb), Germany (-1.9 mb) and UK (-1 mb). The remaining countries in Europe posted declines in product stocks, by a combined 6.4 mb.

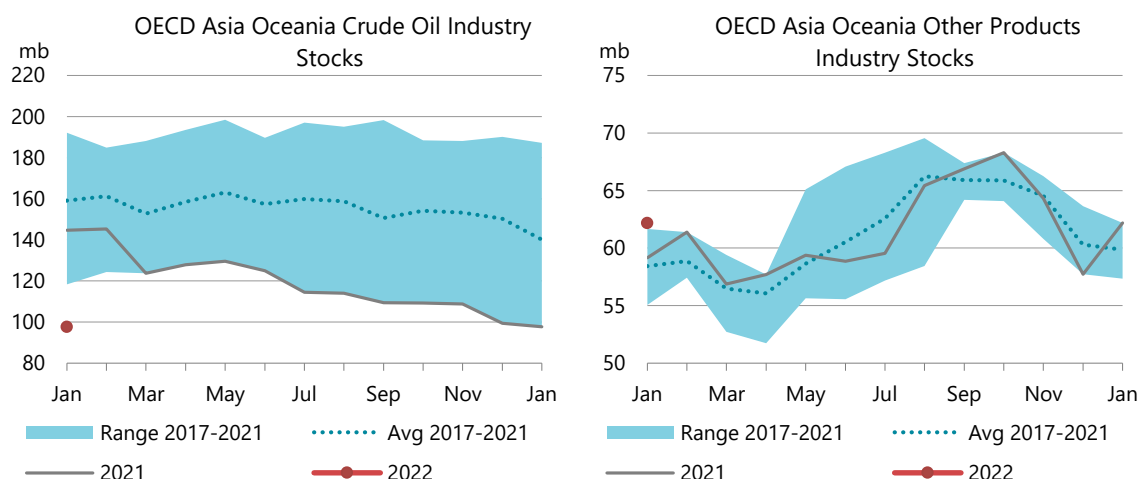


Preliminary data from *Euroilstock* showed total oil stocks drew 3.3 mb in February. Crude oil inventories rose by 1.5 mb while products dropped by 4.8 mb. Gasoline led the decline at 4.8 mb. The Netherlands, UK and Germany saw total oil stocks fall by 6.8 mb, 2.8 mb and 2.4 mb, respectively, while France built by 2.9 mb and Italy rose by 2.6 mb.

OECD Asia Oceania

OECD industry stocks in Asia Oceania fell by 1.7 mb m-o-m in January versus an average decline of 7.2 mb. In terms of forward demand, the stock cover was 41 days in January. Japan posted a draw of 8 mb, while Korean stocks built counter-seasonally by 6.2 mb.

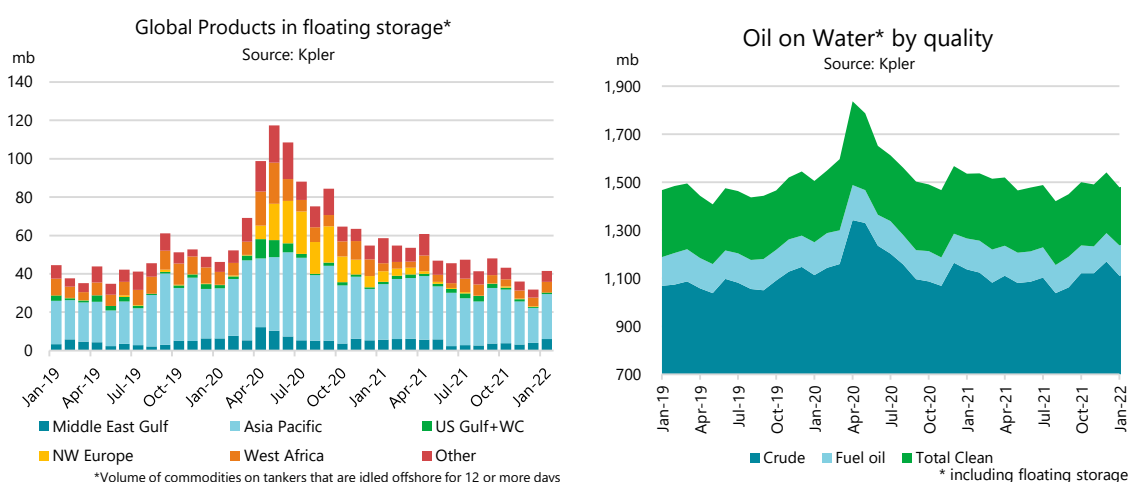
Crude stocks fell by 1.6 mb compared with a typical draw of 9.7 mb. NGLs and feedstocks declined by 4.4 mb against a normal seasonal build of 0.5 mb. Middle distillates fell by 2.3 mb compared with a more typical seasonal build of 1.0 mb. By contrast, other products rose 4.5 mb counter-seasonally, versus a decline of 1.9 mb. Total product stocks in the region built by 4.3 mb in line with the seasonal pattern.



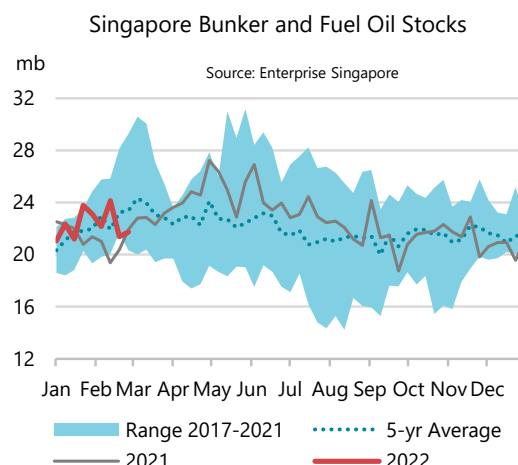
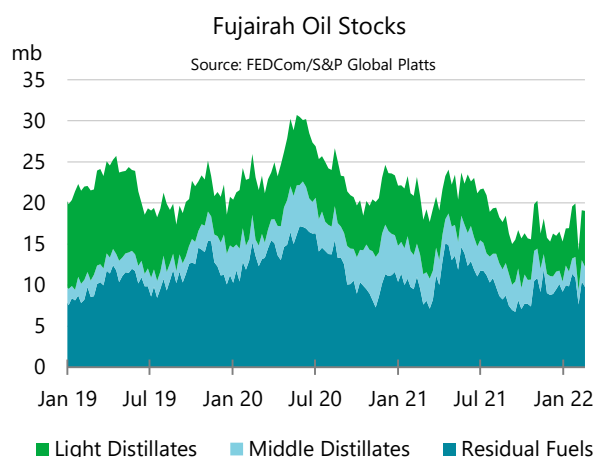
Preliminary data for February from the Petroleum Association of Japan show crude oil inventories increasing by 4.3 mb m-o-m. Total product stocks drew by 3.8 mb, led by a 2.7 mb fall in middle distillate stocks. Gasoline and residual fuel oil inventories fell by 0.5 mb and 0.9 mb, respectively. Total oil stocks decreased by 2.8 mb m-o-m, much smaller than the normal trend of -7.6 mb.

Other stock developments

The total volume of oil on the water (including floating storage) drew by 62.8 mb in January to 1 480 mb, according to *Kpler*. Crude oil posted a large drop of 57.9 mb while products decreased by 4.9 mb. By contrast, oil products held in short-term floating storage increased by 9.7 mb to 41.5 mb, mostly in the Asia Pacific and Middle East regions. Global crude and condensate floating storage was unchanged at 125.1 mb, as higher volumes in Asia Pacific (+9.4 mb) were offset by declines in West Africa and other areas.

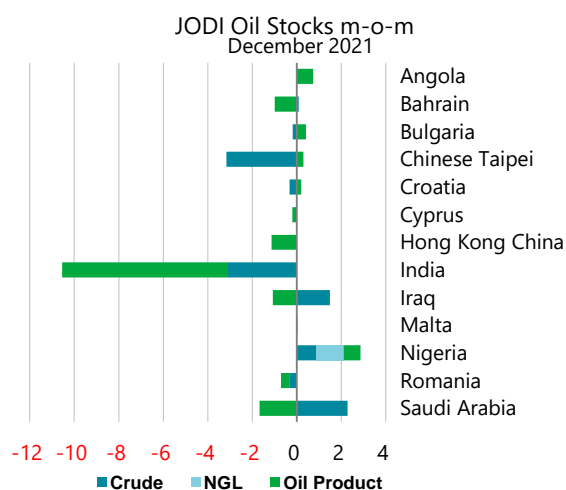


In Fujairah, independent product stocks declined by 0.6 mb in February. Light and middle distillates rose by 0.4 mb and 0.6 mb, respectively, while heavy distillates decreased by 1.6 mb.



Independent product stocks in Singapore, the world's largest bunkering hub, decreased by 3.5 mb to 43.3 mb in February, according to data from *Enterprise Singapore*. Light distillates, middle distillates and residual fuel oil stocks fell by 1.3 mb, 0.5 mb and 1.7 mb, respectively.

Total oil stocks in the 16 non-OECD countries reporting data to the *JODI-Oil* database fell 11.6 mb in December. Oil products led the decline at 10.4 mb. Crude stocks decreased by 2.4 mb, while NGLs increased by 1.2 mb. India posted the largest draw at 10.5 mb while Chinese Taipei stocks fell by 2.9 mb. By contrast, Nigeria and Angola increased by 2.9 mb and 740 kb, respectively. Saudi Arabia's stocks rose 600 kb.



Box 2. IEA member countries agree record 62.7 mb emergency stock release

On 1 March 2022, at an extraordinary Governing Board meeting, the IEA agreed to release an initial 60 mb from emergency oil reserves to respond to the oil supply disruption stemming from the Russian invasion of Ukraine. In the event, IEA member country contributions amounted to a record 62.7 mb of emergency oil stocks, of which the United States will contribute nearly half.

Over two-thirds of the volumes are coming from public stocks (government or specialized agency-held) and nearly one-third is from the lowering of stockholding obligations set on industry. The vast majority of the public stocks are in the form of crude oil, while the bulk of the oil available from lowering stockholding obligations is refined products. All in all, 45.7 mb of crude and 16.9 mb of products will be released to the market. The total amount represents only 3% of IEA emergency stockpiles that includes 1.5 billion barrels of public reserves and 575 million barrels held under obligations with industry. If necessary, additional stock releases will be considered.

The decision taken to release emergency stocks was the fourth time in the IEA's history. The IEA has only released stocks on three occasions: in the build-up to the Gulf War in 1991; after Hurricanes Katrina and Rita damaged US offshore oil rigs, pipelines and oil refineries in the Gulf of Mexico in 2005; and in response to the prolonged disruption of oil supply caused by the Libyan Civil War in 2011.

While Russian pipeline flows to IEA member countries in Europe currently continue uninterrupted, the lack of alternative import routes makes them particularly vulnerable to disruption. At particular risk are the countries connected to the Druzhba pipeline's southern route, running through Belarus and Ukraine. In 2021, the Czech Republic, Hungary and Slovakia imported 68 kb/d (50% of total imports), 70 kb/d (58%) and 105 kb/d (96%) from Russia, respectively. These three countries hold 61.7 mb oil stocks through a combination of government-controlled and industry inventories.

This is equivalent to more than eight months of crude oil assuming oil exports from Russia are completely disrupted. The Druzhba pipeline's northern route provides oil to Poland (300 kb/d imported from Russia in 2021, 63% of total imports) and Germany (555 kb/d, 34%). Poland also imported 71 kb/d of gasoil/diesel oil (64%) while Germany imported 90 kb/d (27%) in 2021. Due to its proximity, Finland (133 kb/d, 83%) and Lithuania (128 kb/d, 80%) are also highly dependent on Russian crude oil.

Contributions to the IEA collective stock release

	Total	Public	Industry	Crude Oil	Refined Products
United States	30.0	30.0	0.0	30.0	0.0
<i>Total IEA Americas</i>	<i>30.0</i>	<i>30.0</i>	<i>0.0</i>	<i>30.0</i>	<i>0.0</i>
Australia	1.7	1.7	0.0	1.7	0.0
Japan	7.5	0.0	7.5	3.1	4.4
Korea	4.4	4.4	0.0	4.4	0.0
New Zealand	0.4	0.4	0.0	0.4	0.0
<i>Total IEA Asia Oceania</i>	<i>14.0</i>	<i>6.5</i>	<i>7.5</i>	<i>9.6</i>	<i>4.4</i>
Austria	0.4	0.4	0.0	0.4	0.0
Belgium	0.3	0.3	0.0	0.0	0.3
Estonia	0.0	0.0	0.0	0.0	0.0
Finland	0.4	0.4	0.0	0.4	0.0
France	1.8	1.8	0.0	0.0	1.8
Germany	3.2	3.2	0.0	2.1	1.1
Greece	0.3	0.0	0.3	0.0	0.3
Hungary	0.3	0.3	0.0	0.3	0.0
Ireland	0.2	0.2	0.0	0.0	0.2
Italy	2.0	0.0	2.0	1.2	0.9
Lithuania	0.1	0.0	0.1	0.1	0.1
Luxembourg	0.1	0.0	0.1	0.1	0.0
Netherlands	0.8	0.0	0.8	0.4	0.4
Norway	0.4	0.0	0.4	0.0	0.4
Poland	1.7	0.0	1.7	0.7	1.0
Spain	2.0	0.0	2.0	0.0	2.0
Sweden	0.6	0.0	0.6	0.0	0.6
Switzerland	0.4	0.0	0.4	0.0	0.4
Turkey	1.5	0.0	1.5	0.0	1.5
United Kingdom	2.2	0.0	2.2	0.4	1.8
<i>Total IEA Europe</i>	<i>18.7</i>	<i>6.6</i>	<i>12.1</i>	<i>6.1</i>	<i>12.6</i>
Total IEA	62.7	43.1	19.6	45.7	16.9

Oil stocks in selected countries (mb) and days of forward demand

Country	Total	Public	Industry	Days
Czech Republic	22	15	7	123
Finland	36	19	17	200
Germany	267	171	98	117
Hungary	27	11	16	163
Lithuania	8	2	7	150
Poland	81	22	59	128
Slovakia	12	6	6	151

Source: IEA

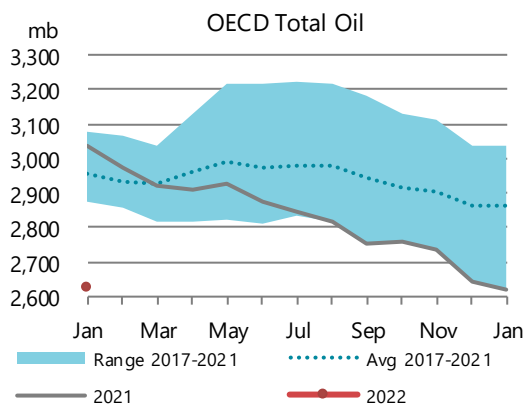
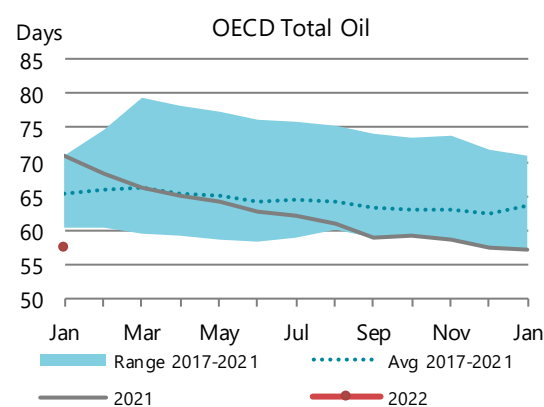
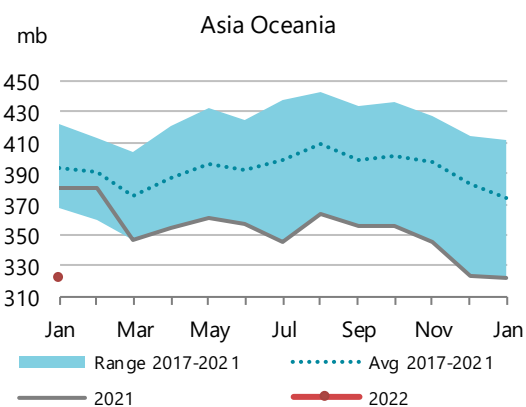
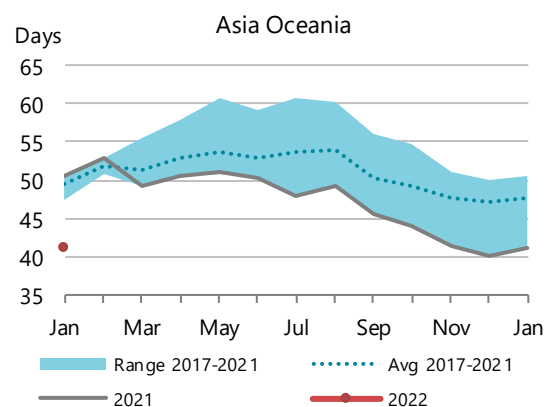
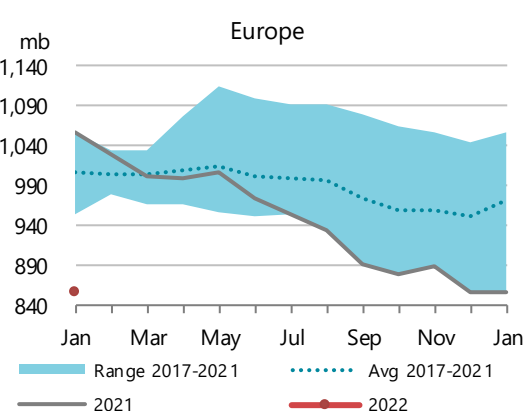
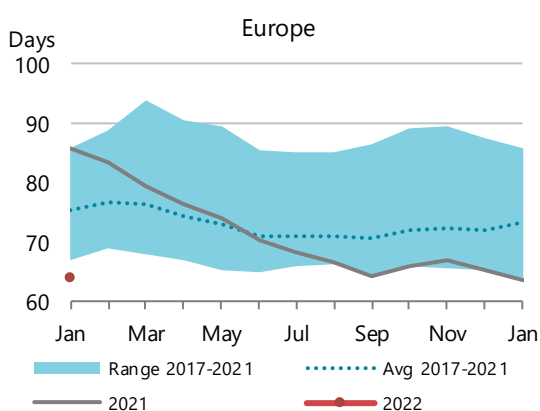
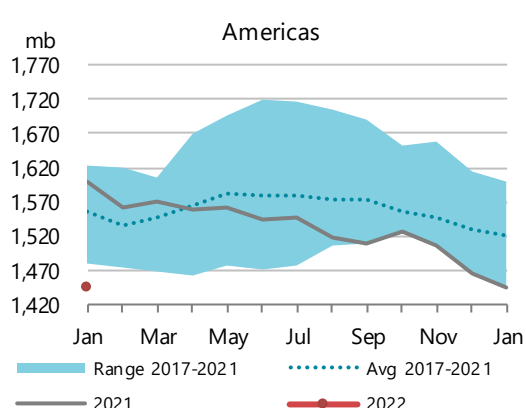
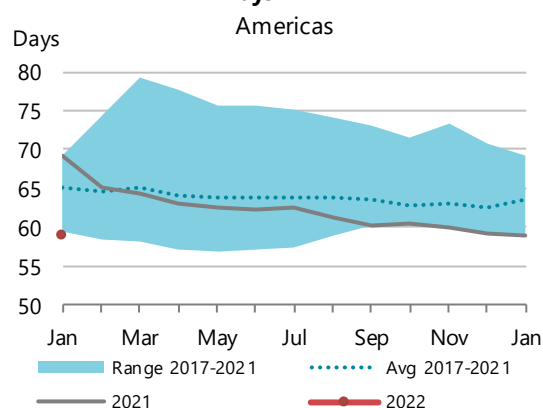
Days of forward demand are based on average OECD demand over the next three months.

Regional OECD End-of-Month Industry Stocks

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

Days¹

Million Barrels

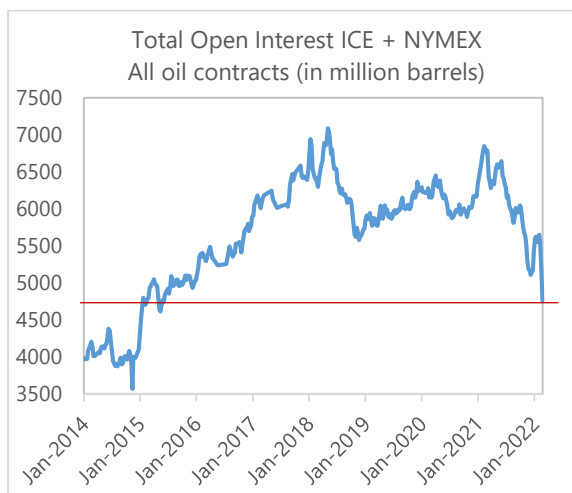


¹ Days of forward demand are based on average OECD demand over the next three months.

Prices

Overview

Russia's devastating invasion of Ukraine has upended commodity markets around the globe, and most especially the oil complex. The vast oil supply shock reflects both real losses of crude and refined products and the international community's rejection of Russian sourced goods aimed at punishing Moscow for the catastrophic loss of life and destruction it has wrought in Ukraine. Unprecedented Western financial sanctions imposed on Russia and deliberate decisions by energy companies to shun the country's oil supplies have created turmoil for energy firms, trading houses, shipping companies as they try to navigate the supply dislocations and reroute tankers amid the web of new sanctions. Currently, spot sales of Russian seaborne oil have stalled, even with record price discounts on offer for its benchmark Urals crude, as the country has now become a pariah for many in the market. European customers have been the hardest hit by the sanctions and boycotts.



As this *Report* went to print, oil prices had fallen sharply from their peak of almost \$130/bbl on ICE Brent just one week ago to around \$100/bbl. Key drivers are economic concerns linked to the crisis in Ukraine, rising interest rates to combat inflation, and China's new round of Covid infections that is shutting down major industrial centres.

The vertiginous drop underlines the extreme volatility of markets since the 24 February invasion of Ukraine. That

volatility has driven a shift to "risk-off" positioning as costs have increased for holding paper positions in the market. Be it for hedging or speculation, volatility-driven margin calls must be made for every price swing according to its amplitude. Moreover, the cuts to open interest reduce market liquidity, aggravating volatility. Cuts to open positions have reduced the overall open interest across all oil futures contracts on NYMEX and ICE to levels not seen since early 2015.

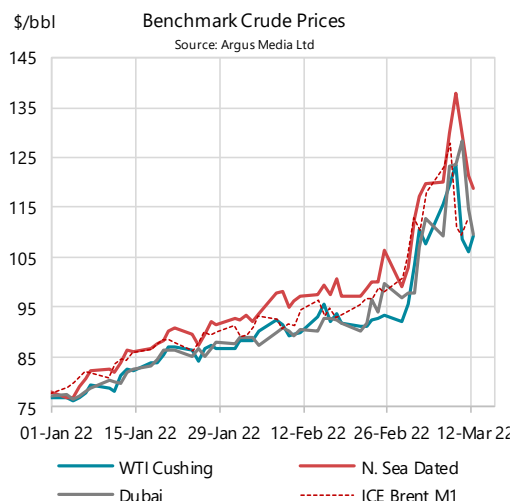
The depth of Europe's reliance on Russian oil, natural gas and coal has shaken energy markets down to the core. Proximity and extremely low stock levels have aggravated the loss, heightening tension on short-haul energy supply replacements. After many months of living hand-to-mouth, European refiners and product retailers have no fall back to cover lost Russian supply. Buyers targeted immediately available barrels. As refiners turned to North Sea crudes, the price of North Sea Dated rose sharply. Similarly, distributors replaced Russian gasoil with a slim range of Northwest Europe¹ cargoes and stocks.

¹ Shell and BP reportedly halted spot sales of diesel in Germany in the first 10 days of March due to fears of insufficient supply for their own networks.

Crude oil and product prices (particularly gasoil and jet fuel) spiked on 8 March to levels not seen since the June 2008 price spike preceding the Great Financial Crisis (GFC). As European refiners exhausted available prompt loading crude cargoes in the North Sea, the price of North Sea Dated peaked at \$138/bbl before falling back to end the week at \$119/bbl on 11 March. The premium for European ultra-low sulphur diesel barges in Rotterdam rose even faster than crude, reaching \$65/bbl on 8 March and \$75/bbl the next day, then collapsing to \$22/bbl on 11 March (versus \$41/bbl on 4 March).

Crude Prices and Differentials (\$/bbl)							
	Month			Week of	Last	Chng Feb-22	
	Feb-21	Jan-22	Feb-22	07 Mar	11 Mar	m-o-m	y-o-y
Crude Futures (M1)							
NYMEX WTI	59.06	82.98	91.63	113.43	109.33	8.65	32.57
ICE Brent	62.28	85.57	94.10	116.87	112.67	8.53	31.82
Crude Marker Grades							
North Sea Dated	62.23	87.10	98.01	127.52	118.95	10.91	35.78
WTI (Cushing)	59.06	83.13	91.74	113.43	109.33	8.61	32.68
Dubai	60.85	83.34	92.48	119.88	109.62	9.14	31.63
Differential to North Sea Dated							
WTI (Cushing)	-3.17	-3.98	-6.28	-14.09	-9.62	-2.30	-3.10
Dubai	-1.38	-3.76	-5.53	-7.64	-9.33	-1.77	-4.16
Differential to ICE Brent							
North Sea Dated	-0.05	1.53	3.91	10.65	6.28	2.38	3.96
NYMEX WTI	-3.22	-2.59	-2.47	-3.44	-3.34	0.12	0.75

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



Buyers have shunned Russian crude due to concerns of falling afoul over stringent financial sanctions, which affect trades and shipping, as well as concerns of any future embargoes. On 8 March the US halted its imports of Russian crude and products while the UK announced plans to phase out Russian oil imports by end-year, adding to the UK port ban for Russian-flagged vessels and ships operated or chartered by entities linked to Russia. More supply woes arose for Black Sea exports of Kazakh CPC (1.5 mb/d) which ships from a Russian port that also loads Russian crude. On 11 March, Exxon had to defend publicly its loading of a cargo of CPC equity crude, emphasizing that it is excluded from US sanctions targeting Moscow and contained no comingled Russian crude. Exxon and other companies are mindful of potential reputational damage from dealing with the country, given the international outrage at Russia's deplorable military invasion.

Several factors drove crude and gasoil prices sharply lower after 8 March:

- Growing awareness that the economic impact from the crisis will undermine oil demand.
- Efforts by term-contract holders to move Russian crude to non-European buyers: European trading companies and China's state refiners have reportedly positioned tankers to move Russian barrels to India and China, though financing arrangements and high shipping costs remain a concern².
- Continued but limited evolution on cease-fire negotiations.
- The IEA coordinated oil stock release.

² Chinese state-controlled trading firm Unipet and trading company Vitol have chartered very large crude carriers (VLCCs) to ship crude to China from North West Europe. Indian state-controlled refiner IOC has specified Urals, ESPO Blend and CPC Blend in its three latest tenders for crude supply in late April to early June (only on a delivered basis in Indian ports). Ships have been chartered by Litasco, Socar, and Trafigra to move 3 mb of Russian Urals, with India as a "potential" destination.

Despite this price correction, the underlying European market conditions remain tight in the absence of higher non-Russian crude supply. The physical crude premium for North Sea Dated to ICE crude futures has risen regularly. Europe has imposed no sanctions or embargoes on Russian energy, but any re-organisation of trade flows imposed by buyers' boycotts would take weeks and assumes alternative customers for Russian exports will appear. Revulsion at the increasing violence in Ukraine – notably against civilians – could still discourage even those buyers, leaving refiners in Europe and elsewhere to squabble over the remaining barrels.

The cresting wave of inflationary pressures has been made all the more intense by the conflict-linked surge in commodity prices. Central banks now anticipate tighter monetary policy that would present a major growth risk for the world's heavily indebted governments and private sector. Sustaining the slowing global economic recovery can't continue if the current supply constraints persist while crude oil and product stocks remain at a record low. There will simply not be enough oil in the market.

Futures markets

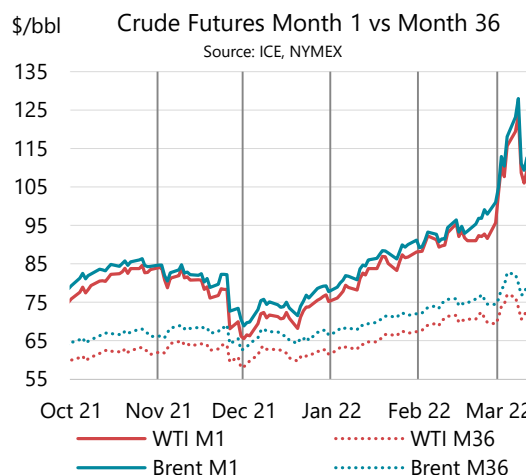
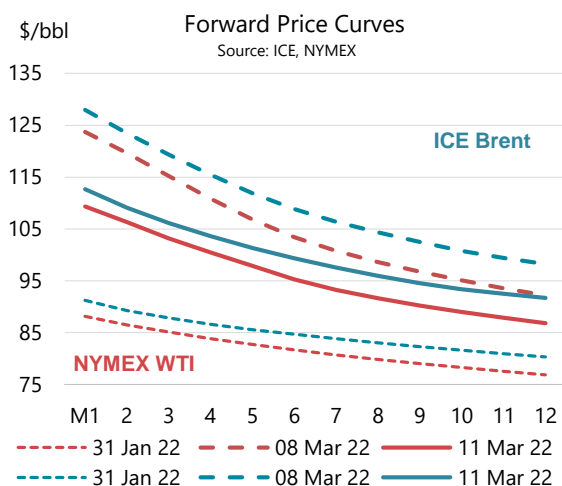
In February, crude futures extended January's substantial gains. Onshore crude stocks failed to recover and markets anticipated further draws in 1Q22 with balanced to drawing markets in 2Q22. OPEC+ doggedly pursued modest monthly supply increments to avoid oversupplying the oil market. Negotiations with Iran to lift sanctions in exchange for a return to the JCPOA nuclear accord advanced and then stalled. Analysts now expect it could take several months before there is any increase in Iran's oil exports. At the same time, demand in February remained robust and strengthened as several regions eased restrictions linked to the Covid Omicron variant. The front month ICE Brent contract rose \$8.53/bbl in February, but surged by \$19.65/bbl between the last week of February and the second week of March. Gains on WTI NYMEX were similar, but the early-March increase lagged that for ICE Brent by around \$1/bbl, reflecting the lesser impact of the conflict on the US market.

Futures markets priced in the growing supply risk, sharply steepening the 12-month backwardation, even before the 24 February outbreak of the conflict. The ICE Brent backwardation rose from \$10/bbl in the week of 31 January to \$13.30/bbl in the week of 21 February before leaping to \$24.10/bbl in the week of 7 March. Despite an apparent easing of tensions at end-week, the 12-month backwardation only narrowed to \$21/bbl on 11 March. Prices for the 12th contract rose more on ICE Brent than on WTI NYMEX, reflecting expectations of more favourable forward supply outcomes for the US Midcontinent crude market than for Northwest Europe.

After 8 March, prices shifted into a sharp decline triggered by growing concern about the macro-economic outlook and an accelerated shift to risk-off positioning due to heightened price volatility. The surge in energy and commodity prices will contribute to higher inflation, precipitating interest rates increases and slower economic growth. China's recent flare-up of Covid cases has added to macroeconomic concerns as the country shuts down large swaths of cities to contain the spread, in-line with its zero-Covid strategy. As two of those cities are major manufacturing centres, China's industrial activity will slow in the coming weeks and the loss of consumer and industrial goods will add to global inflationary tensions.

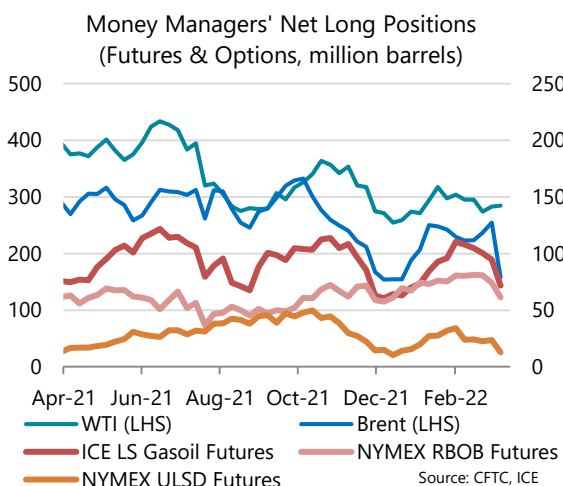
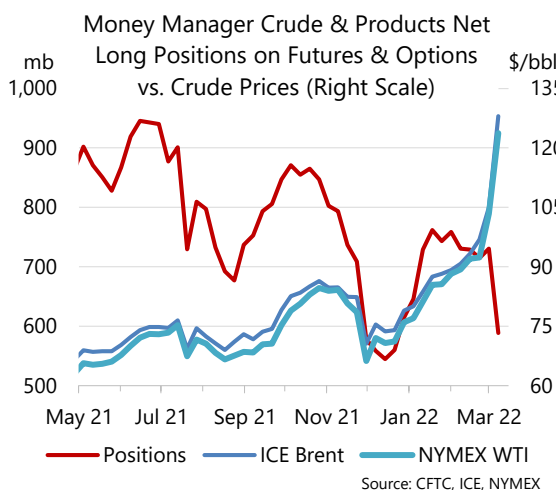
Product futures contracts on NYMEX and ICE made strong gains in February. Prices were up \$5/bbl from the first to the last week of the month for all prompt contracts. In the first two weeks of March, prices rocketed higher with NYMEX RBOB rising \$28.10/bbl, NYMEX ULSD increasing

\$36.10/bbl and ICE Gasoil up a steep \$70.60/bbl. The ICE Gasoil premium to ICE Brent rose just \$2.95/bbl on average in February, but gained \$51/bbl in the first two weeks of March and peaked around \$95/bbl on 8-9 March. The ICE Gasoil futures rolls at maturity on the 14th of the month preceding the contract month - a 2-week lag to crude - adding one month of prompt backwardation to the crack spread in the first 15 days of the month that exaggerates the view of market tensions.



Money Managers' net long positions in futures and options, covering crude and products, eased over February as prices rose. The surge of prices in March provoked a sharp drop in net long positions and open interest across all contracts, but particularly on ICE Brent and ICE Gasoil where the volatility was the most extreme. The costly margin calls driven by high volatility have encouraged a reduction in position sizes.

Over the four weeks to 4 March, overall net long position on crude futures fell by 15% and were down 29% for ICE Brent futures. Almost all the changes occurred in the week of 4 March. Cuts to long positions and increases to short position both had large impacts on the net change.



Money Managers' net long positions on product futures contracted by 31% in the four weeks up to 4 March. The largest reductions came for diesel contracts on ICE (-47%) and NYMEX (-33%), though NYMEX RBOB also fell significantly (-23%). Large reductions were made to both outright longs and shorts as price volatility jumped.

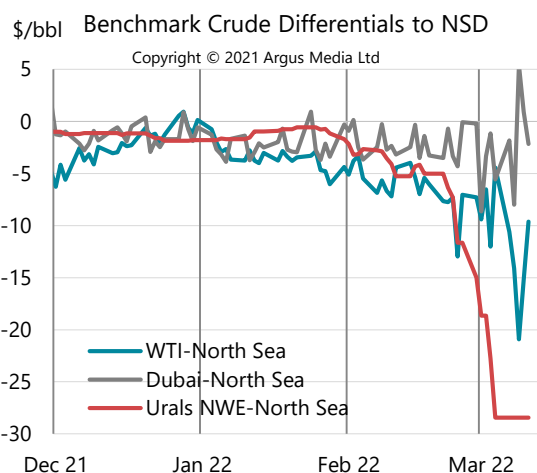
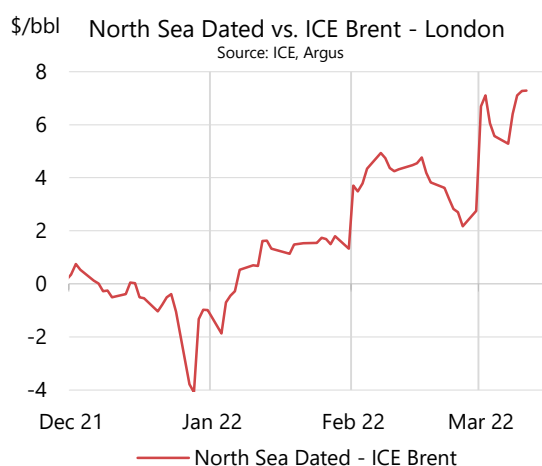
Prompt Month Oil Futures Prices (monthly and weekly averages, \$/bbl)												
	Feb-21	Dec-21	Jan-22	Feb-22	Feb-22		Week Commencing:					
					m-o-m Chg	y-o-y Chg	31 Jan	07 Feb	14 Feb	21 Feb	28 Feb	07 Mar
NYMEX												
Light Sweet Crude Oil (WTI) 1st contract	59.06	71.69	82.98	91.63	8.65	32.57	89.44	90.66	92.80	92.21	106.62	113.43
Light Sweet Crude Oil (WTI) 12th contract	54.26	67.42	74.52	79.20	4.68	24.94	77.73	79.30	79.38	79.97	84.36	87.63
RBOB	73.04	89.68	100.90	112.84	11.94	39.80	109.68	112.29	112.93	114.81	134.59	142.95
ULSD	74.97	94.49	109.56	119.57	10.01	44.59	117.46	119.37	119.67	119.64	142.29	155.71
ULSD (\$/mmbtu)	13.22	16.66	19.32	21.09	1.77	7.86	20.72	21.05	21.11	21.10	25.09	27.46
Henry Hub Natural Gas (\$/mmbtu)	2.92	3.86	4.26	4.46	0.21	1.55	4.92	4.08	4.43	4.54	4.70	4.65
ICE												
Brent 1st contract	62.28	74.80	85.57	94.10	8.53	31.82	90.84	92.17	94.22	97.22	109.49	116.87
Brent 12th contract	57.42	70.75	77.85	82.62	4.77	25.20	80.79	82.38	82.54	83.94	89.16	92.80
Gasoil	68.03	86.81	100.19	111.67	11.48	43.63	109.23	111.46	110.51	113.18	138.71	183.83
Prompt Month Differentials												
NYMEX WTI - ICE Brent	-3.22	-3.11	-2.59	-2.47	0.12	0.75	-1.40	-1.51	-1.42	-5.01	-2.87	-3.44
NYMEX WTI 1st vs. 12th	4.80	4.27	8.46	12.43	3.97	7.63	11.71	11.36	13.42	12.24	22.26	25.80
ICE Brent 1st - 12th	4.86	4.05	7.72	11.48	3.76	6.62	10.05	9.79	11.68	13.28	20.33	24.07
NYMEX ULSD - WTI	15.91	22.80	26.58	27.94	1.36	12.02	28.02	28.71	26.87	27.43	35.67	42.28
NYMEX RBOB - WTI	13.98	17.99	17.92	21.21	3.29	7.23	20.24	21.63	20.13	22.60	27.97	29.52
NYMEX 3-2-1 Crack (RBOB)	14.63	19.60	20.80	23.45	2.65	8.83	22.84	23.99	22.38	24.21	30.53	33.77
NYMEX ULSD - Natural Gas (\$/mmbtu)	10.31	12.80	15.07	16.62	1.56	6.32	15.80	16.98	16.68	16.56	20.40	22.81
ICE Gasoil - ICE Brent	5.75	12.01	14.62	17.57	2.95	11.81	18.39	19.29	16.29	15.96	29.22	66.96

Source: ICE, NYMEX.

Spot crude oil prices

The physical crude to futures price premium strengthened throughout January and February, reflecting the need for prompt crude in the absence of adequate stocks. In the first two weeks of March, refiners shifting away from Russian crudes and urgently seeking alternative barrels, lifted the North Sea Dated premium to ICE Brent, which reached \$7.30/bbl on 11 March.

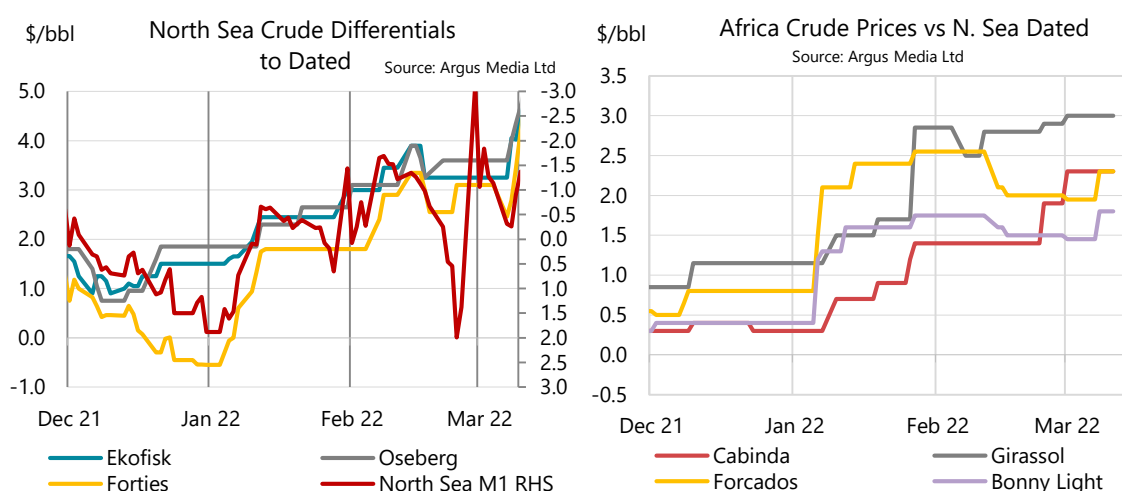
The other marker grades more or less lagged the moves in North Sea Dated. Dubai prices were supported by Asian spot demand for available Middle East spot barrels. However, its discount to North Sea Dated widened from January to February and to March, penalizing the West-East crude arbitrage that feeds much needed West African barrels to Asia. On the other hand, the significant widening of the North Sea Dated premium to WTI amplified the arbitrage potential for US barrels to Europe.



Urals discounts versus North Sea Dated in Northwest Europe deepened by \$4.40/bbl in February to -\$5.50/bbl as buyers cut use of sour crude that raises the cost of hydrotreatment but also as they anticipated risks to the purchase of Russian barrels. The discounts blew out in March as interest in Russian barrels dried up following the invasion. Progressively lower offers failed to attract takers, pushing the assessed price down. On Friday, 4 March Shell bought a cargo at a -

\$28.45/bbl discount to North Sea Dated as it sought to meet urgent refining requirements. In the absence of other transactions, that deal has set the notional Urals price level up until the time of writing. Discounts for Kazakh CPC crude (CIF MED) versus North Sea Dated fell sharply following the invasion. Chartering tankers into the Black Sea to load in a Russian port has posed a challenge to most buyers.

North Sea crude price differentials to the North Sea Dated marker rose over February. Demand for the short-haul crudes was boosted by the strengthening backwardation and by the strong demand for low sulphur barrels to offset the cost of desulphurisation in the refining process. In March, the premiums continued to track the North Sea Dated structure higher, getting a further boost from buyers seeking alternatives to Russian crude. Differentials to North Sea Dated for Forties, Oseberg and Ekofisk all rose by over \$1/bbl. They continued to rise between the week of the invasion and 11 March by over \$1.50/bbl as attention focussed on supplies available close-by.

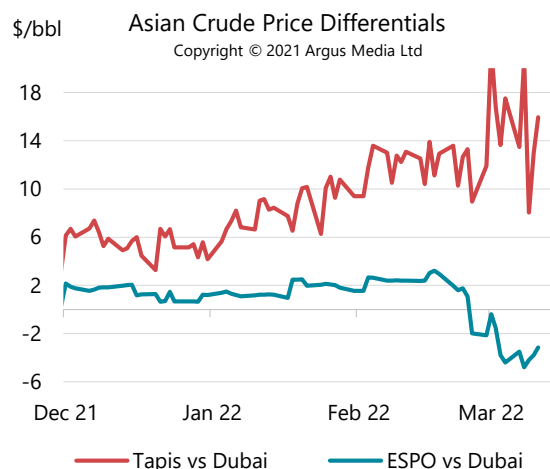
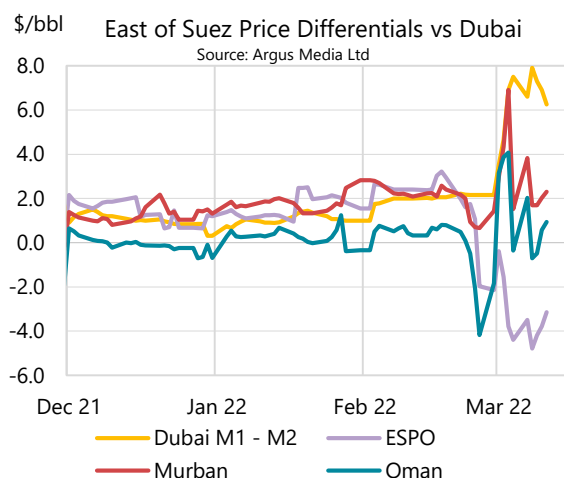


West African crude price premiums to North Sea Dated increased over the month of February as the rising backwardation in the market discouraged long-haul Asian buyers. Nevertheless, it favoured increased uptake by European refiners. With the move away from Urals, European equity producers in West Africa have kept some cargos from the market to meet their own refinery requirements. Other European refiners are purchasing barrels but vying for the reduced volumes available in the market for spot purchases has contributed to support prices.

Middle East producers saw steady buying for their crudes, despite impending spring refinery maintenance schedules East of Suez and the demand impact of Omicron restrictions. Many Asian buyers have shied away from Russian barrels, for the moment. However, Chinese refinery buying (including independent refiners) remains weak due to the severe price backwardation. Dubai M1 rose, but with a lag to North Sea Dated. The prompt backwardation in the Dubai price structure exceeded \$7/bbl in early March and reflected the demand for barrels for regional refiners East of Suez. Grade price differentials for Middle East barrels were volatile in late February and early March but reverted to levels close to those of early February. The sales are generally for lifting at a two-month horizon, limiting the impact of short-term tensions on the formation of differentials.

Light sweet Indonesian Tapis premiums versus Dubai have benefitted since the beginning of 2022, from strong light product markets as well as from the rising crude price backwardation (reflecting its value as a short-haul light sweet crude for Asian refiners). The threat of losing Russian barrels combined with stronger crude price backwardation and strong light product cracks has favoured Tapis premiums to Dubai since the invasion of Ukraine. Like Urals in the

West, Russia's ESPO crude, produced in and marketed from eastern Russia, is suffering a buyers' boycott. Its discount to Dubai has flipped from premiums to Dubai to a discount of over \$3/bbl.



In North America, premiums for WTI at Houston and at Midland versus WTI at Cushing were steady throughout most of February versus January. However, with Russia's invasion of Ukraine they have risen sharply. The increase reflects the heightened international call on US crude export barrels. WTI and other light sweet grades are a good fit for European refiners that must maximize output of ultra-low sulphur diesel and minimize desulphurisation costs. Heavier and more sour grades delivered in the US Gulf of Mexico have deteriorated slightly in value in March.

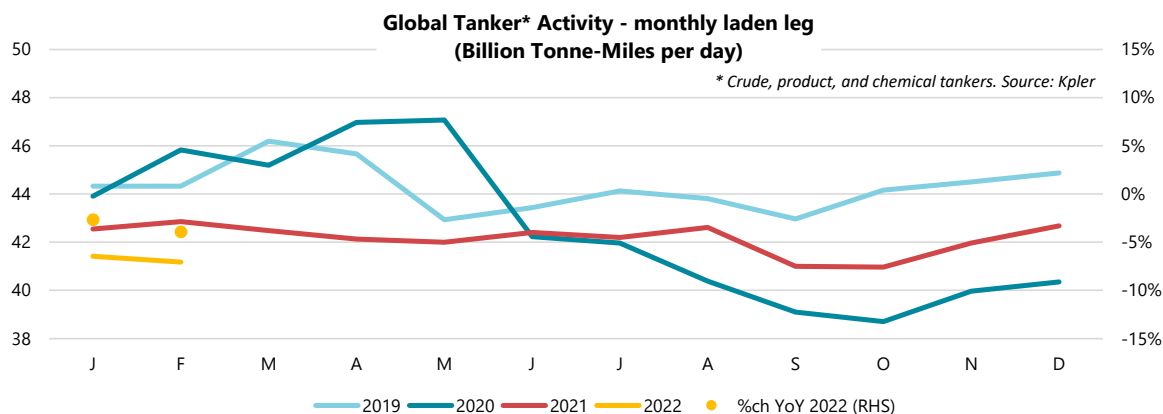
Spot Crude Oil Prices and Differentials (monthly and weekly averages, \$/bbl)												
	Feb-21	Dec-21	Jan-22	Feb-22	Feb-22 m-o-m Chg	Feb-22 y-o-y Chg	31 Jan	07 Feb	Week Commencing:			Last
							14 Feb	21 Feb	28 Feb	07 Mar	11 Mar	
Crudes												
North Sea Dated	62.23	74.01	87.10	98.01	10.91	35.78	93.85	96.82	98.35	100.93	114.55	127.52
North Sea Mth 1	62.68	74.69	87.14	97.35	10.21	34.68	93.32	95.30	97.27	101.76	112.86	126.67
North Sea Mth 2	62.33	74.49	86.00	94.16	8.15	31.83	90.22	92.38	94.11	98.16	108.62	121.01
WTI (Cushing) Mth 1	59.06	71.53	83.13	91.74	8.61	32.68	89.44	90.66	92.80	92.72	106.62	113.43
WTI (Cushing) Mth 2	58.99	71.35	82.30	90.31	8.00	31.31	87.68	89.24	91.16	92.10	103.50	109.96
WTI (Houston) Mth 1	60.50	72.86	84.62	93.23	8.60	32.73	90.80	92.05	94.15	94.67	108.40	115.64
Urals (NWE)	60.72	72.69	86.00	92.50	6.50	31.78	91.28	93.11	93.61	92.54	93.85	99.07
Dubai (1st month)	60.85	73.25	83.34	92.48	9.14	31.63	88.74	90.20	91.92	95.78	104.84	119.88
Differentials to Futures												
North Sea Dated vs. ICE Brent	-0.05	-0.79	1.53	3.91	2.38	3.96	3.01	4.65	4.13	3.71	5.06	10.65
WTI (Cushing) Mth1 vs. NYMEX	0.00	-0.16	0.14	0.11	-0.04	0.11	0.00	0.00	0.00	0.51	0.00	0.00
Differentials to Physical Markers												
WTI (Houston) versus North Sea Mth 1	-2.18	-1.83	-2.52	-4.13	-1.61	-1.94	-2.52	-3.25	-3.12	-7.09	-4.47	-11.03
WTI (Houston) versus WTI (Cushing) Mth 1	1.44	1.32	1.50	1.49	-0.01	0.05	1.36	1.39	1.35	1.95	1.78	2.21
Urals (NWE) versus North Sea Dated	-1.51	-1.31	-1.11	-5.52	-4.41	-4.00	-2.57	-3.71	-4.74	-8.39	-20.70	-28.45
Dubai versus North Sea Mth 2	-1.47	-1.24	-2.66	-1.68	0.98	-0.20	-1.48	-2.18	-2.19	-2.38	-3.78	-1.13
Dubai versus WTI (Cushing) Mth 2	1.86	1.90	1.04	2.17	1.13	0.32	1.05	0.96	0.76	3.68	1.35	9.92
Prompt Month Differentials												
Forward North Sea Mth1-Mth2	0.35	0.19	1.14	3.20	2.06	2.85	3.10	2.92	3.16	3.60	4.24	5.66
Forward WTI Cushing Mth1-Mth2	0.06	0.19	0.82	1.43	0.61	1.37	1.75	1.43	1.65	0.61	3.12	3.47
Forward Dubai Mth1-Mth2	0.27	1.00	1.04	2.04	1.00	1.77	1.51	2.00	2.04	2.17	4.94	6.99

Source: Argus Media Ltd, ICE

Freight

Global tanker owners and customers are navigating the array of new international sanctions affecting Russian oil exports, with the most immediate impact a surge in global freight costs. In terms of direct effects, freight rates surged for the few tankers willing to load at Russian ports in the Baltic and at Ukraine and Russian ports in the Black Sea, where war risks came into consideration. Baltic Aframax dirty freight rates rose by a factor of six from the first week of February to the second week of March.

Indirect impacts on freight rates reflected the general loss of Russian tanker capacity and the knock-on effect of higher Baltic and Black Sea chartering rates. As well, the surge in oil prices has sharply increased bunker fuel costs, contributing to rising freight costs for all tanker segments. Finally, in the current uncertain geopolitical context, tanker owners have held off chartering their ships while waiting for greater market clarity.



US and EU sanctions targeting Russian shipping companies have hit three major entities:

Sovcomflot: Russia's largest shipping company with a fleet of 145 tankers (over 3,000 dwt), including 72 crude and 45 clean products with over 25 ships on order. Citibank estimates the total capacity of these ships at 50 mb of crude and 17 mb of product

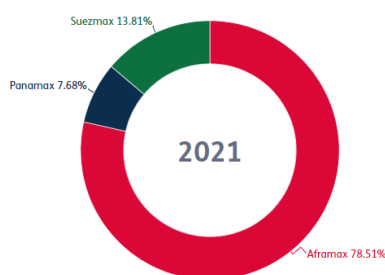
Rosneft: A fleet of 14 tankers (over 3,000 dwt)

Gazpromneft: A fleet of 5 tankers (over 3,000 dwt)

Another 389 tankers (over 3,000 dwt) are either Russian flagged or owned/operated by Russian companies. Broker *BRS Group* estimates the total capacity of all these tankers to be 18.3 million dwt, representing 2.8% of the global tanker fleet over 3,000 dwt. Embargoes on Russian ships docking in UK ports have discouraged charterers of these tankers (sanctioned or not).

Lloyds List Intelligence indicates that monthly Russian crude liftings in 2021 accounted for 25% of global Aframax loadings and one-tenth of global Suezmax loadings.

Russia's oil shipments by tanker type



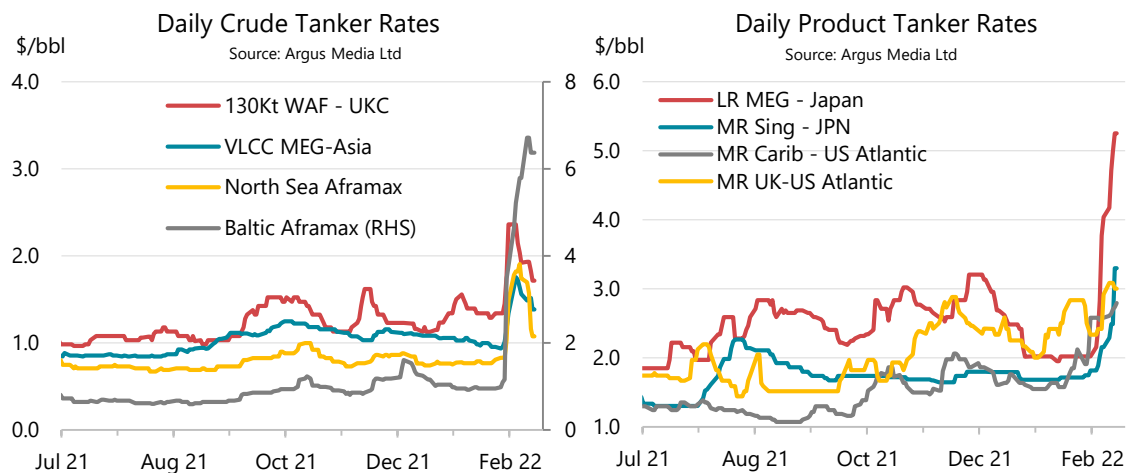
Source: Lloyd's List Intelligence APEX

Prices rose particularly rapidly on routes to Japan from the Middle East Gulf and Singapore. North East Asia supply uncertainties increased as Russian product exports became inaccessible due to

After the initial surge in prices, rates outside the Baltic and Black Sea eased slightly in the second week of March as owners and charterers converged on workable levels for VLCC tankers in the Middle East Gulf as well as Aframax and Suezmax ships in West Africa.

Clean product tanker rates saw similar trends. Strong bunker prices and delays to chartering by owners pulled prices higher across all routes.

banking and shipping constraints. China announced this week that it will further reduce gasoil exports in the coming months which will aggravate this trend.



Freight Costs (monthly and weekly averages, \$/bbl)												
	Feb-22						Week Commencing					
	Feb-21	Dec-21	Jan-22	Feb-22	m-o-m chg	y-o-y chg	31-Jan	07-Feb	14-Feb	21-Feb	28-Feb	07-Mar
Crude Tankers												
VLCC MEG-Asia	0.84	1.09	1.07	1.05	-0.02	0.2	1.04	0.99	0.97	1.08	1.66	1.46
130Kt WAF - UKC	1.09	1.32	1.25	1.49	0.25	0.4	1.46	1.35	1.31	1.65	2.17	1.82
Baltic Aframax	0.75	1.06	1.14	1.45	0.31	0.7	0.94	0.97	0.95	2.10	5.39	6.51
North Sea Aframax	0.66	0.81	0.77	0.89	0.11	0.2	0.77	0.78	0.78	1.00	1.81	1.32
Product Tankers												
LR MEG - Japan	1.64	2.86	2.40	2.02	-0.38	0.4	2.02	1.99	2.02	2.02	3.04	4.87
MR Sing - JPN	1.50	1.72	1.74	1.73	-0.02	0.2	1.68	1.70	1.72	1.76	2.01	2.77
MR Carib - US Atlantic	1.19	1.83	1.64	1.83	0.20	0.6	1.58	1.59	1.90	2.12	2.57	2.70
MR UK-US Atlantic	2.01	2.60	2.24	2.55	0.31	0.5	2.31	2.49	2.84	2.57	2.50	3.05

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	24.4	20.0	22.7	23.1	22.6	22.8	24.4	24.8	25.0	24.3	24.7	24.8	25.1	24.9	24.9
Europe	14.3	14.3	13.3	11.0	12.9	12.5	12.4	11.9	12.6	13.8	13.9	13.1	13.1	13.4	13.8	13.6	13.5
Asia Oceania	8.0	7.9	7.9	6.6	6.8	7.3	7.1	7.7	7.0	7.1	7.8	7.4	8.1	7.2	7.4	7.9	7.6
Total OECD	47.7	47.8	45.6	37.6	42.3	43.0	42.1	42.4	44.0	45.8	46.7	44.7	45.9	45.4	46.3	46.4	46.0
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	4.5	4.2	4.5	4.5	4.4
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	13.1	13.9	12.2	14.8	15.0	15.2	14.3	15.0	15.7	15.7	15.7	15.5	15.5	16.0	16.1	16.0	15.9
Other Asia	14.0	14.0	13.5	11.3	12.3	13.4	12.6	13.5	12.9	12.6	13.6	13.1	13.9	13.8	13.4	14.0	13.8
Americas	6.3	6.3	5.8	5.0	5.7	5.9	5.6	5.8	5.9	6.2	6.1	6.0	5.8	6.0	6.1	6.1	6.0
Middle East	8.7	8.7	8.4	7.6	8.6	8.3	8.2	8.3	8.5	8.9	8.4	8.5	8.4	8.6	9.0	8.5	8.6
Africa	4.2	4.3	4.1	3.5	3.7	3.9	3.8	4.1	4.0	4.0	4.1	4.0	4.1	4.1	4.0	4.2	4.1
Total Non-OECD	51.7	52.7	49.3	46.9	50.8	52.2	49.8	51.9	52.3	53.1	53.8	52.8	53.0	53.4	53.9	54.1	53.6
Total Demand¹	99.5	100.4	94.9	84.5	93.1	95.2	91.9	94.3	96.3	98.8	100.5	97.5	99.0	98.8	100.2	100.6	99.6
OECD SUPPLY																	
Americas	23.0	24.8	25.9	22.6	23.2	23.7	23.8	23.3	24.3	24.4	25.3	24.3	25.4	25.8	26.1	26.5	26.0
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	3.4	3.2	3.4	3.5	3.4
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	26.7	27.1	27.8	27.9	27.4	27.8	28.3	29.2	28.2	29.4	29.5	30.1	30.6	29.9
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	11.5	11.6	11.8	12.3
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	4.0	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	2.7	2.7	2.7	2.7
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	5.8	5.9	5.7
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	3.2	3.2	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	30.8	30.5	31.3	28.5	28.9	29.1	29.4
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	2.3	2.3	2.3	2.3	2.3
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	2.3	3.1	3.4	3.0	2.9
Total Non-OPEC Supply	63.5	65.6	66.8	61.1	61.9	62.2	63.0	61.9	63.5	64.3	65.0	63.7	65.3	63.3	64.6	64.9	64.5
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	5.2	5.2	5.2	5.2	5.2	5.3	5.4	5.5	5.5	5.4
Total OPEC	36.8	35.0	33.5	30.7	29.1	30.0	30.8	30.4	30.7	32.1	33.0	31.6					
Total Supply	100.3	100.6	100.3	91.8	91.0	92.2	93.8	92.4	94.2	96.5	98.0	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	-1.2	-1.1					
Government	-0.1	0.0	0.0	0.3	-0.1	-0.1	0.0	0.0	-0.2	-0.1	-0.3	-0.2					
Total	0.0	0.0	1.1	2.9	-0.5	-1.7	0.4	-1.3	-0.7	-1.4	-1.5	-1.2					
Floating storage/Oil in transit	0.2	0.0	0.6	0.6	-1.6	0.7	0.1	-0.6	-0.4	-0.3	1.0	-0.1					
Miscellaneous to balance ⁵	0.5	0.1	3.8	3.8	0.0	-2.0	1.4	-0.1	-1.0	-0.7	-2.0	-0.9					
Total Stock Ch. & Misc	0.8	0.1	5.4	7.3	-2.1	-3.0	1.9	-1.9	-2.1	-2.4	-2.5	-2.2					
Memo items:																	
Call on OPEC crude + Stock ch. ⁶	30.6	29.5	22.8	18.3	26.2	27.9	23.8	27.2	27.6	29.3	30.2	28.6	28.3	30.0	30.2	30.2	29.7

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	-	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.4	-0.3	-0.4	-0.1	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-0.1
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-	-
Total OECD	-	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.4	-0.4	-0.6	-0.3	-0.2
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-0.2	-0.7	-0.6	-0.6	-0.5
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-0.1
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-	-	-0.3	-0.9	-0.9	-0.8	-0.7
Total Demand	-	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	-	-1.3	-1.4	-1.0	-1.0
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	0.1	0.2	0.2	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	0.2	0.2	0.1
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-3.0	-3.0	-3.0	-2.3
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.2	0.2	0.2	0.2
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-2.9	-2.8	-2.8	-2.1
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-0.1
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-3.0	-2.8	-2.7	-2.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Supply	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-0.1	-	-	-0.4	-0.1	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-0.1	-	-	-0.4	-0.1	-	-	-	-	-
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-
Miscellaneous to balance	-	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-	-0.1	-0.1	-0.1	-	-	-	-	-
Total Stock Ch. & Misc	-	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	-0.3	-0.2	-	-	-	-	-
Memo items:																	
Call on OPEC crude + Stock ch.	-	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.3	0.2	-	1.6	1.3	1.7	1.2

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	99.5	100.4	94.9	84.5	93.1	95.2	91.9	94.3	96.3	98.8	100.5	97.5	99.0	98.8	100.2	100.6	99.6
OECD SUPPLY																	
Americas ²	20.9	22.8	23.9	20.7	21.3	21.8	21.9	21.4	22.3	22.4	23.3	22.4	23.5	23.8	24.1	24.5	24.0
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	3.4	3.2	3.4	3.5	3.4
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	26.4	27.2	26.3	27.4	27.5	28.1	28.5	27.9
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	0.3	0.3	0.3	0.3
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	4.0	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	2.0	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	5.8	5.9	5.7
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	1.9	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	1.1	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	15.1	14.8	15.0	15.1	15.1	15.4	15.4	15.3
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	2.3	2.3	2.3	2.3	2.3
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	2.3	3.1	3.4	3.0	2.9
Total Non-OPEC+	44.9	47.2	48.2	44.3	45.5	45.4	45.9	44.9	46.1	47.0	47.0	46.3	47.2	48.0	49.1	49.2	48.4
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	1.2	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	2.6	2.6	2.6	2.6
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	4.4	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	1.4	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	0.8
Russia	10.4	10.4	10.4	9.2	8.9	9.1	9.4	9.3	9.5	9.7	10.0	9.6	10.0	7.2	7.2	7.3	7.9
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	10.5	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	0.1	0.2	0.2	0.2	0.1
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	3.0	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	0.7	0.8	0.8	0.8	0.7
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	44.1	42.0	42.8	43.2	43.0
OPEC+ NGLs & Condensate	7.4	7.4	7.5	7.2	7.1	7.3	7.3	7.4	7.5	7.4	7.6	7.5	7.8	7.9	8.0	8.0	7.9
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	48.1	49.4	51.0	49.0	52.0	50.1	50.9	51.3	51.1
Total Supply Oil	100.3	100.6	100.3	91.8	91.0	92.2	93.8	92.4	94.2	96.5	98.0	95.3	99.2	98.1	100.1	100.6	99.5

Memo items:

Call on OPEC+ crude + Stock ch 47.0 45.8 39.1 33.0 40.3 42.3 38.7 41.9 42.6 44.3 45.7 43.6 43.9 42.7 43.0 43.2 43.2

¹ From Mar 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	25.53	24.40	19.98	22.70	23.13	22.56	22.82	24.38	24.83	25.00	24.26	24.72	24.77	25.06	24.92	24.87
Europe	14.31	13.33	11.02	12.87	12.51	12.43	11.91	12.64	13.85	13.88	13.08	13.14	13.41	13.84	13.62	13.50
Asia Oceania	7.93	7.86	6.60	6.75	7.35	7.14	7.67	7.04	7.11	7.82	7.41	8.08	7.20	7.38	7.87	7.63
Total OECD	47.78	45.59	37.59	42.33	42.99	42.13	42.40	44.05	45.79	46.70	44.75	45.94	45.38	46.27	46.42	46.00
Asia	27.90	25.72	26.04	27.25	28.66	26.92	28.49	28.54	28.24	29.37	28.66	29.39	29.82	29.46	30.05	29.68
Middle East	8.71	8.36	7.58	8.61	8.27	8.20	8.26	8.47	8.90	8.45	8.52	8.44	8.55	8.99	8.47	8.62
Americas	6.29	5.77	5.04	5.72	5.91	5.61	5.80	5.86	6.20	6.12	6.00	5.82	5.96	6.13	6.11	6.01
FSU	4.72	4.57	4.09	4.67	4.66	4.50	4.56	4.68	4.93	4.99	4.79	4.47	4.16	4.50	4.54	4.42
Africa	4.25	4.13	3.48	3.75	3.92	3.82	4.09	3.99	3.95	4.10	4.03	4.13	4.12	4.04	4.19	4.12
Europe	0.78	0.74	0.69	0.77	0.77	0.74	0.75	0.74	0.83	0.75	0.77	0.74	0.77	0.82	0.77	0.78
Total Non-OECD	52.66	49.29	46.91	50.76	52.18	49.79	51.94	52.28	53.06	53.78	52.77	53.01	53.38	53.95	54.14	53.62
World	100.44	94.88	84.50	93.08	95.17	91.92	94.34	96.33	98.84	100.48	97.52	98.95	98.76	100.21	100.55	99.63
of which:																
United States ¹	20.46	19.50	16.07	18.45	18.72	18.19	18.45	20.03	20.21	20.41	19.78	20.05	20.04	20.17	20.19	20.11
Europe five ²	8.20	7.62	5.93	7.11	7.03	6.92	6.68	7.08	7.67	7.82	7.32	7.50	7.47	7.65	7.67	7.57
China	13.90	12.22	14.75	14.99	15.21	14.30	14.97	15.68	15.68	15.74	15.52	15.47	16.00	16.05	16.00	15.88
Japan	3.74	3.78	2.93	3.06	3.53	3.33	3.73	3.08	3.18	3.67	3.42	3.93	3.25	3.33	3.66	3.54
India	4.99	4.92	3.89	4.25	5.10	4.54	4.99	4.45	4.48	4.93	4.71	5.07	5.07	4.74	5.17	5.01
Russia	3.57	3.52	3.08	3.58	3.50	3.42	3.49	3.59	3.79	3.76	3.66	3.47	3.10	3.41	3.40	3.35
Brazil	3.08	2.95	2.64	2.99	3.13	2.93	2.97	2.98	3.19	3.12	3.07	2.90	2.95	3.05	3.06	2.99
Saudi Arabia	3.59	3.40	3.23	3.77	3.48	3.47	3.24	3.54	3.76	3.45	3.50	3.26	3.37	3.72	3.37	3.43
Canada	2.63	2.51	2.10	2.31	2.29	2.30	2.26	2.24	2.50	2.38	2.35	2.45	2.42	2.58	2.47	2.48
Korea	2.60	2.53	2.45	2.36	2.40	2.44	2.55	2.50	2.59	2.70	2.59	2.73	2.51	2.62	2.70	2.64
Mexico	1.96	1.85	1.40	1.50	1.58	1.58	1.62	1.64	1.60	1.71	1.64	1.72	1.82	1.83	1.78	1.79
Iran	1.93	2.01	1.79	1.84	1.87	1.87	2.02	1.93	1.93	1.93	1.95	2.04	1.97	1.96	1.94	1.98
Total	70.64	66.80	60.25	66.21	67.86	65.29	66.98	68.74	70.59	71.62	69.50	70.58	69.98	71.11	71.40	70.77
% of World	70.3%	70.4%	71.3%	71.1%	71.3%	71.0%	71.0%	71.4%	71.4%	71.3%	71.3%	71.3%	70.9%	71.0%	71.0%	71.0%
Annual Change (% per annum)																
Americas	0.5	-3.4	-21.2	-12.4	-9.5	-11.7	-6.5	22.0	9.4	8.1	7.6	8.3	1.6	0.9	-0.3	2.5
Europe	0.0	-5.4	-22.8	-12.7	-11.6	-13.1	-10.6	14.7	7.6	11.0	5.2	10.3	6.1	-0.1	-1.9	3.3
Asia Oceania	-1.0	-6.0	-12.6	-12.3	-9.6	-10.0	-2.5	6.7	5.4	6.4	3.8	5.5	2.3	3.7	0.7	3.0
Total OECD	0.1	-4.5	-20.3	-12.5	-10.2	-11.8	-7.0	17.2	8.2	8.6	6.2	8.4	3.0	1.1	-0.6	2.8
Asia	2.9	-6.8	-6.9	-1.4	0.9	-3.5	10.8	9.6	3.7	2.5	6.5	3.2	4.5	4.3	2.3	3.6
Middle East	-0.1	-1.6	-11.3	-5.6	-4.8	-5.8	-1.1	11.8	3.4	2.2	3.9	2.2	1.0	1.0	0.3	1.1
Americas	0.6	-6.5	-19.8	-10.4	-6.8	-10.9	0.4	16.4	8.4	3.7	6.9	0.4	1.7	-1.1	-0.2	0.2
FSU	0.8	1.6	-11.9	-4.8	-3.8	-4.8	-0.3	14.6	5.8	6.9	6.5	-1.8	-11.2	-8.8	-8.9	-7.8
Africa	0.8	-4.2	-19.0	-9.6	-7.9	-10.2	-1.1	14.8	5.5	4.5	5.6	1.1	3.3	2.3	2.3	2.3
Europe	3.4	-1.8	-12.0	-3.6	-3.1	-5.2	1.0	7.2	7.8	-1.8	3.5	-0.2	3.3	-0.6	2.8	1.3
Total Non-OECD	1.8	-4.9	-10.7	-4.2	-2.1	-5.4	5.4	11.5	4.5	3.1	6.0	2.1	2.1	1.7	0.7	1.6
World	1.0	-4.7	-15.2	-8.1	-5.9	-8.5	-0.6	14.0	6.2	5.6	6.1	4.9	2.5	1.4	0.1	2.2
Annual Change (mb/d)																
Americas	0.12	-0.87	-5.39	-3.20	-2.44	-2.98	-1.58	4.40	2.13	1.87	1.71	1.90	0.40	0.23	-0.08	0.61
Europe	0.00	-0.76	-3.24	-1.87	-1.64	-1.88	-1.42	1.62	0.97	1.37	0.64	1.23	0.77	-0.01	-0.26	0.43
Asia Oceania	-0.08	-0.50	-0.95	-0.95	-0.78	-0.80	-0.19	0.44	0.36	0.47	0.27	0.42	0.16	0.26	0.05	0.22
Total OECD	0.05	-2.14	-9.59	-6.02	-4.86	-5.65	-3.19	6.45	3.46	3.71	2.62	3.55	1.33	0.48	-0.29	1.26
Asia	0.79	-1.86	-1.93	-0.39	0.26	-0.98	2.77	2.49	1.00	0.71	1.74	0.90	1.29	1.22	0.68	1.02
Middle East	-0.01	-0.14	-0.96	-0.51	-0.41	-0.51	-0.09	0.90	0.29	0.18	0.32	0.18	0.08	0.09	0.02	0.09
Americas	0.04	-0.40	-1.24	-0.67	-0.43	-0.68	0.02	0.82	0.48	0.22	0.39	0.02	0.10	-0.07	-0.01	0.01
FSU	0.04	0.07	-0.55	-0.24	-0.19	-0.23	-0.01	0.59	0.27	0.32	0.29	-0.08	-0.52	-0.43	-0.44	-0.37
Africa	0.03	-0.18	-0.82	-0.40	-0.34	-0.43	-0.05	0.52	0.21	0.18	0.21	0.05	0.13	0.09	0.10	0.09
Europe	0.03	-0.01	-0.09	-0.03	-0.02	-0.04	0.01	0.05	0.06	-0.01	0.03	0.00	0.02	-0.01	0.02	0.01
Total Non-OECD	0.92	-2.52	-5.59	-2.23	-1.14	-2.87	2.65	5.37	2.30	1.60	2.98	1.07	1.10	0.89	0.36	0.85
World	0.97	-4.66	-15.18	-8.25	-6.00	-8.52	-0.54	11.83	5.76	5.31	5.60	4.61	2.43	1.37	0.07	2.11
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.12	0.09	0.13	0.06	0.16	0.11	0.14	0.08	0.09	0.20	0.13	0.36	-0.25	-0.38	-0.14	-0.11
Europe	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	-0.05	-0.12	-0.12	-0.08	-0.09
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.05	-0.05	-0.06	-0.03	-0.02
Total OECD	0.12	0.09	0.13	0.06	0.16	0.11	0.14	0.08	0.09	0.24	0.14	0.36	-0.42	-0.56	-0.26	-0.22
Asia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.01	-0.10	-0.22	-0.20	-0.19	-0.18
Middle East	0.00	-0.01	-0.01	0.02	0.03	0.01	0.04	0.03	0.03	0.01	0.03	0.03	0.04	0.02	0.03	0.03
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	-0.06	-0.03	-0.04	-0.04	-0.04
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	-0.19	-0.69	-0.65	-0.55	-0.52
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.01	-0.01	-0.01	-0.01	-0.01
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.00	0.00
Total Non-OECD	-	-0.01	-0.00	0.03	0.03	0.01	0.05	0.03	0.04	-0.00	0.03	-0.33	-0.92	-0.89	-0.77	-0.73
World	0.12	0.08	0.13	0.09	0.19	0.12	0.19	0.11	0.13	0.24	0.17	0.02	-1.34	-1.44	-1.03	-0.95
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.12	-0.25	0.03	0.04	0.17	0.00	0.11	-0.02	0.04	0.06	0.05	-0.16	-1.45	-1.58	-1.27	-1.12

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.									
	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21 ²	Nov 21 Dec 20
Americas										
LPG and ethane	3.56	3.70	3.71	3.58	3.59	3.92	3.43	3.96	4.37	0.42 0.29
Naphtha	0.25	0.25	0.23	0.27	0.26	0.24	0.20	0.25	0.28	0.03 0.02
Motor gasoline	9.55	10.34	9.45	10.57	10.73	10.58	10.44	10.66	10.64	-0.02 1.24
Jet and kerosene	1.23	1.55	1.28	1.48	1.72	1.71	1.65	1.73	1.76	0.03 0.46
Gasoil/diesel oil	4.93	5.07	5.08	5.05	5.02	5.14	5.03	5.39	5.01	-0.37 0.04
Residual fuel oil	0.40	0.54	0.52	0.49	0.54	0.59	0.54	0.61	0.62	0.02 0.25
Other products	2.64	2.82	2.55	2.93	2.96	2.82	3.06	2.72	2.69	-0.03 -0.04
Total	22.56	24.26	22.82	24.38	24.83	25.00	24.33	25.32	25.37	0.06 2.25
Europe										
LPG and ethane	1.08	1.08	1.12	1.06	1.10	1.05	1.05	1.02	1.07	0.05 0.02
Naphtha	1.07	1.14	1.23	1.02	1.11	1.19	1.21	1.17	1.19	0.02 -0.03
Motor gasoline	1.75	1.92	1.57	1.92	2.19	2.01	2.05	2.01	1.98	-0.03 0.32
Jet and kerosene	0.73	0.84	0.61	0.67	1.01	1.05	1.08	1.00	1.08	0.08 0.41
Gasoil/diesel oil	5.96	6.26	5.70	6.13	6.52	6.68	6.77	6.72	6.56	-0.16 0.60
Residual fuel oil	0.68	0.70	0.69	0.69	0.73	0.71	0.69	0.71	0.73	0.02 0.06
Other products	1.15	1.13	1.00	1.14	1.19	1.19	1.27	1.23	1.06	-0.17 0.05
Total	12.43	13.08	11.91	12.64	13.85	13.88	14.11	13.86	13.67	-0.19 1.43
Asia Oceania										
LPG and ethane	0.78	0.79	0.86	0.77	0.73	0.79	0.70	0.77	0.90	0.13 0.07
Naphtha	1.82	1.99	1.97	1.86	2.02	2.09	2.01	2.06	2.20	0.14 0.36
Motor gasoline	1.35	1.36	1.32	1.37	1.36	1.40	1.33	1.37	1.49	0.12 0.02
Jet and kerosene	0.61	0.61	0.82	0.47	0.43	0.72	0.58	0.65	0.93	0.28 -0.01
Gasoil/diesel oil	1.79	1.83	1.82	1.82	1.77	1.92	1.85	1.88	2.03	0.15 0.13
Residual fuel oil	0.43	0.46	0.50	0.41	0.44	0.49	0.46	0.49	0.52	0.03 0.07
Other products	0.35	0.37	0.37	0.35	0.36	0.40	0.35	0.41	0.46	0.05 0.06
Total	7.14	7.41	7.66	7.04	7.11	7.82	7.28	7.63	8.54	0.90 0.70
OECD										
LPG and ethane	5.43	5.57	5.70	5.41	5.43	5.76	5.17	5.75	6.35	0.59 0.38
Naphtha	3.14	3.37	3.42	3.15	3.38	3.53	3.42	3.48	3.67	0.19 0.34
Motor gasoline	12.66	13.62	12.34	13.86	14.29	13.99	13.81	14.04	14.11	0.07 1.58
Jet and kerosene	2.57	2.99	2.70	2.62	3.16	3.48	3.31	3.38	3.77	0.39 0.85
Gasoil/diesel oil	12.68	13.16	12.61	13.00	13.30	13.74	13.64	13.98	13.60	-0.38 0.76
Residual fuel oil	1.50	1.70	1.71	1.59	1.71	1.79	1.69	1.81	1.88	0.07 0.39
Other products	4.14	4.32	3.92	4.42	4.52	4.41	4.68	4.36	4.21	-0.15 0.07
Total	42.13	44.75	42.40	44.05	45.79	46.70	45.72	46.81	47.58	0.77 4.38

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)

	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21 ²	Latest month vs.	
										Nov 21	Dec 20
United States³											
LPG and ethane	2.74	2.85	2.85	2.76	2.73	3.07	2.62	3.08	3.50	0.42	0.26
Naphtha	0.18	0.19	0.16	0.21	0.20	0.18	0.15	0.19	0.21	0.02	0.01
Motor gasoline	8.05	8.80	8.00	9.07	9.13	8.96	8.95	8.99	8.95	-0.04	1.09
Jet and kerosene	1.08	1.38	1.14	1.34	1.52	1.49	1.45	1.50	1.53	0.02	0.37
Gasoil/diesel oil	3.78	3.94	3.97	3.93	3.87	4.00	3.89	4.17	3.93	-0.24	0.04
Residual fuel oil	0.21	0.31	0.26	0.25	0.33	0.41	0.38	0.43	0.42	-0.02	0.22
Other products	2.13	2.32	2.05	2.47	2.43	2.30	2.45	2.23	2.23	0.01	-0.03
Total	18.19	19.78	18.45	20.03	20.21	20.41	19.89	20.59	20.76	0.17	1.96
Japan											
LPG and ethane	0.41	0.42	0.50	0.40	0.37	0.43	0.35	0.42	0.51	0.09	0.03
Naphtha	0.68	0.73	0.74	0.68	0.70	0.79	0.74	0.78	0.83	0.05	0.11
Motor gasoline	0.76	0.74	0.71	0.71	0.78	0.76	0.74	0.72	0.80	0.08	-0.02
Jet and kerosene	0.36	0.36	0.55	0.24	0.21	0.45	0.32	0.39	0.62	0.23	-0.03
Diesel	0.40	0.40	0.41	0.39	0.39	0.42	0.41	0.40	0.44	0.04	0.01
Other gasoil	0.30	0.31	0.35	0.28	0.27	0.33	0.31	0.31	0.37	0.06	0.00
Residual fuel oil	0.21	0.24	0.27	0.21	0.23	0.26	0.24	0.26	0.28	0.02	0.05
Other products	0.20	0.22	0.20	0.18	0.23	0.25	0.23	0.24	0.27	0.03	0.06
Total	3.33	3.42	3.73	3.08	3.18	3.67	3.35	3.52	4.13	0.61	0.20
Germany											
LPG and ethane	0.11	0.12	0.12	0.13	0.12	0.11	0.11	0.10	0.11	0.01	0.00
Naphtha	0.29	0.34	0.35	0.31	0.32	0.36	0.36	0.34	0.37	0.03	0.06
Motor gasoline	0.45	0.45	0.40	0.44	0.48	0.46	0.47	0.47	0.44	-0.03	0.01
Jet and kerosene	0.10	0.13	0.09	0.11	0.16	0.16	0.17	0.16	0.16	0.00	0.08
Diesel	0.71	0.71	0.60	0.71	0.77	0.75	0.78	0.78	0.70	-0.08	0.02
Other gasoil	0.36	0.28	0.22	0.26	0.26	0.36	0.38	0.35	0.35	0.00	-0.01
Residual fuel oil	0.05	0.05	0.05	0.04	0.05	0.06	0.05	0.06	0.06	0.01	0.02
Other products	0.08	0.07	0.05	0.06	0.07	0.08	0.09	0.08	0.06	-0.02	0.02
Total	2.15	2.14	1.89	2.07	2.23	2.34	2.41	2.35	2.26	-0.09	0.21
Italy											
LPG and ethane	0.09	0.10	0.11	0.09	0.09	0.11	0.10	0.10	0.14	0.04	0.02
Naphtha	0.10	0.10	0.11	0.10	0.09	0.11	0.10	0.12	0.11	0.00	-0.02
Motor gasoline	0.14	0.17	0.13	0.17	0.19	0.18	0.18	0.18	0.17	0.00	0.03
Jet and kerosene	0.04	0.04	0.02	0.04	0.07	0.05	0.05	0.05	0.04	0.00	0.01
Diesel	0.42	0.49	0.44	0.49	0.52	0.52	0.52	0.52	0.53	0.01	0.08
Other gasoil	0.06	0.06	0.05	0.06	0.07	0.06	0.07	0.05	0.06	0.01	-0.01
Residual fuel oil	0.06	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.05	-0.01	0.00
Other products	0.14	0.15	0.14	0.16	0.16	0.16	0.17	0.17	0.15	-0.02	0.02
Total	1.05	1.18	1.04	1.15	1.25	1.25	1.25	1.24	1.26	0.02	0.15
France											
LPG and ethane	0.11	0.12	0.12	0.13	0.11	0.10	0.08	0.10	0.12	0.02	0.00
Naphtha	0.12	0.14	0.15	0.12	0.13	0.15	0.16	0.15	0.15	0.00	-0.01
Motor gasoline	0.17	0.21	0.18	0.20	0.24	0.22	0.22	0.22	0.22	0.01	0.04
Jet and kerosene	0.09	0.09	0.08	0.07	0.11	0.11	0.11	0.11	0.10	-0.02	0.01
Diesel	0.67	0.73	0.68	0.72	0.78	0.76	0.78	0.76	0.73	-0.04	0.05
Other gasoil	0.14	0.13	0.17	0.09	0.11	0.15	0.15	0.14	0.17	0.04	0.02
Residual fuel oil	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.00	0.00
Other products	0.09	0.09	0.07	0.09	0.12	0.09	0.10	0.10	0.08	-0.02	0.01
Total	1.42	1.54	1.47	1.45	1.63	1.61	1.63	1.60	1.59	-0.01	0.12
United Kingdom											
LPG and ethane	0.13	0.11	0.13	0.09	0.10	0.11	0.10	0.12	0.10	-0.02	-0.02
Naphtha	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor gasoline	0.22	0.25	0.20	0.26	0.28	0.28	0.28	0.28	0.28	0.00	0.08
Jet and kerosene	0.19	0.18	0.17	0.14	0.16	0.24	0.21	0.22	0.29	0.07	0.10
Diesel	0.43	0.48	0.42	0.50	0.50	0.50	0.49	0.50	0.50	0.00	0.06
Other gasoil	0.11	0.13	0.11	0.14	0.14	0.12	0.13	0.12	0.12	-0.01	0.02
Residual fuel oil	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.00	0.00
Other products	0.10	0.11	0.09	0.11	0.11	0.11	0.10	0.11	0.11	0.00	0.01
Total	1.21	1.27	1.16	1.25	1.31	1.37	1.33	1.37	1.41	0.03	0.24
Canada											
LPG and ethane	0.47	0.49	0.51	0.49	0.50	0.47	0.46	0.49	0.47	-0.01	0.01
Naphtha	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.01	0.00
Motor gasoline	0.77	0.80	0.75	0.78	0.87	0.80	0.73	0.86	0.81	-0.05	0.04
Jet and kerosene	0.07	0.08	0.06	0.05	0.10	0.11	0.09	0.11	0.12	0.02	0.06
Diesel	0.27	0.27	0.27	0.27	0.27	0.26	0.26	0.27	0.26	-0.01	0.00
Other gasoil	0.34	0.35	0.33	0.33	0.37	0.35	0.35	0.37	0.32	-0.06	0.00
Residual fuel oil	0.03	0.03	0.03	0.03	0.02	0.03	0.01	0.03	0.04	0.01	0.01
Other products	0.32	0.31	0.28	0.27	0.35	0.34	0.42	0.32	0.28	-0.04	0.01
Total	2.30	2.35	2.26	2.24	2.50	2.38	2.34	2.47	2.34	-0.13	0.14

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	Dec 21	Jan 22	Feb 22
OPEC											
Crude Oil											
Saudi Arabia	9.21	9.12		9.57	9.90				10.01	10.10	10.23
Iran	2.00	2.42		2.47	2.48				2.50	2.52	2.56
Iraq	4.05	4.03		4.06	4.24				4.30	4.26	4.26
UAE	2.86	2.72		2.76	2.86				2.88	2.96	2.96
Kuwait	2.41	2.42		2.44	2.53				2.55	2.57	2.61
Angola	1.27	1.12		1.11	1.12				1.15	1.19	1.17
Nigeria	1.49	1.31		1.27	1.24				1.21	1.38	1.30
Libya	0.35	1.15		1.16	1.12				1.05	1.00	1.16
Algeria	0.90	0.91		0.92	0.96				0.97	0.98	0.98
Congo	0.30	0.27		0.27	0.26				0.26	0.28	0.28
Gabon	0.20	0.18		0.18	0.19				0.21	0.18	0.19
Equatorial Guinea	0.11	0.10		0.10	0.08				0.09	0.09	0.09
Venezuela	0.53	0.61		0.59	0.76				0.80	0.69	0.72
Total Crude Oil	25.69	26.36		26.90	27.74				27.98	28.20	28.51
<i>of which Neutral Zone¹</i>	<i>0.11</i>	<i>0.25</i>		<i>0.24</i>	<i>0.28</i>				<i>0.30</i>	<i>0.30</i>	<i>0.22</i>
Total NGLs²	5.11	5.22	5.43	5.24	5.24	5.33	5.43	5.47	5.24	5.29	5.33
Total OPEC³	30.80	31.58		32.14	32.98				33.22	33.49	33.84
NON-OPEC⁴											
OECD											
Americas											
United States	16.56	16.72	18.09	16.79	17.53	17.59	18.04	18.19	17.48	17.56	17.53
Mexico	1.93	1.95	2.01	1.95	1.96	1.98	1.99	2.02	1.96	1.99	1.97
Canada	5.35	5.62	5.86	5.63	5.77	5.85	5.73	5.92	5.65	5.75	5.89
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	0.89	0.89	0.88	0.88	0.90	0.89	0.89	0.88	0.89	0.91
Norway	2.01	2.04	2.05	2.05	2.06	2.07	1.86	2.09	2.13	1.97	2.12
Others	0.47	0.46	0.45	0.46	0.46	0.45	0.45	0.45	0.49	0.45	0.46
Asia Oceania											
Australia	0.52	0.51	0.53	0.54	0.54	0.54	0.53	0.52	0.54	0.54	0.54
Others	0.45	0.44	0.46	0.46	0.47	0.47	0.46	0.45	0.47	0.47	0.47
Others	0.07	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total OECD	27.92	28.21	29.89	28.31	29.21	29.39	29.51	30.08	29.14	29.16	29.42
NON-OECD											
Former USSR											
Russia	13.50	13.77	12.30	13.67	14.31	14.43	11.47	11.58	14.38	14.44	14.46
Azerbaijan	10.61	10.87	9.33	10.89	11.24	11.39	8.60	8.65	11.28	11.37	11.40
Kazakhstan	0.70	0.70	0.70	0.71	0.71	0.70	0.69	0.69	0.72	0.70	0.69
Others	1.84	1.85	1.95	1.70	1.99	1.98	1.87	1.91	2.02	2.00	2.00
Asia											
China	0.36	0.36	0.33	0.36	0.36	0.36	0.32	0.32	0.36	0.36	0.37
Malaysia	6.99	6.91	6.83	6.88	6.80	6.87	6.85	6.82	6.75	6.84	6.89
India	3.97	4.06	4.10	4.08	4.01	4.11	4.10	4.09	3.96	4.10	4.09
Indonesia	0.60	0.57	0.57	0.53	0.55	0.57	0.57	0.57	0.57	0.55	0.60
Others	0.75	0.73	0.70	0.73	0.72	0.71	0.70	0.69	0.72	0.71	0.72
Europe	0.73	0.68	0.65	0.68	0.67	0.66	0.66	0.65	0.67	0.67	0.66
Americas	0.93	0.88	0.81	0.86	0.84	0.82	0.82	0.81	0.84	0.82	0.82
Brazil	0.12	0.11	0.10	0.11	0.11	0.11	0.11	0.10	0.11	0.11	0.11
Argentina	5.32	5.30	5.67	5.42	5.18	5.44	5.54	5.82	5.04	5.47	5.40
Colombia	3.04	3.00	3.21	3.10	2.93	3.10	3.11	3.31	2.94	3.14	3.05
Ecuador	0.61	0.64	0.70	0.64	0.68	0.69	0.70	0.70	0.69	0.70	0.69
Others	0.79	0.74	0.74	0.75	0.75	0.75	0.74	0.74	0.75	0.75	0.75
Middle East											
Oman	0.48	0.48	0.48	0.49	0.40	0.48	0.48	0.48	0.24	0.46	0.49
Qatar	0.40	0.43	0.55	0.43	0.42	0.42	0.51	0.60	0.42	0.42	0.42
Others	3.01	3.09	3.22	3.10	3.13	3.16	3.23	3.24	3.15	3.16	3.13
Africa	0.96	0.98	1.07	0.98	1.01	1.05	1.07	1.08	1.02	1.04	1.05
Egypt	1.77	1.82	1.85	1.82	1.83	1.82	1.85	1.85	1.83	1.85	1.79
Others	0.28	0.29	0.30	0.29	0.29	0.29	0.31	0.30	0.30	0.28	0.30
Africa											
Egypt	1.39	1.31	1.29	1.30	1.30	1.30	1.26	1.29	1.31	1.31	1.29
Others	0.60	0.57	0.57	0.56	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Others	0.79	0.74	0.72	0.73	0.73	0.73	0.70	0.73	0.74	0.74	0.72
Total Non-OECD	30.33	30.50	29.42	30.48	30.83	31.32	28.46	28.85	30.73	31.33	31.28
Processing gains ⁵	2.11	2.25	2.29	2.34	2.32	2.29	2.29	2.29	2.37	2.29	2.29
Global biofuels	2.63	2.75	2.93	3.19	2.67	2.32	3.06	3.36	2.43	2.34	2.31
TOTAL NON-OPEC	63.00	63.71	64.52	64.31	65.03	65.32	63.31	64.58	64.68	65.13	65.29
TOTAL SUPPLY	93.80	95.28		96.46	98.01				97.90	98.62	99.13

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	Dec 21	Jan 22	Feb 22
United States											
Alaska	448	437	454	406	445	461	463	435	451	452	462
California	404	369	348	368	357	353	349	346	351	355	353
Texas	4854	4772	5257	4885	4986	5146	5244	5290	4988	5101	5182
Federal Gulf of Mexico ²	1644	1702	1880	1486	1731	1827	1903	1914	1713	1784	1833
Other US Lower 48	3934	3905	4368	3988	4102	4256	4352	4425	4063	4225	4215
NGLs ³	5175	5397	5605	5521	5738	5375	5557	5604	5733	5468	5313
Other Hydrocarbons	98	141	179	137	170	173	170	177	180	180	170
Total	16556	16723	18091	16790	17528	17591	18039	18191	17480	17564	17529
Canada											
Alberta Light/Medium/Heavy	423	436	461	438	459	463	463	460	457	450	473
Alberta Bitumen	1718	1921	2209	1940	1963	2201	2166	2283	1891	2139	2180
Saskatchewan	435	446	447	444	453	453	449	445	449	455	454
Other Crude	490	455	398	457	424	349	412	411	425	325	351
NGLs	949	1007	1030	1021	987	1039	1027	1044	1007	1036	1027
Other Upgraders	219	180	177	178	199	181	163	171	191	181	189
Synthetic Crudes	1116	1181	1142	1148	1280	1166	1052	1102	1230	1169	1217
Total	5349	5625	5864	5626	5765	5852	5732	5916	5650	5755	5891
Mexico											
Crude	1716	1780	1855	1784	1803	1820	1837	1864	1807	1828	1810
NGLs	206	167	149	162	157	153	151	148	152	156	153
Total	1926	1952	2008	1951	1964	1978	1992	2016	1963	1988	1967
UK											
Brent Fields	35	25	23	12	23	27	26	19	26	28	27
Forties Fields	297	212	217	209	245	242	208	199	240	246	241
Ninian Fields	31	24	18	23	20	20	19	18	19	20	19
Flotta Fields	51	50	40	57	44	42	38	41	39	45	41
Other Fields	575	512	523	507	480	498	528	541	481	479	507
NGLs	88	67	70	69	72	71	71	70	72	71	71
Total	1078	889	893	878	885	900	889	887	878	890	907
Norway⁵											
Ekofisk-Ula Area	132	141	131	145	141	139	131	121	137	140	138
Oseberg-Troll Area	234	212	238	207	224	235	232	237	249	228	236
Statfjord-Gullfaks Area	230	262	250	271	267	260	255	241	266	264	258
Haltenbanken Area	280	285	315	274	298	304	311	316	308	300	304
Sleipner-Frigg Area	743	822	879	800	862	873	873	866	878	875	871
Other Fields	101	70	20	96	36	37	-158	97	66	-61	90
NGLs	288	249	218	260	231	224	221	211	230	223	225
Total	2007	2041	2051	2054	2058	2072	1865	2089	2134	1969	2123
Other OECD Europe											
Denmark	71	66	65	67	67	67	66	64	72	66	68
Italy	101	100	117	103	114	117	117	117	130	114	119
Turkey	62	66	67	67	67	67	67	67	67	67	67
Other	90	98	91	99	89	94	92	90	89	94	95
NGLs	7	7	6	7	6	6	6	6	7	6	6
Non-Conventional Oils	144	121	102	117	114	102	102	102	125	102	101
Total	474	458	448	460	457	454	451	446	490	449	455
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	20	20	20
Carnarvon Basin	106	112	110	121	117	114	112	109	117	115	114
Other Crude	202	201	225	208	229	228	226	224	226	228	229
NGLs	102	99	99	108	101	100	99	98	99	101	100
Total	453	440	457	462	472	465	460	455	466	467	466
Other OECD Asia Oceania											
New Zealand	21	18	17	18	18	17	17	17	18	18	17
Japan	4	4	4	4	4	4	4	4	4	4	4
NGLs	11	11	10	11	11	10	10	10	12	10	10
Non-Conventional Oils	34	37	39	43	35	40	39	39	39	42	38
Total	71	71	69	75	68	71	70	69	71	73	69
OECD											
Crude Oil	19475	19532	21052	19512	20093	20740	20827	21284	20054	20408	20785
NGLs	6834	7010	7195	7166	7312	6987	7150	7200	7321	7079	6914
Non-Conventional Oils ⁴	1615	1665	1644	1628	1802	1666	1531	1596	1768	1678	1719
Total	27923	28206	29892	28307	29208	29393	29508	30079	29143	29165	29418

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	Dec 21	Jan 22	Feb 22
OPEC+											
Crude Oil											
Algeria	0.90	0.91	0.99	0.87	0.89	0.92	0.96	0.98	0.97	0.98	0.98
Angola	1.27	1.12	1.12	1.14	1.12	1.11	1.12	1.16	1.15	1.19	1.17
Azerbaijan	0.61	0.59	0.57	0.59	0.60	0.60	0.59	0.58	0.60	0.58	0.57
Bahrain	0.17	0.17	0.19	0.17	0.17	0.18	0.18	0.18	0.18	0.16	0.18
Brunei	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.08	0.08
Congo	0.30	0.27	0.29	0.28	0.27	0.27	0.26	0.28	0.26	0.28	0.28
Equatorial Guinea	0.11	0.10	0.11	0.11	0.11	0.10	0.08	0.10	0.09	0.09	0.09
Gabon	0.20	0.18	0.18	0.17	0.18	0.18	0.19	0.18	0.21	0.18	0.19
Iran	2.00	2.42	2.56	2.32	2.40	2.47	2.48	2.55	2.50	2.52	2.56
Iraq	4.05	4.03	4.49	3.88	3.94	4.06	4.24	4.27	4.30	4.26	4.26
Kazakhstan	1.50	1.52	1.60	1.49	1.52	1.41	1.66	1.63	1.67	1.63	1.65
Kuwait	2.41	2.42	2.72	2.34	2.35	2.44	2.53	2.61	2.55	2.57	2.61
Libya	0.35	1.15	1.16	1.15	1.15	1.16	1.12	1.10	1.05	1.00	1.16
Malaysia	0.46	0.42	0.42	0.45	0.43	0.39	0.40	0.42	0.42	0.40	0.44
Mexico	1.66	1.66	1.68	1.67	1.69	1.65	1.65	1.65	1.65	1.65	1.65
Nigeria	1.49	1.31	1.40	1.39	1.34	1.27	1.24	1.36	1.21	1.38	1.30
Oman	0.76	0.75	0.84	0.73	0.74	0.76	0.78	0.82	0.80	0.81	0.82
Russia	9.42	9.62	7.93	9.26	9.54	9.72	9.95	10.05	9.98	10.07	10.05
Saudi Arabia	9.21	9.12	10.67	8.47	8.53	9.57	9.90	10.22	10.01	10.10	10.23
South Sudan	0.16	0.15	0.15	0.14	0.16	0.16	0.15	0.15	0.15	0.15	0.14
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	2.97	2.88	2.96	2.96
Venezuela	0.53	0.61	0.74	0.55	0.55	0.59	0.76	0.72	0.80	0.69	0.72
Total Crude Oil	40.57	41.40	43.04	39.94	40.47	41.90	43.26	44.11	43.57	43.80	44.14
<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>0.30</i>	<i>0.30</i>	<i>0.22</i>
Total NGLs	7.38	7.60	8.04	7.56	7.60	7.52	7.71	7.88	7.74	7.82	7.88
TOTAL OPEC+	47.9	49.0	51.1	47.5	48.1	49.4	51.0	52.0	51.3	51.6	52.0
NON-OPEC+											
OECD											
Americas²	21.91	22.36	23.97	21.37	22.30	22.43	23.30	23.45	23.14	23.33	23.43
United States	16.56	16.72	18.09	15.68	16.88	16.79	17.53	17.59	17.48	17.56	17.53
Canada	5.35	5.62	5.86	5.69	5.42	5.63	5.77	5.85	5.65	5.75	5.89
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	3.39	3.63	3.13	3.39	3.40	3.43	3.50	3.31	3.49
UK	1.08	0.89	0.89	1.03	0.77	0.88	0.88	0.90	0.88	0.89	0.91
Norway	2.01	2.04	2.05	2.14	1.92	2.05	2.06	2.07	2.13	1.97	2.12
Others	0.47	0.46	0.45	0.47	0.45	0.46	0.46	0.45	0.49	0.45	0.46
Asia Oceania	0.52	0.51	0.53	0.51	0.46	0.54	0.54	0.54	0.54	0.54	0.54
Australia	0.45	0.44	0.46	0.44	0.39	0.46	0.47	0.47	0.47	0.47	0.47
Others	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07
Total OECD (non-OPEC+)	26.00	26.25	27.88	25.51	25.89	26.36	27.24	27.42	27.18	27.18	27.45
Non-OECD											
FSU	0.36	0.36	0.33	0.35	0.35	0.36	0.36	0.36	0.36	0.36	0.37
Asia	6.27	6.24	6.16	6.29	6.28	6.25	6.14	6.20	6.07	6.20	6.19
China	3.97	4.06	4.10	4.06	4.09	4.08	4.01	4.11	3.96	4.10	4.09
India	0.75	0.73	0.70	0.74	0.72	0.73	0.72	0.71	0.72	0.71	0.72
Indonesia	0.73	0.68	0.65	0.70	0.68	0.68	0.67	0.66	0.67	0.67	0.66
Others	0.82	0.77	0.71	0.79	0.79	0.76	0.74	0.72	0.73	0.72	0.72
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	5.30	5.67	5.27	5.31	5.42	5.18	5.44	5.04	5.47	5.40
Brazil	3.04	3.00	3.21	2.95	3.04	3.10	2.93	3.10	2.94	3.14	3.05
Argentina	0.61	0.64	0.70	0.62	0.63	0.64	0.68	0.69	0.69	0.70	0.69
Colombia	0.79	0.74	0.74	0.75	0.72	0.75	0.75	0.75	0.75	0.75	0.75
Ecuador	0.48	0.48	0.48	0.51	0.50	0.49	0.40	0.48	0.24	0.46	0.49
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	1.95	1.92	1.92	1.93	1.93	1.93	1.93	1.96	1.90
Qatar	1.77	1.82	1.85	1.82	1.82	1.82	1.83	1.82	1.83	1.85	1.79
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	1.09	1.09	1.10	1.10	1.09
Egypt	0.60	0.57	0.57	0.57	0.58	0.56	0.57	0.57	0.57	0.57	0.57
Others	0.57	0.53	0.51	0.54	0.53	0.52	0.52	0.53	0.53	0.53	0.53
Total non-OECD (non-OPEC+)	15.11	15.03	15.29	15.06	15.09	15.15	14.81	15.13	14.61	15.20	15.06
Processing gains	2.11	2.25	2.29	2.13	2.22	2.34	2.32	2.29	2.37	2.29	2.29
Global biofuels	2.63	2.75	2.93	2.19	2.94	3.19	2.67	2.32	2.43	2.34	2.31
TOTAL NON-OPEC+	45.85	46.28	48.38	44.88	46.14	47.03	47.05	47.16	46.59	47.01	47.10
TOTAL SUPPLY	93.80	95.28	99.46	92.39	94.21	96.46	98.01	99.15	97.90	98.62	99.13

¹ From Mar 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			
	Sep2021	Oct2021	Nov2021	Dec2021	Jan2022 ³	Jan2019	Jan2020	Jan2021	1Q2021	2Q2021	3Q2021	4Q2021
OECD INDUSTRY-CONTROLLED STOCKS¹												
OECD Americas												
Crude	581.8	608.5	605.1	584.6	579.8	605.6	580.2	633.1	0.25	-0.58	-0.33	0.03
Motor Gasoline	253.1	243.3	247.6	259.8	274.9	291.7	292.8	285.9	-0.08	-0.02	-0.13	0.07
Middle Distillate	203.4	202.1	196.2	195.4	193.4	215.5	216.3	237.6	-0.18	-0.01	-0.12	-0.09
Residual Fuel Oil	34.6	35.4	35.0	31.9	32.1	36.7	36.0	40.4	0.02	-0.01	-0.04	-0.03
Total Products ⁴	762.4	751.9	739.9	725.8	706.9	770.2	795.3	798.0	-0.70	0.26	-0.03	-0.40
Total⁴	1507.5	1525.2	1505.1	1464.0	1444.1	1541.0	1536.8	1601.0	-0.50	-0.29	-0.39	-0.47
OECD Europe												
Crude	306.4	312.1	313.6	302.4	290.1	337.9	351.9	358.0	-0.20	-0.12	-0.38	-0.04
Motor Gasoline	80.5	85.6	87.8	86.8	92.5	105.5	96.7	102.6	-0.10	-0.04	-0.07	0.07
Middle Distillate	272.7	252.9	255.4	242.7	247.4	256.4	298.3	336.6	-0.06	-0.07	-0.36	-0.33
Residual Fuel Oil	63.4	58.6	60.8	58.9	58.0	58.1	66.4	68.0	0.00	-0.03	-0.01	-0.05
Total Products ⁴	514.2	493.2	501.7	484.6	494.3	533.9	573.7	619.3	-0.26	-0.20	-0.44	-0.32
Total⁵	892.4	878.1	887.8	855.5	855.2	954.9	1005.1	1055.5	-0.46	-0.32	-0.88	-0.40
OECD Asia Oceania												
Crude	109.4	109.2	108.8	99.4	97.7	152.8	118.3	144.7	-0.33	0.01	-0.17	-0.11
Motor Gasoline	26.7	28.1	24.5	24.0	25.7	27.4	27.3	30.2	0.04	0.00	-0.03	-0.03
Middle Distillate	72.1	72.6	70.2	64.2	61.9	64.8	75.6	71.8	-0.03	0.02	0.07	-0.09
Residual Fuel Oil	18.7	16.4	16.0	16.9	17.3	20.3	20.0	16.0	0.02	0.00	0.02	-0.02
Total Products ⁴	184.3	185.3	175.0	162.8	167.1	171.4	184.6	177.1	-0.02	0.05	0.15	-0.23
Total⁵	355.4	355.6	344.9	323.8	322.1	386.4	367.8	381.1	-0.38	0.12	-0.02	-0.34
Total OECD												
Crude	997.6	1029.8	1027.4	986.4	967.6	1096.3	1050.4	1135.8	-0.28	-0.69	-0.88	-0.12
Motor Gasoline	360.3	356.9	360.0	370.5	393.2	424.6	416.9	418.6	-0.14	-0.06	-0.22	0.11
Middle Distillate	548.2	527.6	521.8	502.3	502.7	536.6	590.2	646.0	-0.27	-0.05	-0.41	-0.50
Residual Fuel Oil	116.6	110.4	111.8	107.7	107.3	115.2	122.3	124.3	0.03	-0.04	-0.03	-0.10
Total Products ⁴	1460.9	1430.3	1416.5	1373.2	1368.3	1475.5	1553.5	1594.4	-0.98	0.10	-0.32	-0.95
Total⁵	2755.3	2759.0	2737.8	2643.2	2621.3	2882.3	2909.7	3037.6	-1.34	-0.49	-1.29	-1.22
OECD GOVERNMENT-CONTROLLED STOCKS⁶												
OECD Americas												
Crude	617.8	610.7	601.5	593.7	588.1	649.1	635.0	638.1	0.00	-0.18	-0.04	-0.26
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	205.3	203.2	202.4	200.3	199.6	207.7	206.1	205.1	0.02	-0.02	0.00	-0.05
Products	277.7	274.7	275.2	277.0	277.7	273.0	275.1	282.4	0.03	-0.05	-0.01	-0.01
OECD Asia Oceania												
Crude	369.5	369.5	370.5	370.1	370.1	380.6	377.4	374.6	0.00	0.00	-0.05	0.01
Products	38.8	38.9	38.9	38.9	38.4	38.8	38.9	38.8	0.00	0.00	0.00	0.00
Total OECD												
Crude	1192.5	1183.4	1174.3	1164.0	1157.8	1237.4	1218.4	1217.7	0.02	-0.20	-0.10	-0.31
Products	318.5	315.6	316.1	317.9	318.0	313.7	316.0	323.3	0.03	-0.05	-0.01	-0.01
Total⁵	1512.7	1500.7	1492.4	1483.8	1477.5	1554.3	1536.2	1542.9	0.05	-0.24	-0.12	-0.31

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)

	August			September			October			November			December		
	2020	2021	%	2020	2021	%	2020	2021	%	2020	2021	%	2020	2021	%
United States²															
Crude	504.4	421.7	-16.4	497.7	420.4	-15.5	493.9	436.6	-11.6	500.8	434.0	-13.3	485.5	421.4	-13.2
Motor Gasoline	237.5	225.7	-5.0	227.6	227.0	-0.3	227.6	216.7	-4.8	241.2	220.6	-8.5	243.4	232.2	-4.6
Middle Distillate	222.2	182.4	-17.9	215.0	176.3	-18.0	196.4	175.5	-10.6	197.5	171.0	-13.4	202.5	168.0	-17.0
Residual Fuel Oil	34.4	29.4	-14.5	32.1	28.0	-12.8	31.2	28.4	-9.0	31.1	27.6	-11.3	30.2	25.4	-15.9
Other Products	291.1	246.9	-15.2	306.1	251.1	-18.0	292.7	250.8	-14.3	273.2	239.3	-12.4	241.9	217.2	-10.2
Total Products	785.2	684.4	-12.8	780.8	682.4	-12.6	747.9	671.4	-10.2	743.0	658.5	-11.4	718.0	642.8	-10.5
Other ³	147.9	135.1	-8.7	144.7	137.9	-4.7	144.4	139.4	-3.5	144.9	136.1	-6.1	139.9	129.6	-7.4
Total	1437.5	1241.2	-13.7	1423.2	1240.7	-12.8	1386.2	1247.4	-10.0	1388.7	1228.6	-11.5	1343.4	1193.8	-11.1
Japan															
Crude	94.2	73.9	-21.5	90.2	70.8	-21.5	89.7	72.8	-18.8	79.6	78.1	-1.9	79.8	72.9	-8.6
Motor Gasoline	12.1	9.9	-18.2	12.2	10.2	-16.4	12.1	11.6	-4.1	12.5	10.4	-16.8	12.5	10.4	-16.8
Middle Distillate	37.1	34.4	-7.3	37.7	36.2	-4.0	38.3	36.6	-4.4	38.6	36.9	-4.4	34.6	33.0	-4.6
Residual Fuel Oil	7.2	7.3	1.4	6.9	7.4	7.2	6.9	6.9	0.0	7.0	6.5	-7.1	6.6	7.3	10.6
Other Products	38.4	36.3	-5.5	38.5	37.7	-2.1	36.0	39.1	8.6	35.5	36.4	2.5	32.3	33.0	2.2
Total Products	94.8	87.9	-7.3	95.3	91.5	-4.0	93.3	94.2	1.0	93.6	90.2	-3.6	86.0	83.7	-2.7
Other ³	56.1	52.9	-5.7	54.4	51.4	-5.5	52.5	49.9	-5.0	52.4	50.9	-2.9	49.9	51.3	2.8
Total	245.1	214.7	-12.4	239.9	213.7	-10.9	235.5	216.9	-7.9	225.6	219.2	-2.8	215.7	207.9	-3.6
Germany															
Crude	50.2	47.8	-4.8	49.6	45.5	-8.3	48.8	46.5	-4.7	50.1	47.0	-6.2	51.9	46.3	-10.8
Motor Gasoline	10.0	9.5	-5.0	9.3	9.6	3.2	10.2	10.6	3.9	11.7	10.6	-9.4	10.9	10.7	-1.8
Middle Distillate	27.6	25.1	-9.1	22.3	21.8	-2.2	21.7	21.2	-2.3	24.3	22.4	-7.8	23.3	21.8	-6.4
Residual Fuel Oil	8.3	8.1	-2.4	7.9	8.1	2.5	7.1	8.1	14.1	7.2	8.5	18.1	6.6	8.4	27.3
Other Products	9.6	10.6	10.4	9.7	10.4	7.2	9.7	10.8	11.3	9.1	10.5	15.4	9.3	10.7	15.1
Total Products	55.5	53.3	-4.0	49.2	49.9	1.4	48.7	50.7	4.1	52.3	52.0	-0.6	50.1	51.6	3.0
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	105.7	101.1	-4.4	98.8	95.4	-3.4	97.5	97.2	-0.3	102.4	99.0	-3.3	102.0	97.9	-4.0
Italy															
Crude	40.8	32.9	-19.4	40.0	33.6	-16.0	40.4	31.8	-21.3	36.7	36.1	-1.6	40.1	33.0	-17.7
Motor Gasoline	11.4	9.3	-18.4	11.5	9.6	-16.5	11.8	11.7	-0.8	12.8	11.3	-11.7	11.9	10.0	-16.0
Middle Distillate	31.3	26.6	-15.0	30.1	26.6	-11.6	29.2	25.1	-14.0	29.3	23.8	-18.8	26.9	23.7	-11.9
Residual Fuel Oil	8.4	7.5	-10.7	7.9	7.0	-11.4	7.9	7.1	-10.1	7.6	7.5	-1.3	7.9	7.1	-10.1
Other Products	19.0	11.5	-39.5	19.9	11.0	-44.7	19.4	11.1	-42.8	19.9	10.9	-45.2	19.3	10.0	-48.2
Total Products	70.1	54.9	-21.7	69.4	54.2	-21.9	68.3	55.0	-19.5	69.6	53.5	-23.1	66.0	50.8	-23.0
Other ³	17.6	14.3	-18.8	17.3	14.8	-14.5	16.1	15.4	-4.3	17.0	14.5	-14.7	16.6	13.1	-21.1
Total	128.5	102.1	-20.5	126.7	102.6	-19.0	124.8	102.2	-18.1	123.3	104.1	-15.6	122.7	96.9	-21.0
France															
Crude	11.6	13.4	15.5	13.9	12.2	-12.2	9.4	12.6	34.0	13.3	11.9	-10.5	12.4	8.8	-29.0
Motor Gasoline	5.0	4.2	-16.0	4.9	4.0	-18.4	5.4	4.0	-25.9	6.1	4.1	-32.8	4.8	4.5	-6.3
Middle Distillate	25.9	21.3	-17.8	24.7	19.5	-21.1	24.4	17.0	-30.3	24.1	18.0	-25.3	21.5	18.6	-13.5
Residual Fuel Oil	1.5	1.7	13.3	1.6	2.0	25.0	1.5	1.6	6.7	1.7	1.7	0.0	2.3	0.9	-60.9
Other Products	4.1	3.1	-24.4	3.9	3.2	-17.9	4.1	3.3	-19.5	4.3	3.4	-20.9	3.4	3.4	0.0
Total Products	36.5	30.3	-17.0	35.1	28.7	-18.2	35.4	25.9	-26.8	36.2	27.2	-24.9	32.0	27.4	-14.4
Other ³	9.1	7.0	-23.1	8.2	7.0	-14.6	8.2	7.0	-14.6	7.6	6.5	-14.5	6.5	6.9	6.2
Total	57.2	50.7	-11.4	57.2	47.9	-16.3	53.0	45.5	-14.2	57.1	45.6	-20.1	50.9	43.1	-15.3
United Kingdom															
Crude	28.4	24.0	-15.5	27.7	24.9	-10.1	27.8	24.8	-10.8	26.1	23.4	-10.3	27.9	26.2	-6.1
Motor Gasoline	9.3	9.3	0.0	9.9	8.7	-12.1	10.4	9.5	-8.7	10.7	9.8	-8.4	11.3	10.1	-10.6
Middle Distillate	32.0	23.7	-25.9	30.6	21.4	-30.1	32.5	21.3	-34.5	30.6	22.1	-27.8	30.7	21.0	-31.6
Residual Fuel Oil	1.8	1.2	-33.3	1.2	1.3	8.3	1.1	1.3	18.2	1.1	1.6	45.5	1.2	1.3	8.3
Other Products	7.3	6.9	-5.5	6.5	7.1	9.2	6.6	6.5	-1.5	6.5	6.1	-6.2	6.9	6.1	-11.6
Total Products	50.4	41.1	-18.5	48.2	38.5	-20.1	50.6	38.6	-23.7	48.9	39.6	-19.0	50.1	38.5	-23.2
Other ³	7.3	8.2	12.3	7.8	8.2	5.1	8.5	9.0	5.9	8.7	9.1	4.6	7.4	8.1	9.5
Total	86.1	73.3	-14.9	83.7	71.6	-14.5	86.9	72.4	-16.7	83.7	72.1	-13.9	85.4	72.8	-14.8
Canada⁴															
Crude	122.2	132.2	8.2	122.2	127.5	4.3	118.4	137.9	16.5	122.2	137.5	12.5	124.4	128.5	3.3
Motor Gasoline	15.3	14.1	-7.8	16.0	14.6	-8.8	16.6	15.1	-9.0	17.5	16.1	-8.0	17.3	16.0	-7.5
Middle Distillate	17.9	20.1	12.3	16.8	17.5	4.2	18.0	16.7	-7.2	18.2	17.6	-3.3	19.6	18.3	-6.6
Residual Fuel Oil	2.8	2.1	-25.0	3.0	2.5	-16.7	2.7	2.7	0.0	2.6	2.2	-15.4	2.3	2.1	-8.7
Other Products	11.3	12.7	12.4	10.9	11.0	0.9	11.0	10.7	-2.7	11.2	12.0	7.1	10.8	11.8	9.3
Total Products	47.3	49.0	3.6	46.7	45.6	-2.4	48.3	45.2	-6.4	49.5	47.9	-3.2	50.0	48.2	-3.6
Other ³	30.5	26.7	-12.5	30.0	25.3	-15.7	30.3	25.3	-16.5	29.4	23.8	-19.0	27.3	23.7	-13.2
Total	200.0	207.9	4.0	198.9	198.4	-0.3	197.0	208.4	5.8	201.1	209.2	4.0	201.7	200.4	-0.6

1 Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrapment 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 days³)

	End December 2020		End March 2021		End June 2021		End September 2021		End December 2021 ³	
	Stock Level	Days Fwd ² Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand
OECD Americas										
Canada	201.8	89	198.3	89	201.6	81	198.3	83	200.5	-
Chile	11.0	33	9.7	30	11.7	31	10.4	29	10.8	-
Mexico	36.3	26	38.1	27	36.4	26	36.0	24	36.7	-
United States ⁴	1983.4	108	1941.5	97	1894.8	94	1860.5	91	1789.5	-
Total⁴	2254.7	100	2209.7	91	2166.6	88	2127.3	86	2059.6	83
OECD Asia Oceania										
Australia	40.2	39	43.5	40	39.8	40	41.1	38	37.8	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	532.4	143	506.5	164	528.6	166	525.1	143	519.5	-
Korea	213.3	84	201.5	81	194.9	75	189.3	70	168.8	-
New Zealand	8.0	51	8.3	57	7.6	56	8.3	54	6.8	-
Total	793.8	104	759.7	108	770.9	108	763.7	98	732.9	91
OECD Europe⁵										
Austria	23.6	113	23.6	97	23.0	84	21.1	83	20.9	-
Belgium	51.7	82	51.2	82	51.0	83	47.1	70	43.0	-
Czech Republic	23.8	134	23.1	108	21.8	93	21.7	97	22.5	-
Denmark	32.3	256	31.7	229	28.1	189	25.3	171	23.8	-
Estonia	3.7	150	2.9	107	2.9	99	2.7	102	2.5	-
Finland	38.5	235	39.1	230	39.5	209	37.3	191	36.2	-
France	158.4	107	162.1	112	163.0	100	157.3	98	151.6	-
Germany	278.2	147	278.0	134	275.7	123	270.4	116	268.9	-
Greece	35.0	153	34.4	144	30.5	100	26.4	92	28.4	-
Hungary	26.8	172	25.8	147	25.6	135	25.9	139	27.0	-
Ireland	11.9	94	11.7	87	12.0	83	10.6	66	10.8	-
Italy	135.8	130	126.8	110	128.9	103	118.0	94	112.5	-
Latvia	3.2	101	3.0	82	3.0	70	2.7	75	2.6	-
Lithuania	7.9	146	7.8	116	8.5	113	9.1	131	8.2	-
Luxembourg	0.6	13	0.6	13	0.8	14	0.5	9	0.6	-
Netherlands	156.6	195	158.1	196	147.2	181	125.8	160	109.5	-
Norway	30.1	114	28.2	146	23.6	99	20.2	89	21.4	-
Poland	81.6	131	82.7	126	80.0	103	78.1	103	80.6	-
Portugal	22.4	123	20.7	98	19.9	90	19.0	83	19.5	-
Slovak Republic	12.7	170	12.3	144	12.3	136	12.2	138	12.2	-
Slovenia	5.3	126	5.3	117	5.3	104	4.9	99	5.2	-
Spain	123.1	110	121.7	106	118.1	95	111.6	89	104.9	-
Sweden	62.7	219	48.8	162	45.2	144	38.3	123	30.1	-
Switzerland	34.0	206	33.7	192	32.9	178	33.4	156	31.5	-
Turkey	85.4	107	84.4	91	85.1	74	85.6	82	87.4	-
United Kingdom	85.5	74	76.9	61	76.2	58	71.6	52	72.7	-
Total	1531.0	129	1494.9	118	1460.3	106	1377.0	99	1334.5	102
Total OECD	4579.4	109	4464.3	102	4397.7	97	4268.0	92	4127.0	90
DAYS OF IEA Net Imports⁶ -	245	-	241	-	167	-	160	-	156	-

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 December 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
4Q2018	4425	1552	2873	93	33	60
1Q2019	4430	1557	2874	94	33	61
2Q2019	4483	1549	2934	93	32	61
3Q2019	4488	1544	2944	94	32	62
4Q2019	4429	1535	2894	98	34	64
1Q2020	4519	1537	2982	121	41	80
2Q2020	4779	1561	3217	113	37	76
3Q2020	4733	1551	3182	111	36	74
4Q2020	4579	1541	3038	109	37	72
1Q2021	4464	1546	2919	102	35	67
2Q2021	4398	1524	2874	97	33	63
3Q2021	4268	1513	2755	92	33	59
4Q2021	4127	1484	2643	90	32	58

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 4Q2021 (where latest forecasts are used).

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

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	change
Saudi Light & Extra Light												
Americas	0.20	0.26	0.34	0.18	0.31	0.45	0.43	0.36	0.49	0.45	0.02	0.44
Europe	0.68	0.59	0.48	0.43	0.40	0.55	0.55	0.59	0.52	0.53	0.50	0.03
Asia Oceania	1.42	1.39	1.30	1.41	1.12	1.18	1.48	1.25	1.41	1.77	1.57	0.20
Saudi Medium												
Americas	0.12	0.14	0.01	0.06	-	-	-	-	-	-	-	-
Europe	0.02	0.02	0.01	0.01	-	0.02	-	-	-	-	0.00	-
Asia Oceania	0.23	0.25	0.21	0.22	0.17	0.19	0.26	0.26	0.25	0.27	0.27	-0.01
Canada Heavy												
Americas	2.27	2.39	2.57	2.62	2.43	2.47	2.77	2.65	2.94	2.73	2.47	0.26
Europe	0.04	0.03	0.03	0.04	0.03	0.04	0.03	0.02	0.02	0.04	0.06	-0.02
Asia Oceania	0.00	0.00	0.02	0.01	0.04	0.01	0.00	-	0.01	-	-	-
Iraqi Basrah Light ²												
Americas	0.31	0.11	0.08	0.06	0.05	0.04	0.17	0.13	0.11	0.26	0.08	0.19
Europe	0.85	0.58	0.62	0.56	0.63	0.60	0.68	0.75	0.79	0.49	0.38	0.11
Asia Oceania	0.37	0.22	0.17	0.15	0.17	0.16	0.19	0.13	0.26	0.19	0.34	-0.15
Kuwait Blend												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.11	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.61	0.55	0.48	0.47	0.45	0.47	0.52	0.54	0.53	0.50	0.47	0.04
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.00	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.00	-	-	-	-	-	-	-	-	-	-	-
Iranian Heavy ³												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.04	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.14	-	-	-	-	-	-	-	-	-	-	-
BFOE												
Americas	0.00	-	0.00	-	0.00	0.01	-	-	-	-	-	-
Europe	0.37	0.42	0.36	0.39	0.28	0.36	0.40	0.36	0.38	0.46	0.54	-0.08
Asia Oceania	0.01	0.03	0.05	0.08	0.07	-	0.05	0.10	0.00	0.06	0.03	0.04
Kazakhstan												
Americas	-	-	0.01	-	0.03	-	-	-	-	-	-	-
Europe	0.76	0.74	0.70	0.73	0.73	0.68	0.66	0.61	0.62	0.75	0.69	0.06
Asia Oceania	0.18	0.07	0.09	0.07	0.10	0.10	0.10	0.10	0.07	0.14	0.07	0.07
Venezuelan 22 API and heavier												
Americas	0.05	-	-	-	-	-	-	-	-	-	-	-
Europe	0.09	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.51	0.48	0.40	0.36	0.45	0.45	0.32	0.30	0.38	0.30	0.39	-0.09
Europe	0.19	0.16	0.14	0.15	0.15	0.13	0.12	0.10	0.13	0.13	0.20	-0.07
Asia Oceania	0.13	0.12	0.14	0.15	0.12	0.14	0.13	0.15	0.14	0.10	0.18	-0.09
Russian Urals												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	1.37	1.12	1.05	0.97	0.99	1.08	1.14	1.22	1.24	0.97	1.03	-0.06
Asia Oceania	-	-	0.01	0.01	-	0.03	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.01	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.15	0.12	0.03	0.02	0.04	0.03	0.04	0.09	-	0.03	0.06	-0.03
Pacific	0.00	-	-	-	-	-	-	-	-	-	-	-
Nigerian Light ⁴												
Americas	0.03	-	0.02	-	0.06	0.03	-	-	-	-	-	-
Europe	0.51	0.49	0.41	0.41	0.30	0.40	0.52	0.60	0.49	0.48	0.50	-0.03
Asia Oceania	0.02	0.02	0.01	0.00	0.01	-	0.01	0.02	-	-	0.01	-
Libya Light and Medium												
Americas	0.00	-	0.02	-	0.03	0.06	-	-	-	-	-	-
Europe	0.67	0.19	0.79	0.75	0.79	0.87	0.76	0.76	0.78	0.74	0.87	-0.13
Asia Oceania	0.03	0.01	0.02	0.01	0.02	0.01	0.03	0.01	0.03	0.03	-	-

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	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	% change
Crude Oil												
Americas	3759	2726	1896	1695	2109	2367	2127	2066	2143	2173	1540	41%
Europe	9814	9872	8349	7780	8382	8748	9115	9351	9243	8755	8054	9%
Asia Oceania	6697	6542	5603	5336	5459	5431	5883	5810	5929	5912	6027	-2%
Total OECD	20269	19139	15848	14812	15951	16546	17125	17227	17315	16841	15621	8%
LPG												
Americas	22	26	28	21	16	22	25	20	24	31	37	-18%
Europe	457	434	422	394	421	378	423	336	405	526	414	27%
Asia Oceania	553	582	559	642	555	528	528	516	482	584	515	13%
Total OECD	1032	1042	1009	1057	992	927	975	873	910	1140	966	18%
Naphtha												
Americas	8	5	7	7	7	11	8	4	6	14	3	396%
Europe	391	347	409	526	514	445	563	588	564	538	456	18%
Asia Oceania	1021	993	1005	1087	1076	1229	1201	1168	1151	1284	1001	28%
Total OECD	1420	1345	1422	1620	1597	1685	1773	1760	1721	1836	1460	26%
Gasoline³												
Americas	773	822	577	597	1074	973	565	635	535	524	581	-10%
Europe	110	112	109	102	159	75	99	68	39	187	135	39%
Asia Oceania	113	114	126	155	196	135	139	143	110	163	116	40%
Total OECD	996	1048	812	854	1429	1183	803	846	685	874	832	5%
Jet & Kerosene												
Americas	140	174	159	108	166	207	175	226	137	161	127	27%
Europe	509	520	337	281	291	349	416	382	395	470	250	88%
Asia Oceania	89	76	63	100	71	43	85	46	116	95	89	7%
Total OECD	738	770	559	489	528	600	676	654	648	726	466	56%
Gasoil/Diesel												
Americas	124	118	134	266	149	154	222	267	274	126	355	-65%
Europe	1339	1300	1192	1099	1172	1170	1264	1278	1433	1087	1177	-8%
Asia Oceania	253	262	328	336	353	345	386	355	442	362	292	24%
Total OECD	1716	1680	1655	1701	1674	1668	1872	1900	2149	1575	1823	-14%
Heavy Fuel Oil												
Americas	161	116	143	116	96	91	104	129	66	115	56	106%
Europe	197	223	295	368	315	435	384	216	480	461	151	205%
Asia Oceania	162	101	88	109	116	121	129	101	138	146	71	107%
Total OECD	520	440	526	594	527	648	617	446	684	722	277	160%
Other Products												
Americas	679	716	591	505	698	607	510	536	506	486	406	20%
Europe	1011	865	574	515	512	583	681	742	755	548	497	10%
Asia Oceania	263	268	241	246	260	267	267	281	253	267	185	44%
Total OECD	1952	1849	1406	1267	1470	1456	1458	1558	1515	1302	1089	20%
Total Products												
Americas	1908	1978	1639	1620	2205	2064	1607	1816	1548	1457	1565	-7%
Europe	4013	3800	3339	3286	3384	3435	3830	3611	4071	3817	3079	24%
Asia Oceania	2454	2397	2410	2674	2627	2668	2735	2611	2692	2902	2270	28%
Total OECD	8374	8175	7388	7580	8217	8167	8173	8038	8311	8175	6914	18%
Total Oil												
Americas	5666	4703	3535	3315	4315	4431	3735	3882	3690	3630	3105	17%
Europe	13827	13672	11688	11066	11766	12183	12945	12962	13314	12572	11133	13%
Asia Oceania	9151	8939	8014	8011	8087	8100	8619	8420	8621	8815	8297	6%
Total OECD	28644	27314	23236	22392	24167	24713	25299	25265	25626	25016	22535	11%

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	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	% change
Crude Oil												
Americas	3606	2576	1835	1613	2006	2275	2026	1942	2081	2058	1458	41%
Europe	9088	8913	7115	6643	7109	7455	7815	8168	7832	7446	6700	11%
Asia Oceania	6249	5914	5076	4710	4840	4785	5320	5158	5299	5503	5653	-3%
Total OECD	18943	17403	14027	12966	13956	14515	15161	15267	15211	15007	13811	9%
LPG												
Americas	15	23	22	19	16	22	25	20	24	31	20	50%
Europe	350	303	252	244	229	245	249	229	248	271	243	12%
Asia Oceania	158	74	57	58	60	35	33	33	20	44	37	18%
Total OECD	523	400	331	321	304	302	306	282	291	346	300	15%
Naphtha												
Americas	4	2	1	4	2	5	5	2	3	11	1	875%
Europe	360	320	390	427	452	337	485	486	441	526	436	21%
Asia Oceania	924	898	835	870	948	1012	1075	1027	1020	1177	871	35%
Total OECD	1288	1220	1226	1301	1402	1354	1565	1514	1464	1714	1308	31%
Gasoline³												
Americas	271	308	195	174	330	312	174	211	149	163	169	-4%
Europe	105	108	104	98	152	70	90	65	21	182	129	41%
Asia Oceania	90	88	109	144	189	135	139	143	110	163	116	40%
Total OECD	466	504	408	417	671	518	403	418	281	507	415	22%
Jet & Kerosene												
Americas	56	41	55	31	63	65	93	108	54	115	52	119%
Europe	445	464	297	248	273	309	367	347	327	425	235	81%
Asia Oceania	89	76	63	100	71	43	85	46	116	95	89	7%
Total OECD	590	581	415	378	406	418	545	501	496	636	377	68%
Gasoil/Diesel												
Americas	100	86	103	203	94	94	146	161	190	88	267	-67%
Europe	1160	1126	1062	1027	1095	1067	1189	1200	1364	1008	1122	-10%
Asia Oceania	253	261	324	336	353	345	386	355	442	362	292	24%
Total OECD	1513	1473	1489	1566	1541	1506	1721	1716	1996	1458	1681	-13%
Heavy Fuel Oil												
Americas	147	102	110	105	84	78	77	95	34	100	27	269%
Europe	185	202	279	340	281	417	360	170	460	452	140	224%
Asia Oceania	162	100	88	109	116	121	129	101	138	146	71	107%
Total OECD	493	404	477	554	481	615	565	366	633	698	237	194%
Other Products												
Americas	522	543	513	469	631	556	463	507	444	437	380	15%
Europe	702	629	352	358	337	396	512	554	578	407	360	13%
Asia Oceania	182	184	164	176	198	178	176	195	180	154	125	24%
Total OECD	1406	1356	1029	1003	1166	1131	1151	1256	1202	997	865	15%
Total Products												
Americas	1115	1106	1000	1005	1219	1131	983	1104	897	944	918	3%
Europe	3307	3152	2735	2742	2817	2842	3251	3050	3439	3271	2666	23%
Asia Oceania	1857	1681	1640	1793	1934	1871	2023	1900	2027	2142	1601	34%
Total OECD	6279	5939	5375	5540	5971	5844	6257	6054	6363	6356	5184	23%
Total Oil												
Americas	4721	3682	2835	2618	3225	3406	3009	3046	2978	3002	2376	26%
Europe	12395	12064	9850	9385	9927	10297	11066	11218	11271	10716	9366	14%
Asia Oceania	8106	7595	6716	6503	6775	6656	7343	7058	7325	7645	7254	5%
Total OECD	25223	23342	19401	18506	19926	20359	21418	21321	21574	21364	18995	12%

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	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	% change
Crude Oil												
Americas	153	149	60	83	104	92	101	125	62	115	82	39%
Europe	726	959	1234	1137	1272	1293	1300	1183	1412	1309	1354	-3%
Asia Oceania	448	628	527	627	619	646	563	652	630	409	374	9%
Total OECD	1326	1736	1821	1846	1995	2031	1964	1960	2103	1834	1810	1%
LPG												
Americas	7	3	6	3	0	0	0	0	0	0	17	-100%
Europe	107	131	171	150	193	132	174	108	157	255	171	49%
Asia Oceania	395	508	501	584	495	493	495	483	462	540	478	13%
Total OECD	508	642	678	737	688	625	669	591	619	795	666	19%
Naphtha												
Americas	4	3	6	3	4	6	2	1	3	3	2	67%
Europe	31	27	20	99	62	108	79	103	123	11	20	-42%
Asia Oceania	97	96	170	217	128	216	126	141	130	107	130	-17%
Total OECD	132	125	196	319	195	330	207	245	256	122	152	-20%
Gasoline³												
Americas	502	514	382	423	744	661	391	424	386	362	412	-12%
Europe	5	4	5	3	7	5	9	3	18	5	5	-3%
Asia Oceania	23	26	18	11	8	0	0	0	0	0	0	-14%
Total OECD	530	544	404	437	759	665	399	428	404	367	417	-12%
Jet & Kerosene												
Americas	84	133	103	77	103	142	83	118	84	46	75	-38%
Europe	64	56	40	33	19	40	49	35	68	45	14	210%
Asia Oceania	0	0	0	0	0	0	0	0	0	0	0	na
Total OECD	148	190	144	110	122	182	132	153	152	91	89	2%
Gasoi/Diesel												
Americas	25	32	31	63	55	60	76	105	84	38	87	-57%
Europe	178	174	131	72	77	103	75	78	68	79	55	45%
Asia Oceania	0	1	4	0	0	0	0	0	0	0	0	na
Total OECD	203	207	166	135	132	163	151	184	152	117	142	-18%
Heavy Fuel Oil												
Americas	15	14	33	11	12	13	27	34	32	15	29	-47%
Europe	12	21	16	29	34	19	25	46	19	9	11	-22%
Asia Oceania	0	1	0	0	0	0	0	0	0	0	0	na
Total OECD	27	36	49	39	46	32	52	80	51	24	40	-40%
Other Products												
Americas	157	173	78	37	67	51	47	29	62	50	26	93%
Europe	308	236	222	157	175	187	169	188	178	142	137	3%
Asia Oceania	81	83	77	70	62	88	91	86	73	113	61	86%
Total OECD	546	493	377	263	304	326	306	302	313	304	223	36%
Total Products												
Americas	793	872	639	615	986	933	625	712	651	513	647	-21%
Europe	706	649	604	543	566	593	579	561	632	546	414	32%
Asia Oceania	597	716	770	881	693	797	712	710	665	760	669	14%
Total OECD	2095	2236	2013	2040	2246	2323	1916	1984	1948	1819	1729	5%
Total Oil												
Americas	945	1021	699	698	1090	1025	726	837	712	628	729	-14%
Europe	1432	1608	1838	1681	1839	1886	1879	1745	2043	1855	1767	5%
Asia Oceania	1044	1343	1297	1508	1312	1444	1276	1363	1295	1169	1043	12%
Total OECD	3421	3972	3835	3886	4241	4354	3881	3944	4051	3652	3539	3%

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	change
OECD Americas												
Venezuela	81	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	868	745	719	648	689	809	731	674	756	762	865	-103
North Sea	148	59	92	83	93	92	101	125	62	115	82	32
Other OECD Europe	2	1	3	-	11	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	192	91	229	128	295	307	185	213	209	132	62	70
Saudi Arabia	621	588	427	331	370	483	520	386	605	571	133	439
Kuwait	45	21	21	7	20	36	20	23	25	12	-	-
Iran	-	-	3	12	-	-	-	-	-	-	-	-
Iraq	331	177	152	115	172	128	192	185	165	223	89	134
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	3	5	17	-	-	44	22	33	-	32	-	-
Other Middle East	-	-	-	-	-	-	-	-	-	-	-	-
West Africa ²	267	145	228	206	272	255	180	177	184	178	153	25
Other Africa	137	45	161	149	172	167	157	217	104	148	125	23
Asia	32	17	25	17	16	46	22	32	33	-	-	-
Other	0	3	-	-	-	-	-	-	-	-	31	-
Total	2726	1896	2077	1695	2109	2367	2127	2066	2143	2173	1540	633
of which Non-OECD	2576	1835	1982	1613	2006	2275	2026	1942	2081	2058	1458	601
OECD Europe												
Canada	60	95	83	108	81	89	55	44	76	45	152	-107
Mexico + USA	900	1139	1168	1029	1191	1204	1245	1139	1335	1265	1202	63
Venezuela	106	44	-	-	-	-	-	-	-	-	-	-
Other Central & South America	118	208	219	143	272	263	194	122	160	301	247	54
Non-OECD Europe	14	25	23	23	19	28	23	24	22	23	27	-4
Former Soviet Union	4240	3506	3525	3306	3466	3526	3797	3799	3923	3674	3100	574
Saudi Arabia	792	756	521	517	484	587	494	614	444	423	550	-128
Kuwait	97	48	0	-	-	0	0	0	-	0	85	-85
Iran	74	6	1	-	-	6	-	-	-	-	-	-
Iraq	1124	814	895	783	916	927	951	1099	1110	650	615	35
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2	-	-	-	-	-	-	-	-	-	-	-
Other Middle East	3	8	9	6	12	12	6	18	-	-	-	-
West Africa ²	1140	1074	821	780	719	842	942	1001	951	873	817	57
Other Africa	1180	596	1185	1071	1204	1228	1233	1470	1223	1007	1245	-239
Asia	-	0	0	-	-	0	-	-	-	-	-	-
Other	13	11	38	-	-	-	151	16	-	431	1	430
Total	9863	8330	8488	7767	8364	8712	9092	9346	9245	8690	8041	649
of which Non-OECD	8913	7115	7259	6643	7109	7455	7815	8168	7832	7446	6700	746
OECD Asia Oceania												
Canada	5	1	16	17	38	5	3	-	10	-	-	-
Mexico + USA	613	477	500	493	491	554	463	497	585	311	348	-37
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	48	91	110	107	145	93	97	60	105	126	121	4
North Sea	10	49	98	116	90	87	97	156	35	98	26	73
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	435	300	335	328	372	265	376	435	333	360	304	56
Saudi Arabia	1878	1867	1766	1868	1574	1601	2020	1729	1937	2392	2128	264
Kuwait	666	584	506	482	484	493	563	570	571	549	507	42
Iran	137	-	-	-	-	-	-	-	-	-	-	-
Iraq	364	224	167	151	165	160	192	126	263	189	342	-153
Oman	59	22	32	15	43	49	22	49	-	16	-	-
United Arab Emirates	1256	1096	1083	908	1094	1143	1184	1039	1260	1256	1094	161
Other Middle East	449	387	362	396	383	371	301	313	252	335	406	-70
West Africa ²	56	65	80	46	119	77	79	112	79	45	67	-22
Other Africa	90	42	50	59	35	68	39	33	22	61	23	37
Non-OECD Asia	220	161	170	193	161	174	153	181	136	141	208	-67
Other	255	234	248	155	264	285	288	504	335	26	442	-416
Total	6542	5602	5524	5336	5455	5424	5877	5803	5923	5906	6017	-111
of which Non-OECD	5914	5076	4915	4710	4840	4785	5320	5158	5299	5503	5653	-150
Total OECD Trade	19131	15827	16089	14799	15929	16503	17096	17215	17310	16769	15599	1171
of which Non-OECD	17403	14027	14156	12966	13956	14515	15161	15267	15211	15007	13811	1196

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	change
OECD Americas												
Venezuela	4	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	83	40	41	10	67	37	51	72	28	52	29	23
ARA (Belgium Germany Netherlands)	190	149	193	127	312	240	93	88	78	113	178	-65
Other Europe	296	213	326	274	380	380	268	285	297	223	213	10
FSU	100	69	96	100	112	105	69	73	93	42	104	-62
Saudi Arabia	7	6	24	4	50	41	-	-	-	-	-	-
Algeria	-	4	1	4	-	-	-	-	-	-	-	-
Other Middle East & Africa	14	13	13	23	12	15	4	-	11	-	3	-
Singapore	5	1	4	4	3	8	3	9	1	-	-	-
OECD Asia Oceania	28	21	37	21	52	43	30	52	11	26	22	4
Non-OECD Asia (excl. Singapore)	116	72	81	47	99	116	60	73	38	68	45	23
Other	0	-	0	0	-	-	-	-	-	-	-	-
Total²	843	589	817	614	1088	986	577	650	557	524	594	-70
of which Non-OECD	308	195	248	174	330	312	174	211	149	163	169	-7
OECD Europe												
OECD Americas	3	3	5	2	5	3	8	3	17	5	4	1
Venezuela	0	0	2	1	1	5	-	-	-	-	-	-
Other Central & South America	3	4	7	8	2	11	5	14	3	-	3	-
Non-OECD Europe	18	16	10	9	16	10	6	2	6	9	15	-6
FSU	62	44	21	25	16	32	13	11	18	11	89	-78
Saudi Arabia	0	8	3	-	-	13	0	0	-	-	-	-
Algeria	0	1	-	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	8	3	5	8	6	3	2	4	2	1	6	-6
Singapore	3	2	0	-	-	0	0	0	0	0	-	-
OECD Asia Oceania	1	1	1	1	2	1	1	0	1	0	1	-1
Non-OECD Asia (excl. Singapore)	0	0	3	3	2	2	3	4	3	3	2	1
Other	21	37	65	57	117	15	70	37	6	165	27	139
Total²	121	120	122	113	168	97	109	76	55	194	146	48
of which Non-OECD	108	104	102	98	152	70	90	65	21	182	129	52
OECD Asia Oceania												
OECD Americas	6	4	1	2	0	0	0	0	0	0	0	0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	14	4	4	9	7	0	0	-	0	0	-	-
Other Europe	5	10	-	-	-	-	-	-	-	-	-	-
FSU	0	2	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	-	1	-	-	-	-	-	-	-	-	-	-
Singapore	46	51	100	86	98	97	119	124	90	144	43	101
Non-OECD Asia (excl. Singapore)	21	37	29	39	58	19	0	0	1	-	54	-
Other	21	19	23	20	33	19	19	19	20	19	19	0
Total²	114	128	156	155	196	135	139	143	110	163	116	47
of which Non-OECD	88	109	152	144	189	135	139	143	110	163	116	47
Total OECD Trade²	1078	837	1095	883	1451	1218	825	870	722	881	857	24
of which Non-OECD	504	408	502	417	671	518	403	418	281	507	415	92

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier Dec 20	change
OECD Americas												
Venezuela	1	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	38	34	28	40	30	24	20	16	34	9	36	-28
ARA (Belgium Germany Netherlands)	5	11	34	51	31	30	22	45	21	-	45	-
Other Europe	2	4	5	2	9	1	10	8	22	0	3	-3
FSU	6	12	25	35	21	10	33	38	50	11	22	-11
Saudi Arabia	3	8	15	23	9	11	18	34	8	12	46	-34
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	2	9	25	48	8	18	26	25	26	26	37	-11
Singapore	0	-	2	-	2	8	-	-	-	-	-	-
OECD Asia Oceania	24	16	25	10	15	29	44	53	41	38	39	-2
Non-OECD Asia (excl. Singapore)	30	34	27	48	16	12	31	24	46	24	87	-63
Other	7	6	12	8	8	11	18	23	26	6	39	-32
Total²	118	134	197	266	149	154	222	267	274	126	355	-229
of which Non-OECD	86	103	134	203	94	94	146	161	190	88	267	-179
OECD Europe												
OECD Americas	138	99	40	34	38	55	32	25	21	50	26	24
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	0	3	1	-	1	1	3	1	0	9	1	8
Non-OECD Europe	41	30	29	28	30	27	32	34	28	33	31	1
FSU	685	661	644	721	717	571	569	514	649	546	725	-180
Saudi Arabia	205	193	134	131	114	142	150	156	176	119	212	-94
Algeria	0	2	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	83	71	153	65	129	198	219	211	228	220	65	155
Singapore	27	17	18	10	18	24	21	20	16	27	3	24
OECD Asia Oceania	36	32	42	38	39	48	43	53	48	29	29	1
Non-OECD Asia (excl. Singapore)	152	101	125	72	108	122	195	173	320	96	93	3
Other	10	15	22	23	7	6	53	123	16	18	24	-5
Total²	1378	1224	1209	1122	1201	1195	1317	1311	1501	1146	1209	-63
of which Non-OECD	1126	1062	1095	1027	1095	1067	1189	1200	1364	1008	1122	-115
OECD Asia Oceania												
OECD Americas	1	4	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	0	0	-	0	0	0	0	0	0	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	4	2	1	1	1	2	1	3	-	-	2	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	7	13	4	13	-	-	3	-	7	1	-	-
Singapore	111	91	110	82	92	153	115	104	133	110	92	18
Non-OECD Asia (excl. Singapore)	133	208	230	229	249	182	262	243	297	246	190	56
Other	5	10	9	11	11	9	5	5	5	5	8	-2
Total²	262	328	355	336	353	345	386	355	442	362	292	71
of which Non-OECD	261	324	355	336	353	345	386	355	442	362	292	71
Total OECD Trade²	1758	1687	1761	1723	1703	1693	1925	1932	2218	1634	1855	-221
of which Non-OECD	1473	1489	1583	1566	1541	1506	1721	1716	1996	1458	1681	-223

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier Dec 20	change
OECD Americas												
Venezuela	0	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	7	5	1	3	-	-	-	-	-	-	5	-
ARA (Belgium Germany Netherlands)	-	-	5	4	0	14	-	-	-	-	-	-
Other Europe	0	4	6	6	5	6	7	20	-	-	-	-
FSU	-	0	4	-	0	0	16	9	11	28	-	-
Saudi Arabia	2	6	6	-	4	4	17	29	-	20	32	-12
Algeria	-	1	4	9	0	3	5	5	2	8	-	-
Other Middle East and Africa	10	11	18	6	31	14	22	28	4	33	4	29
Singapore	3	4	2	-	2	5	-	-	-	-	-	-
OECD Asia Oceania	133	100	91	67	98	122	76	98	84	46	75	-29
Non-OECD Asia (excl. Singapore)	16	23	27	13	25	34	33	37	36	26	12	14
Other	3	4	1	-	-	4	-	-	-	-	-	-
Total²	174	159	164	108	166	207	175	226	137	161	127	34
of which Non-OECD	41	55	63	31	63	65	93	108	54	115	52	63
OECD Europe												
OECD Americas	20	13	3	1	2	1	9	8	15	4	0	4
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	1	0	0	-	-	-	1	1	2	-	-	-
Non-OECD Europe	2	0	0	-	-	-	0	0	-	-	-	-
FSU	45	22	29	34	25	33	24	25	16	31	24	7
Saudi Arabia	105	40	27	36	39	11	21	-	30	34	17	17
Algeria	11	9	5	6	8	6	-	-	-	-	-	-
Other Middle East and Africa	199	155	154	137	136	180	165	168	151	177	119	58
Singapore	29	10	11	3	4	23	15	19	20	6	-	-
OECD Asia Oceania	36	27	32	32	17	39	40	27	53	41	14	26
Non-OECD Asia (excl. Singapore)	73	50	62	17	59	59	113	116	114	109	101	9
Other	2	10	11	12	2	1	30	21	-4	71	-25	96
Total²	523	337	336	278	292	352	419	385	398	472	250	223
of which Non-OECD	464	297	299	248	273	309	367	347	327	425	235	190
OECD Asia Oceania												
OECD Americas	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	-	-	1	3	-	-	-	-	-	-	-	-
Singapore	21	14	16	6	18	20	19	24	16	17	10	7
Non-OECD Asia (excl. Singapore)	29	28	34	55	37	15	30	5	57	29	40	-11
Other	26	21	24	36	17	8	37	18	43	49	40	9
Total²	76	63	75	100	71	43	85	46	116	95	89	6
of which Non-OECD	76	63	75	100	71	43	85	46	116	95	89	6
Total OECD Trade²	773	559	575	486	529	602	679	657	651	729	466	262
of which Non-OECD	581	415	437	378	406	418	545	501	496	636	377	258

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Oct 21	Nov 21	Dec 21	Year Earlier	
											Dec 20	change
OECD Americas												
Venezuela	7	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	50	52	34	29	25	39	44	58	12	61	25	36
ARA (Belgium Germany Netherlands)	6	12	6	3	2	9	9	10	1	15	15	0
Other Europe	8	21	10	8	10	4	18	24	31	-	14	-
FSU	30	44	34	62	36	19	18	29	14	12	2	10
Saudi Arabia	2	2	0	-	0	-	2	-	5	-	-	-
Algeria	8	2	7	8	4	3	13	6	4	27	-	-
Other Middle East and Africa	5	10	8	6	11	15	0	1	-	0	-	-
Singapore	1	1	0	-	-	2	-	-	-	-	-	-
OECD Asia Oceania	-	-	0	-	-	1	-	-	-	-	-	-
Non-OECD Asia (excl. Singapore)	0	-	2	-	8	0	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total²	117	145	102	116	96	91	104	129	66	115	56	59
of which Non-OECD	102	110	86	105	84	78	77	95	34	100	27	73
OECD Europe												
OECD Americas	7	12	24	28	32	14	20	39	12	9	4	5
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	5	6	4	5	1	10	1	1	-	2	4	-2
Non-OECD Europe	21	13	12	12	13	12	11	9	7	15	18	-3
FSU	154	149	260	272	154	321	293	238	409	237	114	123
Saudi Arabia	-	2	-	-	-	-	-	-	-	-	-	-
Algeria	0	2	2	3	-	2	3	8	-	-	-	-
Other Middle East and Africa	19	13	14	14	10	18	13	5	9	24	13	11
Singapore	1	3	3	2	7	2	2	7	-	0	7	-7
OECD Asia Oceania	14	4	3	0	2	5	5	7	7	-	8	-
Non-OECD Asia (excl. Singapore)	3	-	-	-	-	-	-	-	-	-	-	-
Other	8	93	62	48	94	54	51	-93	68	177	-19	197
Total²	232	295	383	384	313	439	398	220	512	464	147	317
of which Non-OECD	202	279	350	340	281	417	360	170	460	452	140	312
OECD Asia Oceania												
OECD Americas	1	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	1	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	6	5	0	1	-	-	-	-	-	-	-	-
Saudi Arabia	1	1	13	-	14	13	25	24	22	28	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	27	38	30	32	27	31	30	-	49	43	22	20
Singapore	25	18	29	27	44	22	23	29	27	13	3	10
Non-OECD Asia (excl. Singapore)	40	26	47	49	30	56	51	48	40	64	44	19
Other	1	-	-	-	-	-	-	-	-	-	-	-
Total²	101	88	119	109	116	121	129	101	138	146	71	76
of which Non-OECD	100	88	119	109	116	121	129	101	138	146	71	76
Total OECD Trade²	450	528	604	609	524	651	630	450	717	726	273	452
of which Non-OECD	404	477	554	554	481	615	565	366	633	698	237	461

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)

	2019	2020	2021	1Q21	2Q21	3Q21	4Q21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22
CRUDE OIL PRICES													
IEA CIF Average Import¹													
IEA Americas	56.93	37.31	64.76	53.66	63.76	67.32	73.18	67.72	75.59	75.61	68.34		
IEA Europe	64.25	42.91	69.96	60.10	67.23	72.11	78.43	72.53	80.48	80.33	74.41		
IEA Asia Oceania	66.38	46.28	70.41	57.82	67.63	74.07	80.92	74.12	78.50	82.51	81.65		
IEA Total	62.75	42.19	68.55	57.60	66.29	71.18	77.57	71.46	78.61	79.52	74.61		
FOB Spot													
North Sea Dated	64.12	41.76	70.82	61.07	68.84	73.42	79.67	74.40	83.54	81.37	74.01	87.10	98.01
Brent (Asia) Mth 1	64.86	44.86	71.49	61.55	69.50	74.09	80.47	75.70	84.27	82.58	74.82	86.18	97.89
WTI (Cushing) Mth 1	57.03	39.25	68.10	58.13	66.19	70.54	77.33	71.56	81.36	79.18	71.53	83.13	91.74
Urals (Mediterranean)	64.31	41.93	69.47	60.41	67.48	71.32	78.39	72.65	81.93	80.08	73.07	86.76	94.94
Dubai (1st month)	63.49	42.36	69.35	60.20	67.01	71.60	78.23	72.57	81.46	80.21	73.25	83.34	92.48
Tapis (Dated)	69.43	43.28	72.80	62.30	69.81	75.30	83.38	76.30	86.39	85.09	78.88	91.73	104.62
PRODUCT PRICES													
Rotterdam, Barges FOB													
Premium Unl 10 ppm	71.35	44.65	80.25	65.71	78.57	85.64	90.71	86.31	95.92	93.21	82.88	94.85	106.55
Naphtha	56.27	39.64	71.14	60.82	66.69	74.61	82.00	76.04	85.37	82.33	78.27	86.87	96.44
Jet/Kerosene	79.24	44.79	76.50	64.04	72.52	78.87	90.15	82.07	94.81	90.46	85.18	100.65	109.98
ULSD 10ppm	79.45	49.32	78.52	66.15	74.64	80.81	92.06	84.35	96.92	92.83	86.38	101.18	112.77
Gasoil 0.1 %	77.73	48.10	77.12	65.02	73.43	79.41	90.20	82.90	95.22	90.67	84.69	99.18	110.26
LSFO 1%	62.21	42.78	70.18	62.77	66.88	72.12	78.63	74.86	82.72	78.61	74.57	83.98	91.90
HSFO 3.5%	50.31	34.43	62.07	55.34	60.08	63.95	68.68	66.05	74.26	67.40	64.43	75.42	81.00
Mediterranean, FOB Cargoes													
Premium Unl 10 ppm	71.31	45.59	80.69	66.81	77.94	86.49	91.08	87.66	96.59	91.68	84.94	96.68	108.01
Naphtha	54.43	37.81	69.60	59.29	65.19	73.44	80.04	74.92	83.83	80.76	75.50	84.89	93.90
Jet Aviation Fuel	77.76	43.28	75.26	62.77	71.22	77.96	88.66	81.21	93.58	89.29	83.07	99.21	108.03
ULSD 10ppm	79.05	48.76	78.00	65.71	74.07	80.64	91.16	84.05	96.44	91.96	85.03	99.81	110.31
Gasoil 0.1 %	77.70	47.60	76.89	64.76	72.94	79.60	89.87	82.81	95.03	90.64	83.90	99.18	109.08
LSFO 1%	63.90	44.06	71.27	63.60	67.84	73.10	80.24	75.89	84.08	80.30	76.33	86.30	93.09
HSFO 3.5%	52.17	34.36	60.50	53.60	58.23	62.69	67.23	65.26	73.08	66.01	62.67	73.78	78.87
US Gulf, FOB Pipeline													
Super Unleaded	79.24	50.64	91.17	76.13	90.78	97.57	99.76	97.33	105.98	100.72	92.61	104.58	116.46
Unleaded	72.28	46.02	86.46	72.92	85.70	91.72	95.12	91.63	101.08	95.45	88.83	100.62	112.28
Jet/Kerosene	78.81	46.20	77.91	65.77	73.74	79.86	92.09	84.05	96.22	92.43	87.63	102.12	112.50
ULSD 10 ppm	79.09	50.17	84.69	71.63	82.05	87.33	97.51	90.38	103.07	97.70	91.78	106.71	118.06
No. 6 3% ²	52.57	34.63	59.90	51.93	57.77	62.33	67.41	65.20	72.89	66.25	63.04	74.91	80.13
Singapore, FOB Cargoes													
Premium Unleaded	72.55	46.65	80.49	67.39	76.86	83.45	93.71	84.06	98.48	95.01	87.92	98.04	110.72
Naphtha	57.15	40.77	70.99	61.09	66.41	73.93	82.09	75.15	84.45	84.21	77.82	84.56	95.75
Jet/Kerosene	77.26	44.83	75.26	63.47	71.52	77.10	88.47	79.88	93.09	89.09	83.47	95.78	106.17
Gasoil 0.05%	77.23	48.43	76.12	64.93	72.28	77.16	89.64	79.66	93.38	90.84	84.94	97.84	109.91
HSFO 180 CST	58.62	39.32	64.53	56.74	61.28	68.34	71.42	73.48	77.52	71.15	65.86	76.17	82.63
HSFO 380 CST 4%	57.57	38.25	63.22	56.09	60.20	66.13	70.14	70.30	76.02	69.87	64.79	74.15	81.08

¹ IEA CIF Average Import price for December 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

Copyright © 2022 Argus Media Ltd - All rights reserved

Table 14
MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS

February 2022

NATIONAL CURRENCY *							US DOLLARS						
Total	% change from			Ex-Tax	% change from		Total	% change from			Ex-Tax	% change from	
Price	Jan-22	Feb-21		Price	Jan-22	Feb-21	Price	Jan-22	Feb-21		Price	Jan-22	Feb-21
GASOLINE ¹ (per litre)													
France	1.788	5.3	24.0	0.799	10.4	56.4	2.028	5.5	16.3		0.906	10.6	46.6
Germany	1.817	3.9	26.9	0.873	7.2	59.3	2.061	4.2	19.0		0.990	7.5	49.4
Italy	1.843	4.9	23.1	0.783	10.0	56.9	2.091	5.1	15.5		0.888	10.2	47.2
Spain	1.584	5.2	27.1	0.836	8.3	50.1	1.797	5.4	19.2		0.948	8.5	40.8
United Kingdom	1.476	1.7	22.8	0.650	3.3	54.0	1.998	1.6	19.9		0.880	3.2	50.4
Japan	171.5	2.0	21.7	99.3	3.2	38.9	1.489	1.8	11.4		0.862	3.0	27.1
Canada	1.607	7.5	34.5	1.108	9.9	46.9	1.264	6.7	34.3		0.871	9.1	46.7
United States	0.929	6.1	40.5	0.799	7.1	49.9	0.929	6.1	40.5		0.799	7.1	49.9
AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)													
France	1.708	5.8	28.0	0.814	10.6	61.8	1.938	6.0	20.1		0.923	10.8	51.8
Germany	1.681	4.0	33.1	0.943	6.2	59.6	1.907	4.2	24.8		1.070	6.4	49.6
Italy	1.715	5.6	25.3	0.789	10.5	56.2	1.946	5.8	17.5		0.895	10.7	46.5
Spain	1.471	6.4	30.4	0.837	9.6	51.4	1.669	6.6	22.3		0.950	9.8	42.0
United Kingdom	1.517	1.8	21.7	0.684	3.3	49.0	2.054	1.7	18.8		0.926	3.2	45.5
Japan	151.3	2.2	24.7	105.6	2.9	34.9	1.314	2.0	14.1		0.917	2.7	23.4
Canada	1.631	6.4	40.5	1.178	8.1	52.4	1.283	5.6	40.3		0.926	7.2	52.2
United States	1.065	8.2	41.6	0.915	9.7	51.7	1.065	8.2	41.6		0.915	9.7	51.7
DOMESTIC HEATING OIL (per litre)													
France	1.185	8.9	45.1	0.831	10.8	58.5	1.344	9.1	36.1		0.943	11.0	48.6
Germany	1.005	7.2	52.6	0.783	7.8	59.2	1.140	7.4	43.2		0.888	8.0	49.3
Italy	1.522	5.7	27.5	0.844	8.7	46.8	1.727	5.9	19.6		0.958	8.9	37.7
Spain	0.968	10.5	52.6	0.704	12.1	64.6	1.099	10.7	43.2		0.798	12.4	54.3
United Kingdom	0.780	8.1	49.6	0.632	9.6	64.0	1.056	7.9	46.1		0.855	9.5	60.1
Japan ²	111.8	2.8	34.9	98.8	2.8	36.3	0.971	2.5	23.5		0.858	2.6	24.7
Canada	1.532	6.3	44.4	1.347	7.1	43.6	1.205	5.4	44.2		1.059	6.3	43.4
United States	-	-	-	-	-	-	-	-	-		-	-	-
LOW SULPHUR FUEL OIL FOR INDUSTRY ³ (per kg)													
France	0.752	8.5	37.6	0.613	10.6	50.4	0.853	8.7	29.0		0.695	10.9	41.1
Germany	-	-	-	-	-	-	-	-	-		-	-	-
Italy	0.691	8.7	48.0	0.660	9.2	51.5	0.784	9.0	38.8		0.749	9.4	42.1
Spain	0.554	8.9	17.5	0.537	9.2	18.2	0.628	9.1	10.2		0.609	9.5	10.8
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
 (\$/bb)

	Monthly Average					Change	Average for week ending:				
	Nov 21	Dec 21	Jan 22	Feb 22		Feb-Jan	11 Feb	18 Feb	25 Feb	04 Mar	11 Mar
NW Europe											
Brent (Cracking)	5.01	5.11	4.29	3.28	↓	-1.01	3.87	2.90	2.37	4.79	15.71
Urals (Cracking)	4.67	5.14	4.14	7.04	↑	2.91	5.74	5.81	9.04	23.87	41.51
Brent (Hydroskimming)	1.64	2.89	1.29	-0.37	↓	-1.65	0.16	-0.62	-1.58	-0.13	10.05
Urals (Hydroskimming)	-1.42	0.53	-0.84	0.76	↑	1.61	-0.54	-0.37	2.47	15.18	31.42
Mediterranean											
Es Sider (Cracking)	4.84	6.52	5.66	4.21	↓	-1.45	4.38	3.54	3.63	8.48	21.01
Urals (Cracking)	3.91	5.31	4.21	5.16	↑	0.95	3.84	3.21	7.17	23.52	41.43
Es Sider (Hydroskimming)	2.44	4.58	2.95	0.79	↓	-2.16	0.91	0.25	0.03	3.26	13.99
Urals (Hydroskimming)	-2.41	-0.31	-2.05	-2.40	↓	-0.36	-3.61	-4.19	-0.69	12.16	26.85
US Gulf Coast											
Mars (Cracking)	6.63	6.04	7.84	8.11	↑	0.27	10.16	6.28	6.27	6.80	11.05
50/50 HLS/LLS (Coking)	14.87	14.18	15.17	17.29	↑	2.12	18.71	16.24	15.84	22.22	25.38
50/50 Maya/Mars (Coking)	9.73	10.70	11.43	12.33	↑	0.91	14.04	11.16	10.40	14.27	16.74
ASCI (Coking)	12.46	11.21	13.01	14.73	↑	1.72	16.51	13.35	13.27	16.86	20.53
US Midwest											
30/70 WCS/Bakken (Cracking)	10.59	10.65	8.21	9.14	↑	0.93	8.90	7.21	10.00	10.52	14.66
Bakken (Cracking)	10.98	11.45	9.29	11.05	↑	1.76	10.36	9.04	12.62	14.69	17.45
WTI (Coking)	11.14	11.87	10.74	11.89	↑	1.15	12.00	8.52	13.59	16.05	19.65
30/70 WCS/Bakken (Coking)	13.84	13.59	10.49	12.22	↑	1.73	11.63	10.23	13.53	15.59	19.27
Singapore											
Dubai (Hydroskimming)	-2.74	-1.12	-1.31	-1.47	↓	-0.16	-1.04	-0.82	-2.67	-2.24	2.95
Tapis (Hydroskimming)	-1.74	-1.79	-4.28	-7.16	↓	-2.88	-7.00	-6.59	-7.92	-10.34	-1.58
Dubai (Hydrocracking)	3.53	4.38	4.65	5.64	↑	0.98	6.06	6.34	4.47	6.59	13.90
Tapis (Hydrocracking)	2.83	3.13	0.85	-1.13	↓	-1.98	-0.99	-0.51	-1.85	-3.03	7.04

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

	Oct-21	Nov-21	Dec-21	Dec-20	Dec 21 vs Previous Month	Dec 21 vs Previous Year	Dec 21 vs 5 Year Average	5 Year Average
OECD Americas								
Naphtha	1.1	1.2	1.1	1.4	-0.1	-0.3	-0.4	1.5
Motor gasoline	46.9	47.4	48.1	46.3	0.7	1.8	0.7	47.4
Jet/kerosene	7.5	7.8	8.1	6.9	0.3	1.2	-0.7	8.8
Gasoil/diesel oil	28.5	28.3	28.1	30.0	-0.2	-1.9	-0.9	29.0
Residual fuel oil	3.0	3.1	2.6	2.8	-0.5	-0.2	-0.4	3.0
Petroleum coke	4.1	4.1	4.3	4.2	0.2	0.0	-0.3	4.5
Other products	12.6	11.5	11.1	11.6	-0.4	-0.5	0.9	10.2
OECD Europe								
Naphtha	8.7	8.2	8.5	9.3	0.3	-0.8	0.0	8.5
Motor gasoline	21.7	21.8	21.3	20.7	-0.5	0.6	0.2	21.1
Jet/kerosene	6.3	6.5	6.5	5.1	0.0	1.4	-1.2	7.7
Gasoil/diesel oil	40.5	41.4	41.3	42.6	-0.1	-1.4	0.4	40.9
Residual fuel oil	8.1	8.2	8.7	7.9	0.5	0.9	-0.5	9.2
Petroleum coke	1.4	1.5	1.6	1.6	0.1	0.0	0.1	1.4
Other products	15.8	15.2	15.0	15.2	-0.2	-0.2	1.3	13.7
OECD Asia Oceania								
Naphtha	16.6	16.0	15.9	15.8	0.0	0.1	0.3	15.6
Motor gasoline	22.6	23.4	22.9	22.5	-0.5	0.4	1.0	21.9
Jet/kerosene	12.3	12.9	13.4	13.5	0.5	0.0	-1.8	15.2
Gasoil/diesel oil	30.7	30.4	30.2	30.5	-0.2	-0.4	0.8	29.4
Residual fuel oil	8.0	8.2	8.3	7.2	0.2	1.1	1.3	7.0
Petroleum coke	0.4	0.5	0.5	0.4	0.0	0.1	0.1	0.4
Other products	12.4	12.4	12.2	12.2	-0.2	0.0	0.4	11.9
OECD Total								
Naphtha	6.3	6.0	6.1	6.6	0.1	-0.6	-0.3	6.3
Motor gasoline	34.5	35.0	35.2	33.7	0.2	1.5	1.0	34.3
Jet/kerosene	7.9	8.2	8.6	7.6	0.3	1.0	-1.1	9.6
Gasoil/diesel oil	32.8	32.9	32.6	34.1	-0.3	-1.5	-0.3	32.9
Residual fuel oil	5.6	5.6	5.5	5.2	-0.1	0.3	-0.2	5.7
Petroleum coke	2.6	2.7	2.7	2.7	0.1	0.1	0.0	2.8
Other products	13.6	12.9	12.5	12.9	-0.3	-0.3	0.9	11.6

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	Dec 21	Jan 22	Feb 22
ETHANOL									
OECD Americas¹	1063	934	1010	1021	993	1092	1098	1016	1016
United States	1029	906	979	991	963	1061	1068	980	980
Other	34	28	30	30	30	30			
OECD Europe²	97	93	103	103	118	110	105	105	105
France	21	17	18	15	25	22	22	20	20
Germany	12	11	12	13	15	15	12	14	14
Spain	9	8	10	10	10	10	10	10	10
United Kingdom	5	4	9	9	9	9	9	9	9
Other	50	52	54	56	59	54			
OECD Asia Oceania³	4	4	4	4	3	4	4	4	4
Australia	4	4	4	4	3	4	4	4	4
Other	0	0	0	0	0	0			
Total OECD Ethanol	1165	1031	1117	1128	1114	1206	1207	1125	1125
Total Non-OECD Ethanol	809	735	703	872	1130	515	306	328	293
Brazil	621	560	515	683	942	327	118	116	82
China	67	69	76	76	76	76			
Argentina	19	15	18	18	18	18			
Other	102	91	94	94	94	94	188	212	212
TOTAL ETHANOL	1974	1766	1820	2000	2244	1721	1513	1453	1418
BIODIESEL									
OECD Americas¹	151	159	165	162	163	185	176	238	238
United States	145	153	157	154	156	178	169	229	229
Other	7	6	7	7	7	7			
OECD Europe²	295	281	313	322	328	314	292	325	325
France	43	41	43	42	48	43	36	47	47
Germany	69	61	66	65	74	66	59	66	66
Italy	18	28	30	31	31	31			
Spain	42	30	39	40	40	38	37	40	40
Other	123	121	136	145	136	136	133	140	140
OECD Asia Oceania³	15	12	12	17	15	8	9	12	12
Australia	0	0	0	0	0	0	0	0	0
Other	15	12	12	17	15	8			
Total OECD Biodiesel	461	452	490	501	506	507	477	574	574
Total Non-OECD Biodiesel	405	411	439	439	439	439	439	464	464
Brazil	102	111	116	118	117	114	107	105	105
Argentina*	42	27	36	36	36	36			
Other	261	274	287	286	287	289			
TOTAL BIODIESEL	866	863	929	940	945	947	917	1038	1038
GLOBAL BIOFUELS	2839	2629	2749	2940	3190	2668	2430	2490	2456

* monthly data not available.

Source: IEA 2022. All Rights Reserved

Without prejudice to the terms and conditions on the IEA website at www.iea.org/t&c/termsandconditions/ (the Terms), which also apply to this Oil Market Report (OMR) and its related publications, the Executive Director and the Secretariat of the IEA are responsible for the publication of the OMR. Although some of the data are supplied by IEA Member-country governments, largely on the basis of information they in turn receive from oil companies, neither these governments nor these oil companies necessarily share the Secretariat's views or conclusions as expressed in the OMR. The OMR is prepared for general circulation and is distributed for general information only. Neither the information nor any opinion expressed in the OMR constitutes an offer, or an invitation to make an offer, to buy or sell any securities or any options, futures or other derivatives related to such securities.

As set out in the Terms, the IEA owns the copyright in this OMR. However, in relation to the edition of OMR made available to Subscribers (as defined in the Terms), all Argus information is sourced as Copyright © 2022 Argus Media Limited and is published here with the permission of Argus. The spot crude and product price assessments are based on daily Argus prices, converted when appropriate to USD per barrel according to the Argus specification of products. Argus Media Limited reserves all rights in relation to all Argus information. Any reproduction of Argus information requires the express prior written permission of Argus. Argus shall not be liable to any party for any inaccuracy, error or omission contained or provided in Argus information contained in this OMR or for any loss, or damage, whether or not due to reliance placed by that party on information in this OMR.

Oil Market Team

Editor	Toril Bosoni +33 (0)1 40 57 67 18 Toril.Bosoni@iea.org	Data Management	Luis Fernando Rosa +33 (0)1 40 57 65 56 LuisFernando.Rosa@iea.org
Demand	Christophe Barret +33 (0)1 40 57 65 16 Christophe.Barret@iea.org		Dionysia Lyngopoulou +33 (0)1 40 57 66 92 Dionysia.Lyngopoulou@iea.org
	Ciarán Healy +33 (0)1 40 57 67 58 Ciaran.Healy@iea.org		
OPEC Supply	Peg Mackey +33 (0)1 40 57 65 81 Peg.Mackey@iea.org		
Non-OPEC Supply	Jacob Messing +33 (0)1 40 57 66 98 Jacob.Messing@iea.org		
Refining	Kristine Petrosyan +33 (0)1 40 57 66 05 Kristine.Petrosyan@iea.org	OIM Assistant	Deven Moonesawmy +33 (0)1 40 57 65 03 Deven.Moonesawmy@iea.org
Stocks	Yuya Akizuki +33 (0)1 40 57 67 30 Yuya.Akizuki@iea.org	Data Enquiries to Oil Market Report:	OilMarketReport@iea.org
Prices	Joel R. Couse +33 (0)1 40 57 67 22 Joel.Couse@iea.org	Subscription & Delivery Enquiries	+33 (0)1 40 57 66 90 OMRSubscriptions@iea.org
Analyst	Jenny Thomson +33 (0)1 40 57 67 11 Jenny.Thomson@iea.org	Media Enquiries/IEA Press Office	+33 (0)1 40 57 66 94 ieapressoffice@iea.org

Next Issue: 13 April 2022

For information on the data sources, definitions, technical terms and general approach used in preparing the Oil Market Report (OMR), Market Report Series_Oil and Annual Statistical Supplement (current issue of the Statistical Supplement dated 12 August 2021), readers are referred to the Users' Guide at <https://www.iea.org/articles/oil-market-report-glossary>. It should be noted that the spot crude and product price assessments are based on daily Argus prices, converted when appropriate to US\$ per barrel according to the Argus specification of products (Copyright © 2022 Argus Media Limited - all rights reserved)