

Oil Market Report

14 September 2022

- Growth in global oil demand continues to decelerate, weighed down by renewed Chinese lockdowns and an ongoing slowdown in the OECD. This is partly offset by large-scale switching from gas to oil, estimated to average 700 kb/d during 4Q22 and 1Q23, double the level of a year ago. World oil demand is forecast to rise by 2 mb/d in 2022 and 2.1 mb/d in 2023, marginally lower than in last month's *Report*.
- World oil production rose 790 kb/d in August to 101.3 mb/d, with a strong recovery in Libya and smaller gains from Saudi Arabia and the UAE offset by losses in Nigeria, Kazakhstan and Russia. From August through December, growth is forecast to slow, edging up by just 280 kb/d to 101.6 mb/d. In 2022, global production is forecast to rise by 4.8 mb/d, to 100.1 mb/d, and by 1.7 mb/d in 2023 to 101.8 mb/d.
- Persistent demand weakness in China considerably slowed the pace of a summer ramp-up in refining activity. After reaching a post-Covid peak in August of 81.4 mb/d, refinery throughputs are expected to fall in September-October on seasonal maintenance. With lower runs, refined product inventories are now unlikely to see any substantial builds for the remainder of the year.
- Russian total oil exports rose by 220 kb/d in August to 7.6 mb/d, down 390 kb/d from pre-war levels. Estimated export revenues fell by \$1.2 bn to \$17.7 bn. Russian crude oil imports into the EU/UK have fallen by 880 kb/d since the start of the year to 1.7 mb/d, while imports from the US have risen by 400 kb/d to 1.6 mb/d. Iraq, Norway, Guyana and Saudi Arabia have also increased shipments to the EU.
- Global observed inventories fell by 25.6 mb in July on a drawdown in crude stocks in China and oil on the water as well as from IEA government stocks. OECD industry stocks rose by 43.1 mb to 2 705 mb, narrowing the deficit versus the five-year average to 274.9 mb. IEA member countries released nearly 180 mb of public stocks from March through August, with over 50 mb to be delivered through October.
- Brent futures lost \$34/bbl and backwardation fell 65% in just three months following a June peak, reflecting a seasonal slowdown in refinery purchases and increased supplies, as well as escalating concerns about the world economy. Growing pessimism about an Iran deal offered some support to prices that saw Brent recover to over \$93/bbl at the time of writing. Freight rates remain stubbornly high.



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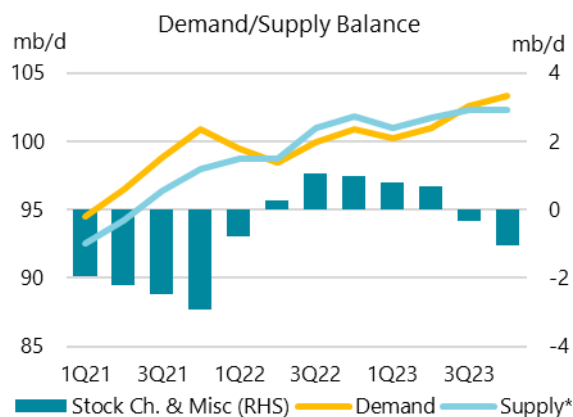
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Balancing act

Brent crude oil futures slipped below \$90/bbl in early September, the lowest level since January and more than \$34/bbl below a June peak. This is the largest 90-day decline since March-April 2020 and is only exceeded prior to 2020 by market routs in 2014-15 and 2008-09. Yet, diesel and jet fuel markets remain exceptionally tight, as reflected in current pricing.

For now, a deteriorating economic environment and recurring Covid lockdowns in China continue to weigh on market sentiment. Nevertheless, world oil demand is forecast to grow by 2 mb/d in 2022 and 2.1 mb/d next year. Jet fuel dominates growth, while road transport demand wanes. Robust oil use for power generation in the Middle East and in Europe due to record natural gas and electricity prices is providing additional support.

At the same time, more oil is hitting the market. IEA member countries released nearly 180 mb of government stocks from March through August, with a further 52 mb scheduled for the next two months. Moreover, world oil supply increased by 790 kb/d in August to 101.3 mb/d – up more than 5 mb/d on a year ago. Russian oil production and exports have proved resilient, with August levels only 400-450 kb/d below pre-war levels. Despite a 2 mb/d drop in Russian crude and oil products shipments to Europe, the US, Japan and Korea since the start of the year, the rerouting of flows to India, China, Türkiye and others has mitigated upstream losses.



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

However, the EU embargo on Russian crude oil and product imports that comes into effect in December 2022 and February 2023, respectively, is expected to result in deeper declines. An additional 1 mb/d of products and 1.4 mb/d of crude will have to find new homes. An EU ban on maritime services may force further reallocations from third countries not agreeing to the proposed G7 price cap. Russian total oil production is forecast to decline to 9.5 mb/d by February 2023, a 1.9 mb/d drop compared to February 2022.

Such losses would still leave the market oversupplied in 2H22, by close to 1 mb/d, and roughly balanced in 2023. But product markets, especially diesel, are expected to remain in deficit due to downstream capacity constraints outside of China. Global diesel markets have tightened this year, with demand robust and as lower Chinese export quotas have sharply reduced its sales abroad. More recently, newly introduced taxes in India have discouraged exports from Asia's largest supplier.

The EU has so far largely maintained Russian diesel import volumes at around 600 kb/d, but from next February these volumes will need to be replaced by other sources. Three large refinery projects in Kuwait, Nigeria and Mexico coming online by the end of 2023 will eventually increase global diesel availability. The proposed price cap mechanism would also need to work in order to assure overall diesel supply for the global market is met and so that European importers can switch to flows from the US, Middle East and India. Failing that, and assuming Russia will not be able to ship diesel in significant quantities outside the price cap, European, Latin American and African importers could be competing for a rather smaller pool of available flows.

Demand

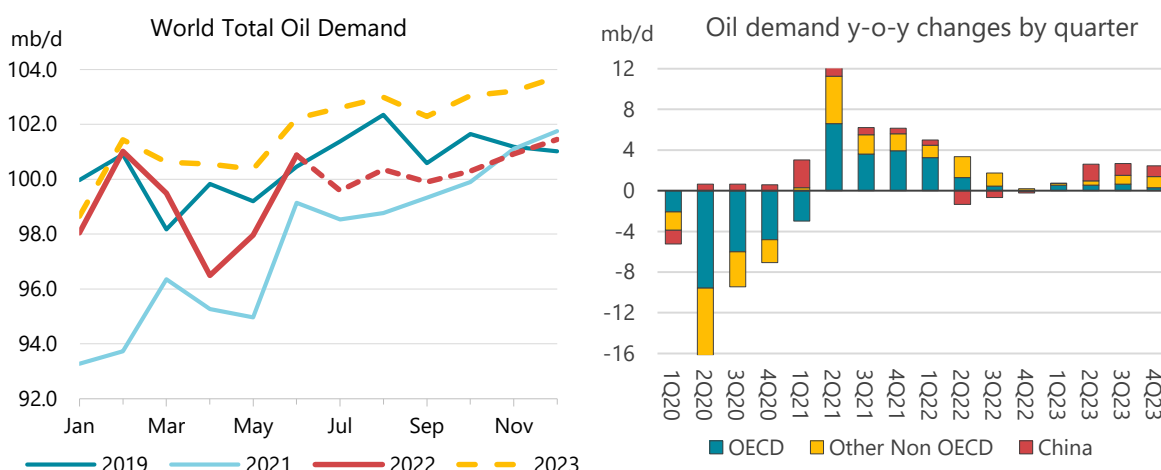
Overview

China's slide undercuts resilience elsewhere

Global oil demand remains under pressure from the faltering Chinese economy and an ongoing slowdown in OECD economies. Growth continues to lose momentum, slowing from 3.5 mb/d in 1H22 to only 1.1 mb/d in 3Q22 before grinding to a halt in 4Q22.

For 2022 as a whole, global oil demand will climb by 2 mb/d, reaching 99.7 mb/d, before advancing by another 2.1 mb/d next year to exceed pre-pandemic levels at 101.8 kb/d. In 2022, the OECD will account for most of the total rise, while non-OECD countries will cover three-quarters of 2023's gains if China reopens as expected.

We have revised our 2022 outlook for growth down by a modest 110 kb/d compared with last month's *Report*. Tightening lockdowns and revisions to official Chinese statistics (-350 kb/d) narrowly outweigh gains from stronger US data (+140 kb/d) and a further spike in Middle Eastern demand (+90 kb/d) from increased oil use in power generation.



The macro-economic climate continued to deteriorate in August, with runaway inflation weighing on consumer and business sentiment across the globe. The general malaise was reflected in manufacturing PMIs that declined in the US, Europe, Japan and China during August. Central banks, now decidedly in a hawkish mode, are finding their policies aimed at bringing down inflation complicated by ongoing exceptional strength in labour markets that is supporting consumer spending. Growing expectations that high energy costs, especially for gas, and rising interest rates will eventually bring demand destruction are darkening the global outlook. The consensus GDP forecast for 2023 is now around 2.6%, a full point lower than in January.

Chinese July deliveries were estimated to be 890 kb/d below forecast and year-to-date refinery throughputs were revised lower by the National Bureau of Statistics (NBS). Rolling lockdowns restricting activity resulted in strikingly poor recent economic data. Fiscal and monetary stimulus measures and a softer renminbi are unlikely to counterbalance these headwinds.

In contrast, June deliveries in other regions were unexpectedly robust despite a gloomy economic climate and record fuel prices. However, the latter's subsequent drop is beginning to support demand according to early indicators. The cost of a tank of gasoline in the US has now fallen ~25% from June highs and is buttressing petrol sales at the tail end of the driving season. Mexico and the Middle East were the other main pillars of demand strength.

Global Demand by Region								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
Africa	3 766	3 991	4 102	4 083	111	- 19	2.8	-0.5
Americas	27 920	30 287	31 070	31 315	783	246	2.6	0.8
Asia/Pacific	34 085	36 187	36 366	38 151	179	1 785	0.5	4.9
Europe	13 136	13 904	14 393	14 521	489	128	3.5	0.9
FSU	4 559	4 848	4 752	4 651	- 95	- 101	-2.0	-2.1
Middle East	8 075	8 480	9 006	9 086	526	80	6.2	0.9
World	91 541	97 697	99 689	101 807	1 992	2 119	2.0	2.1
OECD	42 049	44 848	46 068	46 572	1 220	505	2.7	1.1
Non-OECD	49 491	52 849	53 621	55 235	772	1 614	1.5	3.0

Heightened concerns over natural gas availability this winter with Russia escalating its disruption of flows to Europe ahead of tougher EU sanctions have led us to raise our forecast of incremental oil use in power generation and from gas-to-oil switching. Globally, we now expect additional demand of about 700 kb/d during 4Q22 and 1Q23 compared with the normal seasonal trend, an increase of 100-150 kb/d since last month's *Report*. This will be concentrated in Europe (400-500 kb/d) and to a lesser extent in Asia – primarily utilising gasoil, fuel oil and refinery gas.

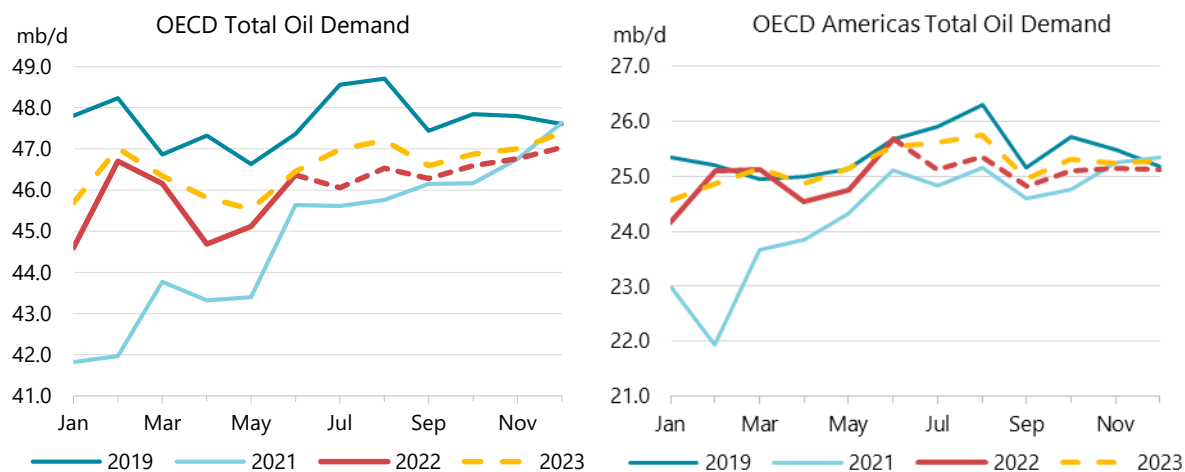
Amid tight middle distillate markets, net demand growth for gasoil and jet/kerosene will be largely steady at 1.9% during 2H22, rising by 640 kb/d year-on-year (y-o-y) to 34.5 mb/d. This serene pace disguises substantial changes in distribution between products. For the OECD, where we have access to more segmented statistics, diesel demand is set to tumble by 3.4% (-340 kb/d) y-o-y in 2H22 due to the cooling economy. However, a 2.6% (+100 kb/d) increase in non-road gasoil demand and a 16.4% (+550 kb/d) surge in jet/kerosene demand will more than counter this, maintaining the level of overall deliveries.

Global Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	13 128	13 839	14 390	14 679	551	289	4.0	2.0
Naphtha	6 434	6 982	6 810	7 120	- 172	310	-2.5	4.6
Motor Gasoline	23 647	25 625	25 904	26 245	279	341	1.1	1.3
Jet Fuel & Kerosene	4 709	5 191	6 110	6 962	919	852	17.7	13.9
Gas/Diesel Oil	26 120	27 670	28 051	28 071	381	20	1.4	0.1
Residual Fuel Oil	5 624	6 159	6 437	6 665	278	228	4.5	3.5
Other Products	11 879	12 231	11 987	12 066	- 244	79	-2.0	0.7
Total Products	91 541	97 697	99 689	101 807	1 992	2 119	2.0	2.1

OECD

OECD oil demand growth continued to slow the latest available data show. June posted a y-o-y increase of 730 kb/d, far below the average of 2.6 mb/d for January-May 2022. Based on preliminary data, we expect average growth of 450 kb/d in 3Q22 and a contraction of 50 kb/d in 4Q22. As the

macro-economic environment worsens, this slowdown will last into 2023 with an annual average increase of 500 kb/d.



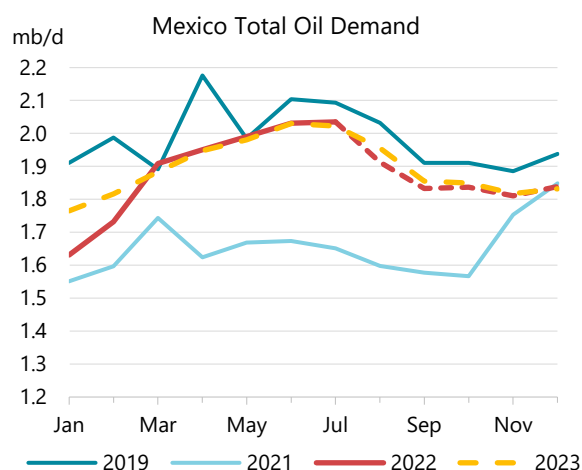
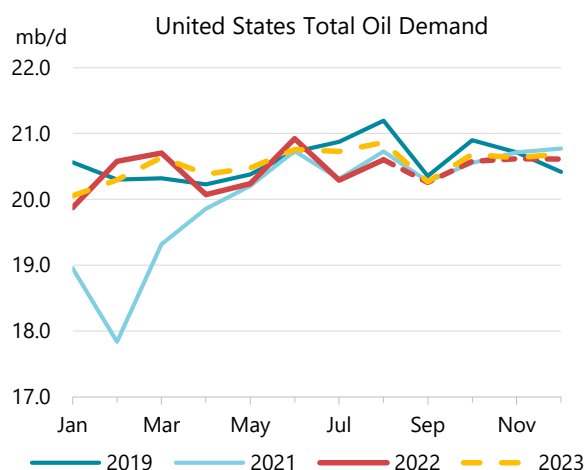
The 2022 increase of 1.2 mb/d, to 46.1 mb/d, will be dominated by the Americas (+670 kb/d) and Europe (+480 kb/d), with Asia Oceania much flatter (+80 kb/d). In part, this is an outcome of neighbouring China's wave of lockdowns with flight restrictions and anaemic petrochemical demand holding back advances in the region. Increased gas-to-oil switching in Europe this winter will cushion the impact of the continent's economic slowdown on oil demand.

OECD Demand based on Adjusted Preliminary Submissions - July 2022																
(million barrels per day)																
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		LPG/Ethane		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
OECD Americas	10.44	-4.5	1.93	11.8	3.32	9.0	1.74	1.9	3.82	6.6	0.58	-1.8	3.28	1.2	25.11	1.1
US*	8.76	-6.1	1.65	8.4	2.45	5.0	1.38	0.9	2.96	8.6	0.36	-7.7	2.74	3.3	20.29	-0.1
Canada	0.82	-6.2	0.16	46.6	0.25	-5.1	0.29	-0.4	0.49	-3.1	0.03	80.6	0.37	-9.1	2.41	-2.3
Mexico	0.79	21.7	0.09	28.1	0.44	76.4	0.06	46.2	0.32	6.2	0.17	1.7	0.16	-4.2	2.03	23.3
OECD Europe	2.13	-4.3	1.44	50.4	5.03	-5.5	1.19	9.7	1.04	-14.5	0.91	16.3	2.04	-6.8	13.76	0.0
Germany	0.47	-1.0	0.22	48.7	0.68	-12.5	0.29	35.2	0.10	-9.7	0.05	-4.8	0.33	-7.5	2.14	0.2
United Kingdom	0.26	-1.5	0.28	135.6	0.46	-0.1	0.15	11.6	0.12	4.3	0.02	42.4	0.12	3.8	1.41	15.5
France	0.25	-0.6	0.14	37.4	0.73	-7.4	0.07	-9.2	0.11	-8.9	0.04	2.2	0.26	4.5	1.61	-1.7
Italy	0.21	-2.1	0.14	60.5	0.51	-2.7	0.07	-3.3	0.09	-2.6	0.11	4.7	0.17	-15.4	1.29	0.1
Spain	0.14	-7.2	0.15	53.8	0.46	-6.1	0.16	1.2	0.06	32.2	0.15	39.3	0.18	-8.9	1.30	4.4
OECD Asia & Oceania	1.43	5.8	0.49	19.9	1.43	1.3	0.45	9.5	0.73	-3.4	0.46	5.7	2.20	-2.2	7.18	2.4
Japan	0.76	0.7	0.22	5.5	0.47	11.6	0.32	14.8	0.34	-5.6	0.23	-7.2	0.84	-1.4	3.17	1.8
Korea	0.27	15.5	0.12	13.6	0.40	-2.4	0.07	-12.1	0.32	-2.0	0.20	19.2	1.19	-2.8	2.57	0.9
Australia	0.27	18.3	0.12	91.0	0.51	-1.3	-	-	0.05	0.3	0.01	81.6	0.10	-6.4	1.06	9.5
OECD Total	14.00	-3.5	3.86	24.8	9.77	0.0	3.38	5.5	5.58	0.6	1.95	7.8	7.52	-2.1	46.06	1.0

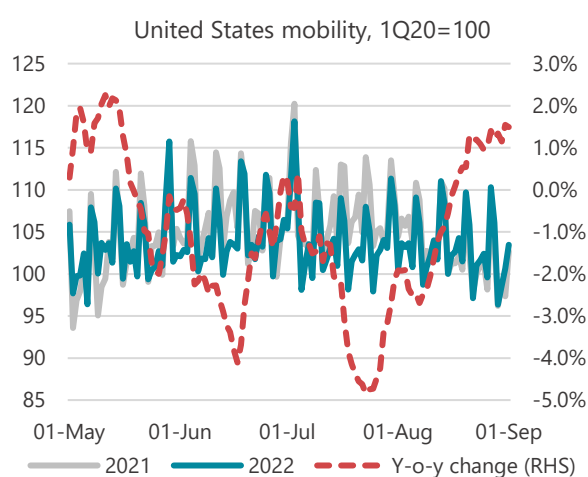
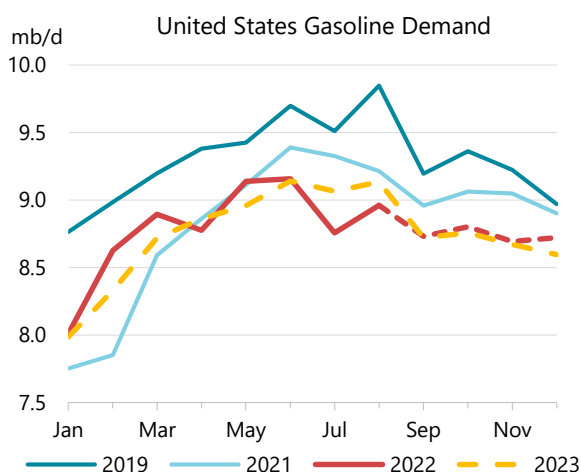
* Including US territories

OECD Americas deliveries lagging but outlook improves

Projected 3Q22 growth will slow to 240 kb/d for OECD Americas, bringing deliveries to 25.1 mb/d. Mexico is likely to be the only country posting y-o-y gains for the quarter (+320 kb/d) with the US (-50 kb/d) and Canada (-20 kb/d) both beginning to decline. For 2022 as a whole, the increase in demand will hit 670 kb/d before easing to 190 kb/d in 2023.



US deliveries for June showed limited overall y-o-y growth (+190 kb/d), with the continuing rebound of jet/kerosene (+280 kb/d) and higher LPG/ethane use (+160 kb/d) following the construction of new petrochemical facilities masking weaker gasoline deliveries (-230 kb/d y-o-y). Even so, final June data outperformed preliminary indications for gasoil, gasoline and jet/kerosene. As a result, we have raised our expectations for July and August. US demand is still forecast to contract y-o-y in both July (-20 kb/d) and August (-120 kb/d) amid a major slowdown in gasoline (-570 kb/d and -250 kb/d, respectively). This slump aligns with mobility indicators which fell in July before staging a partial recovery in August. The data show that this year's summer driving season demand peak appears to have been almost non-existent amid very high consumer gasoline prices, although conditions eased slightly as prices began to decline.

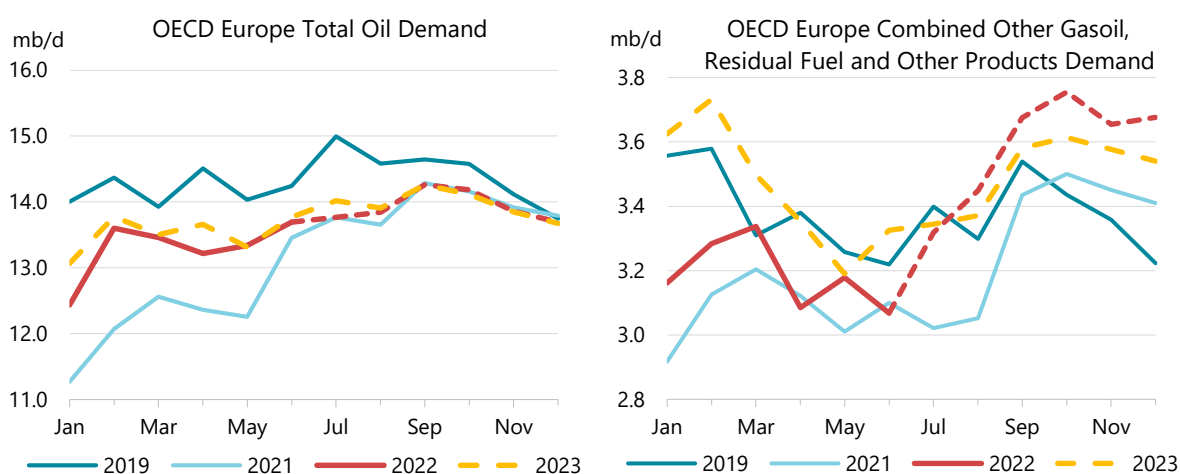


Measures of US sentiment indicate a considerable deterioration, with the OECD consumer confidence index (CCI) declining continuously in the country since April 2021 and the S&P Global US Manufacturing Purchasing Managers' Index (PMI) sliding to 51.5, the slowest rate of expansion since July 2020. However, July consumer spending continued to rise (+0.1%) according to US Commerce Department data and Bureau of Labour Statistics (BLS) data shows sustained additions to jobs, underscoring the buoyant labour market. The total number of jobs exceeded pre-pandemic levels for the first time in July. Combined with a partial relaxation of prices, we expect this to limit the fall in gasoline demand to an average of 310 kb/d in 2H22.

OECD Europe demand slowing despite fuel switching

Growth in European deliveries dwindled in June (+240 kb/d y-o-y) before demand returned to 2021 levels in July. Much lower July figures for petrochemical feedstocks (naphtha -210 kb/d, LPG -180 kb/d) and diesel (-290 kb/d) highlight the difficulties being experienced by industrial consumers. These negatives comfortably outweigh estimated increases of 130 kb/d for fuel oil and 110 kb/d for other gasoil. Overall, the impacts of higher energy costs and weaker economic prospects are strongly bearish for oil demand.

Demand in 2022 is set to climb by 480 kb/d, to 13.6 mb/d, with the increase dominated by jet/kerosene (+380 kb/d). In 2023 demand will edge higher, by 130 kb/d with jet/kerosene alone accounting for almost this much, as flight numbers close in on pre-pandemic levels. Consumption in aviation continues to perform strongly. So far, the sector's recovery has seemingly been immune to rising prices, supply constraints and the wider economic slowdown.



The probability of widespread gas-to-oil switching and oil use for power generation continues to play an important role in our European balances from now until at least the end of 2023. In this month's *Report* we have increased our expectations for total incremental demand related to substitution to about 400-500 kb/d in Europe during 4Q22 and 1Q23, roughly 100 kb/d higher than last month's estimate. This extra consumption will be divided between non-road gasoil (250-300 kb/d), fuel oil (100-150 kb/d) and extra refinery fuels (captured in other products, 50-100 kb/d). Compared with the same period in 2021-22, we expect demand to rise by an average of about 300 kb/d.

Several major industrial consumers, especially in Germany, have announced contingency plans for switching from gas to oil, as required, to maintain their operations. These range from refiners, and chemical producers (such as Shell, BASF and Evonik) to various manufacturers (including Michelin, Saint Gobain and Carl Zeiss) and municipalities (the city of Munich has reactivated oil fuelled boilers). Many of these applications are for heat or steam production, where relative efficiency is less of an obstacle than for power generation and typically plan to use gasoil, fuel oil or LPG. While a deepening of Europe's gas crisis would likely add to oil use, it could also serve to destroy demand in comparable quantities by disrupting industry and reducing chemical plant operations, limiting any overall upside. Reportedly, gas costs are already making operations at a number of glass manufacturers and European petrochemical plants uneconomical, particularly in energy intensive value chains such as styrenics. With falling oil prices, some companies and institutions have apparently begun running diesel back-up generating units on an ongoing basis to reduce their offtake of expensive electricity from the grid.

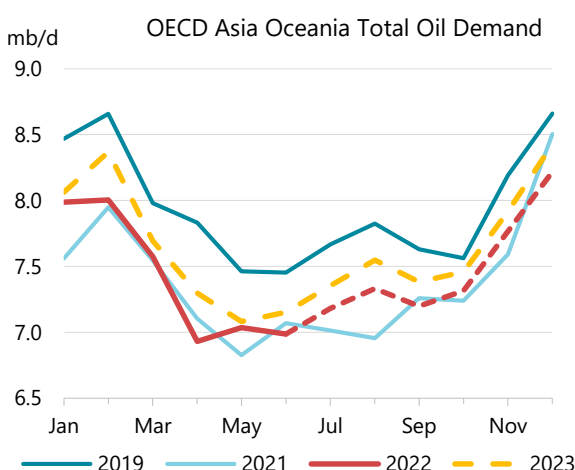
Germany, for which we have already received July data, is emblematic of these wider European tensions. July demand declined by 40 kb/d m-o-m, in contrast to the typical increase of 70 kb/d. Petrochemical feedstocks fell more quickly than expected based on known outages (naphtha slumped by 70 kb/d m-o-m to 37% below February's peak), indicating that some producers were forced to cut rates amid weak demand, high gas costs and the very low water levels of the river Rhine. Gasoline and diesel (each -40 kb/d m-o-m) consumption likely suffered from the success of a national scheme offering heavily discounted rail travel, while diesel was further impacted by the travails of manufacturers. The *S&P Global/BME Germany Manufacturing PMI* already indicated a contraction in July of 49.3 which deteriorated further to 49.1 in August as the slowdown deepened in Europe's largest economy. In addition, prompt *Federal Statistics Office* data shows that road freight has consistently lost ground since February, with rail the main beneficiary, indicating that high diesel prices are helping to reshape industrial supply chains. In contrast German gasoil demand was boosted by a 60 kb/d m-o-m rise in non-road gasoil deliveries (+70 kb/d y-o-y), a likely harbinger of sustained y-o-y gains until mid-2023.

OECD Asia Oceania oil use steady in July

In OECD Asia Oceania, demand gained ground in July, increasing y-o-y for every major product except LPG, for a total rise of 170 kb/d (+190 kb/d m-o-m). Gasoil (+60 kb/d y-o-y) rose in Japan (+90 kb/d y-o-y) but remained subdued in Korea (-20 kb/d y-o-y) despite the end of a truckers strike in June. In contrast, Korean demand for naphtha, the country's largest product by volume, recovered following two months of lower deliveries as steam cracker operations improved.

Regional oil use is expected to remain close to 2021 levels through 2H22, rising y-o-y by an average of 70 kb/d, before increasing by a further 180 kb/d in 2023. Global economic challenges continue to sap demand increases. In addition to the renewed slowdown in neighbouring China, PMIs for both Korea and Japan indicate cooling activity and sliding exchange rates have amplified the impact of high global prices on consumers. The yen's fall has been especially precipitous, reaching a 24-year low against the US dollar in early August. The anticipated gradual reopening of Chinese society and businesses should support some uplift in consumption across east Asia next year and OECD Asia growth will be concentrated in Japan (+90 kb/d) and Korea (+80 kb/d).

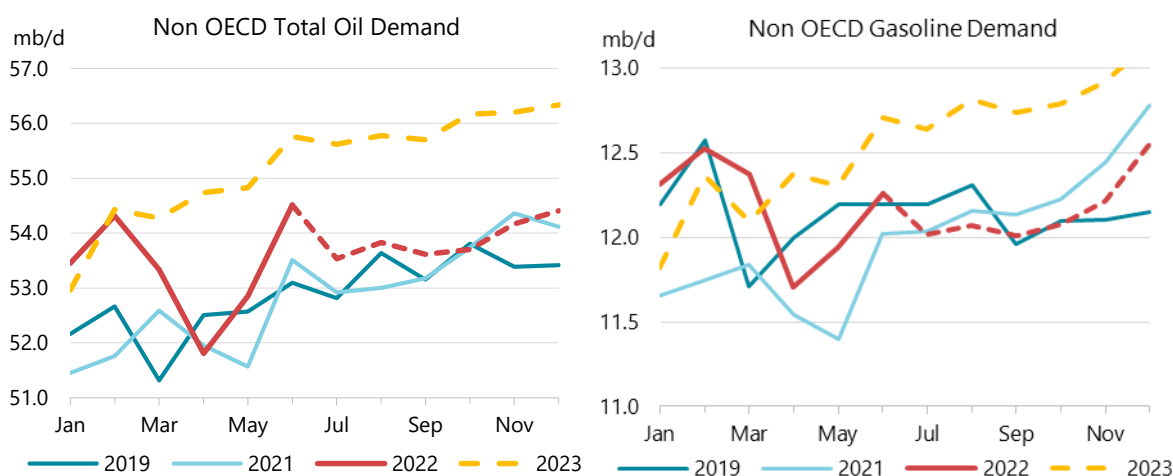
Final June data for Japanese fuel oil demand shows a 30 kb/d m-o-m rise, as power operators responded to exceptionally high use during the nation's extreme early-summer heatwave. We have slightly increased our expectations for fuel oil consumption for the rest of the year, reflecting the accelerating global shift from gas-to-oil. Direct crude use was largely unchanged. We expect roughly 100-150 kb/d of gas-to-oil substitution in the region this winter (4Q22 and 1Q23), an increase of 50 kb/d from a year earlier.



Non-OECD

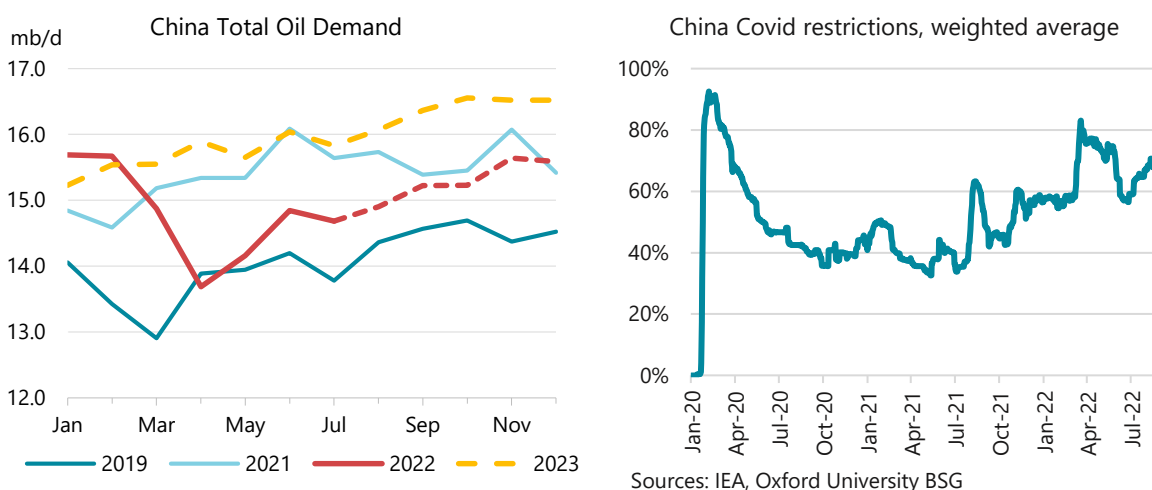
Non-OECD demand fell by 980 kb/d m-o-m in July, reversing June's strength. Around half of this decline was attributable to seasonal weakness. Additionally, China's demand recovery lost steam as lockdowns spread, while soft deliveries in weather-afflicted Pakistan added to the bearish climate.

Middle Eastern crude burn for power generation partially offset losses elsewhere. In light of the more subdued demand picture, we have reduced our outlook for 2022 by 250 kb/d to 53.6 mb/d (+770 kb/d y-o-y) and for 2023 by 130 kb/d to 55.2 mb/d (+1.6 mb/d y-o-y).



Chinese demand plunges as lockdowns gather pace

China's apparent demand fell by 160 kb/d m-o-m in July (-960 kb/d y-o-y), after refinery output, as reported by China's National Bureau of Statistics, dropped by 6.3% m-o-m in July to a two-year low. Combined with lower net refined product imports (which fell 33% m-o-m in July) and assumed product stock draws, this makes for a significant deterioration in domestic demand, to 14.7 mb/d or 890 kb/d below last month's estimate. Year-to-date throughputs for 2022 were also revised lower by the agency, resulting in a 355 kb/d downward adjustment to 2Q22 estimates.



Sources: IEA, Oxford University BSG

The economic climate turned increasingly gloomy. The *Caixin Manufacturing PMI* descended into contractionary territory in August (to 49.5 from 50.4), while youth unemployment climbed to 19.9% in July, compared to 16.2% one year earlier. China's uncompromising measures to contain Covid-19 showed no sign of abating, as August saw a further pick-up in restrictions when a number of megacities (Chengdu, Shenzhen, Guangzhou, Dalian) were placed under lockdown. A weighted average of provincial curtailments from Oxford University's *Blavatnik School of Government* (BSG) reflected the more restrictive climate. Although still well below the level when Omicron-related

lockdowns took effect in March, almost half of the index's subsequent easing has now been reversed.

China's property bubble deflated further, entering a vicious circle as buyers threatened to stop paying their mortgages on unfinished homes, thereby further squeezing cash-strapped developers. Falling prices for steel, iron ore and aluminium (down by around one-third compared to their peak in the wake of Russia's invasion of Ukraine), for which demand is heavily geared towards Chinese construction, are a testament to China's property market implosion.

China: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	1 836	2 153	2 332	2 473	179	141	8.3	6.0
Naphtha	1 479	1 679	1 733	1 869	54	136	3.2	7.9
Motor Gasoline	3 156	3 502	3 450	3 628	- 52	178	-1.5	5.2
Jet Fuel & Kerosene	755	733	559	793	- 174	234	-23.7	41.9
Gas/Diesel Oil	3 022	3 399	3 396	3 519	- 3	123	-0.1	3.6
Residual Fuel Oil	490	527	538	576	11	38	2.2	7.1
Other Products	3 466	3 434	3 003	3 121	- 431	118	-12.5	3.9
Total Products	14 204	15 427	15 011	15 980	- 415	969	-2.7	6.5

In view of this negative turn, we have reduced our forecast for 2022 by 350 kb/d to 15 mb/d (resulting in a 420 kb/d y-o-y decline for the calendar year). Positive overall y-o-y growth, already pushed back from July to September in last month's *Report*, will now not be attained until 1Q23. We then see this recovery gaining momentum throughout 2023 as pandemic restrictions are being eased, resulting in y-o-y demand growth of 970 kb/d, to 16 mb/d.

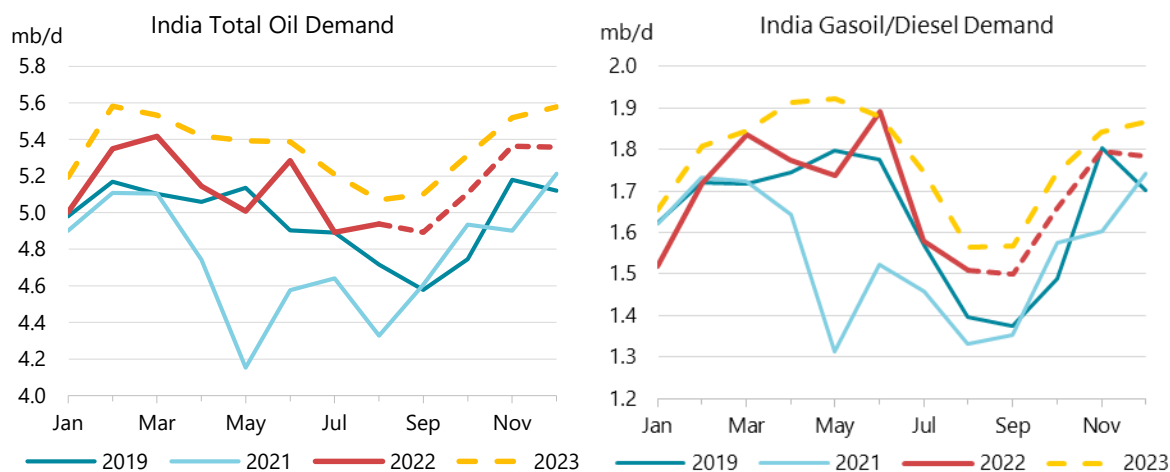
Gasoil and gasoline both underperformed our forecast by around 200 kb/d each in July, consistent with the increasingly bleak economic environment. LPG (-200 kb/d) and naphtha (-140 kb/d) usage fell m-o-m in July, partly reversing June's strength and more or less in line with our estimate. We have not materially adjusted our forecast for these products and continue to expect solid structural growth into 2023 of about 7%, reflecting major petrochemical capacity additions.

Jet/kerosene use rose by 130 kb/d in July, maintaining its momentum since pandemic-related travel restrictions were relaxed early in the second quarter. However, it appears that this recovery is running out of steam: according to flight tracking data from *Radarbox*, average August traffic fell by 5% from July, to 10,000 daily flights, the first monthly decline since April. In light of this reversal, we have reduced our estimate for jet fuel demand for the rest of 2022 by 80 kb/d and do not anticipate a return to y-o-y growth until 1Q23. While this rebound will gather force next year, 2023 demand of 790 kb/d will remain below 2019 levels. Jet fuel is the only product category where this is the case.

Indian deliveries hold firm in August

India's oil demand in August rose 50 kb/d m-o-m, and was up by 610 kb/d y-o-y. The *S&P Global India Manufacturing PMI* fell by 0.2 to 56.2 in August, remaining comfortably in expansion mode as firms recorded their fastest increase in production and orders in nine months. This reflects robust GDP growth, projected at about 8% for 2022, consolidating India's status as the world's fastest growing major economy. Combined with moderate consumer inflation (government measures have led to an effective petrol price freeze since May), this results in a buoyant climate for domestic demand growth, which is led by gasoil. This year's uneven, above-trend monsoon season (India

received 6% more rainfall than average between June and August) is now winding down and unlikely to have impacted consumption significantly.



Our demand forecasts for 2022 and 2023 are little changed (up 380 kb/d and 210 kb/d y-o-y, respectively), with growth decelerating from 2H22 onwards due to India's exposure to China's slowing economy.

India: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	873	892	920	937	27	17	3.1	1.9
Naphtha	313	313	296	302	- 17	6	-5.4	1.9
Motor Gasoline	698	781	855	907	74	52	9.4	6.1
Jet Fuel & Kerosene	118	127	152	206	25	54	20.0	35.3
Gas/Diesel Oil	1 448	1 551	1 691	1 779	140	88	9.1	5.2
Residual Fuel Oil	146	152	159	160	7	1	4.6	0.5
Other Products	984	950	1 072	1 067	122	- 5	12.9	-0.4
Total Products	4 582	4 765	5 144	5 356	379	212	8.0	4.1

Other Non-OECD

Russian demand rose by 10 kb/d m-o-m in July to 3.8 mb/d, as relatively strong deliveries for road fuels and jet/kerosene compensated for weaker fuel oil and petrochemicals. The government improved its economic outlook in September, and now forecasts a 2.9% fall for 2022 and -0.9% for 2023 (consensus estimates by economic research houses for these years are respectively -6.4% and -3.0%). Flight traffic at Moscow's Sheremetyevo airport rose 3% m-o-m in August, stabilising at pre-invasion levels. We continue to forecast declining demand for both 2022 (-30 kb/d y-o-y) and 2023 (-130 kb/d y-o-y), showing the negative drag of Russia's macro-economic deterioration.

Middle Eastern demand extended its remarkable run of recent months, growing by 600 kb/d m-o-m in June, well ahead of typical summer seasonal strength and 1 mb/d higher y-o-y. Once more, electricity generation was the main driver by far, as the burning of crude and fuel oil soared to feed power systems that were frequently struggling to cope with extreme temperatures. **Saudi Arabia's** deliveries rose by 360 kb/d m-o-m in June, with fuel oil accounting for more than half of the increase. At 4.1 mb/d, total oil demand was up 480 kb/d y-o-y to a five-year high. Iraq's situation was largely similar: deliveries climbed above 1 mb/d for the first time ever in June, 320 kb/d higher y-o-y, as its

power grid faltered with temperatures exceeding 50°C. With temperatures in the Gulf showing few signs of having eased in July and August, we have further raised our forecast for Middle Eastern demand growth by 90 kb/d to 530 kb/d for 2022 and by 20 kb/d to 80 kb/d for 2023.

Non-OECD: Demand by Region								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
Africa	3 766	3 991	4 102	4 083	111	- 19	2.8	-0.5
Asia	26 918	28 805	28 907	30 510	102	1 603	0.4	5.5
FSU	4 559	4 848	4 752	4 651	- 95	- 101	-2.0	-2.1
Latin America	5 451	5 955	6 071	6 124	116	53	2.0	0.9
Middle East	8 075	8 480	9 006	9 086	526	80	6.2	0.9
Non-OECD Europe	723	770	782	781	12	- 1	1.6	-0.1
Total Products	49 491	52 849	53 621	55 235	772	1 614	1.5	3.0

Latin American consumption was flat m-o-m in July (-50 kb/d y-o-y). **Brazil's** estimated demand fell by 20 kb/d m-o-m (-160 kb/d y-o-y). Deliveries have been reasonably resilient, as its positive trade balance and substantial foreign exchange reserves insulate Brazil somewhat against the negative economic sentiment that is weighing on many other emerging economies. In particular, the real has gained 8% against the US dollar so far this year and its GDP expanded in 2Q22 by 1.2%, more than expected. We see flat demand growth for 2022 and a 40 kb/d increase for 2023. **Argentina's** oil consumption was unchanged m-o-m in July (+50 kb/d y-o-y), corroborating the deceleration of recent months that followed a strong start to 2022. The slowdown occurred as the country became increasingly engulfed in an economic crisis, marked by consumer inflation soaring past 70% and the peso tumbling to a record low to the US dollar. We expect consumption to remain subdued for the rest of the year, with demand hovering around pre-pandemic levels during 2H22 and 2023.

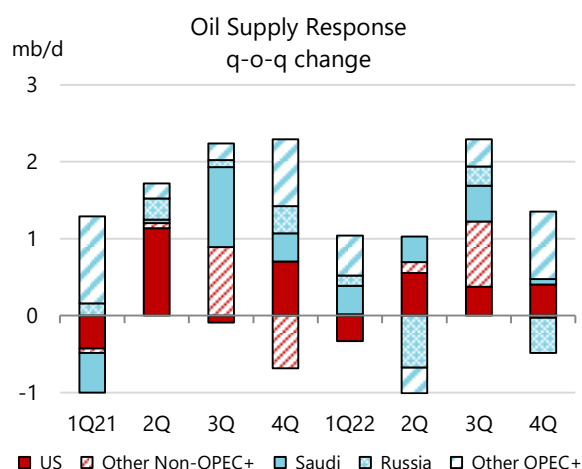
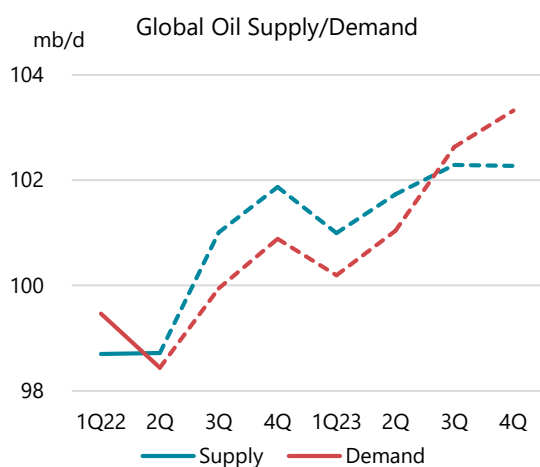
Pakistani demand fell by 40 kb/d m-o-m in June (30 kb/d lower y-o-y), as the country's myriad economic problems (soaring consumer inflation, political instability, a collapsing currency and a sovereign debt crisis) weighed on oil demand. Extreme weather brought additional hardship. Exceptionally hot temperatures in April and May were followed by a disastrous annual monsoon season that brought three times the normal amount of rainfall, resulting in historic floods that left one-third of the country submerged. Although a Sri Lanka-type meltdown was narrowly averted in August when the International Monetary Fund approved a \$1.2 billion bailout, we anticipate demand growth to fall to zero y-o-y in 2022, before returning to positive territory in 2023 (60 kb/d y-o-y).

Non-OECD: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	7 779	8 279	8 584	8 803	306	219	3.7%	2.5%
Naphtha	3 311	3 654	3 665	3 907	10	242	0.3%	6.6%
Motor Gasoline	10 987	12 000	12 172	12 560	172	388	1.4%	3.2%
Jet Fuel & Kerosene	2 113	2 162	2 339	2 803	177	464	8.2%	19.8%
Gas/Diesel Oil	13 472	14 457	14 756	14 824	299	68	2.1%	0.5%
Residual Fuel Oil	4 108	4 401	4 535	4 720	134	185	3.0%	4.1%
Other Products	7 722	7 897	7 571	7 619	- 326	48	-4.1%	0.6%
Total Products	49 491	52 849	53 621	55 235	772	1 614	1.5%	3.0%

Supply

Overview

World oil production rose for a third straight month in August, up 790 kb/d m-o-m to 101.3 mb/d, with supply now forecast to outpace demand through 2Q23. OPEC+ output rose 340 kb/d, with a strong recovery in Libya and smaller gains from Saudi Arabia and the UAE offset by losses in Nigeria, Kazakhstan and Russia – as the latter posted its first monthly decline since April. Countries outside of the OPEC+ alliance (non-OPEC+) added 450 kb/d, led higher by the US, Brazil, Norway and Canada.



From August through December, production growth is forecast to slow markedly, edging up by just 280 kb/d to 101.6 mb/d. OPEC+ is expected to account for most of the gains, provided Libya continues to rebound, the outlook for Kazakhstan improves and Nigeria recovers from near 40-year lows (see *Nigeria slips from Africa's top crude oil slot*). As for Russia, we expect the country's supply to decline gradually, from almost 11 mb/d in August to 10.2 mb/d in December as the EU embargo comes into full effect.

In 2022, global production is forecast to rise by 4.8 mb/d to 100.1 mb/d. OPEC+ is on track to contribute 3.2 mb/d, with Saudi Arabia poised to deliver the largest year-on-year (y-o-y) increase to reach an annual record high. Non-OPEC+ supplies are on track to rise by 1.6 mb/d in 2022, with the US providing 70% of the increase at 1.1 mb/d. A downward revision to the outlook for US light tight oil production reflects supply chain tightness and cost escalation, limiting growth as operators

Oil Supply by Select Producers
(million barrels per day)

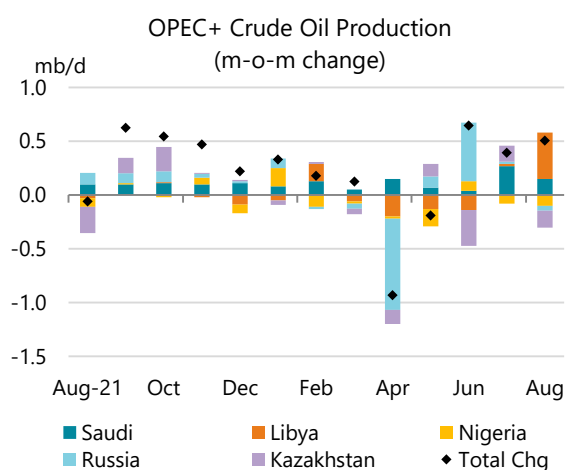
	2021	Δ	2022	Δ	2023
Non-OPEC+	46.3	1.6	48.0	1.8	49.8
US	16.8	1.1	18.0	1.1	19.1
Canada	5.6	0.1	5.7	0.1	5.8
China	4.1	0.1	4.2	0.1	4.3
Brazil	3.0	0.1	3.1	0.3	3.4
Norway	2.0	-0.1	1.9	0.2	2.1
Guyana	0.1	0.2	0.3	0.1	0.3
Non-OPEC+ Other	14.7	0.1	14.8	0.0	14.8
OPEC+	49.0	3.2	52.1	-0.1	52.0
Saudi Arabia	11.0	1.7	12.6	0.4	13.0
Russia	10.9	0.0	10.9	-1.3	9.6
Iraq	4.1	0.5	4.6	0.2	4.8
UAE	3.6	0.5	4.1	0.1	4.3
Iran	3.4	0.1	3.5	0.0	3.6
Kazakhstan	1.8	0.0	1.8	0.1	2.0
Nigeria	1.7	-0.2	1.5	0.0	1.5
OPEC+ Other	12.5	0.5	13.0	0.3	13.3
Total Supply	95.3	4.8	100.1	1.7	101.8

stick to capital spending limits and shareholder returns. Canada, China and Guyana also post solid gains, albeit these volumes are much more modest.

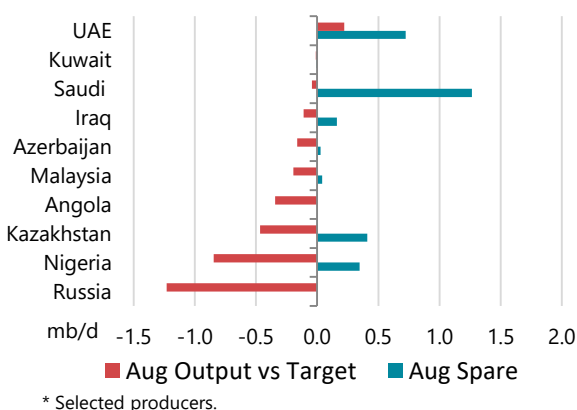
In 2023, world oil production is projected to rise by a smaller 1.7 mb/d, to reach an annual record of 101.8 mb/d, led by non-OPEC+ supply (+1.8 mb/d). US supplies are forecast to post record levels and again contribute the largest share of growth at 60%. By contrast, output from OPEC+ could contract with Russia's annual output set to tumble.

World Oil Production by Region (OPEC+ based on current agreement)											
(million barrels per day)											
	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Africa	7.4	7.4	7.0	7.1	7.4	7.2	7.4	7.3	7.3	7.3	7.3
Latin America	5.9	6.2	6.2	6.4	6.6	6.3	6.6	6.7	6.8	6.8	6.7
North America	24.4	25.0	25.4	26.0	26.6	25.7	26.5	26.9	27.2	27.4	27.0
China	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia	3.4	3.3	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1
Europe	3.5	3.4	3.1	3.2	3.4	3.3	3.5	3.4	3.4	3.6	3.4
FSU	13.8	14.4	13.4	13.5	13.4	13.7	12.7	12.5	12.4	12.5	12.5
Middle East	27.9	30.1	30.8	31.7	31.9	31.1	32.0	32.0	32.1	32.1	32.1
Total Oil Production	90.3	94.0	93.4	95.3	96.6	94.8	96.1	96.2	96.5	96.9	96.4
Processing Gains	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4
Global Biofuels	2.8	2.4	3.0	3.3	2.9	2.9	2.6	3.1	3.4	3.0	3.0
Total Supply	95.3	98.7	98.7	101.0	101.9	100.1	101.0	101.7	102.3	102.3	101.8
OPEC Crude	26.5	28.6	28.8	29.7	30.2	29.3	30.3	30.3	30.3	30.2	30.3
OPEC NGLs	5.0	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4
Non-OPEC OPEC+	17.4	18.2	17.2	17.4	17.3	17.5	16.6	16.4	16.3	16.4	16.4
Total OPEC+	49.0	52.0	51.3	52.4	52.9	52.1	52.2	52.0	51.9	52.0	52.0

OPEC+ oil supply



OPEC+ Output vs Target, Spare Capacity*

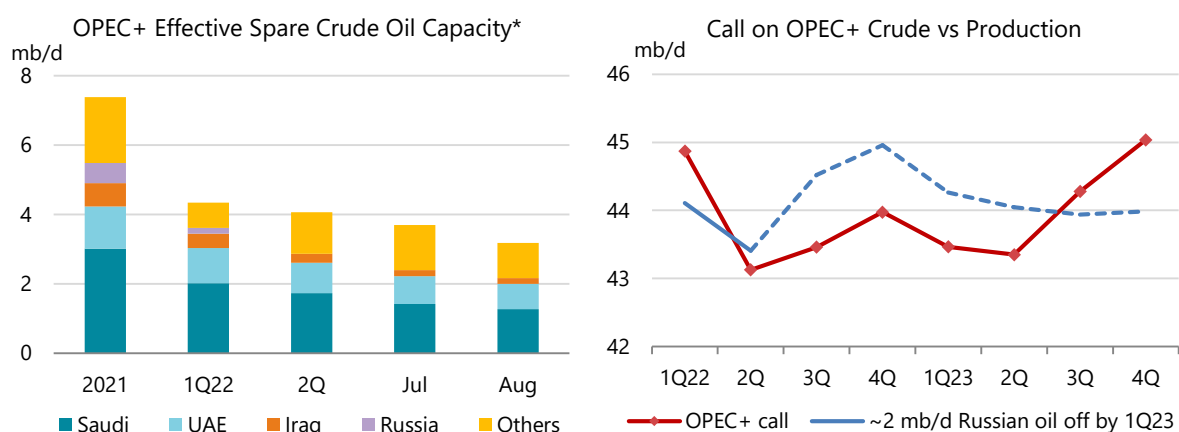


OPEC+ agreed to a nominal 100 kb/d supply cut for October, ostensibly to signal its willingness to stabilise world oil markets amid concerns of an economic and demand slowdown. The 5 September decision will return the group's supply target to August levels, reversing the marginal increase planned for this month. There will be no material impact on our balances given that most of the bloc is struggling to meet quotas. The 23-member producer group will meet again on 5 October.

In August, OPEC+ crude oil supply rose by 510 kb/d thanks to a sharp recovery in Libya and smaller increases by Middle East producers as the alliance fully reversed record cuts enforced during the 2020 pandemic. At 44.67 mb/d, output was the highest since the bloc pumped flat out in April 2020

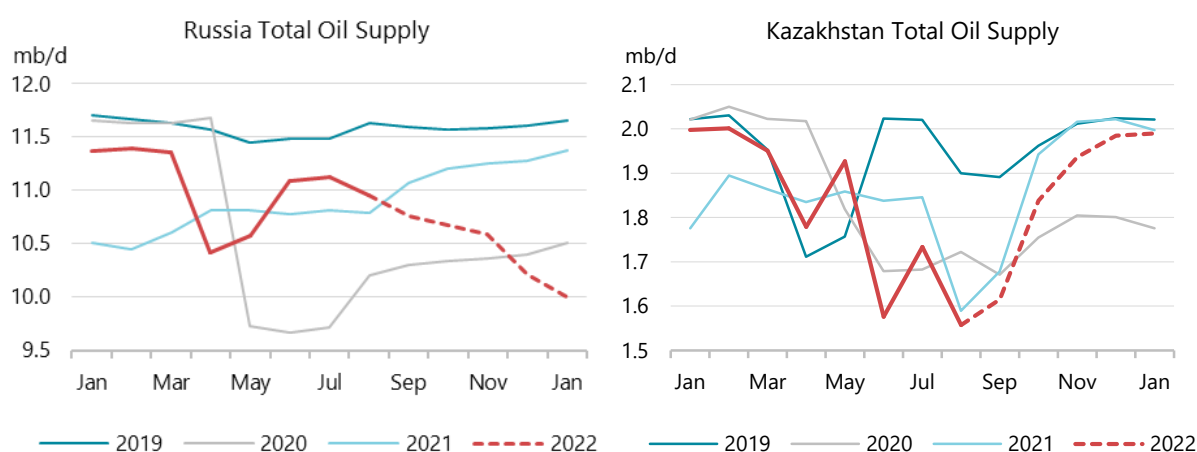
during a short-lived market share battle. Volumes from OPEC countries climbed 680 kb/d to 29.72 mb/d in August while production from non-OPEC partners fell by 170 kb/d to 14.95 mb/d.

That left the group's supply trailing 3.4 mb/d below its official target as operational issues, maintenance, capacity constraints and sanctions on Russia restricted supply. Russian crude oil output of 9.77 mb/d (-50 kb/d m-o-m) was 1.2 mb/d below its quota. Nigeria pumped far below its target at 850 kb/d and Kazakhstan undershot its target by 470 kb/d. Higher combined production from OPEC+ reduced the group's effective spare capacity to just above 3 mb/d, with Saudi Arabia and the UAE between them holding the lion's share. Saudi crude production approached 11 mb/d in August – a level scaled only twice before - leaving it with 1.3 mb/d to spare. The UAE had roughly 700 kb/d of idle capacity.



*Excludes shut in Iranian, Russian crude.

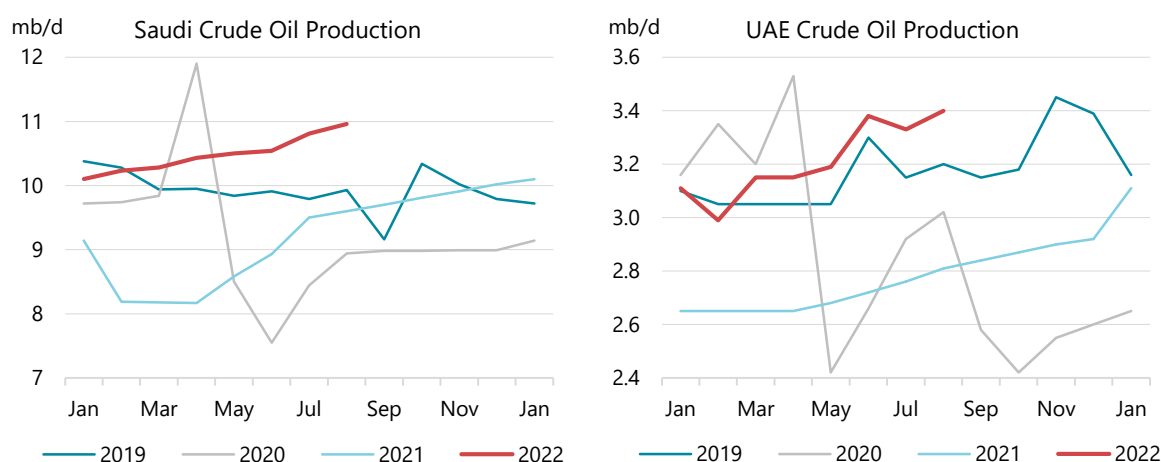
Despite an anticipated decline in Russian production, slightly higher OPEC+ volumes and slower demand could see a much-needed global stock build during the rest of this year and into the first half of 2023. We estimate the call on OPEC+ crude for 3Q22 at 43.5 mb/d, more than 1 mb/d below what the group pumped in August. The implied call rises by 500 kb/d to 44 mb/d in 4Q22, before falling to an average 43.4 mb/d in 1H23.



Supply from **Russia** fell in August – the first monthly decline since April. Total crude oil, condensates and NGLs decreased by 170 kb/d to 10.96 mb/d, down 450 kb/d from pre-invasion levels. Condensates accounted for 120 kb/d of the loss, reportedly due to a stabilisation plant being temporarily offline. Continued gas sales losses to Europe pose a threat to Russian gas production

and in turn to stabilised liquids extracted from the raw gas. We expect Russian oil production to ease gradually from September through November, along with lower anticipated refinery runs, and assume that the decline will be steeper in December when the EU embargo on Russian crude oil takes effect. That would result in annual average output in 2022 of 10.9 mb/d, steady versus 2021. By the start of next year, we now expect close to 2 mb/d shut in, which would reduce total oil output to 9.6 mb/d. Russia has meanwhile said it will refuse to supply oil to countries or companies imposing proposed price caps.

Kazakhstan posted the biggest decrease of the OPEC+ group as output fell in August after a gas leak hit operations at the Kashagan oil field and maintenance reduced flows at the 600 kb/d Tengiz field. Total production of crude oil and condensates declined by 180 kb/d to 1.6 mb/d, of which crude oil fell to 1.24 mb/d (-160 kb/d). Kashagan had pumped around 400 kb/d prior to its turnaround in June and July. It reportedly produced around 100 kb/d in August and was hovering around that level in early September. The Kashagan shutdown comes as planned maintenance limits output elsewhere. While work at Tengiz, the country's largest field, finished in early September, the 270 kb/d Karachaganak is due for an overhaul from 12 September through 6 October.



OPEC Middle East producers continued to raise supply as they phased out the final volumes halted at the start of the pandemic. **Saudi Arabia** pumped 10.96 mb/d of crude oil in August, up 150 kb/d m-o-m. Shipments of crude oil to world markets edged up while domestic consumption rose on stronger power generation needs. With the Kingdom poised to hit record output levels this year by tapping deeper into its spare production, Saudi Aramco plans to boost capital expenditure until the mid-2020s as part of its strategy to raise capacity to 13 mb/d by 2027. After a surge in profits to \$110 billion in 2021, Saudi Aramco is increasing capex by around 50% this year, to between \$40 billion to \$50 billion, with the bulk of it earmarked for upstream oil and gas activities.

The **UAE**, producing significantly above its OPEC+ target since the start of the year, raised crude oil supply to 3.4 mb/d (+70 kb/d). As part of plans to further increase production capacity, the Abu Dhabi National Oil Co has awarded five drilling contracts for onshore and offshore fields worth \$1.83 billion. Halliburton, Weatherford and Schlumberger were among the winners following a tender process.

In **Iraq**, volumes inched up 10 kb/d to 4.54 mb/d in August due to higher domestic consumption, but lagged 110 kb/d below its OPEC+ target. Exports of crude hovered around 3.7 mb/d, with shipments from the south (which account for around 90% of exported barrels) restricted by infrastructure constraints.

OPEC+ Crude Oil Production ¹						
(million barrels per day)						
	Jul 2022 Supply	Aug 2022 Supply	Aug Prod vs Target	Aug 2022 Target	Sustainable Capacity ²	Eff Spare Cap vs Aug ³
Algeria	1.02	1.02	-0.03	1.06	1.0	0.0
Angola	1.18	1.18	-0.35	1.53	1.2	0.0
Congo	0.26	0.27	-0.06	0.33	0.3	0.0
Equatorial Guinea	0.10	0.08	-0.05	0.13	0.1	0.0
Gabon	0.19	0.20	0.01	0.19	0.2	0.0
Iraq	4.53	4.54	-0.11	4.65	4.7	0.2
Kuwait	2.77	2.80	-0.01	2.81	2.8	0.0
Nigeria	1.08	0.98	-0.85	1.83	1.3	0.3
Saudi Arabia	10.81	10.96	-0.04	11.00	12.2	1.3
UAE	3.33	3.40	0.22	3.18	4.1	0.7
Total OPEC-10	25.27	25.43	-1.26	26.69	27.9	2.5
Iran ⁴	2.49	2.52			3.8	
Libya ⁴	0.65	1.08			1.2	0.1
Venezuela ⁴	0.63	0.69			0.8	0.1
Total OPEC	29.04	29.72			33.7	2.7
Azerbaijan	0.56	0.55	-0.16	0.72	0.6	0.0
Kazakhstan	1.40	1.24	-0.47	1.71	1.7	0.4
Mexico ⁵	1.62	1.65		1.75	1.7	0.0
Oman	0.87	0.85	-0.03	0.88	0.9	0.0
Russia	9.82	9.77	-1.23	11.00	10.2	
Others ⁶	0.86	0.88	-0.22	1.11	0.9	0.1
Total Non-OPEC	15.13	14.95	-2.11	17.16	15.9	0.5
OPEC+¹⁹ in cut deal*	38.78	38.73	-3.37	42.10	42.1	3.0
Total OPEC+	44.17	44.67			49.6	3.2

1 Excludes condensates.

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

3 Excludes shut in Iranian, Russian crude.

4 Iran, Libya, Venezuela exempt from cuts.

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

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

Crude oil supply from **Iran** crept up to 2.52 mb/d in August. Talks to revive the 2015 Iran nuclear deal have stalled after the EU put forward a "final text" a month ago. US Secretary of State Antony Blinken said on 12 September that Tehran's response to the EU proposal made the prospect of a near-term agreement unlikely. Iran could be a source of significant supplies if sanctions were to be eased (our base case assumes sanctions are not lifted), with 1.2-1.3 mb/d of crude oil gradually restored in about six to eight months.

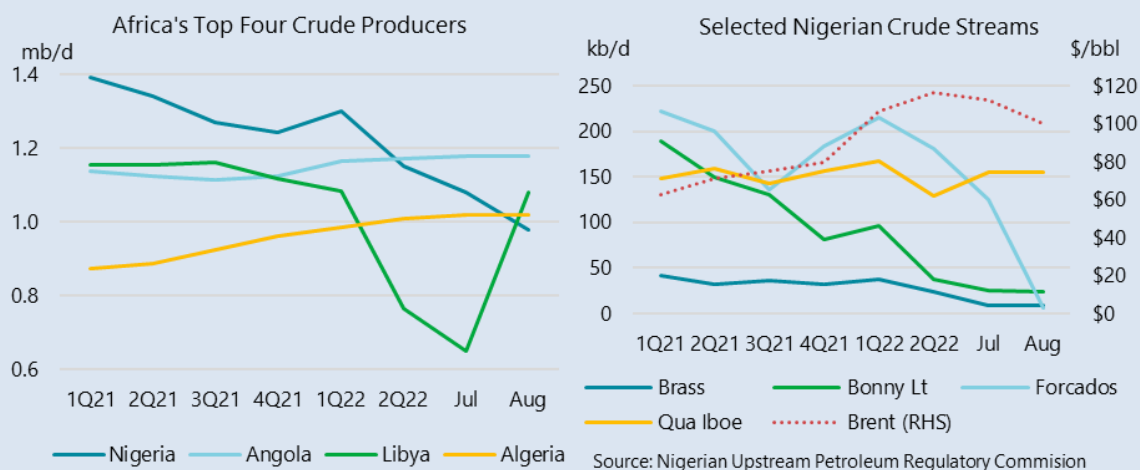
Combined output from African members of OPEC+ rose 340 kb/d after a rebound in Libya offset another sharp loss in Nigeria. **Libya** accounted for the single-biggest OPEC+ increase in August after the National Oil Corp (NOC), under new management, reopened oil fields and terminals in mid-July. Output increased to an average 1.08 mb/d (+430 kb/d m-o-m) and NOC said production had topped 1.2 mb/d towards the end of August. But the North African country's politics remain divisive with rival groups still battling it out.

Nigeria slips from Africa's top crude oil slot

Chronic underinvestment, sabotage and oil theft continue to wreak havoc on Nigerian supply. Following a near complete halt to the Forcados stream, production in August plunged below 1 mb/d to a monthly low last seen in July 1985 and down 30% since the start of this year. Crude output of 980 kb/d (-100 kb/d m-o-m) left Nigeria – typically Africa's largest producer – trailing behind Angola, Libya and Algeria. Last month Nigeria undershot its OPEC+ quota by 850 kb/d. Its total oil production, including condensates and natural gas liquids, has fallen to 1.3 mb/d from 1.7 mb/d this January.

The outlook is not encouraging. Nigerian oil officials have repeatedly set, and missed, targets to overcome production issues – urging operators to re-open wells as quickly as possible. But it is proving difficult to restore output at brownfields in mid- to late-life decline, even using advanced optimisation

techniques. Companies are not reinvesting nearly enough in infill drilling and the continued development of assets. Furthermore, a poor regulatory framework along with sabotage are deterring much needed spending.



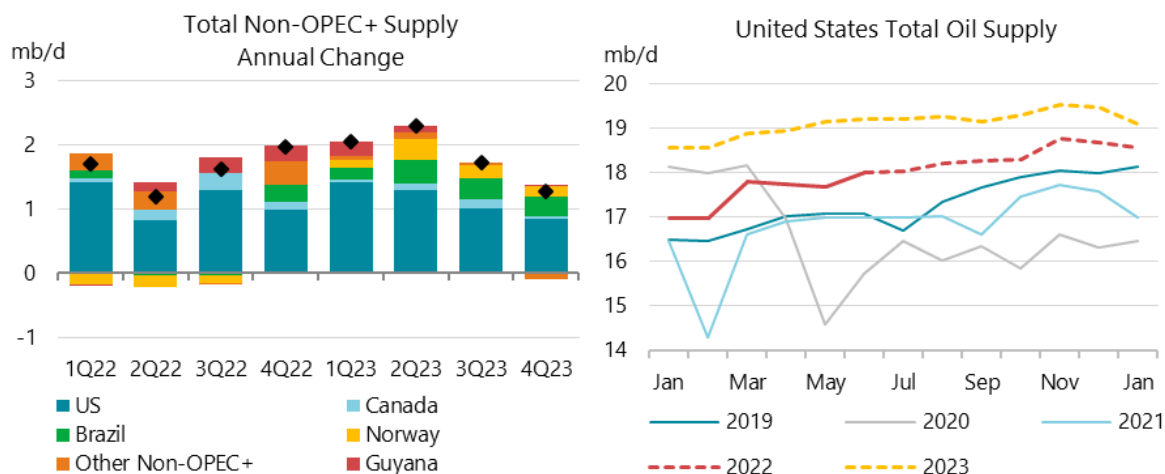
The core export streams of Forcados, Bonny Light and Brass River appear to be bearing the brunt of Nigeria's oil woes and in August all the crudes were running at a trickle. Shipments of Forcados have been halted since mid-July and repairs at the terminal were reportedly still ongoing. Production of Forcados all but ground to a halt in August, tumbling from 120 kb/d in July and down from more than 200 kb/d in 1Q22. The pipeline delivering Bonny Light crude has not operated since mid-June due to sabotage and theft on key pipelines, with exports under *force majeure* since mid-March. Bonny Light supply sank to around 20 kb/d last month compared to 125 kb/d in January and 220 kb/d at the start of 2021. Pipeline sabotage has also left exports of Brass River under *force majeure* since June.

Nigerian President Muhammadu Buhari was reported as saying the country's oil revenue is being "enormously" impacted by wide-spread oil theft. To combat theft in the oil-rich Niger Delta, the Nigerian National Petroleum Corp has enlisted security agencies, including those owned by ex-militants. But many believe this problem is ingrained throughout the supply chain, making it a challenge to tackle. As the price of crude oil escalated over the past six months, this situation appears to have worsened.

Non-OPEC+ oil supply

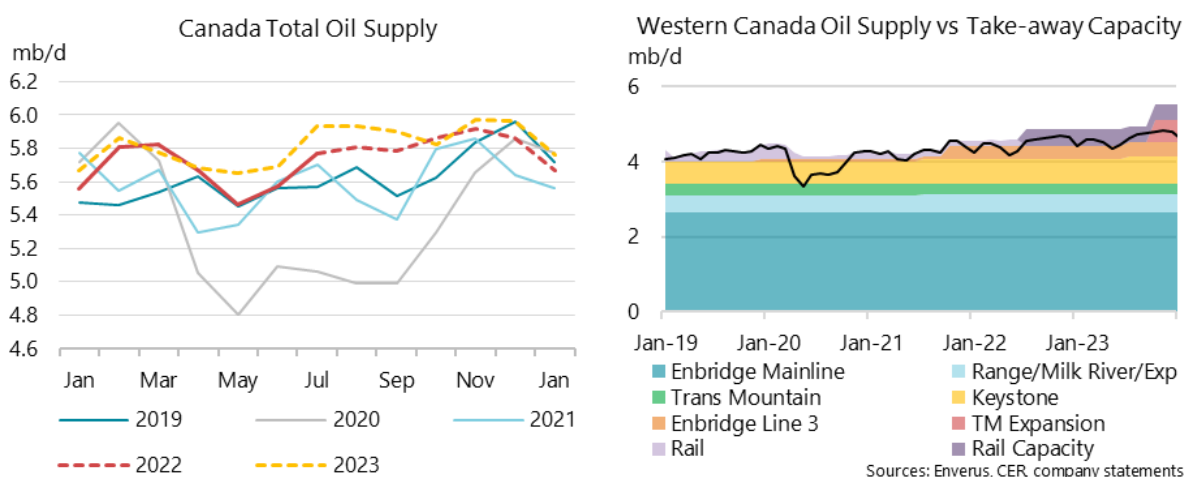
Total volumes from non-OPEC+ countries rose by 450 kb/d to 48.8 mb/d in August as China rebounded from seasonal declines and the US onshore, Norway and Brazil all continued to ramp up. Non-OPEC+ supply is projected to average 48 mb/d in 2022 and 49.8 mb/d in 2023, rising by 1.6 mb/d and 1.8 mb/d y-o-y, respectively. Through the remainder of the year, production will oscillate by a few hundred thousand barrels per day but end the year at 48.9 mb/d.

Total oil supply in the **United States** is forecast to average 18 mb/d this year, an increase of 1.1 mb/d, and will grow by the same amount in 2023 to 19 mb/d on average. In August, US output rose by 190 kb/d to 18.2 mb/d as US lower 48 crude increased by 110 kb/d and NGLs by 80 kb/d. The Gulf of Mexico (GoM) remained flat and hurricane impacts for September have been downgraded, but as the climatological peak of hurricane season is October, risks still loom large.



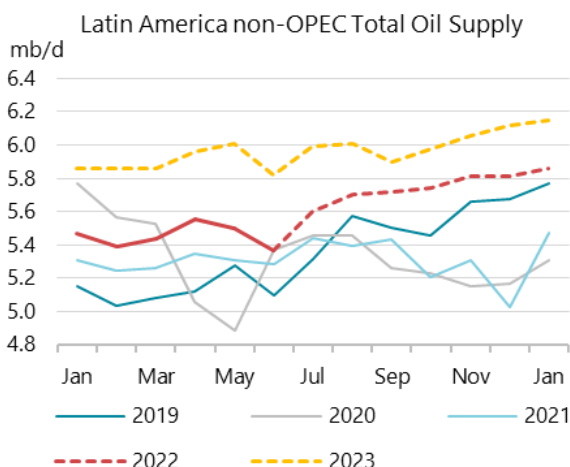
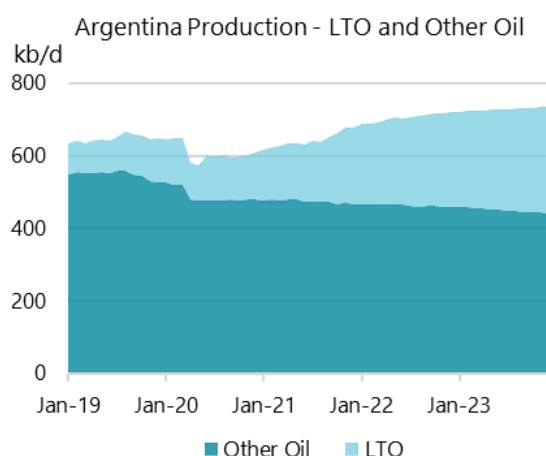
In June, the latest month for which official data from the US Energy Information Administration (EIA) are available, total oil supply rose by 310 kb/d as production rebounded by 180 kb/d from maintenance in the GoM and NGLs gained 100 kb/d. Light tight oil (LTO) was estimated to have increased by 50 kb/d with the majority of the barrels coming from the Permian Basin. The m-o-m average growth rate for US LTO since January of this year was 50 kb/d, slightly below the 2017 – 2021 five-year average of 60 kb/d, and we expect this growth rate to continue through the end of 2023.

According to data from the Alberta Energy Regulator (AER), **Canadian** supply rose by 200 kb/d in July on higher bitumen volumes. August output increased 40 kb/d m-o-m to 5.8 mb/d, levels that are sustained for the remainder of the year. Supply is now on course to average 5.7 mb/d in 2022. Next year, production is forecast at 5.8 mb/d, of which 4.6 mb/d will be exported through Western Canada, where pipeline capacity is currently 4.4 mb/d. The 200 kb/d surplus is slightly above average railed crude volumes since January 2019, yet well within existing capacity. If the Trans Mountain Expansion (TMX) gets delayed further beyond 4Q23, take-away capacity may be stressed.



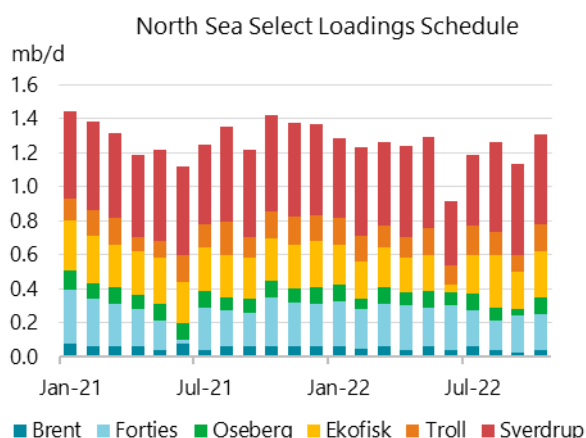
Argentina's production was relatively flat m-o-m in August at 710 kb/d, despite Neuquén basin fracking activity jumping 37% m-o-m and 24% y-o-y. Overall volumes are up 10% from a year ago, while LTO is up 47%, with the bulk coming from the Neuquén basin. Total Argentinean supply is forecast to average 710 kb/d in 2022 and grow by 20 kb/d to 730 kb/d next year, as Neuquén LTO more than offsets conventional declines elsewhere in the country. Export capacity for the basin will outpace oil growth with close to 700 kb/d of new capacity coming online over the next three years

with the latest announcement by majority state-owned YPF in early August. Supporting the increased pipeline expansions are recently announced fiscal reforms to allow oil companies to access foreign currency and tax and duty benefits if they increase their production.

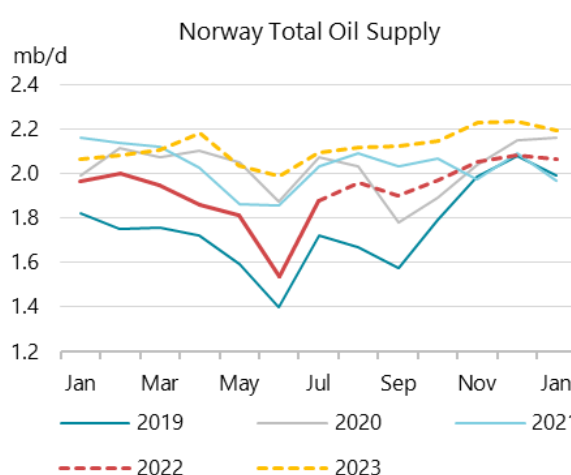


Elsewhere in Latin America, production is estimated to have increased by 100 kb/d m-o-m in August as **Brazil** rose while **Peruvian** and **Ecuadorian** volumes both recovered from protests. In Brazil, a cyberattack on the Agencia Nacional do Petroleo (ANP) resulted in a halt in reporting of oil operations, with the latest monthly data available for June and preliminary daily data available through July. Petroecuador, the Ecuadorian national oil company, opened operating bids on 22 Oriente Basin oilfields in an effort to increase crude production by 100 kb/d by the end of the year. Ecuador is expected to average 470 kb/d this year, compared to a peak of 560 kb/d in 2016.

North Sea loadings (as measured by BFOE plus Troll and Johan Sverdrup) are scheduled at 1.3 mb/d for October, rebounding by 170 kb/d m-o-m as Brent, Oseberg, Ekofisk and Troll joined Forties and Johan Sverdrup at pre-maintenance levels. **UK** supply fell by 40 kb/d in August as fields in the Forties systems underwent maintenance. Through the end of the year, output is expected to increase by 110 kb/d to exit 2022 at 880 kb/d. In 2023, volumes continue to decline despite new projects coming online and the UK is forecast to average 810 kb/d.



Sources: Reuters, Energy Intelligence



Data from the **Norwegian** Petroleum Directorate show output in July was up 340 kb/d m-o-m to 1.9 mb/d as Johan Sverdrup and fields in the Greater Ekofisk area began pumping again after summer maintenance. Norwegian supply is estimated slightly higher in August, at 1.96 mb/d before

dipping briefly in September as Equinor performs maintenance on the Oseberg-Troll system. Norway should finish the year at 2.1 mb/d, 120 kb/d above August and average 1.9 mb/d in 2022. Production is expected to grow by 200 kb/d to 2.1 mb/d in 2023.

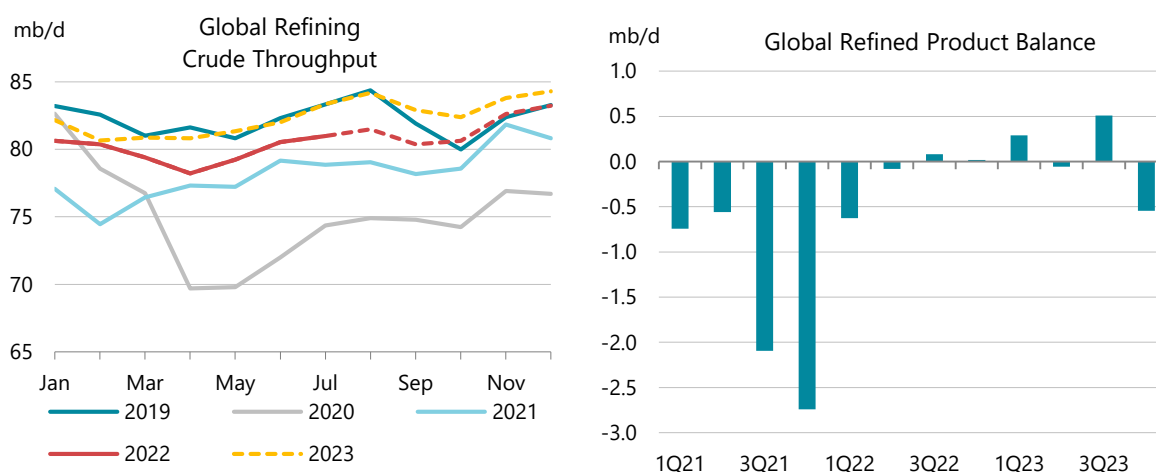
Elsewhere, **Chinese** production followed seasonal trends and declined in July by 150 kb/d to 4.1 mb/d. Supply recovered in August to 4.2 mb/d and is expected to remain relatively flat through the end of year. Following gains of 140 kb/d in 2022, growth is set to slow to 60 kb/d in 2023, to average 4.3 mb/d. In **Senegal**, Woodside's Sangomar project is 60% complete with first oil expected in 4Q23. Production is expected to peak at 100 kb/d and will produce a sour crude with a similar refining slate to Russian Urals.

Refining

Overview

The pace of the seasonal ramp-up in global refining activity in 3Q22 has slowed due to persistent weakness in China. In July, Chinese throughputs plunged by 520 kb/d m-o-m to just 12.8 mb/d, wiping out half of the expected monthly growth in global runs. Downward revisions for China in August and September were only partially offset by an upward revision for US throughputs.

On balance, our 3Q22 estimate is revised down by 420 kb/d to 80.85 mb/d, up by 2.3 mb/d y-o-y. This brings throughputs in line with estimated demand for refined products, minimising product stock builds for the quarter as a whole. July and August monthly balances imply inventory increases, but with refinery runs falling 1.1 mb/d in September at the start of seasonal maintenance, most of the earlier stock builds could be absorbed back into the market.



In line with the weaker near-term outlook for China, global refinery intake has been trimmed by 190 kb/d for 2022, and is now forecast to rise by 2.4 mb/d to 80.5 mb/d. Upward revisions to the Middle East and US refining activity for 2023 see growth average 1.8 mb/d to 82.3 mb/d, slightly above pre-pandemic 2019 levels.

Following a 1.6 mb/d q-o-q gain in 3Q22, global refinery throughputs are expected to increase by another 1.2 mb/d in 4Q22. However, 820 kb/d of this is accounted for by China, where the growth comes from the low base in 3Q22. This is to meet the expected domestic demand recovery, rather than to increase product exports. In 1Q23, seasonally lower refined product demand, combined with relatively stable refinery throughputs lead to the first substantial build in global refined product markets in more than two years.

Three new major refineries are expected to start-up before 1H23, with a combined capacity of 1.6 mb/d. Unplanned delays may yet cause the dates to slip by several months. The ramp-up period and ability to reach on-specification product output are also subject to uncertainties. Of the three, Kuwait's 615 kb/d Al-Zour project is expected to be the first to ramp up to full capacity in 1H23, while Nigeria's 650 kb/d Dangote and Mexico's 340 kb/d Olmeca refineries are more likely to achieve it in the second half of the year.

Global Refinery Crude Throughput ¹														
	(million barrels per day)													
	2019	2020	2021	1Q22	2Q22	Jul-22	Aug-22	Sep-22	3Q22	4Q22	2022	1Q23	2Q23	2023
Americas	19.2	16.6	17.8	18.4	18.7	19.0	19.2	18.6	18.9	18.5	18.6	18.4	19.3	19.0
Europe	12.2	10.7	11.0	11.0	11.6	12.0	11.7	11.6	11.7	12.0	11.6	11.2	11.3	11.5
Asia Oceania	6.8	5.9	5.8	6.2	5.8	6.0	6.2	6.0	6.1	6.2	6.1	6.2	5.7	6.0
Total OECD	38.1	33.2	34.5	35.6	36.1	37.0	37.1	36.2	36.8	36.8	36.3	35.8	36.3	36.5
FSU	6.8	6.4	6.7	6.6	5.9	6.4	6.4	5.9	6.2	6.1	6.2	5.7	5.0	5.3
Non-OECD Europe	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
China	13.4	13.7	14.4	14.2	12.9	12.8	13.1	13.7	13.2	14.0	13.6	14.1	14.2	14.4
Other Asia	10.3	9.3	9.5	10.3	10.5	10.4	10.5	10.3	10.4	10.7	10.5	11.0	10.8	10.9
Latin America	3.2	3.0	3.2	3.3	3.5	3.5	3.4	3.4	3.5	3.5	3.4	3.4	3.4	3.5
Middle East	7.8	7.1	7.6	7.7	8.1	8.3	8.4	8.3	8.4	8.6	8.2	8.6	9.1	9.1
Africa	2.0	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.3
Total Non-OECD	44.0	41.9	43.7	44.4	43.1	43.8	44.3	44.1	44.1	45.3	44.2	45.4	45.0	45.8
Total	82.1	75.0	78.2	80.0	79.2	80.9	81.4	80.3	80.8	82.1	80.5	81.1	81.3	82.3
Year-on-year change	-0.2	-7.1	3.2	4.1	1.4	2.1	2.5	2.2	2.3	1.8	2.4	1.1	2.1	1.8

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

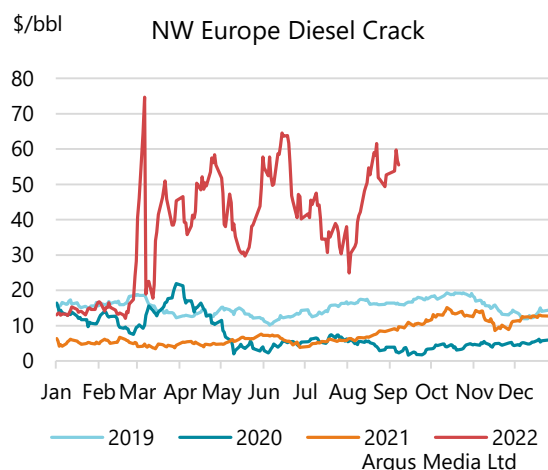
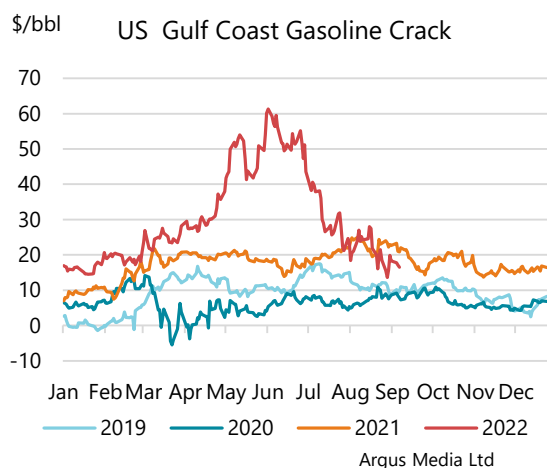
Product cracks and refinery margins

Crude prices dropped for the second consecutive month in August, with benchmark spot prices in Europe and the US falling \$8-13/bbl, and now hovering near levels seen prior to Russia's invasion of Ukraine. Lower crude prices provided a generally supportive environment for cracks. Most product differentials increased m-o-m, but gasoline continued falling, showing counter-seasonal weakness.

Product Prices and Differentials (\$/bbl)												
	Prices			Differentials				Week Starting				
	Jun	Jul	Aug	Jun	Jul	Aug	Jul-Aug	08-Aug	15-Aug	22-Aug	29-Aug	05-Sep
Northwest Europe				to North Sea Dated				chg				
Gasoline	162.92	130.94	111.23	39.09	18.92	11.60	-7.32	9.89	15.66	11.41	4.20	8.07
Diesel	178.75	152.16	142.81	54.92	40.14	43.18	3.04	32.11	46.25	57.26	51.36	56.42
Jet/Kero	178.11	146.88	142.85	54.29	34.87	43.22	8.36	31.87	47.11	57.71	50.71	53.43
Naphtha	90.20	85.62	74.25	-33.63	-26.40	-25.38	1.02	-28.52	-22.15	-24.37	-24.67	-20.21
HSFO	91.28	71.47	76.18	-32.55	-40.55	-23.45	17.10	-25.81	-17.25	-20.07	-27.95	-27.40
0.5% Fuel Oil	135.92	115.65	106.23	12.10	3.63	6.60	2.97	5.60	9.47	9.21	6.69	7.52
US Gulf Coast				to WTI Houston								
Gasoline	169.71	134.83	115.54	53.88	32.98	21.93	-11.04	24.21	25.76	19.76	16.66	17.42
Diesel	179.48	151.92	148.23	63.65	50.07	54.62	4.55	45.97	57.08	65.63	60.89	60.85
Jet/Kero	171.69	145.44	139.74	55.86	43.59	46.13	2.54	38.44	48.11	56.16	51.10	53.09
Naphtha	111.82	90.34	87.05	-4.01	-11.51	-6.56	4.95	-0.96	-1.83	-11.02	-15.14	-14.25
HSFO	94.92	84.50	81.74	-20.91	-17.35	-11.86	5.49	-8.21	-12.60	-17.09	-16.69	-21.69
0.5% Fuel Oil	140.31	125.31	111.24	24.48	23.46	17.64	-5.83	19.37	15.95	15.26	15.50	14.36
Singapore				to Dubai								
Gasoline	149.10	116.35	107.19	35.03	12.32	9.57	-2.75	9.36	12.93	10.30	1.07	4.83
Diesel	177.35	145.27	139.12	63.28	41.24	41.50	0.26	33.31	42.21	51.16	44.95	46.16
Jet/Kero	165.10	134.90	131.73	51.03	30.87	34.12	3.24	26.15	35.76	44.00	38.21	38.26
Naphtha	85.42	82.70	72.73	-28.65	-21.32	-24.89	-3.57	-23.04	-23.93	-28.11	-29.66	-26.01
HSFO	92.45	73.83	74.95	-21.62	-30.19	-22.67	7.52	-20.21	-18.33	-24.67	-29.95	-31.36
0.5% Fuel Oil	155.05	135.90	110.92	40.98	31.88	13.30	-18.58	12.86	14.11	13.75	8.37	7.76

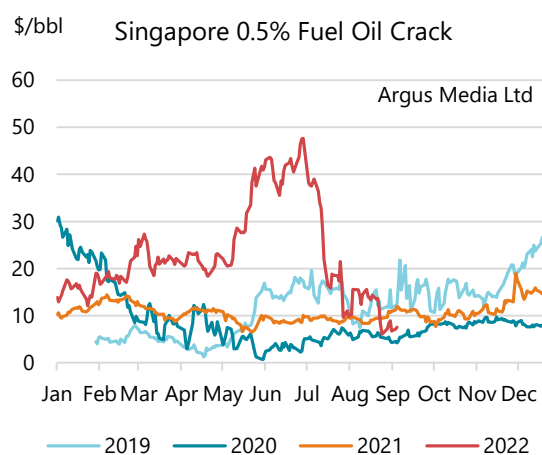
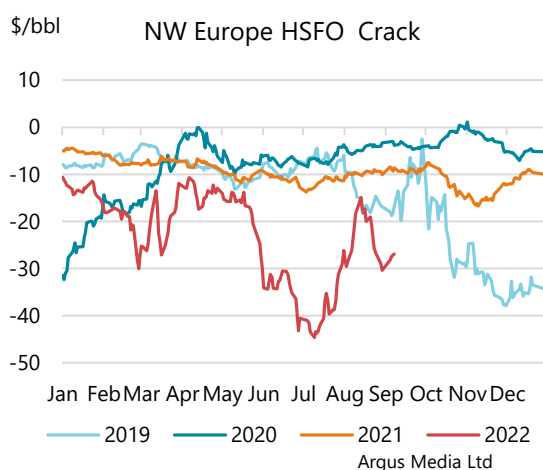
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US Gulf Coast gasoline cracks dropped \$11/bbl m-o-m to \$22/bbl on average in August, and are now 60% below lofty June levels of near \$54/bbl. At the end of the month, their daily values fell even further, to \$15/bbl, the lowest reading since January. Finalised US gasoline demand numbers for June were slightly higher than the weekly data, but they confirmed a significant y-o-y fall. The US driving season typically closes with the US Labor Day holiday in the first week of September. In Europe and Singapore, gasoline cracks fell to single digits at the end of the month. Unlike in the previous month, falling crude oil prices in August did not lead to gains in naphtha cracks. In Europe, they were essentially flat m-o-m, while in Singapore they dropped by \$3.60/bbl on weak petrochemical margins and demand.



In August, middle distillates cracks were generally stronger m-o-m. In Europe, diesel cracks averaged \$43/bbl, \$3/bbl higher m-o-m, but the main action was in the second half of the month when daily values surged to \$60/bbl. Rising Rhine water levels eased the flow of products from the Amsterdam-Rotterdam-Antwerp (ARA) hub to inland demand centres in Germany, Switzerland, France and Austria. Refinery issues in Germany and Austria exacerbated the tightness in the typically short central European markets. With normal product flows on the Rhine resuming, prices in the ARA hub finally started reflecting the full extent of the supply-demand gap. Jet cracks in Europe saw stronger gains and caught up with diesel crack levels.

In the United States, diesel prices increased faster and topped European levels, making export economics to Europe problematic. US diesel exports to Europe have not exceeded 100 kb/d on a monthly basis this year, out of 1.1 mb/d in total, as more than 90% typically goes to Mexico and Latin America. In Singapore, diesel cracks were flat m-o-m, but jet cracks increased. Seasonal typhoon activity in North East Asia and slowing export markets dampened diesel demand, notably in Korea.



Fuel oil cracks fully capitalised on crude price falls, rebounding by \$17/bbl in Europe and \$8/bbl in Singapore. Arrivals from Russia in the Northwest Europe hub slowed dramatically over the summer months as more cargoes were sent to the Middle East, in part for power generation use. In Singapore, the 0.5% sulphur fuel oil differentials sharply narrowed, falling by \$18/bbl to \$13.30/bbl, the lowest since November 2021.

IEA Global Indicator Refining Margins

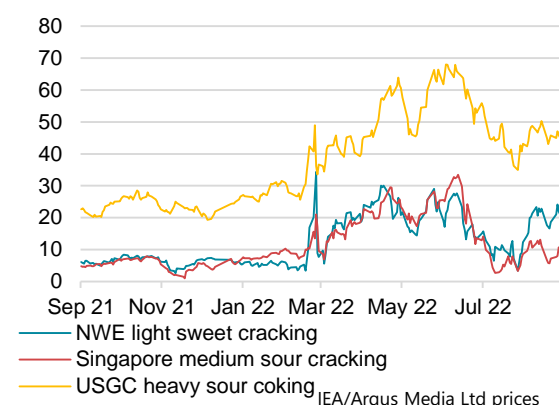
\$/bbl	Monthly Average				Change		Average for week starting:			
	May 22	Jun 22	Jul 22	Aug 22	Jul - Aug	08 Aug	15 Aug	22 Aug	29 Aug	05 Sep
NW Europe										
Light sweet hydroskimming	14.71	14.11	4.89	9.60	4.71	3.52	13.19	16.06	11.36	15.06
Light sweet cracking	20.31	22.79	12.29	14.77	2.48	7.88	18.24	22.32	17.52	22.06
Light sweet cracking + Petchem	23.75	27.56	15.00	16.73	1.73	9.99	20.22	24.27	18.50	22.76
Medium sour cracking	57.87	60.28	40.00	35.48	-4.51	30.26	40.03	39.40	36.40	39.10
US Gulf Coast										
Light sweet cracking	37.83	45.12	29.39	25.62	-3.77	23.74	28.86	28.28	25.01	25.96
Medium sour cracking	45.88	56.49	38.88	34.26	-4.63	31.78	37.39	38.10	33.74	33.91
Heavy sour coking	54.86	64.39	49.64	43.63	-6.01	40.27	46.16	48.14	44.82	45.76
Singapore										
Light sweet cracking	15.50	24.03	12.04	11.75	-0.29	8.53	13.48	16.17	10.97	13.30
Light sweet cracking + Petchem	17.00	26.32	13.24	13.84	0.59	10.38	15.78	18.48	13.55	16.23
Medium sour cracking	22.26	27.10	9.91	8.98	-0.93	6.17	11.25	12.19	6.40	8.63
Medium sour cracking + Petchem	23.74	29.37	11.09	11.04	-0.05	7.99	13.53	14.47	8.95	11.52

Note: Mediterranean and US Midcontinent margins are available in Table 15 of this Report.

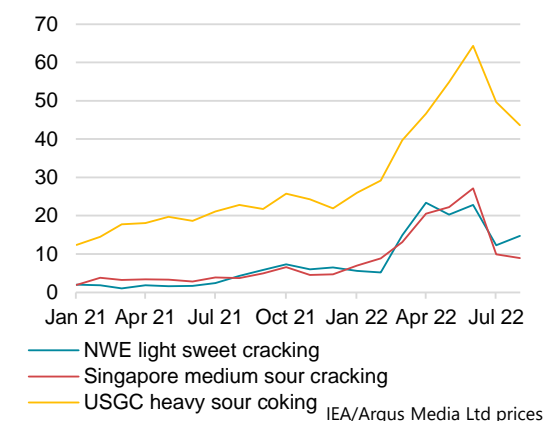
Source: IEA/Argus Media Ltd prices.

Methodology notes are available at <https://www.iea.org/topics/oil-market-report#methodology>

\$/bbl Regional Refining Margins Daily



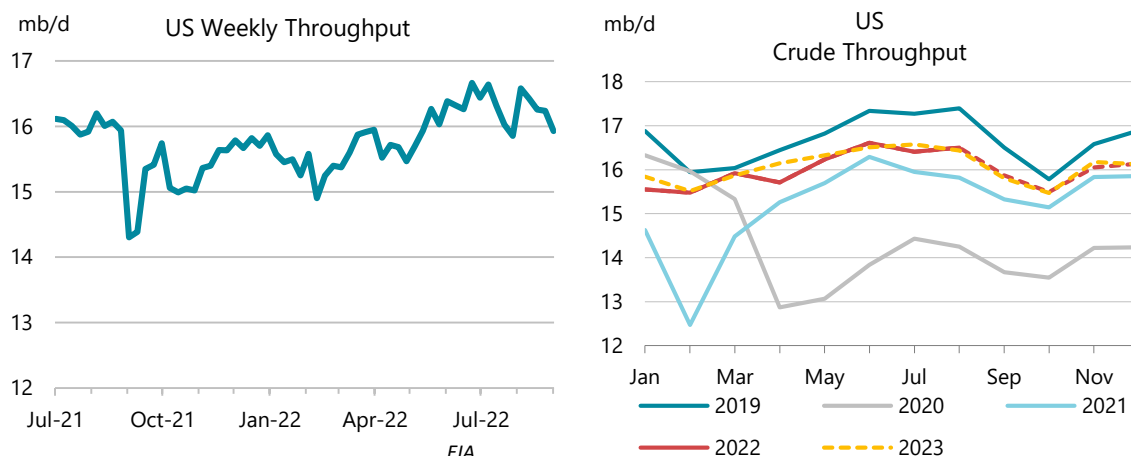
\$/bbl Regional Refining Margins Monthly



Rebounding diesel, plunging gasoline cracks and surging natural gas prices led to three distinct paths for refinery margins in August. In Europe, the refinery crude slate is now increasingly dominated by light sweet, diesel-oriented grades, requiring minimal natural gas inputs for processing. Margins increased m-o-m, as cracks for all products rose, bar gasoline. In Singapore, gains from middle distillates were offset by higher natural gas costs for the benchmark sour cracking margin, which fell \$1/bbl m-o-m. In the US, where gasoline accounts for almost half of refinery output, margins fell to their lowest levels since March. Nevertheless, US refinery margins remain the highest in the world.

Regional refining developments

Weekly data show **US** refinery runs slightly higher m-o-m in August, at 16.4 mb/d, but they failed to reach June's 16.5 mb/d levels, which is likely to stay as a peak value this year. Sharply lower gasoline cracks would normally pose a problem for heavily gasoline-oriented US refiners. Refinery margins, however, remain at elevated levels thanks to middle distillate cracks, supported by robust domestic and export demand. The absence of major hurricane activity in the Atlantic basin so far this season has led us to revise up our US throughput forecast for September by 310 kb/d.



In **Canada**, refinery throughputs were down 150 kb/d in 2Q22, on maintenance in April-May, but runs were up 70 kb/d y-o-y. In 2023, refining activity is expected to fully recover from the lockdown losses of 2020. **Mexican** throughput in July rebounded by 120 kb/d to 820 kb/d.

Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Change from Jun 22	Jul 21	Utilisation rate Jul 22	Jul 21
US ¹	15.38	15.82	15.61	16.13	16.51	16.31	-0.21	0.46	93%	88%
Canada	1.84	1.76	1.57	1.65	1.72	1.81	0.09	-0.02	95%	91%
Chile	0.21	0.21	0.19	0.13	0.10	0.11	0.01	-0.06	49%	91%
Mexico	0.85	0.83	0.89	0.82	0.71	0.82	0.11	0.17	50%	77%
OECD Americas¹	18.28	18.62	18.25	18.74	19.05	19.05	0.00	0.54	89%	85%
France	0.78	0.80	0.83	0.85	0.85	0.98	0.13	0.19	86%	69%
Germany	1.82	1.72	1.90	1.80	1.91	1.86	-0.05	0.15	92%	84%
Italy	1.11	1.23	1.33	1.46	1.46	1.44	-0.02	0.23	83%	70%
Netherlands	0.90	0.88	1.02	1.06	1.11	1.00	-0.10	0.01	83%	82%
Spain	1.22	1.17	1.33	1.37	1.35	1.35	0.00	0.18	96%	83%
United Kingdom	1.02	1.05	1.10	1.08	0.99	0.96	-0.03	-0.05	80%	85%
Other OECD Europe ²	4.26	4.01	4.03	3.94	4.08	4.37	0.29	0.10	86%	89%
OECD Europe	11.11	10.86	11.53	11.56	11.74	11.97	0.22	0.81	87%	81%
Japan	2.82	2.72	2.72	2.65	2.42	2.57	0.14	0.32	74%	65%
Korea	2.87	2.78	2.80	2.76	2.65	2.98	0.32	0.35	84%	75%
Other Asia Oceania ³	0.58	0.53	0.51	0.48	0.49	0.47	-0.02	-0.13	90%	83%
OECD Asia Oceania	6.27	6.03	6.03	5.89	5.57	6.02	0.45	0.53	80%	71%
OECD Total	35.66	35.51	35.82	36.19	36.36	37.03	0.67	1.88	87%	81%

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

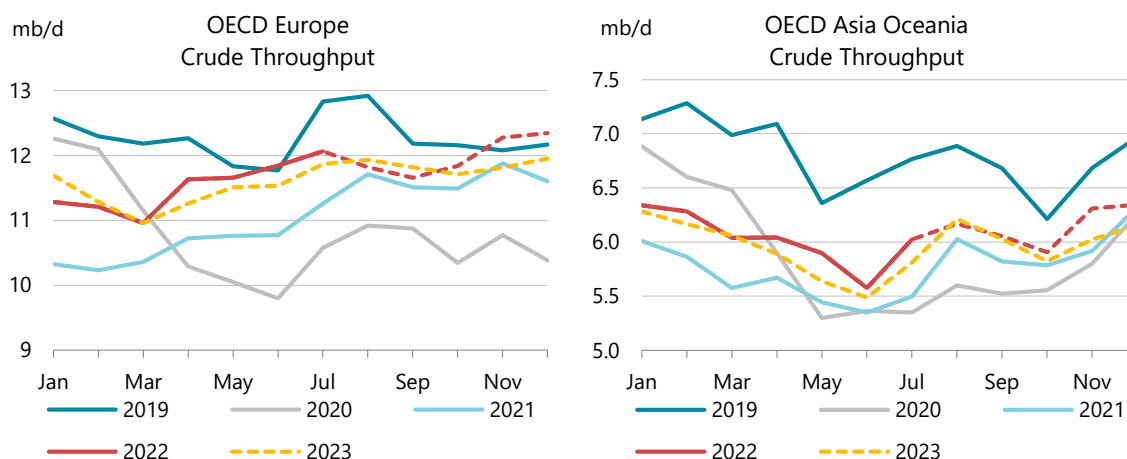
² Includes Lithuania

³ Includes Israel

In Europe, throughputs in July continued their upward seasonal trend, rising by 225 kb/d m-o-m to just under 12 mb/d. The increase, however, came essentially from only three countries. The Donges refinery restart following 17-month shutdown was visible in the **French** data, which showed runs surging 130 kb/d m-o-m to 980 kb/d, the highest in three years. **Belgium** and **Norway** also saw throughputs recovering in July from maintenance in 2Q22. Elsewhere, somewhat counter-seasonally, refining activity fell m-o-m. In August, we estimated total regional runs lower on continued outages and the impact of Rhine water level on refinery operations. Storage bottlenecks for export products such as gasoline forced several refineries in **Germany** to reduce throughputs.

In a rare statement, Russian state-owned Rosneft said that its joint-venture Schwedt refinery in **Germany** imported WTI crude from the US via the port of Rostock for test-runs. Starting in

December, EU refiners will not be able to purchase Russian-origin crude oil. In August, US volumes supplied to the EU and UK nearly matched Russian imports (see *US challenges Russia for Europe's top crude oil supplier rank*). The Schwedt refinery is normally supplied via the Druzhba pipeline but is also connected to the ports of Rostock and Gdansk via pipelines.



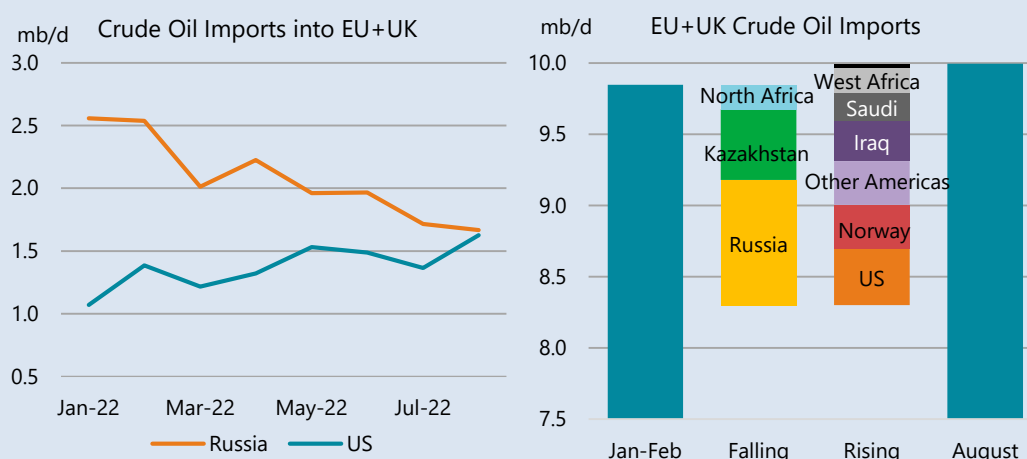
In OECD Asia, runs rebounded by 450 kb/d in July as **Japanese** and **Korean** refiners ramped up seasonally prior to autumn maintenance in September and October. Late August, typhoon Hinnamnor hit Northeast Asia, disrupting port operations in Korea, Japan, as well as China. However, no impact on refinery activity was reported. Korean S-Oil's 580 kb/d Ulsan refinery was ordered by local fire authorities to stop operations at most of its units for the first half of September, as part of an ongoing investigation into the safety issues.

US challenges Russia for Europe's top crude oil supplier rank

The United States is the main contender to become Europe's biggest supplier of crude oil as refiners scramble to source alternative supplies ahead of a looming EU sanctions deadline. By August, the gap between imports of Russian and US barrels narrowed to just 40 kb/d, from a 1.3 mb/d pre-war average. US crude oil made up for almost half of lost Russian volumes in the region. Increased inflows from Norway, up by 310 kb/d, contributed to replacing another one third of foregone Russian crude oil. While Russia narrowly kept its lead as the biggest source of crude oil supply to EU countries (the UK has stopped crude oil imports from Russia), its share in their total imports has fallen from 27% to 17%.

By August, the EU and UK had cut imports of Russian crude oil by a combined 880 kb/d compared with pre-war levels. Our trade model, based on *Kpler* cargo tracking and estimated overland volumes, shows their crude oil imports from sources outside Russia increasing by about 1 mb/d over the same period.

Ongoing export constraints at the CPC terminal and upstream maintenance saw Kazakh crude import volumes in the EU+UK falling by more than a third to just 700 kb/d in August. In January-February, Kazakhstan was the third-largest crude supplier to the region. In addition to the US and Norwegian supplies, increased arrivals from Iraq, Saudi Arabia, Guyana and Brazil were able to close the gap and also meet higher import requirements.



Starting from December, EU countries will need to replace an additional 1.4 mb/d of Russian crude oil volumes versus August. When Kazakh volumes recover to normal levels, it could provide 400 kb/d to help offset Russian losses. US crude output is set to increase by about 300 kb/d towards the end of the year, which could replace the current additional volumes from the SPR release, set to expire in October. Over the March-August period, the US SPR provided around 730 kb/d of crude oil to the markets. However, higher imports from other sources, such as the Middle East and Latin America, would be needed to fully meet the new import requirements. For these suppliers, it is a question of arbitrage between their traditional Asian customers and new European buyers.

Crude Oil Imports into EU and UK (mb/d)											
	Russia	Saudi Arabia	US	West Africa	Kazakhstan	Iraq	Norway	North Africa	Other Americas	ROW	Total
Jan-22	2.6	0.3	1.1	0.9	1.1	0.6	0.9	1.0	0.4	0.4	9.4
Feb-22	2.5	0.6	1.4	0.8	1.3	0.7	1.0	1.1	0.5	0.5	10.2
Mar-22	2.0	0.5	1.2	1.0	0.9	0.8	1.3	1.0	0.4	0.4	9.6
Apr-22	2.2	0.5	1.3	1.1	0.7	0.7	1.3	1.1	0.4	0.5	9.8
May-22	2.0	0.6	1.5	1.2	1.0	1.0	1.3	0.9	0.7	0.6	10.8
Jun-22	2.0	0.7	1.5	1.5	0.7	0.8	1.2	0.7	0.8	0.5	10.4
Jul-22	1.7	0.7	1.4	1.3	1.0	0.9	1.2	0.7	0.9	0.5	10.4
Aug-22	1.7	0.6	1.6	1.0	0.7	0.9	1.3	0.9	0.8	0.5	10.0
Aug vs Jan-Feb	-0.9	0.2	0.4	0.2	-0.5	0.3	0.3	-0.2	0.3	0.0	0.1

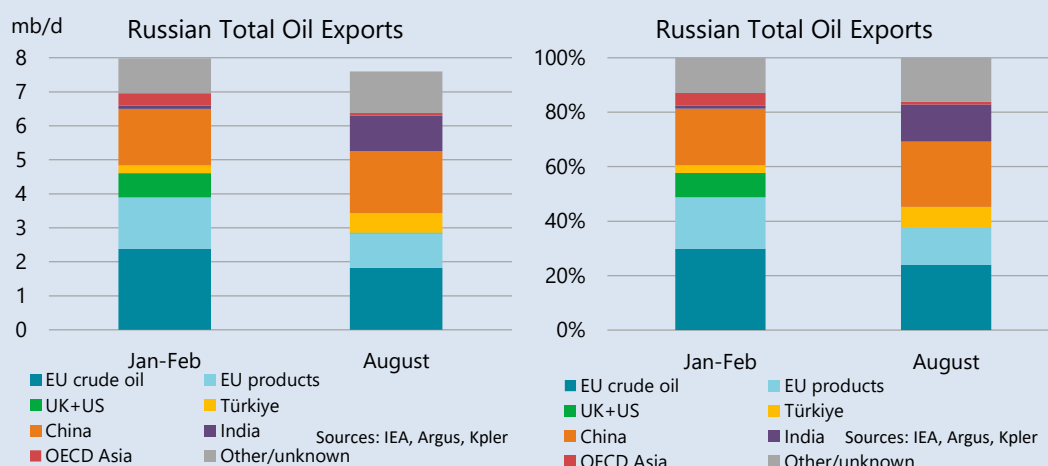
Sources: IEA, Argus, Kpler.

Note: Data in this table were derived by granular analysis of country of origin data in cases where shipments transit via third countries. They may differ from customs information.

Russian export volumes up, revenues down in August

Russian export options have significantly narrowed. Its top four customers – EU, China, India and Türkiye – now account for over 83% of total volumes, compared to 70% last year. The EU's crude oil and product import bans, which come into force in December and February 2023, respectively, will remove the world's largest oil importing region from the list of Russian oil buyers.

In for August, total oil exports from Russia rebounded by 220 kb/d to 7.6 mb/d. Crude exports rose 190 kb/d to 5 mb/d. Product exports were relatively stable at 2.6 mb/d. Russian oil export revenues benefited from an initial surge in oil prices but with crude falling by almost \$35/bbl since June the windfall has contracted. Estimated revenues fell by \$1.2 bn to \$17.7 bn as lower prices more than offset volumetric gains. Russian oil revenues may take a further hit when EU sanctions on Russian oil imports go into effect starting from December.



The EU was again the largest buyer of Russian crude oil in August. Shipments to the EU were largely unchanged m-o-m at 2.8 mb/d, with higher crude oil volumes offsetting lower product exports. For the first time since the start of the war in Ukraine, Russian crude oil exports to the EU increased m-o-m, but only to two destinations – Italy and the Netherlands, where Russian oil major Lukoil owns refineries. Product loadings to the EU, by contrast, fell by 140 kb/d m-o-m, spread across diesel, fuel oil and naphtha, to 1 mb/d. Diesel shipments fell to 580 kb/d, some 10% down from average January-February levels. Overall, EU liftings of Russian oil have declined by 1.1 mb/d since the invasion, reducing their share in Russian exports from 49% to 37%.

Russian Oil Exports (mb/d)									
	2021 avg	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
EU crude oil	2.1	2.3	2.4	2.1	2.1	2.1	1.8	1.6	1.8
EU products	1.3	1.5	1.6	1.3	1.4	1.4	1.3	1.2	1.0
UK+US	0.7	0.6	0.9	0.2	0.1	0.0	0.0	0.0	0.0
Türkiye	0.2	0.2	0.2	0.4	0.4	0.3	0.4	0.4	0.6
China	1.6	1.7	1.6	1.8	1.8	2.0	2.2	1.8	1.8
India	0.1	0.1	0.1	0.5	1.0	1.0	0.8	1.2	1.0
OECD Asia	0.4	0.4	0.3	0.3	0.4	0.0	0.1	0.0	0.1
Other/unknown	1.2	1.1	1.0	1.0	0.9	0.9	1.1	1.3	1.2
Total exports	7.5	8.0	8.0	7.7	8.0	7.8	7.6	7.4	7.6
<i>Memo</i>									
Pipeline to EU	0.7	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8
Pipeline to China	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Crude Oil	4.6	4.9	4.8	5.1	5.4	5.3	5.1	4.8	5.0
Oil Products	2.9	3.1	3.2	2.6	2.6	2.5	2.6	2.6	2.6
Estimated export revenues, \$bn	14.6	20.2	19.7	22.3	18.3	20.1	21.3	19.0	17.7

Sources: IEA, Argus, Kpler.

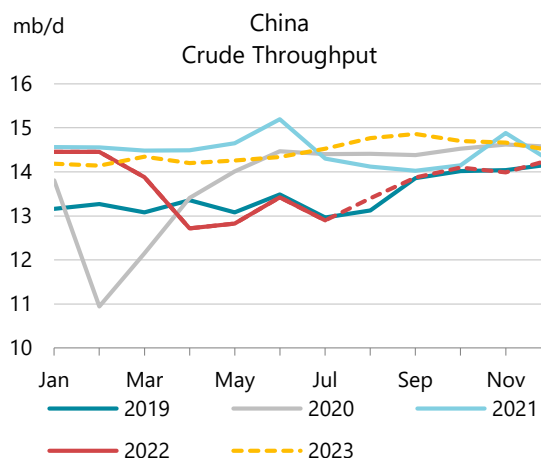
Note: Recent months volumes and revenues are estimates and subject to change.

Crude oil shipments to China were largely unchanged m-o-m, and marginally below the EU levels, with no recovery after the 400 kb/d m-o-m fall in July from the peak June levels. In Chinese official data for July, which show volumes that arrived and cleared customs, Russia remained the country's largest crude oil supplier for the third consecutive month, accounting for close to 20% of all imports.

In August, a shipment of 330 kb of fuel oil was sent to the UK, which was discharged on 6 September at the Lindsey refinery owned by Prax Group. The UK oil embargo on Russian oil imports comes into force at the end of this year.

Total oil exports to India fell by 120 kb/d to 1 mb/d. Volumes to Türkiye surged to a new record level at 580 kb/d. Of this, 350 kb/d was crude oil, equivalent to almost half of the country's typical refining intake.

Chinese refinery throughput in July plunged further, instead of an expected recovery. Runs fell by another 520 kb/d m-o-m to 12.8 mb/d, resulting in a 1.4 mb/d y-o-y drop. July data from the National Bureau of Statistics (NBS) contained other negative updates. There was a downward revision in cumulative January to June throughputs of 5.2 mt, which we allocated to the months of March through June, as NBS does not specify the affected time periods. The revision concerned mainly two provinces: Liaoning and Xinjiang, where there are not many small-scale independent refiners and therefore, no known issues of deliberate underreporting of refinery intake. In addition, we revised down our August estimates and the forecast through end-2023. Overall, figures for Chinese refinery throughputs have been lowered by 365 kb/d for 2022 and by 35 kb/d for 2023.



With these changes, the 2022 annual decline is set to reach an unprecedented 800 kb/d, compared to a drop in demand of 420 kb/d. The gap is accounted for by lower product exports. Gross exports of diesel, gasoline and kerosene have trailed year-ago levels by about 580 kb/d so far this year. Refiners only have 30% of their annual product export quota remaining for the August-December period. In 2023, runs are forecast to recover to 2021 average levels.

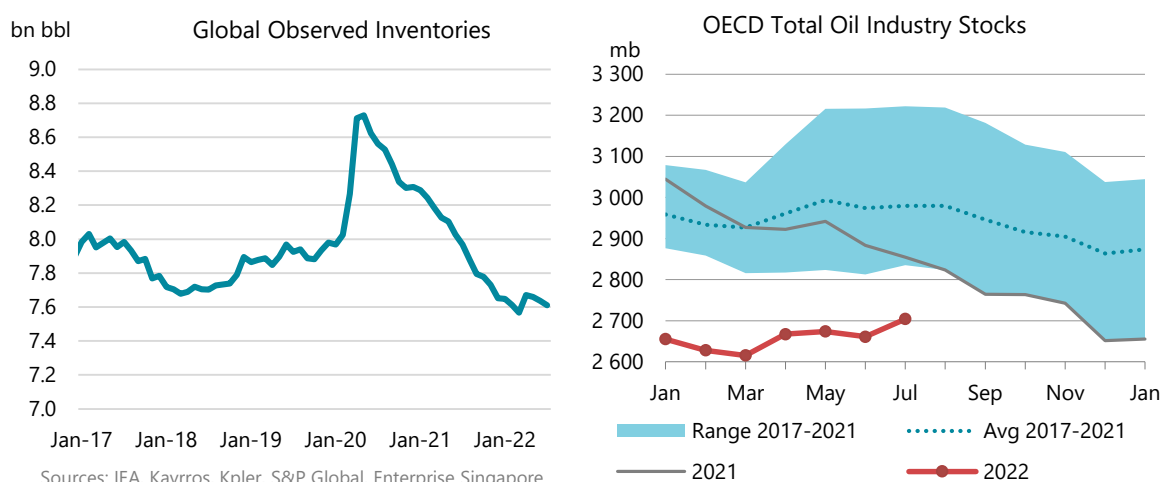
In the rest of developing Asia, combined throughputs from January to July have increased by 830 kb/d y-o-y, reflecting a strong post-Covid recovery. India, the largest refiner amongst them, accounted for more than half of the growth. In July, **Indian** throughputs fell by 210 kb/d m-o-m to 5 mb/d as the start of the monsoon season reduced domestic demand for diesel and other fuels. At the same time, refined product exports from India dropped some 20% m-o-m to around 1 mb/d, its lowest since October 2020, according to *Kpler* data. From 1 July, Indian diesel and kerosene exports have been subject to export duties. Starting from 1 September, the rates more than doubled to \$12/bbl and \$15/bbl for diesel and kerosene respectively.

Saudi throughputs rose to a record high in July, at 2.85 mb/d, with capacity utilisation rates reaching 88%, the highest since the start-up of the Jazan refinery. **Russian** refinery runs fell 50 kb/d m-o-m in August to 5.5 mb/d. The country's energy minister recently announced that refinery intake could drop by 8% in 2022, or 450 kb/d, which is much larger than the average y-o-y loss in January-August of 190 kb/d. In **Kazakhstan**, refinery throughputs in July fell 75 kb/d m-o-m to 320 kb/d on refinery maintenance. The government said it plans to import diesel from Russia to tackle domestic fuel shortages. Brazil data were not available at the time of writing. In **Argentina**, runs inched down to 490 kb/d in July.

Stocks

Overview

Global observed inventories declined in July for the third straight month, by a further 25.6 mb, and are close to their lowest level since at least 2016. Stocks in OECD countries rose by 17.6 mb while those in non-OECD countries fell by 20.1 mb, mainly in China. Oil on water declined by 23.1 mb. After posting a sharp increase in April, global crude stocks have drawn 140.4 mb while refined products have built by 80.3 mb from May through July.



OECD commercial oil inventories built by a significant 43.1 mb, or 1.4 mb/d, in July. The end-month stock level stood at 2 705 mb, narrowing the deficit versus the 2017-2021 average to 274.9 mb, its smallest since November 2021. Crude oil stocks built counter-seasonally by 14.8 mb. Product inventories rose by 29.2 mb, twice the normal seasonal rate. In terms of forward demand, total OECD industry stocks covered 58.8 days, up by 0.7 days m-o-m, but down by 3.5 days y-o-y.

Preliminary OECD Industry Stock Change in July 2022 and Second Quarter 2022												
	July 2022 (preliminary)				Second Quarter 2022							
	(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	5.1	-0.4	10.0	14.8	0.2	0.0	0.3	0.5	0.0	0.2	-0.1	0.0
Gasoline	4.1	-1.3	-2.2	0.6	0.1	0.0	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Middle Distillates	0.5	5.2	4.3	9.9	0.0	0.2	0.1	0.3	0.0	0.0	0.1	0.1
Residual Fuel Oil	0.2	-1.1	-0.5	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Products	21.2	-1.7	0.7	20.2	0.7	-0.1	0.0	0.7	0.4	0.1	0.0	0.6
Total Products	25.9	1.1	2.3	29.2	0.8	0.0	0.1	0.9	0.2	0.1	0.1	0.4
Other Oils ¹	-2.1	1.7	-0.5	-0.9	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
Total Oil	28.9	2.4	11.8	43.1	0.9	0.1	0.4	1.4	0.3	0.2	0.0	0.5

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD government stocks sold into the market totalled 25.6 mb in July, with 24.7 mb of crude, NGLs and feedstocks, and 0.9 mb of refined products. Preliminary data for August shows that around 180 mb has been released as part of the IEA's Collective Action since March.

August preliminary data for the US, Europe and Japan indicate stocks built for a second month, albeit by a smaller 5.3 mb. Crude oil, NGL and feedstock inventories contracted again, by 3.2 mb, led by a decrease of 3.6 mb in the US. By contrast, oil product stocks rose by 8.5 mb. Product stocks

increased in both the US (+12.9 mb) and Japan (+4.5 mb), but declined in Europe (-8.9 mb). Among the three regions, other product stocks increased by 22.7 mb while gasoline inventories were down by 10 mb, both in line with seasonal patterns. Middle distillate stocks fell counter-seasonally, by 4.1 mb, reflecting continuing market tensions. Residual fuel stocks were largely unchanged.

OECD stock data for June were revised lower by a large 19.2 mb following the submission of more complete data. This downgrade came mainly from OECD Americas where crude, NGL and feedstock inventories were reduced by 12 mb and product stocks by 7.7 mb. In OECD Asia Oceania, crude inventories were down by 5.7 mb while in Europe product stocks were up by 6.3 mb. May figures were also lowered, by a marginal 0.5 mb.

OECD Industry Stock Revisions versus August 2022 Oil Market Report

(million barrels)

	Americas		Europe		Asia Oceania		OECD	
	May-22	Jun-22	May-22	Jun-22	May-22	Jun-22	May-22	Jun-22
Crude Oil	0.8	-8.5	-0.7	2.8	0.0	-5.7	0.1	-11.4
Gasoline	0.0	0.4	0.7	0.2	0.0	-0.6	0.7	0.0
Middle Distillates	0.0	-1.7	-0.9	-1.5	0.0	0.1	-0.9	-3.1
Residual Fuel Oil	0.0	-1.9	0.7	1.4	0.0	-0.1	0.7	-0.5
Other Products	0.0	-4.5	-0.5	6.2	0.0	0.8	-0.4	2.5
Total Products	0.0	-7.7	0.1	6.3	0.0	0.2	0.2	-1.2
Other Oils ¹	-0.2	-3.5	-0.5	-2.9	0.0	-0.2	-0.7	-6.6
Total Oil	0.5	-19.7	-1.1	6.2	0.0	-5.7	-0.5	-19.2

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Implied balance

Global reported and observed stocks fell by 830 kb/d in July. OECD industry inventories increased by 1.4 mb/d, while 830 kb/d of government stocks were released in the month. Non-OECD crude oil inventories declined by 710 kb/d, according to *Kayros* satellite data. The stock draw was led by China (-710 kb/d) and OPEC countries (-310 kb/d), which were partially offset by gains elsewhere. Product stocks in Singapore and Fujairah rose slightly, by a combined 60 kb/d. Oil on water declined by a large 830 kb/d, compared with a 1 mb/d build in the previous month.

Global Oil Balance and Observed Stock Changes (mb/d)

	2020	2021	1Q22	2Q22	Jul-22	Aug-22
Global oil balance	2.28	-2.39	-0.76	0.28	0.92	0.94
Observed stock changes						
OECD industry stocks	0.41	-1.06	-0.34	0.50	1.39	0.17
OECD government stocks	0.02	-0.16	-0.46	-1.08	-0.83	-0.59
Non-OECD crude stocks*	0.44	-0.48	0.40	0.75	-0.71	-0.38
Selected non-OECD product stocks**	0.12	-0.03	0.10	0.07	0.06	0.06
Oil on water	0.01	-0.05	-0.51	0.53	-0.74	
Total observed stock changes	1.00	-1.78	-0.81	0.77	-0.83	
Unaccounted for balance	1.28	-0.61	0.05	-0.49	1.75	

*Crude stock change data from *Kayros*. 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 June 2022, plus Fujairah and Singapore inventories.

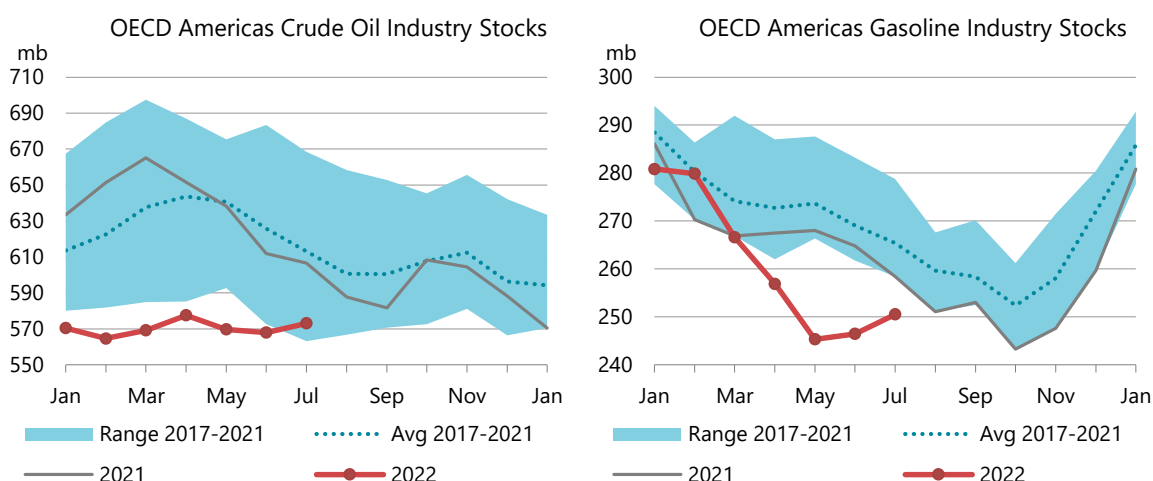
Sources: IEA, EIA, PAJ, *Euroilstock*, *Kayros*, JODI, *Kpler*, *FEDCom/S&P Global Platts* and *Enterprise Singapore*.

Recent OECD industry stocks changes

OECD Americas

Industry stocks in the OECD Americas rose by 28.9 mb to 1 462 mb in July, 119.2 mb lower than the five-year average. Crude oil inventories built by 5.1 mb compared with a normal seasonal decline of 12.6 mb. The release of 24.4 mb of crude oil from the US Strategic Petroleum Reserves (SPR) supported the increase. NGL and feedstock inventories fell by 2.1 mb.

Product stocks were up by a large 25.9 mb. The increase was led by higher other product inventories (+21.2 mb), which was above the normal seasonal gain (+13.4 mb) in July due to high propane production in the US. The continued weakness of the US driving season extended the counter-seasonal build in gasoline stocks by 4.1 mb. Middle distillate and fuel oil inventories edged up by 0.5 mb and 0.2 mb, respectively.

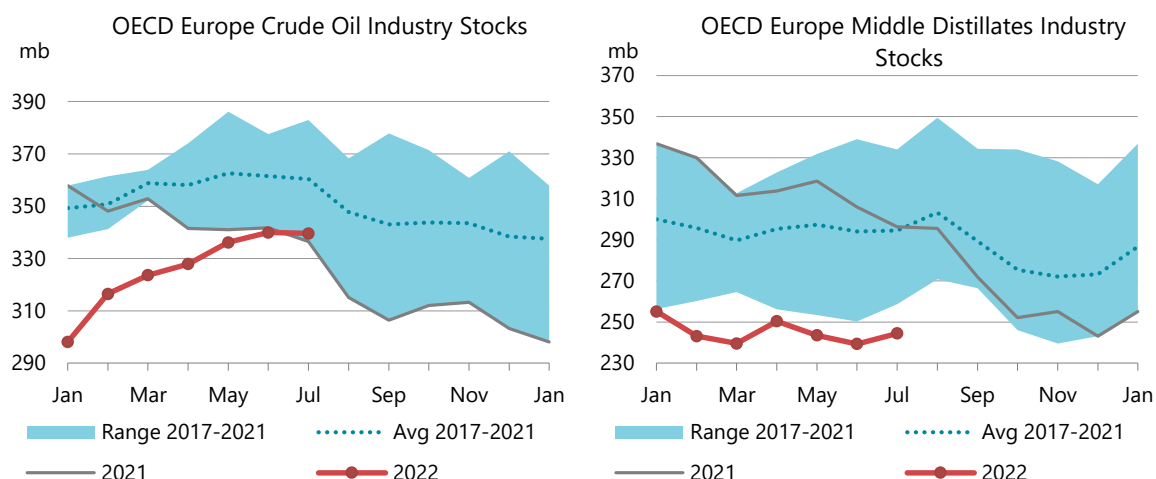


Weekly US EIA data show total oil stocks rose by 9.3 mb in August. Crude oil inventories decreased by 3.4 mb, less than the usual 17.2 mb draw thanks to continued SPR releases. Refined oil product stocks were up by 12.9 mb, in line with the seasonal norm, led by other products (+23.9 mb). Gasoline stocks fell by 9.2 mb, following the counter-seasonal increase in July. Middle distillate and residual fuel oil inventories inched down by 0.8 mb and 1 mb, respectively.

OECD Europe

Commercial inventories in OECD Europe built by 2.4 mb in July. At 913.8 mb, the stock level was 85.6 mb lower than the five-year average. Regional crude oil stocks registered their first decline since January, by 0.4 mb, driven by high regional refinery intake (+220 kb/d m-o-m). However, the stock level was 3.1 mb higher than a year ago. NGL and feedstock inventories rose by 1.7 mb, supported by the release of 0.6 mb of government stocks.

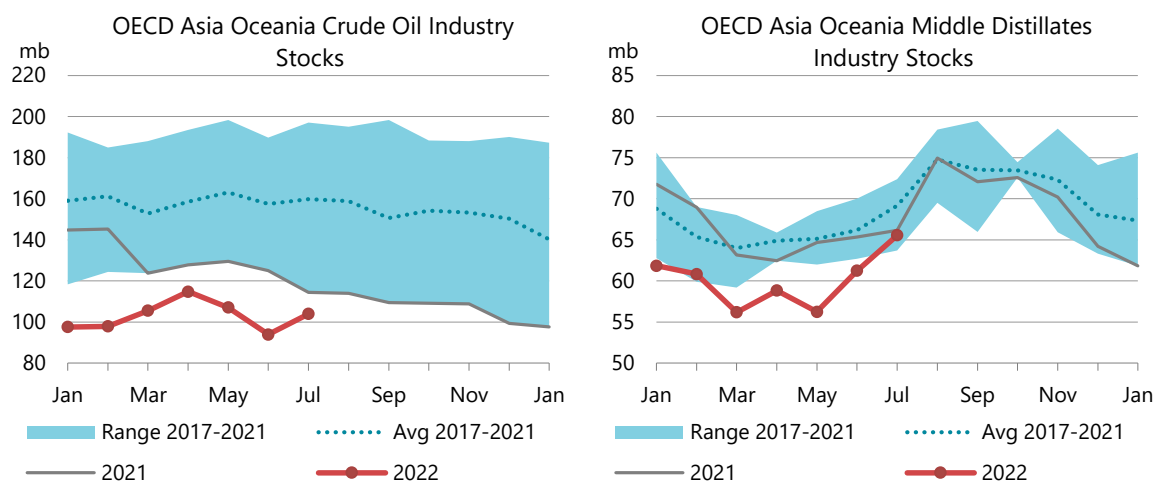
Total oil product stocks posted a marginal gain of 1.1 mb, versus the typical seasonal draw of 2.5 mb. Middle distillates led the build at a 5.2 mb, mainly in France (+1.4 mb) and Germany (+1.4 mb) where a combined 1.2 mb of emergency reserves were made available. Gasoline, fuel oil and other product inventories fell by 1.3 mb, 1.1 mb and 1.7 mb, respectively.



Preliminary data from *Euroilstock* show 9.2 mb of draws in Europe in August. Both crude oil and refined product stocks declined (-0.3 mb and -8.9 mb, respectively). Middle distillates inventories fell by a significant 5.9 mb, led by decreases in France (-1.9 mb), the Netherlands (-1.1 mb) and Germany (-0.8 mb). Gasoline stocks declined by 1.8 mb, mainly in Germany (-0.9 mb). Fuel oil inventories fell by a marginal 0.3 mb.

OECD Asia Oceania

Total industry oil stocks in OECD Asia Oceania rose by 11.8 mb to 329.2 mb, remaining 70 mb below the five-year average in July. Crude stocks built by 10 mb, far more than the five-year average gain (+2.4 mb). The increase was led by Korea (+9.8 mb), where crude imports jumped by 570 kb/d m-o-m to their highest level since May 2020, according to *Kpler*. NGL and feedstock inventories eased by 0.7 mb.



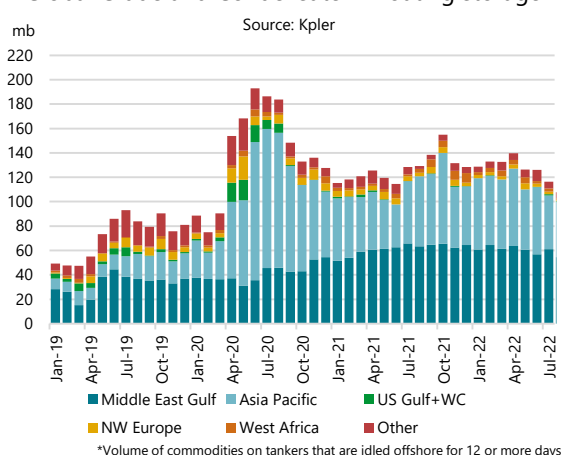
Total oil product stocks increased by 2.3 mb in line with seasonal patterns. Middle distillate stocks rose the most, by 4.3 mb. By contrast, gasoline inventories posted a larger decrease (-2.2 mb) compared with the five-year average (-0.4 mb). Japanese gasoline stocks (8.9 mb) hit the lowest level since 1989, but still covered 12 days of forward supply due to weaker forward demand, in line with the five-year average. Fuel oil stocks decreased slightly, by 0.5 mb, while other oil product stocks inched up by 0.7 mb.

Preliminary data from the Petroleum Association of Japan show a 5.2 mb build in August, largely in line with seasonal trends. Crude oil stocks fell by 1.1 mb while oil product inventories gained 4.5 mb as crude runs rose 300 kb/d m-o-m. Gasoline stocks edged up by 0.8 mb. Middle distillate stocks increased by 2.6 mb, compared with a normal build of 3.8 mb. Fuel oil also rose, by 1.3 mb, while other products marginally declined by 0.2 mb. Other oil (unfinished products and feedstocks) stocks built by 1.8 mb.

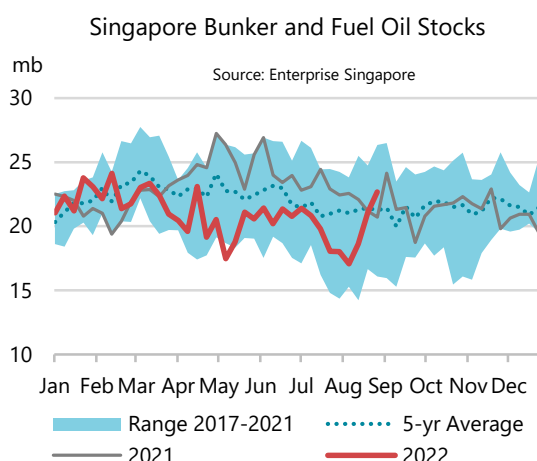
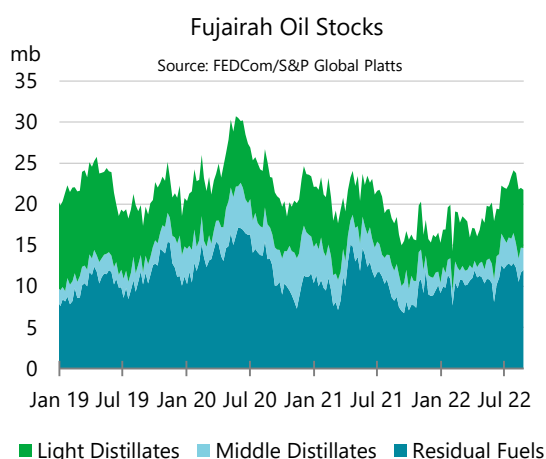
Other stock developments

According to data from *Kpler*, volumes of oil on water (including floating storage) fell by 23.1 mb in July. Crude oil declined by 30.2 mb while products increased by 7.1 mb. Global crude exports rose by 370 kb/d m-o-m, mainly from Saudi Arabia, but more crude was imported (+1.3 mb/d m-o-m) especially in East Asia and North America, such as Japan, Korea, Chinese Taipei and the US. Crude oil held in short-term floating storage fell by 9.8 mb to 116.3 mb in July. The Asia Pacific region led the decrease (-10.9 mb) while they increased in the Middle East region (+4.2 mb). Oil product floating storage built by 0.4 mb to 57.5 mb, mainly in the Middle East Gulf (+1.7 mb).

Global Crude and Condensate in floating storage*



In Fujairah, independent product stocks fell by 1.3 mb in August according to data from *FEDCom* and *S&P Global Platts*, following operational disruptions due to flooding in the area. However, at 21.9 mb, stocks remain 2 mb above their five-year average. Heavy distillates decreased by only 0.8 mb despite firm demand from Singapore and Saudi Arabia. Light distillates and middle distillates inventories edged down by 0.2 mb and 0.4 mb, respectively.

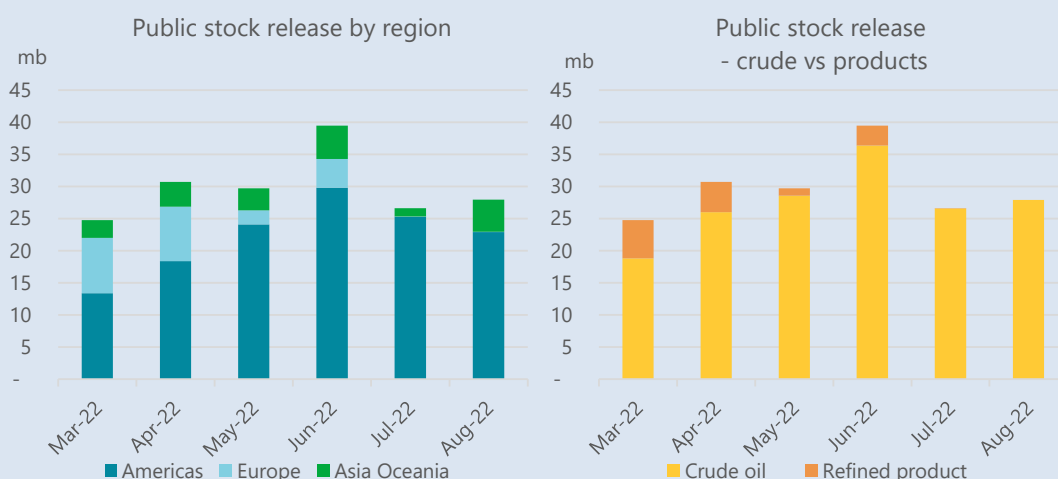


Independent product stocks in Singapore, the world's largest bunkering hub, rose by 3.1 mb in August, according to data from *Enterprise Singapore*. At 46.7 mb, the end-month stock level is the highest since January. Larger imports and smaller exports than the previous month partially explain the stock build. Residual fuel stocks posted a significant build (+4.6 mb) while light distillate and middle distillates fell by 1.3 mb and 0.1 mb, respectively.

Total oil inventories in 10 non-OECD economies reporting to the *JODI-Oil* database drew 4.6 mb m-o-m in June, led by a 3.4 mb of decrease in oil product stocks. Product stocks in India fell by 3 mb due to strong diesel and gasoline demand. Product stocks also declined in Nigeria (-1.1 mb) and Hong Kong (-0.9 mb) but were partially offset by an increase in Saudi Arabia (1.6 mb). Crude oil inventories were slightly down, by 0.5 mb m-o-m. In Chinese Taipei crude stocks slumped by 6.7 mb, hitting their lowest level since December 2013 due to subdued crude imports and high refinery intake. Crude inventories also decreased in Iraq (-3.5 mb), Saudi Arabia (-2.6 mb) and Angola (-2.4 mb). By contrast, they rose in India and Nigeria by 5.2 mb and 2.4 mb, respectively, after a sharp decline in May (-6.7 mb and -5.6 mb, respectively).

IEA stock releases help temper oil market impact from Russian invasion of Ukraine

OECD government oil stocks have been flowing into international markets at a rate equivalent to nearly 1 mb/d on average from March through end-August. The additional volumes have helped ease the burden on already exceptionally low industry inventories and reduce the price tensions sparked by Russia's invasion of Ukraine. IEA member countries have already delivered nearly 180 mb of government stocks as part of the IEA's two emergency Collective Actions as well as additional volumes that have been released from strategic stocks in IEA countries based on separate, independent decisions.



The vast majority of the oil released from public stocks is crude oil, estimated at 164 mb, compared to 15 mb of oil products. IEA countries in Europe and Asia have released 23.8 mb and 21.6 mb, respectively, a mixture of both crude oil and oil products. The United States has released 133.9 mb of crude oil from its SPR.

It is expected that just over 50 mb of additional volumes will be released from IEA countries in September and October. The vast majority of this will come from the United States, with close to 47 mb of oil sales already awarded through the SPR's tendering process which have yet to be delivered.

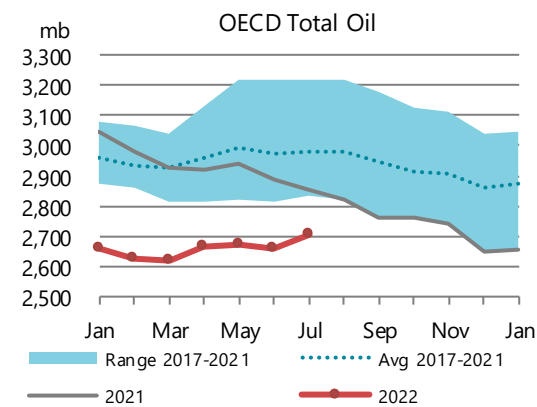
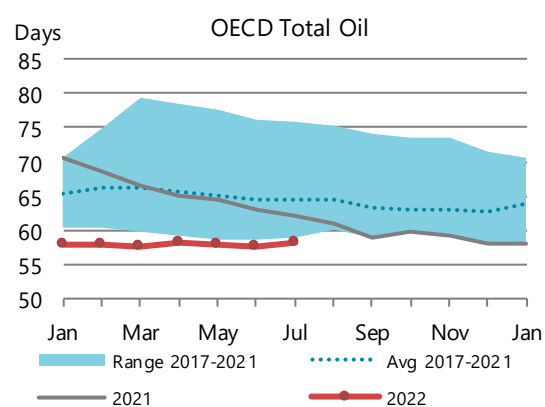
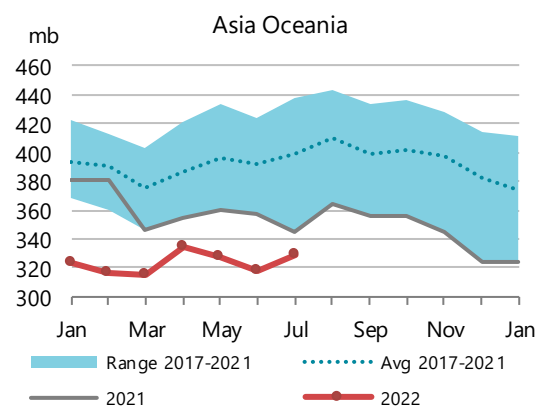
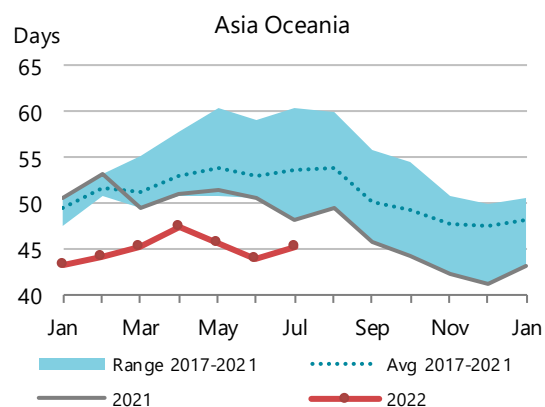
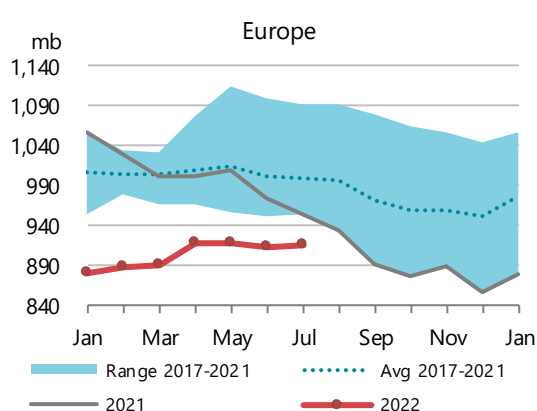
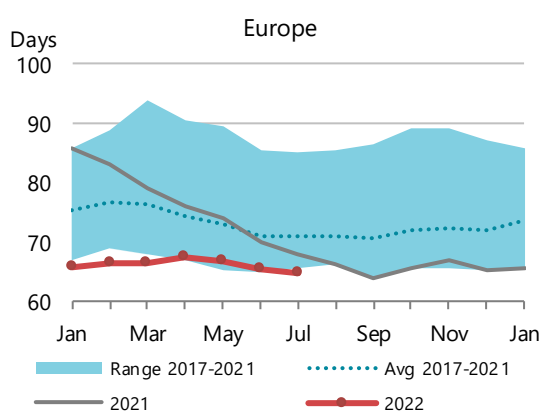
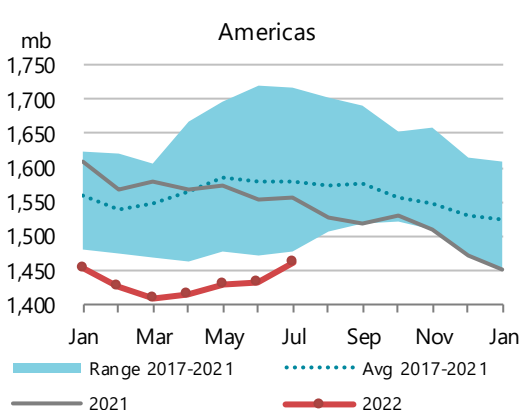
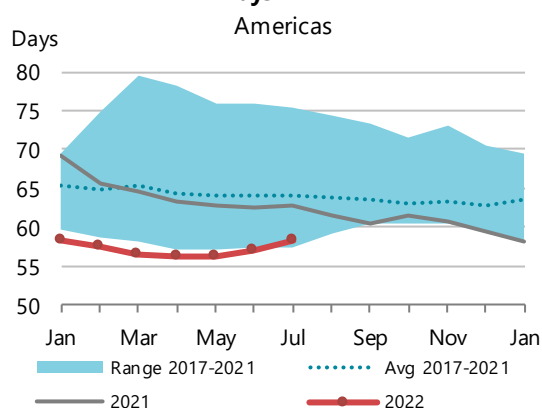
In addition to the release of public stocks, many IEA countries agreed to participate in the March and April Collective Actions by making available a total of 45 mb of industry stocks via the lowering of industry stockholding obligations. While the IEA Collective Actions remain active, the obligation on IEA countries to hold oil stocks at a level equivalent to at least 90 days of net imports will remain suspended.

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.

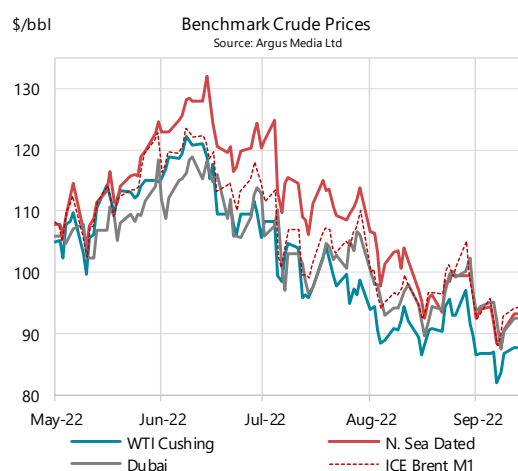
Prices

Overview

Brent futures have given up \$34/bbl and North Sea Dated \$45/bbl in just three months versus the early June peak. This is the largest 90-day decline since March-April 2020 and is only exceeded prior to 2020 by market routs in 2014-15 and 2008-09. The recent price collapse has had steady momentum, driven by a broadening consensus of decelerating global economic growth combined with robust oil supply and the coordinated release of strategic stocks. The extreme drop underlines the depth of market alarm about the state of the world economy.

Crude Prices and Differentials (\$/bbl)							
	Month		Week of		Last	Chng Aug-22	
	Aug-21	Jul-22	Aug-22	12 Sep	12 Sep	m-o-m	y-o-y
Crude Futures (M1)							
NYMEX WTI	67.71	99.38	91.48	87.78	87.78	-7.90	23.77
ICE Brent	70.51	105.12	97.74	94.00	94.00	-7.38	27.23
Crude Marker Grades							
North Sea Dated	70.75	112.63	99.63	93.22	93.22	-13.00	28.88
WTI (Cushing)	67.73	99.84	91.57	87.78	87.78	-8.27	23.84
Dubai	69.32	102.86	96.43	92.50	92.50	-6.42	27.12
Differential to North Sea Dated							
WTI (Cushing)	-3.02	-12.79	-8.06	-5.44	-5.44	4.73	-5.04
Dubai	-1.43	-9.77	-3.20	-0.72	-0.72	6.57	-1.77
Differential to ICE Brent							
North Sea Dated	0.24	7.51	1.89	-0.78	-0.78	-5.62	1.65
NYMEX WTI	-2.80	-5.74	-6.26	-6.22	-6.22	-0.52	-3.46

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



The global economy is on the cusp of a recession. China's zero-Covid policy colliding with its protracted real-estate crisis has sapped domestic consumption while the deterioration in its goods exports has slowed manufacturing. Europe's outlook has degraded due to surging gas and power prices and a swelling fiscal burden as governments absorb part of the impact on consumers. Robust US economic activity has slowed under the weight of massive interest rate increases as the US Federal Reserve, like other central banks, battles soaring inflation.

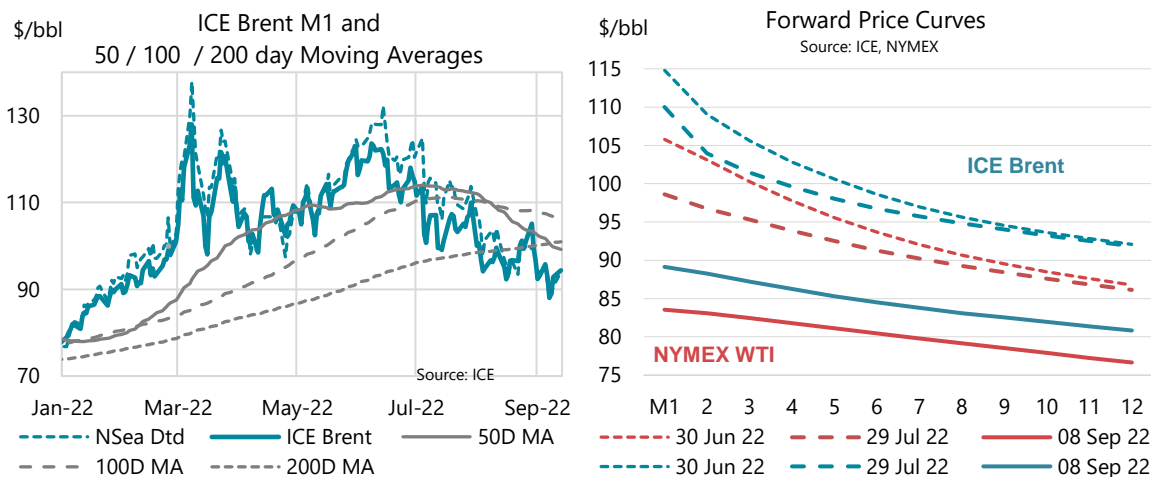
The oil supply increase from June to August substantially outstripped demand growth. Global seaborne crude oil exports rose 1.3 mb/d in the three months to August, 30% more than overall demand. Combined with the steady release of SPR barrels from IEA member countries, this has fed a build in oil industry stocks that helped substantially ease crude price tensions. The steep crude price backwardation has fallen by almost 70% since the June high point. At the same time, the record spot crude price premiums to futures in June had flipped to discounts by late August. The burden on physical markets is apparent in the increasing delay for announced loading programmes to sell out.

While changes in the fundamentals certainly underpin these price developments, their scale and rapidity have concerned many actors in the market. Declining paper market liquidity for all energies, including oil, has aggravated volatility, which in turn has forced players to further cut positions. The resulting increase in risk management costs can discourage hedging which may have knock-on effects for prices in some less liquid physical markets.

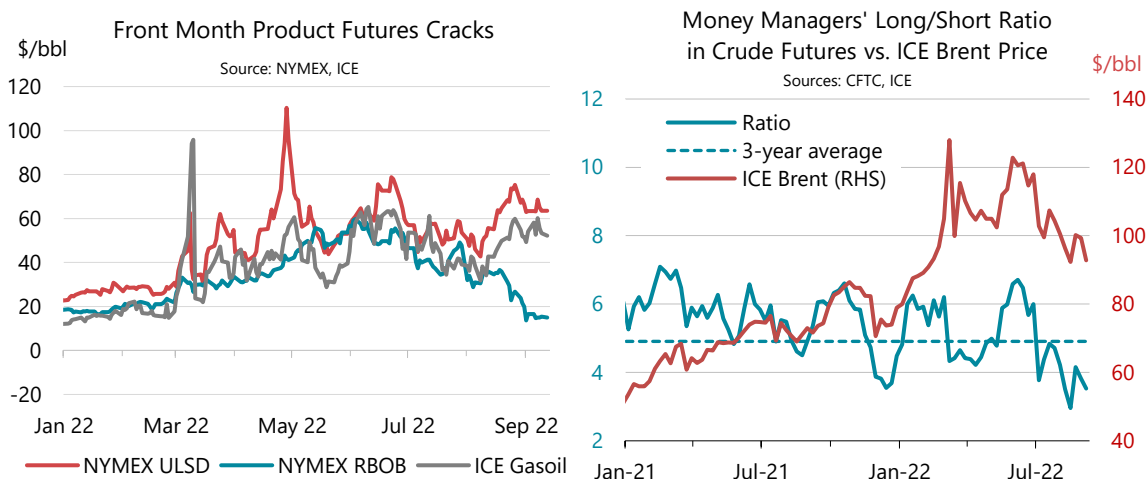
Freight rates remain stubbornly high as changes in trade flows since February increase the call on available tanker capacity. This remains true for both crude and products.

Futures markets

Futures prices were down ~30% from their 8 June highpoint to their recent 7 September lows (ICE Brent -\$35.60/bbl to \$88/bbl, WTI -\$40.20/bbl to \$81.90/bbl), before they rapidly recovered ~\$5/bbl in the subsequent days. These massive declines have disrupted market play and contributed to a large reduction in money manager net long positions. Prices fell around \$7-8/bbl m-o-m in August (ICE Brent -\$7.38/bbl to \$97.74/bbl, WTI -\$7.90/bbl to \$91.48/bbl). On 8 September, the 50-day moving average of the ICE Brent price slipped below the 200-day moving average, which often signals the development of a bear trend in financial markets.



Backwardation in crude futures has collapsed, dropping 65% from end-June to early September. While forward prices gave up little ground and resisted the flattening of the curve in June and July, they tracked much of the losses in August. By 8 September, the 12-month backwardation was \$6.90/bbl on WTI and \$7.40/bbl on ICE Brent. The increased cost of margin calls due to volatility has diminished the roll-gains from holding forward positions in a backwardated market, possibly contributing to money managers cutting net long positions.



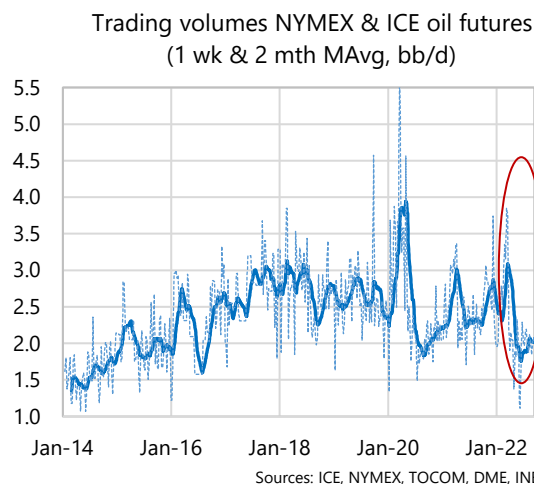
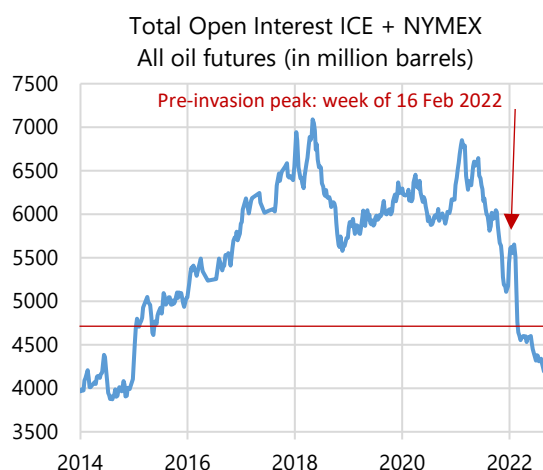
Cracks for gasoline futures corrected sharply lower while for gasoil/diesel they rebounded to stronger levels last seen in June. RBOB US gasoline cracks to WTI futures fell \$10.17/bbl m-o-m to \$30.77/bbl and averaged just \$14.85/bbl in the week of 5 September, a level more in line with the historical range. Gasoline prices were down on weaker demand – due to high prices and lower consumer

spending – plus sustained supply as refiners run hard to meet gasoil demand. ULSD gasoil cracks to WTI rose \$5.90/bbl m-o-m to \$59.41/bbl and averaged \$65.63/bbl in the week of 5 September (just below their June average). Gasoil cracks to ICE Brent futures rose \$0.48/bbl to \$45/bbl and reached \$56/bbl in the week of 5 September. Gasoil markets remain supported by strong demand, low stocks, uncertainty about access to Russian exports, and tight refinery supplies.

Prompt Month Oil Futures Prices (monthly and weekly averages, \$/bbl)											
	Jun-22	Jul-22	Aug-22	Aug-22		Week Commencing:					Last
				m-o-m	y-o-y	08 Aug	15 Aug	22 Aug	29 Aug	05 Sep	12 Sep
				Chg	Chg						
US Market											
Light Sweet Crude Oil (WTI) 1st contract	114.34	99.38	91.48	-7.90	23.77	91.92	89.06	92.89	90.34	84.79	87.78
Light Sweet Crude Oil (WTI) 12th contract	93.95	83.00	83.36	0.36	20.13	83.91	82.86	84.36	81.61	78.03	80.73
RBOB	167.47	140.32	122.25	-18.07	28.63	126.29	124.58	120.02	109.43	99.78	102.68
ULSD	180.72	152.89	150.89	-2.00	63.89	142.17	150.26	164.54	156.09	149.93	151.33
ULSD (\$/mmbtu)	31.70	27.00	26.87	-0.13	11.18	25.39	26.77	29.24	27.70	26.50	26.83
Henry Hub Natural Gas (\$/mmbtu)	7.60	7.19	8.78	1.59	4.75	8.25	9.17	9.38	9.11	7.97	8.25
European Market											
Brent 1st contract	117.50	105.12	97.74	-7.38	27.23	97.62	94.88	99.65	97.25	91.71	94.00
Brent 12th contract	98.03	88.25	88.39	0.14	22.31	88.86	87.51	89.46	86.49	82.76	84.72
Gasoil	174.02	149.64	142.74	-6.90	64.95	133.71	140.75	154.40	148.95	147.13	146.23
Prompt Month Differentials											
WTI M1 - Brent M1	-3.16	-5.74	-6.26	-0.52	-3.46	-5.70	-5.82	-6.76	-6.91	-6.92	-6.22
WTI M1 vs. M12	20.39	16.38	8.12	-8.26	3.64	8.01	6.20	8.53	8.73	6.76	7.05
Brent M1 vs. M12	19.47	16.87	9.35	-7.52	4.92	8.76	7.37	10.19	10.76	8.95	9.28
ULSD - WTI	66.38	53.51	59.41	5.90	40.12	50.25	61.20	71.65	65.75	65.14	63.55
RBOB - WTI	53.13	40.94	30.77	-10.17	4.86	34.37	35.52	27.13	19.09	14.99	14.90
3-2-1 Crack (WTI, RBOB, ULSD)	57.55	45.13	40.32	-4.81	16.61	39.66	44.08	41.97	34.64	31.70	31.12
ULSD - Natural Gas (\$/mmbtu)	24.10	19.81	18.09	-1.72	6.43	17.14	17.61	19.87	18.59	18.53	18.58
Gasoil - Brent	56.52	44.52	45.00	0.48	37.72	36.09	45.87	54.75	51.70	55.42	52.23

Source: ICE, NYMEX.

Money manager net length in the crude futures markets declined in August. Positions in early September versus end-July were down 5% for ICE Brent and 13% for WTI. While long positions eased for both contracts, WTI saw a big increase in short positions. The ratio of long to short futures positions for crude contracts is now some 30% below its long-term average.

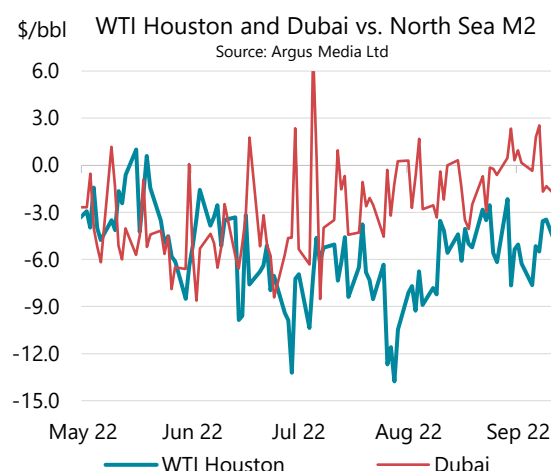
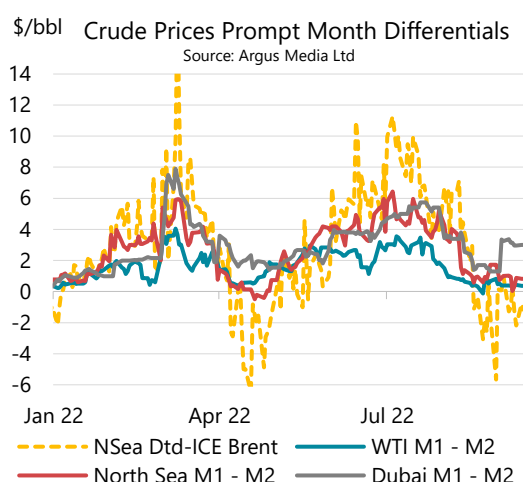


Money manager net length in products futures rose 6% m-o-m, with a near 30% gain for ICE gasoil more than offsetting losses on NYMEX ULSD and RBOB contracts. ICE gasoil net length rose due to sharp reductions in short positions, reflecting the accumulation of bullish drivers for the international gasoil market.

Overall open interest in ICE and NYMEX oil futures continues to fall, reflecting the high cost of holding open positions. It has reached levels last seen in December 2014, highlighting the reduced market liquidity. On the other hand, trading volumes have stabilised around the lower number of contracts that stand open.

Spot crude oil prices

Weaker demand, the onset of refinery maintenance, falling margins and steady SPR draws combined to erode physical crude price valuations in August. The physical forward price structure flattened, spot barrels slid to discounts versus futures, and crude price differentials versus marker grades deteriorated. Crude demand weakness has swung from Asia - during China's 2Q22 Covid lockdowns - to the Atlantic Basin as European and North American gasoline demand deteriorated.



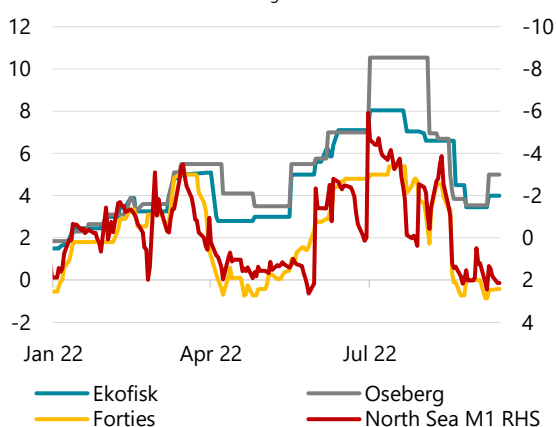
North Sea Dated dropped \$13/bbl to \$99.63/bbl in August as its premium to ICE Brent shrank \$5.62/bbl m-o-m to \$1.89/bbl. The differential has fallen to an average -\$1.45/bbl discount versus ICE Brent since 20 August with the flattening time structure and as unsold barrels cleared more slowly ahead of the subsequent month's loading programmes.

Sustained discounts for WTI at Houston versus North Sea Dated M2 kept the transatlantic arbitrage open throughout August and into September as European refiners pulled in light sweet US crude. The Dubai discount to North Sea Dated M2 narrowed, weakening the arbitrage for Middle East crudes to Europe but supporting that for Atlantic Basin barrels to Asia. The WTI Houston discount to North Sea Dated M2 widened by \$0.46/bbl m-o-m to -\$3.72/bbl while the Dubai discount to North Sea Dated M2 narrowed by \$1.36/bbl m-o-m to -\$0.90/bbl in August and averaged a slight premium from 22 August to 9 September.

Weaker refinery demand and ample European supply – with continuing arrivals of light sweet US barrels - pressured crude price differentials in the North Sea and West Africa. After peaking in early July, differentials steadily deteriorated as buying slowed while offers were sustained. The sudden uptick in VLCC chartering rates during August mitigated the impact of stronger Asian refinery demand on West African crude price differentials. The Forties premium to North Sea Dated collapsed by \$3.13/bbl m-o-m to \$1.86/bbl, maintaining an average discount of -\$0.40/bbl after 20 August. Those for Ekofisk and Oseberg fell \$2.08/bbl m-o-m to \$5.66/bbl and \$4.70/bbl to \$5.85/bbl, respectively, with both averaging ~\$3.80/bbl after 20 August. In West Africa, differentials to North Sea Dated for the Nigerian light sweet crudes lost ground earlier than the heavy sweet Angolan grades. But from the first week of August to the first week of September, they all lost \$3-5/bbl.

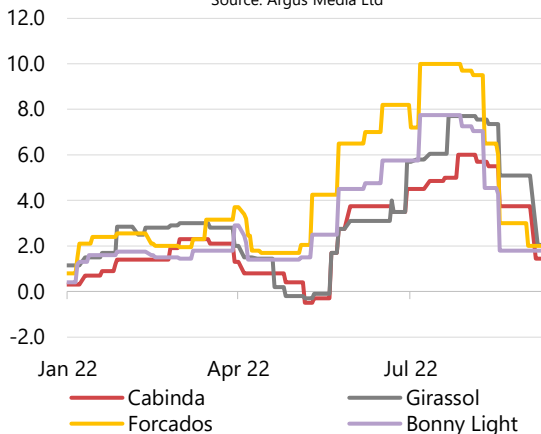
North Sea Differentials to N.Sea Dated

Source: Argus Media Ltd



West Africa Differentials to N.Sea Dated

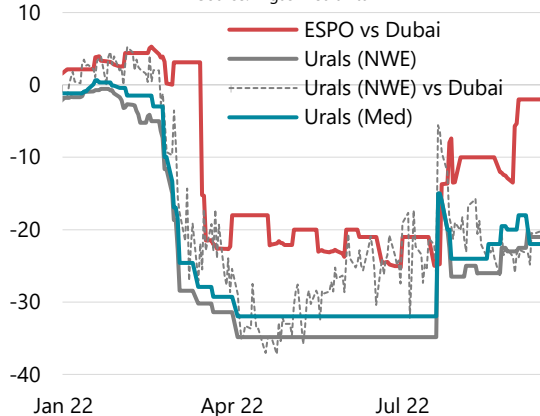
Source: Argus Media Ltd



Price assessments for Russian crudes, Urals and Espo, have become somewhat more transparent since mid-July as *Argus* gathered fairly consistent market commentary on trading activity, albeit not always from the buyers or the sellers themselves. The data show differentials rising for all grades, particularly for Espo. Those increases have picked up in recent weeks as Asian refinery activity is rebounding. Of note, despite the stronger Urals differentials versus North Sea Dated, the differentials versus Dubai (the natural crude benchmark for Asian refiners) have returned to around -\$20-25/bbl after their mid-July spike.

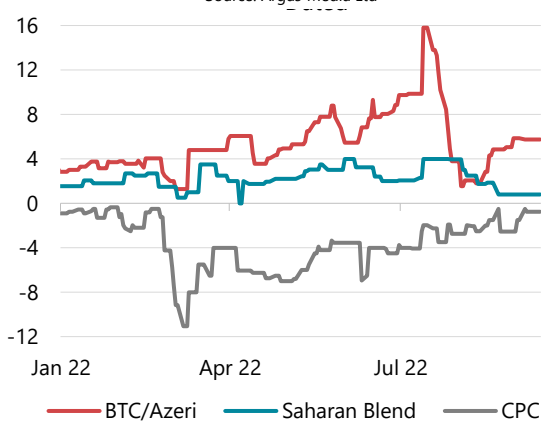
Russian Differentials to N.Sea Dated

Source: Argus Media Ltd



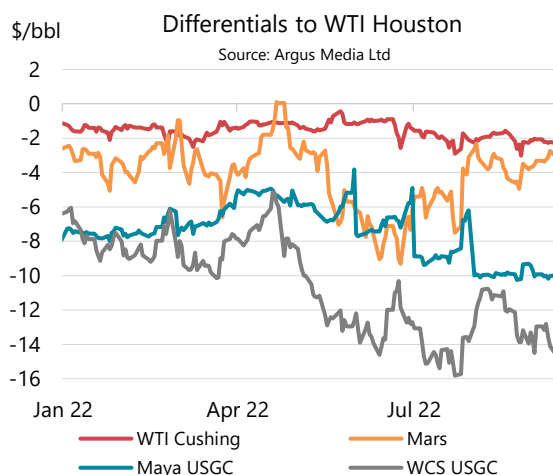
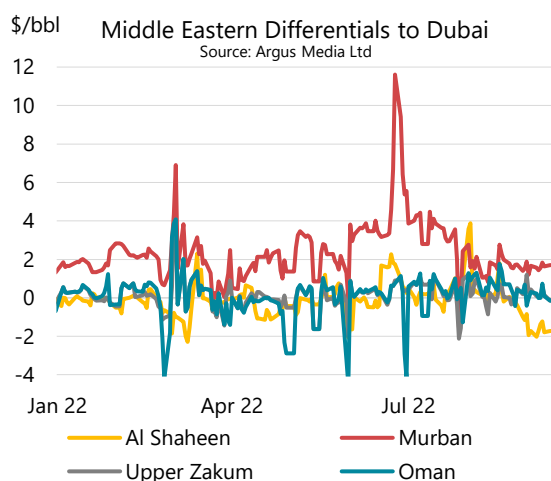
Mediterranean Differentials to N.Sea

Source: Argus Media Ltd



In the Mediterranean, Algerian Saharan Blend premiums to North Sea Dated lost ground due to the sharp deterioration in naphtha values over the past month (a large component in the crude's yields). BTC premiums plunged, after an extraordinary July spike, falling \$6.90/bbl m-o-m to \$3.70/bbl as European refinery demand paused. CPC discounts to North Sea Dated narrowed by \$0.80/bbl to -\$2.20/bbl as maintenance and outages sharply reduced export volumes.

In the Middle East, heavy sour Al Shaheen slid to a discount versus Dubai, reflecting the deterioration in high sulphur fuel oil in recent weeks. Light sweet Murban premiums to Dubai narrowed by \$1.40/bbl over the month to \$1.73/bbl on weaker gasoline and naphtha values. Upper Zakum and Oman remained closely aligned with the benchmark Dubai.



In the US Gulf of Mexico, the WTI Houston premium to Cushing remained unchanged, sustaining crude flows from the Midcontinent to the coast and feeding strong export volumes. Mars discounts to WTI at Houston narrowed by \$1.67/bbl m-o-m to -\$3.65/bbl as US SPR releases flipped to predominantly sweet crude, boosting demand for regional sour production. Discounts for heavy sour WCS (Western Canadian Select) also narrowed (\$2.38/bbl to -\$12.16/bbl). In western Canada at Hardisty, WCS discounts to WTI at Cushing narrowed by \$4.75/bbl to -\$20.90/bbl.

Spot Crude Oil Prices and Differentials											
(monthly and weekly averages, \$/bbl)											
	Jun-22	Jul-22	Aug-22	m-o-m	y-o-y	Week Commencing:					
				Chg	Chg	08 Aug	15 Aug	22 Aug	29 Aug	05 Sep	12 Sep
Crudes											
North Sea Dated	123.62	112.63	99.63	-13.00	28.88	102.68	95.41	98.00	95.63	90.64	93.22
North Sea M1	121.74	109.85	99.19	-10.66	28.23	99.59	95.70	99.90	96.84	92.47	95.35
North Sea M2	117.56	105.11	97.33	-7.78	26.80	97.41	94.79	98.85	95.86	91.84	94.52
WTI (Cushing) M1	114.59	99.84	91.57	-8.27	23.84	91.92	89.06	93.29	90.34	84.79	87.78
WTI (Cushing) M2	112.25	97.04	90.88	-6.16	23.41	91.16	88.65	92.78	89.82	84.39	87.41
WTI (Houston) M1	115.83	101.85	93.61	-8.24	25.29	93.72	90.74	95.78	92.46	87.03	90.08
Urals (NWE)	88.77	83.05	74.63	-8.43	6.05	77.07	69.41	74.70	72.88	69.54	72.22
Dubai (1st mon)	112.89	102.86	96.43	-6.42	27.12	96.10	92.57	97.92	97.48	92.03	92.50
Differentials to Futures											
North Sea Dated vs. ICE Brent	6.12	7.51	1.89	-5.62	1.65	5.06	0.53	-1.65	-1.62	-1.07	-0.78
WTI (Cushing) M1 vs. Futures	0.25	0.46	0.09	-0.37	0.07	0.00	0.00	0.40	0.00	0.00	0.00
Differentials to Physical Markers											
WTI (Houston) versus North Sea M2	-1.73	-3.26	-3.72	-0.46	-1.51	-3.68	-4.05	-3.07	-3.40	-4.81	-4.44
WTI (Houston) versus WTI (Cushing) M1	1.24	2.01	2.04	0.03	1.45	1.80	1.68	2.49	2.13	2.24	2.30
Urals (NWE) versus North Sea Dated	-34.85	-29.57	-25.00	4.57	-22.83	-25.61	-26.00	-23.30	-22.75	-21.10	-21.00
Dubai versus North Sea M2	-4.67	-2.26	-0.90	1.36	0.32	-1.31	-2.22	-0.93	1.62	0.19	-2.02
Dubai versus WTI (Cushing) M2	0.64	5.82	5.55	-0.27	3.70	4.94	3.92	5.14	7.66	7.64	5.09
Prompt MonDifferentials											
Forward North Sea M1-M2	4.18	4.74	1.86	-2.88	1.43	2.18	0.91	1.05	0.98	0.64	0.83
Forward WTI Cushing M1-M2	2.34	2.80	0.69	-2.11	0.43	0.77	0.41	0.51	0.52	0.39	0.37
Forward Dubai M1-M2	3.85	5.27	2.33	-2.94	1.04	3.28	1.79	1.54	2.10	3.12	3.00

Source: Argus Media Ltd, ICE, NYMEX

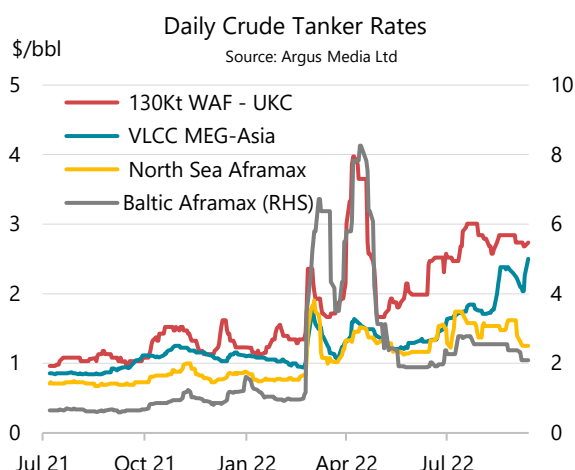
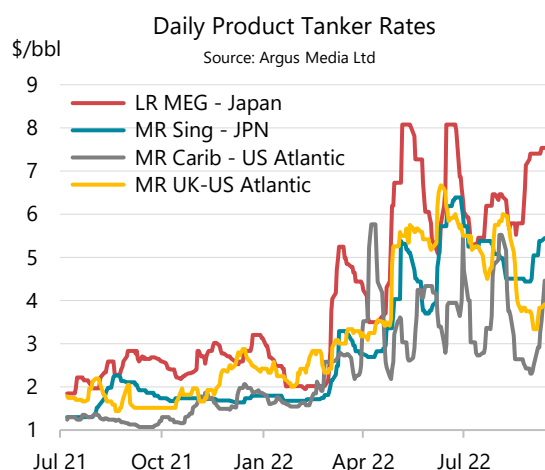
Freight

The continuing shift in global trade flows since the invasion of Ukraine supported dirty tanker freight rates throughout July and August. Clean tanker rates surged East of Suez, anticipating the end of regional refinery maintenance, while those in the Atlantic Basin were weaker. Global tanker activity stagnated in August (-0.6%), according to *Kpler*, despite a surge in seaborne export volumes.

August dirty tanker freight rates held steady or declined slightly, with the exception of VLCC rates which rose 17% m-o-m (and 140% y-o-y) for vessels heading from the Middle East to Asia. Rates fell slightly for Aframax tankers as charterers switched to more economic larger vessels on longer haul routes. Baltic routes in Northeast Europe dipped 2% to \$2.52/bbl, while North Sea rates fell by 1%, to \$1.54/bbl. West Africa to UK Suezmax rates remained unchanged at \$2.78/bbl.

In recent months, many charters sent dirty tankers westward to take advantage of the robust Atlantic Basin trade flows. The US strategic stock release helped push more US crude to European refiners while reduced Asian demand allowed Europeans to take more West African barrels. However, recovering Asian refinery demand boosted East of Suez chartering in August. This lifted dirty tanker freight rates for VLCCs loading in the Middle East Gulf crude market and helped to attract ships.

Product tanker rates mostly weakened in August. The notable exception was on the Middle-East-to-Asia long-haul route where rates rose 8% to \$6.27/bbl (+\$3.90/bbl y-o-y). By contrast, Medium Range (MR) tanker rates have deteriorated, with inter-regional movements in Asia dropping 17%. Rates for transatlantic movements on MR vessels gave up 19% m-o-m to \$4.85/bbl while inter-American rates (Caribbean to US) lost 8% m-o-m. US demand for European product cargoes has eased while tonnage remains ample.



Freight Costs											
(monthly and weekly averages, \$/bbl)											
	Aug-22					Week Commencing					
	Apr-22	Jun-22	Aug-22	m-o-m chg	y-o-y chg	01-Aug	08-Aug	15-Aug	22-Aug	29-Aug	05-Sep
Crude Tankers											
VLCC MEG-Asia	1.49	1.38	2.04	0.66	1.19	1.72	1.75	2.23	2.37	2.25	2.11
130Kt WAF - UKC	3.06	2.31	2.78	0.47	1.70	2.81	2.63	2.81	2.84	2.79	2.71
Baltic Aframax	6.32	1.97	2.52	0.54	1.88	2.55	2.55	2.55	2.48	2.37	2.13
North Sea Aframax	1.39	1.32	1.54	0.22	0.84	1.51	1.54	1.51	1.56	1.56	1.27
Product Tankers											
LR MEG - Japan	4.22	6.67	6.27	-0.40	3.90	6.42	5.89	5.74	6.29	7.38	7.43
MR Sing - JPN	3.01	5.58	4.61	-0.97	2.65	5.01	4.51	4.51	4.48	4.65	5.25
MR Carib - US Atlantic	3.83	3.82	3.53	-0.30	2.27	5.39	4.12	2.75	2.55	2.38	3.16
MR UK-US Atlantic	3.64	6.00	4.85	-1.15	3.07	5.86	5.76	4.45	3.80	3.57	3.69

Source: Argus Media Ltd

Tables

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

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
OECD DEMAND																	
Americas	25.4	22.5	22.9	24.4	24.9	25.1	24.3	24.8	25.0	25.1	25.1	25.0	24.9	25.2	25.4	25.3	25.2
Europe	14.3	12.4	12.0	12.7	13.9	14.0	13.1	13.2	13.4	14.0	13.9	13.6	13.4	13.6	14.1	13.9	13.7
Asia Oceania	7.9	7.2	7.7	7.0	7.1	7.8	7.4	7.9	7.0	7.2	7.8	7.5	8.0	7.2	7.4	7.9	7.6
Total OECD	47.7	42.0	42.5	44.1	45.8	46.9	44.8	45.8	45.4	46.3	46.8	46.1	46.3	45.9	46.9	47.1	46.6
NON-OECD DEMAND																	
FSU	4.7	4.6	4.6	4.7	5.0	5.1	4.8	4.7	4.7	4.9	4.7	4.8	4.5	4.5	4.8	4.8	4.7
Europe	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	14.1	14.2	14.9	15.6	15.6	15.6	15.4	15.4	14.2	14.9	15.5	15.0	15.4	15.9	16.1	16.5	16.0
Other Asia	14.1	12.7	13.7	13.1	12.8	13.9	13.4	14.1	14.0	13.4	14.1	13.9	14.5	14.5	14.2	14.9	14.5
Americas	6.3	5.5	5.7	5.8	6.1	6.1	6.0	5.9	6.1	6.1	6.1	6.1	5.9	6.1	6.2	6.2	6.1
Middle East	8.8	8.1	8.2	8.4	8.9	8.4	8.5	8.5	9.2	9.6	8.8	9.0	8.7	9.3	9.5	8.8	9.1
Africa	4.1	3.8	4.0	3.9	3.9	4.1	4.0	4.2	4.1	4.0	4.1	4.1	4.1	4.1	4.0	4.2	4.1
Total Non-OECD	52.9	49.5	51.9	52.3	53.0	54.1	52.8	53.7	53.1	53.7	54.1	53.6	53.9	55.1	55.7	56.2	55.2
Total Demand¹	100.6	91.5	94.5	96.4	98.9	100.9	97.7	99.5	98.4	99.9	100.9	99.7	100.2	101.0	102.6	103.3	101.8
OECD SUPPLY																	
Americas	24.8	23.9	23.4	24.4	24.4	25.3	24.4	25.0	25.4	26.0	26.6	25.7	26.5	26.9	27.2	27.4	27.0
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.0	3.1	3.3	3.2	3.4	3.3	3.3	3.5	3.4
Asia Oceania	0.5	0.5	0.5	0.5	0.6	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 OECD²	28.6	28.0	27.6	27.9	28.3	29.2	28.3	28.8	28.9	29.6	30.4	29.4	30.4	30.7	31.0	31.3	30.8
NON-OECD SUPPLY																	
FSU	14.6	13.5	13.4	13.7	13.7	14.3	13.8	14.4	13.4	13.5	13.4	13.7	12.7	12.5	12.4	12.5	12.5
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	3.9	4.0	4.1	4.1	4.1	4.0	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia	3.3	3.0	3.0	2.9	2.8	2.8	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6
Americas	5.3	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.7	5.8	5.6	5.9	5.9	6.0	6.0	6.0
Middle East	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3
Africa	1.5	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Non-OECD²	31.8	30.3	30.2	30.5	30.5	30.8	30.5	31.4	30.5	30.8	30.7	30.8	30.1	30.0	29.9	30.0	30.0
Processing gains ³	2.4	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4
Global Biofuels	2.8	2.6	2.2	2.9	3.2	2.7	2.8	2.4	3.0	3.3	2.9	2.9	2.6	3.1	3.4	3.0	3.0
Total Non-OPEC Supply	65.6	63.0	62.1	63.6	64.3	65.0	63.8	64.9	64.7	66.1	66.3	65.5	65.4	66.1	66.7	66.7	66.2
OPEC⁴																	
Crude	29.6	25.7	25.4	25.6	27.0	27.8	26.4	28.5	28.7								
NGLs	5.3	5.1	5.1	5.1	5.1	5.2	5.1	5.3	5.4	5.4	5.4	5.3	5.4	5.4	5.5	5.5	5.4
Total OPEC	35.0	30.8	30.4	30.7	32.1	33.0	31.5	33.8	34.1								
Total Supply	100.6	93.8	92.5	94.2	96.4	98.0	95.3	98.7	98.7								
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.1	0.4	-1.2	-0.5	-1.3	-1.2	-1.1	-0.3	0.5								
Government	0.0	0.0	0.1	-0.2	-0.1	-0.3	-0.2	-0.5	-1.1								
Total	0.0	0.4	-1.2	-0.7	-1.4	-1.5	-1.2	-0.8	-0.6								
Floating storage/Oil in transit	0.1	0.0	-0.4	-0.6	-0.3	1.1	-0.1	-0.5	0.5								
Miscellaneous to balance ⁵	-0.1	1.8	-0.4	-0.9	-0.7	-2.4	-1.1	0.6	0.3								
Total Stock Ch. & Misc	0.0	2.3	-1.9	-2.2	-2.5	-2.9	-2.4	-0.8	0.3								
Memo items:																	
Call on OPEC crude + Stock ch. ⁶	29.6	23.4	27.3	27.7	29.5	30.7	28.8	29.3	28.4	28.5	29.2	28.8	29.4	29.5	30.5	31.2	30.1

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

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

⁴ OPEC data based on today's membership throughout the time series.

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)

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
OECD DEMAND																	
Americas	-	-	0.1	0.1	0.1	0.1	0.1	-	0.2	0.5	0.3	0.3	-	0.1	0.2	0.2	0.1
Europe	-	-	-	-	-	-	-	-	-0.1	-0.1	0.1	-	0.1	-	-	0.1	-
Asia Oceania	-	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-0.1	-	-	-
Total OECD	-	-	0.1	0.1	0.1	0.1	0.1	-	0.1	0.5	0.4	0.2	0.1	-	0.2	0.2	0.1
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-0.4	-0.7	-0.4	-0.4	-0.3	-0.3	-0.2	-0.3	-0.3
Other Asia	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	0.1	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1
Middle East	-	-	-	-	-	-	-	-	0.2	0.2	-	0.1	-	0.1	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-0.2	-0.5	-0.4	-0.3	-0.2	-0.1	-	-0.2	-0.1
Total Demand	-	-	0.1	0.1	0.1	0.1	0.1	-	-0.1	-	0.1	-	-0.1	-	0.1	-	-
OECD SUPPLY																	
Americas	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-0.1	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	0.1	-	-	-	-	-	-	-0.1	-	-0.1	-0.1	-	-0.2	-0.1
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	0.1	-	-	-	-	-	-	-0.1	-	-0.1	-0.1	-	-0.2	-0.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Supply	-	-	-	0.1	-	-	-	-	0.1	-	-	-	-	-	-	-	-
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	0.1	-	-	-0.1	-	-	-0.2	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	0.1	-	-	-0.1	-	-	-0.2	-	-	-	-	-	-	-	-
Floating storage/Oil in transit	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-	-	-0.3	-	-	-	-0.1	-	0.3	-	-	-	-	-	-	-	-
Total Stock Ch. & Misc	-	-	-0.1	-	-0.1	-0.1	-0.1	-	0.1	-	-	-	-	-	0.2	0.1	0.1
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	0.1	-	0.1	0.1	0.1	-	-0.1	-	0.2	-	-	-	0.2	0.1	0.1

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)

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Total Demand	100.6	91.5	94.5	96.4	98.9	100.9	97.7	99.5	98.4	99.9	100.9	99.7	100.2	101.0	102.6	103.3	101.8
OECD SUPPLY																	
Americas ²	22.8	21.9	21.5	22.4	22.4	23.4	22.4	23.0	23.4	24.0	24.5	23.7	24.4	24.8	25.1	25.4	24.9
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.0	3.1	3.3	3.2	3.4	3.3	3.3	3.5	3.4
Asia Oceania	0.5	0.5	0.5	0.5	0.6	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+)	26.7	26.0	25.7	26.0	26.4	27.2	26.3	26.8	26.9	27.6	28.3	27.4	28.3	28.6	28.9	29.3	28.8
NON-OECD SUPPLY																	
FSU ³	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	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	3.9	4.0	4.1	4.1	4.1	4.0	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia ⁴	2.5	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0
Latin America	5.3	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.7	5.8	5.6	5.9	5.9	6.0	6.0	6.0
Middle East ⁵	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	2.0
Africa ⁶	1.2	1.2	1.1	1.1	1.1	1.1	1.1	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+)	15.3	15.1	15.1	15.1	15.1	14.8	15.0	15.2	15.2	15.4	15.4	15.3	15.6	15.7	15.7	15.6	15.6
Processing Gains	2.4	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4
Global Biofuels	2.8	2.6	2.2	2.9	3.2	2.7	2.8	2.4	3.0	3.3	2.9	2.9	2.6	3.1	3.4	3.0	3.0
Total Non-OPEC+	47.2	45.9	45.0	46.2	47.0	47.0	46.3	46.7	47.4	48.6	49.0	48.0	48.8	49.7	50.4	50.3	49.8
OPEC+ CRUDE																	
Algeria	1.0	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Angola	1.4	1.3	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.1
Azerbaijan	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	0.5	0.5	0.5	0.5
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	2.4	2.0	2.3	2.4	2.5	2.5	2.4	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.6	2.6	2.6
Iraq	4.7	4.0	3.9	3.9	4.1	4.2	4.0	4.3	4.4	4.5	4.6	4.5	4.7	4.7	4.7	4.7	4.7
Kazakhstan	1.6	1.5	1.5	1.5	1.4	1.7	1.5	1.6	1.4	1.3	1.6	1.5	1.6	1.6	1.5	1.7	1.6
Kuwait	2.7	2.4	2.3	2.4	2.4	2.5	2.4	2.6	2.7	2.8	2.8	2.7	2.8	2.8	2.8	2.8	2.8
Libya	1.1	0.4	1.2	1.2	1.2	1.1	1.1	1.1	0.8	1.0	1.2	1.0	1.2	1.2	1.2	1.2	1.2
Malaysia	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Mexico	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.6	1.7
Nigeria	1.7	1.5	1.4	1.3	1.3	1.2	1.3	1.3	1.2	1.0	1.1	1.2	1.2	1.2	1.2	1.1	1.2
Oman	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9
Russia	10.4	9.4	9.3	9.5	9.7	10.0	9.6	10.0	9.4	9.7	9.3	9.6	8.5	8.3	8.3	8.3	8.3
Saudi Arabia	9.9	9.2	8.5	8.6	9.6	9.9	9.2	10.2	10.5	10.9	11.0	10.7	11.0	11.0	11.0	11.0	11.0
South Sudan	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	3.2	2.9	2.7	2.7	2.8	2.9	2.8	3.1	3.2	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4
Venezuela	0.9	0.5	0.5	0.5	0.6	0.8	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
OPEC+ Crude	45.9	40.6	40.0	40.5	42.0	43.3	41.5	44.1	43.4	44.5	45.0	44.3	44.3	44.0	43.9	44.0	44.1
OPEC+ NGLs & Condensate	7.4	7.2	7.4	7.4	7.3	7.5	7.4	7.8	7.8	7.7	7.8	7.8	7.8	7.8	7.9	7.9	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+	53.4	47.9	47.5	48.0	49.4	51.0	49.0	52.0	51.3	52.4	52.9	52.1	52.2	52.0	51.9	52.0	52.0
Total Supply Oil	100.6	93.8	92.5	94.2	96.4	98.0	95.3	98.7	98.7	101.0	101.9	100.1	101.0	101.7	102.3	102.3	101.8
Memo items:																	
Call on OPEC+ crude + Stock ch	45.9	38.3	42.0	42.7	44.5	46.2	43.9	44.9	43.1	43.5	44.0	43.9	43.5	43.4	44.3	45.0	44.0

¹ From Sep 2022, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2023.

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

	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Demand (mb/d)																
Americas	22.47	22.90	24.42	24.86	25.11	24.33	24.79	24.98	25.10	25.12	25.00	24.86	25.18	25.44	25.28	25.19
Europe	12.41	11.96	12.69	13.90	13.96	13.13	13.15	13.42	13.95	13.91	13.61	13.44	13.58	14.06	13.88	13.74
Asia Oceania	7.17	7.68	7.00	7.07	7.78	7.38	7.85	6.98	7.24	7.77	7.46	8.03	7.18	7.43	7.93	7.64
Total OECD	42.05	42.54	44.11	45.84	46.85	44.85	45.79	45.39	46.29	46.80	46.07	46.33	45.93	46.93	47.09	46.57
Asia	26.92	28.62	28.67	28.34	29.59	28.81	29.53	28.21	28.33	29.56	28.91	29.94	30.35	30.32	31.42	30.51
Middle East	8.07	8.16	8.43	8.89	8.43	8.48	8.52	9.18	9.56	8.76	9.01	8.67	9.28	9.54	8.84	9.09
Americas	5.45	5.74	5.81	6.15	6.11	5.95	5.94	6.09	6.13	6.12	6.07	5.93	6.12	6.23	6.20	6.12
FSU	4.56	4.63	4.74	4.97	5.05	4.85	4.71	4.72	4.87	4.71	4.75	4.48	4.53	4.79	4.80	4.65
Africa	3.77	4.03	3.94	3.90	4.10	3.99	4.21	4.09	3.98	4.14	4.10	4.09	4.06	4.01	4.16	4.08
Europe	0.72	0.76	0.75	0.78	0.79	0.77	0.77	0.76	0.79	0.80	0.78	0.76	0.77	0.79	0.80	0.78
Total Non-OECD	49.49	51.94	52.33	53.03	54.07	52.85	53.68	53.05	53.66	54.09	53.62	53.87	55.10	55.70	56.23	55.23
World	91.54	94.48	96.44	98.87	100.92	97.70	99.46	98.44	99.95	100.89	99.69	100.20	101.04	102.63	103.32	101.81
of which:																
United States ¹	18.19	18.58	20.13	20.30	20.54	19.89	20.22	20.27	20.24	20.46	20.30	20.18	20.40	20.48	20.52	20.40
Europe five ²	6.91	6.68	7.07	7.66	7.81	7.31	7.38	7.58	7.75	7.80	7.63	7.56	7.61	7.77	7.79	7.68
China	14.20	14.88	15.59	15.59	15.64	15.43	15.40	14.23	14.93	15.48	15.01	15.43	15.86	16.09	16.53	15.98
Japan	3.36	3.77	3.07	3.17	3.66	3.41	3.70	3.03	3.21	3.60	3.38	3.80	3.08	3.32	3.68	3.47
India	4.58	5.04	4.49	4.52	5.02	4.77	5.25	5.14	4.91	5.27	5.14	5.43	5.40	5.13	5.47	5.36
Russia	3.42	3.50	3.58	3.76	3.76	3.65	3.63	3.61	3.72	3.50	3.62	3.36	3.38	3.62	3.57	3.48
Brazil	2.87	2.91	2.92	3.13	3.06	3.01	2.95	2.99	3.04	3.06	3.01	2.96	3.03	3.09	3.11	3.05
Saudi Arabia	3.45	3.24	3.53	3.76	3.44	3.49	3.34	3.83	4.06	3.59	3.71	3.40	3.89	4.09	3.63	3.76
Canada	2.19	2.19	2.16	2.43	2.33	2.28	2.26	2.19	2.41	2.31	2.29	2.32	2.25	2.49	2.40	2.37
Korea	2.45	2.54	2.49	2.59	2.69	2.58	2.73	2.49	2.59	2.67	2.62	2.78	2.61	2.65	2.75	2.70
Mexico	1.60	1.63	1.66	1.61	1.72	1.65	1.76	1.99	1.93	1.83	1.88	1.82	1.99	1.95	1.83	1.90
Iran	1.76	1.90	1.81	1.81	1.81	1.83	1.91	1.84	1.83	1.81	1.85	1.91	1.85	1.84	1.81	1.85
Total	64.98	66.83	68.49	70.32	71.48	69.30	70.53	69.19	70.61	71.40	70.44	70.96	71.35	72.51	73.09	71.98
% of World	71.0%	70.7%	71.0%	71.1%	70.8%	70.9%	70.9%	70.3%	70.7%	70.8%	70.7%	70.8%	70.6%	70.6%	70.7%	70.7%
Annual Change (% per annum)																
Americas	-11.6	-5.8	22.8	9.9	9.0	8.3	8.2	2.3	1.0	0.0	2.7	0.3	0.8	1.4	0.6	0.8
Europe	-13.3	-10.1	15.4	8.1	11.8	5.8	9.9	5.7	0.4	-0.3	3.6	2.2	1.2	0.8	-0.2	0.9
Asia Oceania	-9.8	-2.6	5.6	4.4	5.5	3.0	2.3	-0.2	2.3	-0.2	1.0	2.3	2.7	2.7	2.2	2.4
Total OECD	-11.8	-6.5	17.6	8.5	9.2	6.7	7.6	2.9	1.0	-0.1	2.7	1.2	1.2	1.4	0.6	1.1
Asia	-4.3	12.1	9.6	3.8	3.2	7.0	3.2	-1.6	0.0	-0.1	0.4	1.4	7.6	7.0	6.3	5.5
Middle East	-8.7	-1.8	12.9	5.7	4.0	5.0	4.4	8.9	7.4	3.9	6.2	1.8	1.1	-0.1	0.9	0.9
Americas	-13.3	2.3	19.0	10.6	6.4	9.2	3.5	4.9	-0.3	0.0	2.0	-0.1	0.5	1.7	1.4	0.9
FSU	-3.5	-0.2	14.3	5.1	6.8	6.3	1.8	-0.3	-2.1	-6.8	-2.0	-4.9	-4.1	-1.5	2.0	-2.1
Africa	-8.6	-1.3	15.1	5.7	6.0	6.0	4.3	3.7	2.0	1.1	2.8	-2.6	-0.6	0.9	0.5	-0.5
Europe	-7.5	4.1	12.3	5.9	4.4	6.5	2.2	1.0	1.4	1.6	1.5	-1.9	0.4	0.4	0.5	-0.1
Total Non-OECD	-6.4	6.2	12.0	5.2	4.2	6.8	3.3	1.4	1.2	0.0	1.5	0.4	3.9	3.8	4.0	3.0
World	-9.0	0.1	14.5	6.7	6.5	6.7	5.3	2.1	1.1	-0.0	2.0	0.7	2.6	2.7	2.4	2.1
Annual Change (mb/d)																
Americas	-2.95	-1.41	4.53	2.25	2.06	1.86	1.88	0.56	0.24	0.01	0.67	0.07	0.19	0.34	0.16	0.19
Europe	-1.90	-1.35	1.69	1.05	1.47	0.72	1.19	0.73	0.05	-0.04	0.48	0.29	0.16	0.11	-0.03	0.13
Asia Oceania	-0.78	-0.21	0.37	0.30	0.40	0.22	0.18	-0.01	0.16	-0.01	0.08	0.18	0.19	0.19	0.17	0.18
Total OECD	-5.63	-2.97	6.59	3.59	3.94	2.80	3.25	1.28	0.45	-0.05	1.22	0.54	0.55	0.64	0.29	0.50
Asia	-1.20	3.09	2.51	1.04	0.92	1.89	0.91	-0.46	-0.01	-0.03	0.10	0.41	2.14	1.99	1.86	1.60
Middle East	-0.77	-0.15	0.96	0.48	0.33	0.41	0.36	0.75	0.66	0.33	0.53	0.15	0.11	-0.01	0.08	0.08
Americas	-0.84	0.13	0.93	0.59	0.37	0.50	0.20	0.29	-0.02	0.00	0.12	-0.01	0.03	0.10	0.09	0.05
FSU	-0.16	-0.01	0.59	0.24	0.32	0.29	0.08	-0.01	-0.10	-0.34	-0.10	-0.23	-0.20	-0.08	0.09	-0.10
Africa	-0.35	-0.05	0.52	0.21	0.23	0.23	0.17	0.15	0.08	0.05	0.11	-0.11	-0.03	0.04	0.02	-0.02
Europe	-0.06	0.03	0.08	0.04	0.03	0.05	0.02	0.01	0.01	0.01	0.01	-0.01	0.00	0.00	0.00	0.00
Total Non-OECD	-3.39	3.03	5.59	2.62	2.20	3.36	1.74	0.72	0.63	0.02	0.77	0.19	2.05	2.04	2.14	1.61
World	-9.01	0.06	12.19	6.21	6.14	6.16	4.99	2.00	1.08	-0.03	1.99	0.73	2.60	2.68	2.44	2.12
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.13	0.09	0.09	0.12	0.11	0.00	0.22	0.51	0.28	0.25	0.03	0.13	0.22	0.18	0.14
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.11	-0.13	0.09	-0.04	0.06	-0.03	-0.03	0.06	0.02
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.05	0.03	0.01	-0.07	-0.04	-0.02	-0.03
Total OECD	-	0.13	0.09	0.09	0.12	0.11	-0.00	0.12	0.45	0.42	0.25	0.11	0.03	0.15	0.23	0.13
Asia	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.36	-0.72	-0.42	-0.37	-0.30	-0.26	-0.16	-0.25	-0.24
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.01	0.09	-0.02	0.09	0.04	-0.02	0.02
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.08	0.09	0.09	0.09	0.09
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.04	0.05	0.02	0.05	0.03	0.01	-0.06	0.01
Africa	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	-0.01	0.00
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	0.00	0.00	0.00	0.00
Total Non-OECD	-	-	-0.00	-0.00	0.00	-	0.03	-0.18	-0.50	-0.36	-0.25	-0.20	-0.06	-0.03	-0.24	-0.13
World	-	0.13	0.09	0.09	0.12	0.11	0.03	-0.06	-0.05	0.06	-0.01	-0.09	-0.03	0.12	-0.01	-0.00
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.00	0.13	0.09	0.09	0.12	0.11	-0.10	-0.16	-0.13	-0.06	-0.11	-0.12	0.03	0.17	-0.07	0.00

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22 ²	May 22	Jun 21
Americas											
LPG and ethane	3.52	3.69	3.57	3.96	4.18	3.61	3.63	3.53	3.67	0.13	0.11
Naphtha	0.26	0.25	0.26	0.25	0.22	0.21	0.22	0.21	0.20	-0.01	-0.07
Motor gasoline	9.53	10.34	10.73	10.58	10.04	10.71	10.44	10.80	10.89	0.09	-0.06
Jet and kerosene	1.25	1.56	1.73	1.74	1.69	1.87	1.79	1.82	2.01	0.19	0.41
Gasoil/diesel oil	4.88	5.06	5.00	5.15	5.31	5.15	5.04	5.14	5.26	0.12	0.22
Residual fuel oil	0.41	0.55	0.57	0.59	0.59	0.54	0.53	0.56	0.54	-0.02	-0.08
Other products	2.63	2.87	3.01	2.85	2.75	2.90	2.90	2.69	3.12	0.43	0.04
Total	22.47	24.33	24.86	25.11	24.79	24.98	24.54	24.74	25.68	0.94	0.58
Europe											
LPG and ethane	1.07	1.10	1.11	1.08	1.11	0.94	0.94	0.88	1.01	0.13	-0.11
Naphtha	1.06	1.12	1.09	1.17	1.15	1.01	1.00	1.04	0.98	-0.06	0.04
Motor gasoline	1.76	1.93	2.20	2.02	1.88	2.08	2.01	2.04	2.18	0.14	0.02
Jet and kerosene	0.74	0.86	1.03	1.07	1.02	1.29	1.23	1.26	1.36	0.10	0.58
Gasoil/diesel oil	5.93	6.26	6.51	6.69	6.14	6.10	6.12	6.04	6.14	0.10	-0.40
Residual fuel oil	0.69	0.76	0.78	0.76	0.79	0.83	0.80	0.87	0.83	-0.04	0.08
Other products	1.17	1.10	1.17	1.15	1.07	1.17	1.12	1.19	1.19	-0.01	0.02
Total	12.41	13.13	13.90	13.96	13.15	13.42	13.22	13.34	13.69	0.36	0.24
Asia Oceania											
LPG and ethane	0.76	0.77	0.72	0.78	0.94	0.77	0.80	0.79	0.73	-0.05	-0.06
Naphtha	1.81	1.95	1.98	2.06	1.93	1.78	1.86	1.73	1.75	0.02	-0.06
Motor gasoline	1.38	1.35	1.34	1.37	1.28	1.30	1.25	1.36	1.30	-0.06	-0.06
Jet and kerosene	0.61	0.61	0.42	0.72	0.87	0.51	0.52	0.51	0.49	-0.02	0.06
Gasoil/diesel oil	1.83	1.89	1.83	1.98	1.95	1.86	1.80	1.90	1.87	-0.03	-0.03
Residual fuel oil	0.42	0.45	0.43	0.48	0.52	0.45	0.46	0.42	0.46	0.04	0.06
Other products	0.36	0.36	0.35	0.39	0.36	0.31	0.24	0.32	0.38	0.05	0.01
Total	7.17	7.38	7.07	7.78	7.85	6.98	6.93	7.03	6.99	-0.05	-0.08
OECD											
LPG and ethane	5.35	5.56	5.40	5.81	6.23	5.32	5.36	5.20	5.41	0.21	-0.06
Naphtha	3.12	3.33	3.34	3.48	3.30	3.00	3.08	2.98	2.93	-0.05	-0.09
Motor gasoline	12.66	13.63	14.26	13.97	13.20	14.09	13.69	14.20	14.37	0.17	-0.09
Jet and kerosene	2.60	3.03	3.19	3.53	3.59	3.67	3.54	3.59	3.87	0.27	1.05
Gasoil/diesel oil	12.65	13.21	13.35	13.82	13.39	13.11	12.96	13.09	13.28	0.19	-0.21
Residual fuel oil	1.52	1.76	1.78	1.83	1.91	1.82	1.78	1.85	1.83	-0.02	0.06
Other products	4.16	4.33	4.53	4.40	4.17	4.38	4.26	4.20	4.68	0.48	0.08
Total	42.05	44.85	45.84	46.85	45.79	45.39	44.69	45.11	46.37	1.25	0.73

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22 ²	Latest month vs.	
										May 22	Jun 21
United States³											
LPG and ethane	2.74	2.88	2.75	3.13	3.37	2.89	2.95	2.81	2.92	0.10	0.16
Naphtha	0.18	0.19	0.20	0.18	0.15	0.14	0.15	0.14	0.13	-0.01	-0.08
Motor gasoline	8.05	8.82	9.14	8.98	8.47	9.00	8.75	9.11	9.13	0.02	-0.23
Jet and kerosene	1.08	1.38	1.52	1.50	1.46	1.61	1.54	1.58	1.71	0.13	0.28
Gasoil/diesel oil	3.78	3.97	3.90	4.03	4.14	3.89	3.81	3.87	3.99	0.12	0.05
Residual fuel oil	0.21	0.31	0.35	0.40	0.38	0.31	0.30	0.34	0.29	-0.06	-0.06
Other products	2.13	2.35	2.45	2.31	2.24	2.43	2.45	2.22	2.61	0.39	0.07
Total	18.19	19.89	20.30	20.54	20.22	20.27	19.96	20.08	20.77	0.70	0.19
Japan											
LPG and ethane	0.39	0.40	0.35	0.41	0.49	0.40	0.43	0.41	0.38	-0.03	-0.01
Naphtha	0.66	0.70	0.67	0.76	0.63	0.56	0.54	0.55	0.60	0.05	-0.01
Motor gasoline	0.79	0.73	0.75	0.73	0.67	0.68	0.67	0.67	0.69	0.02	-0.01
Jet and kerosene	0.37	0.37	0.22	0.46	0.58	0.25	0.28	0.24	0.22	-0.03	0.00
Diesel	0.41	0.42	0.42	0.44	0.43	0.41	0.41	0.39	0.43	0.04	0.00
Other gasoil	0.31	0.32	0.29	0.35	0.37	0.30	0.31	0.29	0.30	0.02	0.01
Residual fuel oil	0.22	0.25	0.24	0.26	0.29	0.24	0.25	0.22	0.25	0.03	0.03
Other products	0.21	0.22	0.24	0.25	0.23	0.18	0.11	0.19	0.24	0.06	0.07
Total	3.36	3.41	3.17	3.66	3.70	3.03	3.01	2.95	3.12	0.17	0.07
Germany											
LPG and ethane	0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.12	0.01	-0.01
Naphtha	0.28	0.32	0.31	0.34	0.35	0.33	0.34	0.34	0.30	-0.04	0.06
Motor gasoline	0.46	0.45	0.49	0.46	0.43	0.45	0.44	0.41	0.51	0.09	0.03
Jet and kerosene	0.10	0.13	0.16	0.16	0.15	0.20	0.19	0.19	0.21	0.02	0.08
Diesel	0.71	0.72	0.78	0.76	0.67	0.67	0.68	0.62	0.72	0.11	-0.04
Other gasoil	0.36	0.27	0.26	0.36	0.28	0.25	0.24	0.27	0.23	-0.04	-0.02
Residual fuel oil	0.05	0.05	0.05	0.06	0.06	0.05	0.06	0.06	0.05	-0.01	0.00
Other products	0.08	0.07	0.08	0.08	0.06	0.07	0.07	0.09	0.04	-0.05	-0.03
Total	2.15	2.13	2.23	2.34	2.11	2.14	2.14	2.09	2.18	0.09	0.07
Italy											
LPG and ethane	0.09	0.11	0.10	0.12	0.13	0.10	0.11	0.09	0.10	0.00	0.00
Naphtha	0.10	0.09	0.08	0.10	0.10	0.07	0.10	0.08	0.05	-0.03	-0.02
Motor gasoline	0.14	0.17	0.20	0.18	0.16	0.19	0.18	0.18	0.19	0.01	0.00
Jet and kerosene	0.05	0.06	0.09	0.07	0.07	0.10	0.09	0.09	0.10	0.01	0.03
Diesel	0.39	0.48	0.51	0.51	0.48	0.49	0.48	0.49	0.51	0.02	-0.01
Other gasoil	0.07	0.07	0.07	0.07	0.04	0.05	0.04	0.05	0.06	0.01	-0.02
Residual fuel oil	0.06	0.09	0.10	0.09	0.09	0.10	0.10	0.10	0.11	0.01	0.01
Other products	0.14	0.11	0.11	0.12	0.10	0.13	0.11	0.14	0.15	0.01	0.03
Total	1.03	1.18	1.26	1.26	1.17	1.23	1.21	1.22	1.27	0.04	0.01
France											
LPG and ethane	0.11	0.11	0.11	0.10	0.12	0.10	0.10	0.09	0.10	0.01	-0.02
Naphtha	0.12	0.14	0.13	0.16	0.13	0.09	0.06	0.08	0.12	0.03	0.00
Motor gasoline	0.17	0.21	0.24	0.22	0.21	0.24	0.23	0.24	0.25	0.01	0.01
Jet and kerosene	0.09	0.09	0.11	0.11	0.10	0.11	0.11	0.12	0.12	0.00	0.04
Diesel	0.67	0.73	0.77	0.75	0.71	0.75	0.73	0.74	0.77	0.03	-0.03
Other gasoil	0.14	0.13	0.11	0.16	0.16	0.07	0.09	0.06	0.06	0.00	-0.02
Residual fuel oil	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.04	0.01	0.01
Other products	0.09	0.10	0.12	0.10	0.08	0.11	0.10	0.10	0.13	0.03	0.00
Total	1.43	1.55	1.64	1.62	1.54	1.50	1.45	1.47	1.59	0.12	-0.02
United Kingdom											
LPG and ethane	0.12	0.11	0.11	0.11	0.12	0.12	0.12	0.10	0.13	0.02	0.04
Naphtha	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor gasoline	0.22	0.25	0.28	0.28	0.26	0.28	0.26	0.28	0.29	0.01	0.02
Jet and kerosene	0.18	0.18	0.16	0.24	0.24	0.27	0.27	0.27	0.26	0.00	0.14
Diesel	0.43	0.47	0.49	0.49	0.46	0.51	0.53	0.49	0.51	0.01	-0.02
Other gasoil	0.11	0.13	0.14	0.12	0.11	0.09	0.11	0.09	0.08	-0.01	-0.05
Residual fuel oil	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.00	0.01
Other products	0.10	0.10	0.11	0.10	0.11	0.10	0.10	0.11	0.10	-0.01	-0.02
Total	1.21	1.26	1.30	1.35	1.31	1.39	1.41	1.37	1.40	0.03	0.11
Canada											
LPG and ethane	0.43	0.45	0.46	0.45	0.43	0.36	0.35	0.35	0.40	0.05	-0.04
Naphtha	0.05	0.04	0.05	0.04	0.05	0.05	0.04	0.04	0.05	0.01	0.00
Motor gasoline	0.73	0.76	0.84	0.76	0.74	0.80	0.78	0.78	0.84	0.06	0.01
Jet and kerosene	0.08	0.09	0.11	0.12	0.10	0.13	0.12	0.11	0.16	0.05	0.09
Diesel	0.27	0.27	0.27	0.26	0.27	0.27	0.27	0.26	0.27	0.01	0.00
Other gasoil	0.30	0.30	0.33	0.30	0.31	0.26	0.27	0.24	0.28	0.04	-0.04
Residual fuel oil	0.03	0.03	0.02	0.03	0.04	0.03	0.03	0.03	0.04	0.01	0.01
Other products	0.30	0.33	0.37	0.36	0.31	0.29	0.27	0.28	0.33	0.05	-0.01
Total	2.19	2.28	2.43	2.33	2.26	2.19	2.11	2.10	2.36	0.27	0.01

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)

	2021	2022	2023	1Q22	2Q22	3Q22	4Q22	1Q23	Jun 22	Jul 22	Aug 22
OPEC											
Crude Oil											
Saudi Arabia	9.15			10.20	10.49				10.54	10.81	10.96
Iran	2.42			2.55	2.47				2.50	2.49	2.52
Iraq	4.03			4.29	4.45				4.47	4.53	4.54
UAE	2.76			3.09	3.24				3.38	3.33	3.40
Kuwait	2.42			2.61	2.67				2.68	2.77	2.80
Angola	1.12			1.16	1.17				1.18	1.18	1.18
Nigeria	1.31			1.30	1.15				1.16	1.08	0.98
Libya	1.15			1.08	0.77				0.63	0.65	1.08
Algeria	0.91			0.99	1.01				1.02	1.02	1.02
Congo	0.27			0.27	0.27				0.28	0.26	0.27
Gabon	0.18			0.19	0.18				0.19	0.19	0.20
Equatorial Guinea	0.10			0.09	0.09				0.09	0.10	0.08
Venezuela	0.61			0.72	0.74				0.73	0.63	0.69
Total Crude Oil	26.43			28.54	28.70				28.85	29.04	29.72
<i>of which Neutral Zone¹</i>	<i>0.25</i>			<i>0.27</i>	<i>0.28</i>				<i>0.28</i>	<i>0.28</i>	<i>0.32</i>
Total NGLs²	5.12	5.35	5.45	5.27	5.35	5.38	5.39	5.43	5.36	5.38	5.37
Total OPEC³	31.55			33.81	34.05				34.21	34.42	35.09
NON-OPEC⁴											
OECD											
Americas											
United States	16.82	17.95	19.10	17.25	17.80	18.17	18.58	18.67	17.99	18.04	18.22
Mexico	1.95	2.03	2.07	2.00	1.99	2.03	2.09	2.09	2.01	2.01	2.04
Canada	5.59	5.74	5.82	5.73	5.57	5.79	5.88	5.77	5.58	5.77	5.81
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	3.38	3.20	3.35	3.30	3.03	3.14	3.34	3.36	2.81	3.11	3.16
Norway	0.89	0.86	0.81	0.91	0.86	0.79	0.87	0.85	0.82	0.81	0.77
Others	2.04	1.91	2.12	1.97	1.74	1.91	2.04	2.08	1.54	1.88	1.96
Asia Oceania											
Australia	0.45	0.43	0.42	0.42	0.43	0.43	0.43	0.42	0.45	0.43	0.43
Others	0.51	0.50	0.48	0.49	0.51	0.51	0.51	0.49	0.51	0.50	0.51
Australia	0.44	0.43	0.41	0.42	0.45	0.44	0.44	0.42	0.44	0.43	0.44
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total OECD	28.27	29.44	30.83	28.78	28.92	29.65	30.40	30.38	28.90	29.44	29.75
NON-OECD											
Former USSR											
Russia	13.77	13.69	12.50	14.39	13.43	13.55	13.40	12.66	13.60	13.83	13.47
Azerbaijan	10.87	10.87	9.55	11.37	10.70	10.95	10.49	9.68	11.09	11.12	10.95
Kazakhstan	0.70	0.67	0.67	0.70	0.67	0.66	0.67	0.68	0.63	0.67	0.65
Others	1.85	1.82	1.96	1.98	1.76	1.64	1.92	1.99	1.58	1.73	1.56
Asia											
China	0.35	0.32	0.31	0.34	0.30	0.31	0.31	0.32	0.30	0.30	0.31
China	6.91	6.93	6.89	7.02	6.96	6.88	6.85	6.94	7.00	6.83	6.92
Malaysia	4.06	4.20	4.26	4.23	4.23	4.18	4.16	4.29	4.27	4.12	4.21
India	0.57	0.57	0.57	0.57	0.56	0.57	0.57	0.57	0.57	0.57	0.57
Indonesia	0.73	0.71	0.70	0.72	0.71	0.71	0.70	0.69	0.72	0.72	0.71
Others	0.68	0.64	0.61	0.67	0.64	0.63	0.62	0.62	0.64	0.63	0.63
Europe											
Americas	0.11	0.11	0.10	0.11	0.11	0.10	0.10	0.10	0.11	0.11	0.10
Brazil	5.30	5.59	5.95	5.43	5.47	5.67	5.79	5.86	5.37	5.60	5.70
Argentina	3.00	3.09	3.39	3.09	3.00	3.08	3.20	3.27	2.92	3.02	3.10
Colombia	0.64	0.71	0.73	0.69	0.70	0.71	0.72	0.72	0.70	0.71	0.71
Ecuador	0.74	0.76	0.75	0.75	0.76	0.76	0.77	0.76	0.76	0.76	0.76
Others	0.48	0.47	0.45	0.47	0.45	0.47	0.47	0.46	0.40	0.47	0.47
Middle East											
Oman	0.43	0.57	0.63	0.43	0.56	0.65	0.64	0.64	0.59	0.65	0.66
Qatar	3.08	3.21	3.26	3.15	3.21	3.24	3.22	3.25	3.24	3.25	3.24
Others	0.98	1.07	1.10	1.04	1.07	1.09	1.08	1.09	1.08	1.09	1.08
Africa	1.82	1.84	1.87	1.82	1.85	1.85	1.85	1.87	1.85	1.85	1.85
Egypt	0.28	0.29	0.29	0.29	0.29	0.30	0.30	0.29	0.31	0.31	0.31
Others	1.31	1.30	1.30	1.28	1.28	1.31	1.32	1.31	1.33	1.31	1.32
Egypt	0.57	0.58	0.59	0.57	0.59	0.59	0.59	0.59	0.60	0.59	0.60
Others	0.74	0.71	0.71	0.71	0.69	0.72	0.72	0.72	0.73	0.72	0.72
Total Non-OECD	30.49	30.82	29.99	31.39	30.46	30.76	30.67	30.11	30.64	30.92	30.75
Processing gains ⁵	2.25	2.31	2.36	2.29	2.29	2.33	2.32	2.33	2.32	2.35	2.36
Global biofuels	2.75	2.93	3.04	2.44	3.01	3.33	2.95	2.55	3.26	3.37	3.36
TOTAL NON-OPEC	63.76	65.50	66.22	64.89	64.66	66.07	66.34	65.37	65.12	66.09	66.21
TOTAL SUPPLY	95.31			98.70	98.72				99.34	100.51	101.30

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)

	2021	2022	2023	1Q22	2Q22	3Q22	4Q22	1Q23	Jun 22	Jul 22	Aug 22
United States											
Alaska	437	436	426	446	436	418	443	444	419	428	408
California	380	345	332	350	347	344	340	337	346	345	343
Texas	4766	5031	5301	4886	4980	5078	5178	5173	4959	4982	5115
Federal Gulf of Mexico ²	1707	1718	1873	1673	1720	1790	1688	1896	1791	1833	1850
Other US Lower 48	3963	4295	4655	4111	4216	4327	4520	4614	4302	4275	4255
NGLs ³	5425	5941	6294	5614	5915	6031	6198	6003	5982	5978	6056
Other Hydrocarbons	142	188	218	167	187	187	210	200	190	200	190
Total	16820	17954	19099	17248	17800	18174	18576	18667	17988	18041	18217
Canada											
Alberta Light/Medium/Heavy	436	486	498	469	497	491	487	503	491	493	490
Alberta Bitumen	1921	1985	2067	1926	1883	2075	2054	1976	1868	2036	2034
Saskatchewan	443	454	447	445	461	457	452	453	458	458	457
Other Crude	456	428	450	441	435	413	422	434	417	413	412
NGLs	975	1023	994	1051	1020	1014	1009	1003	1028	1016	1012
Other Upgraders	180	184	184	188	171	180	196	188	177	182	188
Synthetic Crudes	1181	1183	1183	1210	1101	1160	1260	1210	1139	1173	1214
Total	5592	5742	5822	5729	5568	5789	5880	5766	5576	5770	5808
Mexico											
Crude	1780	1866	1924	1825	1834	1872	1933	1938	1845	1850	1879
NGLs	170	157	143	171	154	152	150	147	158	152	152
Total	1954	2029	2073	2002	1994	2030	2088	2091	2009	2008	2037
UK											
Brent Fields	25	24	19	29	26	18	21	23	22	27	15
Forties Fields	211	216	193	250	209	183	224	218	179	200	156
Ninian Fields	24	17	13	21	18	15	14	14	16	14	16
Flotta Fields	50	41	36	48	40	39	39	38	42	39	39
Other Fields	511	493	487	487	499	474	512	492	497	467	481
NGLs	67	67	62	74	68	64	63	63	63	63	65
Total	888	858	809	909	859	793	873	847	819	809	772
Norway⁴											
Ekofisk-Ula Area	141	116	117	130	84	123	126	124	35	125	116
Oseberg-Troll Area	212	214	234	211	211	205	230	232	215	221	227
Statfjord-Gullfaks Area	262	241	219	249	245	237	231	226	233	241	236
Haltenbanken Area	284	274	287	283	250	283	280	283	256	283	282
Sleipner-Frigg Area	816	797	980	834	676	807	871	930	557	720	849
Other Fields	74	76	90	57	94	54	97	91	57	72	46
NGLs	249	197	191	205	180	204	201	197	188	213	204
Total	2038	1915	2118	1971	1739	1912	2036	2084	1540	1876	1960
Other OECD Europe											
Denmark	66	65	63	67	66	64	63	61	65	65	64
Italy	97	93	96	85	92	98	98	97	101	98	98
Türkiye	66	67	67	64	68	68	68	67	68	68	68
Other	99	86	83	93	73	89	88	86	68	90	90
NGLs	7	6	6	8	6	6	6	6	6	6	6
Non-Conventional Oils	118	111	108	105	127	106	107	108	144	102	107
Total	453	428	423	421	431	432	429	425	453	428	433
Australia											
Gippsland Basin	5	5	5	6	6	5	5	5	5	5	5
Cooper-Eromanga Basin	23	19	17	19	19	18	18	18	19	19	18
Carnarvon Basin	114	105	96	108	106	104	102	99	105	105	104
Other Crude	193	199	188	177	206	205	208	191	211	197	211
NGLs	109	106	104	107	109	104	106	105	98	103	103
Total	444	434	411	417	445	437	438	418	439	429	441
Other OECD Asia Oceania											
New Zealand	18	16	15	17	15	17	16	16	14	17	17
Japan	4	3	3	4	3	3	3	3	3	3	3
NGLs	11	10	9	12	11	9	9	9	10	9	9
Non-Conventional Oils	37	40	40	41	39	40	40	40	44	39	39
Total	71	70	67	73	69	69	68	68	71	68	68
OECD											
Crude Oil	19588	20212	21284	19815	19814	20375	20832	21085	19663	20189	20387
NGLs	7019	7517	7811	7250	7471	7592	7749	7541	7543	7550	7615
Non-Conventional Oils ⁵	1662	1711	1738	1716	1630	1679	1818	1751	1699	1701	1744
Total	28270	29440	30833	28780	28915	29646	30400	30376	28905	29440	29747

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 aggregated with crude oil.

4 North Sea production is grouped into crude streams that include all fields being processed through the named field complex, i.e. the name corresponds to the crude stream not just the field of that name.

5 Does not include biofuels.

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

	2021	2022	2023	1Q22	2Q22	3Q22	4Q22	1Q23	Jun 22	Jul 22	Aug 22
OPEC+											
Crude Oil											
Algeria	0.91	1.01	1.00	0.99	1.01	1.02	1.01	1.00	1.02	1.02	1.02
Angola	1.12	1.15	1.07	1.16	1.17	1.16	1.10	1.10	1.18	1.18	1.18
Azerbaijan	0.59	0.56	0.54	0.58	0.56	0.56	0.56	0.55	0.52	0.56	0.55
Bahrain	0.17	0.19	0.19	0.18	0.19	0.20	0.19	0.19	0.20	0.20	0.20
Brunei	0.08	0.08	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.08
Congo	0.27	0.27	0.27	0.27	0.27	0.27	0.28	0.27	0.28	0.26	0.27
Equatorial Guinea	0.10	0.09	0.10	0.09	0.09	0.09	0.10	0.10	0.09	0.10	0.08
Gabon	0.18	0.19	0.19	0.19	0.18	0.19	0.19	0.19	0.19	0.19	0.20
Iran	2.42	2.52	2.55	2.55	2.47	2.52	2.55	2.55	2.50	2.49	2.52
Iraq	4.03	4.48	4.65	4.29	4.45	4.54	4.63	4.65	4.47	4.53	4.54
Kazakhstan	1.52	1.48	1.62	1.63	1.43	1.31	1.57	1.64	1.25	1.40	1.24
Kuwait	2.42	2.72	2.81	2.61	2.67	2.79	2.80	2.81	2.68	2.77	2.80
Libya	1.15	1.00	1.18	1.08	0.77	0.96	1.18	1.18	0.63	0.65	1.08
Malaysia	0.42	0.40	0.40	0.41	0.39	0.40	0.40	0.40	0.41	0.40	0.40
Mexico	1.66	1.65	1.67	1.64	1.62	1.64	1.70	1.69	1.62	1.62	1.65
Nigeria	1.31	1.16	1.17	1.30	1.15	1.03	1.14	1.18	1.16	1.08	0.98
Oman	0.75	0.84	0.87	0.82	0.84	0.86	0.85	0.86	0.85	0.87	0.85
Russia	9.62	9.61	8.33	10.04	9.40	9.72	9.27	8.46	9.80	9.82	9.77
Saudi Arabia	9.15	10.66	11.00	10.20	10.49	10.93	11.00	11.00	10.54	10.81	10.96
South Sudan	0.15	0.14	0.15	0.14	0.14	0.14	0.15	0.15	0.14	0.13	0.14
Sudan	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
UAE	2.76	3.28	3.40	3.09	3.24	3.38	3.40	3.40	3.38	3.33	3.40
Venezuela	0.61	0.72	0.76	0.72	0.74	0.68	0.75	0.76	0.73	0.63	0.69
Total Crude Oil	41.47	44.25	44.06	44.11	43.41	44.52	44.96	44.26	43.78	44.17	44.67
<i>of which Neutral Zone</i>	<i>0.25</i>			<i>0.27</i>	<i>0.28</i>				<i>0.28</i>	<i>0.28</i>	<i>0.32</i>
Total NGLs	7.50	7.87	7.97	7.87	7.89	7.84	7.90	7.95	7.90	7.94	7.77
TOTAL OPEC+	48.97	52.1	52.0	52.0	51.3	52.4	52.9	52.2	51.7	52.1	52.4
NON-OPEC+											
OECD											
Americas²											
United States	16.82	17.95	19.10	17.25	17.80	18.17	18.58	18.67	17.99	18.04	18.22
Canada	5.59	5.74	5.82	5.73	5.57	5.79	5.88	5.77	5.58	5.77	5.81
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.38	3.20	3.35	3.30	3.03	3.14	3.34	3.36	2.81	3.11	3.16
UK	0.89	0.86	0.81	0.91	0.86	0.79	0.87	0.85	0.82	0.81	0.77
Norway	2.04	1.91	2.12	1.97	1.74	1.91	2.04	2.08	1.54	1.88	1.96
Others	0.45	0.43	0.42	0.42	0.43	0.43	0.43	0.42	0.45	0.43	0.43
Asia Oceania	0.51	0.50	0.48	0.49	0.51	0.51	0.51	0.49	0.51	0.50	0.51
Australia	0.44	0.43	0.41	0.42	0.45	0.44	0.44	0.42	0.44	0.43	0.44
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total OECD (non-OPEC+)	26.32	27.41	28.76	26.78	26.92	27.62	28.31	28.28	26.90	27.43	27.71
Non-OECD											
FSU	0.35	0.32	0.31	0.34	0.30	0.31	0.31	0.32	0.30	0.30	0.31
Asia											
China	6.24	6.26	6.23	6.34	6.30	6.22	6.18	6.28	6.33	6.17	6.26
India	4.06	4.20	4.26	4.23	4.23	4.18	4.16	4.29	4.27	4.12	4.21
Indonesia	0.73	0.71	0.70	0.72	0.71	0.71	0.70	0.69	0.72	0.72	0.71
Others	0.68	0.64	0.61	0.67	0.64	0.63	0.62	0.62	0.64	0.63	0.63
Others	0.77	0.71	0.66	0.73	0.72	0.71	0.70	0.68	0.71	0.70	0.71
Europe	0.11	0.11	0.10	0.11	0.11	0.10	0.10	0.10	0.11	0.11	0.10
Americas											
Brazil	5.30	5.59	5.95	5.43	5.47	5.67	5.79	5.86	5.37	5.60	5.70
Argentina	3.00	3.09	3.39	3.09	3.00	3.08	3.20	3.27	2.92	3.02	3.10
Colombia	0.64	0.71	0.73	0.69	0.70	0.71	0.72	0.72	0.70	0.71	0.71
Ecuador	0.74	0.76	0.75	0.75	0.76	0.76	0.77	0.76	0.76	0.76	0.76
Others	0.48	0.47	0.45	0.47	0.45	0.47	0.47	0.46	0.40	0.47	0.47
Others	0.43	0.57	0.63	0.43	0.56	0.65	0.64	0.64	0.59	0.65	0.66
Middle East	1.92	1.94	1.96	1.92	1.95	1.94	1.94	1.96	1.94	1.94	1.94
Qatar	1.82	1.84	1.87	1.82	1.85	1.85	1.85	1.87	1.85	1.85	1.85
Others	0.10	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Africa											
Egypt	1.10	1.10	1.10	1.08	1.08	1.11	1.11	1.10	1.13	1.12	1.11
Others	0.57	0.58	0.59	0.57	0.59	0.59	0.59	0.59	0.60	0.59	0.60
Others	0.53	0.51	0.51	0.51	0.50	0.52	0.52	0.51	0.53	0.53	0.52
Total non-OECD (non-OPEC+)	15.02	15.31	15.65	15.23	15.21	15.37	15.44	15.62	15.19	15.24	15.43
Processing gains	2.25	2.31	2.36	2.29	2.29	2.33	2.32	2.33	2.32	2.35	2.36
Global biofuels	2.75	2.93	3.04	2.44	3.01	3.33	2.95	2.55	3.26	3.37	3.36
TOTAL NON-OPEC+	46.34	47.96	49.80	46.73	47.42	48.65	49.02	48.78	47.66	48.40	48.85
TOTAL SUPPLY	95.31	100.09	101.83	98.70	98.72	101.01	101.87	100.99	99.34	100.51	101.30

¹ From Sep 2022, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2023.

² Excludes Mexico

Table 4
OECD STOCKS AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS ²					PRIOR YEARS' STOCKS ²			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Mar2022	Apr2022	May2022	Jun2022	Jul2022 ³	Jul2019	Jul2020	Jul2021	3Q2021	4Q2021	1Q2022	2Q2022
OECD INDUSTRY-CONTROLLED STOCKS ¹												
OECD Americas												
Crude	569.3	577.6	569.7	568.0	573.1	584.9	668.4	606.7	-0.33	0.07	-0.21	-0.01
Motor Gasoline	266.6	256.9	245.4	246.5	250.5	262.7	278.7	258.4	-0.13	0.07	0.08	-0.22
Middle Distillate	179.2	173.8	179.0	179.9	180.4	212.8	250.6	216.8	-0.12	-0.09	-0.18	0.01
Residual Fuel Oil	34.5	36.4	36.8	35.7	35.9	36.3	42.7	36.1	-0.05	-0.02	0.03	0.01
Total Products ⁴	683.1	682.2	696.4	704.2	730.1	810.5	867.0	781.5	-0.03	-0.45	-0.47	0.23
Total ⁵	1409.8	1415.0	1429.8	1432.6	1461.5	1565.3	1715.9	1556.7	-0.39	-0.51	-0.62	0.25
OECD Europe												
Crude	323.6	327.9	336.2	340.0	339.6	357.4	383.0	336.5	-0.38	-0.03	0.23	0.18
Motor Gasoline	91.2	94.3	90.9	86.5	85.2	87.7	94.1	83.1	-0.07	0.06	0.06	-0.05
Middle Distillate	239.6	250.4	243.6	239.3	244.5	278.1	334.0	296.4	-0.37	-0.31	-0.04	0.00
Residual Fuel Oil	63.0	66.2	65.6	65.3	64.2	61.3	74.2	62.4	-0.01	-0.04	0.04	0.02
Total Products ⁴	490.4	515.2	506.2	497.9	499.0	541.0	620.7	541.6	-0.45	-0.31	0.06	0.08
Total ⁵	890.3	918.0	916.8	911.4	913.8	985.0	1091.9	953.2	-0.89	-0.37	0.37	0.23
OECD Asia Oceania												
Crude	105.5	114.8	107.1	93.9	104.0	158.8	170.3	114.5	-0.17	-0.11	0.07	-0.13
Motor Gasoline	25.6	25.7	25.5	25.5	23.3	27.8	25.7	26.1	-0.03	-0.03	0.02	0.00
Middle Distillate	56.2	58.8	56.3	61.3	65.6	72.4	71.2	66.2	0.07	-0.09	-0.09	0.06
Residual Fuel Oil	15.4	16.9	17.3	16.1	15.6	18.9	18.3	17.7	0.02	-0.02	-0.02	0.01
Total Products ⁴	158.1	161.2	159.3	165.3	167.6	181.1	181.1	169.1	0.15	-0.23	-0.05	0.08
Total ⁵	315.7	334.4	327.3	317.4	329.2	403.7	413.7	345.1	-0.02	-0.34	-0.09	0.02
Total OECD												
Crude	998.4	1020.4	1013.0	1001.9	1016.7	1101.2	1221.7	1057.6	-0.88	-0.07	0.08	0.04
Motor Gasoline	383.4	376.9	361.7	358.5	359.0	378.2	398.6	367.6	-0.22	0.10	0.16	-0.27
Middle Distillate	475.0	483.1	478.8	480.5	490.4	563.3	655.8	579.4	-0.41	-0.49	-0.31	0.06
Residual Fuel Oil	112.9	119.5	119.7	117.1	115.7	116.5	135.2	116.2	-0.04	-0.08	0.05	0.05
Total Products ⁴	1331.6	1358.5	1361.9	1367.4	1396.7	1532.6	1668.8	1492.3	-0.32	-0.99	-0.47	0.39
Total ⁵	2615.8	2667.5	2673.9	2661.4	2704.5	2954.0	3221.5	2854.9	-1.30	-1.23	-0.34	0.50
OECD GOVERNMENT-CONTROLLED STOCKS ⁶												
OECD Americas												
Crude	566.1	547.9	523.1	493.3	469.0	644.8	656.1	621.3	-0.04	-0.26	-0.31	-0.80
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	198.4	195.8	196.2	195.1	195.0	205.8	207.8	204.4	0.00	-0.05	-0.02	-0.04
Products	268.4	262.0	259.5	255.7	254.8	274.1	281.6	277.7	-0.01	-0.01	-0.09	-0.14
OECD Asia Oceania												
Crude	367.8	364.5	361.0	358.1	358.5	378.6	377.2	373.9	-0.05	0.01	-0.03	-0.11
Products	37.9	37.9	37.9	37.3	37.3	38.9	39.4	38.8	0.00	0.00	-0.01	-0.01
Total OECD												
Crude	1132.3	1108.1	1080.3	1046.6	1022.4	1229.2	1241.2	1199.6	-0.10	-0.31	-0.35	-0.94
Products	308.3	301.9	299.4	295.0	294.1	315.0	322.9	318.6	-0.01	-0.01	-0.11	-0.14
Total ⁵	1442.2	1411.6	1381.3	1343.2	1317.7	1546.0	1566.1	1519.8	-0.12	-0.31	-0.46	-1.08

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)

	February			March			April			May			June		
	2021	2022	%	2021	2022	%	2021	2022	%	2021	2022	%	2021	2022	%
United States²															
Crude	493.9	409.1	-17.2	502.5	414.4	-17.5	489.2	419.1	-14.3	477.0	414.3	-13.1	448.1	417.5	-6.8
Motor Gasoline	241.3	250.4	3.8	237.8	238.5	0.3	238.6	230.1	-3.6	240.2	220.7	-8.1	237.3	221.0	-6.9
Middle Distillate	186.0	162.2	-12.8	187.2	151.5	-19.1	179.3	145.3	-19.0	184.7	152.0	-17.7	186.5	151.6	-18.7
Residual Fuel Oil	31.4	27.5	-12.4	30.9	27.9	-9.7	31.9	29.4	-7.8	32.0	29.2	-8.8	31.5	29.2	-7.3
Other Products	205.6	178.0	-13.4	207.7	179.8	-13.4	218.9	191.5	-12.5	229.7	212.5	-7.5	235.4	219.5	-6.8
Total Products	664.3	618.1	-7.0	663.6	597.7	-9.9	668.7	596.3	-10.8	686.6	614.4	-10.5	690.7	621.3	-10.0
Other ³	144.8	138.2	-4.6	144.8	141.5	-2.3	140.9	138.1	-2.0	140.3	143.8	2.5	142.5	140.9	-1.1
Total	1303.0	1165.4	-10.6	1310.9	1153.6	-12.0	1298.8	1153.5	-11.2	1303.9	1172.5	-10.1	1281.3	1179.7	-7.9
Japan															
Crude	77.0	70.7	-8.2	64.5	76.0	17.8	69.8	80.3	15.0	78.4	74.9	-4.5	76.0	67.0	-11.8
Motor Gasoline	13.0	10.9	-16.2	12.4	9.8	-21.0	12.9	10.3	-20.2	14.9	10.3	-30.9	14.3	9.9	-30.8
Middle Distillate	30.1	26.7	-11.3	27.4	23.3	-15.0	29.2	24.7	-15.4	32.2	26.6	-17.4	31.5	26.6	-15.6
Residual Fuel Oil	7.1	6.5	-8.5	6.5	5.7	-12.3	7.2	6.2	-13.9	7.6	6.8	-10.5	7.0	6.7	-4.3
Other Products	32.9	32.2	-2.1	31.6	32.0	1.3	31.9	33.1	3.8	33.1	34.8	5.1	31.9	34.8	9.1
Total Products	83.1	76.3	-8.2	77.9	70.8	-9.1	81.2	74.3	-8.5	87.8	78.5	-10.6	84.7	78.0	-7.9
Other ³	49.1	43.7	-11.0	47.3	42.0	-11.2	49.7	47.3	-4.8	51.0	49.9	-2.2	51.3	47.8	-6.8
Total	209.2	190.7	-8.8	189.7	188.8	-0.5	200.7	201.9	0.6	217.2	203.3	-6.4	212.0	192.8	-9.1
Germany															
Crude	49.5	47.3	-4.4	52.7	48.1	-8.7	49.0	48.8	-0.4	46.7	50.7	8.6	48.7	49.5	1.6
Motor Gasoline	11.6	10.6	-8.6	8.9	10.7	20.2	10.2	11.6	13.7	11.3	11.9	5.3	9.4	10.1	7.4
Middle Distillate	25.7	21.6	-16.0	22.7	24.1	6.2	24.1	27.1	12.4	26.7	26.0	-2.6	24.1	25.1	4.1
Residual Fuel Oil	7.6	8.6	13.2	7.5	7.9	5.3	7.8	7.8	0.0	7.9	8.0	1.3	7.9	8.5	7.6
Other Products	9.4	10.0	6.4	9.5	9.9	4.2	10.0	10.6	6.0	10.3	10.0	-2.9	9.9	9.9	0.0
Total Products	54.3	50.8	-6.4	48.6	52.6	8.2	52.1	57.1	9.6	56.2	55.9	-0.5	51.3	53.6	4.5
Other ³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	103.8	98.1	-5.5	101.3	100.7	-0.6	101.1	105.9	4.7	102.9	106.6	3.6	100.0	103.1	3.1
Italy															
Crude	34.3	30.4	-11.4	39.9	32.7	-18.0	38.6	34.1	-11.7	42.9	36.4	-15.2	42.7	38.2	-10.5
Motor Gasoline	10.6	11.3	6.6	9.8	11.3	15.3	12.6	10.5	-16.7	12.1	11.6	-4.1	10.4	10.2	-1.9
Middle Distillate	28.1	23.8	-15.3	28.6	23.1	-19.2	28.8	22.6	-21.5	30.0	22.5	-25.0	29.4	21.2	-27.9
Residual Fuel Oil	7.7	8.1	5.2	8.1	7.9	-2.5	7.4	8.7	17.6	7.3	8.3	13.7	7.5	7.8	4.0
Other Products	14.0	11.3	-19.3	12.3	11.0	-10.6	11.1	11.4	2.7	10.9	11.8	8.3	10.8	11.5	6.5
Total Products	60.4	54.5	-9.8	58.8	53.3	-9.4	59.9	53.2	-11.2	60.3	54.2	-10.1	58.1	50.7	-12.7
Other ³	14.5	13.1	-9.7	15.1	14.7	-2.6	15.3	14.6	-4.6	15.6	13.8	-11.5	15.0	14.9	-0.7
Total	109.2	98.0	-10.3	113.8	100.7	-11.5	113.8	101.9	-10.5	118.8	104.4	-12.1	115.8	103.8	-10.4
France															
Crude	12.3	12.4	0.8	12.8	12.1	-5.5	12.8	10.2	-20.3	12.4	11.9	-4.0	13.0	13.5	3.8
Motor Gasoline	5.4	4.5	-16.7	3.9	4.2	7.7	4.8	4.9	2.1	4.9	4.5	-8.2	3.6	4.4	22.2
Middle Distillate	25.2	16.5	-34.5	22.3	18.6	-16.6	21.9	19.3	-11.9	23.1	19.7	-14.7	22.9	17.2	-24.9
Residual Fuel Oil	1.8	1.3	-27.8	2.0	0.7	-65.0	1.8	1.1	-38.9	1.9	1.5	-21.1	1.7	2.1	23.5
Other Products	3.5	3.5	0.0	3.5	3.6	2.9	3.4	3.8	11.8	3.7	3.5	-5.4	3.2	3.6	12.5
Total Products	35.9	25.8	-28.1	31.7	27.1	-14.5	31.9	29.1	-8.8	33.6	29.2	-13.1	31.4	27.3	-13.1
Other ³	7.9	7.1	-10.1	7.9	7.1	-10.1	7.9	7.6	-3.8	7.8	8.2	5.1	8.4	7.7	-8.3
Total	56.1	45.3	-19.3	52.4	46.3	-11.6	52.6	46.9	-10.8	53.8	49.3	-8.4	52.8	48.5	-8.1
United Kingdom															
Crude	24.2	26.2	8.3	26.5	26.3	-0.8	24.8	26.3	6.0	29.3	23.9	-18.4	26.5	23.6	-10.9
Motor Gasoline	10.3	9.6	-6.8	9.3	9.2	-1.1	8.9	9.9	11.2	9.6	9.7	1.0	9.0	9.4	4.4
Middle Distillate	29.4	19.8	-32.7	26.0	18.2	-30.0	25.4	19.8	-22.0	25.6	19.3	-24.6	24.2	18.9	-21.9
Residual Fuel Oil	1.2	1.5	25.0	1.4	1.4	0.0	1.3	1.7	30.8	1.5	1.7	13.3	1.3	1.3	0.0
Other Products	6.3	6.3	0.0	5.9	5.8	-1.7	6.3	6.8	7.9	6.6	6.8	3.0	6.4	6.8	6.2
Total Products	47.2	37.2	-21.2	42.6	34.6	-18.8	41.9	38.2	-8.8	43.3	37.5	-13.4	40.9	36.4	-11.0
Other ³	7.1	7.9	11.3	7.8	7.7	-1.3	7.9	7.5	-5.1	8.1	6.8	-16.0	8.8	7.2	-18.2
Total	78.5	71.3	-9.2	76.9	68.6	-10.8	74.6	72.0	-3.5	80.7	68.2	-15.5	76.2	67.2	-11.8
Canada⁴															
Crude	124.8	122.4	-1.9	129.0	120.7	-6.4	129.3	125.8	-2.7	127.9	121.1	-5.3	130.4	117.2	-10.1
Motor Gasoline	16.4	16.6	1.2	16.2	16.7	3.1	16.8	15.4	-8.3	15.5	13.5	-12.9	14.8	13.8	-6.8
Middle Distillate	20.3	18.0	-11.3	19.7	19.2	-2.5	20.0	19.4	-3.0	17.6	18.6	5.7	18.4	18.4	0.0
Residual Fuel Oil	2.3	2.2	-4.3	3.0	2.4	-20.0	2.2	1.9	-13.6	3.3	2.7	-18.2	2.6	2.1	-19.2
Other Products	12.5	12.9	3.2	12.5	13.3	6.4	11.9	13.6	14.3	12.4	13.5	8.9	12.2	13.4	9.8
Total Products	51.5	49.7	-3.5	51.4	51.6	0.4	50.9	50.3	-1.2	48.8	48.3	-1.0	48.0	47.7	-0.6
Other ³	20.2	16.4	-18.8	17.9	15.9	-11.2	19.0	17.1	-10.0	21.8	19.6	-10.1	23.2	19.3	-16.8
Total	196.5	188.5	-4.1	198.3	188.2	-5.1	199.2	193.2	-3.0	198.5	189.0	-4.8	201.6	184.2	-8.6

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 June 2021		End September 2021		End December 2021		End March 2022		End June 2022 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	201.6	83	198.3	85	202.3	90	188.1	86	184.3	-
Chile	11.7	30	10.3	27	10.8	28	10.3	28	9.9	-
Mexico	36.4	24	36.0	22	36.7	22	35.7	20	36.6	-
United States ⁴	1904.7	94	1870.7	91	1794.3	89	1721.7	85	1675.0	-
Total⁴	2176.5	88	2137.4	86	2066.3	84	1977.9	80	1927.9	77
OECD Asia Oceania										
Australia	39.6	41	40.9	39	37.6	36	40.0	37	38.1	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	528.6	167	525.1	144	519.4	140	500.5	165	502.8	-
Korea	194.9	75	189.3	70	168.8	62	174.6	70	165.9	-
New Zealand	7.6	56	8.3	53	6.8	44	6.2	43	6.0	-
Total	770.7	109	763.5	98	732.6	93	721.4	103	712.8	99
OECD Europe⁵										
Austria	23.0	82	21.1	81	20.9	85	24.1	99	20.1	-
Belgium	51.0	83	47.1	71	43.3	68	42.9	74	44.8	-
Czech Republic	21.8	93	21.7	97	22.5	107	22.2	100	22.3	-
Denmark	27.2	182	24.3	163	22.7	160	21.4	142	22.9	-
Estonia	2.9	88	2.7	90	2.5	90	2.6	77	2.3	-
Finland	39.5	210	37.3	192	36.2	189	38.4	209	41.0	-
France	163.0	100	157.3	97	151.6	98	148.8	99	144.6	-
Germany	275.7	124	270.4	116	268.9	127	268.8	126	267.8	-
Greece	30.5	100	26.4	90	29.4	107	28.7	97	28.7	-
Hungary	25.6	131	25.9	134	27.0	143	28.0	152	29.2	-
Ireland	12.0	84	10.6	67	10.8	70	10.6	72	10.3	-
Italy	128.9	102	118.0	94	112.5	96	116.3	94	119.3	-
Latvia	3.0	70	2.7	75	2.6	76	2.8	79	2.8	-
Lithuania	8.5	113	9.1	132	8.2	137	9.8	161	8.4	-
Luxembourg	0.8	13	0.5	9	0.6	11	0.5	11	0.7	-
Netherlands	147.2	171	125.8	151	109.5	130	123.9	139	127.1	-
Norway	23.6	104	20.2	85	21.4	112	26.3	171	25.5	-
Poland	80.0	103	78.1	104	80.6	112	82.8	113	82.4	-
Portugal	19.9	91	19.0	83	20.9	89	21.3	84	22.5	-
Slovak Republic	12.3	125	12.2	127	12.2	134	12.8	135	13.2	-
Slovenia	5.3	104	4.9	99	5.2	108	4.6	86	4.8	-
Spain	118.8	96	111.6	89	104.9	84	106.6	81	107.9	-
Sweden	45.2	141	38.3	120	30.1	99	28.2	106	30.2	-
Switzerland	32.9	177	33.4	156	31.5	168	30.2	173	29.9	-
Republic of Türkiye	85.1	74	85.6	82	87.4	96	87.6	86	87.8	-
United Kingdom	76.2	59	71.6	53	72.8	55	68.6	49	67.3	-
Total	1460.1	105	1376.0	99	1336.2	102	1358.7	101	1363.9	98
Total OECD	4407.3	96	4277.0	92	4135.1	91	4058.0	90	4004.6	87
DAYS OF IEA Net Imports⁶ -		167		160		156		156		243

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 JUNE 2022 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	Industry	Total	Government ¹	Industry
		controlled			controlled	
		Millions of Barrels			Days of Fwd. Demand ²	
2Q2019	4483	1549	2934	93	32	61
3Q2019	4488	1544	2944	94	32	62
4Q2019	4429	1535	2893	98	34	64
1Q2020	4518	1537	2981	121	41	80
2Q2020	4778	1561	3217	113	37	76
3Q2020	4732	1551	3181	110	36	74
4Q2020	4578	1541	3037	108	36	72
1Q2021	4472	1546	2927	102	35	67
2Q2021	4407	1524	2884	96	33	63
3Q2021	4277	1513	2764	92	32	59
4Q2021	4135	1484	2651	91	32	58
1Q2022	4058	1442	2616	90	32	58
2Q2022	4005	1343	2661	87	29	57

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 2Q2022 (where latest forecasts are used).

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

	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	change
Saudi Light & Extra Light												
Americas	0.20	0.26	0.34	0.45	0.43	0.44	0.46	0.40	0.47	0.50	0.41	0.09
Europe	0.68	0.59	0.48	0.55	0.55	0.53	0.67	0.78	0.57	0.65	0.41	0.24
Asia Oceania	1.42	1.39	1.30	1.18	1.48	1.57	1.36	1.59	1.33	1.17	1.10	0.07
Saudi Medium												
Americas	0.12	0.14	0.01	-	-	-	-	-	-	-	-	-
Europe	0.02	0.02	0.01	0.02	-	0.00	0.04	-	-	0.12	-	-
Asia Oceania	0.23	0.25	0.21	0.19	0.26	0.20	0.26	0.29	0.22	0.26	0.18	0.08
Canada Heavy												
Americas	2.27	2.39	2.59	2.47	2.82	2.69	2.50	2.60	2.54	2.37	2.42	-0.06
Europe	0.04	0.03	0.03	0.04	0.03	0.03	0.09	0.07	0.12	0.08	0.02	0.06
Asia Oceania	0.00	0.00	0.02	0.01	0.00	0.01	0.01	0.02	-	-	0.05	-
Iraqi Basrah Light ²												
Americas	0.31	0.11	0.08	0.04	0.17	0.16	0.32	0.29	0.35	0.31	-	-
Europe	0.85	0.58	0.61	0.60	0.67	0.61	0.54	0.55	0.59	0.49	0.72	-0.22
Asia Oceania	0.37	0.22	0.17	0.16	0.19	0.17	0.20	0.19	0.19	0.23	0.13	0.10
Kuwait Blend												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.11	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.61	0.55	0.48	0.47	0.52	0.58	0.42	0.54	0.35	0.38	0.43	-0.05
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	0.01	-	-	-	-	-	-	0.00	-
Europe	0.37	0.42	0.36	0.36	0.40	0.38	0.44	0.42	0.55	0.36	0.18	0.17
Asia Oceania	0.01	0.03	0.05	-	0.05	0.02	0.06	0.07	0.06	0.04	0.03	0.00
Kazakhstan												
Americas	-	-	0.01	-	-	-	-	-	-	-	-	-
Europe	0.76	0.74	0.68	0.64	0.64	0.86	0.64	0.70	0.57	0.65	0.65	0.00
Asia Oceania	0.18	0.07	0.09	0.10	0.10	0.14	0.16	0.18	0.10	0.21	0.10	0.11
Venezuelan 22 API and heavier												
Americas	0.05	-	-	-	-	-	-	-	-	-	-	-
Europe	0.09	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.51	0.48	0.40	0.45	0.32	0.36	0.47	0.39	0.56	0.45	0.54	-0.09
Europe	0.19	0.16	0.14	0.13	0.12	0.11	0.07	0.07	0.06	0.07	0.17	-0.10
Asia Oceania	0.13	0.12	0.14	0.14	0.13	0.08	0.05	0.05	0.03	0.07	0.10	-0.03
Russian Urals												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	1.37	1.12	1.05	1.08	1.14	1.08	0.79	0.87	0.71	0.79	1.13	-0.34
Asia Oceania	-	-	0.01	0.03	-	-	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.01	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.15	0.12	0.03	0.03	0.04	0.06	0.26	0.15	0.21	0.41	0.03	0.38
Pacific	0.00	-	-	-	-	-	-	-	-	-	-	-
Nigerian Light ⁴												
Americas	0.03	-	0.02	0.03	-	-	-	-	-	-	0.07	-
Europe	0.51	0.49	0.41	0.40	0.52	0.47	0.43	0.42	0.42	0.45	0.35	0.10
Asia Oceania	0.02	0.02	0.01	-	0.01	-	-	-	-	-	-	-
Libya Light and Medium												
Americas	0.00	-	0.02	0.06	-	-	-	-	-	-	-	-
Europe	0.67	0.19	0.79	0.87	0.75	0.66	0.51	0.73	0.49	0.30	0.73	-0.43
Asia Oceania	0.03	0.01	0.02	0.01	0.03	0.02	0.02	0.03	0.02	-	0.01	-

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

² Iraqi Total minus Kirkuk.

³ Iranian Total minus Iranian Light.

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

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

	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	% change
Crude Oil												
Americas	2726	1896	2077	2367	2129	2096	2075	2052	1970	2205	2247	-2%
Europe	9872	8349	8519	8748	9150	8889	9241	9119	9148	9458	8582	10%
Asia Oceania	6541	5579	5519	5419	5876	6101	5363	6047	5167	4881	5190	-6%
Total OECD	19139	15823	16116	16533	17154	17086	16678	17219	16285	16543	16019	3%
LPG												
Americas	26	28	21	22	25	39	21	24	16	24	13	86%
Europe	434	422	404	378	424	470	501	524	474	505	388	30%
Asia Oceania	583	559	563	528	528	681	569	569	602	535	610	-12%
Total OECD	1042	1009	988	928	977	1189	1091	1116	1092	1065	1012	5%
Naphtha												
Americas	5	7	8	11	8	6	6	12	2	6	7	-13%
Europe	347	409	512	445	563	399	403	500	465	240	387	-38%
Asia Oceania	990	1003	1146	1226	1199	1078	971	972	930	1010	1150	-12%
Total OECD	1342	1419	1667	1682	1770	1482	1379	1485	1397	1257	1544	-19%
Gasoline³												
Americas	822	577	803	973	565	483	890	723	942	1003	1037	-3%
Europe	112	109	106	75	89	102	135	173	126	107	87	23%
Asia Oceania	110	116	146	125	129	157	174	117	184	221	196	13%
Total OECD	1044	801	1054	1172	783	742	1199	1013	1252	1331	1320	1%
Jet & Kerosene												
Americas	174	159	164	207	175	120	123	116	114	141	169	-17%
Europe	520	337	334	349	411	306	446	483	412	445	234	90%
Asia Oceania	72	60	71	39	82	71	76	53	78	97	80	21%
Total OECD	766	556	569	596	668	497	646	651	605	683	483	41%
Gasoil/Diesel												
Americas	118	134	197	154	222	157	76	44	109	75	174	-57%
Europe	1300	1192	1192	1173	1263	1092	1146	1286	1055	1099	1264	-13%
Asia Oceania	261	328	352	344	377	299	353	280	390	388	357	9%
Total OECD	1679	1654	1741	1670	1862	1548	1575	1611	1554	1562	1795	-13%
Heavy Fuel Oil												
Americas	116	143	102	91	104	139	135	122	119	165	152	8%
Europe	223	295	374	435	375	302	280	285	295	260	255	2%
Asia Oceania	101	88	119	121	129	117	96	91	72	124	99	25%
Total OECD	440	526	594	648	607	559	511	498	487	549	506	8%
Other Products												
Americas	716	591	580	607	510	496	534	665	461	479	771	-38%
Europe	865	574	575	585	689	664	552	633	536	487	558	-13%
Asia Oceania	261	207	233	239	241	221	183	184	159	207	232	-11%
Total OECD	1842	1372	1389	1431	1439	1381	1268	1482	1155	1172	1561	-25%
Total Products												
Americas	1978	1639	1875	2064	1607	1440	1786	1705	1763	1891	2322	-19%
Europe	3800	3339	3497	3441	3815	3335	3463	3884	3363	3144	3174	-1%
Asia Oceania	2378	2360	2630	2623	2686	2624	2422	2267	2416	2582	2724	-5%
Total OECD	8156	7338	8002	8127	8108	7399	7670	7856	7541	7618	8220	-7%
Total Oil												
Americas	4703	3535	3952	4431	3736	3535	3861	3757	3733	4096	4569	-10%
Europe	13672	11688	12016	12188	12965	12224	12703	13003	12511	12602	11756	7%
Asia Oceania	8919	7939	8150	8041	8562	8725	7784	8314	7583	7463	7914	-6%
Total OECD	27294	23162	24117	24661	25263	24485	24348	25075	23827	24161	24239	0%

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)

	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	% change
Crude Oil												
Americas	2576	1835	1982	2275	2028	2032	2012	1995	1914	2131	2107	1%
Europe	8913	7115	7268	7455	7850	7550	7725	7754	7428	8004	7181	11%
Asia Oceania	5914	5051	4910	4772	5312	5480	4849	5497	4708	4347	4509	-4%
Total OECD	17403	14002	14160	14502	15190	15063	14587	15245	14050	14483	13797	5%
LPG												
Americas	23	22	20	22	25	37	21	24	16	24	13	86%
Europe	303	252	242	245	251	253	250	292	226	232	247	-6%
Asia Oceania	74	58	47	35	33	90	53	70	42	47	35	35%
Total OECD	400	331	309	303	309	379	323	385	283	303	295	3%
Naphtha												
Americas	2	1	4	5	5	3	2	2	1	3	4	-15%
Europe	320	390	425	337	485	338	329	385	363	238	284	-16%
Asia Oceania	895	832	975	1010	1073	942	929	904	905	978	998	-2%
Total OECD	1217	1223	1404	1352	1563	1283	1260	1291	1269	1220	1286	-5%
Gasoline³												
Americas	308	195	248	312	174	111	233	227	217	257	298	-14%
Europe	108	104	100	70	80	84	114	144	105	91	85	7%
Asia Oceania	84	98	141	125	129	157	174	117	184	221	196	13%
Total OECD	500	397	489	507	384	352	521	488	506	569	580	-2%
Jet & Kerosene												
Americas	41	55	63	65	93	43	33	43	20	37	75	-51%
Europe	464	297	298	309	362	303	399	456	377	364	208	75%
Asia Oceania	72	60	71	39	82	71	75	51	78	97	80	21%
Total OECD	576	413	433	414	537	416	507	551	475	498	364	37%
Gasoil/Diesel												
Americas	86	103	134	94	146	87	26	9	33	36	106	-66%
Europe	1126	1062	1109	1070	1186	1025	1069	1156	998	1054	1153	-9%
Asia Oceania	260	323	352	343	377	299	353	280	390	388	357	9%
Total OECD	1472	1488	1595	1507	1710	1411	1448	1446	1421	1478	1616	-9%
Heavy Fuel Oil												
Americas	102	110	86	78	77	109	101	91	92	120	145	-18%
Europe	202	279	347	417	350	282	270	278	289	243	233	4%
Asia Oceania	100	88	119	121	129	117	96	91	72	124	99	25%
Total OECD	404	477	552	616	555	508	467	461	453	487	477	2%
Other Products												
Americas	543	513	530	556	463	455	471	611	422	380	667	-43%
Europe	629	352	398	398	498	481	387	476	336	352	368	-4%
Asia Oceania	177	130	155	151	150	148	114	124	103	115	182	-37%
Total OECD	1350	995	1083	1105	1111	1083	972	1211	861	847	1216	-30%
Total Products												
Americas	1106	1000	1084	1131	983	844	887	1008	799	857	1309	-35%
Europe	3152	2735	2920	2848	3212	2766	2817	3188	2694	2574	2578	0%
Asia Oceania	1662	1590	1860	1825	1974	1824	1794	1637	1775	1970	1947	1%
Total OECD	5920	5325	5864	5804	6168	5433	5498	5832	5269	5402	5834	-7%
Total Oil												
Americas	3682	2835	3067	3406	3010	2876	2900	3003	2713	2989	3416	-13%
Europe	12064	9850	10188	10303	11062	10316	10543	10941	10122	10579	9759	8%
Asia Oceania	7576	6641	6769	6597	7286	7304	6643	7134	6483	6318	6456	-2%
Total OECD	23322	19327	20024	20306	21358	20496	20085	21077	19319	19885	19630	1%

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)

	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	% change
Crude Oil												
Americas	149	60	95	92	101	64	62	57	56	73	141	-48%
Europe	959	1234	1251	1293	1300	1339	1515	1365	1720	1454	1400	4%
Asia Oceania	628	527	610	646	563	621	514	551	459	533	681	-22%
Total OECD	1736	1821	1956	2031	1964	2023	2091	1974	2235	2060	2222	-7%
LPG												
Americas	3	6	1	0	0	2	0	0	0	0	0	na
Europe	131	171	162	132	173	217	251	232	248	273	141	93%
Asia Oceania	508	501	516	493	495	591	517	500	560	488	575	-15%
Total OECD	642	678	679	625	669	810	768	731	808	762	717	6%
Naphtha												
Americas	3	6	4	6	2	2	4	10	1	2	3	-11%
Europe	27	20	87	108	79	61	73	115	101	2	103	-98%
Asia Oceania	96	170	172	216	126	136	42	69	25	32	152	-79%
Total OECD	125	196	263	330	207	200	119	194	127	37	258	-86%
Gasoline³												
Americas	514	382	555	661	391	372	656	495	725	746	738	1%
Europe	4	5	6	5	9	18	22	29	20	16	2	886%
Asia Oceania	26	18	5	0	0	0	0	0	0	0	0	-47%
Total OECD	544	404	565	665	400	390	678	524	746	762	740	3%
Jet & Kerosene												
Americas	133	103	101	142	83	78	90	72	95	104	94	10%
Europe	56	40	35	40	49	3	48	27	35	82	26	216%
Asia Oceania	0	0	0	0	0	0	1	2	0	0	0	na
Total OECD	190	144	137	182	132	81	139	101	130	185	120	55%
Gasoil/Diesel												
Americas	32	31	63	60	76	70	50	35	76	39	67	-42%
Europe	174	131	82	103	77	67	77	130	57	45	112	-60%
Asia Oceania	1	4	0	0	0	0	0	0	0	0	0	na
Total OECD	207	166	146	163	152	137	127	165	133	84	179	-53%
Heavy Fuel Oil												
Americas	14	33	16	13	27	31	34	31	27	45	7	552%
Europe	21	16	26	19	25	20	10	6	7	17	22	-22%
Asia Oceania	1	0	0	0	0	0	0	0	0	0	0	na
Total OECD	36	49	42	32	52	50	44	37	34	62	29	116%
Other Products												
Americas	173	78	50	51	47	41	64	54	39	99	104	-5%
Europe	236	222	177	187	191	183	164	158	200	134	191	-29%
Asia Oceania	83	77	78	89	91	73	69	60	55	91	50	83%
Total OECD	493	377	306	326	329	298	297	271	294	324	345	-6%
Total Products												
Americas	872	639	790	933	625	596	899	697	963	1034	1013	2%
Europe	649	604	577	593	603	569	645	697	668	570	596	-4%
Asia Oceania	716	770	771	798	713	801	628	630	641	612	777	-21%
Total OECD	2236	2013	2138	2324	1940	1966	2172	2024	2273	2216	2387	-7%
Total Oil												
Americas	1021	699	885	1025	726	660	961	755	1019	1107	1154	-4%
Europe	1608	1838	1828	1886	1903	1908	2161	2062	2389	2023	1996	1%
Asia Oceania	1343	1297	1381	1444	1276	1422	1141	1181	1100	1145	1459	-22%
Total OECD	3972	3835	4093	4355	3905	3989	4263	3998	4508	4276	4609	-7%

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier Jun 21	change
OECD Americas												
Venezuela	81	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	868	745	719	809	731	780	802	856	747	804	656	148
North Sea	148	59	92	92	101	64	62	57	56	73	107	-34
Other OECD Europe	2	1	3	-	-	-	-	-	-	-	33	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	192	91	229	307	185	103	27	47	24	8	342	-334
Saudi Arabia	621	588	427	483	520	570	569	478	543	686	469	216
Kuwait	45	21	21	36	20	24	25	26	24	26	-	-
Iran	-	-	3	-	-	6	-	-	-	-	-	-
Iraq	331	177	152	128	192	225	229	218	234	236	180	56
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	3	5	17	44	22	10	19	58	-	-	-	-
Other Middle East	-	-	-	-	-	-	-	-	-	-	-	-
West Africa ²	267	145	228	255	180	171	211	155	252	224	304	-80
Other Africa	137	45	161	167	157	144	131	156	90	148	156	-7
Asia	32	17	25	46	22	-	-	-	-	-	-	-
Other	0	3	-	-	-	-	-	-	-	-	-	-
Total	2726	1896	2077	2367	2129	2096	2075	2052	1970	2205	2247	-43
of which Non-OECD	2576	1835	1982	2275	2028	2032	2012	1995	1914	2131	2107	25
OECD Europe												
Canada	60	95	83	89	55	79	139	71	184	162	74	87
Mexico + USA	900	1139	1168	1204	1245	1260	1376	1295	1536	1292	1326	-34
Venezuela	106	44	-	-	-	-	-	-	-	-	-	-
Other Central & South America	118	208	219	263	194	217	402	183	317	710	340	369
Non-OECD Europe	14	25	23	28	23	20	12	12	10	13	31	-18
Former Soviet Union	4239	3504	3538	3525	3849	4060	3117	3435	3032	2887	3461	-574
Saudi Arabia	792	756	522	587	501	523	727	775	694	712	475	237
Kuwait	97	48	0	0	0	-	-	-	-	-	-	-
Iran	74	6	1	6	-	-	-	-	-	-	-	-
Iraq	1124	814	912	927	1018	881	795	622	810	952	1071	-119
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2	-	-	-	-	-	31	-	-	93	-	-
Other Middle East	3	8	9	12	6	-	6	-	18	-	11	-
West Africa ²	1140	1074	822	842	947	807	1169	1057	1140	1311	636	675
Other Africa	1180	596	1197	1228	1282	997	925	1139	870	767	1150	-382
Asia	-	0	0	0	-	5	-	-	-	-	-	-
Other	13	11	1	0	6	3	517	529	497	524	-	-
Total	9863	8329	8496	8712	9126	8852	9215	9117	9108	9423	8576	847
of which Non-OECD	8913	7115	7268	7455	7850	7550	7725	7754	7428	8004	7181	823
OECD Asia Oceania												
Canada	5	1	16	5	3	9	6	17	-	-	55	-
Mexico + USA	613	477	496	554	463	582	452	465	395	498	525	-28
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	48	91	110	93	97	129	102	100	96	111	205	-94
North Sea	10	49	98	87	97	30	56	69	64	35	101	-66
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	435	300	335	265	376	405	272	421	164	236	274	-39
Saudi Arabia	1878	1867	1766	1601	2020	2029	1862	2151	1785	1652	1480	171
Kuwait	666	584	506	493	563	624	472	566	409	441	464	-23
Iran	137	-	-	-	-	-	-	-	-	-	-	-
Iraq	364	224	167	160	192	172	204	194	189	231	129	102
Oman	59	22	32	49	22	28	39	68	48	-	82	-
United Arab Emirates	1256	1096	1083	1143	1184	1145	1200	1135	1326	1133	880	253
Other Middle East	449	387	362	371	301	442	326	361	357	260	363	-103
West Africa ²	56	65	71	67	79	52	61	63	90	29	92	-62
Other Africa	90	42	56	85	39	42	31	23	19	50	51	-1
Non-OECD Asia	220	161	175	161	153	126	130	169	133	87	156	-69
Other	254	210	241	278	280	277	151	247	91	117	331	-214
Total	6541	5577	5515	5411	5869	6093	5363	6047	5167	4881	5190	-309
of which Non-OECD	5914	5051	4910	4772	5312	5480	4849	5497	4708	4347	4509	-161
Total OECD Trade	19129	15801	16088	16489	17124	17041	16652	17217	16246	16508	16013	495
of which Non-OECD	17403	14002	14160	14502	15190	15063	14587	15245	14050	14483	13797	686

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier Jun 21	change
OECD Americas												
Venezuela	4	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	83	40	41	37	51	12	44	33	50	50	28	22
ARA (Belgium Germany Netherlands)	190	149	193	240	93	124	255	168	230	367	374	-8
Other Europe	296	213	326	380	268	221	364	284	434	372	316	56
FSU	79	57	82	92	57	31	3	9	-	-	69	-
Saudi Arabia	7	6	24	41	-	6	62	59	53	74	84	-11
Algeria	-	4	1	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	14	13	13	15	4	8	14	15	10	18	11	7
Singapore	5	1	4	8	3	-	-	-	-	-	6	-
OECD Asia Oceania	28	21	37	43	30	27	39	44	61	12	48	-36
Non-OECD Asia (excl. Singapore)	116	72	81	116	60	53	108	112	104	110	98	12
Other	0	-	0	-	-	-	0	1	-	-	-	-
Total²	822	577	803	973	565	483	890	723	942	1003	1037	-33
of which Non-OECD	308	195	248	312	174	111	233	227	217	257	298	-41
OECD Europe												
OECD Americas	3	3	5	3	8	17	21	29	18	16	2	14
Venezuela	0	0	2	5	-	2	2	1	2	2	-	-
Other Central & South America	3	4	7	11	5	14	4	2	3	6	3	3
Non-OECD Europe	18	16	10	10	6	5	6	4	-	14	14	1
FSU	54	31	8	9	2	7	24	33	37	2	3	-1
Saudi Arabia	0	8	3	13	0	0	1	-	1	1	-	-
Algeria	0	1	-	-	-	-	12	19	5	13	-	-
Other Middle East & Africa	8	3	5	3	2	11	8	10	4	10	2	9
Singapore	3	2	0	0	0	1	2	1	3	1	-	-
OECD Asia Oceania	1	1	1	1	1	1	1	-	2	-	-	-
Non-OECD Asia (excl. Singapore)	0	0	3	2	3	3	2	4	1	3	2	1
Other	21	37	62	15	61	41	53	71	50	39	63	-24
Total²	112	107	106	75	89	102	135	173	126	107	87	20
of which Non-OECD	108	104	100	70	80	84	114	144	105	91	85	6
OECD Asia Oceania												
OECD Americas	6	4	1	0	0	0	0	0	0	0	0	0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	14	4	4	0	0	0	0	0	0	0	0	0
Other Europe	5	10	0	0	0	0	0	0	0	0	0	0
FSU	0	0	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	-	1	-	-	-	-	-	-	-	-	-	-
Singapore	46	51	100	96	120	135	121	80	123	160	128	32
Non-OECD Asia (excl. Singapore)	21	37	29	19	0	14	44	27	53	51	59	-7
Other	17	9	12	9	9	9	9	9	9	9	9	0
Total²	110	116	146	125	129	157	174	117	184	221	196	25
of which Non-OECD	84	98	141	125	129	157	174	117	184	221	196	25
Total OECD Trade²	1044	799	1054	1172	783	742	1199	1013	1252	1331	1320	12
of which Non-OECD	500	397	489	507	384	352	521	488	506	569	580	-11

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	change
OECD Americas												
Venezuela	1	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	38	34	28	24	20	3	6	9	4	6	39	-33
ARA (Belgium Germany Netherlands)	5	11	34	30	22	39	6	-	11	7	48	-42
Other Europe	2	4	5	1	10	2	3	-	8	0	1	-1
FSU	6	12	25	10	33	25	-	-	-	-	32	-
Saudi Arabia	3	8	15	11	18	18	15	-	19	25	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	2	9	25	18	26	8	-	-	-	-	3	-
Singapore	0	-	2	8	-	2	-	-	-	-	3	-
OECD Asia Oceania	24	16	25	29	44	29	42	35	58	32	17	15
Non-OECD Asia (excl. Singapore)	30	34	27	12	31	0	2	-	2	5	17	-13
Other	7	6	12	11	18	31	3	-	8	-	11	-
Total²	118	134	197	154	222	157	76	44	109	75	174	-99
of which Non-OECD	86	103	134	94	146	87	26	9	33	36	106	-70
OECD Europe												
OECD Americas	138	99	40	55	33	31	61	115	40	29	77	-47
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	0	3	1	1	3	1	1	1	-	1	-	-
Non-OECD Europe	41	30	35	30	32	39	46	42	37	60	37	23
FSU	608	627	611	546	516	594	467	500	419	482	647	-164
Saudi Arabia	205	193	140	142	153	98	163	115	151	224	149	75
Algeria	0	2	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	83	71	158	198	222	137	160	137	192	151	125	26
Singapore	27	17	19	24	22	39	41	91	28	3	14	-10
OECD Asia Oceania	36	32	42	48	44	36	16	15	17	16	35	-20
Non-OECD Asia (excl. Singapore)	152	101	126	122	195	88	149	238	132	78	197	-120
Other	10	15	20	6	43	30	42	33	38	55	-16	71
Total²	1300	1190	1192	1173	1263	1091	1146	1286	1055	1099	1264	-166
of which Non-OECD	1126	1062	1109	1070	1186	1025	1069	1156	998	1054	1153	-99
OECD Asia Oceania												
OECD Americas	1	4	0	0	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	0	0	0	0	0	0	-	0	0	-	-
Other Europe	-	-	0	-	0	-	-	-	-	-	-	-
FSU	4	2	1	2	1	-	-	-	-	-	1	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	7	13	4	0	3	-	11	17	5	11	0	11
Singapore	111	91	109	153	110	123	117	88	135	126	124	2
Non-OECD Asia (excl. Singapore)	133	208	229	181	259	168	219	171	237	247	228	19
Other	5	9	8	8	5	8	7	4	13	4	4	0
Total²	261	328	352	344	377	299	353	280	390	388	357	31
of which Non-OECD	260	323	352	343	377	299	353	280	390	388	357	31
Total OECD Trade²	1679	1652	1740	1670	1862	1547	1575	1611	1554	1562	1795	-233
of which Non-OECD	1472	1488	1595	1507	1710	1411	1448	1446	1421	1478	1616	-138

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	change
OECD Americas												
Venezuela	0	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	7	5	1	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	5	14	-	-	0	-	0	-	1	-
Other Europe	0	4	6	6	7	0	1	-	2	0	3	-3
FSU	-	0	4	0	16	3	-	-	-	-	1	-
Saudi Arabia	2	6	6	4	17	5	-	-	-	-	6	-
Algeria	-	1	4	3	5	-	-	-	-	-	-	-
Other Middle East and Africa	10	11	18	14	22	11	10	6	6	17	36	-19
Singapore	3	4	2	5	-	2	2	3	-	3	2	1
OECD Asia Oceania	133	100	91	122	76	78	90	72	93	104	90	14
Non-OECD Asia (excl. Singapore)	16	23	27	34	33	17	18	35	3	18	31	-13
Other	3	4	1	4	-	5	4	-	10	-	-	-
Total²	174	159	164	207	175	120	123	116	114	141	169	-29
of which Non-OECD	41	55	63	65	93	43	33	43	20	37	75	-38
OECD Europe												
OECD Americas	20	13	3	1	9	1	4	4	4	4	0	4
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	1	0	0	-	1	-	1	-	2	-	-	-
Non-OECD Europe	2	0	0	-	0	-	4	4	7	0	-	-
FSU	41	21	27	30	21	20	12	21	1	14	24	-10
Saudi Arabia	105	40	27	11	21	37	58	66	45	64	33	31
Algeria	11	9	5	6	-	3	8	-	-	25	8	17
Other Middle East and Africa	199	155	155	179	168	154	186	200	160	200	157	42
Singapore	29	10	11	23	15	6	11	30	-	4	-	-
OECD Asia Oceania	36	27	32	39	40	2	44	22	32	77	25	52
Non-OECD Asia (excl. Singapore)	73	50	62	59	113	78	95	103	142	37	42	-4
Other	2	10	9	1	22	4	20	20	20	19	-56	75
Total²	520	336	333	349	411	306	442	471	412	445	234	211
of which Non-OECD	464	297	298	309	362	303	399	456	377	364	208	156
OECD Asia Oceania												
OECD Americas	-	-	0	0	0	0	0	0	0	0	0	0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	0	-	-	-	-	-	-	-	-	-
Other Europe	-	-	0	0	-	-	1	2	-	-	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	-	-	1	-	-	-	0	0	0	-	-	-
Singapore	21	14	16	19	19	26	28	18	23	44	27	17
Non-OECD Asia (excl. Singapore)	29	28	34	15	29	20	38	28	39	47	37	10
Other	22	18	21	5	34	25	9	5	17	5	16	-10
Total²	72	60	71	39	82	71	76	53	78	97	80	17
of which Non-OECD	72	60	71	39	82	71	75	51	78	97	80	17
Total OECD Trade²	766	555	569	596	668	497	642	640	604	682	483	199
of which Non-OECD	576	413	433	414	537	416	507	551	475	498	364	134

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	3Q21	4Q21	1Q22	2Q22	Apr 22	May 22	Jun 22	Year Earlier	
											Jun 21	change
OECD Americas												
Venezuela	7	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	50	52	34	39	44	55	53	22	59	77	57	19
ARA (Belgium Germany Netherlands)	6	12	6	9	9	6	11	-	15	18	-	-
Other Europe	8	21	10	4	18	25	23	31	12	26	7	20
FSU	29	43	34	19	18	46	24	59	-	15	46	-31
Saudi Arabia	2	2	0	-	2	1	12	6	11	20	1	18
Algeria	8	2	7	3	13	-	10	0	21	9	6	3
Other Middle East and Africa	5	10	8	15	0	6	1	3	1	-	29	-
Singapore	1	1	0	2	-	-	-	-	-	-	-	-
OECD Asia Oceania	-	-	0	1	-	-	-	-	-	-	-	-
Non-OECD Asia (excl. Singapore)	0	-	2	0	-	-	-	-	-	-	6	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total²	116	143	102	91	104	139	135	122	119	165	152	12
of which Non-OECD	102	110	86	78	77	109	101	91	92	120	145	-26
OECD Europe												
OECD Americas	7	12	24	14	20	13	6	5	7	7	20	-13
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	5	6	4	10	1	1	3	0	7	0	2	-2
Non-OECD Europe	21	13	12	12	11	17	35	45	33	26	13	13
FSU	144	141	247	315	279	216	119	118	136	103	186	-82
Saudi Arabia	-	2	-	-	-	-	-	-	-	-	-	-
Algeria	0	2	2	2	3	-	13	30	10	-	-	-
Other Middle East and Africa	19	13	14	18	13	11	34	13	52	36	9	27
Singapore	1	3	3	2	2	5	0	0	-	-	13	-
OECD Asia Oceania	14	4	3	5	5	7	4	1	-	10	2	8
Non-OECD Asia (excl. Singapore)	3	-	-	-	-	-	-	-	-	-	-	-
Other	8	93	59	55	41	30	64	70	49	75	8	67
Total²	222	288	368	433	374	300	278	282	294	257	253	5
of which Non-OECD	202	279	347	417	350	282	270	278	289	243	233	10
OECD Asia Oceania												
OECD Americas	1	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	0	0	-	-	0	-	-	0	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	6	5	0	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	1	13	13	25	12	29	20	-	67	22	45
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	27	38	30	31	30	6	6	-	-	19	17	2
Singapore	25	18	29	22	23	34	21	25	26	13	19	-6
Non-OECD Asia (excl. Singapore)	40	26	47	56	51	64	39	47	46	24	41	-17
Other	1	-	-	-	-	-	-	-	-	-	-	-
Total²	101	88	119	121	129	117	96	91	72	124	99	25
of which Non-OECD	100	88	119	121	129	117	96	91	72	124	99	25
Total OECD Trade²	439	519	588	645	607	556	509	496	485	546	504	42
of which Non-OECD	404	477	552	616	555	508	467	461	453	487	477	9

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	3Q21	4Q21	1Q22	2Q22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22
CRUDE PRICES													
IEA CIF Average Import¹													
IEA Europe	64.25	42.91	70.65	73.11	79.49	97.95	110.97	112.50	105.00	109.47	118.53		
IEA Americas	56.93	37.31	64.78	67.32	73.13	86.94	106.21	100.97	101.68	105.65	111.33		
IEA Asia Oceania	66.38	46.28	70.41	74.07	80.92	89.86	113.01	98.74	111.16	110.95	117.54		
IEA Total	62.75	42.19	68.86	71.64	78.02	92.72	110.11	105.58	105.70	108.71	116.22		
SPOT PRICES													
North Sea Dated	64.12	41.76	70.82	73.42	79.67	102.12	113.90	118.75	104.25	113.38	123.62	112.63	99.63
North Sea Dated M1	64.74	42.90	71.51	73.96	80.45	101.45	114.15	117.45	105.54	114.71	121.74	109.85	99.19
WTI (Cushing) M1	57.03	39.25	68.10	70.54	77.33	95.18	108.77	108.52	101.77	109.61	114.59	99.84	91.57
WTI (Houston) M1	61.87	40.71	69.01	71.17	78.27	96.77	109.96	110.25	102.93	110.80	115.83	101.85	93.61
Urals	63.31	41.21	69.00	71.16	78.05	89.49	79.11	89.92	69.58	78.53	88.77	83.05	74.63
Dubai M1	63.49	42.36	69.35	71.60	78.23	96.06	108.12	110.49	102.91	108.08	112.89	102.86	96.43
PRODUCT PRICES²													
Northwest Europe													
Gasoline	71.24	44.24	79.88	85.33	90.75	110.51	145.57	127.11	125.39	148.24	162.92	130.94	111.23
Diesel	79.32	49.07	78.17	80.59	92.14	125.45	160.41	156.26	151.26	151.68	178.75	152.16	142.81
Jet/Kero	80.20	45.44	77.05	79.54	91.28	123.46	164.80	151.65	154.57	161.88	178.11	146.88	142.85
Naphtha	56.64	39.75	71.36	75.04	82.48	100.24	97.35	113.69	101.89	99.84	90.20	85.62	74.25
HSFO	50.09	33.62	61.04	62.96	67.71	84.41	92.96	96.56	90.60	96.80	91.28	71.47	76.18
0.5% Fuel Oil	80.26	48.16	76.59	78.30	85.28	109.89	125.94	127.40	120.82	121.31	135.92	115.65	106.23
US Gulf Coast													
Gasoline	71.11	47.30	86.49	91.76	95.15	116.70	153.69	134.26	133.04	157.34	169.71	134.83	115.54
Diesel	79.12	50.26	84.73	87.37	97.55	126.70	167.83	151.15	160.19	163.46	179.48	151.92	148.23
Jet/Kero	78.84	46.30	77.95	79.89	92.12	121.54	163.46	145.83	156.92	161.46	171.69	145.44	139.74
Naphtha	59.04	40.12	72.24	75.36	82.52	99.45	105.15	111.97	102.00	101.48	111.82	90.34	87.05
HSFO	52.53	34.71	59.90	62.33	67.41	83.38	93.04	93.44	89.41	94.62	94.92	84.50	81.74
0.5% Fuel Oil	74.08	49.88	79.69	80.73	89.03	114.08	133.17	133.88	127.06	131.87	140.31	125.31	111.24
Singapore													
Gasoline	70.10	45.28	78.49	81.41	91.16	111.63	137.95	127.47	123.18	140.99	149.10	116.35	107.19
Diesel	78.47	49.60	77.80	79.85	90.88	119.08	159.99	142.57	148.30	153.41	177.35	145.27	139.12
Jet/Kero	77.55	45.06	75.29	77.12	88.49	113.53	147.63	134.32	133.96	142.90	165.10	134.90	131.73
Naphtha	57.41	40.94	71.02	73.97	82.10	98.04	92.73	111.42	97.40	95.76	85.42	82.70	72.73
HSFO	57.46	38.33	63.20	66.08	70.13	85.69	98.18	99.15	103.97	98.44	92.45	73.83	74.95
0.5% Fuel Oil	75.66	52.85	80.81	81.99	91.25	115.97	139.05	134.07	124.83	136.42	155.05	135.90	110.92

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

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

IEA Americas includes United States and Canada.

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

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Table 14
MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS

August 2022

NATIONAL CURRENCY *							US DOLLARS					
	Total	% change from		Ex-Tax	% change from		Total	% change from		Ex-Tax	% change from	
	Price	Jul-22	Aug-21	Price	Jul-22	Aug-21	Price	Jul-22	Aug-21	Price	Jul-22	Aug-21
GASOLINE 1 (per litre)												
France	1.802	- 10.3	14.2	0.961	-15.2	54.0	1.826	-10.7	-1.7	0.974	-15.6	32.6
Germany	1.793	- 3.9	10.8	1.148	-5.0	62.8	1.816	-4.4	-4.6	1.163	-5.5	40.2
Italy	1.797	- 10.3	8.6	0.995	-14.6	58.4	1.821	-10.8	-6.5	1.008	-15.0	36.4
Spain	1.828	- 10.5	29.0	1.038	-14.6	48.7	1.852	-10.9	11.1	1.052	-15.0	28.0
United Kingdom	1.752	- 7.6	30.2	0.930	-11.4	71.6	2.099	-7.7	13.0	1.114	-11.5	49.0
Japan	169.5	- 1.5	7.0	97.5	-2.3	11.7	1.253	-0.4	-13.1	0.721	-1.2	-9.3
Canada	1.722	- 8.9	21.9	1.238	-11.0	32.4	1.333	-8.7	18.8	0.958	-10.8	29.1
United States	1.050	- 12.9	25.9	0.919	-14.4	30.5	1.050	-12.9	25.9	0.919	-14.4	30.5
AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)												
France	1.859	- 6.6	29.7	1.090	-9.2	86.3	1.883	-7.1	11.7	1.104	-9.6	60.4
Germany	1.965	- 0.3	41.5	1.321	-0.4	89.5	1.991	-0.8	21.8	1.338	-0.9	63.2
Italy	1.795	- 8.4	19.3	1.104	-10.9	78.9	1.819	-8.8	2.7	1.118	-11.3	54.0
Spain	1.850	- 7.5	46.1	1.150	-9.8	72.4	1.874	-8.0	25.8	1.165	-10.2	48.4
United Kingdom	1.866	- 5.8	36.2	1.025	-8.5	82.4	2.236	-5.8	18.3	1.228	-8.5	58.4
Japan	149.5	- 1.6	8.2	103.9	-2.2	10.9	1.105	-0.5	-12.2	0.768	-1.1	-10.0
Canada	1.880	- 6.7	42.4	1.426	-7.9	59.0	1.455	-6.5	38.9	1.104	-7.7	55.0
United States	1.325	- 8.6	49.7	1.174	-9.6	59.7	1.325	-8.6	49.7	1.174	-9.6	59.7
DOMESTIC HEATING OIL (per litre)												
France	1.525	- 5.8	70.8	1.115	-6.5	89.6	1.545	-6.2	47.0	1.129	-7.0	63.2
Germany	1.466	- 0.2	95.0	1.171	-0.2	105.2	1.485	-0.6	67.9	1.186	-0.7	76.7
Italy	1.816	- 6.5	40.9	1.085	-8.6	66.1	1.840	-6.9	21.3	1.099	-9.1	43.0
Spain	1.340	- 10.4	81.6	1.010	-11.2	97.0	1.357	-10.8	56.3	1.024	-11.7	69.6
United Kingdom	1.012	- 10.5	74.8	0.862	-11.5	96.0	1.212	-10.5	51.8	1.032	-11.6	70.2
Japan ²	112.5	- 1.2	18.1	99.5	-1.2	18.8	0.832	-0.0	-4.1	0.735	-0.1	-3.6
Canada	1.806	- 5.9	47.9	1.609	-6.0	51.9	1.398	-5.8	44.2	1.245	-5.9	48.1
United States	-	-	-	-	-	-	-	-	-	-	-	-
LOW SULPHUR FUEL OIL FOR INDUSTRY 3 (per kg)												
France	0.825	0.8	38.3	0.685	1.0	50.0	0.836	0.3	19.1	0.694	0.5	29.1
Germany	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0.780	- 1.9	47.9	0.749	-1.9	50.9	0.791	-2.3	27.3	0.759	-2.4	29.9
Spain	0.712	1.4	53.9	0.695	1.5	56.0	0.721	0.9	32.5	0.704	1.0	34.3
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 Global Indicator Refining Margins

\$/bbl	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22
NW Europe													
Light sweet hydroskimming	3.04	1.09	2.51	3.00	4.75	5.35	15.29	9.15	17.09	14.71	14.11	4.89	9.60
Light sweet cracking	5.41	2.06	3.46	4.14	6.60	8.97	22.13	14.89	23.39	20.31	22.79	12.29	14.77
Light sweet cracking + Petchem	6.92	3.20	6.51	7.07	9.18	11.10	26.42	16.68	28.08	23.75	27.56	15.00	16.73
Medium sour cracking	8.65	4.31	6.09	7.15	7.25	21.99	59.38	44.05	60.08	57.87	60.28	40.00	35.48
Mediumsour cracking + Petchem	10.11	5.42	9.05	9.99	9.76	24.06	63.55	45.80	64.64	61.21	64.91	42.63	37.38
Mediterranean													
Light sweet hydroskimming	4.16	2.37	2.89	3.44	4.41	4.24	13.90	8.61	16.67	12.36	12.76	1.46	8.32
Light sweet cracking	7.17	3.34	4.94	5.91	7.32	8.90	23.67	14.72	24.34	21.07	25.75	12.04	15.54
Medium sour cracking	10.65	5.76	5.65	6.77	7.76	11.93	30.18	15.48	27.53	29.93	33.08	18.06	20.66
US Gulf Coast													
Light sweet cracking	7.51	4.28	11.04	12.81	11.96	16.54	38.22	22.03	31.38	37.83	45.12	29.39	25.62
Medium sour cracking	11.95	6.61	15.79	17.87	18.71	25.08	47.39	31.78	39.42	45.88	56.49	38.88	34.26
Heavy sour coking	17.42	9.73	19.98	21.92	23.97	32.06	55.43	39.70	46.64	54.86	64.39	49.64	43.63
US Midwest													
Light sweet cracking	10.76	3.74	12.33	14.95	11.14	13.95	40.42	21.26	30.57	38.14	52.10	33.64	33.17
Heavy sour coking	23.67	13.26	26.02	29.17	27.74	32.07	60.64	40.77	48.28	59.13	73.93	55.07	50.68
Singapore													
Light sweet cracking	-1.24	0.20	3.10	3.13	5.56	7.94	18.69	11.19	16.27	15.50	24.03	12.04	11.75
Light sweet cracking + Petchem	0.32	2.03	4.82	4.35	7.03	8.63	20.69	12.11	18.47	17.00	26.32	13.24	13.84
Medium sour cracking	5.16	1.80	3.92	4.22	5.27	9.85	23.35	13.13	20.50	22.26	27.10	9.91	8.98
Medium sour cracking + Petchem	6.70	3.61	5.61	5.42	6.72	10.53	25.33	14.04	22.67	23.74	29.37	11.09	11.04

Source: IEA, Argus Media Ltd prices.

Methodology notes are available at <https://www.iea.org/topics/oil-market-report#methodology>

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

	Apr-22	May-22	Jun-22	Jun-21	Jun 22 vs Previous Month	Jun 22 vs Previous Year	Jun 22 vs 5 Year Average	5 Year Average
OECD Americas								
Naphtha	1.0	1.0	0.9	1.2	-0.1	-0.3	-0.5	1.3
Motor gasoline	43.1	43.2	43.9	44.5	0.7	-0.5	-0.6	44.5
Jet/kerosene	9.3	9.4	8.9	7.3	-0.4	1.6	0.9	8.1
Gasoil/diesel oil	27.9	28.1	28.5	27.8	0.4	0.7	0.0	28.5
Residual fuel oil	2.9	2.8	2.5	2.6	-0.3	-0.2	-0.6	3.1
Petroleum coke	4.3	4.3	4.4	4.4	0.1	0.0	0.0	4.4
Other products	13.7	14.3	14.3	14.7	0.0	-0.4	0.6	13.7
OECD Europe								
Naphtha	8.2	8.0	7.7	8.0	-0.3	-0.2	-0.4	8.1
Motor gasoline	21.2	21.3	20.8	20.5	-0.5	0.3	0.5	20.3
Jet/kerosene	7.5	8.6	8.8	5.7	0.2	3.1	1.4	7.3
Gasoil/diesel oil	40.4	39.0	39.0	42.0	0.0	-2.9	-1.4	40.4
Residual fuel oil	8.5	9.3	8.6	7.9	-0.7	0.7	-0.1	8.6
Petroleum coke	1.3	1.5	1.5	1.5	0.0	0.0	0.1	1.4
Other products	15.1	14.8	15.3	17.0	0.5	-1.8	-1.0	16.2
OECD Asia Oceania								
Naphtha	16.7	16.6	16.9	15.3	0.3	1.6	1.2	15.7
Motor gasoline	20.7	20.9	21.6	22.7	0.7	-1.1	-0.1	21.7
Jet/kerosene	12.5	12.3	11.5	11.6	-0.8	-0.1	-2.2	13.7
Gasoil/diesel oil	29.5	30.4	31.3	31.4	0.9	-0.2	0.3	30.9
Residual fuel oil	8.8	8.7	7.8	7.7	-0.8	0.1	1.0	6.8
Petroleum coke	0.5	0.2	0.5	0.4	0.3	0.0	0.0	0.5
Other products	12.2	12.4	12.5	13.5	0.0	-1.0	-0.4	12.9
OECD Total								
Naphtha	5.9	5.8	5.7	5.5	-0.2	0.2	-0.2	5.9
Motor gasoline	32.3	32.5	32.8	33.7	0.4	-0.9	-0.3	33.1
Jet/kerosene	9.3	9.6	9.3	7.5	-0.3	1.8	0.5	8.8
Gasoil/diesel oil	32.2	32.0	32.4	32.8	0.4	-0.4	-0.3	32.7
Residual fuel oil	5.7	5.9	5.3	5.1	-0.6	0.3	-0.1	5.4
Petroleum coke	2.7	2.7	2.8	2.9	0.1	-0.1	0.0	2.8
Other products	13.9	14.1	14.3	15.2	0.2	-0.9	0.0	14.3

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	4Q21	1Q22	2Q22	Jun 22	Jul 22	Aug 22
ETHANOL									
OECD Americas	1063	934	1010	1092	1058	1041	1078	1016	1016
United States	1029	906	979	1061	1023	1006	1043	980	980
Other*	34	28	30	30	35	35			
OECD Europe	97	93	103	110	103	112	111	107	107
France	21	17	18	22	24	28	30	14	14
Germany	12	11	12	15	19	22	21	7	7
Spain	9	8	10	10	7	7	7	13	13
United Kingdom	5	4	9	9	4	4	4	13	13
Other*	50	52	54	54	49	51			
OECD Asia Oceania	4	4	4	4	4	4	4	5	5
Australia	4	4	4	4	4	4	4	4	4
Other*	0	0	0	0	0	0			
Total OECD Ethanol	1165	1031	1117	1205	1165	1158	1193	1127	1127
Total Non-OECD Ethanol	809	735	703	515	312	849	1044	1183	1165
Brazil	621	560	515	327	100	637	832	971	953
China*	67	69	76	76	79	79			
Argentina*	19	15	18	18	21	21			
Other	102	91	94	94	112	112	212	212	212
TOTAL ETHANOL	1974	1766	1820	1721	1477	2007	2237	2309	2291
BIODIESEL									
OECD Americas	151	159	168	197	185	213	233	242	242
United States	145	153	160	190	181	208	229	229	229
Other*	7	6	7	7	4	4			
OECD Europe	295	281	313	315	299	308	310	348	348
France	43	41	43	43	48	57	60	42	42
Germany	69	61	66	66	59	59	57	72	72
Italy*	18	28	30	31	22	32			
Spain	42	30	39	38	33	31	31	48	48
Other	123	121	136	137	136	129	124	149	149
OECD Asia Oceania	15	12	12	8	10	14	18	11	11
Australia	0	0	0	0	0	0	0	0	0
Other*	15	12	12	8	10	14			
Total OECD Biodiesel	461	452	493	521	494	535	561	601	601
Total Non-OECD Biodiesel	405	411	439	439	464	464	464	464	464
Brazil	102	111	116	114	101	105	107	105	105
Argentina*	42	27	36	36	42	42			
Other*	261	274	287	289	321	317			
TOTAL BIODIESEL	866	863	932	960	958	999	1025	1065	1065
GLOBAL BIOFUELS	2839	2629	2752	2681	2435	3005	3261	3374	3357

* monthly data not available.

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Oil Market Team

Editor	Toril Bosoni +33 (0)1 40 57 67 18 Toril.Bosoni@iea.org	Analyst	Jenny Thomson +33 (0)1 40 57 67 11 Jenny.Thomson@iea.org
Demand	Alexander Bressers +33 (0)1 40 57 65 16 Alexander.Bressers@iea.org	Data Management	Luis Fernando Rosa +33 (0)1 40 57 65 56 LuisFernando.Rosa@iea.org
	Ciarán Healy +33 (0)1 40 57 67 58 Ciaran.Healy@iea.org	Data Scientist	Tsuyoshi Deguchi +33 (0)1 40 57 65 78 Tsuyoshi.Deguchi@iea.org
OPEC Supply	Peg Mackey +33 (0)1 40 57 65 81 Peg.Mackey@iea.org	Data Officer	Olaoye Oloyede +33 (0)1 40 57 65 03 Olaoye.Oloyede@iea.org
Non-OPEC Supply	Jacob Messing +33 (0)1 40 57 66 98 Jacob.Messing@iea.org	OIM Assistant	Deven Mooneesawmy +33 (0)1 40 57 65 03 Deven.Mooneesawmy@iea.org
Refining	Kristine Petrosyan +33 (0)1 40 57 66 05 Kristine.Petrosyan@iea.org	Data Enquiries to Oil Market Report:	OilMarketReport@iea.org
Stocks	Yuya Akizuki +33 (0)1 40 57 67 30 Yuya.Akizuki@iea.org	Subscription & Delivery Enquiries	+33 (0)1 40 57 66 90 OMRSubscriptions@iea.org
Prices	Joel R. Couse +33 (0)1 40 57 67 22 Joel.Couse@iea.org	Media Enquiries/IEA Press Office	+33 (0)1 40 57 66 94 ieapressoffice@iea.org

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