International Energy Agency

Oil Market Report

13 July 2022

- Higher prices and a deteriorating economic environment have started to take their toll on oil demand, but strong power generation use and a recovery in China are providing a partial offset. Global oil demand growth has been marginally reduced to 1.7 mb/d in 2022, reaching 99.2 mb/d. A further 2.1 mb/d gain is expected in 2023, led by a strong growth trajectory in non-OECD countries.

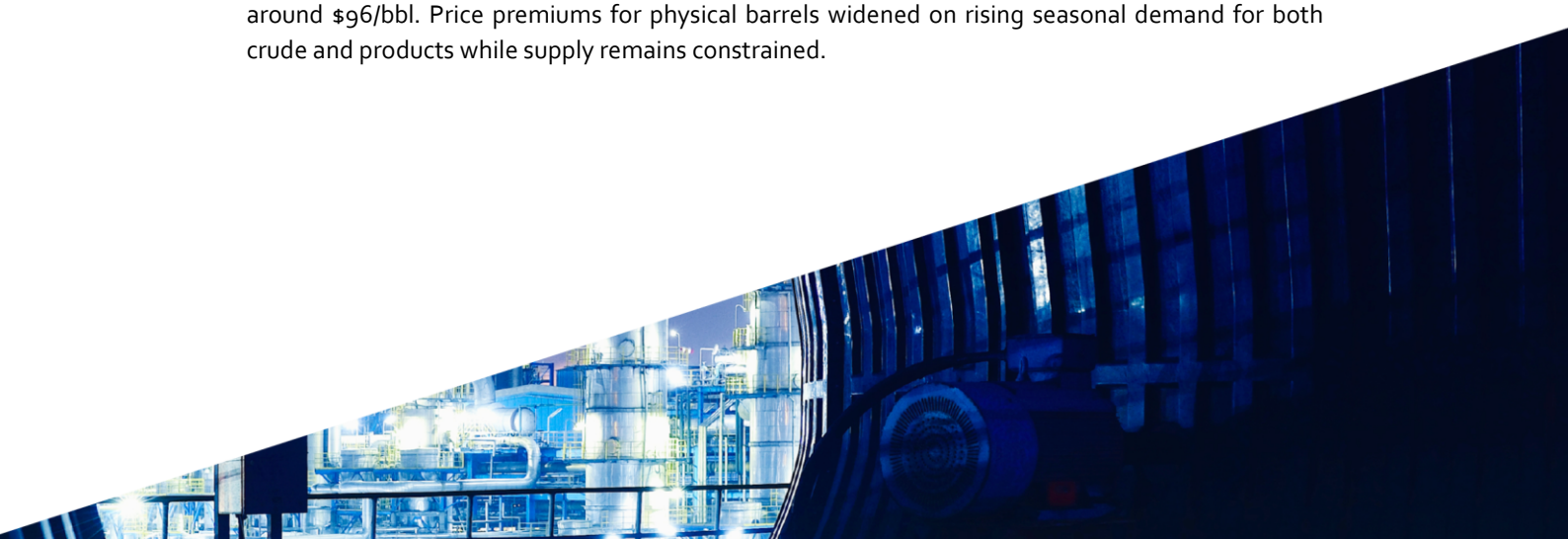
- World oil supply jumped by 690 kb/d to 99.5 mb/d in June as resilient Russian production and higher output from the US and Canada more than offset steep maintenance-related losses from Kazakhstan. Production is expected to rise by 1.8 mb/d by end-year to reach 101.3 mb/d. Global oil supply is set to average 100.1 mb/d in 2022 before hitting an annual record of 101.1 mb/d in 2023.

- Refinery throughputs rose by 500 kb/d in June, to 79.2 mb/d, 1.2 mb/d above a year ago. A number of outages and tight spare capacity outside of China meant that product supply failed to keep up with the seasonal increase in demand. Product cracks nevertheless fell from records highs observed in late May, but were on average substantially higher on a monthly basis.

- Russian oil exports in June fell by 250 kb/d m-o-m to 7.4 mb/d, the lowest since August 2021. This time, the decline was led by crude oil, while product shipments were relatively stable at 2.4 mb/d. Meanwhile, export revenues increased by $700 million m-o-m on higher oil prices, to $20.4 billion, 40% above last year's average.

- Global observed oil inventories rose by a modest 5 mb in May as a sharp increase in non-OECD crude stocks was offset by lower OECD stocks and oil on the water. OECD industry stocks rose by 15.2 mb to 2 691 mb, still 301.3 mb below the 2017-2021 average, helped by the release of 32.1 mb of government stocks. Preliminary data for June show total OECD stocks built by 22 mb.

- Benchmark crude oil futures plunged by more than $20/bbl in June as a worsening economic outlook fuelled a broad market sell-off. At the time of writing, Brent was below $100/bbl while WTI traded at around $96/bbl. Price premiums for physical barrels widened on rising seasonal demand for both crude and products while supply remains constrained.



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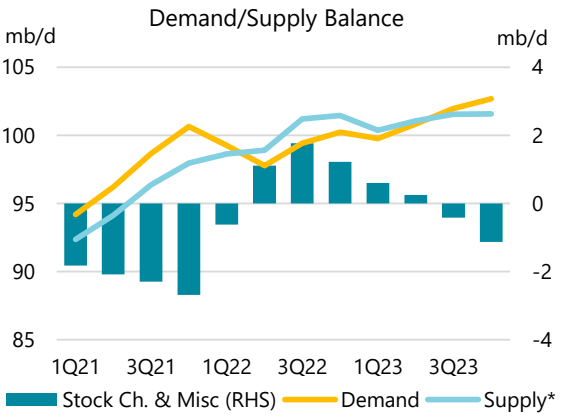
Walking a tightrope

Rarely has the outlook for oil markets been more uncertain. A worsening macroeconomic outlook and fears of recession are weighing on market sentiment, while there are ongoing risks on the supply side. For now, weaker-than-expected oil demand growth in advanced economies and resilient Russian supply has loosened headline balances. Benchmark crude futures have tumbled by more than $20/bbl since early June, trading below $100/bbl at the time of writing. Yet, persistent physical crude price tensions and extreme refinery margins highlight underlying imbalances for crude and products supply.

In its latest update the World Bank warned that Russia's invasion of Ukraine and its effects on commodity markets, supply chains, inflation and financial conditions have accentuated the slowdown in global economic activity. The bank now expects world GDP growth to ease to 2.9% in 2022 from 5.7% in 2021. The IMF has cautioned that a recession next year cannot be ruled out, given the elevated risks.



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

The deceleration of economic activity is adding further uncertainties to our oil demand forecast but, for now, we have only modestly trimmed our outlook for 2022 and 2023. High fuel prices have started to dent oil consumption in the OECD, but this was largely countered by a stronger-than-expected demand rebound in emerging and developing economies led by China as it starts to emerge from Covid lockdowns. Oil demand is now expected to expand by 1.7 mb/d in 2022 and 2.1 mb/d next year, when it reaches 101.3 mb/d.

Our forecast was revised slightly higher for oil supply for the remainder of the year due to Russia's surprisingly strong performance. In June, global output rose by 690 kb/d to 99.5 mb/d, as Russia defied sanctions and the US and Canada pumped more. While world oil supply is expected to grow by roughly 1.8 mb/d through December, rising short-term risks to oil supply in Kazakhstan, Libya and elsewhere have put the spotlight on spare capacity, which now is held primarily by Saudi Arabia and the UAE. Their combined buffer could fall to just 2.2 mb/d in August with the full phase out of record OPEC+ cuts.

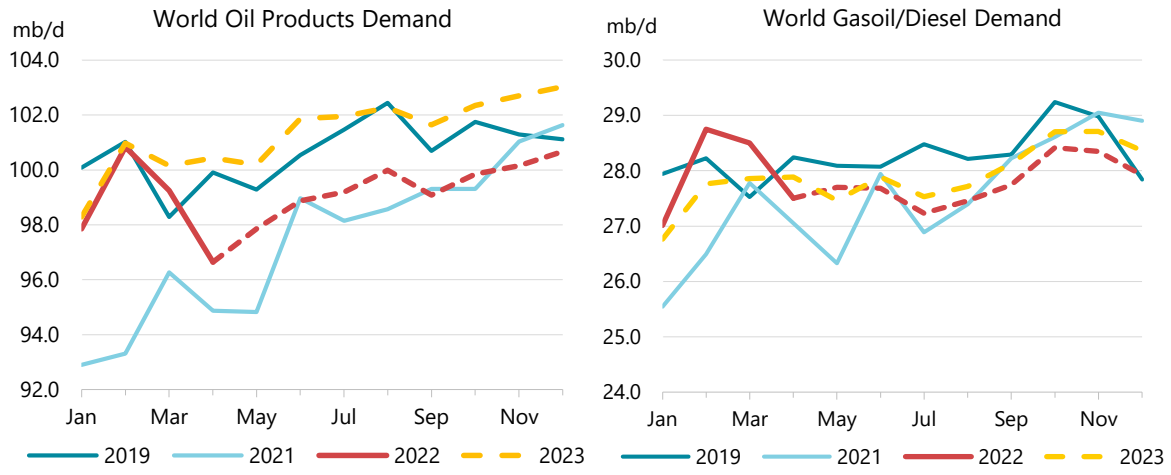
The OPEC+ group is due to meet on 3 August to chart strategy for September and possibly longer. Global oil inventories remain critically low, with recent builds concentrated in China, where refiners reduced runs due to weaker demand amid Covid lockdowns. OECD industry stocks have recovered somewhat thanks to sizeable government stock releases, but remain nearly 300 mb below their five-year average. As an EU embargo on Russian oil is set to come into full force at the end of the year, the oil market may tighten once again. With readily available spare capacity running low in both the upstream and downstream, it may be up to demand side measures to bring down consumption and fuel costs that pose a threat to stability, most notably in emerging markets. Without strong policy intervention on energy use, risks remain high that the world economy falls off-track for recovery.

Demand

Overview

High prices and economic woes undermine OECD oil demand

Soaring fuel costs and a deteriorating economic environment are slowly starting to moderate oil demand growth in the OECD. The latest data show weaker-than-expected consumption in all three major regions. By contrast, non-OECD demand rebounded sharply in May, led by China as it emerged from Covid lockdowns and the Middle East as higher power generation needs boosted consumption. As a result, we have modestly trimmed our outlook for 2022, with global oil demand growing 1.7 mb/d to 99.2 mb/d. Demand is projected to increase by 2.1 mb/d, to 101.3 mb/d in 2023, led by continued strong growth in non-OECD countries.



Oil demand in the OECD contracted in April, with the Americas, Europe and Asia all posting larger than normal seasonal declines. Road fuels were impacted the most, suggesting that record prices have begun to afflict demand, as evidenced by a lacklustre start to the US driving season. In addition, gasoil demand continues to be curtailed by the rapidly deteriorating global economic outlook in major OECD countries. Purchasing managers' indices (PMIs) in Europe and the US fell to their lowest level in two years in June. In parallel, retail spending slowed dramatically, as consumers saw their purchasing power undermined by inflation. Central banks have reacted by increasing interest rates, in turn raising the prospect of a recession, with a "soft landing" appearing more difficult than ever to engineer.

Several developing nations are seeing an even greater deterioration in their economic outlook. As their prospects are often strongly geared towards global economic growth, the probability of a broad recession is especially serious, particularly for those nations lacking commodity export revenues. High food costs (exacerbated by the suspension of Russian/Ukrainian grain and fertiliser exports) are fostering social unrest in poorer countries. The surging US dollar has compounded the rising costs of oil and food imports that are fuelling domestic inflation. To make matters worse, many governments lack the wherewithal to alleviate their populations' hardship by way of subsidies or social spending, as heavily indebted state finances are undermined by

soaring interest rates and weakening currencies. As the spreading financial crisis engulfs an increasing number of nations, including Sri Lanka, Egypt, Tunisia, Argentina and Pakistan, governments are negotiating bailout packages with the International Monetary Fund.

Global Demand by Region
(thousand barrels per day)

	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
Africa	3 669	3 897	4 003	4 023	106	20	2.7	0.5
Americas	28 091	30 224	30 935	31 281	712	346	2.4	1.1
Asia/Pacific	34 114	36 134	36 572	38 144	437	1 572	1.2	4.3
Europe	13 166	13 850	14 218	14 373	368	154	2.7	1.1
FSU	4 497	4 786	4 638	4 599	- 148	- 39	-3.1	-0.8
Middle East	8 191	8 559	8 815	8 901	256	86	3.0	1.0
World	**91 728**	**97 450**	**99 181**	**101 321**	**1 731**	**2 140**	**1.8**	**2.2**
OECD	42 128	44 768	45 756	46 391	989	634	2.2	1.4
Non-OECD	49 600	52 682	53 424	54 931	742	1 506	1.4	2.8

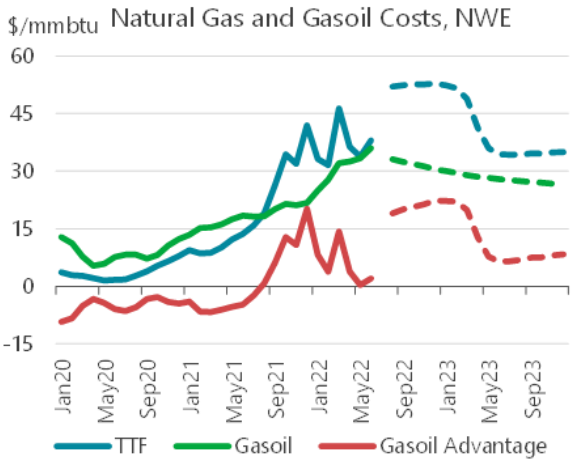
Nevertheless, recent demand data have exceeded expectations for China, Russia and the Middle East, limiting the extent of the overall slowdown in global oil demand growth. Chinese demand outperformed our forecast slightly in May and the subsequent relaxation in Covid restrictions resulted in a faster rebound in June than anticipated. Russian oil use is now projected to decline by 90 kb/d, an upward revision (+50 kb/d for 2022) on stronger gasoil and gasoline demand. Middle Eastern consumption was supported by increased burning of crude oil and fuel oil in power generation, amid high temperatures and strong electricity demand in the region.

The outlook for both Western and developing nations is heavily impacted by the future path of the Chinese economy, which at present is cautiously emerging from its zero-Covid lockdowns. As the rules are relaxed, the country's roads and skies are starting to fill up with travellers again. Jet fuel and gasoline demand are gaining traction but they also have the furthest to recover, having fallen the hardest in recent months. Our projections assume a rebound to close to February levels in July, with more gradual gains thereafter. We now forecast an average 40 kb/d fall in demand for 2022 (compared with -130 kb/d in last month's *Report*). This more upbeat sentiment was evident in China's *Caixin Manufacturing PMI*, which returned to expansion territory in June at 51.7, a four-month high, and aligns with China's newly accelerated measures to promote infrastructure investment. A survey of analysts expects a continued improvement in China's GDP growth rate, to around 5% in 2023.

Oil-fired power generation has roared back this year, burning crude and products to meet strong growth in electricity demand. For Saudi Arabia and Iraq, April fuel oil and direct crude use jumped by 270 kb/d month-on-month (m-o-m), while in Pakistan, elevated LNG prices saw April fuel oil consumption return to levels last seen in 3Q21.

In Europe and Asia, further oil use in power generation is becoming more attractive as rising gas prices eclipse gains in oil. Relative to oil products, gas prices have now returned to the levels that triggered gas to oil switching in 4Q21. Futures prices also indicate that these incentives are likely to continue for much of the next 18 months. This suggests a sustained increase in consumption of fuel oil and non-road gasoil from 2H22 onwards, with a year-on-year (y-o-y) rise of 140 kb/d, in Europe, compared to the high mark of 2021. We also assume a 40 kb/d y-o-y rise in 3Q22 fuel oil and direct crude use in Japan as a result of soaring temperatures and booming electricity demand.

Petrochemical feedstock consumption has been the main engine of oil demand growth in recent years, especially for naphtha. However, we now expect an annual drop of 220 kb/d in naphtha demand this year. The impact of higher crude oil prices, inter-product competition with LPG and disruptions in China have pushed naphtha demand down by more than 1 mb/d between January and May, driving naphtha cracks to historically low levels (see *Faltering petrochemicals stymie naphtha demand*).



Jet fuel use in the OECD has continued its impressive recovery, with y-o-y demand growth accelerating in April. According to OAG data, airline seats for US domestic flights are on track to exceed their 2019 peak this summer. OECD jet fuel has posted the largest y-o-y growth rate among the refined products, at 24% for 2022 versus 2021 and is forecast to rise further in 2023, albeit at a slower pace of 13%.

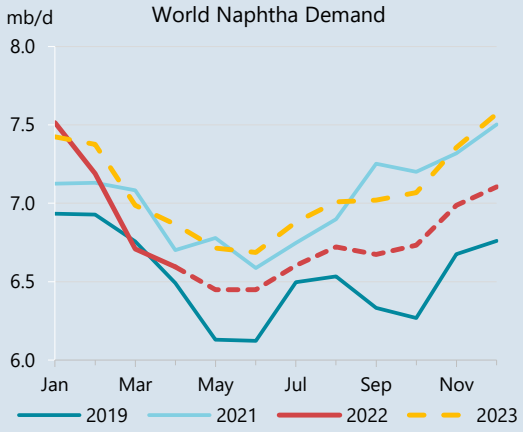
Global Demand by Product
(thousand barrels per day)

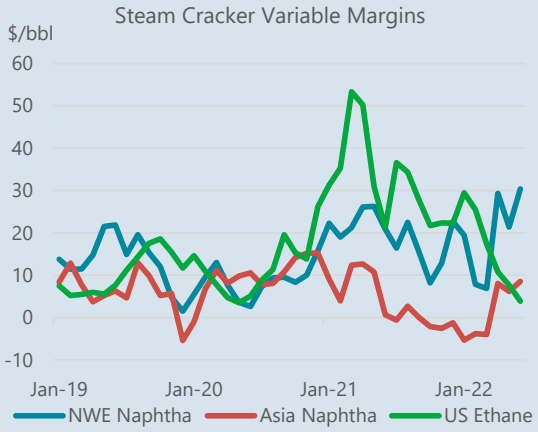
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	13 248	13 852	14 368	14 685	517	317	3.7	2.2
Naphtha	6 493	7 027	6 809	7 079	- 218	269	-3.1	4.0
Motor Gasoline	23 512	25 506	25 846	26 038	340	192	1.3	0.7
Jet Fuel & Kerosene	4 670	5 210	6 095	7 074	885	979	17.0	16.1
Gas/Diesel Oil	26 188	27 520	27 849	27 896	329	47	1.2	0.2
Residual Fuel Oil	5 679	6 090	6 247	6 479	157	232	2.6	3.7
Other Products	11 937	12 245	11 967	12 070	- 278	104	-2.3	0.9
Total Products	**91 728**	**97 450**	**99 181**	**101 321**	**1 731**	**2 140**	**1.8**	**2.2**

Our latest demand forecast continues to be characterised by high levels of uncertainty. Macroeconomic expectations are in a state of flux and prices are subject to a high degree of volatility. Substitution between oil products and other energy supplies, especially gas, will play a major role. Meanwhile, growth prospects are dependent on China's narrow road out of its Covid-19 lockdowns. Therefore, risks remain to the downside, as the deteriorating economic outlook trumps other issues. While surging gas and coal prices may favour oil demand, they will have a detrimental impact on industrial activity and consumer spending power.

Box 1. Faltering petrochemicals stymie naphtha demand

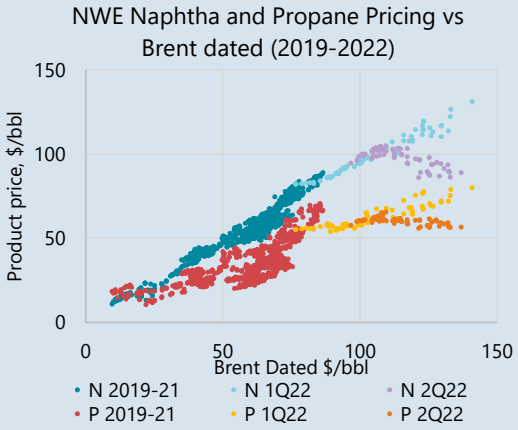
Long a pillar of oil demand growth, naphtha use is faltering. Following 18 consecutive months of annual gains, naphtha demand fell sharply in March (-480 kb/d m-o-m, -370 kb/d y-o-y). This change in trajectory reflects a squeeze in petrochemical profitability, inter-feedstock competition, the impact of Russia's international isolation and China's lockdowns. We project a decline of 220 kb/d in naphtha consumption in 2022, with all other major products increasing.

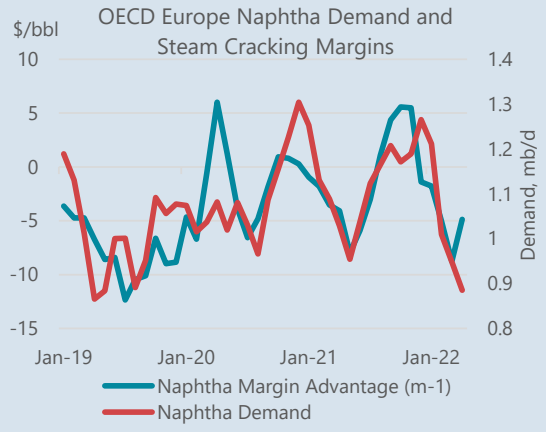




This is in stark contrast to recent years. Buoyed by the seemingly inexorable expansion of the petrochemical sector, naphtha and LPG/ethane were the only major products where use expanded during 2020 and 2021, and by 2021 naphtha demand stood 8% above 2019 – a considerably stronger overall performance than any other product. However, naphtha demand plummeted by 1.1 mb/d (14.2% of total demand and more than double the typical seasonal fall) between January and May 2022. The unusual conjunction of high crude oil prices and this weaker demand has seen naphtha crack spreads collapse to historically low levels.

In particular, a combination of elevated feedstock prices and subdued downstream demand has resulted in compressed margins for Asian olefin producers. Asia accounts for an overwhelming and growing share of global naphtha consumption (71% in 1Q22). The recent lockdowns in China have hit hard both domestic producers and those in neighbouring countries, many of whom depend on exports of polymers and intermediates to China. Data from *Kpler* show that overall April shipments of ethylene and propylene to China fell by 50% y-o-y. We estimate that Chinese naphtha demand was 11% lower q-o-q in 2Q22 (compared to a typical fall of 4%).





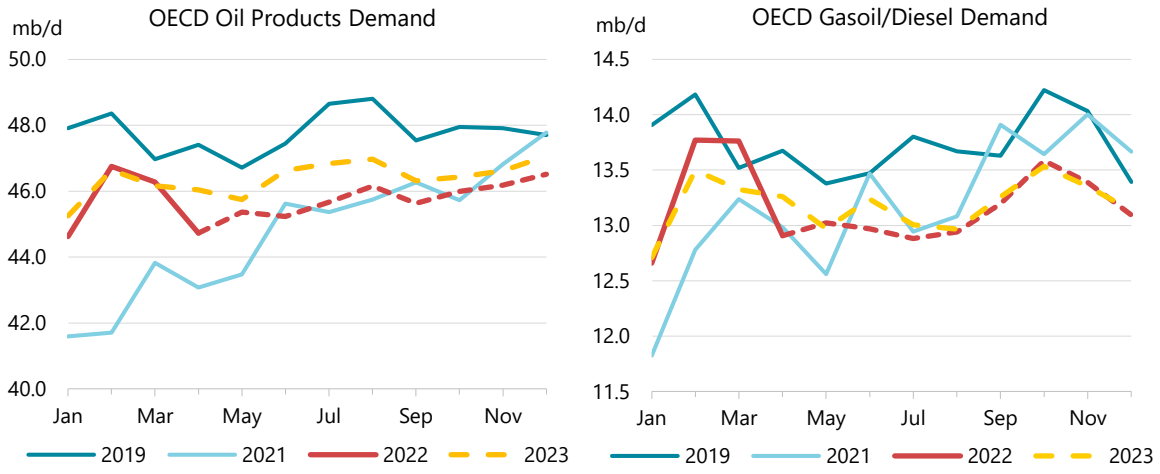
Russia is the world's largest naphtha exporter. Since the Ukraine invasion, naphtha prices have largely risen in tandem with crude oil, while LPG has risen more slowly. This boosted relative LPG cracking margins and promoted widespread feedstock substitution at flexible naphtha crackers. Naphtha consumption declined more sharply than normal in OECD Europe through the spring. In

April, it was 100 kb/d (9.3%) lower y-o-y while LPG fell by just 40 kb/d y-o-y. With demand falling precipitously in Asia and Europe, naphtha cracks began to tumble, moving closer to parity with LPG.

Since the drop in naphtha cracks, Russian naphtha exports have recovered in recent months and China's economy has reopened after lockdowns. We now expect a gradual partial recovery in naphtha demand during 2H22 and 2023. After falling this year, naphtha demand will rebound by 270 kb/d y-o-y in 2023 when it reaches 7.1 mb/d.

OECD

OECD oil demand fell by 1.6 mb/d m-o-m to 44.7 mb/d in April, a decline that was about twice as large as the typical monthly pattern. Adjusted for seasonality, each of the three key OECD regions saw their monthly consumption drop. Weaker gasoil and gasoline deliveries were only partly offset by strong North American demand for LPG/ethane, as well as by resilient jet/kerosene consumption.



In terms of direction, the fall was broadly in line with last month's preliminary April estimate, which already suggested that elevated pump prices were diminishing demand for road fuels. However, actual submissions recorded a deeper than anticipated downturn, exceeding forecasts by -400 kb/d for the Americas, by -270 kb/d for Europe and by -100 kb/d for Asia. Provisional data for May and June point to continued weakness ahead, as high fuel prices and weakening consumer confidence undermine consumption.

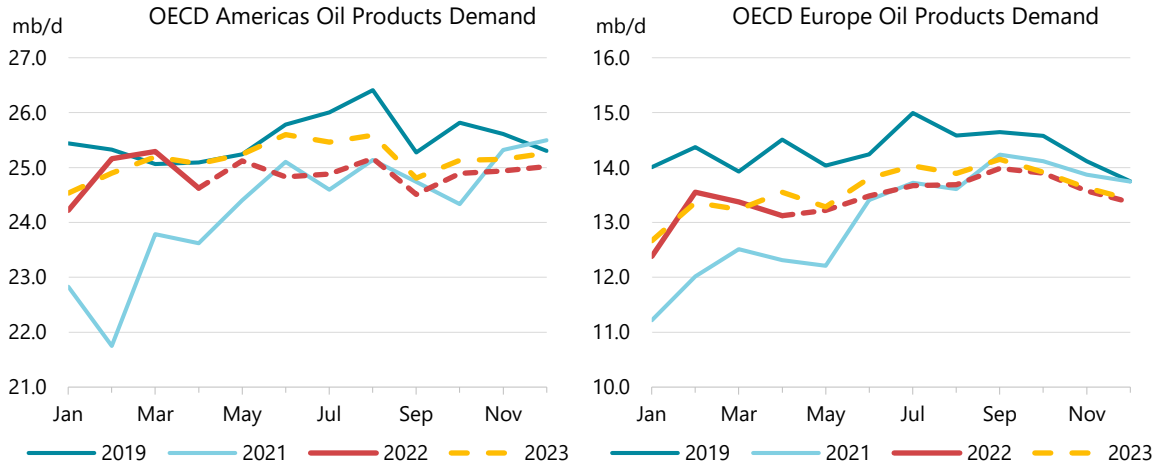
In response, we have lowered our 2022 projection for OECD consumption to 45.8 mb/d (+990 kb/d y-o-y), a 320 kb/d downward revision to last month's forecast. The outlook for the Americas has been reduced by 190 kb/d, Europe by 50 kb/d and Asia by 80 kb/d. Our estimate for 2023 has been lowered by 140 kb/d to 46.4 mb/d.

OECD Demand based on Adjusted Preliminary Submissions - May 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	**10.59**	**-0.1**	**1.83**	**25.4**	**3.31**	**4.9**	**1.84**	**0.9**	**3.84**	**2.7**	**0.58**	**13.8**	**3.12**	**0.6**	**25.12**	**3.0**
US*	8.95	-2.3	1.59	19.2	2.44	-1.1	1.42	-2.1	2.99	3.0	0.39	30.3	2.57	-2.6	20.35	0.5
Canada	0.80	8.1	0.12	168.7	0.26	-1.4	0.36	7.7	0.51	-0.8	0.04	218.2	0.36	40.7	2.46	13.4
Mexico	0.77	24.4	0.09	48.1	0.46	71.2	0.06	48.1	0.30	5.8	0.13	-29.1	0.17	-10.4	1.99	20.3
OECD Europe	**2.05**	**9.0**	**1.25**	**100.2**	**4.92**	**4.6**	**1.12**	**0.0**	**0.91**	**-10.5**	**0.77**	**12.9**	**2.20**	**0.9**	**13.22**	**8.3**
Germany	0.44	2.3	0.18	64.3	0.65	-2.8	0.28	11.5	0.11	-10.9	0.05	30.0	0.38	-7.6	2.10	2.9
United Kingdom	0.27	4.2	0.28	104.9	0.45	-5.3	0.13	-6.4	0.10	14.8	0.02	42.8	0.11	0.0	1.36	11.2
France	0.24	25.1	0.15	117.8	0.75	11.9	0.04	-49.1	0.12	-8.5	0.04	26.0	0.21	5.3	1.55	12.6
Italy	0.19	12.1	0.08	164.3	0.51	7.0	0.05	2.0	0.09	3.6	0.06	9.2	0.25	-6.2	1.23	8.5
Spain	0.11	-4.6	0.11	153.1	0.44	0.1	0.16	-1.5	0.05	34.8	0.13	31.6	0.19	-6.4	1.20	8.5
OECD Asia & Oceania	**1.39**	**4.8**	**0.50**	**8.8**	**1.39**	**3.3**	**0.44**	**7.7**	**0.73**	**1.5**	**0.43**	**9.3**	**2.15**	**-3.3**	**7.02**	**2.3**
Japan	0.69	1.7	0.23	3.2	0.36	4.8	0.27	7.6	0.35	0.0	0.21	12.5	0.80	-9.2	2.93	-0.1
Korea	0.28	25.9	0.13	1.2	0.42	14.0	0.10	1.1	0.32	2.3	0.19	1.6	1.17	1.0	2.61	5.4
Australia	0.29	-3.4	0.11	40.1	0.55	-2.2	-	-	0.05	4.7	0.01	17.0	0.11	-5.8	1.11	0.9
OECD Total	**14.03**	**1.6**	**3.58**	**40.7**	**9.62**	**4.5**	**3.40**	**1.4**	**5.49**	**0.1**	**1.78**	**12.3**	**7.46**	**-0.5**	**45.36**	**4.3**

* Including US territories

OECD Americas: Economic headwinds curtail demand

Oil demand in the OECD Americas fell by 670 kb/d in April, some 350 kb/d below its seasonal norm, on weaker gasoil and gasoline demand. There was considerable variation across member countries, as anaemic demand in the US and Chile (-380 kb/d and -210 kb/d versus historical trends, respectively) was partly offset by robust deliveries in Canada (+210 kb/d) and Mexico (+30 kb/d).



Steep fuel prices continued to undermine US consumption in April, as gasoil and gasoline underperformed our estimates, by -130 kb/d and -190 kb/d, respectively. The economic climate in the US has subsequently worsened further, with a slew of subpar economic data pointing to faltering economic growth. In June, the *S&P Global US Manufacturing PMI* fell from 57 to 52.7, a two-year low, while consumer confidence slumped to its lowest level in almost a decade. Finding their budgets squeezed by inflation, Americans have begun to dip into savings accumulated during the pandemic to finance their spending. The US personal savings rate eased to 4.4%, its lowest in 14 years: a development that may well erode any remaining pent-up demand. Federal Reserve interest rate increases have been adding to the overall sense of gloom, with markets nervous that an aggressive campaign of further hikes will decimate demand and portend a recession.

Weakness in gasoil and gasoline was counterbalanced by robust demand in less cyclical LPG/ethane, preventing a bigger fall in North American consumption. LPG/ethane usage was about 150 kb/d above the seasonal pattern in both the US and Canada, reversing last month's drop when extremely cold weather depressed deliveries. Ethane/LPG use has displayed healthy growth in recent years, as new steam cracker start-ups in the US increased demand. However, higher ethane prices have begun to squeeze steam cracker margins. The run-up in ethane costs is the result of both higher natural gas pricing (which sets a floor for ethane values) and stronger demand from petrochemicals and export terminals (which have seen ethane's price premium over natural gas rising since January). We expect US LPG/ethane demand growth to wind down gradually: still increasing by 270 kb/d y-o-y in 2022 (with ethane representing 210 kb/d), before dwindling to 30 kb/d in 2023 (of which 20 kb/d is ethane).

Chile saw a swift deterioration in its economic fortunes, reflected in oil demand that fell much more than its seasonal pattern in April, across all product categories. The country's outlook has taken a significant turn for the worse following the collapse in copper prices that began in April – the red metal has since retreated by 30% from its record highs set earlier this year. As copper accounts for half of Chile's exports, this has sent the peso tumbling to all-time lows against the US dollar, pushing up the cost of oil imports. As a consequence, we have reduced the country's 2H22 outlook to a contraction of 50 kb/d y-o-y. Chile's slump contrasted with Mexican resilience, as the country notched up another month of steady growth in April.

Considering the more adverse economic environment, we have reduced our OECD Americas outlook by -150 kb/d for 2H22, resulting in total demand of 24.9 mb/d in 2022, up by 610 kb/d y-o-y. For 2023 we forecast demand to average 25.2 mb/d, which is 70 kb/d below last month's *Report*.

OECD Europe: Recession fears build as Ukraine war continues

Europe emulated the softer US demand climate. OECD European oil demand fell by 250 kb/d m-o-m to 13.1 mb/d in April, 330 kb/d below its historical trend but 810 kb/d higher y-o-y. Gasoil accounted for more than half of the aggregate monthly decline, falling by a seasonally adjusted 180 kb/d in total. Conversely, jet/kerosene continued its stellar growth trajectory of recent months, rising 70 kb/d above trend m-o-m.

The worsening economic momentum in the Eurozone continued inexorably. Consumer inflation hit a record of 8.6% y-o-y in June, while the *S&P Global Eurozone Manufacturing PMI* fell to 52.1 in June from 54.6 in May, just short of lows in April 2020. A renewed source of market concern is that rising inflation and imminent rate hikes have raised borrowing costs unevenly between Eurozone countries, with soaring Southern European sovereign yields reviving memories of the Eurozone debt crisis a decade ago. This prompted the European Central Bank to establish an emergency bond-buying program in June. Europe's dismal outlook is reflected in the euro sliding to a 20-year low against the US dollar, acting as an additional drag on oil demand.

For gasoil, the gloomy macroeconomic outlook is partly mitigated by improved price competitiveness versus natural gas. Anxiety about reductions in Russian exports have sent natural gas prices soaring, elevating the premium of the Dutch *Title Transfer Facility* (TTF - a key European natural gas benchmark) to ICE gasoil to a four-month high, thereby encouraging gas-to-oil substitution. As a further counterweight to the more adverse economic climate, we have increased our demand estimate for Poland by about 40 kb/d until the end of 2023, as the country is now home to an estimated 1.5 million Ukrainian refugees. This will probably remain the case for the foreseeable future, since the conflict shows no signs of abating.

In aggregate, we have lowered our OECD Europe demand estimates for 2022 and 2023 by 50 kb/d each, as the weaker economic outlook and high prices weight on demand for gasoil and gasoline, with projected growth of 360 kb/d y-o-y in 2022 and 140 kb/d in 2023.

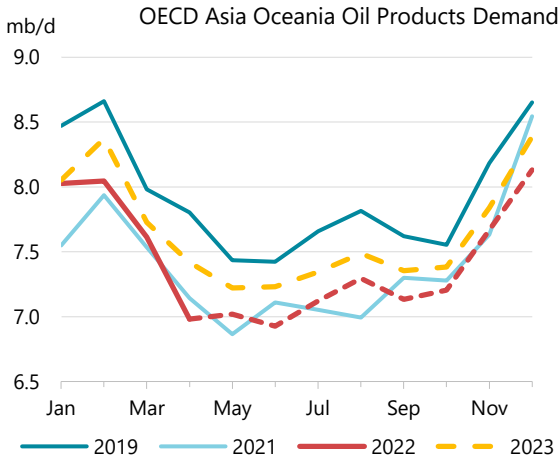
OECD Asia Oceania: Weak currencies undercut oil use

Oil demand for OECD Asia Oceania fell by 630 kb/d m-o-m in April –100 kb/d below its typical seasonal pattern. In common with the Americas and European regions, this largely reflects weakness in gasoil use, where Korean and Australian deliveries in particular lagged.

Japanese demand fell by 490 kb/d m-o-m in April, 30 kb/d below its seasonal pattern, as unusually warm weather curtailed heating demand. However, as the hot spell continued into May and June, the weather's impact is bound to have boosted power use for cooling, reversing its impact on demand. In light of this, we raised our power fuels estimate for the summer 2022 by around 50 kb/d versus last month's *Report*.

In parallel with other OECD regions, economic headwinds have made Asia's demand outlook more challenging, while its purchasing power is undermined by persistently weak local currencies. The Japanese yen trades at its lowest to the US dollar in two decades as the Bank of Japan continues to operate an ultra-accommodative monetary policy. In this respect, it appears to be successful at least in its efforts to ward off deflation. Consumer prices rose by 2.5% in May, topping the central bank's 2% target.

We have lowered our demand forecast in light of the worsening macroeconomic environment. Oil demand for OECD Asia Oceania is now forecast at 7.4 mb/d for 2022 (80 kb/d below last month's *Report*) and 7.6 mb/d for 2023 (30 kb/d lower than last month).



Box 2. Soaring US dollar adds to rapid weakening in emerging market demand

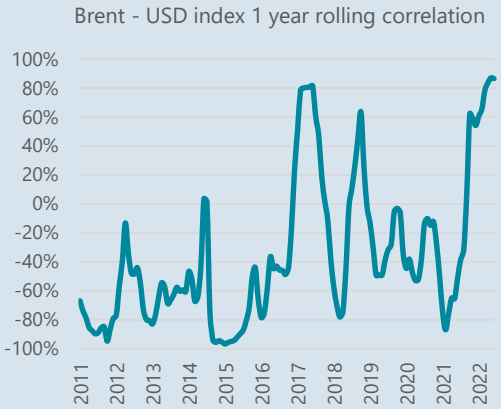
The US dollar's extraordinary strength is especially concerning against the currencies of developing countries, denting their import purchasing power, boosting consumer inflation and straining government finances. This worsening economic outlook, combined with record oil product prices that are currently moving in complete tandem with the soaring dollar, does not bode well for emerging market oil demand.

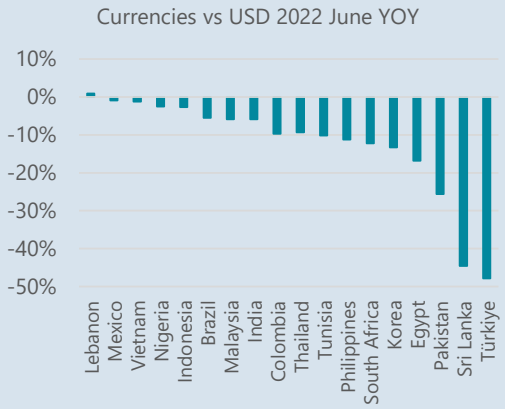
Historically, the relationship between the oil price and the US dollar has been mostly inverse, as a strong dollar drives up importing countries' costs in local currencies, depressing demand. Vice versa, a weak dollar makes oil relatively cheaper for importers, incentivising usage. However, this interaction has always been volatile and has gradually become less negative over the years, largely as a result of supply-side dynamics. As the shale revolution propelled the US towards energy

independence, its booming oil export revenues moved the greenback in the direction of a petrocurrency.

The parallel increases in oil and dollar values have continued over the past year, as the post-pandemic oil price rebound was accompanied by dollar strength. Both oil (+46% y-o-y) and the US Dollar Index (+13% y-o-y), which measures the greenback against a trade-weighted currency basket, are now near two-decade highs. The Ukraine invasion has added extra fuel to both price rallies, sending the one-year rolling correlation to 89%, a record high, thereby exacerbating the impact of record product prices for oil importers.

The reasons for the dollar's strength vary but are essentially due to US economic activity rebounding much faster to pre-pandemic levels and outperforming other countries. Additionally, the Ukraine conflict prompted a flight to the safety of US assets, affirming the greenback's safe haven status. Finally, this coincided with the US Federal Reserve embarking on a path of aggressive monetary tightening, causing investors to price in slowing global growth.





Developing countries' currencies in particular have fallen victim to the more risk-averse sentiment, as their economic prospects are heavily geared to the deteriorating global outlook. Therefore, the dollar's strength has been most prominent against the currencies of these nations. In this regard, a key distinction is between countries with and without major commodity export revenues. As the former (e.g., the Brazilian (-5% y-o-y) and Mexican peso (-1% y-o-y) are at least partly insulated against the impact of soaring oil import prices, these currencies by and large managed to keep pace with the US dollar.

At the other end of the spectrum are those currencies without the backing of significant oil export revenues, such as Türkiye (-48% y-o-y), Egypt (-17% y-o-y), Pakistan (-26% y-o-y), Tunisia (-10% y-o-y) and Sri Lanka (-45% y-o-y). The last four nations currently find themselves caught in full-blown emerging market debt crises and are negotiating deals for bailout packages with the International Monetary Fund, as weak currencies increase their external debt burden and contribute to sky-rocketing food inflation. In this regard, each nation also depends heavily on Russian/Ukrainian wheat imports to feed its population.

Severely constrained government finances in many emerging and developing markets limit the prospect of government intervention through higher retail fuel subsidies (this is in contrast to

developed nations, where minor offsets to fuel taxes have become widespread in recent months). The removal of fuel subsidies has frequently been a condition for securing IMF bailout funding.

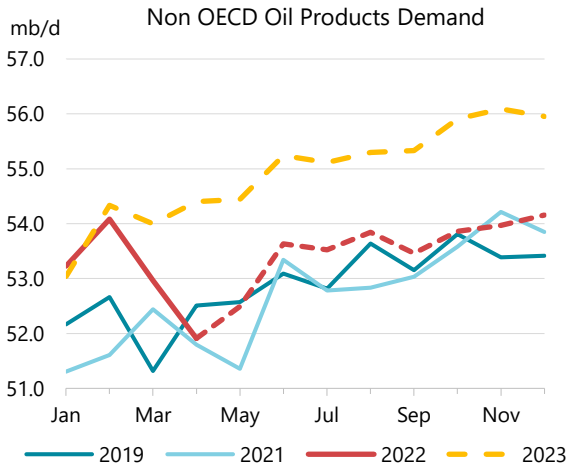
This impact of worsening of the balance of payments for many countries is reflected in our 2H22 demand estimate for the major fuels (gasoline, gasoil and LPG). Tunisia (-18% y-o-y), Chile (-19% y-o-y) and Sri Lanka (-49% y-o-y) should experience the biggest reductions in demand in the remainder of 2022, mirroring the collapse in their currencies. Conversely, Türkiye (-7% y-o-y), Pakistan (-5% y-o-y) and Argentina (-4% y-o-y) show more moderate reductions.

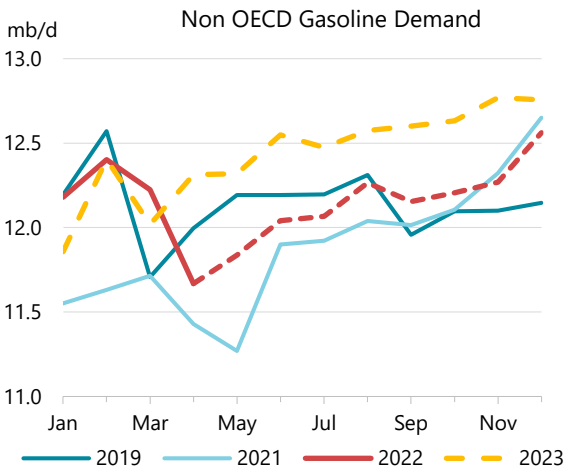
If the global economy skirts a recession, a solid recovery should be seen in 2023, with emerging economies buoyed by China's post-lockdown return to growth. For Türkiye and Pakistan this translates into a return to positive demand growth of around 2% y-o-y, whilst Sri Lanka and Tunisia continue to see negative growth, although at a level of around -5% y-o-y.

Non-OECD

Non-OECD demand rose 580 kb/d m-o-m in May, with China starting to rebound from Covid related lockdowns. Consumption was also supported by higher power generation requirements, especially in the Middle East, and continued robust Indian demand. Total monthly deliveries reached 52.5 mb/d.

For 2022 as a whole, we forecast comparatively slower growth of 740 kb/d (compared with +3.1 mb/d in 2021) to 53.4 mb/d, constrained by China's 2Q22 slowdown and emerging market debt crises. However, a recovering China will underpin growth of 1.5 mb/d in 2023, pushing non-OECD demand to 54.9 mb/d – almost 20% higher than the OECD.

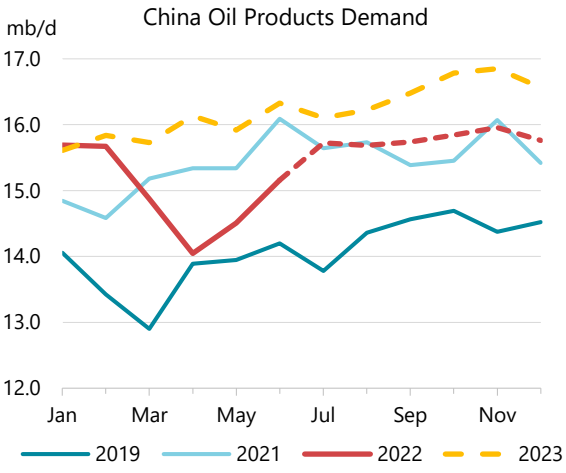


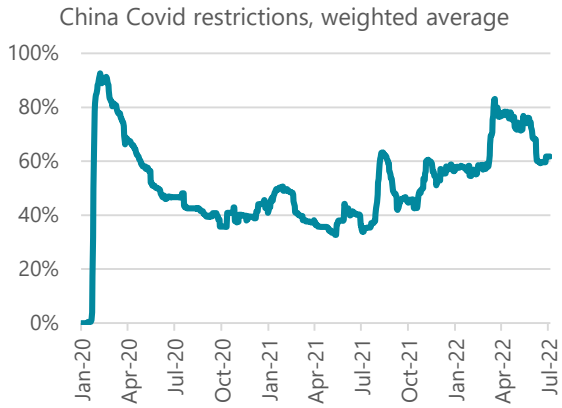


Following updates to the *IEA Annual Energy Statistics* relating to 2019 and 2020 for several non-OECD countries, which are used to set the baseline for demand in our balances, net demand from 2021 onwards has been revised lower by 160 kb/d.

Chinese demand recovering as country re-opens

Chinese demand climbed by 460 kb/d in May, as the nation's Covid-19 lockdowns began to ease. Nevertheless, demand remained far below 2021 levels (-840 kb/d) with widespread restrictions still stifling transport fuel and petrochemical feedstock consumption. Information about public health measures from Oxford University's Blavatnik School of Government (BSG) shows these lockdowns easing in June. We forecast a further 650 kb/d recovery in June, with a return to y-o-y growth in July. This relaxation is slightly ahead of the pace foreseen in last month's forecast. However, the scale of losses in 2Q22 remains sufficient to push annual average 2022 Chinese oil consumption into its first contraction of the 21st Century (-40 kb/d), reaching 15.4 mb/d.





Sources: IEA, Oxford University BSG

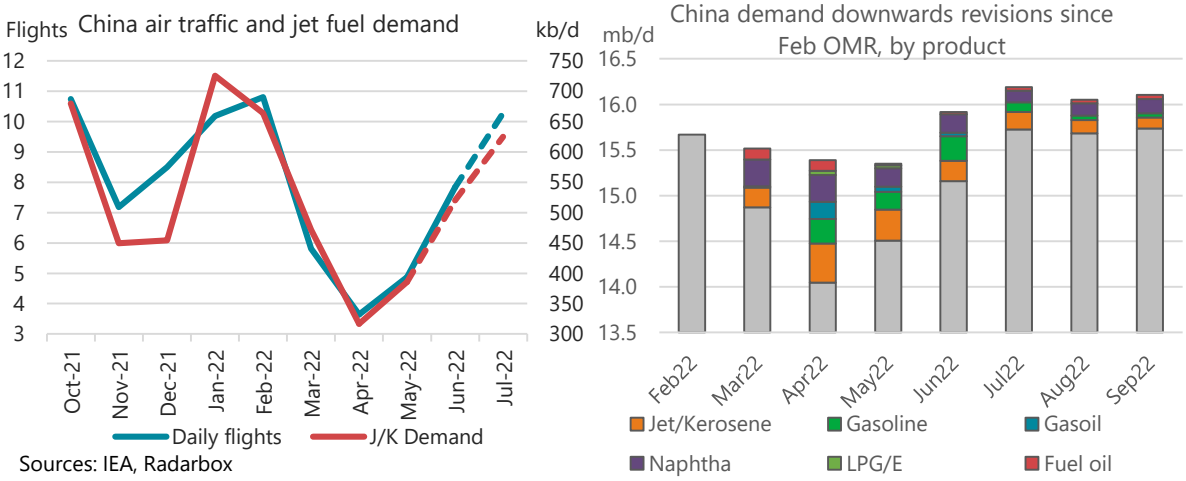
While May saw major Chinese cities taking their first steps out of uncompromising lockdowns, in June this opening gathered pace. Many cities showed elevated levels of congestion compared to 2021 (according to the *Baidu Congestion Index*). This stands in stark contrast to the clear streets through much of April and May. Furthermore, passenger statistics from *MetroDB.org* reveal that Shanghai's subway traffic reached 80% of the average 2021 level by the end of June (Beijing, 95%). In 2Q22, gasoline demand fell 200 kb/d y-o-y, contracting more than any other major product, save jet/kerosene, due to the lockdown period. Despite some release of pent-up demand, it is unlikely to post substantial y-o-y growth at any point in 2H22.

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	2 318	2 432	165	114	7.6	4.9
Naphtha	1 479	1 679	1 725	1 856	45	131	2.7	7.6
Motor Gasoline	3 156	3 502	3 533	3 639	31	106	0.9	3.0
Jet Fuel & Kerosene	755	733	581	809	- 153	228	-20.8	39.3
Gas/Diesel Oil	3 022	3 399	3 482	3 617	83	135	2.4	3.9
Residual Fuel Oil	490	527	510	551	- 17	41	-3.1	8.0
Other Products	3 466	3 434	3 240	3 311	- 194	71	-5.6	2.2
Total Products	**14 204**	**15 427**	**15 387**	**16 213**	**- 40**	**826**	**-0.3**	**5.4**

Gasoil demand increased by 80 kb/d in May, returning to y-o-y expansion (+30 kb/d). For 2022 on average, we expect growth of 80 kb/d. Consumption, dominated by commercial and industrial users, has been far more resilient than gasoline in recent months. While restrictions on personal mobility have been very severe, businesses have not been constrained to the same degree and

now appear set for a robust recovery. June's *Caixin Manufacturing PMI* reflects this, showing a return to expansion for the first time since February (hitting 51.7 versus 48.1 in May). Similarly, petrochemical feedstocks naphtha and LPG/ethane gained ground in May (+40 kb/d and +80 kb/d, respectively), with further progress projected in June. Disruptions in Chinese manufacturing supply chains, amid weaker global downstream petrochemical markets, have trimmed operating rates but demand remained higher y-o-y for both feedstocks in March, April and May.



Sources: IEA, Radarbox

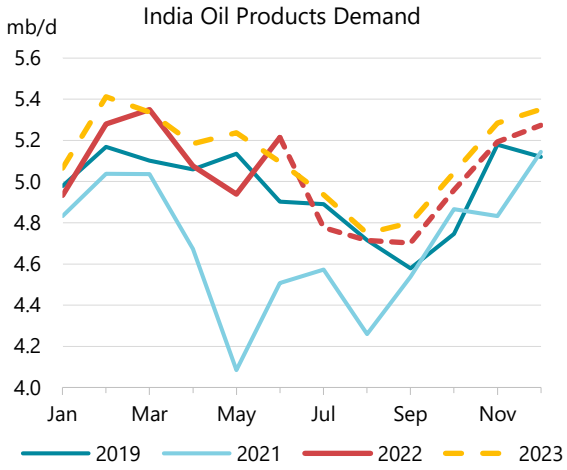
The component of oil consumption most heavily curtailed by restrictions has been air traffic and May jet/kerosene use remained 550 kb/d lower y-o-y. Nevertheless, flight numbers began to recover in the second half of May, reflected in the 70 kb/d m-o-m growth of our jet-kero apparent demand estimate. Flight tracking, from *Radarbox*, pegs average June air traffic at 73% of February levels, with early July averaging 95% of this at over ten thousand flights each day, having been close to five thousand in May. Our forecast assumes that flight counts will recover to the level of January and February in 3Q22 and then increase gradually until after the National Congress of the Chinese Communist Party, expected in November. Average 2022 demand will be 150 kb/d lower, the major driver of the overall contraction but will lead 2023 gains with a rebound of 230 kb/d.

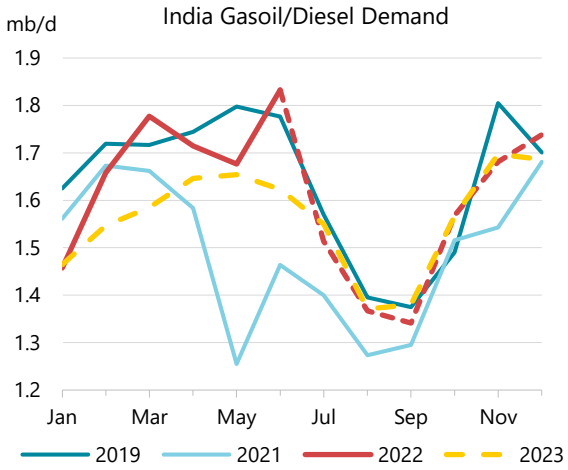
India deliveries climb amid continued expansion

India recorded exceptionally strong oil deliveries in June. Overturning the typical seasonal decline, deliveries increased by 270 kb/d m-o-m (+710 kb/d, +15.7% y-o-y) to 5.2 mb/d. In large part, this over-performance was due to very strong demand for gasoil which leapt by 160 kb/d from May, to the highest level for any month since 2017. Use of the product surpassed 2019 levels for the first time since March. We expect this to remain at close to pre-pandemic levels for the rest of the 2022. In contrast, gasoline demand has been above 2019 levels since July 2021 and set a new all-time high in June 2022, at 870 kb/d.

With the country's economy continuing to rise after rebounding from Covid, India is set to post the largest increase in GDP of any major economy in 2022. Our projections assume 6.9% growth. S&P's *Global India Manufacturing PMI* showed continued expansion in June (53.9), albeit slowing slightly from May (54.6). Nonetheless, there are indications that pressures from higher prices and cooling economic growth in other countries are impacting sentiment, with fewer than 4% of those surveyed predicting output growth in the coming year. Indian consumers have benefitted from unusually stable prices. According to GlobalPetrolPrices.com, prices have not changed for

gasoline or diesel since falling by around 8% in early May with the rupee deteriorating less compared to peer currencies.





We forecast an easing of growth in 2H22 (to 230 kb/d y-o-y compared with 440 kb/d in 1H22) as a result of these economic developments and because 2H21 was much less impacted by Covid restrictions than 1H21. Overall 2022 growth of 340 kb/d will be dominated by gasoil (+120 kb/d) and gasoline (+110 kb/d). Next year, growth is expected to be much weaker, at 90 kb/d, led by higher jet/kerosene demand (+40 kb/d) and continued gains in LPG (+20 kb/d).

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	869	888	895	914	7	19	0.8	2.1
Naphtha	318	317	289	293	- 28	4	-8.9	1.4
Motor Gasoline	663	746	856	917	110	61	14.7	7.1
Jet Fuel & Kerosene	120	128	167	209	38	42	29.9	25.2
Gas/Diesel Oil	1 389	1 491	1 610	1 564	119	- 46	8.0	-2.8
Residual Fuel Oil	136	142	145	147	3	2	2.3	1.3
Other Products	1 018	984	1 070	1 079	86	9	8.8	0.8
Total Products	**4 513**	**4 697**	**5 032**	**5 123**	**335**	**91**	**7.1**	**1.8**

Other Non-OECD

Oil use in **Russia** rose by 180 kb/d m-o-m in May, 90 kb/d faster than expected in last month's forecast. We still forecast a decline of 90 kb/d y-o-y in 2022 for Russian demand, despite 60 kb/d growth in gasoil deliveries. Jet/kerosene falls most heavily (-60 kb/d). Sustained gasoil demand may reflect military consumption that is likely providing substantial support. Gasoline and gasoil deliveries each rose by 20 kb/d in May. LPG/ethane (+50 kb/d) and other products (+80 kb/d) climbed substantially. Figures from *GlobalPetrolPrices.com* show that consumer prices declined since late March, with Russia's insulation from worldwide price movements providing relative support to demand. Russian flight numbers continued to rebound through May and June and by early July were close to January levels. Jet/kerosene demand increased by 20 kb/d in May and is expected to rise by a further 30 kb/d in June.

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	3 669	3 897	4 003	4 023	106	20	2.7	0.5
Asia	26 976	28 726	29 143	30 496	418	1 353	1.5	4.6
FSU	4 497	4 786	4 638	4 599	- 148	- 39	-3.1	-0.8
Latin America	5 535	5 949	6 048	6 117	100	69	1.7	1.1
Middle East	8 191	8 559	8 815	8 901	256	86	3.0	1.0
Non-OECD Europe	733	766	777	794	11	17	1.5	2.2
Total Products	**49 600**	**52 682**	**53 424**	**54 931**	**742**	**1 506**	1.4	2.8

Latin American deliveries increased counter-seasonally in May, rising by 40 kb/d m-o-m. This was principally the result of gasoil demand rebounding (+50 kb/d) following a disappointing April (-40 kb/d). The *S&P Global Brazil Manufacturing PMI* indicated a fourth straight month of expansion in June, at 54.1. Argentina saw demand begin to slow in May, with gasoil, gasoline and LPG demand all slipping. The outlook for 2H22 oil use (-10 kb/d y-o-y compared with +60 kb/d in 1H22) looks weak amid Argentina's growing economic crisis. The country's economy minister resigned in early July amid a sliding currency, protests over diesel shortages and rampant inflation.

Demand in the **Middle East** climbed by 220 kb/d in April, slightly faster than average and posting 540 kb/d gains versus Covid-impacted April 2021. The major drivers of this m-o-m growth were surging fuel oil and direct crude oil use in Iraqi and Saudi Arabian power plants. In **Saudi Arabia**, fuel oil deliveries increased by 140 kb/d while direct crude use went up by 60 kb/d. In **Iraq** direct crude use leapt by 90 kb/d but fuel oil use fell by 30 kb/d. High levels of electricity demand and continued extreme temperatures into the summer months are set to support oil consumption. Overall Middle East deliveries will increase by 260 kb/d in 2022, led by jet/kerosene (+120 kb/d), gasoline (+90 kb/d) and fuel oil (+60 kb/d).

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	7 822	8 266	8 519	8 711	253	192	3.1%	2.3%
Naphtha	3 350	3 656	3 640	3 877	- 15	236	-0.4%	6.5%
Motor Gasoline	10 855	11 881	12 156	12 438	275	283	2.3%	2.3%
Jet Fuel & Kerosene	2 097	2 214	2 389	2 877	176	488	7.9%	20.4%
Gas/Diesel Oil	13 507	14 347	14 672	14 712	325	40	2.3%	0.3%
Residual Fuel Oil	4 175	4 390	4 437	4 632	47	195	1.1%	4.4%
Other Products	7 794	7 929	7 610	7 683	- 318	72	-4.0%	1.0%
Total Products	**49 600**	**52 682**	**53 424**	**54 931**	**742**	**1 506**	**1.4%**	**2.8%**

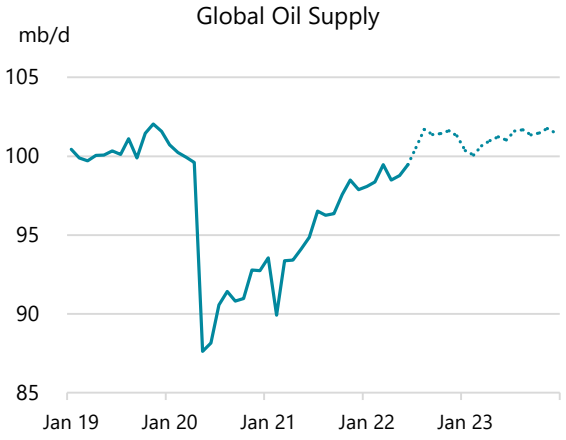
Pakistani deliveries jumped by 100 kb/d m-o-m in April (+120 kb/d y-o-y). Fuel oil (+30 kb/d) and gasoil (+60 kb/d) use went up as power supply came under pressure from rising demand during a severe heatwave. Limitation on LNG availability and the significant cost advantage enjoyed by fuel oil make this kind of switching highly attractive. The country's debt crisis and associated IMF negotiations are expected to result in significantly increased fuel prices in 2H22, checking demand and diminishing y-o-y growth to 20 kb/d.

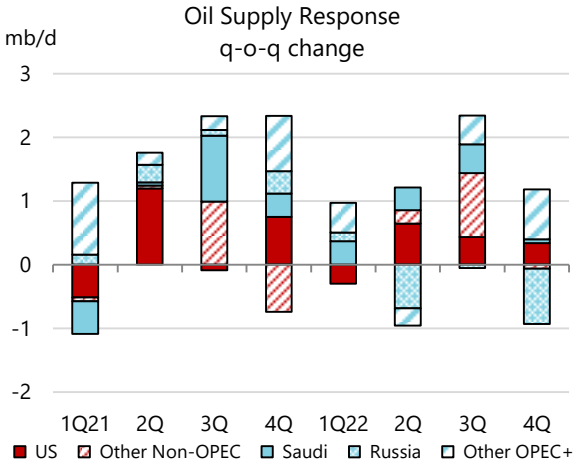
April data for **Egypt** show that fuel oil demand (+90 kb/d y-o-y) remains strong as local gas supplies are directed to LNG export terminals and are replaced by oil in power generation. Average 2022 fuel oil use will increase by 70 kb/d, dominating a 90 kb/d increase in deliveries.

Supply

Overview

Russia's resilience despite international sanctions bolstered world oil supply in June and helped offset outages elsewhere due to operational issues and civil unrest. Global output rose by 690 kb/d to 99.5 mb/d during June, as a surprising increase from Russia along with higher US and Canadian flows more than offset steep maintenance-related losses from Kazakhstan and smaller declines from other producers. From June through December, world oil production is forecast to grow by 1.8 mb/d to reach 101.3 mb/d. Supplies from OPEC+ are expected to rise by just 380 kb/d over the period, with higher anticipated flows from Libya, Kazakhstan and Gulf producers offset by a deepening decline in Russian output. Producers outside the alliance (non-OPEC+) are set to add 1.4 mb/d, with the US dominating the gains.





Despite the projected uptrend in 2H22 supply, there are continuing short-term risks to global production. And while potential supply crises were narrowly averted in Kazakhstan (for now) and Norway, the political conflict in Libya that has already wiped out more than 500 kb/d of oil shows no sign of abating. Chronic operational problems and dwindling spare capacity in OPEC+ countries such as Nigeria, Malaysia and Angola also pose risks to our outlook.

The current oil market volatility has also put the spotlight on the world's spare production capacity, which is held primarily by Saudi Arabia and the UAE. Their combined buffer will fall to just 2.2 mb/d in August as record OPEC+ cuts are fully phased out (see *Saudi, UAE to face capacity challenge*).

US President Joe Biden is preparing to visit the Kingdom this week and is expected to continue to urge Gulf producers to raise output to cool down oil prices. The producer group has steadily ramped up this year, albeit largely in line with the modest increases stipulated by the OPEC+ agreement. However, in a gesture to consuming nations, the bloc agreed in early June to a slight boost in supply by advancing September's planned increase to July and August. The 23-member producer group is due to meet on 3 August to chart a strategy for September and possibly longer.

As oil markets speculate on just how much more the group is able and willing to ramp up going forward, the leadership and diplomacy of OPEC Secretary General Mohammed Barkindo, who passed away suddenly on 5 July, will be missed. Incoming Secretary General Haitham al-Ghais of Kuwait will work to ensure the bloc's unity at this crucial time.

Despite its operational and capacity constraints, along with limitations from sanctions, OPEC+ is on course to supply 2.9 mb/d of this year's world annual growth of 4.8 mb/d. Our upward 2H22 revision of nearly 400 kb/d to Russian output has helped lift annual global production to 100.1 mb/d (+230 kb/d from last month's *Report*). However, the group's total oil output is projected to contract next year by nearly 800 kb/d if Russia's supply path tracks the trajectory set by international sanctions. Our 2023 forecast for world oil production of a record 101.1 mb/d shows non-OPEC+ supply rising by 1.9 mb/d, the same rate as this year. The US accounts for 60% of the gains.

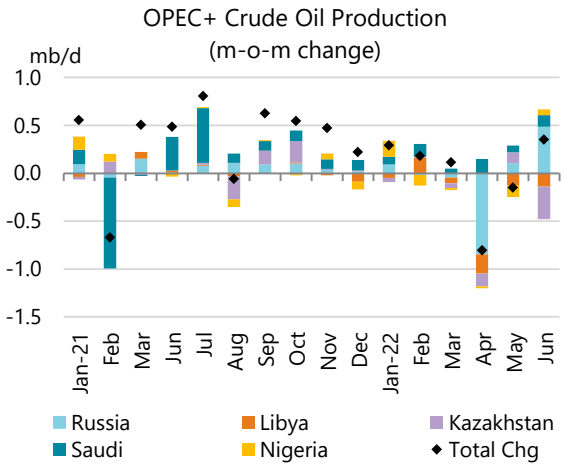
World Oil Production by Region (OPEC+ based on current agreement)
(million barrels per day)

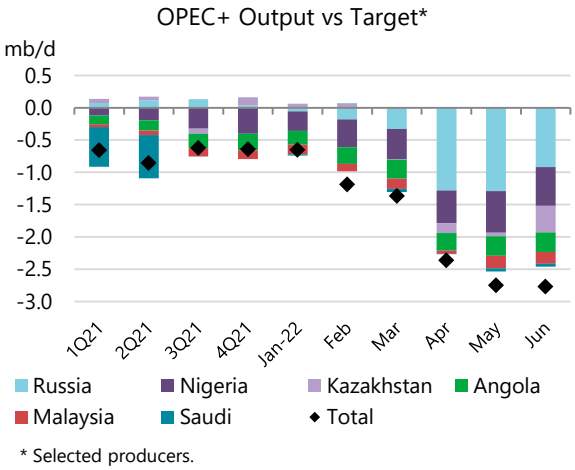
	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Africa	7.4	7.4	7.0	7.0	7.5	7.2	7.5	7.4	7.4	7.3	7.4
Latin America	5.9	6.2	6.2	6.5	6.6	6.4	6.6	6.7	6.7	6.7	6.7
North America	24.3	25.0	25.5	26.3	26.7	25.9	26.8	27.2	27.3	27.6	27.2
China	4.1	4.2	4.3	4.2	4.2	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia	3.4	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1
Europe	3.5	3.4	3.2	3.3	3.5	3.4	3.5	3.4	3.4	3.6	3.5
FSU	13.8	14.4	13.4	13.5	12.8	13.5	11.9	11.7	11.6	11.7	11.7
Middle East	27.9	30.1	30.8	31.6	31.7	31.0	31.8	31.8	31.9	31.9	31.8
Total Oil Production	**90.2**	**94.0**	**93.6**	**95.6**	**96.2**	**94.8**	**95.5**	**95.6**	**95.7**	**96.2**	**95.7**
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	**95.2**	**98.6**	**98.9**	**101.2**	**101.4**	**100.1**	**100.4**	**101.1**	**101.5**	**101.6**	**101.1**
OPEC Crude	*26.5*	*28.6*	*28.8*	*29.5*	*30.2*	*29.3*	*30.2*	*30.1*	*30.2*	*30.1*	*30.1*
OPEC NGLs	*5.0*	*5.2*	*5.3*	*5.3*	*5.3*	*5.3*	*5.3*	*5.4*	*5.4*	*5.4*	*5.4*
Non-OPEC OPEC+	*17.4*	*18.2*	*17.3*	*17.3*	*16.7*	*17.3*	*15.8*	*15.6*	*15.5*	*15.6*	*15.6*
Total OPEC+	*49.0*	*51.9*	*51.3*	*52.2*	*52.2*	*51.9*	*51.3*	*51.1*	*51.0*	*51.1*	*51.1*

OPEC+ sticks to script, Russia ramps up

At its 30 June meeting, OPEC+ decided to hold to its previously agreed plan of a 648 kb/d increase for August, leaving more time to shape policy for September and perhaps beyond. When the bloc met in early June, it agreed to raise output by 648 kb/d in July and in August compared with a previous plan to add 432 kb/d over the three months through September. On paper that's 1.3 mb/d, but in reality, we estimate a total of 600 kb/d will be delivered primarily from the Middle East and Kazakhstan due to losses from sanctions on Russia and capacity constraints elsewhere.

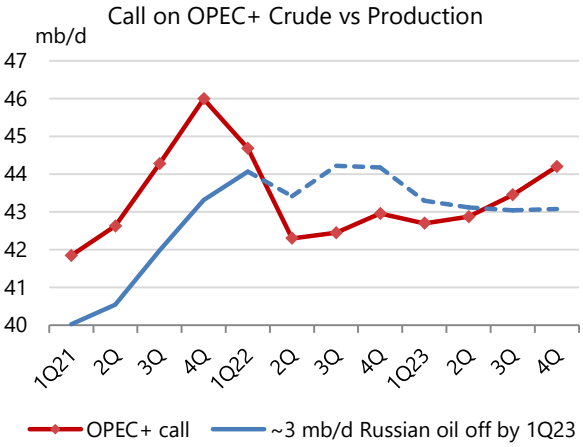
June crude oil production from the 23-member OPEC+ bloc rose by 350 kb/d to 43.6 mb/d, after a boost from Russia helped to offset a steep maintenance-related outage in Kazakhstan and further losses in Libya. Volumes from OPEC countries rose 180 kb/d to 28.74 mb/d while non-OPEC partners raised output by 170 kb/d to 14.86 mb/d. Taking into account only the 19 members bound by the supply deal, production was up 420 kb/d compared to a planned 430 kb/d increase.





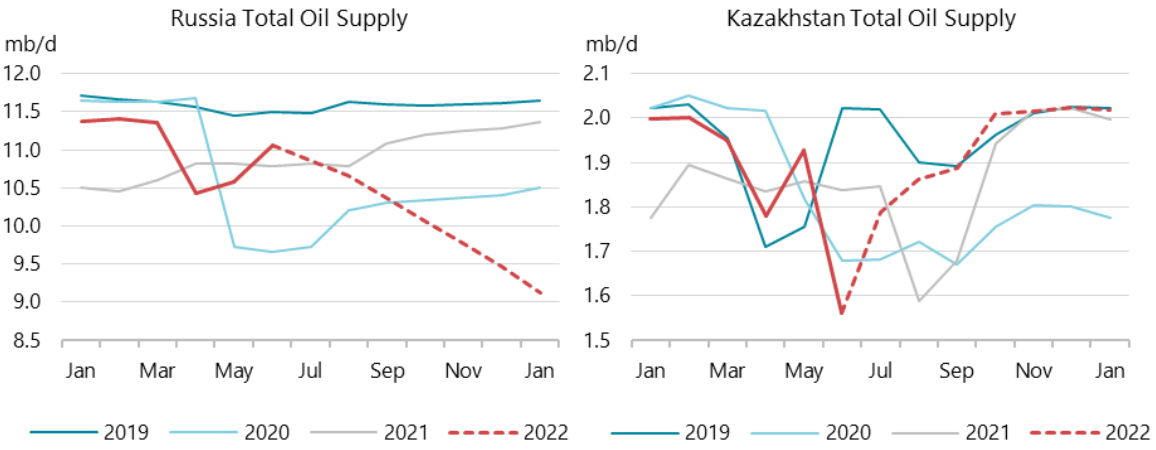
Russian crude oil supply of 9.74 mb/d (+490 kb/d m-o-m) still left it trailing 920 kb/d below its quota. Output in several other producers is also far below their targets, with Nigeria at -600 kb/d and Kazakhstan -410 kb/d. As a result, there was a wide shortfall of 2.77 mb/d between the bloc's supply versus official output targets in June.

Rising OPEC+ volumes, thanks mostly to Gulf producers delivering monthly allocated production increases, along with growing non-OPEC+ supply, may allow global inventories to build during the rest of this year. Strong non-OPEC+ output and weaker demand should see OPEC+ pumping above the requirement for its crude through the first half of next year, even assuming that sanctions and an insurance ban shut more Russian oil by early 2023.



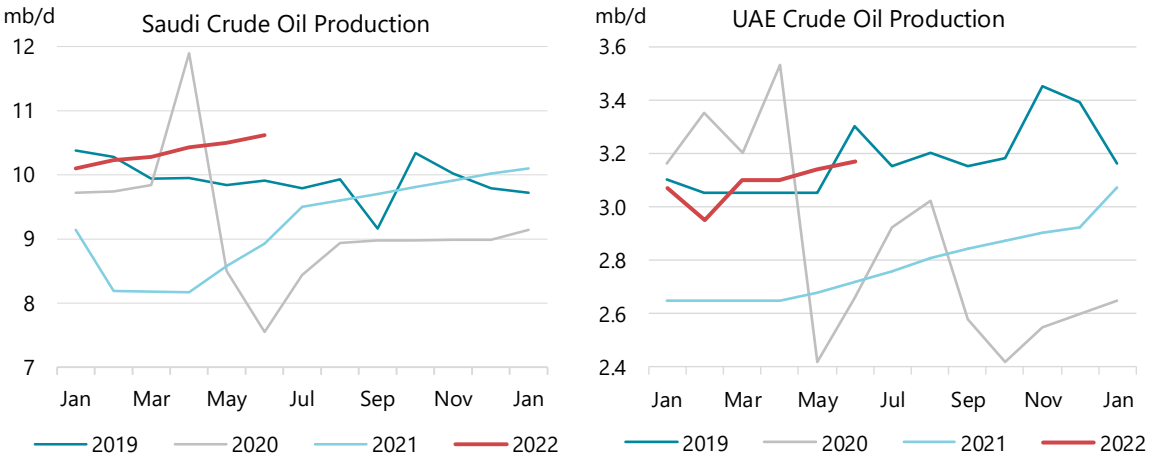
During June, **Russia** once again surprised to the upside, delivering the world's single biggest supply increase as higher domestic consumption far offset lower exports. Total crude oil, condensates and NGLs rose 490 kb/d to reach 11.07 mb/d, down just 330 kb/d from pre-invasion levels. Gains in June were reportedly mostly due to Rosneft and its Bashneft unit. The ExxonMobil-operated Sakhalin-1 Project in the country's far east saw output of just 10 kb/d versus 220 kb/d before Russia invaded Ukraine.

We expect Russian oil production to ease in July along with lower anticipated refinery throughput and assume that it will continue to decline gradually as the EU embargo on Russian oil is phased in. That would result in annual average output in 2022 of 10.6 mb/d, down 260 kb/d year-on-year (y-o-y). By the start of next year, we expect to see close to 3 mb/d shut in, which would drop total oil supply to 8.7 mb/d. Because it is unclear how long the crisis will continue, we have held production at that rate throughout 2023. Given the rapidly evolving situation and high degree of uncertainty, our estimates are under continuous review and will be revised as necessary.



In **Kazakhstan,** output tumbled in June due to planned maintenance at the Kashagan oil field. Total production of crude oil and condensates decreased by 370 kb/d to 1.56 mb/d in June, of which crude oil decreased to 1.24 mb/d (-340 kb/d). With the 400 kb/d Kashagan oil field resuming output on 8 July following maintenance, total oil production had recovered to more than 1.7 mb/d at the time of writing. Although a further rebound is expected in August, output is unlikely to recover fully until October due to maintenance scheduled at the 600 kb/d Tengiz oil field.

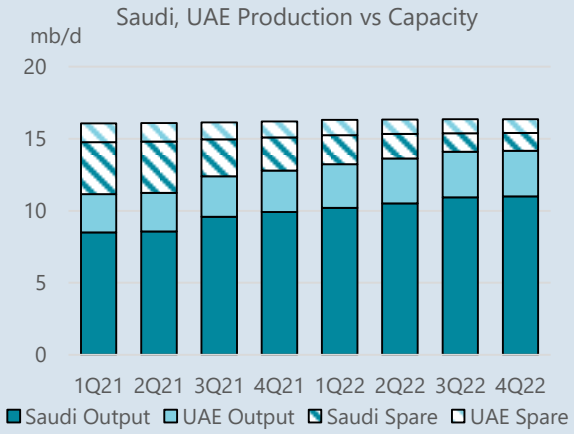
A further substantial hit to Kazakh supply has been avoided – for now - after a district court in the Russian Black Sea port of Novorossiysk overturned an earlier ruling that suspended the Caspian Pipeline Consortium's (CPC) operations and instead fined it 200,000 roubles ($3 300). The court on 5 July had ordered a one-month stoppage of the CPC pipeline (which can handle around 1.5 mb/d) due to a request from Russia's transport inspectorate relating to a 2021 oil spill. The CPC pipeline, which is routed through Russia, has been in focus since Russia's invasion of Ukraine on 24 February. Storm damage earlier this year led CPC to close two of three single point moorings (SPMs) at the terminal for a number of weeks. CPC shareholders include Russia, Kazakhstan, Chevron, ExxonMobil, Lukoil and a Rosneft-Shell joint venture.



In the Middle East, producers continue to increase production as they phase out OPEC+ cuts. During June, **Saudi Arabia** pumped 10.62 mb/d of crude oil, up 120 kb/d month-on-month (m-o-m). Shipments to world markets appeared to be relatively steady, but we assume that Riyadh built up inventories at home, ran more oil in its refining system and increased oil burned in its domestic power plants. In the **UAE,** production rose 30 kb/d to 3.17 mb/d.

Box 3. Production ramp-up to put Saudi, UAE capacity to the test

Record OPEC+ cuts are set to be fully phased out during August, leaving the bloc with limited spare capacity to pump more. That fixes the spotlight firmly on Saudi Arabia and the UAE, which together hold most of the world's buffer barrels. By next month, Saudi crude production is targeted to reach 11 mb/d, a monthly level that it has scaled only twice before. That lofty rate would reduce its spare capacity to a razor-thin 1.2 mb/d. And it remains to be seen how deeply Riyadh will be prepared to tap into this existing spare capacity.



We estimate that Saudi Arabia is able to sustain output of around 11 mb/d for an extended period although that effort could prove to be a challenge given its mature reservoirs. Higher volumes hasten depletion rates and would require an increase in drilling, subsurface and surface maintenance.

If required to pump still more, our assumption is that Riyadh could boost crude output to its maximum capacity of 12.2 mb/d (including the Neutral Zone) within 90 days. This is in line with Saudi Aramco's 2021 annual report which declares a 12 mb/d maximum sustainable capacity (excluding the Neutral Zone). The wells and infrastructure – terminals, stabilisers, gas/oil separation plants – to support that level are already in place as was shown in April 2020 when Saudi Aramco briefly topped 12 mb/d. Aramco will also gradually install new facilities to expand capacity (mainly from offshore fields) to 13 mb/d by 2027, although this growth story is set to take place after 2024.

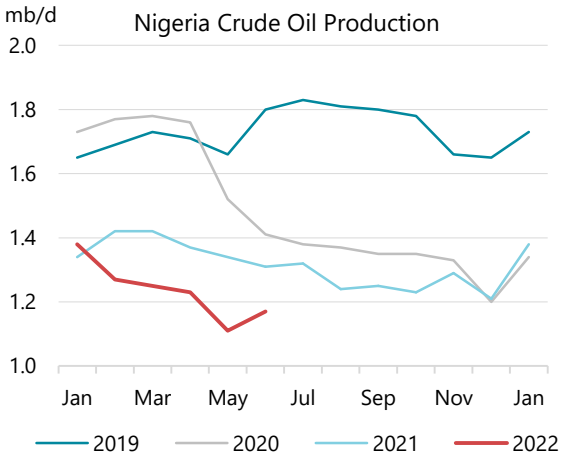
As for the UAE, crude supply is targeted at 3.18 mb/d for August, which would leave it with 950 kb/d of spare. Our estimates show the UAE reached its highest monthly oil production of 3.5 mb/d in April 2020.

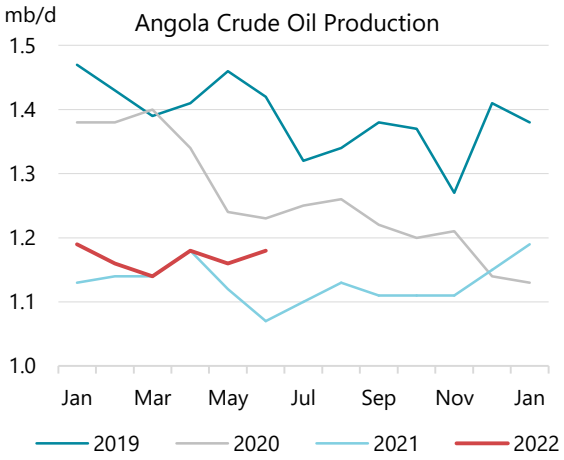
In **Iraq**, production crept up to 4.44 mb/d in June as shipments of crude to world markets rose. On the upstream front, Iraq will buy around two-thirds of ExxonMobil's 32.7% stake in the West Qurna-1 oil field, with the rest going to one of the foreign companies left in the consortium. Apart from ExxonMobil, partners in West Qurna-1 (capacity of 500 kb/d) include China National Petroleum Corp, Itochu, Pertamina and Basrah Oil Co. Output in **Kuwait** eased by 20 kb/d to 2.65 mb/d.

Production from the African members of OPEC+ was broadly steady despite another plunge in Libya. Crude oil supply in **Nigeria** rebounded from a near four-decade low to reach 1.17 mb/d, up 60 kb/d m-o-m. Output recovered from the core oil fields of Qua Iboe and Forcados following maintenance. Persistent technical and operational issues along with sabotage, pipeline leaks and oil theft, have prevented Africa's top producer from optimising its existing capacity.

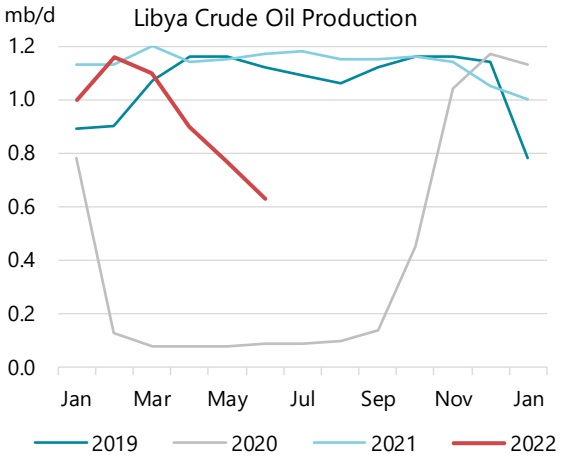
Nigeria lost $1 billion in revenue during the first quarter of this year due to oil theft, according to the Nigerian Upstream Petroleum Regulatory Commission. Oil theft has cut the flow to oil

terminals by approximately 110 kb/d. Theft has reportedly resulted in the declaration of *force majeure* since March at the Bonny oil and gas terminal, with flows of Bonny Light wallowing around 30 kb/d in June compared to more than 100 kb/d in January and over 200 kb/d at the start of 2021.





Crude oil production in **Angola** increased by 20 kb/d to 1.18 mb/d in June - still far below a peak of 1.8 mb/d in 2015. The 2021 start-up of a number of fields has helped to support output. And this year, TotalEnergies's Zinia Phase 2 project in Block 17 is expected to reach 40 kb/d. The deepwater project will feed into Pazflor exports.



Libya posted the largest decline within OPEC, with output falling 140 kb/d in June to 630 kb/d due to ongoing civil unrest. Further losses may lie ahead after the National Oil Corp (NOC) declared *force majeure* on crude exports out of the 250 kb/d Es Sider and 200 kb/d Ras Lanuf terminals, as well as at the El Feel oil field on 30 June. NOC's statement added that *force majeure* is still in effect at the ports of Brega and Zueitina. Its production has fallen by more than half due to a series of blockades and shutdowns of its oil network. Tensions between the country's two rival governments have escalated recently with both jostling for power and oil revenues. The divided country is spared from a quota under the OPEC+ deal, along with Venezuela and Iran.

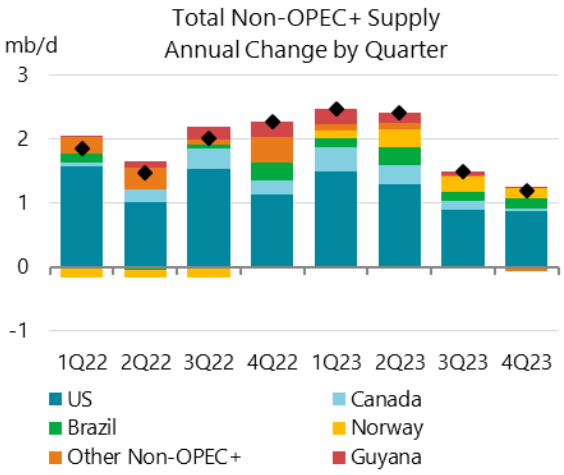
Iran's crude oil supply rose 60 kb/d to 2.57 mb/d during June. Senior Western officials have voiced doubts about reviving the 2015 Iran nuclear deal after indirect talks between the US and Iran at the end of June concluded without progress. Iran could be a source of significant supplies if sanctions were to be eased, although its increasingly complicated return to the market would not happen overnight.

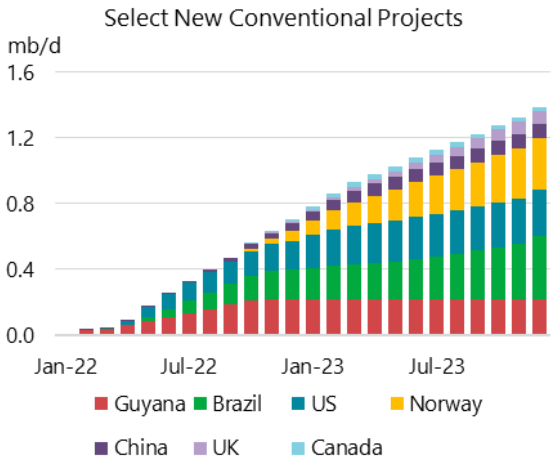
OPEC+ Crude Oil Production[1]
(million barrels per day)

	May 2022 Supply	Jun 2022 Supply	June Compliance	Jun 2022 Target	Sustainable Capacity[2]	Eff Spare Cap vs Jun[3]
Algeria	1.01	1.02	110%	1.02	1.0	0.0
Angola	1.16	1.18	728%	1.48	1.2	0.0
Congo	0.26	0.28	470%	0.32	0.3	0.0
Equatorial Guinea	0.09	0.09	925%	0.12	0.1	0.0
Gabon	0.18	0.19	-48%	0.18	0.2	0.0
Iraq	4.43	4.44	148%	4.51	4.8	0.4
Kuwait	2.67	2.65	187%	2.72	2.8	0.1
Nigeria	1.11	1.17	1156%	1.77	1.5	0.4
Saudi Arabia	10.50	10.62	113%	10.66	12.2	1.6
UAE	3.14	3.17	-2%	3.07	4.1	1.0
Total OPEC-10	**24.55**	**24.81**	**229%**	**25.86**	**28.2**	**3.5**
Iran[4]	2.51	2.57			3.8	
Libya[4]	0.77	0.63			1.2	0.6
Venezuela[4]	0.73	0.73			0.8	0.0
Total OPEC	**28.56**	**28.74**			**34.0**	**4.0**
Azerbaijan	0.57	0.52	884%	0.70	0.6	0.1
Kazakhstan	1.58	1.24	859%	1.65	1.7	0.4
Mexico[5]	1.62	1.63		1.75	1.7	0.0
Oman	0.84	0.85	105%	0.85	0.9	0.0
Russia	9.26	9.74	372%	10.66	10.2	
Others[6]	0.82	0.86	732%	1.07	0.9	0.1
Total Non-OPEC	**14.69**	**14.86**	**461%**	**16.69**	**15.9**	**0.6**
OPEC+-19 in cut deal[4]	**37.62**	**38.04**	**314%**	**40.81**	**42.5**	**4.0**
Total OPEC+	**43.25**	**43.60**			**49.9**	**4.6**

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.

US and Canada push non-OPEC+ higher

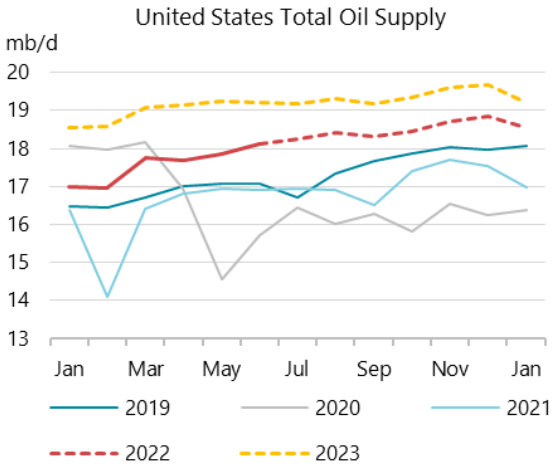


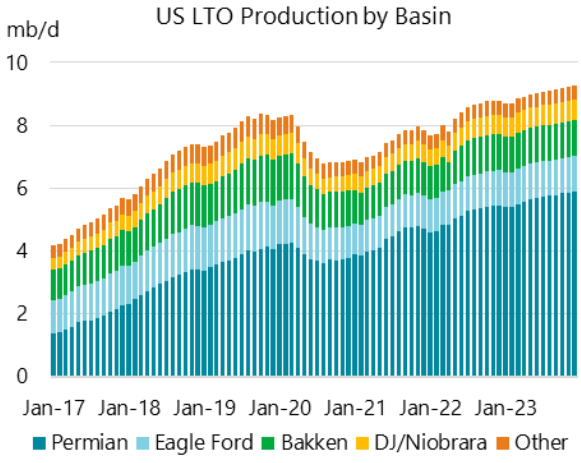


Total oil volumes from non-OPEC+ countries rose by 350 kb/d in June to 47.9 mb/d, thanks to increased output from the US and Canada and seasonally higher biofuels production. Non-OPEC+ supply is projected to average 48.2 mb/d in 2022 and 50.1 mb/d in 2023, rising 1.9 mb/d each year. US LTO will still drive non-OPEC+ supply growth, but is expected to provide only one-third of 2023's increase – down from nearly half this year. Canadian oil sands will also provide incremental growth, but as conventional projects sanctioned during the last period of high prices come online they will represent the majority of non-OPEC+ gains next year. These projects are expected to add 260 kb/d in Brazil next year as well as 250 kb/d of new supply in the US Gulf of Mexico, 220 kb/d in Guyana and 210 kb/d in Norway.

US output rose by an estimated 260 kb/d m-o-m in June, to 18.1 mb/d, driven by growth in light tight oil (LTO) and the Gulf of Mexico (GoM). US LTO supply is estimated to have increased by 180 kb/d, with gains stemming from continued expansion in the Permian and the return of wells in the Bakken after the April outage. US GoM production increased upon completion of maintenance at the Mars-Ursa platform.

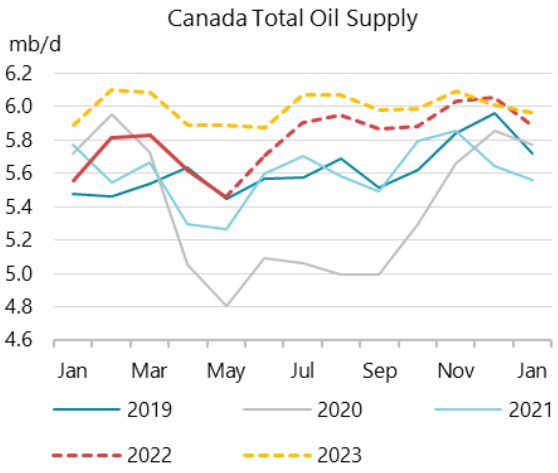
Total US oil output for 2022 and 2023 is expected to average 18 mb/d and 19.2 mb/d, up 1.3 mb/d and 1.1 mb/d respectively. US LTO accounts for 860 kb/d of growth this year as tightness in oilfield services and supply chains act as physical limitations. The most recent Dallas Fed Survey shows that 66% of oilfield executives expect supply chain issues to last for more than 12 months, while 94% have said that supply chain issues have negatively affected their operations. Next year, in the absence of material changes in economic or capital market conditions, LTO barrels are expected to grow by 680 kb/d as inflation and a lower forward price curve drag on expected activity.



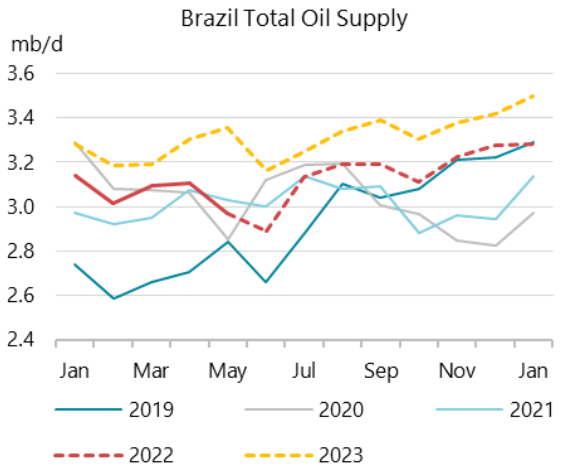


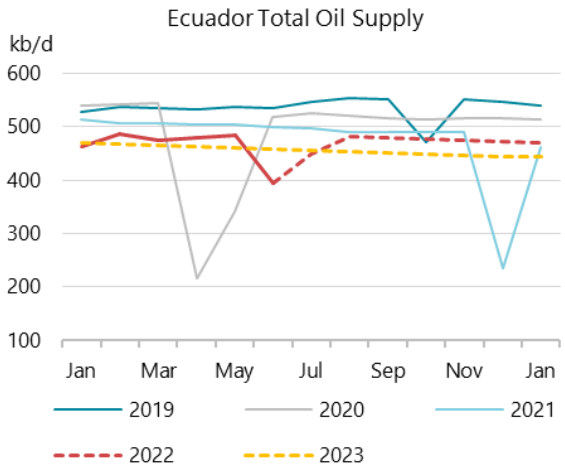
In April, the latest month for which official data from the US Energy Information Administration (EIA) is available, total oil supply fell by 80 kb/d. Two severe late-season winter storms took an average 210 kb/d of North Dakota output offline for the month. This loss was partially offset by the GoM, where three recently started projects – Murphy Oil's King's Quay, BP's Herschel expansion and Shell's PowerNap; helped increase offshore production by 70 kb/d m-o-m.

In May, **Canadian** supply fell by 160 kb/d, according to data from the Alberta Energy Regulator (AER) and the Canada-Newfoundland & Labrador Offshore Petroleum Board (C-NLOPB). Reduced upgrader throughput and lower bitumen volumes were partly offset by increased NGLs. In June, as oil sands returned from spring maintenance, production is expected to have increased by 250 kb/d to 5.7 mb/d. In 2H22, Canadian output grows to average 5.9 mb/d, bringing the annual average to 5.8 mb/d, up 200 kb/d y-o-y.



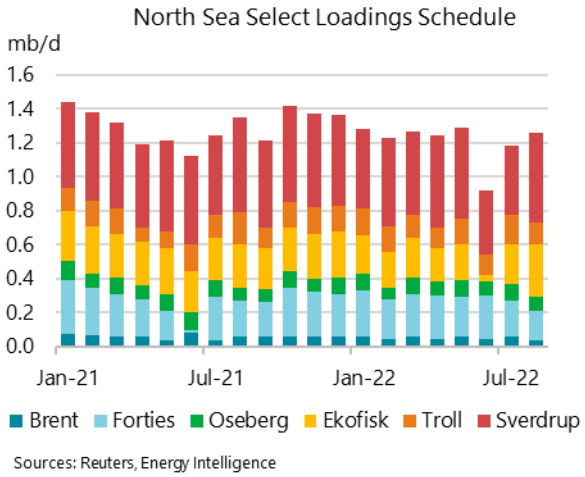
Brazilian output declined by 80 kb/d in June to 2.9 mb/d according to provisional daily data from the Agencia Nacional do Petroleo (ANP). The drop was primarily due to continued downtime at the Tupi oilfield during the first half of the month. Supply is expected to increase and average 3.1 mb/d on the year as Mero and two Tupi Floating Production Storage and Offloading (FPSO) vessels continue to ramp up. As additional FPSOs come online next year, Brazil's output is expected to increase by a further 180 kb/d to average 3.3 mb/d.





Elsewhere in Latin America, production fell 60 kb/d m-o-m in June as protests over rising living costs, particularly fuel, in **Ecuador** shut in 90 kb/d on the month. An agreement was reached in late June and government data show that as of 7 July output was back to pre-protest levels of 480 kb/d. Part of the agreement was to repeal Executive Decree 95, which sought to double Ecuador's oil supply through further deregulation. This does not change our Ecuadorian forecast as we did not see a clear roadmap from the government on implementation of the decree. **Guyanese** loadings from the Liza project were estimated to have increased by 25 kb/d while **Argentina, Colombia** and **Peru** were flat on balance.

North Sea loadings (as measured by BFOE plus Troll and Johan Sverdrup) are scheduled at 1.3 mb/d for August, extending July's 270 kb/d gains by a further 80 kb/d. Johan Sverdrup volumes are expected to fully recover following June/July maintenance. Ekofisk loadings are reported to be 30% higher than the previous six-month average. **UK** supply was down in June by 60 kb/d m-o-m to 800 kb/d. Production is expected to recover in July-August and average 880 kb/d on the year. Next year, even as over 70 kb/d of new production comes online it won't offset natural decline and UK output is expected to sag by 40 kb/d to 840 kb/d.



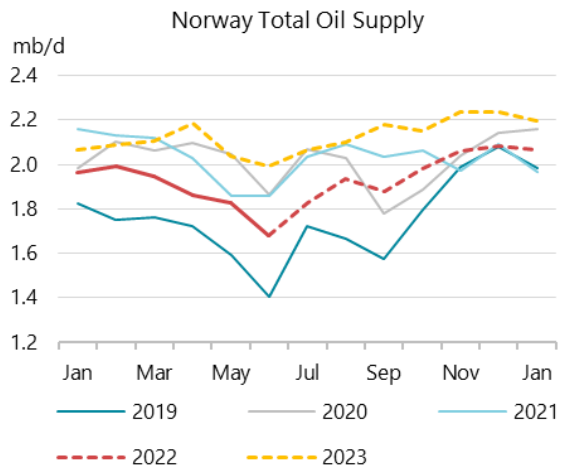
Sources: Reuters, Energy Intelligence

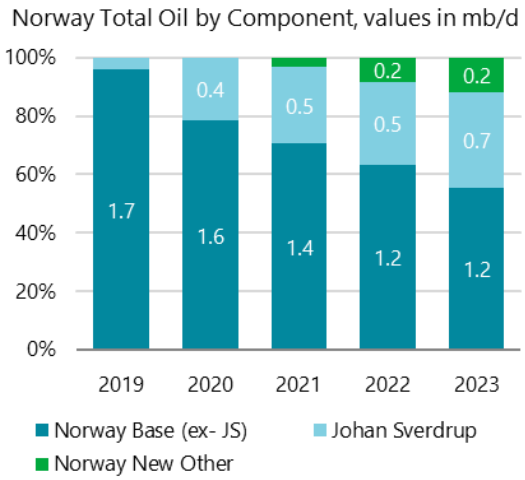
Data from the **Norwegian** Petroleum Directorate show output in May was down 30 kb/d to 1.8 mb/d. June volumes fell by another 150 kb/d to 1.7 mb/d as maintenance at Johan Sverdrup

and in the Greater Ekofisk Area was partially offset by the return of Edvard Grieg and Ivar Aasen after an unplanned outage moved some of the autumn maintenance earlier in the year.

On 5 July, offshore oil and gas workers went on strike over pay. The union's plan was to take more platforms offline as the week went on, but the Norwegian government intervened with forced settlement on the first day of the strike. Approximately 70 kb/d of oil across three fields was affected by the action with production returning within a few days.

In the second half of the year, autumn maintenance will temporarily reduce volumes but supply grows as a trio of projects, including Johan Sverdrup Phase 2, all produce first oil. Norway is expected to exit the year at 2.1 mb/d with total oil output averaging 1.9 mb/d on the year. By next year, the massive Johan Sverdrup project is expected to make up one-third of all Norwegian oil. As it and other projects continue to ramp up through 2023, gains of 200 kb/d y-o-y are expected to lift average production to 2.1 mb/d.



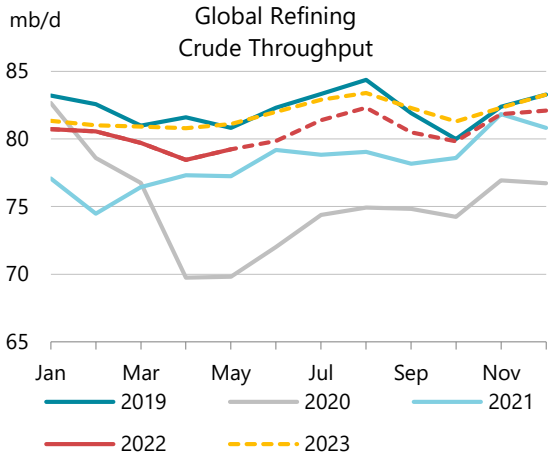


Elsewhere in the world, Shell's Prelude facility in **Australia** has been disrupted since mid-June due to union work bans, taking 10 kb/d of NGLs off the market. **Uzbekistan's** GTL (UzGTL) plant continues to fine tune its 40 kb/d operations after it began synthetic crude production in June. UzGTL is the third largest GTL plant in the world and will help the landlocked country utilise its gas reserves for domestic synthetic oil supplies and energy security. **Ghana** loadings continued to rebound after the Jubilee field returned from April maintenance. June volumes were up 30 mb/d m-o-m, to 180 kb/d. In non-OECD Asia, **Chinese** supply rose by 40 kb/d to 4.3 mb/d, while **India**, **Indonesia** and **Thailand** continued along established declines.

Refining

Overview

Global refinery runs rose by 600 kb/d in June as maintenance wound down, while product prices and margins marched on to new highs. At 79.7 mb/d, throughputs were 1.4 mb/d higher than April's seasonal low, but with refined product demand increasing one and a half times as fast over the same period, the gap between product supply and demand widened.



With the seasonal ramp-up set to continue through August, when global runs are expected to hit their 2022 peak at 82.2 mb/d, there is still some hope of product inventory replenishment in 3Q22, before the usual fourth-quarter stock draws. Refinery activity will remain constrained by a lack of operable spare capacity, currently concentrated in China. The US and India are already running at very high utilisation rates. In China, however, oil trade regulations and ongoing lockdowns have capped refining activity. In the January-May period, Chinese refinery runs fell by 700 kb/d y-o-y on average and, despite recovering in 2H22, they are still forecast to decline by 460 kb/d on average in 2022.

Global Refinery Crude Throughput[1]
(million barrels per day)

	2019	2020	2021	1Q22	May-22	Jun-22	2Q22	Jul-22	Aug-22	Sep-22	3Q22	4Q22	2022	2023
Americas	**19.2**	**16.6**	**17.8**	18.4	18.7	19.4	18.8	19.4	19.1	18.2	18.9	18.6	**18.7**	**19.2**
Europe	**12.2**	**10.7**	**11.0**	11.1	11.5	11.3	11.4	11.6	11.9	11.6	11.7	11.8	**11.5**	**11.5**
Asia Oceania	**6.8**	**5.9**	**5.8**	6.2	5.9	5.4	5.8	5.8	6.1	6.0	6.0	6.0	**6.0**	**5.9**
Total OECD	**38.1**	**33.2**	**34.5**	35.7	36.1	36.1	36.1	36.8	37.2	35.8	36.6	36.4	**36.2**	**36.6**
FSU	**6.8**	**6.4**	**6.7**	6.6	5.8	6.2	5.9	6.0	6.0	5.6	5.9	5.7	**6.0**	**5.2**
Non-OECD Europe	**0.5**	**0.4**	**0.4**	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	**0.4**	**0.4**
China	**13.4**	**13.7**	**14.4**	14.3	13.0	13.5	13.2	13.8	14.0	14.2	14.0	14.2	**13.9**	**14.4**
Other Asia	**10.3**	**9.3**	**9.5**	10.4	10.7	10.3	10.4	10.5	10.8	10.6	10.6	10.7	**10.5**	**11.0**
Latin America	**3.2**	**3.0**	**3.2**	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.4	**3.4**	**3.5**
Middle East	**7.8**	**7.1**	**7.6**	7.7	8.0	7.9	7.9	8.3	8.5	8.3	8.3	8.3	**8.1**	**8.7**
Africa	**2.0**	**1.9**	**1.8**	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	**1.9**	**2.0**
Total Non-OECD	**44.0**	**41.9**	**43.7**	44.5	43.1	43.7	43.0	44.5	45.1	44.6	44.7	44.7	**44.2**	**45.2**
Total	**82.1**	**75.0**	**78.2**	80.2	79.1	79.7	79.1	81.3	82.2	80.4	81.3	81.1	**80.4**	**81.8**
Year-on-year change	***-0.2***	***-7.1***	***3.1***	*4.3*	*2.0*	*0.7*	*1.3*	*2.6*	*3.3*	*2.3*	*2.7*	*0.8*	***2.3***	***1.3***

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

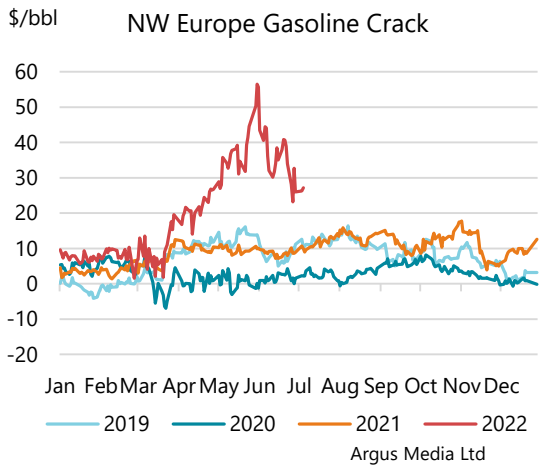
In the current circumstances, there is more downside risk to our throughput forecast than upside potential. Bringing back mothballed refineries involves serious financial commitment and lengthy rehabilitation work. With inventory cover thinned after extensive drawdowns, the most immediate relief for overstretched global product markets could only come from demand-side measures or "natural" demand destruction (see *Demand*).

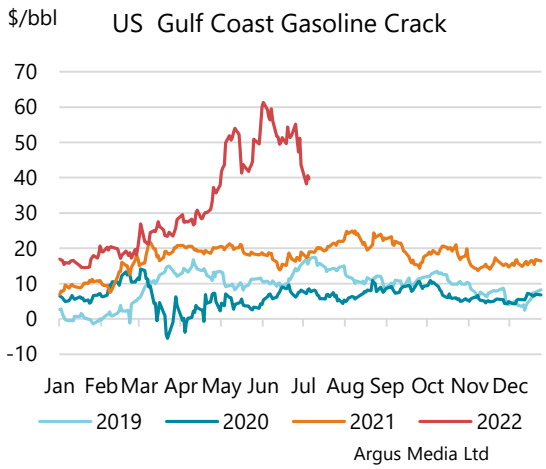
Product cracks and refinery margins

Crude oil prices rose by between $5-10/bbl on average in June, but premium transport fuel cracks were even more elevated. While most of the cracks fell from daily records observed in May, monthly average cracks in June were substantially higher than in the previous month.

Product Prices and Differentials ($/bbl)

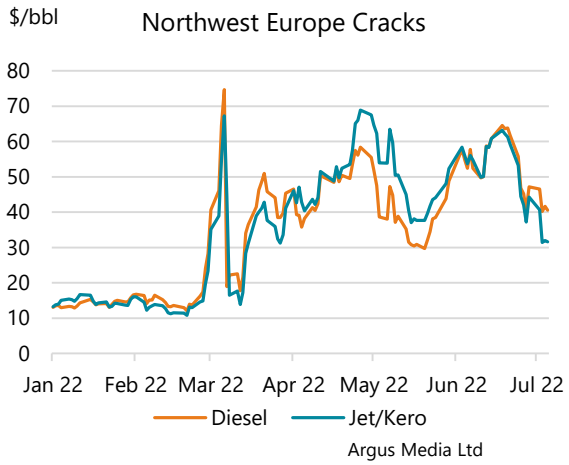
	Prices			Differentials				Week Starting				
	Apr	May	Jun	Apr	May	Jun	May-Jun chg	06-Jun	13-Jun	20-Jun	27-Jun	04-Jul
Northwest Europe				to North Sea Dated								
Gasoline	125.39	148.24	162.92	21.14	35.33	39.09	3.77	45.64	32.80	38.08	32.99	28.01
Diesel	151.26	151.68	178.75	47.01	38.76	54.92	16.16	54.99	55.56	63.40	47.10	42.24
Jet/Kero	154.57	161.88	178.11	50.33	48.96	54.29	5.33	55.75	55.53	61.47	44.23	33.91
Naphtha	101.89	99.84	90.20	-2.36	-13.08	-33.63	-20.55	-33.60	-38.16	-30.05	-32.38	-24.11
HSFO	90.60	96.80	91.28	-13.64	-16.12	-32.55	-16.43	-32.55	-33.12	-30.95	-35.67	-41.44
0.5% Fuel Oil	120.82	121.31	135.92	16.58	8.39	12.10	3.70	14.76	8.18	11.38	12.84	5.63
North Sea Dated crude oil price				*104.25*	*112.92*	*123.83*	10.91	*126.97*	*126.60*	*118.51*	*121.89*	*113.27*
US Gulf Coast				to WTI Houston								
Gasoline	133.04	157.34	169.71	30.11	46.55	53.88	7.33	57.70	50.83	51.87	51.42	40.52
Diesel	160.19	163.46	179.48	57.26	52.67	63.65	10.99	61.32	68.03	70.79	57.79	47.88
Jet/Kero	156.92	161.46	171.69	54.00	50.66	55.86	5.20	51.96	61.80	63.44	50.45	40.95
Naphtha	102.00	101.48	111.82	-0.92	-9.31	-4.01	5.30	-6.11	-6.11	-1.14	-3.87	-12.89
HSFO	89.41	94.62	94.92	-13.51	-16.18	-20.91	-4.74	-22.89	-22.18	-20.51	-18.26	-21.60
0.5% Fuel Oil	127.06	131.87	140.31	24.13	21.07	24.48	3.41	24.90	25.76	24.46	23.40	23.81
WTI Houston crude oil price				*102.93*	*110.80*	*115.83*	5.03	*121.42*	*117.43*	*110.37*	*110.43*	*103.16*
Singapore				to Dubai								
Gasoline	123.18	140.99	149.10	19.55	32.05	35.03	2.98	33.31	33.89	39.07	33.11	21.80
Diesel	148.30	153.41	177.35	44.66	44.47	63.28	18.80	58.55	64.43	72.49	58.68	47.99
Jet/Kero	133.96	142.90	165.10	30.32	33.97	51.03	17.06	49.15	53.03	58.23	44.16	33.81
Naphtha	97.40	95.76	85.42	-6.24	-13.17	-28.65	-15.48	-29.52	-33.13	-26.08	-24.97	-17.54
HSFO	103.97	98.44	92.45	0.34	-10.50	-21.62	-11.12	-24.62	-21.10	-19.87	-22.16	-27.48
0.5% Fuel Oil	124.83	136.42	155.05	21.19	27.49	40.98	13.50	42.48	38.40	41.25	42.74	43.32
Dubai crude oil price				*103.64*	*108.93*	*114.07*	*5.14*	*117.66*	*116.98*	*108.57*	*111.91*	*104.92*

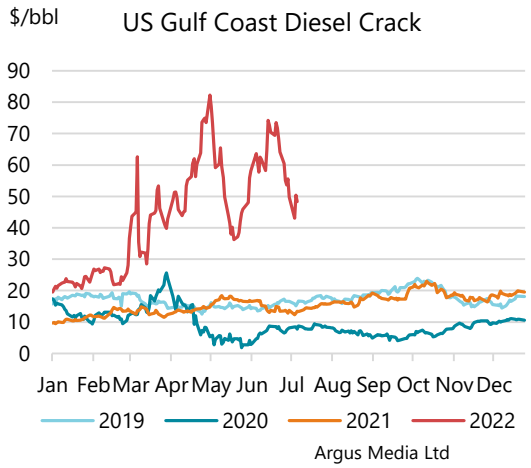




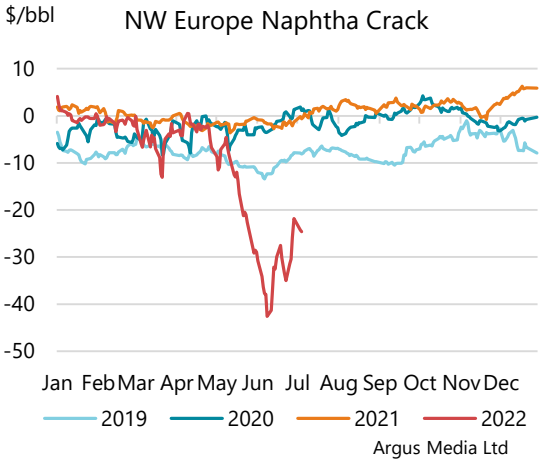
Over the course of June, US gasoline cracks eased by around $20/bbl from record levels above $60/bbl reached early in the month due to higher refinery output combined with a seasonal fall in gasoline demand after the Memorial Day weekend. European gasoline cracks fell below $30/bbl at the end of June, driven by higher crude oil prices.

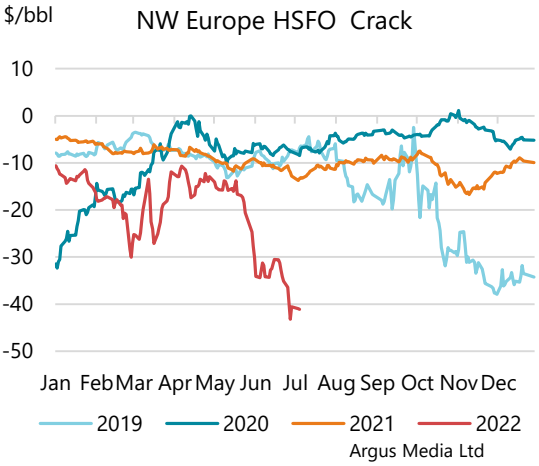
Jet fuel cracks were finally overtaken by diesel cracks in Europe, as an extended period of jet premiums over diesel likely encouraged refiners to swing yields in favour of the latter. In the US and Singapore, diesel cracks lead the refined product complex by a large margin.





Naphtha and fuel oil extended their discounts to crude oil. Naphtha cracks in Europe and Singapore fell to new historical lows and were even below high-sulphur fuel oil cracks. Both these products, particularly naphtha, have end-user demand that is sensitive to the absolute level of prices (see *Faltering petrochemicals stymie naphtha demand*).



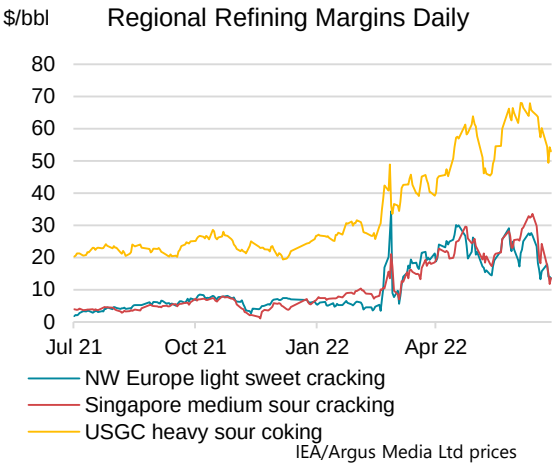


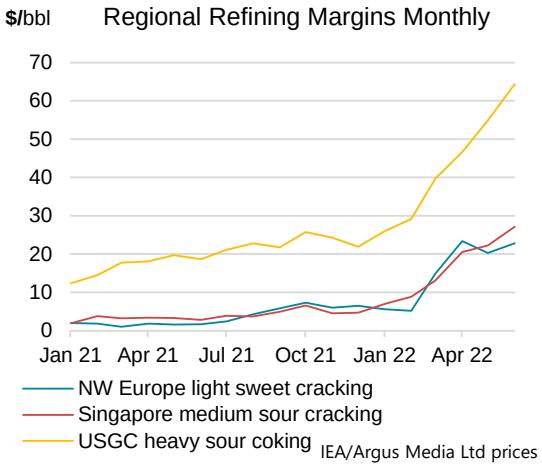
Refinery margins increased further in June on a monthly average basis, with the exception of light sweet hydroskimming margins in Northwest Europe, which were affected by lower naphtha cracks. We have revamped our refinery margins methodology to include cracking margins with petrochemical components (See *New refinery margins methodology*). These margins, calculated for Northwest Europe and Singapore hubs, climbed at a faster rate in June than conventional refinery margins. Petrochemical margins offered about $5/bbl in extra earnings in Europe and $2/bbl in Singapore.

In absolute terms, Urals-based margins were the highest in Europe, but in the US, coking refiners in the Midcontinent or the Gulf Coast, running heavy sour grades, were able to earn even more.

IEA Global Indicator Refining Margins										
	Monthly Average				Change	Average for week starting:				
$/bbl	Mar 22	Apr 22	May 22	Jun 22	May - Jun	06 Jun	13 Jun	20 Jun	27 Jun	04 Jul
NW Europe										
Light sweet hydroskimming	9.15	17.09	14.71	14.11	-0.59	15.22	12.88	17.66	9.39	6.66
Light sweet cracking	14.89	23.39	20.31	22.79	2.48	24.51	21.02	27.21	17.34	14.87
Light sweet cracking + Petchem	16.68	28.08	23.75	27.56	3.81	29.23	26.04	31.95	21.81	18.24
Medium sour cracking	44.05	60.08	57.87	60.28	2.40	63.44	58.64	64.10	52.96	48.24
US Gulf Coast										
Light sweet cracking	22.03	31.38	37.83	45.12	7.29	45.81	45.06	47.22	41.90	32.52
Medium sour cracking	31.78	39.42	45.88	56.49	10.61	56.23	57.72	60.19	52.30	41.71
Heavy sour coking	39.70	46.64	54.86	64.39	9.53	64.75	65.81	65.76	61.01	52.73
Singapore										
Light sweet cracking	11.19	16.27	15.50	24.03	8.53	20.10	22.66	30.59	23.87	16.44
Light sweet cracking + Petchem	12.11	18.47	17.00	26.32	9.32	22.18	25.17	33.21	25.75	17.66
Medium sour cracking	13.13	20.50	22.26	27.10	4.84	25.28	27.15	32.26	23.45	15.83
Medium sour cracking + Petchem	14.04	22.67	23.74	29.37	5.62	27.34	29.64	34.84	25.30	17.04

Note: Mediterranean and US Midcontinent margins are available in Table 15 of this *Report*
Source: IEA/Argus Media Ltd prices





Box 4. New refinery margins methodology

In this month's *Report*, we introduce a new refinery margins methodology that better reflects the evolution of refinery crude diet, yields and pricing observed in recent years. In addition, we have included hydrogen and emission allowances costs, where applicable, and integrated petrochemical margins for two hubs. We believe that with these changes, the new margins more accurately reflect refinery costs and earnings. However, they remain strictly indicative and do not include the full spectrum of energy costs (purchased steam, electricity, etc), as well as other non-energy variable costs (such as chemicals or catalysts) or capital expenditures.

Refinery configuration. We have selected two or three types of refinery configurations per region, based on the characteristics of existing refinery capacity. For example, coking facilities are not very common in Northwest Europe, while hydroskimming refineries are rare in the US. Our main purpose

is to track a hypothetical average refinery, based on prevailing crude diets and typical product outputs in each refining centre. Yields take into account both long-term structural changes and the impact on demand and refinery operations/product configurations and will be reassessed on an annual basis.

Crude grades. Instead of tying refinery margin calculations to a specific grade, our new methodology is based on types of crude. We consider light sweet, medium sour and heavy sour grades, which may be a chronological composite of several crude grades that reflect evolving crude oil supply and trade dynamics. For example, Singapore light sweet grade is composed of Tapis quotes until mid-2019 and then replaced by WTI quotes on a cost and freight (CFR) Singapore basis. We have similar developments in product prices where different diesel or gasoil quotes are concatenated to form continuous time series of diesel prices. Our crude oil, refined products, freight and natural gas composite price series have been developed in consultation with leading energy and commodity price reporting agency *Argus*, our market data provider.

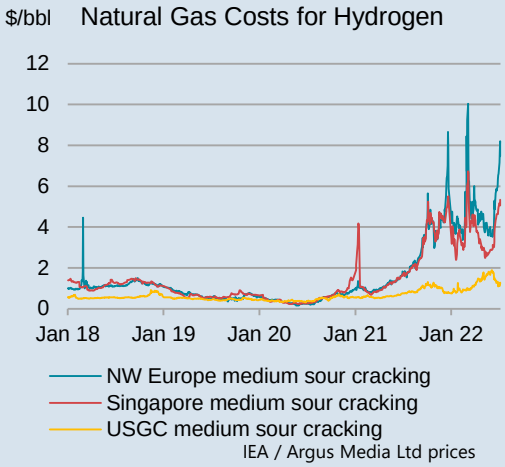
Crude types with respective grades	
NWE light sweet	North Sea Dated
NWE medium sour	Urals
MED light sweet*	Saharan Blend
MED medium sour*	Basrah Medium
USGC light sweet	WTI
USGC medium sour	Mars
USGC heavy sour*	WCS
USMC light sweet	WTI
USMC heavy sour*	WCS
Singapore light sweet*	WTI
Singapore medium sour	Dubai
Singapore heavy sour*	Basrah Heavy

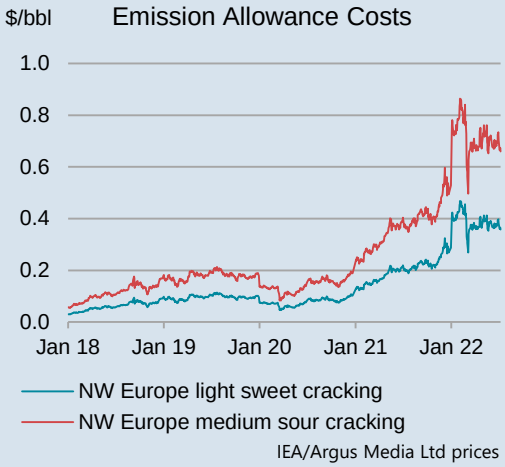
*Composite types, preceded by one or more other crude quotes

Energy costs. A significant change compared to our previous methodology is the treatment of energy costs. Now they are explicitly calculated from refinery fuel use and hydrogen production from natural gas whereas previously they were assumed in processing losses. This did not result in visible baseline changes to historical margins, with the two methods of energy cost calculation being roughly equivalent. However, with the surging costs of natural gas starting in 4Q21, the impact of energy costs is higher in the new methodology.

We model hydrogen requirements by crude type and refinery configuration. By-product hydrogen from reformer and naphtha cracker units is taken into account as "free" hydrogen supply. The residual hydrogen needs are modelled as production from steam methane reformers, using natural gas as a feedstock. The hydrogen cost used in the refinery margin calculations includes only the natural gas feedstock costs. Our light sweet hydroskimming and cracking margin models show no need for on-purpose hydrogen production, with the by-product hydrogen sufficient to cover the relatively modest requirements (compared to medium-sour cracking).

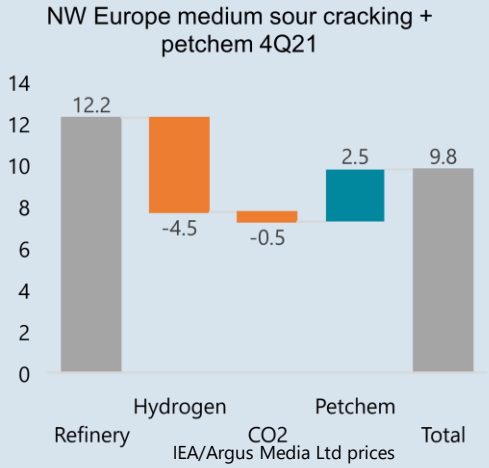
Carbon dioxide emissions from hydrogen production are aggregated with the emissions from refinery energy consumption, and used as the basis for calculating refinery emission allowance costs for the Northwest Europe and Mediterranean refining hubs. The European Environment Agency's (EEA) emissions trading data are used for historical calculations. We model 2022 emissions and free allocations based on our throughput forecast and 2021 emissions intensity. This will be updated for 2022 after the EEA publishes the data in 2Q23.

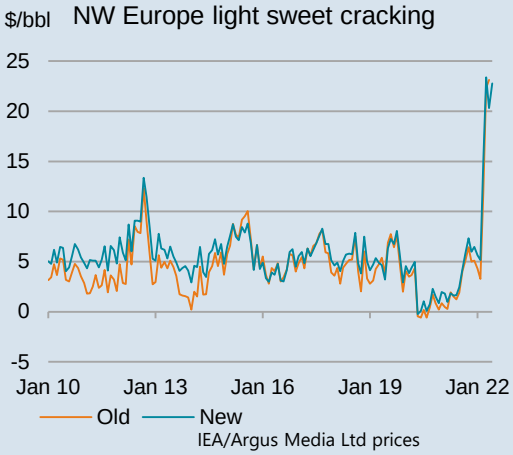




Petrochemical margins. To quantify the contribution from integrated petrochemical operations, we have introduced a simplified petrochemical margin component for Northwest Europe and Singapore. It assumes that naphtha produced in the refinery is used as feedstock in an integrated cracker (except for volumes diverted to gasoline production). By-product hydrogen is accounted for as "free" hydrogen supply for refinery uses and is reflected in savings on natural gas purchases. Petrochemical margins offer an overwhelmingly positive contribution to refinery economics, even as they have come under pressure more recently due to overcapacity in the petrochemical sector and the general tendency of petrochemical prices to lag oil price movements.

In general, the updated yields, prices and more specific calculation of energy costs resulted in a positive difference in historical values between the new and old margins methodology. However, this positive gap has shrunk since 4Q21, due to the high natural gas and emission allowance prices.

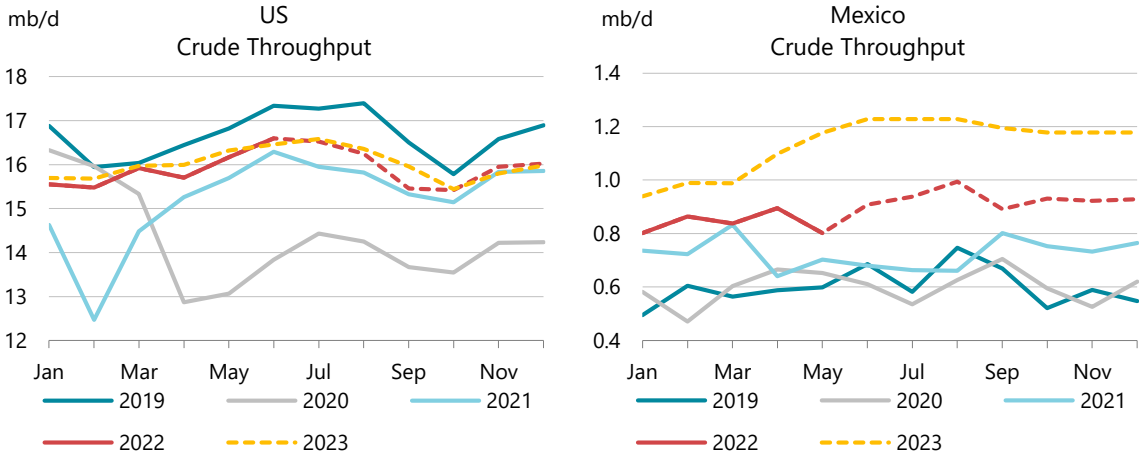




A more detailed description of the IEA refinery margins methodology, including yields tables, will be published on our website shortly after the release of this Report. Comments and suggestions are welcome and will be considered. Historical monthly refinery margins will be made available to the Oil Market Report subscribers on our website.

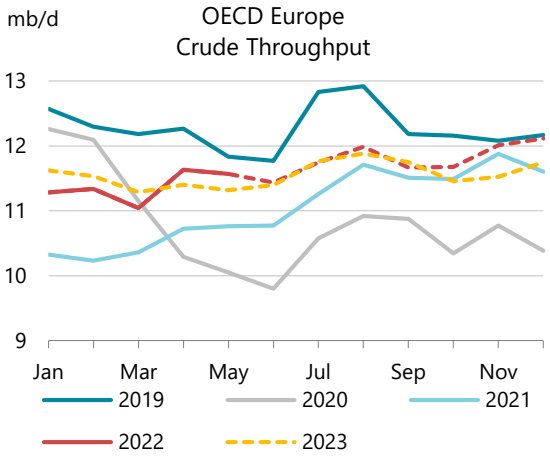
Regional refining developments

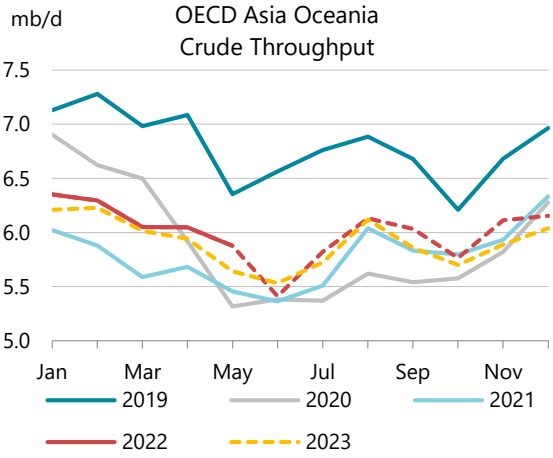
US refinery runs continued strong m-o-m gains in June, up 430 kb/d to 16.5 mb/d with average utilisation rates reaching 94%. We have slightly revised down our forecast for July due to an outage at the largest refinery in the country, Aramco's 600 kb/d Motiva plant in Texas. US throughputs are forecast to hold steady in July before falling in August and September due to assumed hurricane shutdowns on the Gulf Coast. The United States has been one of the very few advanced economies that has continued building refinery capacity in the recent decade, fuelled by the shale boom. Since 2012, the country has added 1.2 mb/d of new capacity, with another 300 kb/d to come online over the next two years. However, capacity closures have been larger, at almost 2 mb/d during the same period. Reasons have varied from unprofitable operations, accidents, conversions to bio-refineries or changes in corporate strategy.



Mexican refinery throughputs fell by 100 kb/d in May to 790 kb/d. The 330 kb/d Olmeca refinery was officially inaugurated in early July despite uncompleted works. It may not start commercial operations until 2023.

European runs data were revised higher in April, to 11.5 mb/d. May preliminary data were stronger than our expectations and just 70 kb/d lower m-o-m. We have adjusted down our June estimates due to strikes in **France** and accidents or prolonged shutdowns elsewhere. **Austria's** sole 210 kb/d Schwechat refinery suffered serious damage to its crude distillation unit in June when restarting from a maintenance outage. OMV, the operator, expects it to come back online in late 3Q22. The government released strategic stocks of gasoline and diesel to alleviate fuel shortages. The accident, combined with planned maintenance at refineries in **Hungary** and **Lithuania**, had a particularly strong impact on product supply chains all over central and eastern Europe, aggravated by port constraints in **Romania** and **Bulgaria**. At the end of June, the Bayernoil refinery in **Germany** suffered a one-week outage due to damage from a lightning strike.





In OECD Asia, runs started falling in May in line with seasonal trends, down by 170 kb/d m-o-m. Runs were forecast to decline by a further 470 kb/d to 5.4 mb/d in June on peak summer maintenance, before recovering in July.

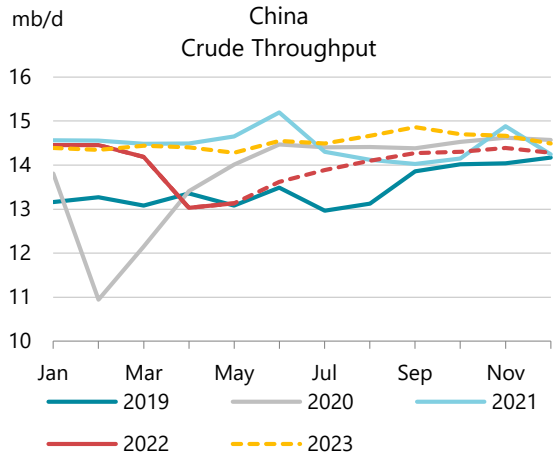
Refinery Crude Throughput and Utilisation in OECD Countries
(million barrels per day)

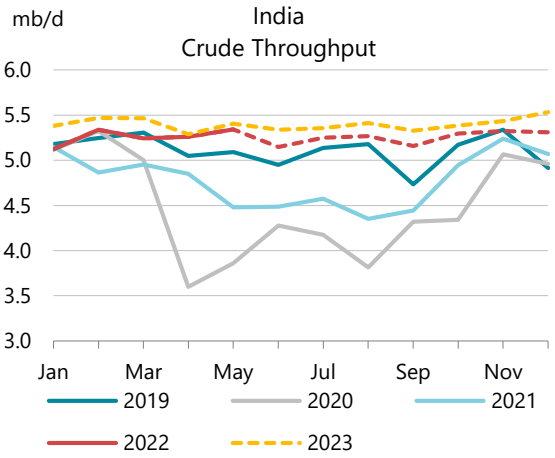
							Change from		Utilisation rate	
	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	*Apr 22*	*May 21*	May 22	May 21
US[1]	15.76	15.45	15.38	15.82	15.60	16.07	0.46	0.47	91%	87%
Canada	1.82	1.80	1.84	1.76	1.79	1.74	-0.05	0.27	92%	73%
Chile	0.19	0.19	0.21	0.21	0.19	0.14	-0.05	-0.04	60%	73%
Mexico	0.76	0.79	0.85	0.83	0.89	0.79	-0.09	0.10	48%	75%
OECD Americas[1]	**18.52**	**18.23**	**18.28**	**18.62**	**18.46**	**18.73**	**0.27**	**0.78**	**88%**	**83%**
France	0.78	0.80	0.78	0.80	0.83	0.85	0.02	0.23	74%	55%
Germany	1.88	1.71	1.82	1.72	1.90	1.78	-0.11	0.12	88%	82%
Italy	1.25	1.13	1.11	1.23	1.33	1.46	0.13	0.26	84%	69%
Netherlands	0.95	0.96	0.90	0.88	1.02	1.03	0.01	-0.05	85%	89%
Spain	1.23	1.23	1.22	1.17	1.33	1.37	0.04	0.26	97%	79%
United Kingdom	1.03	1.04	1.02	1.05	1.10	1.08	-0.02	0.14	90%	79%
Other OECD Europe[2]	4.38	4.30	4.39	4.10	4.03	3.89	-0.14	-0.15	80%	79%
OECD Europe	**11.50**	**11.18**	**11.24**	**10.94**	**11.53**	**11.47**	**-0.07**	**0.81**	**84%**	**77%**
Japan	2.93	2.85	2.82	2.72	2.72	2.64	-0.08	0.50	77%	62%
Korea	2.81	2.91	2.87	2.78	2.80	2.76	-0.05	0.10	78%	75%
Other Asia Oceania[3]	0.58	0.58	0.59	0.54	0.51	0.47	-0.04	-0.18	73%	89%
OECD Asia Oceania	**6.32**	**6.34**	**6.29**	**6.04**	**6.04**	**5.87**	**-0.17**	**0.42**	**77%**	**71%**
OECD Total	**36.35**	**35.76**	**35.80**	**35.60**	**36.03**	**36.07**	**0.03**	**2.00**	**85%**	**79%**

1 US includes US50, OECD Americas include Chile and US territories
2 Includes Lithuania
3 Includes Israel

China reported slightly higher throughputs in May, at 12.7 mb/d, but our estimate stands at 13 mb/d. Runs are forecast at 480 kb/d higher in June based on industry surveys. We have revised historical data and made new adjustments to our methodology, on the basis of the 2020 energy balances that China's National Bureau of Statistics submitted to the IEA for our upcoming *World Energy Balances 2022* publication. Throughputs for 2020 were revised down by 40 kb/d. The gap between monthly reported and annual throughput numbers in that year was 350 kb/d while we had assumed 390 kb/d. We have applied the 350 kb/d difference to 2021 and 2022 reported monthly statistics, which is higher than the previous adjustment we were making to the monthly series. As a result, 2021 throughputs are revised up by 135 kb/d, and January-April 2022 is revised higher by 225 kb/d. The gap between monthly and annual data comes from the difference in

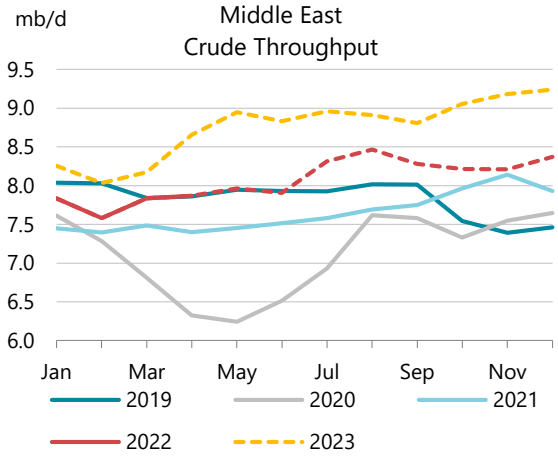
coverage, with the annual statistics having a larger scope of reporting entities and activities. The government issued the third, and normally, the last batch of refined product exports quotas for this year. Cumulative allocations now stand 40% lower than in 2021. Actual product exports in January-May were 45% below pre-Covid levels.

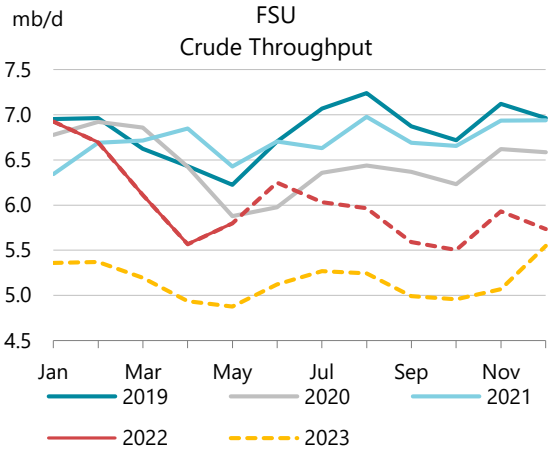




Indian refinery throughput reached a nominal record in May at 5.33 mb/d (just 2 kb/d more than the previous high). Refineries operated at 96%, one of the highest run rates globally. The government introduced on 1 July export taxes for diesel and gasoline, equivalent to $26/bbl and $12/bbl, respectively, to tackle episodic product shortages. While not setting export quotas, the government will now require exporters to supply at least 23% of the produced diesel and a third of gasoline volumes to the domestic market. In principle, domestic sales currently take up more than half of the country's diesel and gasoline output. However, exports previously came predominantly from private refiners Reliance and Nayara, which together account for 40% of the country's refinery output. Readjustment of their product supply may result in export cuts. India is the third largest diesel and gasoline exporter in the world, behind the US and Russia.

April runs in the Middle East were steady from March levels, at 7.9 mb/d. **Oman** started up the boiler unit of the 230 kb/d Duqm refinery project, which is expected to begin commercial operation start in 1Q23.





Russian throughputs rose by 420 kb/d m-o-m in June, to 5.4 mb/d, its highest since February when the invasion of Ukraine was launched. Rosneft reportedly restarted its 240 kb/d Tuapse

refinery last month, after a three-month outage due to product storage bottlenecks. The refinery exports through the Black Sea, and was the first to cut activity due to US sanctions and Black Sea shipping issues. In June, data showed increased product and decreased crude loadings from the Black Sea ports in Russia (see *Russia continues to earn more by exporting less oil*).

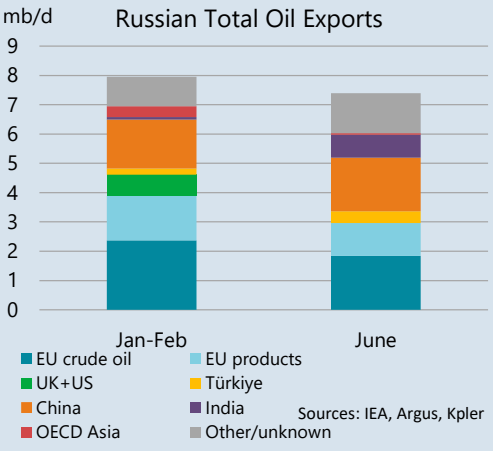
Kazakhstan reinstated a ban on exports of clean petroleum products in June for another six months as the domestic market continues to experience tight supplies. Substantial fuel smuggling is going on in border regions with neighbouring countries that do not regulate road fuel prices. Aviation fuel is also in tight supply, with imports from Russia required to cover the gap. One of the three main refineries in Kazakhstan started planned maintenance in early July. The Almaty airport, the largest in the country, announced that it would temporarily stop accepting transit airplanes for refuelling due to a shortage of jet kerosene.

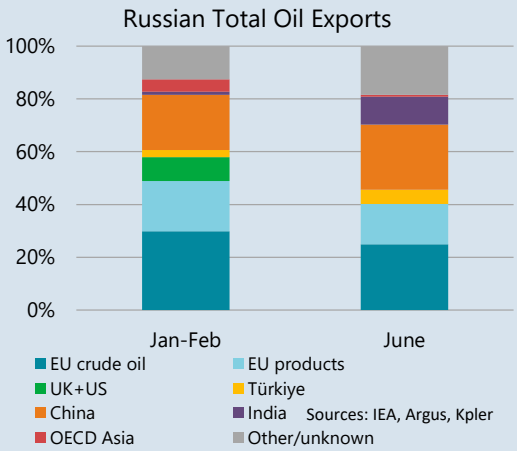
Belarus throughput data was last published in April 2021 in JODI. Since then, we use Russian data for exports to the Commonwealth of Independent States (CIS) as a basis to estimate the country's refining activity. There has been a noticeable slowdown since the start of the war due to both planned outages and loss of export markets. Refining activity is estimated at 180 kb/d in June vs 280 kb/d at the start of the year. Ukraine was the largest export destination for Belarus products. Exports to other destinations have to go through Russia as Lithuania and Latvia have banned transit due to EU sanctions on Belarus.

Box 5. Russia continues to earn more by exporting less oil

Russian oil exports in June fell by 250 kb/d m-o-m to 7.4 mb/d, the lowest since August 2021. Meanwhile, export revenues climbed back above the $20 billion mark, increasing by $700 million m-o-m on higher oil prices. Compared to a post-war peak level in April, total Russian oil exports in June were down 530 kb/d, or 7%, but export revenues were up by $2.3 billion, or 13%.

In June, the fall in export volumes was led by crude oil while product shipments were relatively stable at 2.4 mb/d. Crude oil exports were down by 250 kb/d to just above 5 mb/d, still slightly higher than the pre-war average level.



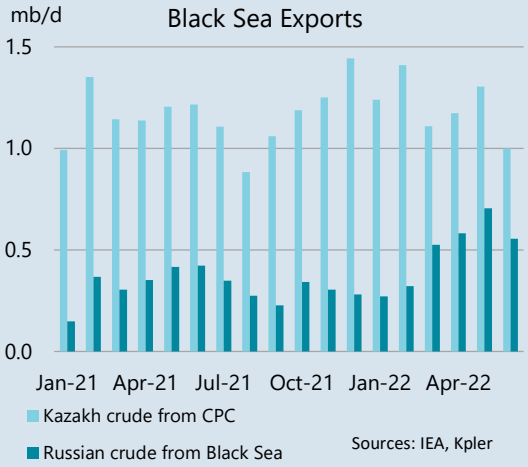


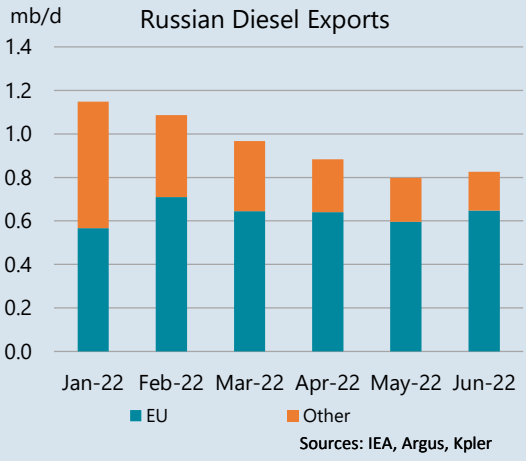
Shipments to the European Union fell below 3 mb/d for the first time since November 2020 when trade was affected by OPEC+ cuts and pandemic-induced lower demand. Crude oil loadings to EU destinations fell 190 kb/d m-o-m to 1.8 mb/d. This was partially due to lower offtake on the

Druzhba pipeline due to maintenance at a Hungarian refinery in June. Product loadings to the European Union fell by 135 kb/d to 1.13 mb/d. Overall, the EU share of Russian oil exports slipped to 40%, compared to 49% in January-February.

Loadings to China and India fell by 175 kb/d each compared to May. However, with volumes to "unknown" destinations also up by 540 kb/d, it is too early to say if there has been a real fall in exports to China and India since destination information for longer voyages may take several weeks to finalise.

The fall in crude oil volumes came mostly from lower loadings on the Black Sea, where exports were down by 150 kb/d m-o-m. Rosneft's 240 kb/d Tuapse refinery in the Black Sea region reportedly came back online in June after a three-month shutdown following the halt of product and secondary feedstock shipments to the US. Russian crude oil exports from Black Sea ports have increased substantially since the start of the war while Kazakh crude oil loadings have been affected by CPC terminal issues.





Total product exports out of Russia were relatively unchanged in June. Diesel exports increased slightly m-o-m to 825 kb/d, 300 kb/d lower than the pre-war average. Diesel Loadings to EU countries ticked up to 650 kb/d, returning to January-February average levels.

Brazil's president announced in early July a deal to directly import Russian diesel in a bid to lower prices in the country. In the recent weeks and months Brazil diesel importers have been publicly mulling buying diesel on FOB terms, rather than delivered at place type of contracts, to get better prices. Direct flows of all Russian oil products to Brazil are just 25 kb/d une, according to data from *Kpler*, or 5% of Brazil's imports, and shipments from the Amsterdam-Rotterdam-Antwerp hub are too low to conclude that any substantial amount of Russian product is re-exported from there to Brazil. Brazil imports 250 kb/d of diesel, mostly from the US and India. This is equivalent to 30% of current Russian diesel exports, and would be a significant development in the reorientation of trade flows. However, the EU insurance ban may pose significant logistical challenges to facilitate these trade flows.

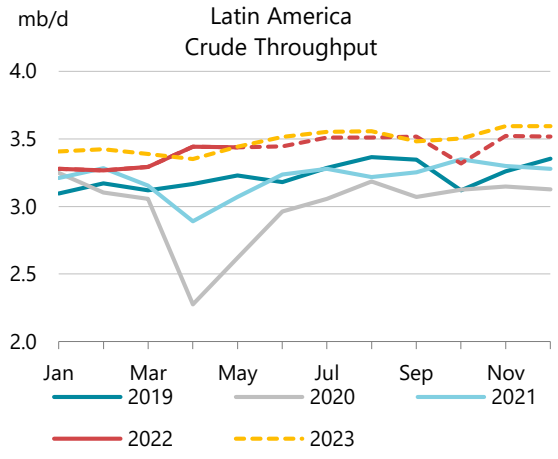
Russian Oil Exports (mb/d)							
	2021 avg	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
EU crude oil	2.1	2.3	2.4	2.1	2.1	2.0	1.8
EU products	1.3	1.5	1.6	1.3	1.4	1.3	1.1
UK+US	0.7	0.6	0.9	0.2	0.1	0.0	0.0
Türkiye	0.2	0.2	0.2	0.4	0.4	0.3	0.4
China	1.6	1.7	1.6	1.8	1.8	2.0	1.8
India	0.1	0.1	0.1	0.5	1.0	1.0	0.8
OECD Asia	0.4	0.4	0.3	0.3	0.3	0.0	0.1
Other/unknown	1.2	1.1	0.9	1.0	0.9	1.0	1.4
Total exports	**7.5**	**8.0**	**7.9**	**7.7**	**7.9**	**7.6**	**7.4**
Memo							
Pipeline to EU	*0.72*	*0.76*	*0.84*	*0.82*	*0.86*	*0.82*	*0.76*
Pipeline to China	*0.72*	*0.83*	*0.78*	*0.76*	*0.82*	*0.78*	*0.81*
Crude Oil	*4.6*	*4.9*	*4.8*	*5.1*	*5.4*	*5.3*	*5.1*
Oil Products	*2.9*	*3.1*	*3.1*	*2.6*	*2.6*	*2.3*	*2.3*
Estimated export revenues, $bn	*14.6*	*20.2*	*19.6*	*22.2*	*18.1*	*19.7*	*20.4*

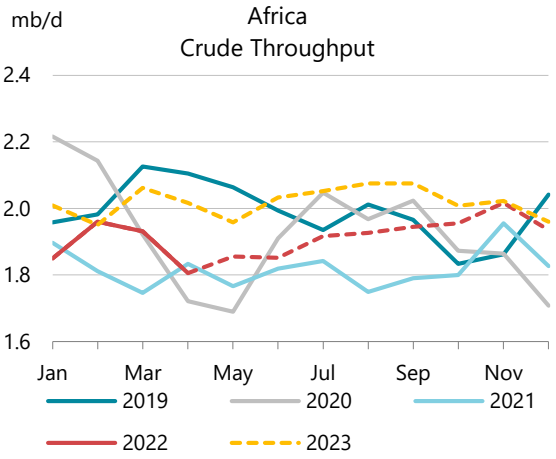
Sources: IEA, Argus, Kpler.

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

In June, for the first time since the effective start of the US embargo on Russian oil imports in April, a cargo from a Russian port was shipped to the US. Trader Vitol delivered Kazakh-origin fuel oil and vacuum gasoil from the Russian port of Taman to US refiner Valero. The vessel was briefly detained by the US Customs and Border Protection, but was released subsequently and allowed to discharge. This episode highlights the difficult nature of tracking Russian oil exports and distinguishing between Russian and other origin crude oil and products where these flows have commingled logistics.

May refinery throughputs in **Brazil** and **Argentina** were stable m-o-m at 1.9 mb/d and 510 kb/d, respectively. **Peru** reported data for the first time since January, showing lower-than-expected runs in the February through April period, implying that Repsol's La Pampilla refinery has not returned to full rates since the oil spill in January. Petroperu restarted the expanded Talara refinery in the second half of April.





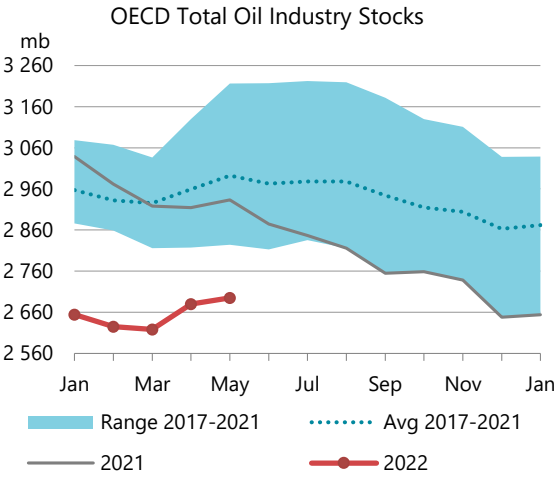
Refinery throughputs in Africa were pegged 130 kb/d lower m-o-m in April. While **Nigeria**'s 650 kb/d Lekki refinery is gearing up for a possible start of operations next year, the country's minister for petroleum resources announced that the long-mothballed 150 kb/d Port Harcourt refinery will be operational by year-end. The refinery is currently undergoing rehabilitation.

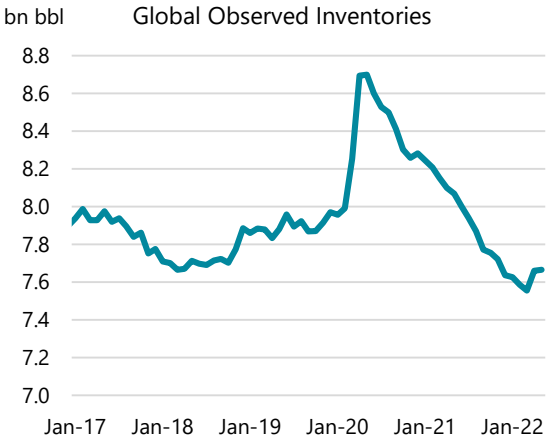
Stocks

Overview

Global observed inventories rose by a modest 5 mb in May following a surge in April of more than 100 mb, led by non-OECD countries. The relatively small stock build in May, however, masks another sharp rise in non-OECD oil inventories (58.5 mb) dominated by a massive 45.5 mb jump in China. By contrast, total OECD inventories fell by 16.9 mb, with a drawdown in government stocks partly offset by higher industry stocks. Oil on water also fell sharply in May (-36.3 mb). The IEA demand-supply balance shows an average stock build of 1 mb/d during 2Q22, the first surplus since 2Q20.

In May, OECD total industry stocks rose by 15.2 mb (490 kb/d), as crude oil, NGL and feedstocks increased by 8.1 mb and petroleum products rose by 7.1 mb. Total OECD stocks stood at 2 691 mb, still 301.3 mb below the 2017-2021 average. In terms of forward demand, industry stocks covered 58.9 days, unchanged from the previous month but 5.5 days less than a year ago.





Sources: IEA, Kayrros, Kpler, S&P Global, Enterprise SIngapore

OECD industry crude oil inventories rose by 6.8 mb in May, in line with the seasonal trend. This was the fourth consecutive monthly increase, representing an average 580 kb/d build since February. OECD Europe showed a strong gain of 12.4 mb, while OECD Americas and OECD Asia Oceania declined by 1.9 mb and 3.7 mb, respectively. NGLs and feedstock inventories rose by 1.3 mb in total.

OECD oil product inventories rose by 7.1 mb, significantly less than the five-year average increase of 23.2 mb for the month. Other oil stocks rose by 22.2 mb on strong gains in OECD Americas. Fuel oil inventories were up by a modest 0.5 mb. Partly offsetting the gains, middle distillate stocks fell counter-seasonally by 1.8 mb, to stand 96 mb below the five-year average. Gasoline stocks slumped by 13.7 mb, a ten-fold decline compared with the seasonal trend.

As part of the IEA's collective release of emergency reserves and separate US SPR stock draws, government stocks of 32.1 mb were released in May across the OECD countries, slightly larger than the 30.2 mb in April. The US made the most significant contribution, at 26.6 mb of crude oil, up from 18.2 mb in the previous month. Korea also made 3.4 mb of crude available to the market

in May. OECD Europe released 2.1 mb, mainly middle distillates. Since the IEA's collective actions were agreed in March and April 2022, an estimated 77.9 mb, or 850 kb/d, has been released. In total, around 260 mb of oil will be made available to the market over the period of March to end-October 2022.

Preliminary data for June show OECD industry oil stocks built by 22.1 mb. Crude oil, NGLs and feedstock inventories rose, in all regions, by 8.3 mb. The US increased by 6.7 mb while Europe and Japan built a mere 0.9 mb and 0.7 mb, respectively. Oil product inventories dominated the gains, surging by 13.8 mb. A build was observed only in the US (+17.4 mb) while stocks drew in Europe (-2.1 mb) and Japan (-1.5 mb). In the US, stocks increased for all product, but particularly for other products (+17.4 mb) due to high refinery throughput and seasonal restocking of propane. By contrast, Japanese inventories declined for all products except middle distillates (+0.3 mb) in line with the seasonal trend. Product stocks in Europe fell by 2.1 mb mainly in fuel oils (-2.1 mb).

Preliminary OECD Industry Stock Change in May 2022 and First Quarter 2022

	May 2022 (preliminary) (million barrels)				May 2022 (preliminary) (million barrels per day)				First Quarter 2022 (million barrels per day)			
	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total
Crude Oil	**-1.9**	**12.4**	**-3.7**	**6.8**	**-0.1**	**0.4**	**-0.1**	**0.2**	**-0.2**	**0.2**	**0.1**	**0.1**
Gasoline	-9.1	-3.8	-0.8	-13.7	-0.3	-0.1	0.0	-0.4	0.1	0.1	0.0	0.1
Middle Distillates	6.9	-5.2	-3.5	-1.8	0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.1	-0.3
Residual Fuel Oil	-0.6	0.5	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Products	19.1	2.4	0.7	22.2	0.6	0.1	0.0	0.7	-0.4	0.0	0.0	-0.4
Total Products	**16.3**	**-6.2**	**-3.0**	**7.1**	**0.5**	**-0.2**	**-0.1**	**0.2**	**-0.5**	**0.1**	**-0.1**	**-0.5**
Other Oils[1]	-1.0	-0.2	2.5	1.3	0.0	0.0	0.1	0.0	0.1	0.1	-0.1	0.0
Total Oil	**13.3**	**6.0**	**-4.1**	**15.2**	**0.4**	**0.2**	**-0.1**	**0.5**	**-0.6**	**0.4**	**-0.1**	**-0.3**

[1] Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD stock data were revised down by 8.9 mb for March and up by 6.3 mb for April following the submission of more complete data. For March, the change was largely due to lower crude oil inventories in the OECD Americas (-4.7 mb) and OECD Europe (-4.5 mb). The most substantial upward adjustment in April came from middle distillates (+8.3 mb) and residual fuel oil (+4.1 mb), which were partially offset by a downward revision in other product (-4.6 mb). OECD Europe stocks were revised higher, including middle distillates (+5.2 mb), fuel oil (+1.3 mb) and other products (+4.8 mb), while crude oil was adjusted down 3.8 mb. Industry oil inventories in April for OECD Americas and OECD Asia Oceania were revised down by 0.8 mb and 1.2 mb, respectively.

OECD Industry Stock Revisions versus June 2022 Oil Market Report

(million barrels)

	Americas		Europe		Asia Oceania		OECD	
	Mar-22	Apr-22	Mar-22	Apr-22	Mar-22	Apr-22	Mar-22	Apr-22
Crude Oil	**-4.7**	**4.5**	**-4.5**	**-3.8**	**0.0**	**1.0**	**-9.2**	**1.7**
Gasoline	0.0	-0.6	0.2	0.3	0.0	-0.3	0.2	-0.6
Middle Distillates	0.0	2.6	1.1	5.2	0.0	0.4	1.1	8.3
Residual Fuel Oil	0.0	2.5	0.0	1.3	0.0	0.3	0.0	4.1
Other Products	0.0	-6.6	-0.2	4.8	-0.1	-2.7	-0.3	-4.6
Total Products	**0.0**	**-2.2**	**1.2**	**11.6**	**-0.1**	**-2.3**	**1.0**	**7.2**
Other Oils[1]	-0.7	-3.1	0.0	0.5	0.0	0.1	-0.7	-2.5
Total Oil	**-5.4**	**-0.8**	**-3.3**	**8.3**	**-0.1**	**-1.2**	**-8.9**	**6.3**

[1] Other oils includes NGLs, feedstocks and other hydrocarbons.

Implied balance

Global observed inventories built by 170 kb/d in May, based on preliminary data for the OECD countries and the latest available data for other components. Non-OECD crude stocks surged by 1.7 mb/d, with China providing almost the entire increase at 1.5 mb/d, according to satellite data from *Kayrros.* Product stocks in Singapore and Fujairah also rose by 190 kb/d. In OECD countries, industry crude and product stocks increased by 260 kb/d and 230 kb/d, respectively. By contrast, OECD government reserves fell by 1 mb/d, mostly in crude oil. Oil on the water, including floating storage, plunged by 1.2 mb/d due to a large drop of 1.7 mb/d in crude oil, according to shipping data from *Kpler*. The observed stock changes in April have been revised up by 700 kb/d from the last *Report* due to more complete stock data for both OECD and non-OECD countries.

Following a steep rise in crude oil stocks of 80 mb, or 1.3 mb/d, over April and May, preliminary data suggest Chinese stock builds may have come to a halt in June. According to tanker tracking data from *Kpler*, China cut crude oil imports by 49 mb m-o-m in June. As well, *Kayrros* data show no stock builds for the month. Preliminary data for OECD industry inventories indicate continued builds, however, largely offsetting additional SPR releases. Preliminary data from *Kpler* suggest oil on water rose in June.

For 2Q22 as a whole, the total stock change and miscellaneous to balance item calculated from assessed supply and demand balances shows a stock build of 1 mb/d, its first quarterly increase in nearly two years.

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

	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	Apr-22	May-22	Jun-22	2Q22
Global oil balance	**2.05**	-1.82	-2.08	-2.29	-2.68	**-2.22**	-0.62	1.85	0.91	0.59	1.11
Observed stock changes											
OECD industry stocks	**0.41**	-1.34	-0.48	-1.30	-1.17	**-1.07**	-0.33	1.92	0.49	0.83	1.07
OECD government stocks	**0.02**	0.05	-0.24	-0.12	-0.31	**-0.16**	-0.47	-1.01	-1.03	-0.99	-1.01
Non-OECD crude stocks*	**0.39**	0.37	-0.41	-0.59	-1.10	**-0.44**	0.43	0.93	1.70	-0.42	0.75
Selected non-OECD product stocks**	**0.12**	0.16	-0.08	-0.16	-0.04	**-0.03**	0.06	-0.15	0.19	0.07	0.04
Oil on w ater	**0.01**	-0.48	-0.56	-0.31	1.11	**-0.06**	-0.56	1.58	-1.17		
Total observed stock changes	**0.96**	-1.24	-1.77	-2.47	-1.52	**-1.75**	-0.86	3.28	0.17		
Unaccounted for balance	**1.09**	-0.59	-0.31	0.18	-1.16	**-0.47**	0.24	-1.43	0.74		

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

***JODI* data adjusted for monthly gaps in reporting, latest data for April 2022, plus Fujairah and Singapore inventories.

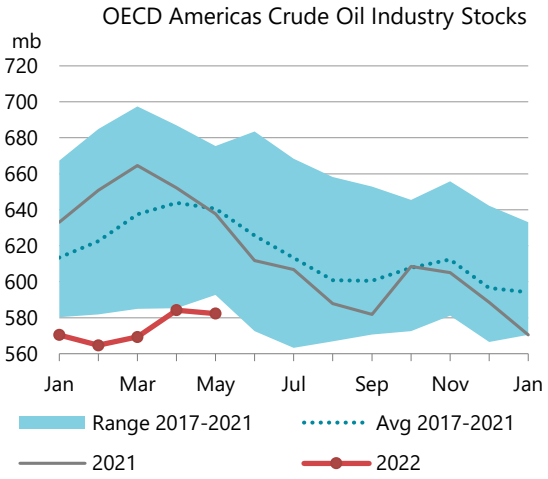
Sources: IEA, EIA, PAJ, *Euroilstock* , *Kayrros* , *JODI, Kpler* , *FEDCom/S&P Global Platts* , *Enterprise Singapore* .

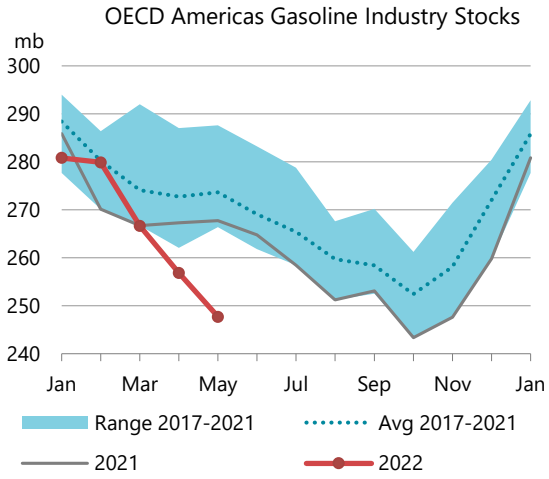
Recent OECD industry stock changes

OECD Americas

In May, industry stocks in the OECD Americas region rose by 13.3 mb to 1 433 mb, still 149.7 mb below the latest five-year average. The increase was lower than the normal seasonal build, despite a 26.6 mb SPR release, on the back of high US oil exports. Crude oil stocks drew by 1.9 mb, while NGLs and feedstocks fell by 1 mb. Total crude, NGLs and feedstock inventories stood at 735.2 mb, 76.8 mb below the five-year average.

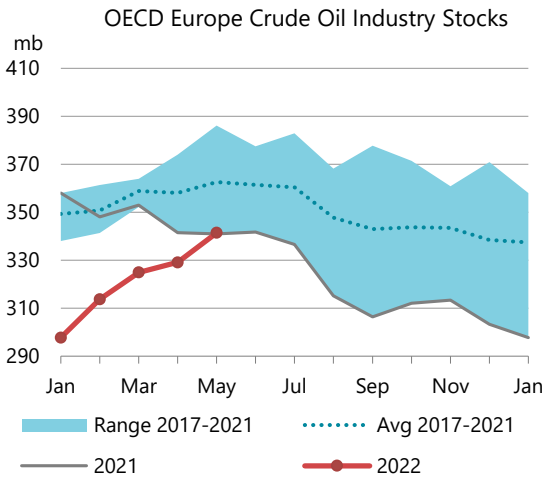
Oil product stocks rose by 16.3 mb, on the back of a 19.1 mb increase in other product inventories such as LPGs. Middle distillate stocks rose for the first time since July 2021, by 6.9 mb. By contrast, gasoline fell by 9.1 mb due to higher US exports. Fuel oil stocks edged 0.6 mb lower.

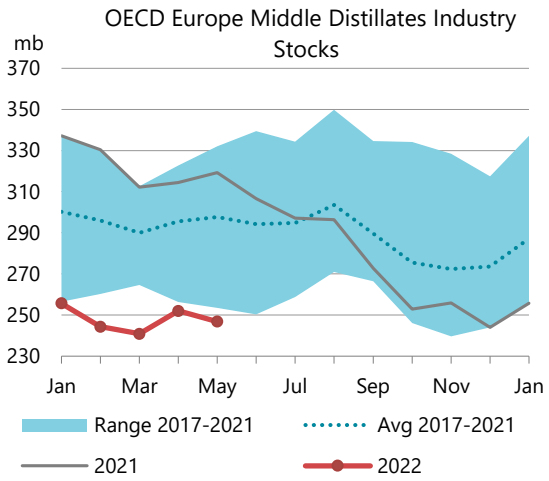




Weekly data from the US EIA show that crude oil stocks rose by 6.7 mb in June when they typically draw by 14.8 mb. Crude oil stocks released from the Strategic Petroleum Reserve (SPR) totalled 29.6 mb, while crude exports declined by 500 kb/d m-o-m, to 3 mb/d, a four-month low. Total product stocks built by 17.4 mb, thanks to a 410 kb/d monthly increase in refinery throughputs. Other product inventories rose by 11.9 mb, much less than the typical increase of 19.2 mb, while gasoline (+0.9 mb) and residual fuel oil (+1 mb) stocks rose counter-seasonally. Middle distillate inventories also built by 3.6 mb, compared to the five-year average of 1.4 mb.

OECD Europe





Industry stocks in OECD Europe rose by 6 mb to 926.9 mb in May, marking a fifth consecutive monthly increase. Regional stocks were nevertheless 86.7 mb below the five-year average. Commercial crude oil stocks built by 12.4 mb to 341.4 mb, an eleven-month high. The largest increase came from the Netherlands where crude inventories built by 5.1 mb. *Kpler* seaborne trading data show high crude imports in the country in May. NGLs and feedstock inventories edged down by 0.2 mb.

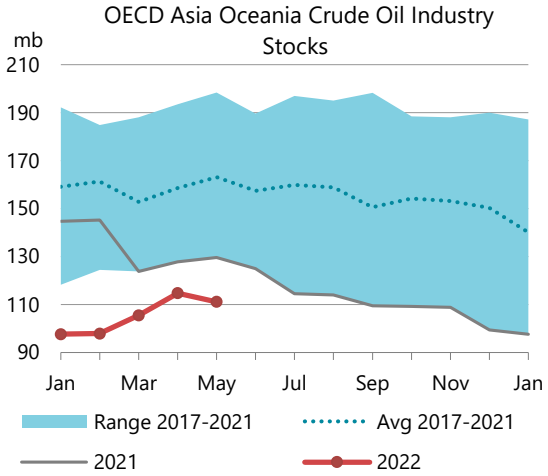
Total oil product stocks declined by 6.2 mb in May as regional refinery runs fell by 70 kb/d and product import to the region decreased by 400 kb/d m-o-m, according to *Kpler*. Middle distillates inventories drew by 5.2 mb to 246.8 mb, 50.8 mb below the five-year average, despite a 2.2 mb government stock release. Motor gasoline inventories declined by 3.8 mb, in line with the seasonal trend. On the other hand, other product stocks increased by 2.4 mb and fuel oil rose by a mere 0.5 mb.

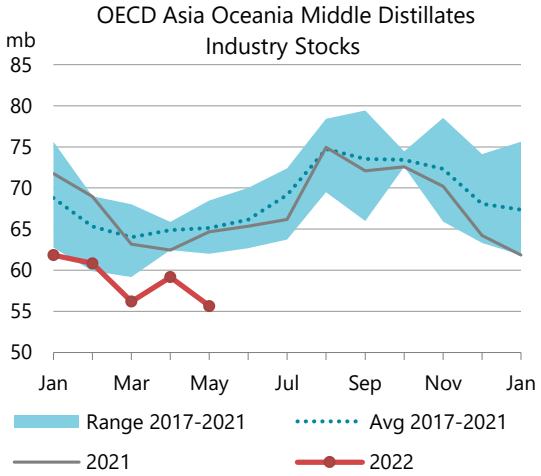
Preliminary June data from *Euroilstock* showed overall inventories falling by 1.2 mb. Crude oil stocks built by 0.9 mb, thanks to the UK (+1.8 mb) and Austria (+1.1 mb) while they fell by 2.9 mb in Germany. Oil products drew by 2.1 mb, notably in fuel oil (2.1 mb). Motor gasoline and naphtha slightly declined by 0.6 mb and 0.2 mb, respectively. Middle distillate stocks increased by 0.8 mb due to builds in Germany (+2.3 mb) and Scandinavia (+1.4 mb), partly offset by draws in Italy (-2.3 mb) and Austria (-1.1 mb).

OECD Asia Oceania

Total industry stocks in the OECD Asia Oceania region fell by 4.1 mb to 330.7 mb in May. Crude stocks declined by 3.7 mb to 111.1 mb, 52 mb less than the five-year average for the month. Korea released 3.4 mb of their SPR crude but industry holdings also fell by 2.5 mb. Japanese crude inventories were down by 0.9 mb compared to a normal increase of 5.2 mb. NGLs and feedstock inventories rose by 2.5 mb.

Oil product stocks declined by 3 mb in May. Middle distillate inventories fell by 3.5 mb, due to a large drop in Korea (-5.8 mb). At 13.3 mb, Korean middle distillate stocks stood at their lowest level since the end of 2011. Those in Japan rose by 1.9 mb, in line with the seasonal pattern. Regional gasoline stocks edged down by 0.8 mb. Fuel oil and other product inventories increased marginally, by 0.6 mb and 0.7 mb, respectively.



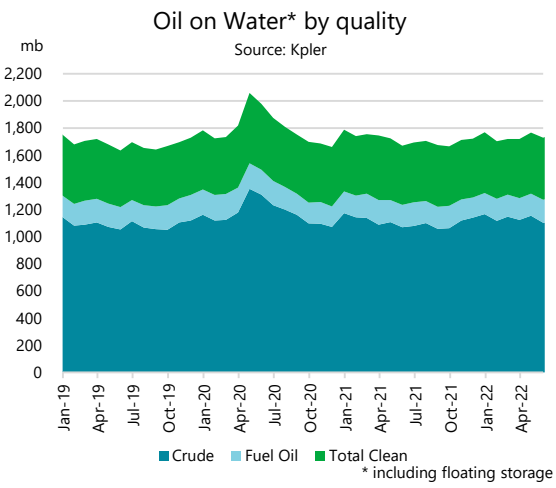


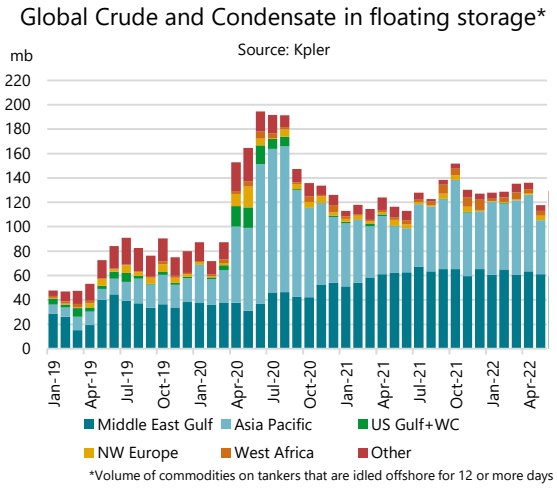
Preliminary data from the Petroleum Association of Japan show crude oil inventories rose counter seasonally by 1.8 mb in June, versus normal draw of 2.9 mb. A planned release of Japanese emergency stocks at the end of the month could have contributed to the build. Product stocks fell by 1.5 mb, mostly in line with the five-year average. Gasoline (-0.9 mb), fuel oil (-0.5 mb) and naphtha (-0.5 mb) declined whereas middle distillates rose by a mere 0.3 mb.

Other stock developments

Volumes of oil on the water (including floating storage) fell by a large 36.3 mb to 1 730 mb in May, after jumping by 47.5 mb in the previous month, according to *Kpler*. Crude oil volumes plunged by 51.9 mb, largely due to a stagnation of crude exports from the Middle East. However, crude volumes on the water were still 34 mb higher than a year ago, as seaborne oil demand has recovered. Crude oil held in short-term floating storage declined by 18.5 mb m-o-m to 117.6 mb. The Asia Pacific region led the decrease, as crude was offloaded in China following a slump in demand due to Covid restrictions.

By contrast, oil products on the water increased by 15.6 mb in May, led by diesel (+7.8 mb). Products held in floating storage accounted for 7.3 mb of the increase, led by the North American region where the floating storage volume climbed by 4.9 mb to 5.7 mb.





In Fujairah, independent product stocks increased by 0.9 mb in June, according to data from *FEDCom* and *S&P Global Platts*. Light distillates decreased by 0.9 mb m-o-m while middle distillates and heavy distillates rose by 0.8 mb and 1 mb, respectively. At 3.3 mb, middle distillate stocks were at a 7-month high. Total stocks reached 20.6 mb, a 12-month high.

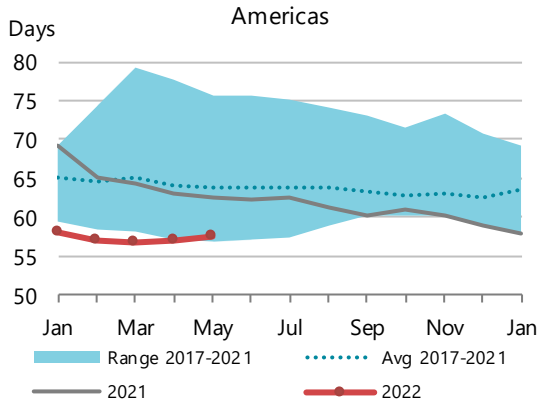
Independent product stocks in Singapore, the world's largest bunkering hub, rose by 1.2 mb in June, according to data from *Enterprise Singapore*. At 44.2 mb, the end-month level reached its highest since January. Middle distillate inventories led the way with a 0.9 mb build, while light distillates and residues were mostly unchanged m-o-m. Middle distillate stocks rose for a second consecutive month, to 7.9 mb, but remained 5.9 mb below a year ago.

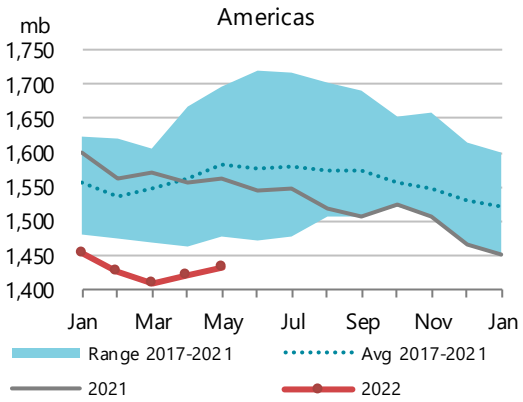
Total oil stocks in 13 non-OECD economies reported to the *JODI-Oil* database were mostly unchanged in April. Crude oil and NGL stocks rose by 2.7 mb, led by a build of 3.7 mb in Saudi Arabia where refinery throughput declined by 240 kb/d m-o-m. Crude stocks also increased in India, by 1.5 mb, as crude imports soared by 600 kb/d m-o-m. Chinese Taipei and Venezuela partially offset the increase, down by 3.2 mb and 2.4 mb, respectively. By contrast, oil product inventories declined by 2.7 mb in total. In Saudi Arabia, oil product stocks fell by 2.5 mb due to higher demand for fuel oil. Inventories also declined in Venezuela (-1.9 mb), Algeria (-1.5 mb) and Bahrain (-1.3 mb). India's product stocks rose by 3.5 mb as exports plunged by 300 kb/d m-o-m, in line with the five-year average.

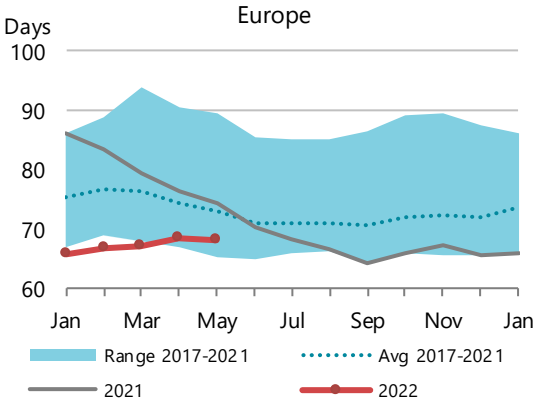
Regional OECD End-of-Month Industry Stocks

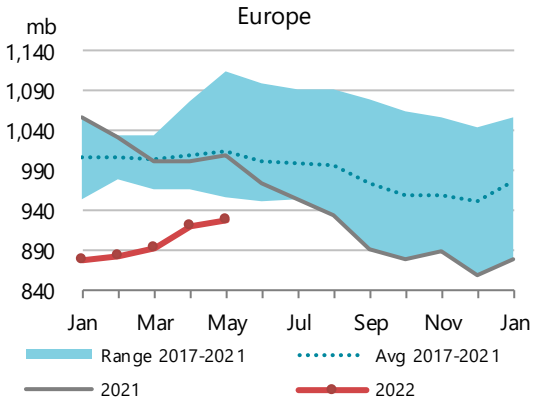
(in days of forward demand and million barrels of total oil)

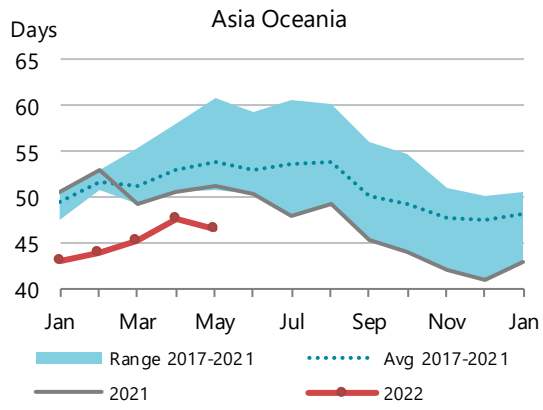
Days[1] **Million Barrels**

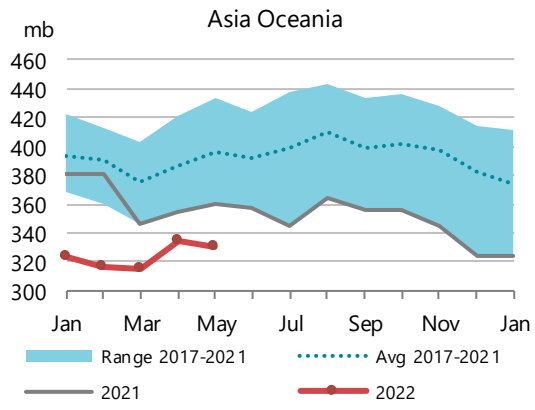


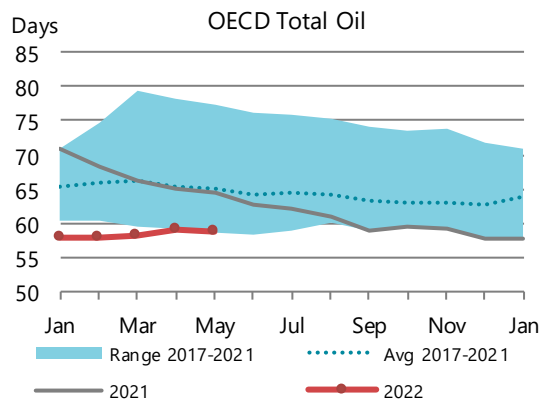


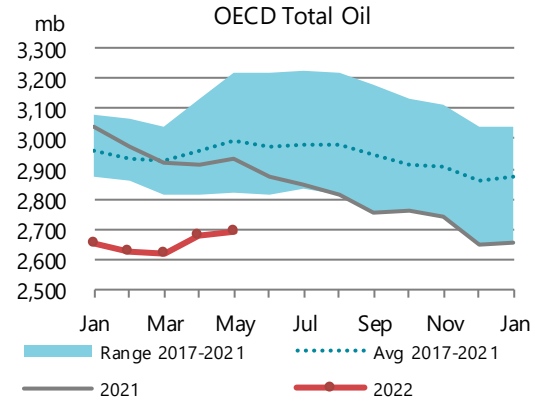












[1] Days of forward demand are based on average OECD demand over the next three months.

Prices

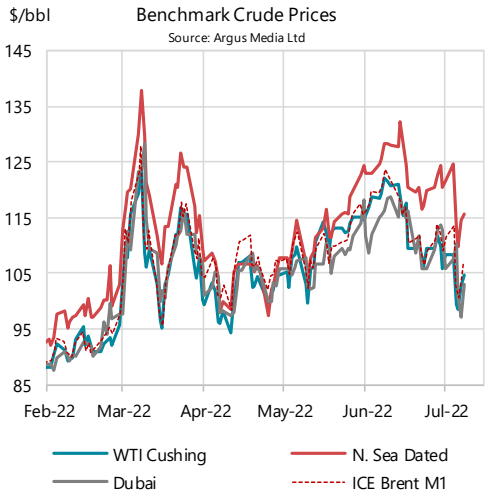
Overview

Oil prices collapsed with extreme volatility over June, as market sentiment focussed on the worsening macro headwinds, setting in motion the broad lower price trend. Rising inflation, a strong US dollar, the deteriorating economic environment, as well as the impact of high energy prices, constituted a toxic cocktail for financial markets in general, and paper oil markets in particular. In early July, futures crashed through technical thresholds, with Brent falling to almost $100/bbl before partially rebounding. But, while the absolute level of futures dropped, underlying supportive factors remained, sustaining the persistent strength of paper market backwardation and of physical market premiums to futures. The latter widened over the month as seasonally rising crude and product demand bumped-up against tightening capacity for crude supply and refining. North Sea Dated prices fell to $109.82/bbl on 6 July but rose to around $115/bbl on 8 July, down $8/bbl versus the June average of $123.62/bbl.

Crude Prices and Differentials ($/bbl)

	Month			Week of	Last	Chng Jun-22	
	Jun-21	May-22	Jun-22	04 Jul	08 Jul	m-o-m	y-o-y
Crude Futures (M1)							
NYMEX WTI	71.19	107.89	112.92	98.07	101.53	5.03	41.73
ICE Brent	72.97	110.08	115.26	105.73	107.02	5.18	42.29
Crude Marker Grades							
North Sea Dated	72.96	113.38	123.62	115.57	115.59	10.24	50.66
WTI (Cushing)	71.38	109.61	114.59	101.39	104.79	4.98	43.21
Dubai	71.50	108.08	112.89	103.80	103.07	4.81	41.39
Differential to North Sea Dated							
WTI (Cushing)	-1.58	-3.76	-9.03	-14.18	-10.80	-5.26	-7.45
Dubai	-1.45	-5.30	-10.73	-11.77	-12.52	-5.43	-9.27
Differential to ICE Brent							
North Sea Dated	-0.01	3.30	8.36	9.84	8.57	5.06	8.37
NYMEX WTI	-1.78	-2.19	-2.34	-7.66	-5.49	-0.15	-0.56

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



Most commodity markets have undergone sharp corrections over the past month. The S&P Goldman Sachs Commodity Index (covering energy, metals, grains and livestock) fell 19% from 8 June to 6 July. Crude futures tumbled by a similar amount over the four-week period, with Brent prices losing $23/bbl and WTI $25/bbl. At the time of this report, Brent futures had slipped back to around $105/bbl after bouncing higher late last week. Publication of the latest OECD economic outlook on 8 June, which showed a sharp downward revision in growth for 2H22 and 2023, contributed to the downturn in markets. Other bearish data released the same day reported that the Japanese economy contracted in 1Q22 and the European PMI indicator of industrial activity slipped into contraction. In addition to the OECD, over the past six weeks the World Bank and numerous other financial institutions have revised down GDP growth forecasts for 2H22 and 2023, adding to the bearish sentiment in financial markets.

As a case in point, the US economy contracted q-o-q in 1Q22 and appears on course to decline slightly again in 2Q22, despite sustained strong hiring and personal saving rates close to 10% of GDP. The US Federal Reserve (Fed) has confronted overheated growth and a 40-year high in US inflation with repeated increases to the target range for its federal funds rate, which rose by

+0.5% pts on 4 May, +0.75% pts on 22 June and as much is expected to be announced for July. By year-end, the rate is projected to reach 3.4%, up from current levels of 1.5-1.75%. Other central banks (notably the European Central Bank) have lagged the Fed's hikes, reinforcing the strength of the US dollar (Euro/USD rates fell to 1.019 on 8 July, the lowest since late 2002). Rising interest rates and a strong US dollar now threaten growth for many heavily indebted nations.

As oil futures lost ground in June, price premiums for physical barrels widened on rising seasonal demand for both crude and products while supply remains constrained. This has pushed margins to record levels, driving refiners to operate near maximum capacity. But they are living hand to mouth due to continued tight global crude and product stocks and rarefied prompt cargoes while access to Russian supply is restricted. The release of SPR barrels by IEA member countries has allowed an almost one-for-one build in industry stocks, preventing more extreme physical market tensions.

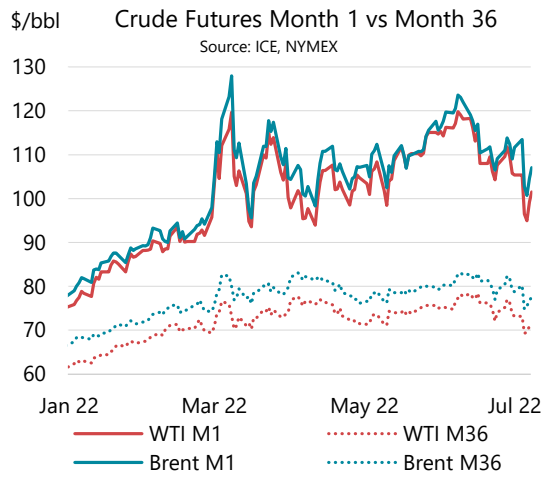
Many consumer governments have taken measures to offset the impact of high oil prices. These aim to reduce prices at the pump. Governments have also offered "energy" cheques to low-income households to help finance reduced use of oil, gas, and electricity. In the current context, there is a risk that direct price subsidies at the pump will support continued strong consumption at a time when there is limited refining capacity to bring more supply to the market.

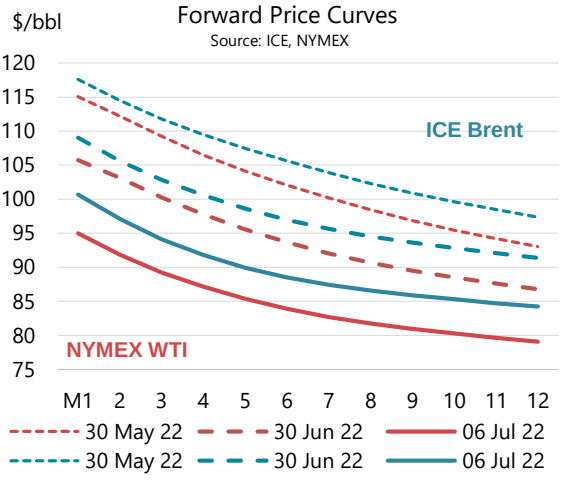
Higher oil prices have translated into sustained revenues for Russia, despite deep discounts for their crude and products, ensuring finance for its economy and military campaign (see *Russia continues to earn more by exporting less oil*). Western governments continue to seek solutions for this untenable situation. On 3 June, the EU adopted its sixth package of sanctions in response to Russia's invasion of Ukraine. It includes a ban on the import or transfer from Russia to the EU of crude oil (applied in six months) and refined petroleum products (in eight months), covering ~90% of Russian oil imports to Europe, with some exceptions. As well, EU operators will be prohibited from insuring and financing the transport of oil to third countries, particularly through maritime routes (with a six-month wind down period).

A portion of these Russian oil exports are expected to flow to non-EU destinations (despite financing and insurance restrictions). In an effort to further limit revenues for Russia, G7 leaders evoked a "price cap" at their recent meeting in Germany, including options for a prohibition of services that enable transportation of Russian seaborne oil globally, unless the oil is purchased at or below a set price cap. Discussions are ongoing to identify a solid market mechanism to ensure its effective implementation and enforcement.

Futures markets

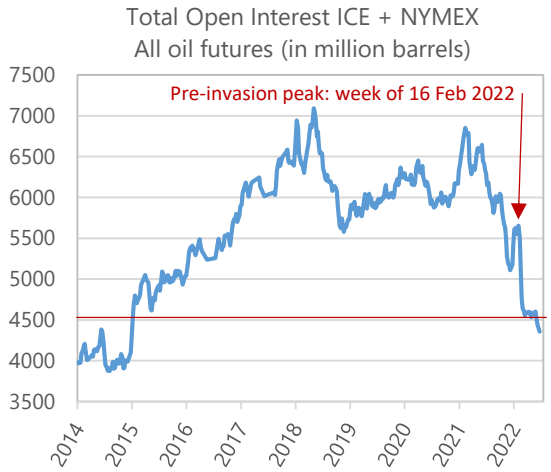
Futures prices were exceptionally volatile in June, reflecting market bias, poor liquidity, and technical drivers. Traders found grist in the steady flow of disconcerting views on the economic outlook and inflation developments. Crude futures reached their second highest peak since the invasion on 8 June, with Brent at $123.58/bbl and WTI $119.78/bbl. Thereafter, they declined steadily to a trough on 23 June (Brent $106.46/bbl, WTI $104.27/bbl) then briefly rebounded before falling to just under $100/bbl for Brent and $96/bbl for WTI at the time writing.

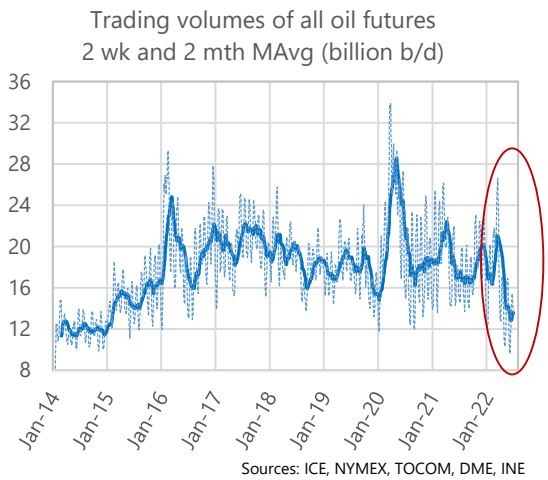




With the drop in prices, the twelve-month M1-M12 backwardation sank (WTI from $22/bbl at end-May to $15.90/bbl on 6 July, Brent $20.20/bbl to $12.90/bbl). The M1-M3 backwardation remained steady and steep (WTI flat at $5.80/bbl and Brent rising from $5.80/bbl to $6.60/bbl) while the forward price structure flattened significantly beyond M3. The M36 prices have now fallen below $75/bbl for Brent and $70/bbl for WTI, levels not seen since early February. The steeper front-end of the curve reflects the continued physical market tensions while the outer end reflects the growing macroeconomic concerns. Some analysts suggest a key driver of the recent slide in futures prices and the flattening of the longer forward structure, particularly on WTI, may reflect producer country hedging programmes for 2023. Such programmes often get underway in the third quarter of the year and involve hedging of the options used to cover the producer's risk. Mexico is a key example of past hedging.

Prompt WTI contracts fell more than Brent, opening the M1 spread from $2.50/bbl at end-May to around $5.50/bbl on 8 July. Pressure on WTI contracts partly reflects the latest (fourth) US SPR release that is weighted toward sweet crudes. The wider spread facilitates transatlantic arbitrage for US crudes to Europe.

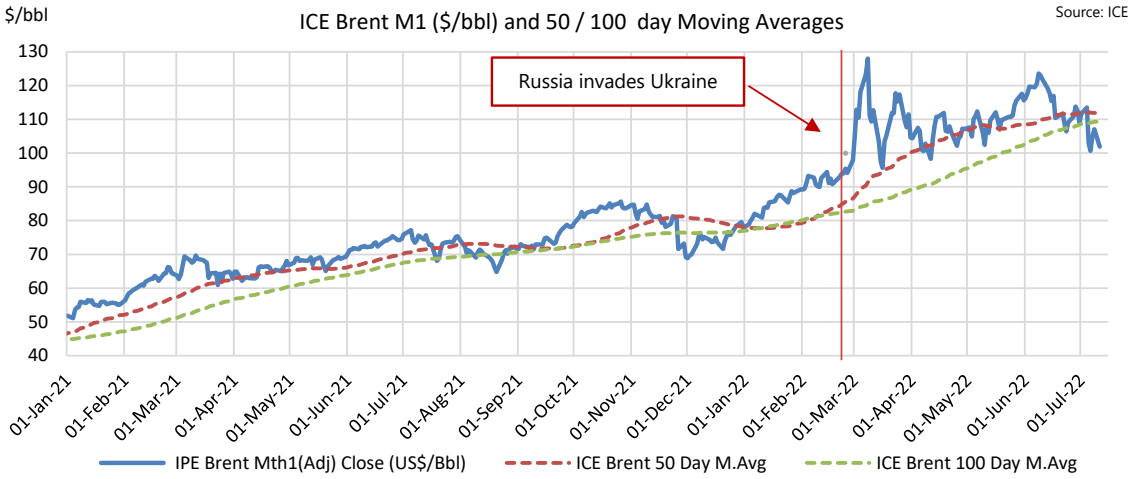




Open interest in the oil futures contracts on the ICE and CME NYMEX exchanges further deteriorated in June. The number of open contracts fell overall as the cost of holding them increased due to high volatility, amplifying margin calls, and the recent steep underlying flat prices. This would concern both speculative positions and positions held for hedging purposes. The volatility increases the capital required to trade by multiplying the number of margin calls

without necessarily ensuring greater returns for the parties concerned. Falling open interest has driven a parallel decline in the volume of trades to their lowest levels since 2014.

The fall in prices after 8 June appears to have been contained initially by technical resistance levels represented by the short-term (50 day) and medium-term (100 day) moving averages. Brent crude prices held briefly at the former before dropping through to the latter. This threshold held through the US 4 July holiday after which prices lost $10/bbl on 5 July, breaking out below the resistance presented by the moving averages as they crossed-over. The fall was likely accelerated by reduced market liquidity as well as delta hedging of options positions as prices fell towards or past key strike prices for both the Brent and WTI contracts.

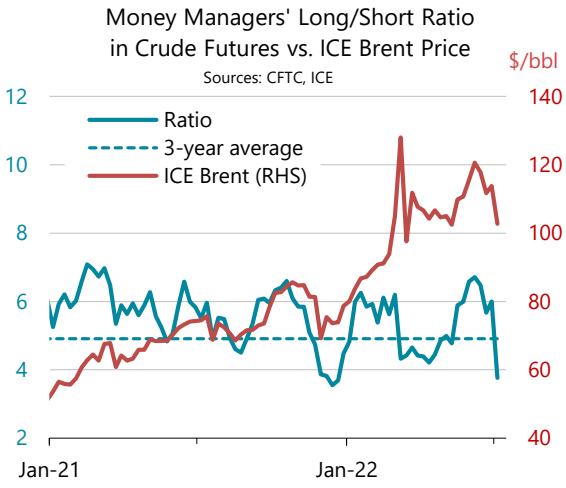


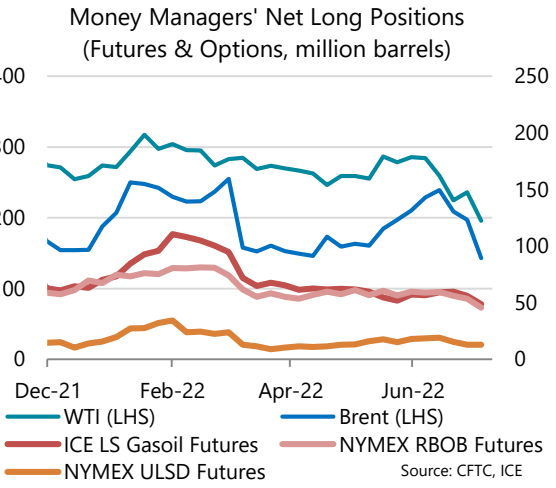
All the products futures cracks made substantial m-o-m gains in June, highlighting the great market tension arising from efforts to meet sustained demand. The gasoil premiums rose more than gasoline, reflecting the difficulty of displacing Russian supplies in this market. For gasoil/diesel cracks, ULSD-WTI gained $11.20/bbl m-o-m in June to a remarkable $64.82/bbl while ICE low sulphur gasoil premiums to Brent rose $16.22/bbl m-o-m to $54.15/bbl. However, by 8 July ULSD cracks lost just over $12/bbl versus the June average, to $52.73/bbl, while the gasoil crack to Brent fell $16/bbl to $37.66/bbl. The RBOB to WTI gasoline crack only rose $4.16/bbl to $51.61/bbl m-o-m in June then fell back to $43.25/bbl on 8 July. The latest cracks reflect corrections to levels not seen since early May and represent a massive shift in market views. Despite the correction from overheated levels, cracks remain exceptionally strong and reflect the physical market supply uncertainties as well as the low stock levels.

Net long positions for Managed Money fell overall for crude and products combined by 31%, (crude -34% and products -20%) from 7 June to 6 July. Brent positions lost 37% and WTI 31%. Outright long positions were reduced and outright short positions increased sharply for both contracts on weaker macro perspectives. As a consequence, long-short ratios were almost halved across both crude contracts.

Net long positions on product futures fell across all contracts. The biggest decline concerned ULSD contracts (-31%), reflecting recent data on easing activity in truck freight transport. RBOB net long positions fell 23% as supply has improved in recent weeks ahead of the summer driving season while driving appears to be growing more slowly. However, net long positions on the ICE gasoil contract only fell 14%, reflecting the abiding supply uncertainties and tensions in the European middle distillate market. For all three contracts, outright long positions dipped by only 10%. However, all contracts saw outright short positions increase (ICE gasoil +20%, ULSD +5%

and RBOB +340%) in anticipation of slower economic activity. The long-short ratio dropped for all contracts.





Prompt Month Oil Futures Prices
(monthly and weekly averages, $/bbl)

	Jun-21	Apr-22	May-22	Jun-22	Jun-22		Week Commencing:						Last
					m-o-m Chg	y-o-y Chg	30 May	06 Jun	13 Jun	20 Jun	27 Jun	04 Jul	08 Jul
US Market													
Light Sweet Crude Oil (WTI) 1st contract	71.19	101.17	107.89	112.92	5.03	41.73	115.12	118.03	114.17	106.90	108.45	98.07	101.53
Light Sweet Crude Oil (WTI) 12th contract	64.60	88.71	89.12	93.25	4.13	28.65	93.39	97.17	95.32	89.08	89.04	81.06	83.78
RBOB	92.70	136.10	155.34	164.56	9.21	71.86	172.52	176.58	159.85	156.11	155.66	141.05	144.78
ULSD	89.13	150.35	161.52	177.73	16.21	88.60	173.95	182.83	180.36	178.23	167.66	150.77	154.26
ULSD ($/mmbtu)	16.08	25.72	27.95	31.26	3.31	15.19	30.52	32.11	31.73	31.35	29.63	26.63	27.20
Henry Hub Natural Gas ($/mmbtu)	3.28	6.78	8.21	7.60	-0.61	4.32	8.46	9.03	7.51	6.56	6.15	5.82	5.97
European Market													
Brent 1st contract	72.97	105.47	110.08	115.26	5.18	42.29	117.36	121.75	115.94	109.47	111.58	105.73	107.02
Brent 12th contract	67.69	93.31	93.65	97.50	3.85	29.81	97.53	101.96	99.15	93.75	93.71	87.68	89.02
Gasoil	79.60	143.84	148.01	169.34	21.33	89.74	162.40	172.23	174.28	172.45	158.62	146.51	144.68
Prompt Month Differentials													
WTI M1 - Brent M1	-1.78	-4.30	-2.19	-2.34	-0.15	-0.56	-2.24	-3.72	-1.77	-2.57	-3.13	-7.66	-5.49
WTI M1 vs. M12	6.59	12.46	18.77	19.67	0.90	13.08	21.73	20.86	18.85	17.82	19.41	17.01	17.75
Brent M1 vs. M12	5.28	12.16	16.43	17.76	1.33	12.48	19.83	19.79	16.79	15.72	17.87	18.05	18.00
ULSD - WTI	17.94	49.18	53.63	64.81	11.18	46.87	58.83	64.80	66.19	71.33	59.21	52.70	52.73
RBOB - WTI	21.51	34.93	47.45	51.64	4.18	30.13	57.40	58.55	45.68	49.21	47.21	42.98	43.25
3-2-1 Crack (WTI, RBOB, ULSD)	20.32	39.68	49.51	56.03	6.52	35.71	57.88	60.63	52.52	56.58	51.21	46.22	46.41
ULSD - Natural Gas ($/mmbtu)	12.79	18.94	19.74	23.66	3.92	10.87	22.06	23.08	24.22	24.80	23.48	20.80	21.23
Gasoil - Brent	6.63	38.37	37.93	54.08	16.15	47.45	45.04	50.48	58.34	62.98	47.04	40.78	37.66

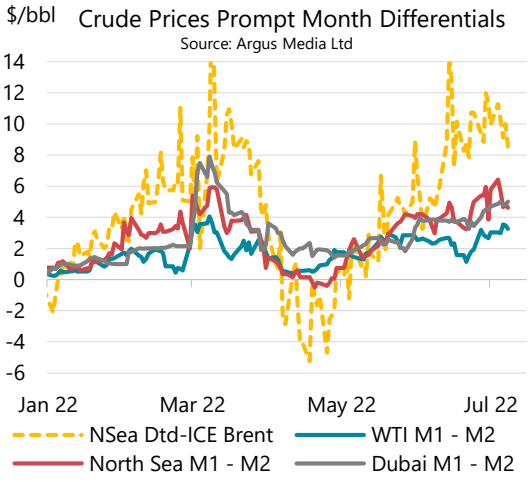
Source: ICE, NYMEX.

Spot crude oil prices

The strength of physical crude premiums to futures, already apparent in May, further intensified in June. North Sea Dated averaged $123.62/bbl in June, and its premium to ICE Brent futures rose by $4.89/bbl m-o-m to $8.19/bbl. Backwardation on physical forward prices increased, particularly in the second half of the month. The sharp narrowing of product cracks in late June and early July failed to dent refiner crude demand, which remains robust in both the Atlantic Basin and East of Suez. Even the exceptionally high natural gas and electricity prices in Europe, which sharply undercut margins (notably for hydrocracking units), have not cooled refiner appetites. European buying has focused on light sweet grades to maximize transportation fuel production while cutting refining costs. US and Asian refiners have absorbed more sour barrels. But Asia's uptake of Russian sour Urals at sharp discounts has depressed prices for similar Middle East grades.

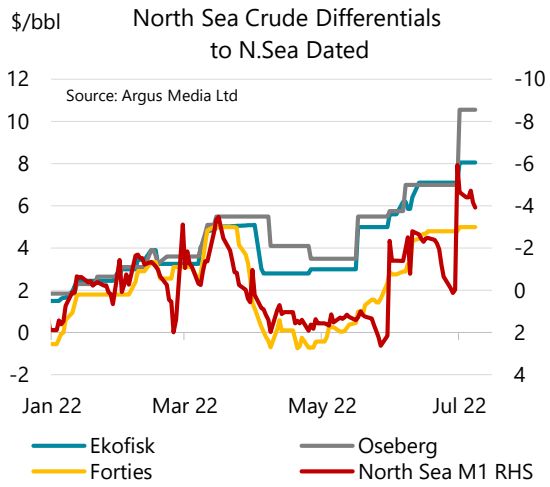
The unprecedented strength of refinery margins and the intense backwardation in crude prices have heightened the value of prompt physical barrels, particularly for European refiners

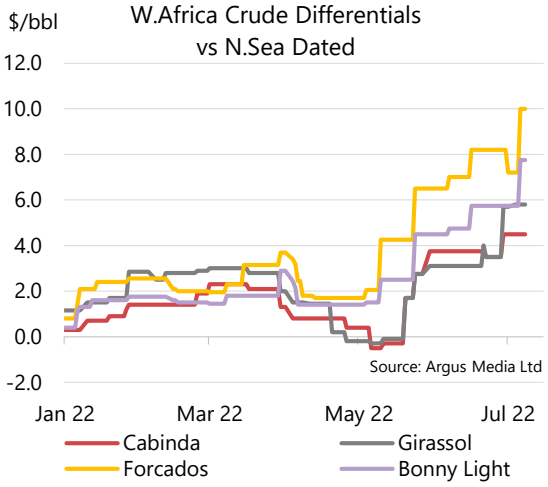
boycotting Russian crude and forced to retain local and short-haul barrels versus competing markets. Field maintenance in the North Sea and Kazakhstan, disruptions in Libyan crude production and loading, as well as recent outages in Nigeria, have contributed to tighter regional crude supply availability for Europe. However, easing of US restrictions on Venezuelan oil exports in favour of crude for repayment of debt saw the first cargoes for Eni and Repsol load for Europe in recent weeks.



North Sea crude price premiums versus North Sea Dated went from strength to strength over the month, reaching record levels despite the drop in the marker and reflecting buyer priorities for short-haul supply and light sweet crude amidst strong refinery margins. Platform maintenance in June and July contributed to market tensions. The torrid market saw June premiums reach $4.28/bbl for Forties (+$3.39/bbl m-o-m) and $5/bbl on 8 July, Ekofisk hit $6.78/bbl (+$2.70/bbl) and $8.05/bbl, while Oseberg rose to $6.88/bbl (+$2.32/bbl) and $10.55/bbl.

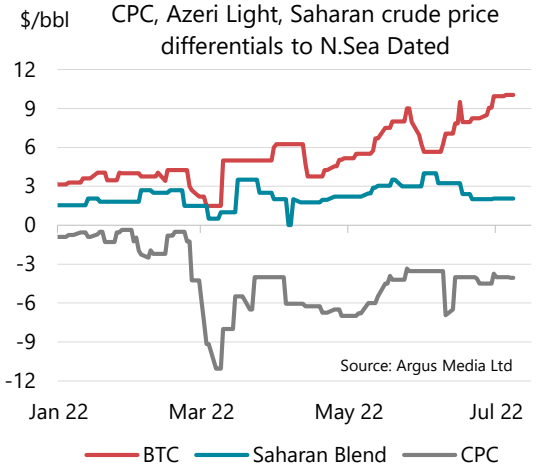
North Sea tensions spilled over into West African crude markets as refiners looked to the next nearest source for supply of the desired quality and proximity. Loading programmes for the West African grades sold out well before end-month, highlighting buyer stress. Despite a new round of crude import quotas for Chinese refiners, their demand for West African crude remained limited. June premiums for Nigerian Forcados versus North Sea Dated hit $7.61/bbl (+$3.63/bbl m-o-m) and attained $10/bbl on 8 July. Bonny Light's rose to $5.28/bbl (+$2.45/bbl) and $7.75/bbl on 8 July, while light Angolan Cabinda averaged $3.76/bbl (+$2.83/bbl). All the grades benefitted from the strong light product cracks as well as the high premiums for very low sulphur fuel oil required for bunker markets.

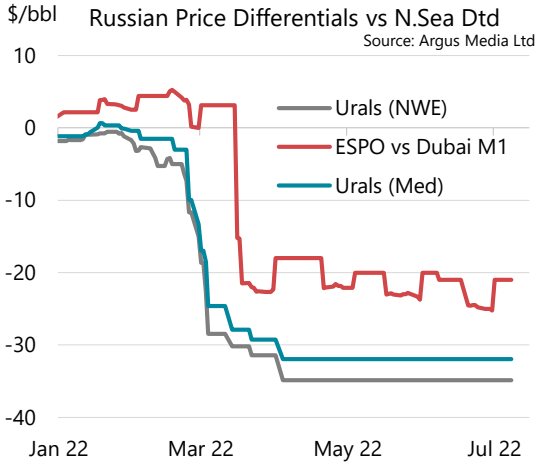




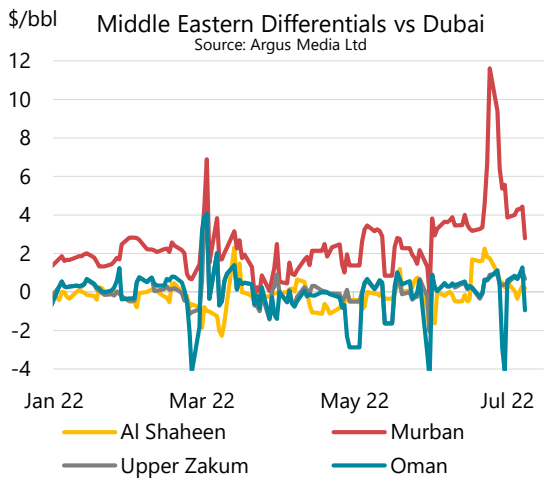
Mediterranean supply losses (Libya, Urals, and CPC), combined with heightened regional demand for light sweet crude, saw Azeri Light premiums to North Sea Dated reach $7.48/bbl (+$0.75/bbl m-o-m) on average in June and $9.85/bbl on 8 July. Similarly CPC Blend discounts to North Sea Dated narrowed by $0.72/bbl m-o-m to-$4.25/bbl. In the absence of recorded deals,

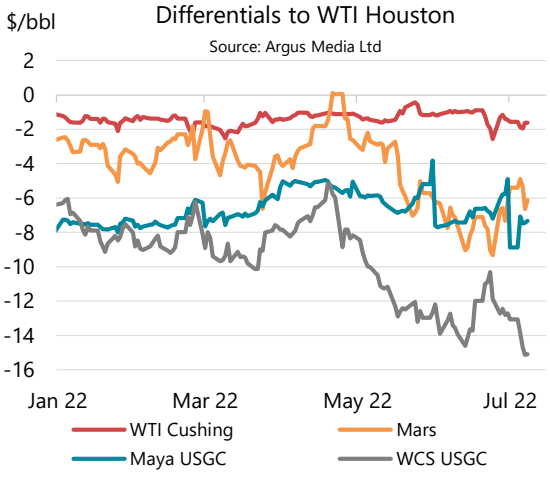
reported Urals discounts remain unchanged (Northwest Europe at -$34.85/bbl). Espo differentials to Dubai M1 were also unchanged in a -$20/bbl to -$25/bbl range, with 90-95% of exports going to Chinese refiners and the remainder to India.





The discount for M1 Dubai to North Sea Dated widened by $0.68/bbl m-o-m to -$4.67/bbl, despite rising backwardation over the month (+$1.56/bbl M1-M2 Dubai), leaving M1 Dubai at a June average of $112.89/bbl (+$4.81/bbl m-o-m) and favouring the arbitrage of barrels from the Middle East to Europe. Light sweet grades benefitted from European refinery demand and high Atlantic Basin sweet grade prices that kept those barrels from moving to Asia. The Murban premium reached $4.64/bbl (+$2.35/bbl m-o-m) and averaged $6/bbl in the last decade of June as Asian refiners sought alternatives to Atlantic Basin sweet grades. Middle East sour Upper Zakum rose just $0.40/bbl m-o-m, flipping to a $0.36/bbl premium to Dubai and pressured by the steady arrival of substantial Urals volumes in Asia.





North American refiners have shown equally strong crude demand, running at 94% of available capacity with high margins. The recent rare premium for the WTI Cushing physical prices versus futures eased from $1.70/bbl in May to $1.50/bbl in June but spiked to over $3/bbl in the first week of July as demand surged for available physical barrels to meet delivery obligations. Incremental light sweet shale oil output in the Midcontinent market failed to offset the regional supply tensions. On the other hand, the restart of Mars production and the steady delivery of barrels from the US SPR supported US Gulf Coast sour crude supply and pressured differentials.

Spot Crude Oil Prices and Differentials
(monthly and weekly averages, $/bbl)

	Jun-21	Apr-22	May-22	Jun-22	Jun-22 m-o-m Chg	Jun-22 y-o-y Chg	Week Commencing: 30 May	06 Jun	13 Jun	20 Jun	27 Jun	04 Jul	Last 08 Jul
Crudes													
NorSea Dated	72.96	104.25	113.38	123.62	10.24	50.66	123.36	126.97	126.60	118.73	121.89	115.57	115.59
NorSea M1	74.12	105.54	114.71	121.74	7.03	47.61	122.82	125.08	124.14	117.04	119.77	111.25	111.67
NorSea M2	73.41	105.24	112.07	117.56	5.49	44.15	118.74	121.48	119.86	113.17	114.49	106.01	107.05
WTI (Cushing) M1	71.38	101.77	109.61	114.59	4.98	43.21	116.42	120.44	116.46	108.50	109.06	101.39	104.79
WTI (Cushing) M2	71.08	100.85	107.49	112.25	4.76	41.17	113.79	118.03	114.17	106.90	106.15	98.07	101.53
WTI (Houston) M1	71.93	102.93	110.80	115.83	5.03	43.89	117.56	121.42	117.43	110.37	110.43	103.16	106.42
Urals (NWE)	71.34	69.58	78.53	88.77	10.24	17.43	88.51	92.12	91.75	83.88	87.04	80.72	80.74
Dubai (1st mon)	71.50	102.91	108.08	112.89	4.81	41.39	112.98	116.76	116.08	107.64	110.89	103.80	103.07
Differentials to Futures													
NorSea Dated vs. ICE Brent	-0.01	-1.22	3.30	8.36	5.06	8.37	6.00	5.22	10.66	9.26	10.31	9.84	8.57
WTI (Cushing) M1 vs. Futures	0.19	0.60	1.72	1.67	-0.05	1.48	1.30	2.41	2.29	1.60	0.61	3.32	3.26
Differentials to Physical Markers													
WTI (Houston) versus NorSea M1	-2.19	-2.61	-3.91	-5.91	-2.00	-3.72	-5.26	-3.66	-6.71	-6.67	-9.34	-8.09	-5.26
WTI (Houston) versus WTI (Cushing) M1	0.55	1.16	1.18	1.24	0.05	0.68	1.14	0.98	0.97	1.87	1.37	1.77	1.63
Urals (NWE) versus NorSea Dated	-1.62	-34.67	-34.85	-34.85	0.00	-33.23	-34.85	-34.85	-34.85	-34.85	-34.85	-34.85	-34.85
Dubai versus NorSea M2	-1.91	-2.34	-3.99	-4.67	-0.68	-2.76	-5.76	-4.72	-3.78	-5.53	-3.60	-2.21	-3.98
Dubai versus WTI (Cushing) M2	0.43	2.05	0.59	0.64	0.05	0.22	-0.81	-1.27	1.92	0.74	4.74	5.73	1.54
Prompt MonDifferentials													
Forward NorSea M1-M2	0.71	0.29	2.64	4.18	1.54	3.46	4.08	3.60	4.27	3.87	5.28	5.24	4.62
Forward WTI Cushing M1-M2	0.30	0.92	2.12	2.34	0.22	2.04	2.63	2.41	2.30	1.60	2.91	3.32	3.26
Forward Dubai M1-M2	0.95	2.13	2.29	3.85	1.56	2.89	3.44	3.82	3.75	3.62	4.42	4.89	5.00

Source: Argus Media Ltd, ICE

The WTI (Houston) discount to North Sea M1 widened to -$5.91/bbl (-$2/bbl m-o-m) putting its June average at $115.83/bbl (+$5.03/bbl m-o-m). The wider spread favoured the transatlantic arbitrage which suffered from rising freight rates. The WTI Houston premium versus Cushing held at roughly $1.20/bbl in June, but rose into July. The steady delivery of sour SPR barrels to UGSC refiners throughout June pressured US Gulf Coast offshore medium sour Mars whose discount to WTI (Houston) widened by $3.15/bbl to -$8.38/bbl as it returned to production. Western Canadian Select (WCS) heavy sour crude for sale at Hardisty Alberta saw its discount to WTI (Cushing) widen by $4.20/bbl to -$22.51/bbl while its discount to WTI at Houston widened by only $1.33/bbl to -$12.80/bbl, benefitting from strong demand for coker feed and the loss of heavy Ecuadorian Napo output.

Freight

Freight rates strengthened over the month of June for both clean and dirty tankers. A key market and policy issue in June concerned limiting shipment of Russian crude and products. The latest EU sanctions impact EU tanker owners and operators as well as EU entities financing or insuring tankers carrying Russian oil.

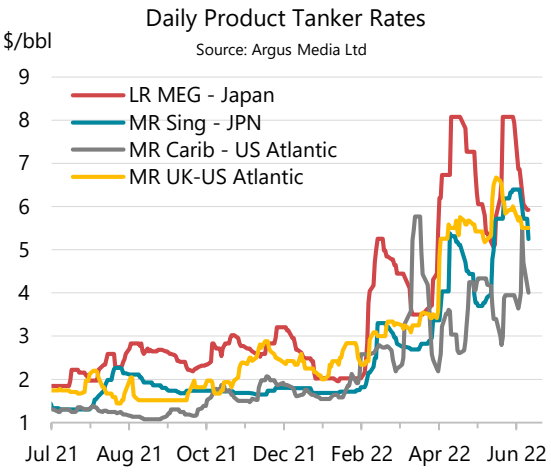
In a recent report, shipbroker Barry Rogliano Sales (BRS) assessed the availability of the world's "shadow tanker" fleet and potential Russian export requirements. The shadow fleet concerns tankers engaged in illicit transport of crude or product (e.g. Iranian or Venezuelan) or operated by companies excluded from the public pool (based in sanctioned countries or owned by sanctioned entities). Recent EU, UK and US sanctions have moved Russian-owned or operated ships into this category, boosting the shadow fleet to some 400 vessels over 34,000 Dwt. They account respectively for 7.6% of vessels and 9.4% of capacity in the global fleet and transport mainly dirty cargoes (crude or fuel oil, mostly Iranian and Venezuelan exports), few being clean shadow tankers available for Russia's sizable gasoil and naphtha exports.

BRS estimates the average age of the shadow fleet at over 20 years, versus 12 years for the general fleet. Tankers exceeding 15 years become unsuitable to major international charters. They increasingly move to the shadow fleet - not to scrap - for greater remuneration. Moving Russian oil to non-EU-allied destinations will support this trend. Despite more vessels, the increased need for long-haul shipping of Russian barrels will push Russia into direct competition

with Iran for dirty shadow tankers. It will also encourage riskier operations like ship-to-ship transfers of Russian crude in the North Atlantic to optimize short haul routes on Aframaxes and long-haul routes on VLCCs.

Operating more aged vessels, less suitable for chartering on long-haul voyages, raises the risk of a significant accident or marine spill. The concern is all the greater as the vessels will transport mainly crude or fuel and will not be insured, or re-insured, through recognized entities operating to Western legal norms. However, importing governments could adopt measures such as the 2012 Japanese law providing indemnity cover for tankers carrying Iranian oil. India has already taken steps in this direction, reportedly certifying the seaworthiness of over 80 Russian Sovcomflot tankers through the Indian Register of Shipping (IRClass), one of the world's top classification companies.

Dirty tanker fundamentals have improved over the past month. Rates for most segments have risen on steady chartering by refiners coming out of maintenance and with low stocks. Transatlantic imports of light sweet US grades in June remained steady with May at 1.5 mb/d, their highest recorded levels. European imports of West African grades also rose to 1.5 mb/d, another peak since December 2019. The combined surge in flows sustained the call on Aframax and Suezmax vessels, boosting chartering rates. VLCC rates also rose on West African flows and rising Middle East exports to Europe that reached their highest level since August 2019 (excluding April 2020).



Clean product tanker rates made gains overall in June, but eased starting in the third decade of the month. The Singapore to Japan route rose with the seasonal uptake of kerosene to build stocks ahead of winter. Atlantic Basin routes remain robust with transatlantic product sales increasing the call on available capacity. The high transatlantic freight rates have complicated arbitrages for both crude and products and contributed to wider US versus Europe crude and product price spreads.

Freight Costs

(monthly and weekly averages, $/bbl)

				Jun-22			Week Commencing					
	Jun-21	Apr-22	May-22	Jun-22	*m-o-m chg*	*y-o-y chg*	30-May	06-Jun	13-Jun	20-Jun	27-Jun	04-Jul
Crude Tankers												
VLCC MEG-Asia	0.87	1.49	1.25	1.38	0.12	0.51	1.29	1.32	1.32	1.39	1.54	1.66
130Kt WAF - UKC	0.98	3.06	1.88	2.31	0.43	1.33	1.98	1.98	2.36	2.52	2.49	2.49
Baltic Aframax	0.75	6.32	2.25	1.97	-0.28	1.22	1.88	1.88	1.95	1.93	2.20	2.26
North Sea Aframax	0.74	1.39	1.21	1.32	0.11	0.58	1.16	1.16	1.24	1.43	1.47	1.45
Product Tankers												
LR MEG - Japan	1.88	4.22	7.22	6.67	-0.55	4.79	5.71	5.25	7.41	8.05	6.54	5.61
MR Sing - JPN	1.65	3.01	4.52	5.58	1.06	3.92	3.80	5.02	5.91	6.33	6.14	5.34
MR Carib - US Atlantic	1.25	3.83	3.49	3.82	0.33	2.57	4.30	3.61	3.32	3.95	4.32	3.52
MR UK-US Atlantic	1.76	3.64	5.52	6.00	0.48	4.24	5.28	6.26	6.24	5.94	5.62	5.40

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	25.5	22.6	22.8	24.4	24.8	25.0	24.3	24.9	24.9	24.9	25.0	24.9	24.9	25.3	25.3	25.2	25.2
Europe	14.3	12.4	11.9	12.6	13.8	13.9	13.1	13.1	13.3	13.8	13.6	13.4	13.1	13.5	14.0	13.7	13.6
Asia Oceania	7.9	7.1	7.7	7.0	7.1	7.8	7.4	7.9	7.0	7.2	7.7	7.4	8.0	7.3	7.4	7.9	7.6
Total OECD	**47.8**	**42.1**	**42.4**	**44.1**	**45.8**	**46.8**	**44.8**	**45.9**	**45.1**	**45.8**	**46.2**	**45.8**	**46.0**	**46.1**	**46.7**	**46.7**	**46.4**
NON-OECD DEMAND																	
FSU	4.7	4.5	4.6	4.7	4.9	5.0	4.8	4.7	4.6	4.7	4.6	4.6	4.5	4.5	4.7	4.7	4.6
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	14.6	15.7	15.9	15.4	15.7	16.1	16.3	16.7	16.2
Other Asia	14.1	12.8	13.7	13.0	12.7	13.9	13.3	14.0	13.8	13.3	13.9	13.8	14.3	14.2	13.9	14.6	14.3
Americas	6.3	5.5	5.7	5.8	6.1	6.1	5.9	5.9	6.1	6.1	6.1	6.0	5.9	6.1	6.2	6.2	6.1
Middle East	8.8	8.2	8.2	8.5	9.0	8.5	8.6	8.6	8.8	9.2	8.6	8.8	8.6	8.9	9.3	8.7	8.9
Africa	4.1	3.7	3.9	3.8	3.8	4.0	3.9	4.1	4.0	3.9	4.1	4.0	4.0	4.0	4.0	4.1	4.0
Total Non-OECD	**52.9**	**49.6**	**51.8**	**52.2**	**52.9**	**53.9**	**52.7**	**53.4**	**52.7**	**53.6**	**54.0**	**53.4**	**53.8**	**54.7**	**55.2**	**56.0**	**54.9**
Total Demand[1]	**100.7**	**91.7**	**94.2**	**96.2**	**98.7**	**100.7**	**97.5**	**99.3**	**97.8**	**99.4**	**100.2**	**99.2**	**99.8**	**100.8**	**102.0**	**102.7**	**101.3**
OECD SUPPLY																	
Americas	24.8	23.8	23.3	24.2	24.3	25.3	24.3	25.0	25.5	26.3	26.7	25.9	26.8	27.2	27.3	27.6	27.2
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.1	3.2	3.4	3.3	3.4	3.4	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[4]	**28.6**	**27.9**	**27.4**	**27.8**	**28.3**	**29.2**	**28.2**	**28.8**	**29.1**	**30.0**	**30.6**	**29.6**	**30.7**	**31.0**	**31.1**	**31.6**	**31.1**
NON-OECD SUPPLY																	
FSU	14.6	13.5	13.4	13.7	13.7	14.3	13.8	14.4	13.4	13.5	12.8	13.5	11.9	11.7	11.6	11.7	11.7
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	4.3	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	2.8	2.7	2.7	2.7	2.6	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	5.4	5.7	5.8	5.6	5.8	5.9	5.9	5.9	5.9
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	3.3	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-OECD[4]	**31.8**	**30.3**	**30.2**	**30.5**	**30.5**	**30.8**	**30.5**	**31.4**	**30.4**	**30.7**	**30.1**	**30.7**	**29.2**	**29.1**	**29.1**	**29.1**	**29.1**
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**	**61.9**	**63.5**	**64.3**	**65.0**	**63.7**	**64.9**	**64.8**	**66.3**	**66.0**	**65.5**	**64.9**	**65.6**	**66.0**	**66.1**	**65.6**
OPEC[2]																	
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	5.4	5.4	5.4	5.5	5.5	5.5
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**	**92.4**	**94.1**	**96.4**	**98.0**	**95.2**	**98.6**	**98.9**								
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.1	0.4	-1.3	-0.5	-1.3	-1.2	-1.1	-0.3									
Government	0.0	0.0	0.0	-0.2	-0.1	-0.3	-0.2	-0.5									
Total	**0.0**	**0.4**	**-1.3**	**-0.7**	**-1.4**	**-1.5**	**-1.2**	**-0.8**									
Floating storage/Oil in transit	0.1	0.0	-0.5	-0.6	-0.3	1.1	-0.1	-0.6									
Miscellaneous to balance[5]	-0.2	1.6	-0.1	-0.8	-0.6	-2.3	-0.9	0.7									
Total Stock Ch. & Misc	**-0.1**	**2.0**	**-1.8**	**-2.1**	**-2.3**	**-2.7**	**-2.2**	**-0.6**	**1.1**								
Memo items:																	
Call on OPEC crude + Stock ch.[6]	29.7	23.6	27.2	27.6	29.3	30.5	28.7	29.1	27.6	27.7	28.9	28.3	29.5	29.8	30.5	31.1	30.2

1 Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply. Includes biofuels.
2 OPEC data based on today's membership throughout the time series.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
5 Includes changes in non-reported stocks in OECD and non-OECD areas.
6 Total demand minus total non-OPEC supply minus OPEC NGLs.

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

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
OECD DEMAND																	
Americas	-	-	-	-	-	-	-	-	-0.5	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1	-	-0.1
Europe	-	-	-	-	-	-	-	-	-0.2	-0.1	-	-0.1	-	-0.1	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-	-	-	-	-
Total OECD	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.8**	**-0.4**	**-0.1**	**-0.3**	**-0.2**	**-0.2**	**-0.1**	**-**	**-0.1**
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-0.1	-0.1	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	-	-	-	-0.3	-	-0.1	-0.1	-0.1
Other Asia	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-	-	0.2	0.2	0.1
Americas	-	-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
Middle East	-	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	-	-	-	-	0.1	0.1	-	0.1
Africa	-	-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 Non-OECD	**0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**-0.2**	**-0.1**	**0.3**	**0.1**	**-**	**0.1**	**-0.6**	**-0.1**	**0.1**	**-**	**-0.1**
Total Demand	**0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**-0.2**	**-0.1**	**-0.4**	**-0.3**	**-0.1**	**-0.2**	**-0.8**	**-0.3**	**-**	**-0.1**	**-0.3**
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	0.1	-	-	-
Europe	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	0.1	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.1**	**-**	**-**	**-**	**-0.1**	**0.1**	**-**	**-**	**-**
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	0.2	0.4	0.4	0.2	0.1	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.2**	**0.3**	**0.3**	**0.2**	**0.1**	**-**	**-0.1**	**-**	**-**
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.1**	**0.1**	**0.3**	**0.4**	**0.2**	**-**	**0.1**	**-**	**-**	**-**
OPEC																	
Crude	-	-	-	-	-	-	-	-									
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**									
Total Supply	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**									
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-0.1									
Government	-	-	-	-	-	-	-	-									
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.1**									
Floating storage/Oil in transit	-	-	-	-	-	-	-	-									
Miscellaneous to balance	-0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1									
Total Stock Ch. & Misc	**-0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**-**									
Memo items:																	
Call on OPEC crude + Stock ch.	0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-	-0.6	-0.7	-0.5	-0.4	-0.8	-0.4	0.1	-	-0.3

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

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

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Total Demand	**100.7**	**91.7**	**94.2**	**96.2**	**98.7**	**100.7**	**97.4**	**99.3**	**97.8**	**99.4**	**100.2**	**99.2**	**99.8**	**100.8**	**102.0**	**102.7**	**101.3**
OECD SUPPLY																	
Americas[2]	22.8	21.9	21.4	22.3	22.4	23.3	22.3	23.0	23.5	24.2	24.7	23.9	24.8	25.1	25.3	25.6	25.2
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.1	3.2	3.4	3.3	3.4	3.4	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**	**25.5**	**25.9**	**26.3**	**27.2**	**26.2**	**26.8**	**27.1**	**27.9**	**28.5**	**27.6**	**28.7**	**28.9**	**29.1**	**29.5**	**29.0**
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	4.3	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	2.1	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	5.4	5.7	5.8	5.6	5.8	5.9	5.9	5.9	5.9
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**	**15.5**	**15.5**	**15.3**	**15.6**	**15.6**	**15.6**	**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**	**45.8**	**44.9**	**46.1**	**47.0**	**47.0**	**46.3**	**46.7**	**47.6**	**49.0**	**49.3**	**48.2**	**49.1**	**50.0**	**50.5**	**50.5**	**50.0**
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	1.1	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	0.5	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	2.6	2.6	2.6	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	4.6	4.7	4.5	4.6	4.6	4.7	4.7	4.6
Kazakhstan	1.6	1.5	1.5	1.5	1.4	1.7	1.5	1.6	1.4	1.5	1.7	1.6	1.7	1.7	1.6	1.7	1.6
Kuwait	2.7	2.4	2.3	2.4	2.4	2.5	2.4	2.6	2.7	2.7	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	0.8	1.2	0.9	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	1.6	1.6	1.7
Nigeria	1.7	1.5	1.4	1.3	1.3	1.2	1.3	1.3	1.2	1.2	1.3	1.2	1.3	1.3	1.3	1.3	1.3
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	9.3	8.5	9.3	7.6	7.5	7.5	7.5	7.5
Saudi Arabia	9.9	9.2	8.5	8.6	9.6	9.9	9.1	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	0.2	0.2	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	3.0	3.1	3.2	3.2	3.1	3.2	3.2	3.2	3.2	3.2
Venezuela	0.9	0.5	0.5	0.5	0.6	0.8	0.6	0.7	0.7	0.8	0.8	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**	**44.2**	**44.2**	**44.0**	**43.3**	**43.1**	**43.0**	**43.1**	**43.1**
OPEC+ NGLs & Condensate	7.4	7.2	7.4	7.4	7.3	7.5	7.4	7.7	7.8	7.8	7.9	7.8	7.9	7.9	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**	**51.9**	**51.3**	**52.2**	**52.2**	**51.9**	**51.3**	**51.1**	**51.0**	**51.1**	**51.1**
Total Supply Oil	**100.6**	**93.8**	**92.4**	**94.1**	**96.4**	**98.0**	**95.2**	**98.6**	**98.9**	**101.2**	**101.4**	**100.1**	**100.4**	**101.1**	**101.5**	**101.6**	**101.1**
Memo items:																	
Call on OPEC+ crude + Stock ch	46.0	38.5	41.8	42.6	44.3	46.0	43.7	44.7	42.3	42.4	43.0	43.1	42.7	42.9	43.5	44.2	43.3

1 From Jul 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	22.56	22.82	24.38	24.83	25.05	24.27	24.88	24.86	24.86	24.95	24.89	24.88	25.30	25.29	25.18	25.16
Europe	12.43	11.91	12.64	13.85	13.91	13.08	13.09	13.28	13.78	13.61	13.44	13.08	13.54	14.02	13.66	13.58
Asia Oceania	7.14	7.66	7.04	7.11	7.82	7.41	7.89	6.98	7.18	7.67	7.43	8.04	7.29	7.40	7.87	7.65
Total OECD	**42.13**	**42.40**	**44.05**	**45.79**	**46.77**	**44.77**	**45.86**	**45.11**	**45.82**	**46.23**	**45.76**	**46.00**	**46.14**	**46.71**	**46.71**	**46.39**
Asia	26.98	28.54	28.58	28.27	29.50	28.73	29.39	28.42	28.97	29.80	29.14	30.02	30.37	30.21	31.37	30.50
Middle East	8.19	8.25	8.49	8.97	8.51	8.56	8.59	8.84	9.19	8.64	8.81	8.60	8.94	9.32	8.74	8.90
Americas	5.54	5.74	5.80	6.14	6.10	5.95	5.95	6.07	6.09	6.08	6.05	5.93	6.11	6.23	6.20	6.12
FSU	4.50	4.57	4.67	4.91	4.99	4.79	4.65	4.60	4.68	4.62	4.64	4.46	4.48	4.71	4.75	4.60
Africa	3.67	3.94	3.85	3.81	3.99	3.90	4.06	3.99	3.90	4.06	4.00	3.99	4.01	3.97	4.12	4.02
Europe	0.73	0.75	0.75	0.78	0.78	0.77	0.76	0.77	0.79	0.79	0.78	0.77	0.78	0.81	0.82	0.79
Total Non-OECD	**49.60**	**51.79**	**52.16**	**52.88**	**53.88**	**52.68**	**53.41**	**52.68**	**53.61**	**53.99**	**53.42**	**53.77**	**54.69**	**55.25**	**55.98**	**54.93**
World	**91.73**	**94.19**	**96.21**	**98.67**	**100.65**	**97.45**	**99.26**	**97.79**	**99.43**	**100.23**	**99.18**	**99.77**	**100.83**	**101.96**	**102.69**	**101.32**
of which:																
United States[1]	18.19	18.45	20.03	20.21	20.41	19.78	20.22	20.01	19.96	20.20	20.10	20.10	20.37	20.25	20.33	20.26
Europe five[2]	6.92	6.68	7.08	7.67	7.82	7.32	7.37	7.47	7.62	7.62	7.52	7.38	7.53	7.69	7.63	7.56
China	14.20	14.88	15.59	15.59	15.64	15.43	15.40	14.57	15.71	15.85	15.39	15.72	16.12	16.27	16.73	16.21
Japan	3.33	3.73	3.08	3.18	3.67	3.42	3.72	2.96	3.15	3.52	3.34	3.82	3.19	3.31	3.63	3.49
India	4.51	4.97	4.42	4.46	4.95	4.70	5.18	5.07	4.73	5.14	5.03	5.27	5.17	4.83	5.23	5.12
Russia	3.42	3.50	3.58	3.76	3.76	3.65	3.63	3.55	3.60	3.48	3.56	3.38	3.37	3.57	3.55	3.47
Brazil	2.87	2.91	2.92	3.13	3.06	3.01	2.95	2.99	3.01	3.03	3.00	2.87	2.94	3.01	3.02	2.96
Saudi Arabia	3.45	3.22	3.51	3.74	3.42	3.47	3.30	3.58	3.83	3.43	3.54	3.25	3.63	3.89	3.47	3.56
Canada	2.30	2.26	2.24	2.50	2.40	2.35	2.33	2.43	2.54	2.47	2.44	2.42	2.47	2.65	2.55	2.52
Korea	2.44	2.55	2.50	2.59	2.70	2.59	2.74	2.56	2.59	2.66	2.64	2.78	2.63	2.64	2.76	2.70
Mexico	1.58	1.62	1.64	1.60	1.71	1.64	1.75	1.96	1.89	1.81	1.85	1.81	1.97	1.92	1.82	1.88
Iran	1.88	2.03	1.92	1.94	1.93	1.96	2.05	1.96	1.95	1.94	1.97	2.02	1.95	1.94	1.92	1.96
Total	**65.09**	**66.78**	**68.51**	**70.36**	**71.49**	**69.30**	**70.64**	**69.10**	**70.59**	**71.15**	**70.37**	**70.80**	**71.33**	**71.96**	**72.63**	**71.69**
% of World	**71.0%**	**70.9%**	**71.2%**	**71.3%**	**71.0%**	**71.1%**	**71.2%**	**70.7%**	**71.0%**	**71.0%**	**71.0%**	**71.0%**	**70.7%**	**70.6%**	**70.7%**	**70.8%**
Annual Change (% per annum)																
Americas	-11.7	-6.5	22.0	9.4	8.3	7.6	9.0	2.0	0.1	-0.4	2.5	0.0	1.8	1.7	0.9	1.1
Europe	-13.1	-10.6	14.7	7.6	11.2	5.2	9.8	5.1	-0.5	-2.1	2.7	0.0	2.0	1.8	0.3	1.0
Asia Oceania	-10.0	-2.5	6.7	5.4	6.4	3.8	2.9	-0.9	1.0	-1.9	0.3	1.9	4.5	3.0	2.6	3.0
Total OECD	**-11.8**	**-7.0**	**17.2**	**8.2**	**8.8**	**6.3**	**8.2**	**2.4**	**0.1**	**-1.2**	**2.2**	**0.3**	**2.3**	**1.9**	**1.0**	**1.4**
Asia	-4.1	11.3	9.1	3.5	2.7	6.5	3.0	-0.6	2.5	1.0	1.5	2.1	6.9	4.3	5.3	4.6
Middle East	-7.4	-2.3	12.0	5.3	3.7	4.5	4.2	4.1	2.4	1.5	3.0	0.1	1.2	1.5	1.1	1.0
Americas	-12.0	0.7	17.0	8.8	4.7	7.5	3.6	4.5	-0.8	-0.3	1.7	-0.2	0.6	2.2	1.9	1.1
FSU	-4.8	-0.1	14.4	5.2	6.9	6.4	1.9	-1.6	-4.7	-7.4	-3.1	-4.2	-2.7	0.6	2.8	-0.8
Africa	-11.0	-0.9	15.6	5.9	5.9	6.2	3.0	3.6	2.5	1.8	2.7	-1.7	0.6	1.8	1.4	0.5
Europe	-6.3	1.8	10.2	4.2	2.5	4.5	1.4	2.1	1.1	1.4	1.5	1.0	2.4	2.6	2.7	2.2
Total Non-OECD	**-6.2**	**5.5**	**11.3**	**4.7**	**3.7**	**6.2**	**3.1**	**1.0**	**1.4**	**0.2**	**1.4**	**0.7**	**3.8**	**3.1**	**3.7**	**2.8**
World	**-8.9**	**-0.5**	**13.9**	**6.3**	**6.0**	**6.2**	**5.4**	**1.6**	**0.8**	**-0.4**	**1.8**	**0.5**	**3.1**	**2.5**	**2.5**	**2.2**
Annual Change (mb/d)																
Americas	-2.98	-1.58	4.40	2.13	1.91	1.72	2.06	0.48	0.03	-0.09	0.61	-0.01	0.44	0.43	0.23	0.28
Europe	-1.88	-1.42	1.62	0.98	1.40	0.65	1.17	0.64	-0.07	-0.29	0.36	-0.01	0.27	0.24	0.04	0.14
Asia Oceania	-0.80	-0.19	0.44	0.36	0.47	0.27	0.23	-0.06	0.07	-0.15	0.02	0.15	0.31	0.21	0.20	0.22
Total OECD	**-5.65**	**-3.19**	**6.46**	**3.46**	**3.78**	**2.64**	**3.46**	**1.06**	**0.03**	**-0.54**	**0.99**	**0.14**	**1.02**	**0.89**	**0.48**	**0.63**
Asia	-1.14	2.89	2.38	0.96	0.79	1.75	0.85	-0.17	0.70	0.30	0.42	0.63	1.95	1.25	1.57	1.35
Middle East	-0.65	-0.20	0.91	0.45	0.30	0.37	0.34	0.34	0.21	0.12	0.26	0.01	0.10	0.14	0.10	0.09
Americas	-0.76	0.04	0.84	0.50	0.27	0.41	0.21	0.26	-0.05	-0.02	0.10	-0.01	0.04	0.13	0.11	0.07
FSU	-0.23	0.00	0.59	0.24	0.32	0.29	0.09	-0.07	-0.23	-0.37	-0.15	-0.20	-0.12	0.03	0.13	-0.04
Africa	-0.45	-0.03	0.52	0.21	0.22	0.23	0.12	0.14	0.09	0.07	0.11	-0.07	0.02	0.07	0.06	0.02
Europe	-0.05	0.01	0.07	0.03	0.02	0.03	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Total Non-OECD	**-3.28**	**2.72**	**5.31**	**2.39**	**1.92**	**3.08**	**1.61**	**0.52**	**0.73**	**0.12**	**0.74**	**0.37**	**2.01**	**1.64**	**1.99**	**1.51**
World	**-8.93**	**-0.47**	**11.76**	**5.86**	**5.70**	**5.72**	**5.07**	**1.58**	**0.76**	**-0.43**	**1.73**	**0.50**	**3.04**	**2.53**	**2.47**	**2.14**
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.49	-0.24	-0.06	-0.19	-0.12	-0.08	-0.06	-0.02	-0.07
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.17	-0.06	0.02	-0.05	-0.05	-0.11	-0.02	-0.01	-0.05
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.13	-0.09	-0.06	-0.08	-0.04	-0.04	-0.02	-0.01	-0.03
Total OECD	**-0.00**	**-0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**-0.80**	**-0.40**	**-0.10**	**-0.32**	**-0.20**	**-0.22**	**-0.09**	**-0.04**	**-0.14**
Asia	0.12	0.10	0.07	0.08	0.11	0.09	0.07	0.27	0.11	0.07	0.13	-0.28	0.01	0.19	0.14	0.02
Middle East	-0.14	-0.16	-0.11	-0.07	-0.07	-0.10	-0.07	0.11	0.04	-0.02	0.02	0.00	0.14	0.09	0.01	0.06
Americas	-0.10	-0.10	-0.10	-0.11	-0.10	-0.10	-0.05	-0.05	-0.13	-0.12	-0.09	-0.14	-0.11	-0.09	-0.10	-0.11
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10	0.05	0.05	-0.08	-0.05	0.01	0.01	-0.03
Africa	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.05	-0.06	-0.07	-0.06	-0.06	-0.11	-0.12	-0.10	-0.11	-0.11
Europe	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Total Non-OECD	**-0.16**	**-0.21**	**-0.18**	**-0.15**	**-0.11**	**-0.16**	**-0.08**	**0.35**	**0.07**	**-0.05**	**0.07**	**-0.58**	**-0.09**	**0.12**	**-0.01**	**-0.14**
World	**-0.16**	**-0.21**	**-0.18**	**-0.15**	**-0.11**	**-0.16**	**-0.05**	**-0.45**	**-0.32**	**-0.15**	**-0.24**	**-0.78**	**-0.32**	**0.04**	**-0.05**	**-0.28**
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	-0.37	-0.13	-0.04	0.06	0.08	-0.01	0.16	-0.27	-0.18	-0.04	-0.08	-0.73	0.13	0.36	0.10	-0.03

1 US figures exclude US territories.
2 France, Germany, Italy, Spain and UK

Table 2a
OECD REGIONAL OIL DEMAND[1]
(million barrels per day)

	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22 [2]	Latest month vs. Mar 22	Latest month vs. Apr 21
Americas											
LPG and ethane	3.56	3.71	3.58	3.59	3.94	4.24	4.39	3.80	3.73	-0.08	0.38
Naphtha	0.25	0.25	0.27	0.26	0.24	0.22	0.20	0.22	0.21	-0.01	-0.06
Motor gasoline	9.55	10.34	10.57	10.73	10.58	10.07	10.20	10.56	10.45	-0.11	0.23
Jet and kerosene	1.23	1.55	1.48	1.72	1.72	1.68	1.63	1.77	1.76	0.00	0.35
Gasoil/diesel oil	4.93	5.08	5.05	5.02	5.16	5.37	5.42	5.49	5.06	-0.44	-0.03
Residual fuel oil	0.40	0.53	0.49	0.54	0.58	0.58	0.55	0.64	0.51	-0.14	0.13
Other products	2.64	2.82	2.93	2.96	2.83	2.73	2.78	2.81	2.91	0.10	0.00
Total	**22.56**	**24.27**	**24.38**	**24.83**	**25.05**	**24.88**	**25.16**	**25.29**	**24.62**	**-0.67**	**1.00**
Europe											
LPG and ethane	1.08	1.09	1.06	1.10	1.07	1.10	1.20	1.09	0.93	-0.15	-0.11
Naphtha	1.07	1.14	1.02	1.11	1.19	1.16	1.21	1.01	0.99	-0.02	-0.10
Motor gasoline	1.75	1.93	1.92	2.19	2.01	1.87	1.94	1.95	2.03	0.08	0.29
Jet and kerosene	0.73	0.84	0.67	1.01	1.05	0.99	1.00	1.05	1.18	0.14	0.56
Gasoil/diesel oil	5.96	6.26	6.13	6.52	6.69	6.14	6.42	6.38	6.12	-0.26	0.08
Residual fuel oil	0.68	0.71	0.69	0.73	0.71	0.74	0.71	0.76	0.76	-0.01	0.06
Other products	1.15	1.13	1.14	1.19	1.18	1.09	1.08	1.14	1.12	-0.02	0.04
Total	**12.43**	**13.08**	**12.64**	**13.85**	**13.91**	**13.09**	**13.55**	**13.38**	**13.12**	**-0.25**	**0.81**
Asia Oceania											
LPG and ethane	0.78	0.79	0.77	0.73	0.79	0.96	1.01	0.92	0.81	-0.10	0.03
Naphtha	1.82	1.99	1.86	2.02	2.09	1.96	1.92	1.89	1.89	0.01	0.04
Motor gasoline	1.35	1.36	1.37	1.36	1.40	1.31	1.32	1.31	1.28	-0.03	-0.11
Jet and kerosene	0.61	0.61	0.47	0.43	0.72	0.88	0.94	0.72	0.52	-0.20	0.02
Gasoil/diesel oil	1.79	1.83	1.82	1.77	1.92	1.88	1.93	1.89	1.74	-0.16	-0.13
Residual fuel oil	0.43	0.46	0.41	0.44	0.49	0.53	0.51	0.53	0.48	-0.05	0.06
Other products	0.35	0.37	0.35	0.36	0.40	0.37	0.41	0.36	0.26	-0.10	-0.07
Total	**7.14**	**7.41**	**7.04**	**7.11**	**7.82**	**7.89**	**8.05**	**7.61**	**6.98**	**-0.63**	**-0.16**
OECD											
LPG and ethane	5.43	5.59	5.41	5.43	5.80	6.29	6.60	5.81	5.47	-0.33	0.29
Naphtha	3.14	3.37	3.15	3.38	3.52	3.34	3.33	3.12	3.09	-0.02	-0.12
Motor gasoline	12.66	13.62	13.86	14.29	13.99	13.25	13.45	13.81	13.75	-0.06	0.40
Jet and kerosene	2.57	3.00	2.62	3.16	3.49	3.55	3.57	3.54	3.46	-0.07	0.93
Gasoil/diesel oil	12.68	13.17	13.00	13.31	13.77	13.38	13.77	13.76	12.91	-0.85	-0.08
Residual fuel oil	1.50	1.70	1.59	1.71	1.79	1.85	1.76	1.94	1.74	-0.19	0.26
Other products	4.14	4.32	4.42	4.52	4.41	4.19	4.26	4.31	4.29	-0.02	-0.03
Total	**42.13**	**44.77**	**44.05**	**45.79**	**46.77**	**45.86**	**46.75**	**46.28**	**44.73**	**-1.55**	**1.65**

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 COUNTRIES[1]
(million barrels per day)

	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22 [2]	Latest month vs. Mar 22	Latest month vs. Apr 21
United States[3]											
LPG and ethane	2.74	2.85	2.76	2.73	3.07	3.37	3.46	3.05	2.95	-0.10	0.37
Naphtha	0.18	0.19	0.21	0.20	0.18	0.15	0.14	0.16	0.15	-0.01	-0.06
Motor gasoline	8.05	8.80	9.07	9.13	8.96	8.47	8.60	8.86	8.75	-0.10	-0.04
Jet and kerosene	1.08	1.38	1.34	1.52	1.49	1.46	1.40	1.52	1.54	0.01	0.25
Gasoil/diesel oil	3.78	3.94	3.93	3.87	4.00	4.14	4.18	4.16	3.81	-0.35	-0.18
Residual fuel oil	0.21	0.31	0.25	0.33	0.41	0.38	0.36	0.44	0.30	-0.13	0.16
Other products	2.13	2.32	2.47	2.43	2.30	2.24	2.30	2.33	2.45	0.12	-0.02
Total	**18.19**	**19.78**	**20.03**	**20.21**	**20.41**	**20.22**	**20.44**	**20.51**	**19.96**	**-0.55**	**0.50**
Japan											
LPG and ethane	0.41	0.42	0.40	0.37	0.43	0.51	0.54	0.48	0.44	-0.04	0.00
Naphtha	0.68	0.73	0.68	0.70	0.79	0.66	0.67	0.60	0.57	-0.03	-0.13
Motor gasoline	0.76	0.74	0.71	0.78	0.76	0.70	0.69	0.72	0.70	-0.02	-0.04
Jet and kerosene	0.36	0.36	0.24	0.21	0.45	0.57	0.63	0.45	0.27	-0.18	0.00
Diesel	0.40	0.40	0.39	0.39	0.42	0.40	0.42	0.42	0.38	-0.04	-0.03
Other gasoil	0.30	0.31	0.28	0.27	0.33	0.36	0.38	0.35	0.30	-0.05	0.00
Residual fuel oil	0.21	0.24	0.21	0.23	0.26	0.29	0.28	0.28	0.25	-0.03	0.03
Other products	0.20	0.22	0.18	0.23	0.25	0.23	0.26	0.22	0.11	-0.11	-0.07
Total	**3.33**	**3.42**	**3.08**	**3.18**	**3.67**	**3.72**	**3.85**	**3.51**	**3.02**	**-0.49**	**-0.24**
Germany											
LPG and ethane	0.11	0.12	0.13	0.12	0.11	0.11	0.11	0.11	0.12	0.01	-0.01
Naphtha	0.29	0.34	0.31	0.32	0.36	0.36	0.39	0.31	0.33	0.02	-0.01
Motor gasoline	0.45	0.45	0.44	0.48	0.46	0.42	0.42	0.45	0.43	-0.02	0.00
Jet and kerosene	0.10	0.13	0.11	0.16	0.16	0.15	0.15	0.16	0.16	0.00	0.06
Diesel	0.71	0.71	0.71	0.77	0.75	0.67	0.63	0.73	0.67	-0.07	-0.04
Other gasoil	0.36	0.28	0.26	0.26	0.36	0.28	0.28	0.30	0.24	-0.06	-0.03
Residual fuel oil	0.05	0.05	0.04	0.05	0.06	0.05	0.04	0.05	0.06	0.01	0.01
Other products	0.08	0.07	0.06	0.07	0.08	0.05	0.06	0.05	0.06	0.02	0.01
Total	**2.15**	**2.14**	**2.07**	**2.23**	**2.34**	**2.10**	**2.09**	**2.15**	**2.06**	**-0.09**	**-0.01**
Italy											
LPG and ethane	0.09	0.10	0.09	0.09	0.11	0.12	0.13	0.12	0.10	-0.02	0.01
Naphtha	0.10	0.10	0.10	0.09	0.11	0.11	0.12	0.11	0.11	0.00	-0.01
Motor gasoline	0.14	0.17	0.17	0.19	0.18	0.16	0.17	0.17	0.18	0.01	0.03
Jet and kerosene	0.04	0.04	0.04	0.07	0.05	0.04	0.04	0.04	0.07	0.03	0.04
Diesel	0.42	0.49	0.49	0.52	0.52	0.49	0.52	0.52	0.50	-0.02	0.04
Other gasoil	0.06	0.06	0.06	0.07	0.06	0.04	0.04	0.05	0.03	-0.02	-0.02
Residual fuel oil	0.06	0.06	0.05	0.06	0.06	0.05	0.05	0.06	0.06	0.01	0.02
Other products	0.14	0.15	0.16	0.16	0.16	0.15	0.15	0.16	0.16	0.00	0.00
Total	**1.05**	**1.18**	**1.15**	**1.25**	**1.25**	**1.16**	**1.23**	**1.22**	**1.20**	**-0.02**	**0.11**
France											
LPG and ethane	0.11	0.12	0.13	0.11	0.10	0.12	0.13	0.13	0.10	-0.03	-0.03
Naphtha	0.12	0.14	0.12	0.13	0.15	0.13	0.14	0.11	0.06	-0.05	-0.07
Motor gasoline	0.17	0.21	0.20	0.24	0.22	0.21	0.22	0.22	0.23	0.01	0.06
Jet and kerosene	0.09	0.09	0.07	0.11	0.11	0.10	0.09	0.10	0.10	0.01	0.05
Diesel	0.67	0.73	0.72	0.78	0.76	0.71	0.74	0.75	0.73	-0.02	0.05
Other gasoil	0.14	0.13	0.09	0.11	0.15	0.16	0.17	0.13	0.09	-0.05	-0.02
Residual fuel oil	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.01	0.00
Other products	0.09	0.09	0.09	0.12	0.09	0.08	0.08	0.09	0.10	0.00	0.04
Total	**1.42**	**1.54**	**1.45**	**1.63**	**1.61**	**1.54**	**1.61**	**1.56**	**1.45**	**-0.11**	**0.07**
United Kingdom											
LPG and ethane	0.13	0.11	0.09	0.10	0.11	0.12	0.12	0.12	0.12	0.00	0.02
Naphtha	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
Motor gasoline	0.22	0.25	0.26	0.28	0.28	0.26	0.28	0.25	0.31	0.05	0.07
Jet and kerosene	0.19	0.18	0.14	0.16	0.24	0.24	0.25	0.25	0.27	0.02	0.11
Diesel	0.43	0.48	0.50	0.50	0.50	0.47	0.51	0.46	0.51	0.05	0.04
Other gasoil	0.11	0.13	0.14	0.14	0.12	0.11	0.12	0.11	0.15	0.03	0.01
Residual fuel oil	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.00	0.00
Other products	0.10	0.11	0.11	0.11	0.10	0.11	0.11	0.12	0.11	-0.01	0.00
Total	**1.21**	**1.27**	**1.25**	**1.31**	**1.37**	**1.33**	**1.41**	**1.33**	**1.48**	**0.14**	**0.25**
Canada											
LPG and ethane	0.47	0.50	0.49	0.50	0.49	0.48	0.55	0.35	0.47	0.11	0.01
Naphtha	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.01	0.00
Motor gasoline	0.77	0.80	0.78	0.87	0.80	0.77	0.80	0.77	0.82	0.04	0.09
Jet and kerosene	0.07	0.08	0.05	0.10	0.11	0.09	0.10	0.10	0.11	0.00	0.07
Diesel	0.27	0.27	0.27	0.27	0.26	0.27	0.29	0.26	0.27	0.01	0.00
Other gasoil	0.34	0.35	0.33	0.37	0.35	0.36	0.39	0.34	0.32	-0.02	0.01
Residual fuel oil	0.03	0.03	0.03	0.02	0.03	0.04	0.03	0.04	0.02	-0.01	-0.02
Other products	0.32	0.31	0.27	0.35	0.34	0.30	0.29	0.28	0.28	0.00	0.03
Total	**2.30**	**2.35**	**2.24**	**2.50**	**2.40**	**2.33**	**2.48**	**2.18**	**2.31**	**0.13**	**0.19**

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	Apr 22	May 22	Jun 22
OPEC											
Crude Oil											
Saudi Arabia	9.15			10.20	10.52				10.43	10.50	10.62
Iran	2.42			2.55	2.54				2.55	2.51	2.57
Iraq	4.03			4.29	4.43				4.43	4.43	4.44
UAE	2.76			3.04	3.14				3.10	3.14	3.17
Kuwait	2.42			2.61	2.66				2.65	2.67	2.65
Angola	1.12			1.16	1.17				1.18	1.16	1.18
Nigeria	1.31			1.30	1.17				1.23	1.11	1.17
Libya	1.15			1.08	0.77				0.90	0.77	0.63
Algeria	0.91			0.99	1.01				1.00	1.01	1.02
Congo	0.27			0.27	0.27				0.26	0.26	0.28
Gabon	0.18			0.19	0.18				0.18	0.18	0.19
Equatorial Guinea	0.10			0.09	0.09				0.10	0.09	0.09
Venezuela	0.61			0.72	0.74				0.76	0.73	0.73
Total Crude Oil	**26.43**			**28.49**	**28.69**				**28.77**	**28.56**	**28.74**
of which Neutral Zone [1]	*0.25*			*0.27*	*0.29*				*0.29*	*0.28*	*0.31*
Total NGLs[2]	**5.12**	**5.37**	**5.46**	**5.28**	**5.37**	**5.41**	**5.41**	**5.44**	**5.36**	**5.37**	**5.38**
Total OPEC[3]	**31.55**			**33.77**	**34.06**				**34.13**	**33.93**	**34.12**
NON-OPEC[4]											
OECD											
Americas	24.29	25.88	27.24	24.98	25.50	26.28	26.74	26.85	25.31	25.34	25.86
United States	16.73	18.04	19.17	17.24	17.89	18.33	18.67	18.74	17.68	17.86	18.13
Mexico	1.95	2.03	2.06	2.00	2.01	2.03	2.07	2.08	2.00	2.01	2.02
Canada	5.60	5.80	5.99	5.73	5.59	5.91	5.99	6.02	5.62	5.46	5.71
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	3.26	3.41	3.33	3.12	3.20	3.39	3.41	3.26	3.14	2.94
UK	0.89	0.88	0.84	0.91	0.86	0.87	0.90	0.88	0.92	0.86	0.80
Norway	2.04	1.92	2.12	1.97	1.79	1.88	2.04	2.09	1.86	1.83	1.68
Others	0.46	0.46	0.44	0.46	0.46	0.46	0.45	0.45	0.48	0.45	0.46
Asia Oceania	0.51	0.49	0.46	0.49	0.50	0.49	0.49	0.47	0.50	0.49	0.50
Australia	0.44	0.42	0.40	0.42	0.43	0.42	0.43	0.41	0.43	0.42	0.43
Others	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.07
Total OECD	**28.19**	**29.63**	**31.11**	**28.81**	**29.11**	**29.97**	**30.62**	**30.73**	**29.08**	**28.97**	**29.30**
NON-OECD											
Former USSR	13.77	13.51	11.71	14.39	13.42	13.46	12.76	11.85	13.20	13.49	13.57
Russia	10.87	10.61	8.74	11.37	10.69	10.63	9.76	8.85	10.42	10.58	11.06
Azerbaijan	0.70	0.68	0.66	0.70	0.67	0.67	0.67	0.67	0.69	0.69	0.64
Kazakhstan	1.85	1.90	1.99	1.98	1.76	1.85	2.02	2.01	1.78	1.93	1.56
Others	0.35	0.32	0.31	0.34	0.30	0.31	0.31	0.32	0.30	0.30	0.30
Asia	6.91	6.96	6.90	7.01	7.02	6.94	6.87	6.92	7.09	6.96	7.01
China	4.06	4.23	4.27	4.23	4.26	4.24	4.19	4.28	4.22	4.25	4.29
Malaysia	0.57	0.57	0.56	0.57	0.59	0.56	0.56	0.56	0.68	0.53	0.55
India	0.73	0.70	0.69	0.72	0.71	0.70	0.69	0.68	0.71	0.71	0.71
Indonesia	0.68	0.65	0.62	0.66	0.66	0.65	0.64	0.63	0.66	0.66	0.65
Others	0.88	0.81	0.75	0.83	0.81	0.80	0.79	0.77	0.82	0.80	0.80
Europe	0.11	0.11	0.10	0.11	0.11	0.10	0.10	0.10	0.11	0.11	0.11
Americas	5.30	5.60	5.89	5.44	5.42	5.72	5.82	5.83	5.53	5.44	5.29
Brazil	3.00	3.11	3.30	3.09	2.99	3.17	3.21	3.22	3.10	2.97	2.89
Argentina	0.64	0.71	0.73	0.69	0.70	0.71	0.72	0.72	0.70	0.70	0.71
Colombia	0.74	0.76	0.75	0.75	0.76	0.76	0.76	0.75	0.76	0.76	0.76
Ecuador	0.48	0.47	0.46	0.47	0.45	0.47	0.47	0.47	0.48	0.48	0.40
Others	0.43	0.56	0.66	0.44	0.52	0.61	0.66	0.66	0.49	0.52	0.54
Middle East	3.08	3.20	3.26	3.15	3.20	3.23	3.22	3.26	3.20	3.18	3.23
Oman	0.98	1.07	1.11	1.04	1.07	1.08	1.08	1.10	1.06	1.06	1.08
Qatar	1.82	1.84	1.87	1.82	1.85	1.85	1.85	1.87	1.85	1.85	1.85
Others	0.28	0.29	0.29	0.29	0.29	0.30	0.30	0.29	0.30	0.27	0.30
Africa	1.31	1.28	1.26	1.27	1.26	1.29	1.29	1.27	1.24	1.25	1.30
Egypt	0.57	0.57	0.56	0.57	0.57	0.57	0.57	0.56	0.57	0.57	0.57
Others	0.74	0.71	0.70	0.71	0.70	0.72	0.72	0.71	0.67	0.69	0.73
Total Non-OECD	**30.49**	**30.65**	**29.12**	**31.37**	**30.43**	**30.74**	**30.07**	**29.23**	**30.37**	**30.44**	**30.49**
Processing gains[5]	2.25	2.31	2.37	2.28	2.28	2.33	2.33	2.34	2.25	2.28	2.31
Global biofuels	2.75	2.92	3.04	2.41	3.02	3.30	2.93	2.55	2.66	3.16	3.23
TOTAL NON-OPEC	**63.68**	**65.51**	**65.63**	**64.88**	**64.84**	**66.34**	**65.95**	**64.85**	**64.35**	**64.84**	**65.34**
TOTAL SUPPLY	**95.23**			**98.65**	**98.91**				**98.49**	**98.77**	**99.46**

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 COUNTRIES[1]
(thousand of barrels per day)

	2021	2022	2023	1Q22	2Q22	3Q22	4Q22	1Q23	Apr 22	May 22	Jun 22
United States											
Alaska	437	448	435	446	454	434	459	435	464	453	446
California	369	342	329	347	343	340	337	333	344	343	342
Texas	4771	5145	5451	4883	5127	5271	5294	5272	5046	5156	5178
Federal Gulf of Mexico[2]	1701	1732	1927	1688	1791	1728	1719	1977	1790	1751	1832
Other US Lower 48	3909	4269	4572	4051	4126	4408	4483	4509	3931	4161	4286
NGLs[3]	5397	5639	5793	5463	5591	5611	5888	5619	5563	5587	5624
Other Hydrocarbons	142	179	209	170	173	180	193	193	170	170	180
Total	**16727**	**17754**	**18715**	**17047**	**17606**	**17973**	**18373**	**18340**	**17308**	**17622**	**17889**
Canada											
Alberta Light/Medium/Heavy	436	468	477	468	470	468	465	481	466	471	473
Alberta Bitumen	1921	2143	2243	2018	2133	2283	2136	2270	2168	2183	2046
Saskatchewan	445	442	431	448	444	440	436	437	445	444	442
Other Crude	456	390	469	295	419	418	426	468	417	419	419
NGLs	1007	1031	1055	1043	1027	1044	1011	1067	1034	1054	993
Other Upgraders	180	181	178	188	163	171	201	183	155	153	182
Synthetic Crudes	1181	1166	1149	1214	1052	1102	1296	1177	1000	985	1172
Total	**5625**	**5821**	**6002**	**5674**	**5707**	**5925**	**5971**	**6083**	**5686**	**5709**	**5727**
Mexico											
Crude	1780	1864	1901	1825	1844	1870	1916	1920	1831	1846	1855
NGLs	170	165	154	170	166	163	160	158	168	166	165
Total	**1954**	**2034**	**2060**	**2001**	**2015**	**2039**	**2082**	**2083**	**2004**	**2017**	**2025**
UK											
Brent Fields	25	23	20	27	26	19	21	24	27	26	26
Forties Fields	212	217	183	242	208	199	221	215	237	204	182
Ninian Fields	24	18	16	20	19	18	17	17	19	19	18
Flotta Fields	50	40	38	42	38	41	40	39	42	31	41
Other Fields	511	533	499	513	530	562	529	504	507	517	567
NGLs	67	74	71	74	74	74	73	72	74	74	74
Total	**888**	**907**	**827**	**918**	**895**	**912**	**902**	**872**	**905**	**872**	**908**
Norway[5]											
Ekofisk-Ula Area	141	111	117	132	71	115	127	125	131	130	-50
Oseberg-Troll Area	212	224	250	223	231	198	245	247	233	224	236
Statfjord-Gullfaks Area	262	238	220	246	241	236	231	227	242	240	240
Haltenbanken Area	284	281	286	287	285	276	279	282	285	283	285
Sleipner-Frigg Area	822	841	1000	871	792	809	892	948	799	868	707
Other Fields	67	59	92	-1	68	69	99	92	81	37	89
NGLs	249	204	191	211	207	200	200	197	209	206	205
Total	**2037**	**1960**	**2155**	**1969**	**1894**	**1902**	**2073**	**2118**	**1980**	**1988**	**1712**
Other OECD Europe											
Denmark	66	65	63	67	66	64	63	61	66	66	65
Italy	100	126	122	126	126	125	124	123	125	128	126
Türkiye	66	64	63	64	64	64	63	63	63	64	64
Other	99	87	81	89	89	87	85	83	89	88	88
NGLs	7	7	7	8	7	7	7	7	8	7	7
Non-Conventional Oils	120	92	88	104	90	88	88	88	93	88	88
Total	**457**	**441**	**423**	**457**	**441**	**435**	**430**	**425**	**445**	**441**	**438**
Australia											
Gippsland Basin	4	4	3	4	4	4	3	3	4	4	4
Cooper-Eromanga Basin	23	19	18	20	20	19	19	19	20	20	20
Carnarvon Basin	112	112	103	116	113	111	108	106	114	113	112
Other Crude	195	179	181	175	179	181	184	184	178	176	182
NGLs	99	103	100	104	103	102	102	101	104	104	103
Total	**434**	**417**	**405**	**418**	**418**	**417**	**416**	**413**	**419**	**416**	**421**
Other OECD Asia Oceania											
New Zealand	18	17	15	16	17	17	16	16	17	17	17
Japan	4	4	4	4	4	4	4	4	4	4	4
NGLs	11	10	10	11	10	10	10	10	10	10	10
Non-Conventional Oils	37	41	40	41	41	40	40	40	41	41	40
Total	**71**	**71**	**69**	**72**	**71**	**71**	**70**	**70**	**72**	**71**	**71**
OECD											
Crude Oil	19525	20508	21608	19752	20341	20876	21044	21488	20187	20488	20343
NGLs	7013	7243	7389	7092	7195	7220	7460	7239	7178	7217	7190
Non-Conventional Oils[4]	1664	1664	1669	1722	1523	1587	1823	1687	1464	1442	1667
Total	**28202**	**29415**	**30666**	**28566**	**29060**	**29684**	**30328**	**30414**	**28829**	**29147**	**29201**

1 Subcategories refer to crude oil only unless otherwise noted.
2 Only production from Federal waters is included.
3 To the extent possible, condensates from natural gas processing plants are included with NGLs, while field condensates are counted as crude oil.
4 Does not include biofuels.
5 North Sea production is grouped by area including all fields being processed through the named field complex, ie, not just the field of that name.
6 Other North Sea NGLs are included.

Table 3b
WORLD OIL PRODUCTION (Including OPEC+ based on current agreement[1])
(million barrels per day)

	2020	2021	2022	4Q21	1Q22	2Q22	3Q22	4Q22	Apr 22	May 22	Jun 22
OPEC+											
Crude Oil											
Algeria	0.90	0.99	1.01	0.96	0.99	1.01	1.01	1.01	1.00	1.01	1.02
Angola	1.27	1.14	1.12	1.12	1.16	1.17	1.11	1.10	1.18	1.16	1.18
Azerbaijan	0.61	0.57	0.55	0.59	0.58	0.56	0.56	0.55	0.58	0.57	0.52
Bahrain	0.17	0.18	0.19	0.18	0.18	0.18	0.19	0.19	0.19	0.17	0.19
Brunei	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.07	0.08	0.07	0.07
Congo	0.30	0.27	0.28	0.26	0.27	0.27	0.28	0.28	0.26	0.26	0.28
Equatorial Guinea	0.11	0.09	0.10	0.08	0.09	0.09	0.10	0.10	0.10	0.09	0.09
Gabon	0.20	0.19	0.19	0.19	0.19	0.18	0.19	0.19	0.18	0.18	0.19
Iran	2.00	2.54	2.56	2.48	2.55	2.54	2.57	2.57	2.55	2.51	2.57
Iraq	4.05	4.39	4.58	4.24	4.29	4.43	4.60	4.65	4.43	4.43	4.44
Kazakhstan	1.50	1.56	1.57	1.66	1.63	1.43	1.53	1.67	1.47	1.58	1.24
Kuwait	2.41	2.63	2.74	2.53	2.61	2.66	2.74	2.78	2.65	2.67	2.65
Libya	0.35	0.93	0.96	1.12	1.08	0.77	0.76	1.15	0.90	0.77	0.63
Malaysia	0.46	0.41	0.41	0.40	0.41	0.43	0.40	0.40	0.51	0.38	0.39
Mexico	1.66	1.64	1.65	1.65	1.64	1.62	1.64	1.67	1.61	1.62	1.63
Nigeria	1.49	1.23	1.25	1.24	1.30	1.17	1.22	1.31	1.23	1.11	1.17
Oman	0.76	0.82	0.85	0.78	0.82	0.84	0.85	0.85	0.84	0.84	0.85
Russia	9.42	9.67	8.92	9.95	10.04	9.38	9.32	8.48	9.15	9.26	9.74
Saudi Arabia	9.21	10.40	10.87	9.91	10.20	10.52	10.95	11.00	10.43	10.50	10.62
South Sudan	0.16	0.15	0.15	0.16	0.14	0.14	0.15	0.15	0.14	0.14	0.15
Sudan	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
UAE	2.87	3.06	3.16	2.90	3.04	3.14	3.16	3.18	3.10	3.14	3.17
Venezuela	0.53	0.75	0.75	0.76	0.72	0.74	0.76	0.76	0.76	0.73	0.73
Total Crude Oil	**40.57**	**43.75**	**44.00**	**43.31**	**44.06**	**43.41**	**44.22**	**44.18**	**43.40**	**43.25**	**43.60**
of which Neutral Zone	*0.11*	*0.22*		*0.28*	*0.27*	*0.29*	*13.69*		*0.29*	*0.28*	*0.31*
Total NGLs	**7.36**	**7.85**	**7.96**	**7.64**	**7.86**	**7.92**	**7.96**	**7.98**	**7.86**	**7.95**	**7.93**
TOTAL OPEC+	**47.9**	**51.6**	**52.0**	**51.0**	**51.9**	**51.3**	**52.2**	**52.2**	**51.3**	**51.2**	**51.5**
NON-OPEC+											
OECD											
Americas[2]	21.91	23.51	24.27	23.32	22.98	23.49	24.24	24.67	23.31	23.33	23.84
United States	16.56	17.75	18.39	17.54	17.24	17.89	18.33	18.67	17.68	17.86	18.13
Canada	5.35	5.75	5.87	5.76	5.73	5.59	5.91	5.99	5.62	5.46	5.71
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.56	3.26	3.27	3.38	3.33	3.12	3.20	3.39	3.26	3.14	2.94
UK	1.08	0.88	0.88	0.88	0.91	0.86	0.87	0.90	0.92	0.86	0.80
Norway	2.01	1.92	1.94	2.04	1.97	1.79	1.88	2.04	1.86	1.83	1.68
Others	0.47	0.46	0.45	0.45	0.46	0.46	0.46	0.45	0.48	0.45	0.46
Asia Oceania	0.53	0.50	0.49	0.52	0.49	0.50	0.49	0.49	0.50	0.49	0.50
Australia	0.46	0.43	0.43	0.46	0.42	0.43	0.42	0.43	0.43	0.42	0.43
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.07
Total OECD (non-OPEC+)	26.00	27.27	28.03	27.21	26.81	27.10	27.93	28.55	27.08	26.96	27.28
Non-OECD											
FSU	0.36	0.32	0.31	0.35	0.34	0.30	0.31	0.31	0.30	0.30	0.30
Asia	6.27	6.28	6.28	6.15	6.34	6.34	6.30	6.23	6.31	6.34	6.37
China	3.97	4.18	4.22	4.01	4.23	4.26	4.24	4.19	4.22	4.25	4.29
India	0.75	0.71	0.70	0.72	0.72	0.71	0.70	0.69	0.71	0.71	0.71
Indonesia	0.73	0.66	0.65	0.67	0.66	0.66	0.65	0.64	0.66	0.66	0.65
Others	0.82	0.73	0.71	0.74	0.73	0.72	0.72	0.71	0.73	0.72	0.72
Europe	0.12	0.11	0.10	0.11	0.11	0.11	0.10	0.10	0.11	0.11	0.11
Americas	5.32	5.44	5.70	5.18	5.44	5.42	5.72	5.82	5.53	5.44	5.29
Brazil	3.04	3.04	3.14	2.93	3.09	2.99	3.17	3.21	3.10	2.97	2.89
Argentina	0.61	0.70	0.71	0.67	0.69	0.70	0.71	0.72	0.70	0.70	0.71
Colombia	0.79	0.75	0.76	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.76
Ecuador	0.48	0.45	0.47	0.40	0.47	0.45	0.47	0.47	0.48	0.48	0.40
Others	0.4	0.5	0.6	0.4	0.4	0.5	0.6	0.7	0.5	0.5	0.5
Middle East	1.87	1.93	1.94	1.93	1.92	1.95	1.94	1.94	1.95	1.95	1.94
Qatar	1.77	1.84	1.85	1.83	1.82	1.85	1.85	1.85	1.85	1.85	1.85
Others	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Africa	1.2	1.1	1.1	1.09	1.08	1.06	1.08	1.08	1.04	1.05	1.09
Egypt	0.60	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Others	0.57	0.51	0.51	0.52	0.51	0.49	0.51	0.51	0.48	0.49	0.52
Total non-OECD (non-OPEC+)	**15.11**	**15.16**	**15.40**	**14.79**	**15.22**	**15.18**	**15.45**	**15.48**	**15.24**	**15.19**	**15.11**
Processing gains	2.11	2.31	2.32	2.32	2.28	2.28	2.33	2.33	2.25	2.28	2.31
Global biofuels	2.63	2.86	3.05	2.69	2.41	3.02	3.30	2.93	2.66	3.16	3.23
TOTAL NON-OPEC+	45.85	47.59	48.80	47.02	46.72	47.58	49.02	49.29	47.23	47.58	47.93
TOTAL SUPPLY	93.78	99.19	100.75	97.97	98.65	98.91	101.20	101.45	98.49	98.77	99.46

1 From Jul 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] in Million Barrels					PRIOR YEARS' STOCKS[2] in Million Barrels			STOCK CHANGES in mb/d			
	Jan2022	Feb2022	Mar2022	Apr2022	May2022[3]	May2019	May2020	May2021	2Q2021	3Q2021	4Q2021	1Q2022
OECD INDUSTRY-CONTROLLED STOCKS[1]												
OECD Americas												
Crude	570.5	564.7	569.3	584.2	582.3	626.3	675.4	637.8	-0.58	-0.33	0.07	-0.21
Motor Gasoline	280.8	279.9	266.6	256.8	247.7	266.4	287.6	267.7	-0.02	-0.13	0.07	0.08
Middle Distillate	193.7	190.9	179.2	173.5	180.5	201.1	248.5	212.7	-0.01	-0.12	-0.09	-0.18
Residual Fuel Oil	33.7	34.7	34.5	36.4	35.8	34.9	45.4	40.1	-0.01	-0.04	-0.03	0.03
Total Products[4]	725.7	705.4	683.1	681.8	698.0	771.2	844.5	762.2	0.26	-0.03	-0.40	-0.47
Total[4]	**1452.2**	**1424.9**	**1410.0**	**1419.9**	**1433.3**	**1564.5**	**1696.0**	**1563.0**	**-0.29**	**-0.39**	**-0.45**	**-0.62**
OECD Europe												
Crude	297.7	313.7	324.9	329.1	341.4	355.6	386.1	341.0	-0.12	-0.38	-0.03	0.24
Motor Gasoline	93.6	91.3	90.4	93.5	89.7	88.3	101.6	97.3	-0.04	-0.07	0.05	0.05
Middle Distillate	255.7	244.3	240.9	252.0	246.8	273.2	332.1	319.2	-0.06	-0.37	-0.31	-0.03
Residual Fuel Oil	61.0	62.3	62.3	66.3	66.8	60.6	74.8	68.4	-0.03	-0.01	-0.04	0.03
Total Products[4]	508.4	495.2	490.6	516.4	510.3	534.2	633.7	590.8	-0.19	-0.44	-0.31	0.05
Total[5]	**878.1**	**882.8**	**892.3**	**921.0**	**926.9**	**973.3**	**1115.4**	**1009.4**	**-0.31**	**-0.89**	**-0.37**	**0.38**
OECD Asia Oceania												
Crude	97.6	97.9	105.5	114.7	111.1	155.8	169.9	129.5	0.01	-0.17	-0.11	0.07
Motor Gasoline	27.0	27.6	25.6	26.1	25.4	27.5	26.7	29.0	0.00	-0.03	-0.03	0.02
Middle Distillate	61.8	60.9	56.2	59.2	55.7	68.5	62.0	64.7	0.02	0.07	-0.09	-0.09
Residual Fuel Oil	16.9	18.0	15.4	16.8	17.4	20.0	17.4	17.6	0.00	0.02	-0.02	-0.02
Total Products[4]	168.8	165.3	158.1	161.6	158.6	172.1	171.2	170.4	0.05	0.15	-0.23	-0.05
Total[5]	**323.7**	**317.0**	**315.7**	**334.8**	**330.7**	**388.2**	**405.3**	**360.5**	**0.12**	**-0.02**	**-0.34**	**-0.09**
Total OECD												
Crude	965.7	976.3	999.7	1028.0	1034.8	1137.7	1231.5	1108.4	-0.69	-0.88	-0.07	0.09
Motor Gasoline	401.4	398.8	382.7	376.5	362.7	382.2	415.9	394.0	-0.06	-0.22	0.10	0.15
Middle Distillate	511.3	496.1	476.2	484.7	482.9	542.8	642.5	596.6	-0.04	-0.42	-0.48	-0.30
Residual Fuel Oil	111.6	115.0	112.2	119.4	119.9	115.6	137.6	126.0	-0.04	-0.03	-0.09	0.04
Total Products[4]	1402.8	1365.8	1331.8	1359.8	1366.9	1477.5	1649.3	1523.4	0.11	-0.33	-0.94	-0.48
Total[5]	**2654.0**	**2624.6**	**2617.9**	**2675.6**	**2690.8**	**2926.0**	**3216.6**	**2932.9**	**-0.48**	**-1.30**	**-1.17**	**-0.33**
OECD GOVERNMENT-CONTROLLED STOCKS[6]												
OECD Americas												
Crude	588.3	578.9	566.1	547.9	521.3	644.8	648.3	627.6	-0.18	-0.04	-0.26	-0.31
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	199.6	198.8	198.3	195.6	196.0	206.3	208.1	206.2	-0.02	0.00	-0.05	-0.02
Products	276.5	274.8	268.1	262.1	259.6	277.2	276.5	281.4	-0.05	-0.01	-0.01	-0.10
OECD Asia Oceania												
Crude	370.1	370.1	367.8	364.5	361.1	378.6	377.1	374.5	0.00	-0.05	0.01	-0.03
Products	38.4	38.0	37.9	37.9	37.9	38.8	39.0	38.8	0.00	0.00	0.00	-0.01
Total OECD												
Crude	1158.0	1147.8	1132.2	1107.9	1078.3	1229.7	1233.6	1208.3	-0.20	-0.10	-0.31	-0.35
Products	316.9	314.8	307.9	302.0	299.5	318.0	317.5	322.3	-0.05	-0.01	-0.01	-0.11
Total[5]	**1476.4**	**1464.2**	**1441.7**	**1411.5**	**1379.4**	**1549.8**	**1553.1**	**1532.5**	**-0.24**	**-0.12**	**-0.31**	**-0.47**

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 STOCKS[1] ON LAND IN SELECTED COUNTRIES

(million barrels)

	December			January			February			March			April		
	2020	2021	%	2021	2022	%	2021	2022	%	2021	2022	%	2021	2022	%
United States[2]															
Crude	485.5	421.4	-13.2	475.9	414.3	-12.9	493.2	409.1	-17.1	501.9	414.4	-17.4	489.7	419.1	-14.4
Motor Gasoline	243.4	232.2	-4.6	255.1	251.8	-1.3	241.1	250.4	3.9	237.6	238.5	0.4	238.4	230.1	-3.5
Middle Distillate	202.5	168.0	-17.0	207.8	165.3	-20.5	185.3	162.2	-12.5	186.4	151.5	-18.7	178.1	145.3	-18.4
Residual Fuel Oil	30.2	25.4	-15.9	32.0	26.7	-16.6	31.2	27.5	-11.9	30.9	27.9	-9.7	31.3	29.4	-6.1
Other Products	241.9	217.2	-10.2	213.5	195.4	-8.5	198.5	178.0	-10.3	199.6	179.8	-9.9	210.1	191.5	-8.9
Total Products	718.0	642.8	-10.5	708.4	639.2	-9.8	656.1	618.1	-5.8	654.5	597.7	-8.7	657.9	596.3	-9.4
Other[3]	139.9	129.6	-7.4	145.7	136.4	-6.4	145.6	138.2	-5.1	145.3	141.5	-2.6	141.8	138.1	-2.6
Total	**1343.4**	**1193.8**	**-11.1**	**1330.0**	**1189.9**	**-10.5**	**1294.9**	**1165.4**	**-10.0**	**1301.7**	**1153.6**	**-11.4**	**1289.4**	**1153.5**	**-10.5**
Japan															
Crude	79.8	72.9	-8.6	77.0	69.2	-10.1	77.0	70.7	-8.2	64.5	76.0	17.8	69.8	80.3	15.0
Motor Gasoline	12.5	10.4	-16.8	13.5	11.3	-16.3	13.0	10.9	-16.2	12.4	9.8	-21.0	12.9	10.3	-20.2
Middle Distillate	34.6	33.0	-4.6	33.5	30.8	-8.1	30.1	26.7	-11.3	27.4	23.3	-15.0	29.2	24.7	-15.4
Residual Fuel Oil	6.6	7.3	10.6	6.9	7.0	1.4	7.1	6.5	-8.5	6.5	5.7	-12.3	7.2	6.2	-13.9
Other Products	32.3	33.0	2.2	31.0	34.6	11.6	32.9	32.2	-2.1	31.6	32.0	1.3	31.9	33.1	3.8
Total Products	86.0	83.7	-2.7	84.9	83.7	-1.4	83.1	76.3	-8.2	77.9	70.8	-9.1	81.2	74.3	-8.5
Other[3]	49.9	51.1	2.4	50.1	47.6	-5.0	49.1	43.7	-11.0	47.3	42.0	-11.2	49.7	47.3	-4.8
Total	**215.7**	**207.7**	**-3.7**	**212.0**	**200.5**	**-5.4**	**209.2**	**190.7**	**-8.8**	**189.7**	**188.8**	**-0.5**	**200.7**	**201.9**	**0.6**
Germany															
Crude	51.9	46.3	-10.8	52.7	46.1	-12.5	49.5	47.3	-4.4	52.7	48.3	-8.3	49.0	49.0	0.0
Motor Gasoline	10.9	10.7	-1.8	12.6	11.0	-12.7	11.6	10.6	-8.6	8.9	10.7	20.2	10.2	11.6	13.7
Middle Distillate	23.3	21.8	-6.4	27.5	23.1	-16.0	25.7	21.6	-16.0	22.7	24.1	6.2	24.1	27.1	12.4
Residual Fuel Oil	6.6	8.4	27.3	7.1	8.5	19.7	7.6	8.6	13.2	7.5	7.9	5.3	7.8	7.8	0.0
Other Products	9.3	10.7	15.1	9.3	10.2	9.7	9.4	10.0	6.4	9.5	9.9	4.2	10.0	10.6	6.0
Total Products	50.1	51.6	3.0	56.5	52.8	-6.5	54.3	50.8	-6.4	48.6	52.6	8.2	52.1	57.1	9.6
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	**102.0**	**97.9**	**-4.0**	**109.2**	**98.9**	**-9.4**	**103.8**	**98.1**	**-5.5**	**101.3**	**100.9**	**-0.4**	**101.1**	**106.1**	**4.9**
Italy															
Crude	40.1	33.0	-17.7	37.4	29.9	-20.1	34.3	30.4	-11.4	39.9	32.7	-18.0	38.6	34.1	-11.7
Motor Gasoline	11.9	10.0	-16.0	11.6	12.7	9.5	10.6	11.3	6.6	9.8	11.3	15.3	12.6	10.5	-16.7
Middle Distillate	26.9	23.7	-11.9	29.0	26.4	-9.0	28.1	23.8	-15.3	28.6	23.1	-19.2	28.8	22.6	-21.5
Residual Fuel Oil	7.9	7.1	-10.1	8.4	7.5	-10.7	7.7	8.1	5.2	8.1	7.9	-2.5	7.4	8.7	17.6
Other Products	19.3	10.0	-48.2	16.2	11.2	-30.9	14.0	11.3	-19.3	12.3	11.0	-10.6	11.1	11.4	2.7
Total Products	66.0	50.8	-23.0	65.2	57.8	-11.3	60.4	54.5	-9.8	58.8	53.3	-9.4	59.9	53.2	-11.2
Other[3]	16.6	13.1	-21.1	15.1	13.5	-10.6	14.5	13.1	-9.7	15.1	14.7	-2.6	15.3	14.6	-4.6
Total	**122.7**	**96.9**	**-21.0**	**117.7**	**101.2**	**-14.0**	**109.2**	**98.0**	**-10.3**	**113.8**	**100.7**	**-11.5**	**113.8**	**101.9**	**-10.5**
France															
Crude	12.4	8.8	-29.0	13.4	9.2	-31.3	12.3	12.4	0.8	12.8	12.1	-5.5	12.8	10.2	-20.3
Motor Gasoline	4.8	4.5	-6.3	4.9	5.1	4.1	5.4	4.5	-16.7	3.9	4.2	7.7	4.8	4.9	2.1
Middle Distillate	21.5	18.6	-13.5	23.4	20.1	-14.1	25.2	16.5	-34.5	22.3	18.6	-16.6	21.9	19.3	-11.9
Residual Fuel Oil	2.3	0.9	-60.9	2.1	1.3	-38.1	1.8	1.3	-27.8	2.0	0.7	-65.0	1.8	1.1	-38.9
Other Products	3.4	3.4	0.0	3.5	3.4	-2.9	3.5	3.5	0.0	3.5	3.6	2.9	3.4	3.8	11.8
Total Products	32.0	27.4	-14.4	33.9	29.9	-11.8	35.9	25.8	-28.1	31.7	27.1	-14.5	31.9	29.1	-8.8
Other[3]	6.5	6.9	6.2	7.0	7.2	2.9	7.9	7.1	-10.1	7.9	7.1	-10.1	7.9	7.6	-3.8
Total	**50.9**	**43.1**	**-15.3**	**54.3**	**46.3**	**-14.7**	**56.1**	**45.3**	**-19.3**	**52.4**	**46.3**	**-11.6**	**52.6**	**46.9**	**-10.8**
United Kingdom															
Crude	27.9	26.2	-6.1	27.5	22.7	-17.5	24.2	26.2	8.3	26.5	26.3	-0.8	24.8	26.3	6.0
Motor Gasoline	11.3	10.1	-10.6	12.1	10.6	-12.4	10.3	9.6	-6.8	9.3	9.2	-1.1	8.9	9.9	11.2
Middle Distillate	30.7	21.0	-31.6	31.6	20.4	-35.4	29.4	19.8	-32.7	26.0	18.2	-30.0	25.4	20.0	-21.3
Residual Fuel Oil	1.2	1.3	8.3	1.5	1.2	-20.0	1.2	1.5	25.0	1.4	1.4	0.0	1.3	1.7	30.8
Other Products	6.9	6.1	-11.6	6.8	6.0	-11.8	6.3	6.3	0.0	5.9	5.8	-1.7	6.3	6.8	7.9
Total Products	50.1	38.5	-23.2	52.0	38.2	-26.5	47.2	37.2	-21.2	42.6	34.6	-18.8	41.9	38.4	-8.4
Other[3]	7.4	8.1	9.5	7.3	7.6	4.1	7.1	7.9	11.3	7.8	7.7	-1.3	7.9	7.5	-5.1
Total	**85.4**	**72.8**	**-14.8**	**86.8**	**68.5**	**-21.1**	**78.5**	**71.3**	**-9.2**	**76.9**	**68.6**	**-10.8**	**74.6**	**72.2**	**-3.2**
Canada[4]															
Crude	124.4	132.3	6.4	124.0	121.7	-1.9	124.8	122.4	-1.9	129.0	120.7	-6.4	129.3	132.3	2.3
Motor Gasoline	17.3	16.0	-7.5	17.8	17.5	-1.7	16.4	16.6	1.2	16.2	16.7	3.1	16.8	15.3	-8.9
Middle Distillate	19.6	18.3	-6.6	20.7	18.7	-9.7	20.3	18.0	-11.3	19.7	19.2	-2.5	20.0	19.1	-4.5
Residual Fuel Oil	2.3	2.1	-8.7	2.7	1.7	-37.0	2.3	2.2	-4.3	3.0	2.4	-20.0	2.2	1.9	-13.6
Other Products	10.8	11.8	9.3	11.9	12.2	2.5	12.5	12.9	3.2	12.5	13.3	6.4	11.9	13.6	14.3
Total Products	50.0	48.2	-3.6	53.1	50.1	-5.6	51.5	49.7	-3.5	51.4	51.6	0.4	50.9	49.9	-2.0
Other[3]	27.3	21.7	-20.5	23.8	19.4	-18.5	20.2	16.4	-18.8	17.9	15.9	-11.2	19.0	15.7	-17.4
Total	**201.7**	**202.2**	**0.2**	**200.9**	**191.2**	**-4.8**	**196.5**	**188.5**	**-4.1**	**198.3**	**188.2**	**-5.1**	**199.2**	**197.9**	**-0.7**

1 Stocks are primary national territory stocks on land (excluding utilitity 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 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 COUNTRIES[1]
('millions of barrels' and 'days')

	End March 2021		End June 2021		End September 2021		End December 2021		End March 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	198.3	89	201.6	81	198.3	82	202.3	87	188.1	-
Chile	9.7	30	11.7	31	10.4	28	10.8	26	10.5	-
Mexico	38.1	27	36.4	26	36.0	24	36.7	24	35.7	-
United States[a]	1941.5	97	1894.8	94	1860.5	91	1789.5	89	1721.7	-
Total[4]	**2209.7**	**91**	**2166.6**	**88**	**2127.3**	**86**	**2061.5**	**84**	**1978.0**	**80**
OECD Asia Oceania										
Australia	43.3	40	39.6	40	40.9	38	37.6	36	40.0	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	506.5	164	528.6	166	525.1	143	519.4	140	500.5	-
Korea	201.5	81	194.9	75	189.3	70	168.8	62	174.6	-
New Zealand	8.3	57	7.6	56	8.3	54	6.8	45	6.2	-
Total	**759.5**	**108**	**770.7**	**108**	**763.5**	**98**	**732.6**	**93**	**721.4**	**103**
OECD Europe[5]										
Austria	23.6	97	23.0	84	21.1	83	20.9	87	24.1	-
Belgium	51.2	82	51.0	83	47.1	70	43.3	67	42.9	-
Czech Republic	23.1	108	21.8	93	21.7	97	22.5	107	22.2	-
Denmark	31.7	227	28.1	188	25.3	170	23.7	167	22.5	-
Estonia	2.9	107	2.9	99	2.7	102	2.5	104	2.6	-
Finland	39.1	230	39.5	209	37.3	191	36.2	188	38.4	-
France	162.1	112	163.0	100	157.3	98	151.6	99	148.8	-
Germany	278.0	134	275.7	123	270.4	116	269.0	128	268.9	-
Greece	34.4	144	30.5	100	26.4	90	29.4	107	29.4	-
Hungary	25.8	147	25.6	135	25.9	138	27.0	148	28.0	-
Ireland	11.7	87	12.0	83	10.6	66	10.8	70	10.3	-
Italy	126.8	110	128.9	103	118.0	94	112.5	97	116.3	-
Latvia	3.0	82	3.0	70	2.7	75	2.6	76	2.8	-
Lithuania	7.8	116	8.5	113	9.1	131	8.2	136	9.8	-
Luxembourg	0.6	12	0.8	13	0.5	9	0.6	10	0.5	-
Netherlands	158.1	196	147.2	181	125.8	160	109.5	138	123.9	-
Norway	28.2	146	23.6	99	20.2	81	21.4	106	26.3	-
Poland	82.7	126	80.0	103	78.1	104	80.6	112	82.8	-
Portugal	20.7	98	19.9	90	19.0	82	20.9	87	21.3	-
Slovak Republic	12.3	144	12.3	136	12.2	138	12.2	147	12.8	-
Slovenia	5.3	117	5.3	104	4.9	99	5.2	108	4.6	-
Spain	121.7	107	118.8	96	111.6	89	104.9	84	106.6	-
Sweden	48.8	162	45.2	144	38.3	123	30.1	102	28.2	-
Switzerland	33.7	192	32.9	178	33.4	156	31.5	169	30.2	-
Republic of Türkiye	84.4	91	85.1	74	85.6	82	87.4	96	87.6	-
United Kingdom	76.9	61	76.2	58	71.6	52	72.8	55	68.6	-
Total	**1494.9**	**118**	**1461.0**	**106**	**1377.0**	**99**	**1337.3**	**102**	**1360.2**	**102**
Total OECD	**4464.1**	**102**	**4398.3**	**97**	**4267.8**	**92**	**4131.4**	**91**	**4059.7**	**90**
DAYS OF IEA Net Imports[6]	-	**240**	-	**167**	-	**160**	-	**156**	-	**156**

1 Total Stocks are industry and government-controlled stocks (see breakdown in the table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot 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 March 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] controlled	Industry	Total	Government[1] controlled	Industry
		Millions of Barrels			*Days of Fwd. Demand*[2]	
1Q2019	4430	1557	2874	94	33	61
2Q2019	4483	1549	2934	93	32	61
3Q2019	4488	1544	2944	94	32	62
4Q2019	4429	1535	2894	98	34	64
1Q2020	4519	1537	2982	121	41	80
2Q2020	4779	1561	3217	113	37	76
3Q2020	4733	1551	3182	111	36	74
4Q2020	4579	1541	3038	109	37	72
1Q2021	4464	1546	2918	102	35	67
2Q2021	4398	1524	2875	97	33	63
3Q2021	4268	1513	2755	92	32	59
4Q2021	4131	1484	2648	91	33	58
1Q2022	4060	1442	2618	90	32	58

1 Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.
2 Days of forward demand calculated using actual demand except in 1Q2022 (where latest forecasts are used).

Table 6
IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS[1]
(million barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier change
Saudi Light & Extra Light												
Americas	0.20	0.26	0.34	0.31	0.45	0.43	0.47	0.45	0.60	0.32	0.25	0.08
Europe	0.68	0.59	0.48	0.40	0.55	0.55	0.53	0.48	0.61	0.78	0.39	0.39
Asia Oceania	1.42	1.39	1.30	1.12	1.18	1.48	1.57	1.59	1.48	1.59	1.09	0.50
Saudi Medium												
Americas	0.12	0.14	0.01	-	-	-	-	-	-	-	-	-
Europe	0.02	0.02	0.01	-	0.02	-	0.00	-	0.01	-	-	-
Asia Oceania	0.23	0.25	0.21	0.17	0.19	0.26	0.20	0.17	0.18	0.29	0.18	0.11
Canada Heavy												
Americas	2.27	2.39	2.59	2.43	2.47	2.82	2.70	2.92	2.73	2.56	2.37	0.19
Europe	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.02	0.04	0.07	0.07	0.00
Asia Oceania	0.00	0.00	0.02	0.04	0.01	0.00	0.01	0.01	0.02	0.02	0.01	0.01
Iraqi Basrah Light[2]												
Americas	0.31	0.11	0.08	0.05	0.04	0.17	0.19	0.15	0.20	0.23	-	-
Europe	0.85	0.58	0.62	0.63	0.60	0.68	0.45	0.49	0.58	0.38	0.55	-0.16
Asia Oceania	0.37	0.22	0.17	0.17	0.16	0.19	0.17	0.21	0.19	0.19	0.21	-0.02
Kuwait Blend												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.11	0.04	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.61	0.55	0.48	0.45	0.47	0.52	0.58	0.56	0.57	0.54	0.51	0.03
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.00	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.00	-	-	-	-	-	-	-	-	-	-	-
Iranian Heavy[3]												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.04	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	0.14	-	-	-	-	-	-	-	-	-	-	-
BFOE												
Americas	0.00	-	0.00	0.00	0.01	-	-	-	-	-	-	-
Europe	0.37	0.42	0.36	0.28	0.36	0.40	0.38	0.31	0.35	0.42	0.25	0.18
Asia Oceania	0.01	0.03	0.05	0.07	-	0.05	0.02	0.08	-	0.07	0.07	0.00
Kazakhstan												
Americas	-	-	0.01	0.03	-	-	-	-	-	-	0.09	-
Europe	0.76	0.74	0.70	0.73	0.68	0.66	0.83	0.78	0.82	0.65	0.70	-0.05
Asia Oceania	0.18	0.07	0.09	0.10	0.10	0.10	0.14	0.15	0.17	0.18	0.13	0.04
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	0.45	0.32	0.38	0.32	0.42	0.28	0.40	-0.12
Europe	0.19	0.16	0.14	0.15	0.13	0.12	0.11	0.10	0.10	0.07	0.15	-0.08
Asia Oceania	0.13	0.12	0.14	0.12	0.14	0.13	0.08	0.11	0.03	0.05	0.13	-0.09
Russian Urals												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	1.37	1.12	1.05	0.99	1.08	1.14	1.04	1.06	0.84	0.87	0.87	0.00
Asia Oceania	-	-	0.01	-	0.03	-	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.01	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.15	0.12	0.03	0.04	0.03	0.04	0.06	0.03	0.13	0.15	-	-
Pacific	0.00	-	-	-	-	-	-	-	-	-	-	-
Nigerian Light[4]												
Americas	0.03	-	0.02	0.06	0.03	-	-	-	-	-	0.03	-
Europe	0.51	0.49	0.41	0.30	0.40	0.52	0.47	0.45	0.58	0.42	0.26	0.16
Asia Oceania	0.02	0.02	0.01	0.01	-	0.01	-	-	-	-	-	-
Libya Light and Medium												
Americas	0.00	-	0.02	0.03	0.06	-	-	-	-	-	-	-
Europe	0.67	0.19	0.79	0.79	0.87	0.76	0.62	0.80	0.64	0.65	0.93	-0.28
Asia Oceania	0.03	0.01	0.02	0.02	0.01	0.03	0.02	0.02	0.01	0.03	0.01	0.02

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	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier % change
Crude Oil												
Americas	2726	1896	2077	2109	2367	2129	2096	2075	2115	2055	1987	3%
Europe	9872	8349	8519	8382	8748	9150	9014	9492	8700	9068	7944	14%
Asia Oceania	6542	5603	5527	5461	5426	5883	6109	6120	6018	6061	5774	5%
Total OECD	**19139**	**15848**	**16123**	**15952**	**16540**	**17162**	**17218**	**17687**	**16832**	**17185**	**15705**	**9%**
LPG												
Americas	26	28	21	16	22	25	39	52	35	18	20	-10%
Europe	434	422	404	421	378	424	469	493	444	524	417	25%
Asia Oceania	582	559	563	555	528	528	680	669	707	569	522	9%
Total OECD	**1042**	**1009**	**988**	**992**	**927**	**977**	**1188**	**1214**	**1186**	**1110**	**959**	**16%**
Naphtha												
Americas	5	7	8	7	11	8	6	3	6	12	2	593%
Europe	347	409	512	514	445	563	389	397	346	479	555	-14%
Asia Oceania	993	1005	1149	1076	1229	1201	1080	1096	979	975	973	0%
Total OECD	**1345**	**1422**	**1669**	**1597**	**1685**	**1773**	**1475**	**1495**	**1331**	**1466**	**1529**	**-4%**
Gasoline[3]												
Americas	822	577	803	1074	973	565	483	549	505	681	1087	-37%
Europe	112	109	106	159	75	89	110	116	95	179	221	-19%
Asia Oceania	114	126	156	196	135	140	168	136	197	126	214	-41%
Total OECD	**1048**	**812**	**1065**	**1429**	**1183**	**794**	**761**	**801**	**797**	**986**	**1522**	**-35%**
Jet & Kerosene												
Americas	174	159	164	166	207	175	120	122	113	108	137	-21%
Europe	520	337	334	291	349	411	326	307	392	483	296	64%
Asia Oceania	76	63	74	70	42	85	74	88	62	56	80	-30%
Total OECD	**770**	**559**	**572**	**528**	**599**	**671**	**520**	**517**	**567**	**647**	**513**	**26%**
Gasoil/Diesel												
Americas	118	134	197	149	154	222	157	269	90	42	86	-52%
Europe	1300	1192	1192	1213	1173	1263	1103	1108	1072	1297	1215	7%
Asia Oceania	262	328	352	351	344	378	300	311	323	289	374	-23%
Total OECD	**1680**	**1655**	**1741**	**1714**	**1671**	**1863**	**1560**	**1688**	**1485**	**1628**	**1676**	**-3%**
Heavy Fuel Oil												
Americas	116	143	102	96	91	104	139	206	157	105	71	48%
Europe	223	295	374	314	435	375	322	350	343	285	357	-20%
Asia Oceania	101	88	119	116	121	129	117	153	67	93	155	-40%
Total OECD	**440**	**526**	**594**	**526**	**648**	**607**	**578**	**709**	**566**	**483**	**583**	**-17%**
Other Products												
Americas	716	591	580	698	607	510	496	485	560	643	601	7%
Europe	865	574	575	510	585	689	669	810	640	616	478	29%
Asia Oceania	268	241	261	261	266	268	249	266	255	211	249	-15%
Total OECD	**1849**	**1406**	**1416**	**1469**	**1458**	**1466**	**1414**	**1561**	**1455**	**1470**	**1328**	**11%**
Total Products												
Americas	1978	1639	1875	2205	2064	1607	1440	1685	1465	1608	2004	-20%
Europe	3800	3339	3497	3423	3441	3815	3388	3582	3332	3864	3539	9%
Asia Oceania	2397	2410	2674	2626	2666	2729	2668	2718	2589	2319	2567	-10%
Total OECD	**8175**	**7388**	**8045**	**8254**	**8170**	**8151**	**7496**	**7985**	**7386**	**7790**	**8110**	**-4%**
Total Oil												
Americas	4703	3535	3952	4315	4431	3736	3535	3760	3580	3663	3991	-8%
Europe	13672	11688	12016	11804	12188	12965	12402	13074	12031	12932	11483	13%
Asia Oceania	8939	8014	8201	8087	8092	8612	8777	8839	8607	8380	8341	0%
Total OECD	**27314**	**23236**	**24168**	**24206**	**24711**	**25313**	**24714**	**25673**	**24218**	**24975**	**23814**	**5%**

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	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier % change
Crude Oil												
Americas	2576	1835	1982	2006	2275	2028	2032	1998	2066	1998	1904	5%
Europe	8913	7115	7268	7109	7455	7850	7675	8117	7364	7720	6830	13%
Asia Oceania	5914	5076	4917	4850	4780	5320	5488	5390	5505	5511	5198	6%
Total OECD	**17403**	**14027**	**14168**	**13965**	**14510**	**15198**	**15195**	**15505**	**14935**	**15228**	**13932**	**9%**
LPG												
Americas	23	22	20	16	22	25	37	52	35	18	20	-10%
Europe	303	252	242	228	245	251	252	285	246	292	237	23%
Asia Oceania	74	57	46	60	35	32	89	85	109	69	81	-15%
Total OECD	**400**	**331**	**309**	**304**	**302**	**308**	**378**	**423**	**390**	**379**	**339**	**12%**
Naphtha												
Americas	2	1	4	2	5	5	3	0	4	12	1	709%
Europe	320	390	425	452	337	485	332	377	292	375	518	-28%
Asia Oceania	898	835	977	948	1012	1075	944	990	897	906	903	0%
Total OECD	**1220**	**1226**	**1406**	**1402**	**1354**	**1565**	**1279**	**1367**	**1193**	**1292**	**1422**	**-9%**
Gasoline[3]												
Americas	308	195	248	330	312	174	111	99	154	276	297	-7%
Europe	108	104	100	152	70	80	92	106	79	148	213	-31%
Asia Oceania	88	109	152	189	135	140	168	136	197	126	191	-34%
Total OECD	**504**	**408**	**500**	**671**	**518**	**394**	**371**	**342**	**430**	**550**	**701**	**-22%**
Jet & Kerosene												
Americas	41	55	63	63	65	93	43	47	30	45	44	4%
Europe	464	297	298	273	309	362	323	300	391	457	286	59%
Asia Oceania	76	63	74	70	42	85	74	88	62	54	80	-33%
Total OECD	**581**	**415**	**435**	**405**	**417**	**540**	**439**	**436**	**483**	**556**	**410**	**36%**
Gasoil/Diesel												
Americas	86	103	134	94	94	146	87	172	36	23	64	-64%
Europe	1126	1062	1109	1136	1070	1186	1038	1015	1019	1163	1149	1%
Asia Oceania	261	324	352	351	344	378	300	311	323	289	374	-23%
Total OECD	**1473**	**1489**	**1596**	**1581**	**1508**	**1710**	**1425**	**1497**	**1378**	**1475**	**1587**	**-7%**
Heavy Fuel Oil												
Americas	102	110	86	84	78	77	109	121	144	74	52	43%
Europe	202	279	347	280	417	350	307	346	321	278	324	-14%
Asia Oceania	100	88	119	116	121	129	117	153	67	93	155	-40%
Total OECD	**404**	**477**	**552**	**480**	**616**	**555**	**533**	**620**	**531**	**446**	**530**	**-16%**
Other Products												
Americas	543	513	530	631	556	463	455	449	512	594	568	5%
Europe	629	352	398	335	398	498	496	616	479	467	319	46%
Asia Oceania	184	164	183	198	178	177	175	178	176	151	198	-24%
Total OECD	**1356**	**1029**	**1110**	**1164**	**1132**	**1138**	**1127**	**1243**	**1167**	**1212**	**1085**	**12%**
Total Products												
Americas	1106	1000	1084	1219	1131	983	844	941	915	1043	1045	0%
Europe	3152	2735	2920	2856	2848	3212	2840	3046	2827	3179	3046	4%
Asia Oceania	1681	1640	1903	1932	1868	2017	1867	1941	1830	1689	1983	-15%
Total OECD	**5939**	**5375**	**5907**	**6008**	**5847**	**6211**	**5551**	**5927**	**5572**	**5910**	**6074**	**-3%**
Total Oil												
Americas	3682	2835	3067	3225	3406	3010	2876	2938	2981	3040	2949	3%
Europe	12064	9850	10188	9966	10303	11062	10515	11163	10191	10898	9876	10%
Asia Oceania	7595	6716	6820	6782	6648	7336	7355	7331	7335	7200	7181	0%
Total OECD	**23342**	**19402**	**20075**	**19973**	**20356**	**21408**	**20746**	**21432**	**20507**	**21138**	**20006**	**6%**

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	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier % change
Crude Oil												
Americas	149	60	95	104	92	101	64	78	49	57	83	-31%
Europe	959	1234	1251	1272	1293	1300	1339	1375	1335	1349	1114	21%
Asia Oceania	628	527	610	611	646	563	621	730	513	551	575	-4%
Total OECD	**1736**	**1821**	**1956**	**1987**	**2031**	**1964**	**2023**	**2182**	**1897**	**1957**	**1772**	**10%**
LPG												
Americas	3	6	1	0	0	0	2	0	0	0	0	na
Europe	131	171	162	193	132	173	216	208	198	232	180	29%
Asia Oceania	508	501	516	495	493	495	591	584	598	500	440	13%
Total OECD	**642**	**678**	**679**	**688**	**625**	**669**	**809**	**791**	**796**	**731**	**620**	**18%**
Naphtha												
Americas	3	6	4	4	6	2	2	3	2	0	0	0%
Europe	27	20	87	62	108	79	57	19	54	105	37	182%
Asia Oceania	96	170	172	128	216	126	136	106	82	69	70	-2%
Total OECD	**125**	**196**	**263**	**195**	**330**	**207**	**196**	**128**	**137**	**174**	**107**	**62%**
Gasoline[3]												
Americas	514	382	555	744	661	391	372	450	351	404	790	-49%
Europe	4	5	6	7	5	9	18	10	16	31	8	285%
Asia Oceania	26	18	5	7	0	0	0	0	0	0	22	-99%
Total OECD	**544**	**404**	**565**	**758**	**665**	**400**	**390**	**460**	**367**	**436**	**821**	**-47%**
Jet & Kerosene												
Americas	133	103	101	103	142	83	78	75	83	63	94	-33%
Europe	56	40	35	19	40	49	3	7	1	27	9	190%
Asia Oceania	0	0	0	0	0	0	0	0	0	2	0	na
Total OECD	**190**	**144**	**137**	**122**	**182**	**132**	**81**	**82**	**84**	**91**	**103**	**-11%**
Gasoil/Diesel												
Americas	32	31	63	55	60	76	70	97	53	19	23	-17%
Europe	174	131	82	77	103	77	66	94	54	134	66	104%
Asia Oceania	1	4	0	0	0	0	0	0	0	0	0	na
Total OECD	**207**	**166**	**146**	**132**	**163**	**152**	**136**	**191**	**107**	**153**	**88**	**73%**
Heavy Fuel Oil												
Americas	14	33	16	12	13	27	31	84	13	31	19	63%
Europe	21	16	26	34	19	25	15	4	22	6	33	-81%
Asia Oceania	1	0	0	0	0	0	0	0	0	0	0	na
Total OECD	**36**	**49**	**42**	**46**	**32**	**52**	**46**	**89**	**35**	**37**	**53**	**-29%**
Other Products												
Americas	173	78	50	67	51	47	41	35	49	48	33	46%
Europe	236	222	177	175	187	191	173	194	161	149	159	-6%
Asia Oceania	83	77	78	62	89	91	73	88	79	60	52	16%
Total OECD	**493**	**377**	**306**	**304**	**326**	**329**	**287**	**318**	**288**	**257**	**244**	**6%**
Total Products												
Americas	872	639	790	986	933	625	596	744	550	565	959	-41%
Europe	649	604	577	566	593	603	548	536	505	685	493	39%
Asia Oceania	716	770	771	693	798	713	801	777	759	630	584	8%
Total OECD	**2236**	**2013**	**2138**	**2246**	**2324**	**1940**	**1945**	**2058**	**1814**	**1880**	**2036**	**-8%**
Total Oil												
Americas	1021	699	885	1090	1025	726	660	822	599	623	1042	-40%
Europe	1608	1838	1828	1839	1886	1903	1887	1911	1840	2034	1607	27%
Asia Oceania	1343	1297	1381	1304	1444	1276	1422	1508	1272	1181	1159	2%
Total OECD	**3972**	**3835**	**4093**	**4233**	**4355**	**3905**	**3968**	**4240**	**3711**	**3837**	**3808**	**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 8
REGIONAL OECD CRUDE IMPORTS BY SOURCE[1]
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	change
OECD Americas												
Venezuela	81	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	868	745	719	689	809	731	780	826	749	806	659	148
North Sea	148	59	92	93	92	101	64	78	49	57	83	-26
Other OECD Europe	2	1	3	11	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	192	91	229	295	307	185	103	110	136	24	207	-184
Saudi Arabia	621	588	427	370	483	520	570	517	635	480	324	156
Kuwait	45	21	21	20	36	20	24	13	12	26	62	-36
Iran	-	-	3	-	-	-	6	-	-	-	-	-
Iraq	331	177	152	172	128	192	225	235	187	218	175	43
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	3	5	17	-	44	22	10	-	-	58	-	-
Other Middle East	-	-	-	-	-	-	-	-	-	-	-	-
West Africa[2]	267	145	228	272	255	180	171	178	191	155	259	-103
Other Africa	137	45	161	172	167	157	144	117	156	82	202	-120
Asia	32	17	25	16	46	22	-	-	-	-	17	-
Other	0	3	-	-	-	-	-	-	-	139	-	-
Total	**2726**	**1896**	**2077**	**2109**	**2367**	**2129**	**2096**	**2075**	**2115**	**2045**	**1987**	**59**
of which Non-OECD	**2576**	**1835**	**1982**	**2006**	**2275**	**2028**	**2032**	**1998**	**2066**	**1998**	**1904**	**94**
OECD Europe												
Canada	60	95	83	81	89	55	79	100	51	71	152	-81
Mexico + USA	900	1139	1168	1191	1204	1245	1260	1274	1284	1278	962	316
Venezuela	106	44	-	-	-	-	-	-	-	-	-	-
Other Central & South America	118	208	219	272	263	194	217	180	270	183	222	-39
Non-OECD Europe	14	25	23	19	28	23	20	26	15	12	13	0
Former Soviet Union	4239	3504	3538	3466	3525	3849	3958	4528	3280	3410	3327	83
Saudi Arabia	792	756	522	484	587	501	512	459	575	775	497	277
Kuwait	97	48	0	-	0	0	-	-	-	-	-	-
Iran	74	6	1	-	6	-	-	-	-	-	-	-
Iraq	1124	814	912	916	927	1018	668	662	786	622	862	-239
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2	-	-	-	-	-	-	-	-	-	-	-
Other Middle East	3	8	9	12	12	6	-	-	-	-	16	-
West Africa[2]	1140	1074	822	719	842	947	807	694	958	1056	673	382
Other Africa	1180	596	1197	1204	1228	1282	929	975	943	1131	1221	-89
Asia	-	0	0	-	0	-	5	-	15	-	-	-
Other	13	11	1	-	0	6	520	558	504	529	-	-
Total	**9863**	**8329**	**8496**	**8364**	**8712**	**9126**	**8977**	**9456**	**8682**	**9067**	**7944**	**1122**
of which Non-OECD	**8913**	**7115**	**7268**	**7109**	**7455**	**7850**	**7675**	**8117**	**7364**	**7720**	**6830**	**889**
OECD Asia Oceania												
Canada	5	1	16	38	5	3	9	11	16	17	9	8
Mexico + USA	613	477	496	483	554	463	582	642	497	465	497	-32
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	48	91	110	145	93	97	129	84	159	100	128	-28
North Sea	10	49	98	90	87	97	30	77	-	69	69	0
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	435	300	335	372	265	376	405	403	388	427	488	-62
Saudi Arabia	1878	1867	1766	1574	1601	2020	2029	2025	1907	2151	1647	503
Kuwait	666	584	506	484	493	563	624	624	615	566	541	26
Iran	137	-	-	-	-	-	-	-	-	-	-	-
Iraq	364	224	167	165	160	192	172	207	189	194	211	-17
Oman	59	22	32	43	49	22	28	18	49	68	33	34
United Arab Emirates	1256	1096	1083	1094	1143	1184	1145	1084	1265	1135	1185	-50
Other Middle East	449	387	362	383	371	301	442	425	429	361	403	-42
West Africa[2]	56	65	71	103	67	79	52	35	59	63	63	0
Other Africa	90	42	56	44	85	39	42	22	52	23	55	-32
Non-OECD Asia	220	161	175	177	161	153	126	137	113	169	210	-41
Other	255	234	248	264	285	288	284	323	268	254	221	33
Total	**6542**	**5602**	**5522**	**5457**	**5418**	**5877**	**6100**	**6117**	**6005**	**6061**	**5761**	**300**
of which Non-OECD	**5914**	**5076**	**4917**	**4850**	**4780**	**5320**	**5488**	**5390**	**5505**	**5511**	**5198**	**312**
Total OECD Trade	**19130**	**15826**	**16096**	**15930**	**16497**	**17132**	**17173**	**17648**	**16802**	**17173**	**15692**	**1481**
of which Non-OECD	**17403**	**14027**	**14168**	**13965**	**14510**	**15198**	**15195**	**15505**	**14935**	**15228**	**13932**	**1296**

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 Guniea, Congo and Democratic Republic of Congo.

Table 9
REGIONAL OECD GASOLINE IMPORTS BY SOURCE[1]
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier change
OECD Americas												
Venezuela	4	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	83	40	41	67	37	51	12	6	21	27	107	-80
ARA (Belgium Germany Netherlands)	190	149	193	312	240	93	124	128	137	164	312	-149
Other Europe	296	213	326	380	380	268	221	291	182	213	435	-223
FSU	79	57	82	98	92	57	31	40	43	7	100	-94
Saudi Arabia	7	6	24	50	41	-	6	-	17	59	-	-
Algeria	-	4	1	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	14	13	13	12	15	4	8	7	13	15	5	10
Singapore	5	1	4	3	8	3	-	-	-	-	-	-
OECD Asia Oceania	28	21	37	52	43	30	27	30	32	28	43	-15
Non-OECD Asia (excl. Singapore)	116	72	81	99	116	60	53	46	60	94	84	11
Other	0	-	0	-	-	-	-	-	-	74	-	-
Total[2]	**822**	**577**	**803**	**1074**	**973**	**565**	**483**	**549**	**505**	**681**	**1087**	**-407**
of which Non-OECD	**308**	**195**	**248**	**330**	**312**	**174**	**111**	**99**	**154**	**276**	**297**	**-20**
OECD Europe												
OECD Americas	3	3	5	5	3	8	17	10	16	31	7	24
Venezuela	0	0	2	1	5	-	2	-	2	1	1	0
Other Central & South America	3	4	7	2	11	5	14	30	10	2	2	-1
Non-OECD Europe	18	16	10	16	10	6	5	1	4	4	25	-21
FSU	54	31	8	7	9	2	7	7	3	33	12	21
Saudi Arabia	0	8	3	-	13	0	0	-	1	-	-	-
Algeria	0	1	-	-	-	-	-	-	-	19	-	-
Other Middle East & Africa	8	3	5	6	3	2	7	9	8	13	12	2
Singapore	3	2	0	-	0	0	1	1	1	1	-	-
OECD Asia Oceania	1	1	1	2	1	1	1	-	-	-	1	-
Non-OECD Asia (excl. Singapore)	0	0	3	2	2	3	3	3	2	4	4	0
Other	21	37	62	117	15	61	53	55	46	71	157	-86
Total[2]	**112**	**107**	**106**	**159**	**75**	**89**	**110**	**116**	**95**	**179**	**221**	**-42**
of which Non-OECD	**108**	**104**	**100**	**152**	**70**	**80**	**92**	**106**	**79**	**148**	**213**	**-65**
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	7	0	0	0	-	0	0	22	-22
Other Europe	5	10	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	98	96	120	135	112	164	79	76	3
Non-OECD Asia (excl. Singapore)	21	37	29	58	19	0	14	3	14	27	56	-29
Other	21	19	23	33	19	19	20	21	19	20	59	-39
Total[2]	**114**	**126**	**156**	**196**	**135**	**140**	**168**	**136**	**197**	**126**	**214**	**-87**
of which Non-OECD	**88**	**109**	**152**	**189**	**135**	**140**	**168**	**136**	**197**	**126**	**191**	**-65**
Total OECD Trade[2]	**1048**	**810**	**1065**	**1429**	**1183**	**794**	**761**	**801**	**797**	**986**	**1522**	**-536**
of which Non-OECD	**504**	**408**	**500**	**671**	**518**	**394**	**371**	**342**	**430**	**550**	**701**	**-151**

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 SOURCE[1]
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier change
OECD Americas												
Venezuela	1	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	38	34	28	30	24	20	3	-	-	9	10	-1
ARA (Belgium Germany Netherlands)	5	11	34	31	30	22	39	76	19	-	10	-
Other Europe	2	4	5	9	1	10	2	8	-	-	0	-
FSU	6	12	25	21	10	33	25	77	4	-	3	-
Saudi Arabia	3	8	15	9	11	18	18	52	-	-	1	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	2	9	25	8	18	26	8	19	5	-	13	-
Singapore	0	-	2	2	8	-	2	-	-	-	-	-
OECD Asia Oceania	24	16	25	15	29	44	29	13	34	19	12	7
Non-OECD Asia (excl. Singapore)	30	34	27	16	12	31	0	-	-	14	22	-8
Other	7	6	12	8	11	18	31	23	27	-	14	-
Total[2]	**118**	**134**	**197**	**149**	**154**	**222**	**157**	**269**	**90**	**42**	**86**	**-45**
of which Non-OECD	**86**	**103**	**134**	**94**	**94**	**146**	**87**	**172**	**36**	**23**	**64**	**-41**
OECD Europe												
OECD Americas	138	99	40	38	55	33	31	52	27	120	13	107
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	0	3	1	1	1	3	1	-	2	1	2	-1
Non-OECD Europe	41	30	35	40	30	32	34	22	39	42	34	8
FSU	608	627	611	687	546	516	592	608	619	498	726	-228
Saudi Arabia	205	193	140	128	142	153	97	39	73	114	127	-13
Algeria	0	2	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	83	71	158	143	198	222	137	103	96	133	153	-20
Singapore	27	17	19	18	24	22	33	79	22	91	8	83
OECD Asia Oceania	36	32	42	39	48	44	34	42	27	15	53	-38
Non-OECD Asia (excl. Singapore)	152	101	126	112	122	195	88	90	115	251	73	178
Other	10	15	20	7	6	43	56	73	51	33	26	7
Total[2]	**1300**	**1190**	**1192**	**1213**	**1173**	**1263**	**1103**	**1108**	**1070**	**1297**	**1214**	**82**
of which Non-OECD	**1126**	**1062**	**1109**	**1136**	**1070**	**1186**	**1038**	**1015**	**1019**	**1163**	**1149**	**14**
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	-	-	-	-
Other Europe	-	-	0	-	-	0	-	-	-	-	-	-
FSU	4	2	1	1	2	1	-	-	-	-	1	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	7	13	4	0	0	3	-	-	-	17	0	17
Singapore	111	91	109	91	153	110	123	141	148	89	78	11
Non-OECD Asia (excl. Singapore)	133	208	200	220	141	227	144	137	151	118	264	-146
Other	5	10	9	11	9	5	9	11	10	5	13	-8
Total[2]	**262**	**328**	**324**	**322**	**304**	**346**	**276**	**290**	**308**	**229**	**356**	**-127**
of which Non-OECD	**261**	**324**	**352**	**351**	**344**	**378**	**300**	**311**	**323**	**289**	**374**	**-86**
Total OECD Trade[2]	**1680**	**1653**	**1713**	**1684**	**1630**	**1831**	**1536**	**1667**	**1467**	**1568**	**1657**	**-89**
of which Non-OECD	**1473**	**1489**	**1596**	**1581**	**1508**	**1710**	**1425**	**1497**	**1378**	**1475**	**1587**	**-113**

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 SOURCE[1]
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier change
OECD Americas												
Venezuela	0	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	7	5	1	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	5	0	14	-	-	-	-	-	-	-
Other Europe	0	4	6	5	6	7	0	-	0	-	-	-
FSU	-	0	4	0	0	16	3	9	-	-	-	-
Saudi Arabia	2	6	6	4	4	17	5	6	8	-	-	-
Algeria	-	1	4	0	3	5	-	-	-	-	1	-
Other Middle East and Africa	10	11	18	31	14	22	11	11	12	6	29	-23
Singapore	3	4	2	2	5	-	2	3	-	-	-	-
OECD Asia Oceania	133	100	91	98	122	76	78	75	83	63	94	-31
Non-OECD Asia (excl. Singapore)	16	23	27	25	34	33	17	18	10	29	14	15
Other	3	4	1	-	4	-	5	-	-	10	-	-
Total[2]	**174**	**159**	**164**	**166**	**207**	**175**	**120**	**122**	**113**	**108**	**137**	**-29**
of which Non-OECD	**41**	**55**	**63**	**63**	**65**	**93**	**43**	**47**	**30**	**45**	**44**	**2**
OECD Europe												
OECD Americas	20	13	3	2	1	9	1	2	1	4	3	1
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	1	0	0	-	-	1	-	-	-	-	-	-
Non-OECD Europe	2	0	0	-	-	0	-	-	-	4	-	-
FSU	41	21	27	24	30	21	20	30	16	21	23	-1
Saudi Arabia	105	40	27	39	11	21	37	21	41	66	63	3
Algeria	11	9	5	8	6	-	3	11	-	-	16	-
Other Middle East and Africa	199	155	155	136	179	168	151	133	158	200	86	113
Singapore	29	10	11	4	23	15	6	-	16	30	-	-
OECD Asia Oceania	36	27	32	17	39	40	2	5	0	22	6	16
Non-OECD Asia (excl. Singapore)	73	50	62	59	59	113	78	80	127	103	63	40
Other	2	10	9	2	1	22	27	25	33	20	34	-14
Total[2]	**520**	**336**	**333**	**291**	**349**	**411**	**326**	**307**	**391**	**472**	**295**	**176**
of which Non-OECD	**464**	**297**	**298**	**273**	**309**	**362**	**323**	**300**	**391**	**457**	**286**	**170**
OECD Asia Oceania												
OECD Americas	-	-	0	0	0	0	0	-	0	0	0	0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	0	-	-	-	-	-	-	-	-	-
Other Europe	-	-	0	-	0	-	-	-	-	2	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	-	-	1	-	-	-	-	-	-	0	-	-
Singapore	21	14	16	18	19	19	26	31	24	18	18	0
Non-OECD Asia (excl. Singapore)	29	28	32	36	9	27	17	14	21	26	49	-24
Other	26	21	24	17	8	37	28	34	18	8	13	-5
Total[2]	**76**	**63**	**72**	**70**	**36**	**82**	**71**	**79**	**62**	**53**	**80**	**-27**
of which Non-OECD	**76**	**63**	**74**	**70**	**42**	**85**	**74**	**88**	**62**	**54**	**80**	**-26**
Total OECD Trade[2]	**770**	**558**	**569**	**527**	**593**	**669**	**517**	**509**	**566**	**633**	**513**	**121**
of which Non-OECD	**581**	**415**	**435**	**405**	**417**	**540**	**439**	**436**	**483**	**556**	**410**	**146**

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 SOURCE[1]
(thousand barrels per day)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Feb 22	Mar 22	Apr 22	Year Earlier Apr 21	Year Earlier change
OECD Americas												
Venezuela	7	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	50	52	34	25	39	44	55	60	94	5	10	-5
ARA (Belgium Germany Netherlands)	6	12	6	2	9	9	6	17	1	-	-	-
Other Europe	8	21	10	10	4	18	25	67	12	31	19	12
FSU	29	43	34	36	19	18	46	60	31	55	23	32
Saudi Arabia	2	2	0	0	-	2	1	0	2	6	-	-
Algeria	8	2	7	4	3	13	-	-	-	-	-	-
Other Middle East and Africa	5	10	8	11	15	0	6	1	18	3	1	2
Singapore	1	1	0	-	2	-	-	-	-	-	-	-
OECD Asia Oceania	-	-	0	-	1	-	-	-	-	-	-	-
Non-OECD Asia (excl. Singapore)	0	-	2	8	0	-	-	-	-	-	18	-
Other	-	-	-	-	-	-	-	-	-	4	-	-
Total[2]	**116**	**143**	**102**	**96**	**91**	**104**	**139**	**206**	**157**	**105**	**71**	**34**
of which Non-OECD	**102**	**110**	**86**	**84**	**78**	**77**	**109**	**121**	**144**	**74**	**52**	**22**
OECD Europe												
OECD Americas	7	12	24	32	14	20	13	4	15	5	32	-27
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	5	6	4	1	10	1	1	-	1	0	-	-
Non-OECD Europe	21	13	12	12	12	11	14	5	21	45	8	36
FSU	144	141	247	150	315	279	216	290	214	118	138	-20
Saudi Arabia	-	2	-	-	-	-	-	-	-	-	-	-
Algeria	0	2	2	-	2	3	-	-	-	30	-	-
Other Middle East and Africa	19	13	14	10	18	13	11	11	8	13	17	-4
Singapore	1	3	3	7	2	2	-	-	-	0	7	-7
OECD Asia Oceania	14	4	3	2	5	5	2	-	7	1	2	0
Non-OECD Asia (excl. Singapore)	3	-	-	-	-	-	-	-	-	-	-	-
Other	8	93	59	94	55	41	62	36	71	70	146	-76
Total[2]	**222**	**288**	**368**	**308**	**433**	**374**	**320**	**348**	**338**	**282**	**349**	**-67**
of which Non-OECD	**202**	**279**	**347**	**280**	**417**	**350**	**307**	**346**	**321**	**278**	**324**	**-45**
OECD Asia Oceania												
OECD Americas	1	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	0	-	0	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	6	5	0	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	1	13	14	13	25	12	9	20	20	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	27	38	30	27	31	30	6	-	18	-	36	-
Singapore	25	18	29	44	22	23	34	19	19	27	97	-70
Non-OECD Asia (excl. Singapore)	40	26	47	30	56	51	64	125	10	47	22	24
Other	1	-	-	-	-	-	-	-	-	-	-	-
Total[2]	**101**	**88**	**119**	**116**	**121**	**129**	**117**	**153**	**67**	**93**	**155**	**-61**
of which Non-OECD	**100**	**88**	**119**	**116**	**121**	**129**	**117**	**153**	**67**	**93**	**155**	**-61**
Total OECD Trade[2]	**439**	**519**	**588**	**520**	**645**	**607**	**576**	**706**	**561**	**481**	**575**	**-94**
of which Non-OECD	**404**	**477**	**552**	**480**	**616**	**555**	**533**	**620**	**531**	**446**	**530**	**-85**

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 AND PRODUCT PRICES
($/bbl)

	2019	2020	2021	2Q21	3Q21	4Q21	1Q22	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22
CRUDE PRICES													
IEA CIF Average Import[1]													
IEA Europe	64.25	42.91	69.96	67.23	72.11	78.46	96.59	84.08	95.12	110.54	103.48		
IEA Americas	56.93	37.31	64.78	63.76	67.32	73.13	87.35	74.95	84.04	100.98	101.26		
IEA Asia Oceani	66.38	46.28	70.41	67.63	74.07	80.92	89.86	81.59	89.56	98.74	111.16		
IEA Total	**62.75**	**42.19**	**68.56**	**66.29**	**71.18**	**77.55**	**92.12**	**80.90**	**90.42**	**104.58**	**105.00**		
SPOT PRICES													
North Sea Dated	64.08	41.50	70.64	68.83	73.28	79.80	102.41	87.08	97.97	118.75	104.25	112.92	123.83
WTI	61.87	40.95	69.01	66.90	71.17	78.27	96.77	84.62	93.23	110.25	102.93	110.80	115.83
Dubai	63.77	43.82	70.01	67.73	72.23	79.01	97.17	84.41	93.16	111.40	103.64	108.93	114.07
PRODUCT PRICES													
Northwest Europe													
Gasoline	71.24	44.24	79.88	78.37	85.33	90.75	110.51	94.59	106.33	127.11	125.39	148.24	162.92
Diesel	79.32	49.07	78.17	74.52	80.59	92.14	125.45	100.93	112.68	156.26	151.26	151.68	178.75
Jet/Kero	80.20	45.44	77.05	73.22	79.54	91.28	123.46	101.60	111.20	151.65	154.57	161.88	178.11
Naphtha	56.64	39.75	71.36	67.12	75.04	82.48	100.24	87.35	96.85	113.69	101.89	99.84	90.20
HSFO	50.09	33.62	61.04	59.22	62.96	67.71	84.41	74.33	79.79	96.56	90.60	96.80	91.28
0.5% Fuel Oil	80.26	48.16	76.59	74.44	78.30	85.28	109.89	94.19	104.39	127.40	120.82	121.31	135.92
US Gulf Coast													
Gasoline	71.11	47.30	86.49	85.73	91.76	95.15	116.70	100.66	112.33	134.26	133.04	157.34	169.71
Diesel	79.12	50.26	84.73	82.08	87.37	97.55	126.70	106.75	118.11	151.15	160.19	163.46	179.48
Jet/Kero	78.84	46.30	77.95	73.77	79.89	92.12	121.54	102.17	112.54	145.83	156.92	161.46	171.69
Naphtha	61.87	40.95	69.01	66.90	71.17	78.27	96.77	84.62	93.23	110.25	102.93	110.80	115.83
HSFO	52.53	34.71	59.90	57.77	62.33	67.41	83.38	74.91	80.13	93.44	89.41	94.62	94.92
0.5% Fuel Oil	74.08	49.88	79.69	77.27	80.73	89.03	114.08	96.92	108.18	133.88	127.06	131.87	140.31
Singapore													
Gasoline	63.77	43.82	70.01	67.73	72.23	79.01	97.17	84.41	93.16	111.40	103.64	108.93	114.07
Diesel	78.47	49.60	77.80	74.06	79.85	90.88	119.08	99.63	110.70	142.57	148.30	153.41	177.35
Jet/Kero	57.46	38.33	63.20	60.24	66.08	70.13	85.69	74.41	81.04	99.15	103.97	98.44	92.45
Naphtha	77.55	45.06	75.29	71.65	77.12	88.49	113.53	96.25	106.17	134.32	133.96	142.90	165.10
HSFO	70.10	45.28	78.49	75.14	81.41	91.16	111.63	96.45	108.26	127.47	123.18	140.99	149.10
0.5% Fuel Oil	75.66	52.85	80.81	77.18	81.99	91.25	115.97	99.41	111.24	134.07	124.83	136.42	155.05

1 IEA CIF Average Import price for Apr 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.

Table 14
MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS

June 2022

	NATIONAL CURRENCY *						US DOLLARS					
	Total Price	% change from May-22	% change from Jun-21	Ex-Tax Price	% change from May-22	% change from Jun-21	Total Price	% change from May-22	% change from Jun-21	Ex-Tax Price	% change from May-22	% change from Jun-21
GASOLINE [1] (per litre)												
France	2.112	11.3	37.5	1.219	17.1	107.0	2.231	11.1	20.6	1.288	17.0	81.5
Germany	1.978	- 7.0	26.4	1.155	2.0	75.0	2.090	-7.1	10.8	1.220	1.9	53.5
Italy	2.023	10.3	25.7	1.180	15.1	99.3	2.137	10.2	10.2	1.247	15.0	74.8
Spain	2.109	10.8	53.8	1.394	13.6	111.2	2.228	10.7	34.9	1.473	13.5	85.2
United Kingdom	1.841	10.9	41.8	1.004	17.7	100.0	2.267	9.7	24.6	1.236	16.5	75.6
Japan	172.5	1.7	11.4	100.2	2.7	19.1	1.288	-2.1	-8.4	0.749	-1.2	-2.0
Canada	2.101	6.1	53.5	1.558	7.7	73.9	1.640	6.4	46.3	1.216	8.0	65.8
United States	1.302	10.9	60.7	1.171	12.3	71.7	1.302	10.9	60.7	1.171	12.3	71.7
AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)												
France	2.074	10.5	46.6	1.269	14.8	122.6	2.191	10.4	28.5	1.341	14.7	95.2
Germany	2.033	- 0.7	48.9	1.308	4.6	93.2	2.148	-0.8	30.6	1.382	4.5	69.4
Italy	1.956	7.6	33.1	1.236	10.2	110.2	2.067	7.5	16.7	1.306	10.0	84.3
Spain	2.024	7.8	64.0	1.418	9.2	121.2	2.138	7.6	43.8	1.498	9.0	94.0
United Kingdom	1.925	7.1	44.4	1.074	11.0	101.9	2.371	5.9	26.8	1.323	9.8	77.3
Japan	152.3	1.8	12.9	106.5	2.4	17.4	1.138	-2.0	-7.1	0.796	-1.4	-3.4
Canada	2.249	1.1	73.9	1.743	1.6	99.9	1.755	1.4	65.9	1.360	1.9	90.6
United States	1.509	2.5	73.8	1.358	2.8	88.9	1.509	2.5	73.8	1.358	2.8	88.9
DOMESTIC HEATING OIL (per litre)												
France	1.687	10.4	93.2	1.250	11.9	118.7	1.783	10.3	69.5	1.321	11.8	91.8
Germany	1.522	13.2	104.6	1.218	14.0	116.0	1.608	13.1	79.5	1.286	13.8	89.4
Italy	1.965	8.2	54.5	1.208	11.3	88.8	2.076	8.1	35.4	1.276	11.1	65.5
Spain	1.534	12.7	114.6	1.171	13.9	137.1	1.620	12.6	88.2	1.237	13.8	107.9
United Kingdom	1.175	17.3	105.9	1.017	20.2	135.4	1.447	16.1	80.8	1.252	18.9	106.7
Japan [2]	113.8	1.5	24.0	100.6	1.5	24.9	0.850	-2.3	2.0	0.752	-2.2	2.7
Canada	2.090	- 4.1	73.9	1.864	-4.3	78.5	1.631	-3.9	65.9	1.455	-4.0	70.3
United States	-	-	-	-	-	-	-	-	-	-	-	-
LOW SULPHUR FUEL OIL FOR INDUSTRY [3] (per kg)												
France	0.862	2.9	48.0	0.723	3.5	63.1	0.911	2.8	29.8	0.764	3.4	43.1
Germany	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0.834	3.8	61.0	0.803	3.9	65.0	0.881	3.6	41.2	0.848	3.8	44.7
Spain	0.703	- 0.7	63.6	0.686	-0.7	66.3	0.743	-0.8	43.5	0.725	-0.9	45.8
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-	-	-	-

1 Unleaded premium (95 RON) for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States.
2 Kerosene for Japan.
3 VAT excluded from prices for low sulphur fuel oil when refunded to industry.

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

Table 15
IEA Global Indicator Refining Margins

$/bbl	2019	2020	2021	3Q21	4Q21	1Q22	2Q22	Jan 22	Feb 22	Mar 22	Apr 22	May 22
NW Europe												
Light sweet hydroskimming	3.09	1.13	2.61	3.00	4.75	5.35	15.29	3.59	2.51	9.15	17.09	14.71
Light sweet cracking	5.50	2.14	3.66	4.14	6.60	8.97	22.13	5.62	5.15	14.89	23.39	20.31
Light sweet cracking + Petchem	5.50	2.14	3.66	7.07	9.18	11.10	26.42	8.78	6.66	16.68	28.08	23.75
Medium sour cracking	9.48	4.91	8.72	7.15	7.25	21.99	59.38	6.37	10.90	44.05	60.08	57.87
Mediumsour cracking + Petchem	9.48	4.91	8.72	9.99	9.76	24.06	63.55	9.43	12.38	45.80	64.64	61.21
Mediterranean												
Light sweet hydroskimming	4.20	2.40	2.99	3.44	4.41	4.24	13.90	2.92	0.29	8.61	16.67	12.36
Light sweet cracking	7.27	3.42	5.16	5.91	7.32	8.90	23.67	6.28	4.47	14.72	24.34	21.07
Medium sour cracking	11.43	6.37	8.10	6.77	7.76	11.93	30.18	10.09	9.47	15.48	27.53	29.93
US Gulf Coast												
Light sweet cracking	7.51	4.28	11.04	12.81	11.96	16.54	38.22	12.30	14.37	22.03	31.38	37.83
Medium sour cracking	12.43	7.06	16.56	17.87	18.71	25.08	47.39	20.02	22.30	31.78	39.42	45.88
Heavy sour coking	18.41	10.55	21.44	21.92	23.97	32.06	55.43	26.00	29.20	39.70	46.64	54.86
US Midwest												
Light sweet cracking	10.76	3.74	12.33	14.95	11.14	13.95	40.42	9.00	10.31	21.26	30.57	38.14
Heavy sour coking	24.56	14.03	27.34	29.17	27.74	32.07	60.64	25.86	28.07	40.77	48.28	59.13
Singapore												
Light sweet cracking	-1.24	0.20	3.10	3.13	5.56	7.94	18.69	5.25	6.77	11.19	16.27	15.50
Light sweet cracking + Petchem	-1.24	0.20	3.10	4.35	7.03	8.63	20.69	5.75	7.37	12.11	18.47	17.00
Medium sour cracking	5.82	2.33	6.22	4.22	5.27	9.85	23.35	7.01	8.82	13.13	20.50	22.26
Medium sour cracking + Petchem	5.82	2.33	6.22	5.42	6.72	10.53	25.33	7.50	9.41	14.04	22.67	23.74

Source: IEA, Argus Media Ltd prices

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

	Feb-22	Mar-22	Apr-22	Apr-21	Apr 22 vs Previous Month	Apr 22 vs Previous Year	Apr 22 vs 5 Year Average	5 Year Average
OECD Americas								
Naphtha	1.1	1.1	1.0	1.4	0.0	-0.4	-0.4	1.4
Motor gasoline	45.6	44.3	43.8	45.6	-0.6	-1.8	0.0	43.8
Jet/kerosene	8.3	7.8	9.3	7.3	1.5	2.1	1.4	8.0
Gasoil/diesel oil	28.3	29.3	28.5	28.0	-0.7	0.5	-0.9	29.4
Residual fuel oil	2.9	3.3	2.9	2.8	-0.4	0.1	-0.4	3.3
Petroleum coke	4.2	4.2	4.3	4.2	0.1	0.1	-0.2	4.5
Other products	11.8	12.9	13.9	13.9	0.9	-0.1	0.5	13.4
OECD Europe								
Naphtha	8.9	8.5	8.2	8.3	-0.3	-0.2	-0.4	8.6
Motor gasoline	21.4	21.3	21.2	20.6	-0.1	0.6	1.6	19.6
Jet/kerosene	7.7	6.6	7.5	5.2	0.9	2.4	0.1	7.4
Gasoil/diesel oil	39.4	41.3	40.4	41.5	-1.0	-1.1	-0.2	40.6
Residual fuel oil	8.6	8.0	8.5	8.5	0.5	0.0	-0.9	9.4
Petroleum coke	1.7	1.4	1.3	1.4	-0.1	-0.1	0.0	1.4
Other products	15.2	15.6	15.1	17.2	-0.5	-2.2	-0.4	15.4
OECD Asia Oceania								
Naphtha	15.7	16.7	16.5	16.8	-0.2	-0.3	0.5	16.0
Motor gasoline	21.4	21.6	20.7	22.5	-0.9	-1.8	-0.6	21.3
Jet/kerosene	13.9	12.7	12.6	11.4	0.0	1.3	-1.0	13.6
Gasoil/diesel oil	30.1	30.4	29.4	30.7	-1.0	-1.4	-0.8	30.2
Residual fuel oil	9.0	8.7	9.0	7.9	0.3	1.0	1.5	7.5
Petroleum coke	0.5	0.5	0.5	0.3	0.0	0.1	0.1	0.4
Other products	11.9	11.7	12.2	12.7	0.5	-0.5	-0.5	12.7
OECD Total								
Naphtha	6.2	6.1	5.9	6.2	-0.2	-0.3	-0.4	6.4
Motor gasoline	33.6	33.2	32.6	33.7	-0.5	-1.1	0.7	31.9
Jet/kerosene	9.1	8.3	9.3	7.3	1.0	2.0	0.5	8.8
Gasoil/diesel oil	32.1	33.2	32.5	32.7	-0.7	-0.2	-0.6	33.1
Residual fuel oil	5.8	5.7	5.7	5.5	0.0	0.2	-0.3	6.0
Petroleum coke	2.8	2.7	2.7	2.6	0.0	0.1	0.0	2.8
Other products	12.9	13.5	14.0	14.8	0.4	-0.8	0.0	13.9

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	Apr 22	May 22	Jun 22
ETHANOL									
OECD Americas[1]	**1063**	**934**	**1010**	**1092**	**1058**	**1011**	**1001**	**1016**	**1016**
United States	1029	906	979	1061	1023	976	966	980	980
Other	34	28	30	30	35	35			
OECD Europe[2]	**97**	**93**	**103**	**117**	**118**	**109**	**129**	**100**	**100**
France	21	17	18	22	26	20	28	17	17
Germany	12	11	12	15	21	15	28	9	9
Spain	9	8	10	10	6	10	5	12	12
United Kingdom	5	5	9	16	16	9	17	5	5
Other	50	52	54	54	48	55			
OECD Asia Oceania[3]	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Australia	4	4	4	4	4	4	4	4	4
Other	0	0	0	0	0	0			
Total OECD Ethanol	**1165**	**1031**	**1117**	**1213**	**1180**	**1125**	**1134**	**1120**	**1120**
Total Non-OECD Ethanol	**809**	**735**	**703**	**515**	**312**	**852**	**519**	**979**	**1053**
Brazil	621	560	515	327	100	640	308	767	841
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**	**1728**	**1492**	**1976**	**1654**	**2098**	**2172**
BIODIESEL									
OECD Americas[1]	**151**	**159**	**168**	**197**	**155**	**238**	**232**	**240**	**240**
United States	145	153	160	190	152	229	229	229	229
Other	7	6	7	7	3	9			
OECD Europe[2]	**295**	**281**	**313**	**313**	**292**	**326**	**294**	**342**	**342**
France	43	41	43	43	51	48	55	45	45
Germany	69	61	66	66	57	66	58	70	70
Italy	18	28	30	31	21	34			
Spain	42	30	39	38	30	39	28	45	45
Other	123	121	136	136	132	139	124	146	146
OECD Asia Oceania[3]	**15**	**12**	**12**	**8**	**11**	**12**	**14**	**12**	**12**
Australia	0	0	0	0	0	0	0	0	0
Other	15	12	12	8	11	12			
Total OECD Biodiesel	**461**	**452**	**493**	**519**	**457**	**576**	**539**	**594**	**594**
Total Non-OECD Biodiesel	**405**	**411**	**439**	**439**	**464**	**464**	**464**	**464**	**464**
Brazil	102	111	116	114	101	103	100	105	105
Argentina*	42	27	36	36	42	42			
Other	261	274	287	289	321	319			
TOTAL BIODIESEL	**866**	**863**	**932**	**959**	**921**	**1040**	**1003**	**1058**	**1058**
GLOBAL BIOFUELS	**2839**	**2630**	**2752**	**2686**	**2413**	**3016**	**2657**	**3156**	**3230**

* monthly data not available.

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