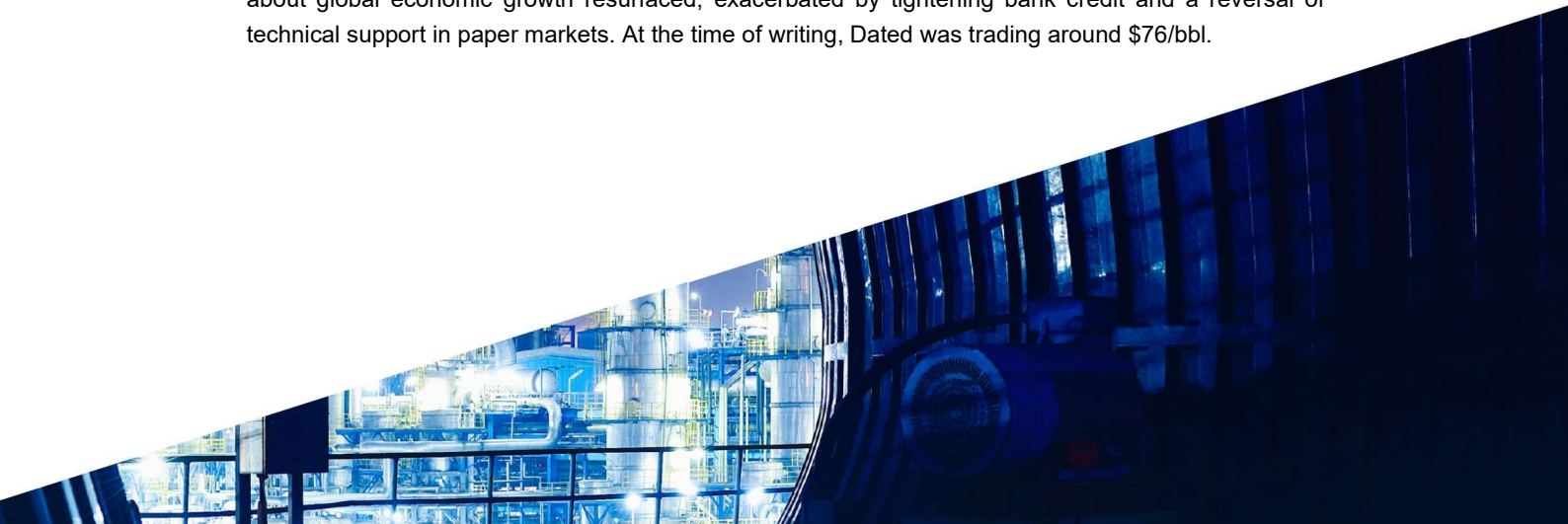


# Oil Market Report

16 May 2023

- World oil demand is forecast to rise by 2.2 mb/d year-on-year in 2023 to an average 102 mb/d, 200 kb/d above last month's *Report*. China's demand recovery continues to surpass expectations, with the country setting an all-time record in March at 16 mb/d. While the OECD is set to return to growth in 2Q23, its average 2023 increase of 350 kb/d pales in comparison with 1.9 mb/d in non-OECD gains.
- Significant outages in Iraq, Nigeria and Brazil were only partly offset by increases elsewhere, with global oil supply down by 230 kb/d to 101.1 mb/d in April. Steeper losses are in store for May as wildfires shut in Canadian barrels and extra cuts from some OPEC+ producers take effect. From April through December, OPEC+ oil supply is set to fall by 850 kb/d, while non-OPEC+ rises by 710 kb/d. For 2023 as a whole, global oil supply expands by 1.2 mb/d, led by the United States and Brazil.
- Global crude throughputs reach an estimated 82.3 mb/d in 2023 as record 1Q23 runs in Asia led to a 300 kb/d upward adjustment versus last month's *Report*. However, weak margins mean the 2H23 runs forecast has been downgraded, most notably for Europe and the US. New capacity and ample availability of discounted Russian crude in Asia skews activity away from the Atlantic Basin.
- Russian exports of crude and refined oil products edged up in April to a post-invasion high of 8.3 mb/d. Shipments of crude oil increased by 250 kb/d, offsetting a decline in product exports of 200 kb/d. Estimated oil export revenues increased by \$1.7 billion to \$15 billion on the back of higher crude oil exports and a narrower Urals discount.
- Global observed oil inventories declined by 7.9 mb in March as a surge in oil on water and a slight increase in non-OECD stocks failed to offset a hefty 56 mb decline in the OECD. Led by a sharp draw in products, OECD industry stocks fell to a six-month low of 2 753 mb to 89 mb below their five-year average. Preliminary April data show a build in on land inventories and a draw in oil on water.
- North Sea Dated crude soared by around \$10/bbl to \$88.09/bbl in mid April following the surprise output cuts announced by some OPEC+ members. Prices failed to hold on to the gains, however, as pessimism about global economic growth resurfaced, exacerbated by tightening bank credit and a reversal of technical support in paper markets. At the time of writing, Dated was trading around \$76/bbl.



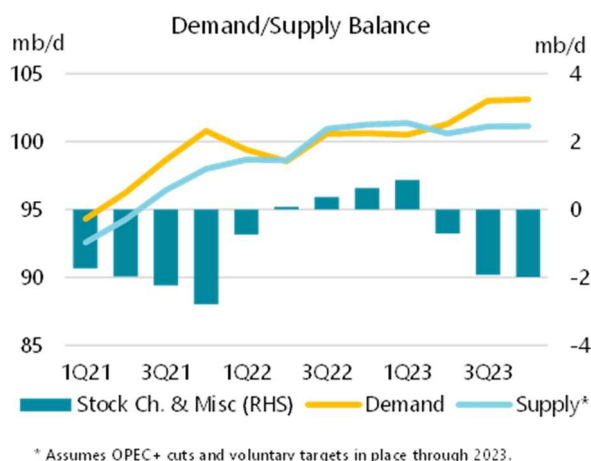
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## Roller coaster ride

Oil prices retreated during April and early May as concerns over the health of the global economy and oil demand prospects depressed market sentiment. North Sea Dated plunged by nearly \$16/bbl in just two weeks, reversing gains that followed the surprise announcement by some OPEC+ countries to cut output from May. Prices were pressured lower by muted industrial activity and higher interest rates, which, combined have led to recessionary scenarios gaining traction and worries of a downward shift in oil demand growth. The current market pessimism, however, stands in stark contrast to the tighter market balances we anticipate in the second half of the year, when demand is expected to eclipse supply by almost 2 mb/d.

Our forecast for world oil demand growth for 2023 has been revised up to 2.2 mb/d in this *Report*, with China's rebound even stronger than previously expected. The world's second biggest oil user after the US will account for nearly 60% of global growth in 2023. Record demand in China, India and the Middle East at the start of the year more than offset lacklustre industrial activity and oil use in the OECD. The latter accounts for just 15% of growth this year, supported by consumer spending and personal mobility. Overall, world oil demand is set to average 102 mb/d in 2023, 1.3 mb/d more than 2019.



On the supply side, hefty losses from Iraq's northern Kurdish region following the shutdown of the Iraq-Türkiye export pipeline since end-March, wildfire disruptions in Canada, worker protests in Nigeria and maintenance related cuts in Brazil have dominated recent news. Yet, so far, these outages have neither prompted a spike in prices nor triggered a visible decline in inventories.

At the same time, Russian oil supply continued to prove resilient. In April, Russian oil exports reached a post-invasion high of 8.3 mb/d. By our estimates, Moscow did not deliver its announced 500 kb/d supply cut in full. Indeed, Russia may be boosting volumes to make up for lost revenue. The country's oil export revenues rose by \$1.7 bn to \$15 bn last month but were 27% lower than a year ago while tax receipts from its oil and gas sector were down by 64% y-o-y.

Russia seems to have few problems finding willing buyers for its crude and oil products, frequently at the expense of fellow OPEC+ members in the two-tier market that has emerged since the embargoes came into force. New refining capacity is driving a continued shift east in forecast crude runs for the remainder of the year, mirroring regional demand strength. Record runs from refiners with access to discounted feedstock along with sustained Russian product exports and lacklustre global diesel demand have undermined product cracks, margins and crude price premiums.

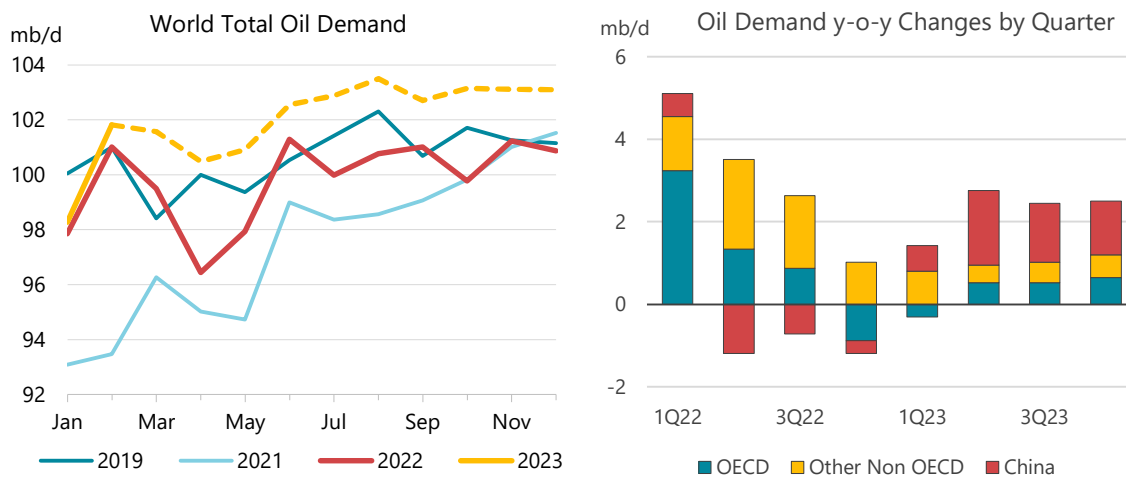
With world oil supply set to fall further this month as new OPEC+ cuts take effect, global oil inventories may again come under pressure. The release of record volumes from IEA government stocks over the past year has reduced the industry inventory deficit versus its five-year average to less than 90 mb from more than 300 mb a year ago. Preliminary data for April show a rise in on land product stocks. Those builds may help mitigate price volatility in the coming months if supply falls short of the seasonal rise in world oil demand.

# Demand

## Overview

Global oil demand will increase by 2.2 mb/d year-on-year (y-o-y) in 2023 to average 102 mb/d. This marks an acceleration from the 2 mb/d estimate in last month's *Report*. China's demand recovery continues to surpass expectations, with the country setting an all-time record in March at 16 mb/d.

The disparity of recent months between a listless OECD and a robust non-OECD remains highly pertinent. OECD demand fell by 310 kb/d y-o-y during 1Q23, its second straight quarterly decline, weighed down by weak GDP growth and rising fuel efficiencies. This contrasts sharply with first-quarter non-OECD growth of 1.4 mb/d, propelled by China's reopening. This divergence carries forward into the remainder of 2023. Although the OECD returns to y-o-y growth in 2Q23, its average 2023 increase of 350 kb/d pales compared to 1.9 mb/d in non-OECD gains, which will benefit from strong baseline effects relative to 2022.



The abrupt post-lockdown revival in Chinese demand continued apace in March with burgeoning personal mobility pushing demand up by 450 kb/d month-on-month (m-o-m) to its highest level ever. High-frequency indicators showed domestic travel by road and air rapidly recovering to or surpassing 2021 levels during 1Q23, with further gains in 2Q23. Urban congestion and mass-transit usage showed a rapid comeback during January and February and have stabilised close to pre-lockdown levels. Domestic flights had a similarly speedy return to their previous peak and a boom in domestic tourism supported demand during China's Labour Day holiday period in early May. While indicators for industry and international trade are much less cheerful, the vast majority of the projected demand recovery is already in train. January, February and March were three of the five highest months ever for Chinese oil use. Considerable y-o-y gains are now on the cards in the absence of a substantial contraction in consumption from March levels. Our balances assume record annual growth of 1.3 mb/d for 2023 (almost 60% of the global total), with rebounding international aviation and structural growth, led by chemical feedstocks, coming to the fore in 2H23.

The global economic picture has deteriorated since last month's *Report*, with expectations of fading banking stress and imminent central bank interest rate cuts looking less likely. Economic growth in advanced economies is decelerating in the wake of much higher interest rates, with outlooks increasingly turning to hard landings and recessions. Although the present central bank hiking cycle

is probably near its conclusion, its impact will play out over years rather than months. Consensus forecasts for below-trend 2023 global GDP growth of 2.5%, followed by a comparably lacklustre 2.8% in 2024, weigh on oil's demand prospects. The same applies for the slow-burning credit crunch that is curtailing bank lending to households and businesses. Adding to the gloomier outlook is a deepening slump in manufacturing and subdued global trade as the hoped-for boost from China's reopening failed to materialise.

### Global Demand by Region

(thousand barrels per day)

	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
Africa	3 783	4 044	4 235	4 270	192	34	4.7	0.8
Americas	27 901	30 320	31 202	31 399	882	197	2.9	0.6
Asia/Pacific	34 197	35 893	36 083	37 844	190	1 761	0.5	4.9
Europe	13 136	13 896	14 291	14 377	394	87	2.8	0.6
FSU	4 587	4 883	4 941	4 885	58	- 57	1.2	-1.1
Middle East	8 074	8 485	9 049	9 235	564	186	6.7	2.1
<b>World</b>	<b>91 678</b>	<b>97 520</b>	<b>99 801</b>	<b>102 010</b>	<b>2 281</b>	<b>2 209</b>	<b>2.3</b>	<b>2.2</b>
OECD	42 028	44 822	45 951	46 300	1 129	349	2.5	0.8
Non-OECD	49 650	52 698	53 850	55 710	1 152	1 859	2.2	3.5

The combination of generally weak industrial activity and more robust personal mobility – exemplified by China's two-speed recovery – is fuelling the widening gap between developments in gasoil and gasoline demand. In 1Q23 gasoline use rose by 340 kb/d y-o-y, while gasoil consumption dropped by 310 kb/d. We expect this gap to persist throughout the year, with gasoline use climbing by 490 kb/d but gasoil falling by 50 kb/d overall. Warm winter weather eroded gasoil usage for heating in key markets over the past two quarters and contracting manufacturing PMIs reflect the travails of industrial consumers who dominate diesel use. In contrast, gasoline deliveries are more closely correlated to service sector activity and employment levels, which have been far more robust. In the US, unemployment is close to multi-decade lows and gasoline demand has returned to y-o-y growth (+40 kb/d for 2023) in the wake of a dismal 2022. In the medium-term, electrification will increasingly sap demand from the personal vehicle fleet, but in 2023 gasoline appears to be firmly in the driving seat.

### 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	13 245	13 758	14 168	14 297	410	128	3.0	0.9
Naphtha	6 450	6 937	6 770	7 005	- 167	235	-2.4	3.5
Motor Gasoline	23 692	25 626	26 040	26 525	413	485	1.6	1.9
Jet Fuel & Kerosene	4 724	5 230	6 186	7 282	956	1 097	18.3	17.7
Gas/Diesel Oil	26 106	27 483	28 259	28 207	776	- 51	2.8	-0.2
Residual Fuel Oil	5 606	6 244	6 538	6 682	293	144	4.7	2.2
Other Products	11 855	12 242	11 842	12 012	- 400	170	-3.3	1.4
<b>Total Products</b>	<b>91 678</b>	<b>97 520</b>	<b>99 801</b>	<b>102 010</b>	<b>2 281</b>	<b>2 209</b>	<b>2.3</b>	<b>2.2</b>

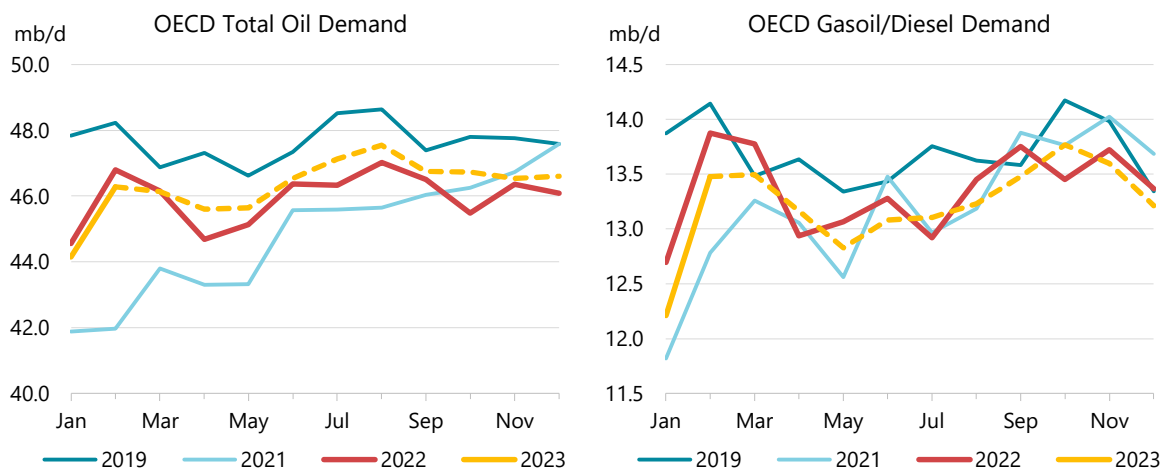
## OECD

Official February and preliminary March data mostly confirmed the recent slump in OECD oil demand, with deliveries falling by 310 kb/d y-o-y during 1Q23 – their second consecutive quarterly contraction. Firm demand for gasoline (+260 kb/d y-o-y) and jet/kerosene (+420 kb/d) was

counterbalanced by soft industrial and petrochemical use (gasoil -390 kb/d y-o-y, LPG -250 kb/d, naphtha -210 kb/d).

Against a background of lower oil prices and a softer 2022 baseline, we see demand growth turning positive during 2Q23 in each OECD region, growing by an average 570 kb/d y-o-y during 2Q-4Q23 and increasing by 350 kb/d in 2023. While decidedly muted when compared to 2022's 1.1 mb/d increase, this is 90 kb/d more than estimated in last month's *Report*.

In this regard, it bears noting that the economic outlook is particularly fragile as the impact of the unprecedented sequence of central bank rate hikes, amid a developing bank credit crunch, may not fully materialise until 2024. Adding to the uncertain climate is the possibility of a US debt default if Congress fails to raise the statutory debt limit, with investor anxiety already building.



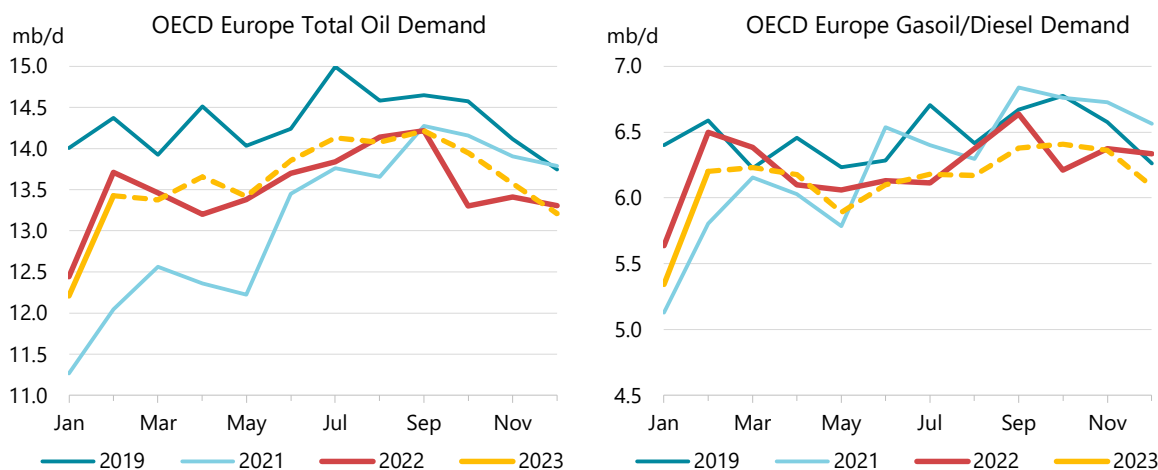
Oil demand in **OECD Europe** declined by 200 kb/d y-o-y in 1Q23, in line with last month's estimate. On a country level, Germany accounted for roughly half the decline (-110 kb/d), with France (-50 kb/d) and Italy (-10 kb/d) showing more modest contractions. At the product level, decreases in gasoil (-250 kb/d y-o-y) and naphtha (-200 kb/d) attested to Europe's persistent manufacturing slump and warm winter, offsetting gains in jet/kerosene (220 kb/d) and gasoline (50 kb/d).

While the sharp fall in natural gas prices has helped stave off a European recession, economic activity remains anaemic. The eurozone GDP grew by 0.1% q-o-q in 1Q23, undershooting expectations. This compares to flat growth in the fourth quarter. Business sentiment is similarly bleak, with the *S&P Global Eurozone Manufacturing PMI* falling to 45.8 in April from 47.3 in March, its 10<sup>th</sup> straight contractionary month. This contrasts sharply with Europe's Services PMI which climbed to 56.2 in April, sending the Services versus Manufacturing premium to post-pandemic highs. The outperformance of the mobility-driven gasoline and jet/kerosene fuels compared with industry-linked gasoil and naphtha echoes this divergence.

The region's growth outlook is correspondingly sluggish, as consumers contend with soaring costs of living. Eurozone inflation rose by 0.1% to 7% y-o-y in April. With workers demanding pay increases to keep pace with price rises, wage growth has surged to record levels. In addition to inflation running far above its 2% target, the possibility of a wage-price spiral may prompt the European Central Bank to maintain its tightening stance for some time. The stagnant outlook will continue to depress gasoil demand, with four quarters of negative y-o-y growth averaging -110 kb/d expected during 2023. Meanwhile, Europe's petrochemical outlook remains challenging, as producers grapple with narrow margins, intense competition driven by massive Chinese capacity additions and weak local polymer

demand. Although naphtha deliveries will return to y-o-y growth in 2H23, this will to a large extent be due to 2022's weak baseline.

We see average 2023 European oil demand growth of 80 kb/d y-o-y, 20 kb/d above last month's estimate, with growth concentrated in jet/kerosene (160 kb/d). Aggregate 2023 demand of 13.6 mb/d will remain 720 kb/d below pre-pandemic levels.

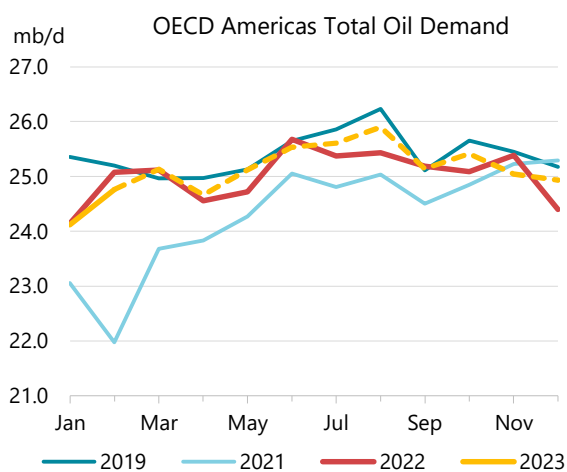


Demand in the **OECD Americas** declined by 100 kb/d y-o-y in 1Q23, as a US contraction (-250 kb/d) was partly counterbalanced by increases in Canada (20 kb/d) and, especially, Mexico (130 kb/d). Gasoil (-140 kb/d) and LPG (-190 kb/d) were the main drivers of the decline.

**Mexico's** first-quarter demand increase was the highest of any OECD country. Diverging from the general OECD industrial malaise, gasoil (+70 kb/d y-o-y) was the main driver, corresponding to the country's expansionary *S&P Manufacturing PMI* of 51.1 in April. In another sign of resilience, the Mexican economy expanded 3.9% y-o-y during 1Q23. We see growth decelerating during 2023 to an average 60 kb/d y-o-y reflecting both the firm 2022 baseline and the central bank's hawkish stance that increasingly weighs on economic activity (15 consecutive rate hikes have raised its benchmark rate by 7.25 percentage points during the present rate-hiking cycle). An expected economic downturn in the US – Mexico's main trading partner – will also contribute to the demand slowdown.

**US** oil demand declined by 250 kb/d y-o-y during 1Q23. Defying the overall bearishness, gasoline (170 kb/d) and jet/kerosene (100 kb/d) were the only products recording y-o-y gains, while softness in gasoil (-190 kb/d) and LPG/ethane (-200 kb/d) pushed overall growth into negative territory.

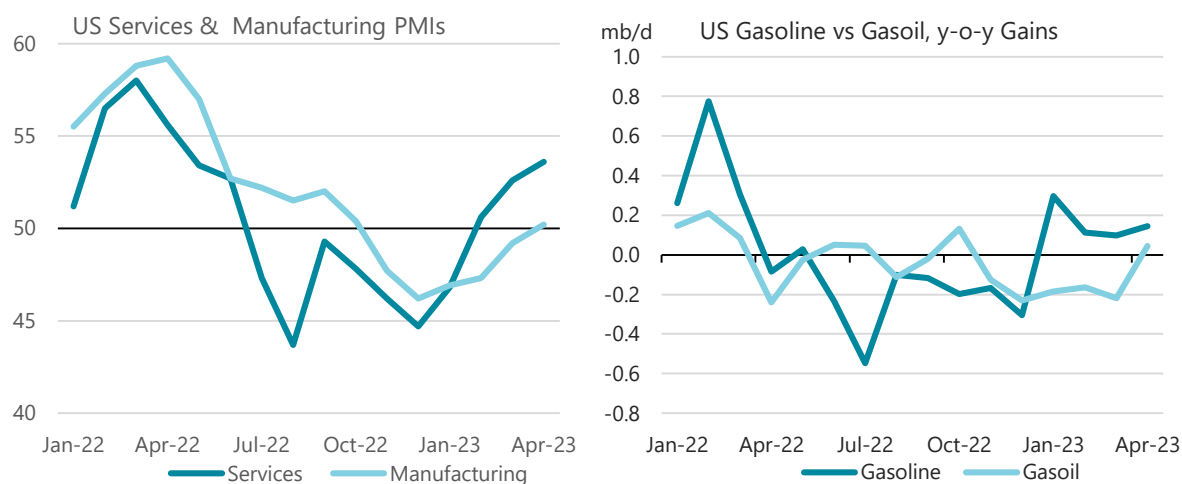
Preliminary delivery data for March and April corroborated gasoil's slump, with demand declining by 90 kb/d y-o-y amid a general loss of economic momentum. US GDP growth slipped sharply to 1.1% y-o-y during 1Q23 from 2.6% in the fourth quarter. The consensus economic view is for this slowdown to accelerate as bank lending dwindles, pushing the economy into recession. While US headline inflation fell to 4.9% y-o-y in April – a two-year low –



core inflation remained stubbornly higher at 5.5% y-o-y. Added to elevated wage growth, this may prolong the Federal Reserve's restrictive stance.

In keeping with recent months, the housing market bore the brunt of the Fed's interest rate hikes, with a more gradual cooling apparent in other sectors. Existing home sales fell by 22% y-o-y in March, while the median existing-home price declined 0.9% y-o-y, the biggest annual drop in 11 years. Although the labour market remains historically tight – evidenced by unemployment near 50-year lows at 3.4% - hiring is slowing, with job openings sliding to their lowest level in almost two years in March. Adding to signs of a slowing economy, retail sales fell 1% m-o-m in March, while the *Conference Board Consumer Confidence Index* slumped to a nine-month low in April.

Buttressed for now by the robust job market, gasoline demand remains solid. Preliminary March and April data show annual growth in gasoline demand of 120 kb/d on average. Like Europe, the divergence between gasoline and gasoil mirrors the *S&P Global Services PMI* outpacing its Manufacturing counterpart, taking the gap between the two indices to multi-year highs. We have correspondingly increased our estimate for 2023 gasoline demand growth by 80 kb/d to 40 kb/d, as strong mobility more than offsets vehicle efficiencies. Conversely, we have reduced our gasoil estimate by 20 kb/d to an 80 kb/d contraction.



US LPG/ethane deliveries remained soft in February (-290 kb/d y-o-y). While ethane use showed a nascent recovery by climbing to a six-month high, this was counterbalanced by lacklustre LPG demand. In addition to the ongoing petrochemical malaise, warmer-than-seasonal weather contributed to weak propane demand for heating.

Preliminary jet/kerosene deliveries were up 40 kb/d y-o-y in March/April, but 40 kb/d lower than last month's forecast, suggesting that jet's post-pandemic demand recovery has largely run its course. Accordingly, we have reduced our estimate for the remainder of the year by 30 kb/d, seeing jet/kerosene demand conclude 2023 at 98% of pre-pandemic levels. This compares to an average of 94% during 1Q23.

Jet/kerosene nevertheless remains the largest contributor to growth at 90 kb/d. For the year as a whole, total oil demand in the US is largely unchanged y-o-y, compared to growth of 400 kb/d recorded in 2022.

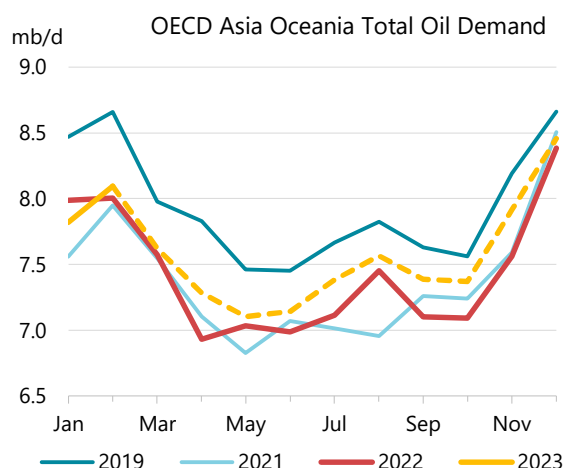
**OECD Asia Oceania's** oil demand fell by 10 kb/d y-o-y in 1Q23, as a contraction in Korean use (-120 kb/d y-o-y) outweighed increases in Japan (10 kb/d) and Australia (80 kb/d).



Despite contracting on a quarterly basis, **Korean** oil use returned to annual growth in March, increasing 40 kb/d y-o-y. This was 70 kb/d higher than estimated last month, largely on account of firmer gasoil deliveries (100 kb/d y-o-y).

A lasting recovery for Asia's fourth-largest economy will be dependent on a pick-up in global trade and a sustained Chinese economic rebound. So far, trade data have not been supportive. Exports to China fell by 26% y-o-y in April, their tenth-straight month of decline. Total monthly exports recorded their seventh consecutive y-o-y drop, their longest streak in more than three years. More positively, the country narrowly avoided recession, its GDP growing by 0.3% q-o-q in 1Q23 after having contracted by 0.4% in the fourth quarter. Assuming 2023 GDP growth of 0.5% y-o-y, we see 2023 demand growth of 50 kb/d y-o-y, compared to 30 kb/d in last month's *Report*.

**Japan's** oil demand grew by 10 kb/d y-o-y in 1Q23. Deliveries were roughly in line with forecast, apart from jet/kerosene use (-10 kb/d y-o-y and -30 kb/d below forecast), as warmer-than-average temperatures during March depressed heating use.



OECD Demand based on Adjusted Preliminary Submissions - March 2023

	(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
<b>OECD Americas</b>	<b>10.58</b>	<b>0.8</b>	<b>1.88</b>	<b>6.1</b>	<b>3.45</b>	<b>-2.5</b>	<b>1.80</b>	<b>-5.3</b>	<b>3.88</b>	<b>3.8</b>	<b>0.57</b>	<b>-13.8</b>	<b>2.98</b>	<b>-1.4</b>	<b>25.13</b>	<b>0.0</b>
US*	8.99	1.1	1.62	4.7	2.52	-4.9	1.47	-5.7	3.12	2.1	0.38	-21.3	2.50	-0.4	20.60	-0.5
Canada	0.72	0.8	0.13	12.4	0.34	14.4	0.28	-3.1	0.40	24.4	0.04	-9.0	0.29	-9.7	2.20	4.6
Mexico	0.76	-2.0	0.10	15.7	0.39	0.8	0.05	-6.7	0.32	0.6	0.13	10.4	0.16	0.2	1.92	0.6
<b>OECD Europe</b>	<b>1.96</b>	<b>0.8</b>	<b>1.27</b>	<b>18.5</b>	<b>4.88</b>	<b>-2.2</b>	<b>1.36</b>	<b>-3.0</b>	<b>1.05</b>	<b>-4.9</b>	<b>0.84</b>	<b>3.1</b>	<b>2.03</b>	<b>-5.5</b>	<b>13.38</b>	<b>-0.6</b>
Germany	0.48	6.0	0.17	7.8	0.69	-6.6	0.29	-3.4	0.10	-14.6	0.05	8.1	0.37	-1.4	2.15	-1.7
United Kingdom	0.23	-6.1	0.32	25.6	0.44	-1.1	0.11	1.0	0.12	-6.0	0.01	-14.5	0.12	-1.0	1.35	2.6
France	0.21	-2.2	0.10	3.8	0.70	-6.3	0.11	-16.9	0.10	-20.0	0.04	47.3	0.18	-13.2	1.45	-7.2
Italy	0.19	7.4	0.08	29.2	0.50	-0.8	0.05	-2.6	0.11	-10.3	0.11	23.6	0.18	-17.1	1.22	-0.2
Spain	0.13	7.0	0.12	19.1	0.46	9.4	0.20	4.8	0.08	10.9	0.13	-6.2	0.19	9.3	1.32	7.5
<b>OECD Asia &amp; Oceania</b>	<b>1.32</b>	<b>2.9</b>	<b>0.74</b>	<b>2.8</b>	<b>1.50</b>	<b>5.0</b>	<b>0.52</b>	<b>-1.5</b>	<b>0.79</b>	<b>-12.5</b>	<b>0.51</b>	<b>-1.0</b>	<b>2.25</b>	<b>2.1</b>	<b>7.62</b>	<b>0.6</b>
Japan	0.67	-2.7	0.40	-11.3	0.42	-6.4	0.35	-3.4	0.45	-4.0	0.29	3.6	0.86	9.0	3.45	-1.4
Korea	0.25	32.3	0.16	13.1	0.45	24.8	0.09	6.5	0.27	-25.2	0.19	-6.0	1.23	-2.5	2.64	1.5
Australia	0.27	-1.6	0.14	57.5	0.56	2.2	-	-	0.04	-0.8	0.01	-47.4	0.10	2.5	1.13	5.2
<b>OECD Total</b>	<b>13.86</b>	<b>1.0</b>	<b>3.89</b>	<b>9.1</b>	<b>9.82</b>	<b>-1.3</b>	<b>3.67</b>	<b>-4.0</b>	<b>5.71</b>	<b>-0.4</b>	<b>1.92</b>	<b>-3.5</b>	<b>7.26</b>	<b>-1.5</b>	<b>46.13</b>	<b>-0.1</b>

\* Including US territories

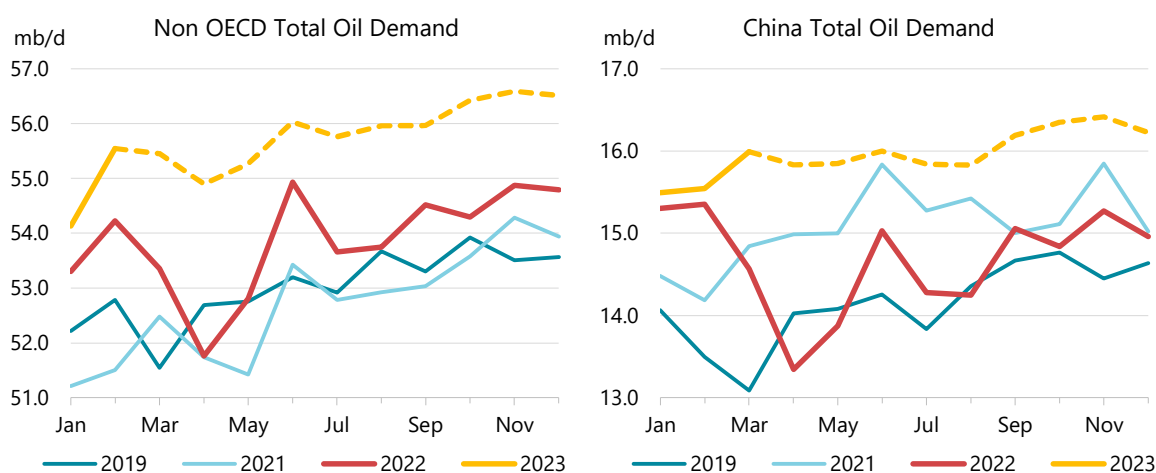
The country's inflationary pressures are intensifying, as internal underlying demand strength takes over from the impact of last year's commodity imports price surge. Core consumer price inflation is running above the Bank of Japan's (BOJ) 2% target, with household spending buttressed by a tightening labour market and wage gains. Having narrowly averted a recession in 2022, this makes for an improved economic outlook. The consensus of estimates for 2023 GDP growth stands at around 1% y-o-y, broadly comparable to the US and eurozone.

This GDP boost to oil demand is partly counteracted by a spate of yen weakness, inflating energy import prices. The yen depreciated sharply against practically all global currencies in April, consolidating its status as the worst-performing major currency year-to-date. New BOJ Governor Kazuo Ueda emphasised the risk of an overhasty tightening of monetary policy, keeping the yield curve control policy in place. Investors had been hoping for a less dovish tone and were underwhelmed.

We see 2023 growth averaging 30 kb/d y-o-y, 10 kb/d higher than last month's estimate. Jet/kerosene accounts for the bulk of the increase as Asian air travel picks up in the wake of a post-pandemic recovery in tourism.

## Non-OECD

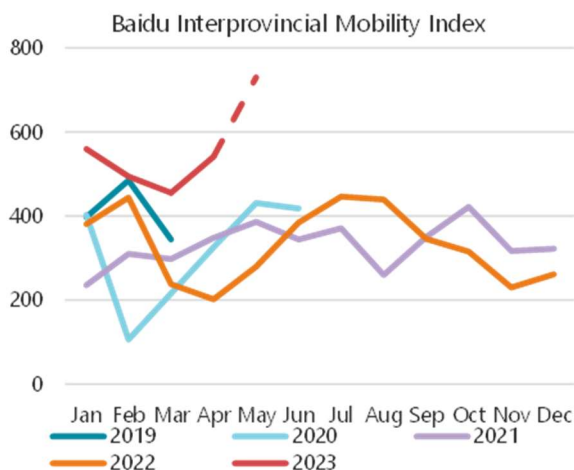
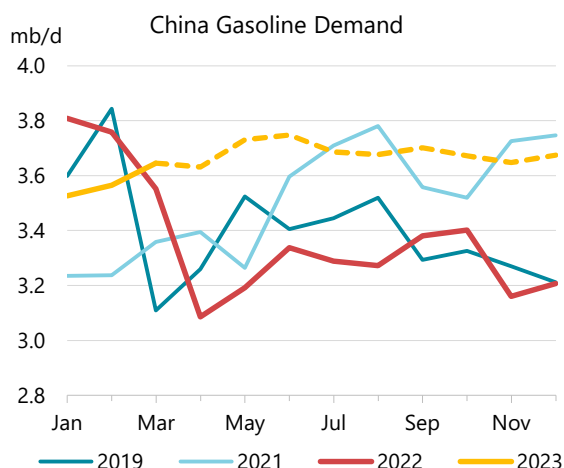
Total oil demand across non-OECD economies surged by 1.4 mb/d in 1Q23 to 55 mb/d, buoyed by record-high Chinese consumption (+620 kb/d y-o-y). Increases were also visible in the Middle East (+350 kb/d), Latin America (+170 kb/d) and the rest of Asia (+150 kb/d). Annual gains will gather pace during the rest of the year as the rebound from China's 2022 lockdown-impacted baseline becomes apparent. Non-OECD demand growth will average 2 mb/d in the final three quarters of the year and usage is set to hit 55.7 mb/d for 2023 as a whole.



Overall non-OECD 2021 demand has been revised down by 140 kb/d. This is based on updated IEA annual figures, which we use to provide the historical baseline for our projections. This change also impacts actual and forecast demand levels for 2022 and 2023 by the same amount. The largest downward 2021 revisions come in China (-330 kb/d) and Thailand (-70 kb/d), but these were partially offset by upward revisions for India (+130 kb/d), Argentina (+40 kb/d) and Brazil (+20 kb/d).

**Chinese** demand for oil broke new ground in March, vaulting to the highest mark ever recorded (16 mb/d) and confirming earlier expectations of a swift rebound. Usage jumped by 450 kb/d m-o-m, 1.4 mb/d y-o-y and was 150 kb/d higher than the previous monthly record in November 2021. This means that 1Q23 featured three of the five highest months on record for Chinese demand. Average usage during 1Q23 (15.7 mb/d) was 360 kb/d above the previous quarterly pinnacle. Following revisions to the historical baseline, annual demand is set to average 16 mb/d in 2023, up by 1.3 mb/d y-o-y.

This turnaround, with demand rising by more than 1 mb/d from December to March, demonstrates the rapidity of the comeback in personal activity and travel, following the relaxation of restrictions. Urban congestion, based on *Baidu* mobility data was 18% higher y-o-y during 1Q23 and remained at elevated levels in April and May. Similarly, the amount of interprovincial travel (also based on *Baidu* data) increased by 42% y-o-y in 1Q23 and was 23% above 2019. This expansion in mobility indicators stands in contrast to persistently gloomy measures of industrial activity.



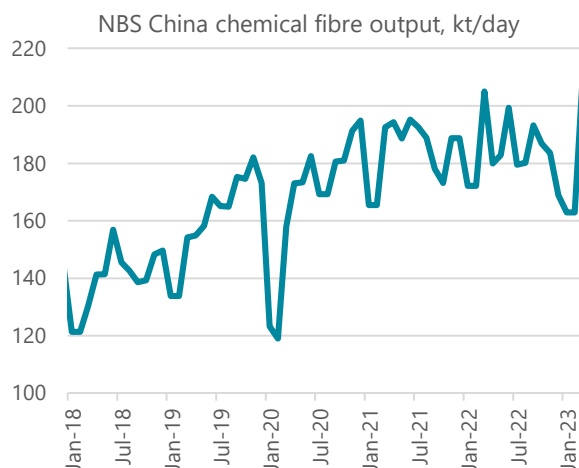
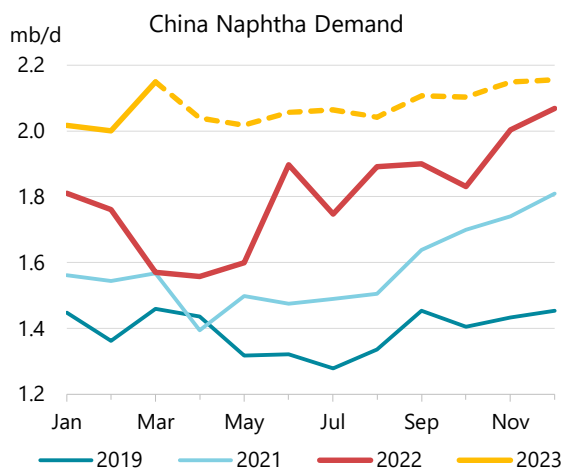
Demand for gasoline increased counter-seasonally (+80 kb/d m-o-m) to return to y-o-y growth (+90 kb/d) in March. Apparent demand for the fuel was 180 kb/d ahead of our projections in last month's *Report* (excluding the impact of revisions to the historical baseline). Gasoline is likely to remain an area of relative strength for demand through the middle of this year, with long-distance travel increasing further during April and early May. During the Labour Day holiday period (30 April-3 May), government data show the number of domestic tourist trips 19% above 2019, also reflected in Baidu's index and metro usage statistics in some tourist destinations. While some of the increase in travel took place by rail and air, Ministry of Transport figures show that highway flows were up by about 20% for the period.

### 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	7 895	8 197	8 473	8 603	276	130	3.4%	1.5%
Naphtha	3 326	3 610	3 730	3 980	120	250	3.3%	6.7%
Motor Gasoline	11 032	12 003	12 207	12 665	204	458	1.7%	3.7%
Jet Fuel & Kerosene	2 128	2 201	2 396	3 103	195	707	8.9%	29.5%
Gas/Diesel Oil	13 459	14 279	14 906	14 990	627	85	4.4%	0.6%
Residual Fuel Oil	4 090	4 486	4 666	4 766	180	100	4.0%	2.1%
Other Products	7 720	7 922	7 472	7 603	- 450	131	-5.7%	1.7%
<b>Total Products</b>	<b>49 650</b>	<b>52 698</b>	<b>53 850</b>	<b>55 710</b>	<b>1 152</b>	<b>1 859</b>	<b>2.2%</b>	<b>3.5%</b>

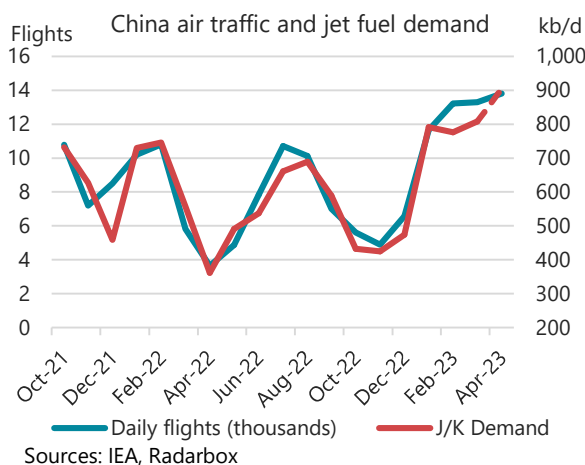
Gasoil was the only major product where demand underperformed earlier expectations in China, falling by 230 kb/d m-o-m (reversing the typical seasonal rise of about 250 kb/d) and rising by only 80 kb/d compared with a lockdown-impaired March 2022. Gasoil usage is closely linked to industrial activity, which has been persistently lukewarm. The contrast with buoyant personal consumption is reflected in the gap between the expanding *Caixin China General Services PMI* (slowing to 56.4 in April from 57.8 in March) and the narrowly contracting *Caixin China General Manufacturing PMI* (down to 49.5 in April from 50 in March). The anaemic performance of industry and underwhelming international trade data remains the major limiting factor on prospects for Chinese oil demand and we have reduced expected gasoil growth across 2023 to 40 kb/d, the lowest of any major product.

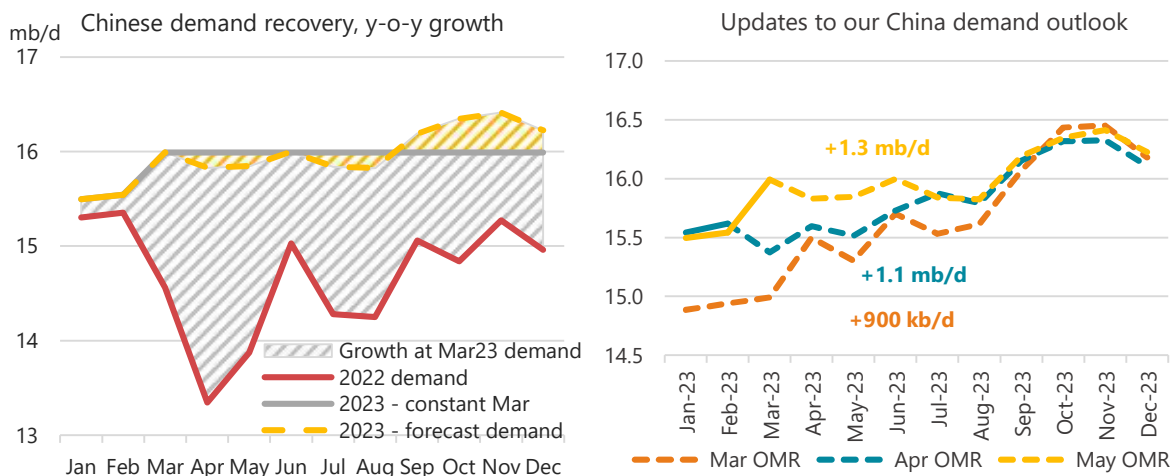


In sharp contrast, demand for naphtha (+150 kb/d m-o-m, +580 kb/d y-o-y) and the ‘other products’ category (+370 kb/d m-o-m, +200 kb/d y-o-y) both registered considerable gains. Naphtha uptake continues to be a major source of underlying growth in Chinese and global oil demand (averaging +270 kb/d for China in 2023), buoyed by the enormous scale of its ongoing steam-cracker capacity additions. The striking uptick in calculated other products demand coincides with a remarkable jump in chemical fibre output, according to National Bureau of Statistics (NBS) data. Synthetic fibres, especially polyester, are a major end-use for Chinese aromatics production. Most of this takes place in refineries, but its output does not appear to be well-represented in any major product in NBS data. We assume that in China this activity forms a substantial component of the resulting ‘other products’ category. Reported fibre output went up by 30% m-o-m (+50 000 tonnes/d) in March, setting an all-time record level. This increase is roughly consistent with the size of the monthly increase in the other products segment.

Jet/kerosene demand posted significant y-o-y growth of 260 kb/d in March, compared with a lockdown-impacted March 2022. A m-o-m rise of 40 kb/d was largely due to the gradual rebound of international air traffic. While domestic flights recovered extremely quickly, reaching pre-pandemic levels in January and remaining largely stable thereafter, international routes have been slower to gain ground and stood at only 60% of 2019 levels in March. However, this figure increased to 69% in April and international flights look like one of the major remaining areas of potential oil use growth.

Indeed, international flights aside, most forms of mobility seem to have largely left last year’s lockdowns behind them. This suggests that the most explosive phase of the rebound is likely complete, with potential for further m-o-m gains in overall demand largely restricted to more structural factors (such as investments in petrochemical capacities and the continuing expansion of the wider Chinese economy). It also means that, barring unforeseen drops in the absolute level of demand, y-o-y growth will be substantial. Indeed, simply taking the assumption that demand will continue at March levels with no further increases, average annual demand would still grow by 1.2 mb/d (only about 50 kb/d lower than in the current forecast).





We have assumed that, in anticipation of a busy early May travel period and with supportive refinery economics, some of the extremely strong apparent supply (refinery output plus net imports) of oil products in March was added to stocks by refiners. Without this assumed stock build, estimated apparent demand for the month would be about 400 kb/d higher.

In general, we have been rather conservative in our response to the very strong apparent demand of recent months, largely maintaining our earlier forecast for the second half of the year. A meaningful deterioration in China's industrial and construction activity or a spill-over of pessimism from industry into services and consumption might limit projected growth. However, continued upward momentum in monthly apparent demand data could provide grounds for further increases in the 2H23 outlook.

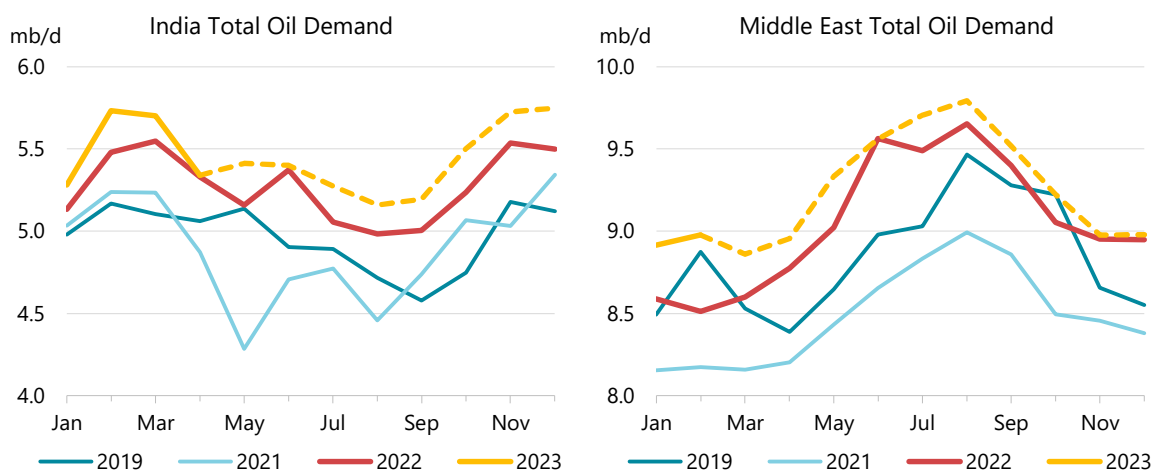
China: Demand by Product								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
LPG & Ethane	1 843	1 943	2 116	2 245	173	129	8.9	6.1
Naphtha	1 487	1 577	1 803	2 075	226	272	14.3	15.1
Motor Gasoline	3 167	3 513	3 369	3 660	- 144	291	-4.1	8.6
Jet Fuel & Kerosene	760	787	557	897	- 230	341	-29.3	61.2
Gas/Diesel Oil	3 045	3 242	3 350	3 387	108	37	3.3	1.1
Residual Fuel Oil	494	545	592	641	47	49	8.6	8.3
Other Products	3 488	3 480	2 885	3 058	- 596	174	-17.1	6.0
<b>Total Products</b>	<b>14 283</b>	<b>15 088</b>	<b>14 671</b>	<b>15 964</b>	<b>- 417</b>	<b>1 292</b>	<b>-2.8</b>	<b>8.8</b>

Demand in **India** softened in April, falling by 360 kb/d m-o-m to 5.3 mb/d, only marginally higher y-o-y (+10 kb/d), having posted an average increase of 200 kb/d during February and March, the two highest months on record. Most of the monthly decline is attributable to a sharp fall in other products (-320 kb/d) as reported by the *Petroleum Planning and Analysis Cell*. Given that demand for major fuels and feedstocks appears to have been rather stable between March and April, our expectations for overall annual growth remain largely steady at 180 kb/d.

Despite the overall fall, demand for gasoil climbed by 70 kb/d m-o-m and was up 150 kb/d y-o-y. India is one of only a handful of major countries where gasoil demand is currently outperforming gasoline (+20 kb/d y-o-y). In part this stems from the extremely robust performance of Indian industry. The *S&P Global India Manufacturing PMI* climbed from 56.4 in March to 57.2 in April, while the services PMI rose from 57.8 in March to a remarkable 62 in April (the highest mark for 23 years). In addition to consumption for freight, diesel generators are widely used to ensure continuity of power supply. Extreme temperatures across large areas of the country during April likely boosted electricity

demand for cooling and consequent diesel use in generators. Agricultural activity, another major driver of gasoil consumption in India, is picking up amid a healthy spring Rabi harvest season. The latest government projections foresaw a record-high Rabi crop this year, with spring cereals and oilseeds production up by 2.6% and 4.6% y-o-y, respectively.

Indian gasoline demand dipped by 40 kb/d m-o-m and with the y-o-y increase slowing to its weakest in 15 months. *TomTom* indices show that congestion in Mumbai and New Delhi has eased since peaking in 2H22 following the final relaxation of public health restrictions, with mass transit passenger numbers in both cities on the upswing. While congestion remains higher y-o-y, the period of rapid post-pandemic growth now seems to be slowing. Nevertheless, India provides one of the major global sources of structural growth, with gasoil (+120 kb/d) and gasoline (+40 kb/d) dominating average 2023 gains of 180 kb/d.



Oil use in the **Middle East** remains robust, with an estimated y-o-y increase of 350 kb/d in 1Q23. This growth was led by fuel oil (+100 kb/d) and other products (+70 kb/d, primarily reflecting higher direct crude oil use), both closely associated with power generation. Jet/kerosene demand is also climbing strongly (+90 kb/d), with the region's major international aviation hubs comfortably surpassing pre-crisis air traffic. Total regional oil demand will rise by 190 kb/d in 2023, 80 kb/d of this from jet/kerosene and 50 kb/d from gasoline.

February data for **Saudi Arabia** demonstrate the Kingdom's role as a major dynamo of recent regional demand growth. Total monthly usage rose by 290 kb/d y-o-y (of a regional total of 470 kb/d). Deliveries for all major fuels went up, with gasoil (+100 kb/d), jet/kerosene (+60 kb/d), direct crude use (+40 kb/d) and gasoline (+20 kb/d) the major contributors. **Iraq** also continued its recent trend of increased crude oil intake for power generation, which was unseasonably elevated in February. We estimate that this usage was about 100 kb/d higher y-o-y and within 40 kb/d of the peak levels seen during summer 2022.

Demand in **Egypt** slowed by 40 kb/d m-o-m during February, in contrast to the typical small seasonal increase, and is now almost 100 kb/d lower than the level of September. This fall, driven by the deteriorating economic situation in the country, means that demand contracted y-o-y (-40 kb/d) for the first time since March 2021, after two years of strong post-pandemic growth. We expect demand to suffer further in the coming months as the impact of the weakening Egyptian pound and the government's agreement with the International Monetary Fund (IMF) bears on economic activity and raises consumer fuel prices. On 4 May, the government's pricing committee announced a 14% hike in pound-denominated diesel prices (the first rise since 2Q22). We expect these factors to weigh heavily on demand, especially for gasoil (which accounted for 37% of total demand in February).

Annual demand is set to contract by 40 kb/d, with gasoil 20 kb/d lower, gasoline down by 10 kb/d and consumption of all major fuels falling.

Newly available 4Q22 data for **South Africa** show demand stagnating, rising by less than 10 kb/d q-o-q and down by 10 kb/d y-o-y. This came despite slightly higher jet/kerosene usage and was largely the result of softer gasoil consumption (-20 kb/d y-o-y). Nonetheless, average 2022 demand edged up by 5 kb/d and we expect a similarly narrow increase in 2023. Uncertain global commodity demand and the impact of South Africa's power crisis on mining and industry are major constraints on projected distillate use. Industry association *Minerals Council South Africa* estimates that national mining volumes were 6% lower in 2022, in part due to widespread power cuts.

March data for **Brazil** reveal a robust demand picture with gasoline continuing its steady y-o-y growth (+60 kb/d) and gasoil returning to expansion (+70 kb/d) at the outset of what appears to be a record soybean harvest season. In contrast, the country's wider industrial climate is worsening precipitously (the *S&P Global Brazil Manufacturing PMI* fell from 47 in March to 44.3 in April) limiting the potential for gasoil demand growth for the year as a whole (+20 kb/d). Gasoline demand is projected to fare slightly better (+30 kb/d), with momentum building in the services sector (its PMI rose from 51.8 in March to 54.5 in April).

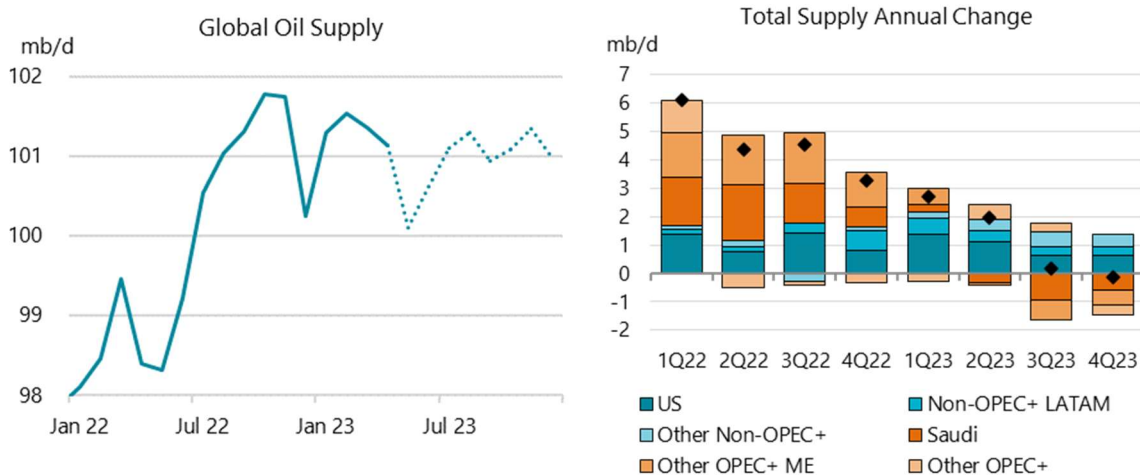
Non-OECD: Demand by Region								
(thousand barrels per day)								
	Demand				Annual Chg (kb/d)		Annual Chg (%)	
	2020	2021	2022	2023	2022	2023	2022	2023
Africa	3 783	4 044	4 235	4 270	192	34	4.7	0.8
Asia	27 030	28 511	28 649	30 250	138	1 602	0.5	5.6
FSU	4 587	4 883	4 941	4 885	58	- 57	1.2	-1.1
Latin America	5 453	6 005	6 191	6 283	186	92	3.1	1.5
Middle East	8 074	8 485	9 049	9 235	564	186	6.7	2.1
Non-OECD Europe	723	771	784	787	14	3	1.8	0.3
<b>Total Products</b>	<b>49 650</b>	<b>52 698</b>	<b>53 850</b>	<b>55 710</b>	<b>1 152</b>	<b>1 859</b>	<b>2.2</b>	<b>3.5</b>

# Supply

## Overview

World oil supply fell 230 kb/d to 101.1 mb/d in April after sharp losses in Iraq, Nigeria and Brazil were tempered by seasonally higher biofuels and modest increases elsewhere. May will see a far steeper overall decline – possibly topping 1 mb/d - as wildfires shut in large volumes of Canadian barrels and extra supply cuts from core OPEC+ countries kick in. The voluntary curbs led by Saudi Arabia and its Middle Eastern neighbours, and including Russia, are on top of a reduction that took effect last November as the bloc sought to support the market amid a deteriorating economic outlook.

From April through December, OPEC+ oil production is set to drop by 850 kb/d, while supply from those outside the alliance (non-OPEC+) is forecast to rise by 710 kb/d. That would leave global output at 101 mb/d by end-2023 (down 140 kb/d from April).



As for April’s unintended supply restrictions of 700 kb/d – Iraq shut in 250 kb/d due to a halt in its northern crude oil exports. Nigeria lost 250 kb/d from a labour dispute while maintenance reduced flows in Brazil by 200 kb/d. Nigeria resolved its issue at the end of April, paving the way for a strong recovery and Brazilian supply appears to be rebounding. Iraq has yet to resume flows along the Iraq-Türkiye pipeline, but upside will be capped by its voluntary OPEC+ cut. Taken altogether, OPEC+ oil output (including condensates and NGLs) fell 300 kb/d in April, while non-OPEC+ production rose 80 kb/d.

For the year as a whole, global supply growth is projected to slow to 1.2 mb/d versus 4.6 mb/d in 2022. Non-OPEC+ dominates the gains, with volumes rising 1.7 mb/d compared with 1.5 mb/d in 2022. The US and Brazil fuel the expansion. As for OPEC+, additional curbs along with sanctions on Russia will deepen the group’s y-o-y decline to 560 kb/d in contrast to a massive 3.1 mb/d expansion in 2022 as it phased out record 2020 supply cuts.

## OPEC+ crude oil supply

OPEC+ crude oil production from all 23 countries fell 290 kb/d to 43.94 mb/d in April with combined losses of 500 kb/d in Iraq and Nigeria mitigated by Angola’s rebound from maintenance and higher



flows elsewhere. Iran, exempt from OPEC+ cuts, produced at a three-year-high. Venezuela, also spared from curbs, lifted output and Saudi Arabia pumped more. Russian production held steady.

OPEC+ Crude Oil Production <sup>1</sup>						
(million barrels per day)						
	Mar 2023 Supply	Apr 2023 Supply	Apr Prod vs Target	Mar 2023 Target	Sustainable Capacity <sup>2</sup>	Cap vs Apr <sup>3</sup>
Algeria	1.01	1.00	-0.01	1.01	1.0	0.0
Angola	0.97	1.06	-0.40	1.46	1.2	0.1
Congo	0.28	0.28	-0.03	0.31	0.3	0.0
Equatorial Guinea	0.05	0.05	-0.07	0.12	0.1	0.0
Gabon	0.19	0.20	0.02	0.18	0.2	0.0
Iraq	4.35	4.10	-0.33	4.43	4.7	0.6
Kuwait	2.68	2.68	0.00	2.68	2.8	0.1
Nigeria	1.27	1.02	-0.72	1.74	1.4	0.4
Saudi Arabia	10.43	10.48	0.00	10.48	12.2	1.7
UAE	3.35	3.32	0.30	3.02	4.1	0.8
<b>Total OPEC-10</b>	<b>24.58</b>	<b>24.19</b>	<b>-1.23</b>	<b>25.42</b>	<b>28.0</b>	<b>3.8</b>
Iran <sup>4</sup>	2.69	2.75			3.8	
Libya <sup>4</sup>	1.16	1.13			1.2	0.1
Venezuela <sup>4</sup>	0.73	0.78			0.8	0.0
<b>Total OPEC</b>	<b>29.16</b>	<b>28.85</b>			<b>33.7</b>	<b>3.9</b>
Azerbaijan	0.51	0.51	-0.17	0.68	0.6	0.1
Kazakhstan	1.63	1.63	0.00	1.63	1.7	0.0
Mexico <sup>5</sup>	1.65	1.68		1.75	1.7	0.0
Oman	0.84	0.84	0.00	0.84	0.9	0.0
Russia	9.60	9.60	-0.88	10.48	10.1	
Others <sup>6</sup>	0.83	0.83	-0.23	1.06	0.9	0.1
<b>Total Non-OPEC</b>	<b>15.07</b>	<b>15.09</b>	<b>-1.27</b>	<b>16.44</b>	<b>15.8</b>	<b>0.2</b>
<b>OPEC+ 19 in cut deal<sup>4</sup></b>	<b>38.00</b>	<b>37.60</b>	<b>-2.50</b>	<b>40.10</b>	<b>42.1</b>	<b>4.0</b>
<b>Total OPEC+</b>	<b>44.23</b>	<b>43.94</b>			<b>49.5</b>	<b>4.1</b>

1 Excludes condensates.

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

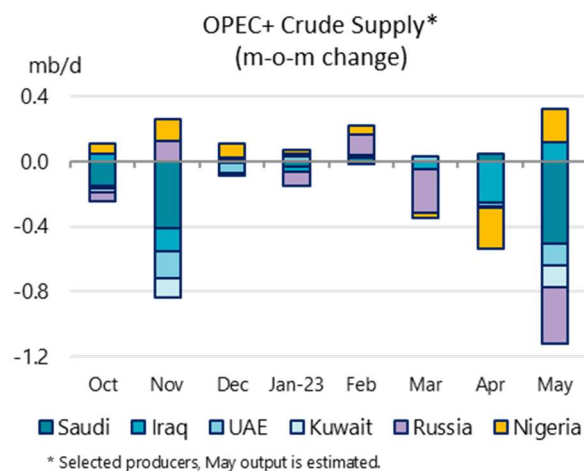
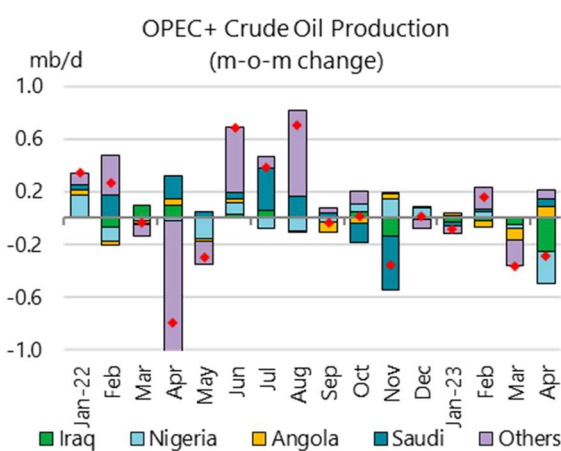
3 Excludes shut in Iranian, Russian crude.

4 Iran, Libya, Venezuela exempt from m cuts.

5 Mexico excluded from OPEC+ compliance.

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

Supply from OPEC countries declined by 310 kb/d to 28.85 mb/d, while volumes from non-OPEC nations inched up 20 kb/d to 15.09 mb/d. Production from the 19 members subject to quotas tumbled by 400 kb/d to 37.6 mb/d in April. That left the bloc's effective spare capacity, excluding volumes of crude oil shut in by sanctions in Iran and Russia, at 4.1 mb/d with Saudi Arabia and the UAE holding roughly 60% of it.



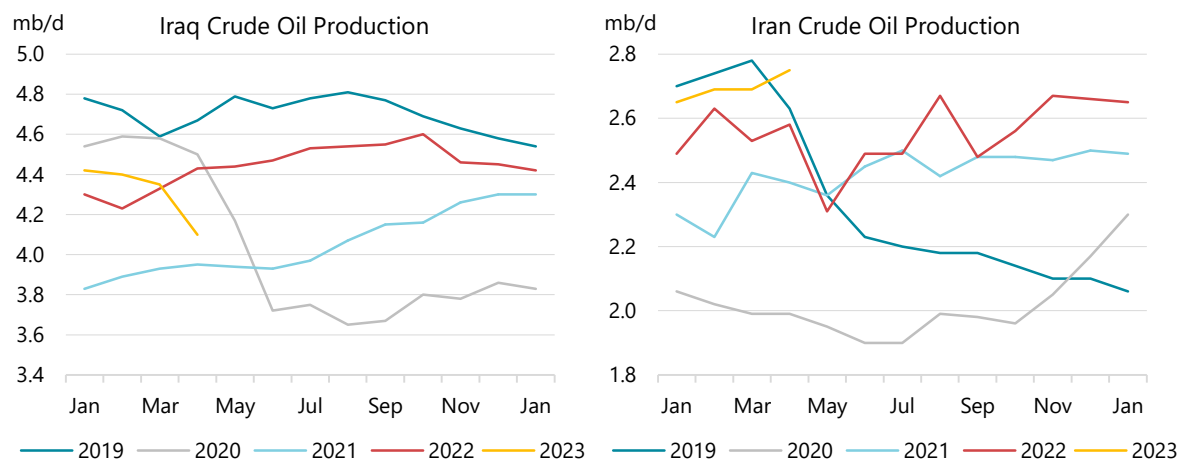
The bloc's output this month is expected to take a dive on the back of voluntary production adjustments shouldered by Saudi Arabia, along with neighbouring countries, that are due to run

through the end of 2023. Saudi Arabia has vowed to cut 500 kb/d, Iraq 211 kb/d, the UAE 144 kb/d, Kuwait 128 kb/d and Oman 40 kb/d. Outside of the Middle East, Kazakhstan has pledged to curb a further 78 kb/d, Algeria 48 kb/d and Gabon 8 kb/d. Russia will extend its previously announced 500 kb/d reduction.

Many countries - such as Angola, Nigeria and Malaysia - continue to produce far below their quotas due to operational issues and capacity constraints so they are not taking part in extra cuts. The alliance is due to review output levels for the second half of the year on 4 June.

**Saudi** crude output rose 50 kb/d to 10.48 mb/d in April. Saudi Aramco's 1Q23 net profit dropped 19% from a year earlier to \$31.9 billion due to lower oil prices. Higher energy prices and output delivered Aramco a record profit of more than \$161 billion in 2022. Crude oil supply in the **UAE** eased 30 kb/d to 3.32 mb/d but was 300 kb/d above its OPEC+ target. **Kuwaiti** production held steady at 2.68 mb/d. Supply in **Oman** was stable at 840 kb/d.

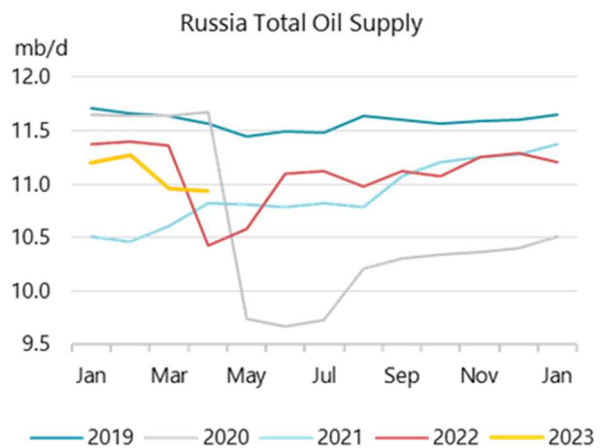
**Iraqi** production plunged 250 kb/d in April to 4.1 mb/d - the lowest since August 2021 - after producers in the northern Kurdish region shut in wells following a halt to the Iraq-Türkiye export pipeline. Higher production and exports from the south helped stem the decline. Türkiye stopped shipping about 450 kb/d of crude on 25 March following an arbitration ruling by an international business tribunal. Baghdad and the KRG struck a temporary deal in early April to restart deliveries to Ceyhan on the Turkish Mediterranean, but shipments have yet to resume. Iraqi Oil Minister Hayan Abdel-Ghani reportedly said the federal government is ready to restart oil exports but is still awaiting Türkiye's approval.



In neighbouring **Iran**, crude oil supply rose 60 kb/d to 2.75 mb/d – the highest in four years. Exports, primarily to China, remained robust, internal consumption increased – thanks to an upgrade at the Abadan refinery – and a significant amount of oil was pumped into storage, according to satellite data from *Kayrros*.

**Russian** crude output held broadly steady in April at 9.6 mb/d as exports and refinery runs held up. Moscow extended its previously announced 500 kb/d production cut, which applies to crude oil, until the end of the year. The reduction is to be made “from the average production levels as assessed by the secondary sources for the month of February 2023” (9.8 mb/d), according to the statement released after the OPEC+ Joint Ministerial Monitoring Committee meeting in early April. That means Russia must still cut a further 300 kb/d in May to bring itself into line. Total output of crude oil, condensates and NGLs in April was relatively stable at 10.93 mb/d – 470 kb/d lower than before Russia invaded Ukraine in February 2022.

Russian oil supply has proved resilient following its invasion of Ukraine with crude exports re-routed to new markets as deep price discounts attract traders as well as refiners willing to risk handling the barrels. This supports our 180 kb/d upward revision of Russian output for this year. We now expect average oil production of 10.7 mb/d in 2023, down 350 kb/d y-o-y. Moscow has meanwhile demanded that the publication of energy data be suspended until April 2024.



**Kazakh** and **Azeri** crude oil supply in April was broadly steady at 1.63 mb/d and 510 kb/d, respectively.

### Russian exports climb to post-invasion high in April, revenue rises by \$1.7 billion

Russian oil exports edged up 50 kb/d in April to 8.3 mb/d, the highest since the invasion of Ukraine. Shipments of crude oil rose by 250 kb/d while product exports declined by roughly 200 kb/d. Estimated oil export revenues increased by \$1.7 billion to \$15.0 billion.

	Russian Oil Exports (mb/d)										Estimated export revenue \$bn	
	EU	UK+US	Türkiye	China	India	OECD Asia	Other	Unknown	Total	Crude		Products
2021 avg	3.4	0.7	0.2	1.6	0.1	0.5	1.0	0.0	7.5	4.6	2.9	14.9
2022 avg	3.1	0.2	0.4	1.9	0.9	0.2	1.1	0.0	7.7	5.0	2.7	18.7
2022 May	3.4	0.1	0.3	2.0	1.0	0.1	0.8	0.0	7.7	5.4	2.3	21.0
2022 Jun	3.2	0.0	0.4	2.2	0.8	0.0	1.0	0.0	7.6	5.2	2.5	21.7
2022 Jul	2.8	0.0	0.4	1.8	1.1	0.1	1.1	0.0	7.4	4.9	2.4	18.9
2022 Aug	3.0	0.0	0.6	2.0	1.0	0.1	1.1	0.0	7.7	5.1	2.6	18.1
2022 Sep	2.6	0.0	0.6	1.9	1.1	0.0	1.2	0.0	7.4	4.9	2.5	15.7
2022 Oct	2.5	0.0	0.6	2.0	1.2	0.1	1.4	0.0	7.8	5.0	2.7	17.5
2022 Nov	2.3	0.0	0.5	2.0	1.5	0.1	1.3	0.0	7.8	4.9	2.9	16.1
2022 Dec	2.0	0.0	0.4	2.1	1.7	0.1	1.3	0.0	7.6	4.7	2.9	13.5
2023 Jan	1.4	0.0	0.5	2.6	1.8	0.0	1.7	0.1	8.1	5.1	2.9	14.4
2023 Feb	0.6	0.0	0.5	2.5	1.9	0.0	1.9	0.1	7.6	4.9	2.6	11.8
2023 Mar	0.6	0.0	0.6	2.1	2.3	0.1	2.3	0.2	8.2	5.0	3.2	13.3
2023 Apr	0.6	0.0	0.6	2.3	2.2	0.1	1.9	0.7	8.3	5.2	3.0	15.0
M-o-M chg	0.0	0.0	-0.1	0.2	-0.1	0.0	-0.4	0.5	0.0	0.3	-0.2	1.7
Y-o-Y chg	-2.9	-0.1	0.2	0.6	1.2	-0.3	0.9	0.6	0.2	-0.2	0.5	-5.5

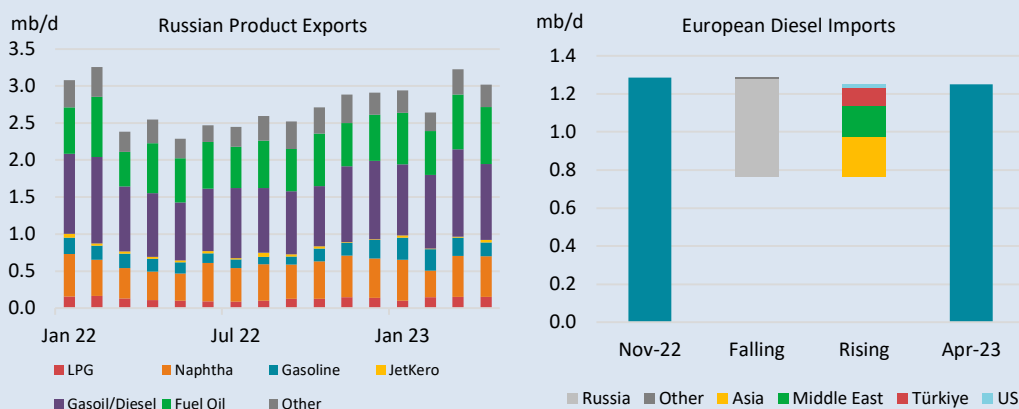
Sources: IEA, Argus, Kpler.

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

At 5.2 mb/d, crude oil exports in April climbed to the highest since May 2022. China and India, the two biggest consumers in Asia, lifted 2.1 mb/d and 2 mb/d, respectively, together accounting for nearly 80% of the total. India has boosted its purchases in the past two months by taking more ESPO and other grades. EU received 400 kb/d, mostly via pipeline to Hungary and Slovakia and seaborne shipments into Bulgaria. Myanmar imported roughly 70 kb/d the last several months for the first time since 2021 for onward shipment to China via pipeline. Of note, the 'Other destinations' category includes other FSU countries, the UAE and Cuba.

Exports of products are more diverse. Türkiye, China and India are the primary recipients - receiving about 430 kb/d, 220 kb/d and 180 kb/d, respectively. The remaining cargoes were spread across the Middle East, South America, Africa and southeast Asia. The UAE and Saudi Arabia stand out, importing 175 kb/d and 140 kb/d, respectively, while Brazil lifted 160 kb/d. Tunisia and Egypt, new buyers of

Russian barrels, are now importing more than 50 kb/d each – mostly gasoil. In Southeast Asia, Singapore took 170 kb/d and Malaysia over 80 kb/d, mainly naphtha.



Total product imports by Europe, which temporarily retreated following the product price cap enforcement, have picked up. We estimate that gasoil imports rebounded in April to levels comparable to six months ago. However, the EU product embargo's impact has led to a 520 kb/d plunge in gasoil imports from Russia over the same period, to practically zero. This decline has mostly been offset by increased volumes from the Middle East, Asia and Türkiye.

Estimated Russian oil export revenues rose by \$1.7 bn to \$15 bn in April as higher volumes and a narrower discount for Urals boosted crude revenues by \$1.4 bn to \$9.6 bn. As a result, total export revenues were 27% lower than a year ago compared with a 40% y-o-y decline in March.

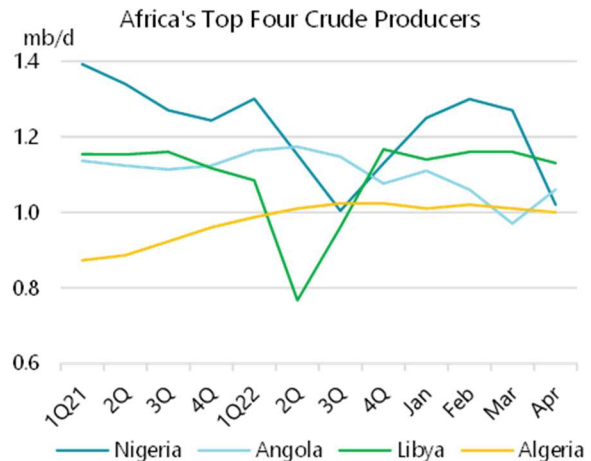
Meanwhile, Russia's finance ministry reported federal budget receipts from oil and gas reached 647.5 billion roubles (\$8.3 billion) in April (-64% y-o-y) compared to 688.2 billion in March. Oil and gas, which account for around 50% of Russia's budget revenues, fell 45% y-o-y in 1Q23. Subsidy payments to Russian refiners (to compensate for lower margins on domestic product sales versus exports) reached 107.2 billion roubles in April versus 96.7 billion roubles in March (around four times that for 2022) and contributed to the deeper deficit in net budget receipts.

The government has taken steps to stem revenue losses. Since April, Moscow has applied a capped discount on Urals crude sales versus North Sea Dated for calculating taxes on companies. The discount narrows from \$34/bbl in April progressively to \$25/bbl from July. However, the government fixed discount was deeper than that of the market in April (-\$24.35/bbl) and early May (-\$21/bbl). Changes to the buffer mechanism for refiners in 2H23 could cut subsidies by ~30 billion roubles per month (versus ~100 billion roubles in March and April), easing budget tensions.

Combined output from African members of OPEC+ declined by 190 kb/d due to sharp losses in Nigeria that knocked it temporarily from its rank as Africa's top crude producer. **Nigerian** crude supply dropped 250 kb/d to 1.02 mb/d after industrial action forced ExxonMobil to declare *force majeure* on loadings in April from a number of terminals, including Qua Iboe and Erha. Workers returned to work at the end of the month, allowing production and exports to restart. Exxon has been trying to sell more than \$1 billion of its shallow-water assets, while holding onto deep-water resources

Crude supply in **Angola** rose 90 kb/d to 1.06 mb/d upon completion of maintenance at Dalia floating production storage and offloading vessel (FPSO) as well as offshore Block 14. TotalEnergies has signed a heads-of-agreement, paving the way for a long-awaited final investment decision to develop the offshore Cameia and Golfinho fields on blocks 20 and 21. The project will produce oil for the first time from the deepwater part of the Kwanza basin. Current plans project initial production of around 70 kboe/d.

**Libyan** crude oil supply dipped to 1.13 mb/d in April. Output from the North African producer has been relatively stable owing to the Tripoli-Benghazi pact of last July that ended an oil blockade. And the country is scoring some upstream success. Production at the Erawin field, which started up at the end of March, has topped 90 kb/d. Its pipelines are linked to the Sharara field, the country's largest. Elsewhere, the Mellitah Oil and Gas complex suspended operations on 1 May for three weeks of maintenance.

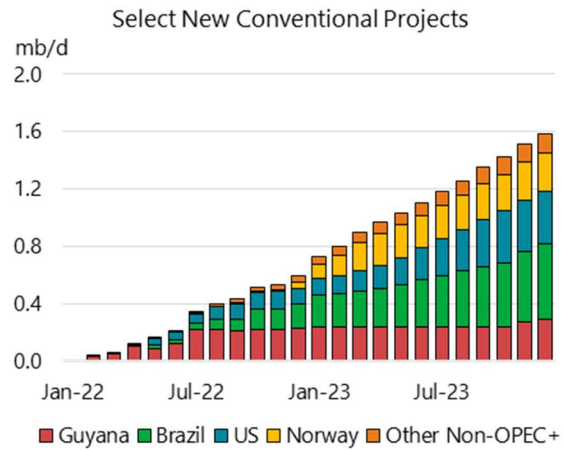
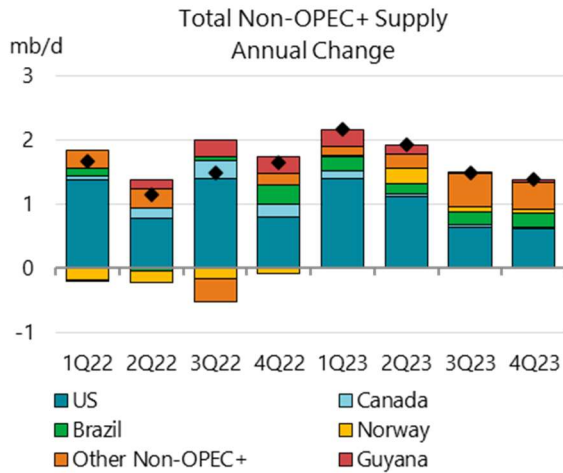


In bordering Sudan, fighting between rival military factions has so far appeared not to have disrupted supply. Land-locked South Sudan, which gained independence from Sudan in 2011, relies on a pipeline through Sudan to export its crude oil. Shipments from Sudan's main Bashair terminal in April were 105 kb/d compared to an average 90 kb/d in the first quarter. **South Sudan's** crude production in April was 120 kb/d, while **Sudan** pumped 60 kb/d.

Output in **Venezuela** rose 50 kb/d to 780 kb/d. Chevron, producing roughly 100 kb/d, says it could raise its joint-venture production by up to 50% to 150 kb/d this year without spending substantial amounts. Last November, Chevron became the first US producer to get a license from the US Treasury Department to revive production and restart exports after a three-year halt sparked by sanctions.

## Non-OPEC+ oil supply

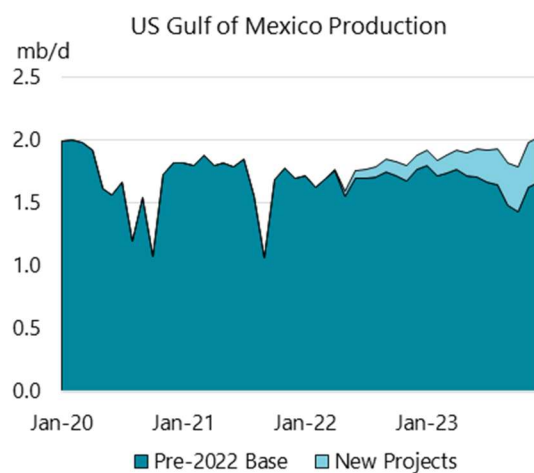
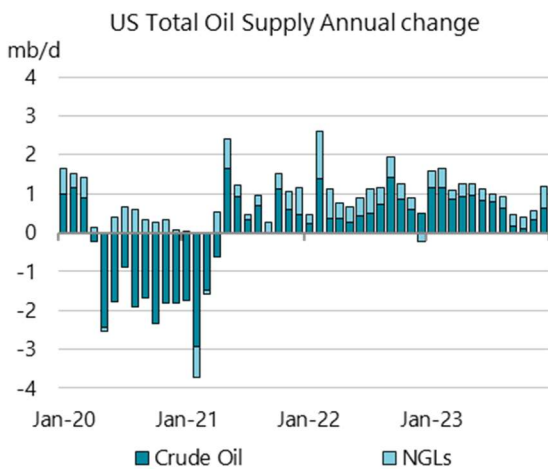
Output from non-OPEC+ countries rose by 90 kb/d month-on-month (m-o-m) in April to 49.1 mb/d. Seasonal biofuel gains topped all other sources, adding 310 kb/d. Robust performances from the US and Norway round out the top sources of growth as three new offshore projects saw first oil in those two countries. Brazil and Canada saw the biggest declines in April, dropping 200 kb/d and 140 kb/d m-o-m respectively as maintenance and other downtime hampered operations. Looking at the rest of the year, non-OPEC+ countries are collectively expected to add 710 kb/d of output between April and December to average 49.5 mb/d on the year, up 1.7 mb/d from 2022.



In February, the latest month for which official data from the Energy Information Administration (EIA) are available, **US** total oil supply grew by 70 kb/d to pre-winter outage levels. Gains of 110 kb/d in NGLs more than compensated for a 50 kb/d crude decline. Recovering production in North Dakota partially offset losses in Texas and the Gulf of Mexico (GoM).

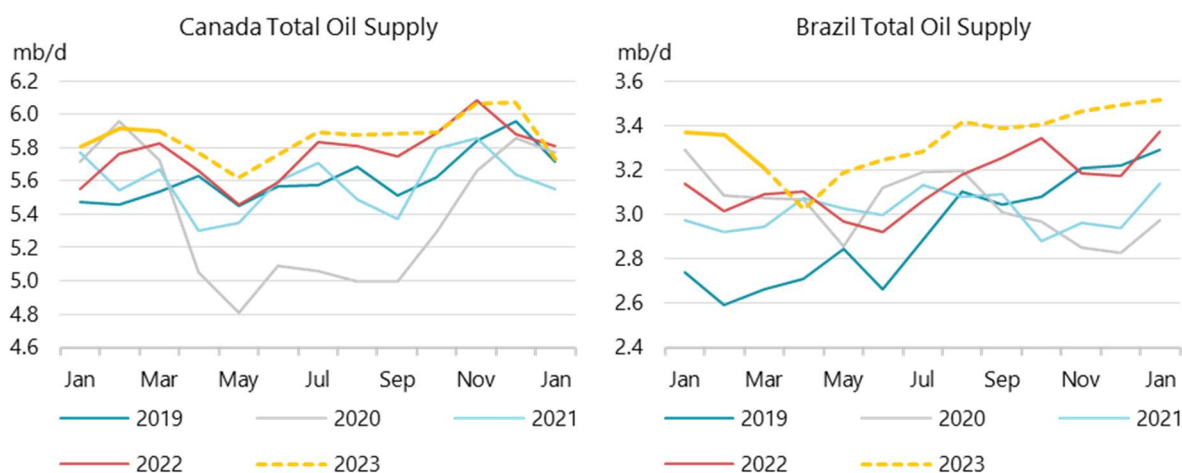
US output rose in April for the fourth straight month, by 70 kb/d to 18.8 mb/d. Gains from crude accounted for 40 kb/d of the increase, led by the GoM where BP’s Argos platform started up. The 140 kb/d facility is the company’s fifth in the region and first new platform since 2008. This is the second facility to come online this year, following Shell’s Vito project that was commissioned in February. The two projects will add 240 kb/d of capacity combined, helping to offset declines at mature assets.

Colorado State University released its first seasonal forecast for the 2023 Atlantic hurricane season, which runs from 1 June to 30 November. This year is expected to be slightly less active than normal given the high probability of El Niño. We are maintaining our current forecast of 18 mb at risk to GoM production. For the year, US GoM is expected to average 1.9 mb/d, up 160 kb/d y-o-y. US liquids supply is projected to grow by 940 kb/d to total 18.8 mb/d, of which crude accounts for 12.5 mb/d (+660 kb/d) and NGLs for 6.2 mb/d (+280 kb/d).



In March, **Canadian** supply inched up 30 kb/d to 5.9 mb/d, according to data from the Alberta Energy Regulator (AER). April production fell by 140 kb/d as the spring maintenance season began. May is expected to see close to 120 kb/d of shut in barrels on average due to the considerable number of

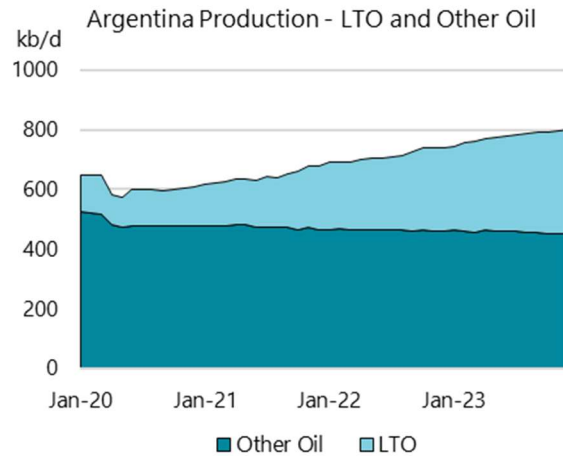
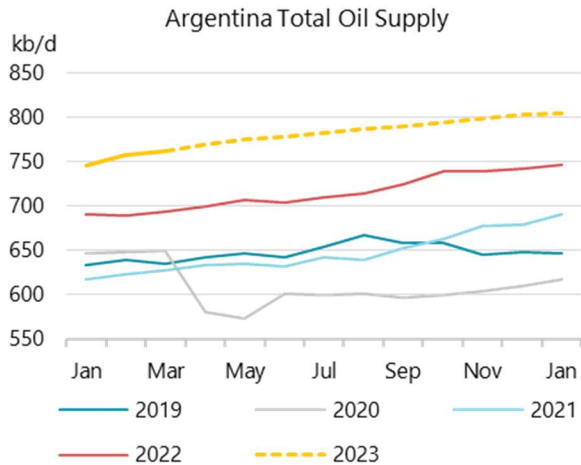
wildfires raging through Alberta – which have displaced over 25 000 people thus far. The fires are primarily impacting assets between Edmonton and the Rocky Mountains, affecting light oil, condensate and gas production. Moreover, the expected start-up of the offshore Atlantic Terra Nova project has been pushed beyond 2023 as Suncor is still evaluating scheduling impacts while ensuring the vessel is able to operate safely and reliably prior to going back into service. Annual production growth in 2023 is expected to be 60 kb/d, lifting total volumes to 5.8 mb/d on average.



**Brazilian** production dropped by 160 kb/d in March to 3.2 mb/d from close to record high levels seen in February, according to data from the Agencia Nacional do Petroleo (ANP). Provisional data from the ANP show output tumbled another 200 kb/d in April to 3 mb/d as six FPSOs were affected by maintenance or unscheduled outages. At Tupi, Cidade de Paraty and Cidade de Angra Dos Reis have been offline since late March and Cidade de Mangaratiba was curtailed in March and hasn't produced since mid-April. At the Búzios field, P-77 was down for most of March whereas P-74 and P-75 both saw minimal output in April.

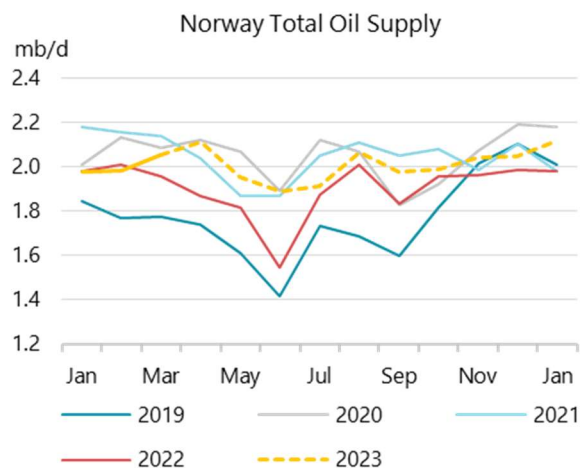
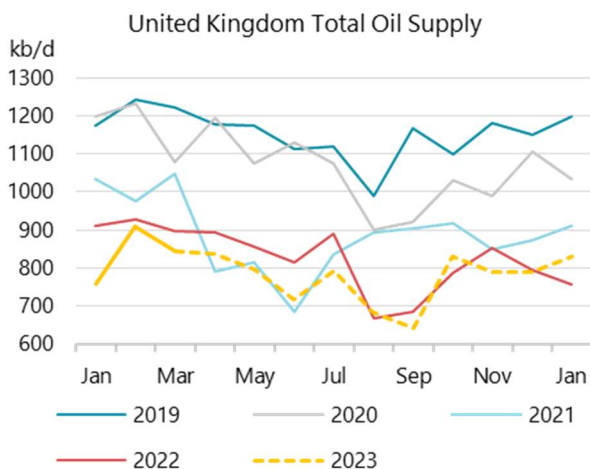
Conversely, Petrobras took delivery of the Anna Nery FPSO at Marlim in the Campos basin in early May, with the second unit, the Anita Garibaldi FPSO, expected to produce first oil in June. Additionally, the Búzios Almirante Barroso FPSO, already onsite, is also expected to start up this month. Furthermore, Enauta, the Brazilian independent producer, has begun its offshore Atlanta field revitalisation project, with first oil reached in late March. Oil is currently being processed by the existing Petrojarl FPSO with the new Atlanta FPSO expected to be installed next year. Equinor also took final investment decision (FID) on the 180 kb/d BM-C-33 project in early May with first oil expected in 2028. Supply for Brazil is forecast to reach a new record high of 3.3 mb/d this year, up 200 kb/d y-o-y.

Meanwhile, **Argentinean** production has been steadily climbing this year, notching another 10 kb/d m-o-m to 760 kb/d in March, according to official government data. In April, supply sustained its upward trajectory to 770 kb/d on robust activity in the Vaca Muerta shale play. The steady gains in LTO are turning Argentina into an oil exporter, with approximately 30% of Neuquén's output going abroad. This is set to continue as this month should see the first deliveries on the cross-border Transandino pipeline. The 120 kb/d pipeline will place Medanito crude in the Pacific basin, with YPF and ENAP, the respective Argentinean and Chilean state oil companies, having worked for years to put the line back into service.



North Sea loadings (as measured by BFOE plus Troll and Johan Sverdrup) are scheduled at 1.3 mb/d in June, down 80 kb/d m-o-m as small gains in Johan Sverdrup and Troll are overwhelmed by lower BFOE volumes. Scheduled loadings are up 390 kb/d from a year ago due to additional Johan Sverdrup volumes and a reduced summer loading schedule in 2022. BFOE grades are up 70 kb/d from last June.

**UK** supply declined by 70 kb/d m-o-m in March to 840 kb/d after a brief reversal of losses in February. Production falls through June by a further 120 kb/d, following seasonal trends. For the year, UK output should average 770 kb/d, down 60 kb/d from 2022.



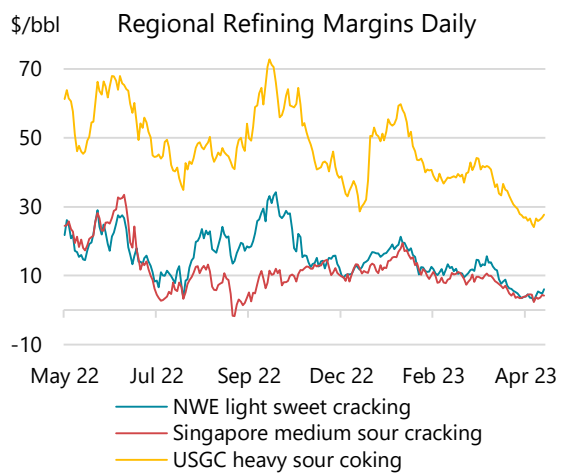
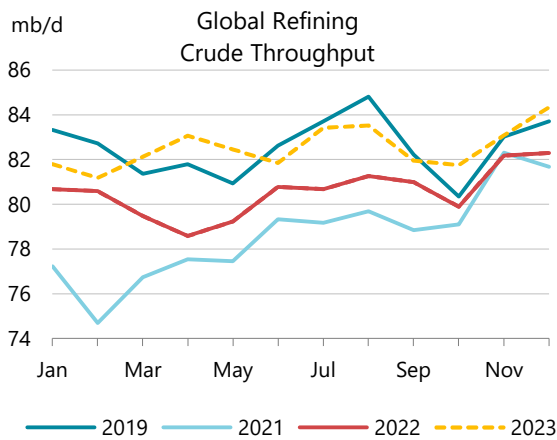
Data from the **Norwegian** Petroleum Directorate (NPD) show production in March rose by 70 kb/d to 2.1 mb/d as Equinor's Johan Sverdrup phase 2 project found its stride. After a slow start in late 2022, the field is pushing 700 kb/d and the operator is discussing increasing the total capacity from 720 kb/d to 755 kb/d. Additionally, April saw Equinor bring online the Njord satellite field Bauge and Neptune Energy commissioned its Fenja field, also a Njord satellite. Together these two fields hold 110 million barrels of recoverable resources and are expected to produce 60 kb/d at peak. Supply in 2023 is expected to grow 100 kb/d y-o-y to 2 mb/d.



# Refining

## Overview

Record 1Q23 runs in Asia have led us to raise our 2023 forecast for global crude throughputs by 300 kb/d to 82.3 mb/d. Estimates for 1H23 have been adjusted up by 0.7 mb/d in this *Report*, driven by increased Chinese and Indian forecasts. Conversely, 2H23 is slightly lower, given the recent deterioration in the margin environment. The cuts mainly affect OECD Europe and Americas crude processing rates for the coming quarters. Ample availability of discounted Russian crude in Asia skews activity away from the Atlantic Basin.



Stronger crude demand growth in 2023 centres on China and India, both of which delivered runs above our forecasts in the most recent monthly data. Global throughput growth is estimated at 1.9 mb/d, in part boosted by the weak 2022 baseline for China. The incorporation of revised annual data for several non-OECD countries has adjusted our estimation of the baseline and 2023 crude demand.

Global Refinery Crude Throughput <sup>1</sup>														
	(million barrels per day)													
	2019	2020	2021	2022	Feb-23	Mar-23	1Q23	Apr-23	May-23	Jun-23	2Q23	3Q23	4Q23	2023
Americas	19.1	16.6	17.7	18.7	17.8	18.3	18.0	18.4	18.5	19.2	18.7	19.0	18.8	18.6
Europe	12.2	10.7	11.0	11.5	11.3	10.7	11.2	11.3	11.6	11.2	11.4	11.5	11.3	11.4
Asia Oceania	6.8	5.9	5.8	6.0	6.2	5.9	6.1	6.0	5.4	4.9	5.4	5.9	5.8	5.8
<b>Total OECD</b>	<b>38.1</b>	<b>33.1</b>	<b>34.5</b>	<b>36.2</b>	35.4	34.9	35.3	35.7	35.5	35.3	35.5	36.5	35.9	35.8
FSU	6.9	6.5	6.7	6.4	6.7	6.6	6.7	6.5	5.8	6.0	6.1	6.0	6.2	6.2
Non-OECD Europe	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.6	0.5	0.5
China	13.4	13.7	14.4	13.7	14.7	15.3	14.9	15.1	14.9	15.3	15.1	15.2	14.8	15.0
Other Asia	10.4	9.3	9.7	10.2	11.0	10.9	10.9	11.1	10.9	10.6	10.9	10.5	10.6	10.7
Latin America	3.2	3.1	3.3	3.5	3.3	3.6	3.4	3.6	3.7	3.8	3.7	3.6	3.6	3.6
Middle East	7.9	7.2	7.7	8.1	7.9	8.5	8.2	8.7	8.6	8.9	8.7	8.8	9.0	8.7
Africa	2.2	1.9	2.0	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.8	1.9	1.8
<b>Total Non-OECD</b>	<b>44.3</b>	<b>42.1</b>	<b>44.1</b>	<b>44.3</b>	45.8	47.1	46.3	47.2	46.3	46.8	46.8	46.5	46.6	46.5
<b>Total</b>	<b>82.5</b>	<b>75.3</b>	<b>78.6</b>	<b>80.5</b>	81.1	82.1	81.6	83.0	81.7	82.1	82.3	82.9	82.5	82.3
<b>Year-on-year change</b>	<b>-0.1</b>	<b>-7.2</b>	<b>3.3</b>	<b>1.9</b>	0.6	2.7	1.5	4.5	2.6	1.4	2.8	2.0	1.2	1.9

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

Refining margins continued to ease in recent weeks, as product markets appeared more balanced. Industry reports indicate that run cuts are being considered by Asian and European refiners.

European refineries barred from processing Russian crude and feedstocks are competitively disadvantaged by the EU sanctions programmes, leaving their crude demand vulnerable if additional margin pressure emerges in the near term.

## Product cracks and refinery margins

Refining margins fell further in April across all configurations and in all three regions tracked by this *Report*. Materially lower middle distillate cracks were the key driver of this apparent normalisation of margins. Absent compelling evidence of a demand slowdown, it appears that the stronger than expected runs in Asia during 1Q23 have created a more normalised product inventory picture at key pricing hubs. The easing of backwardation in diesel futures markets, in addition to the collapse in distillate cash market differentials to futures both indicate that physical market tightness has eased in recent weeks. Softer manufacturing PMI readings in Europe, the US and China all point to tepid industrial activity, even as service sector PMI readings remain relatively healthy.

IEA Global Indicator Refining Margins										
\$/bbl	Monthly Average				Change Mar - Apr	Average for week starting:				
	Jan 23	Feb 23	Mar 23	Apr 23		03 Apr	10 Apr	17 Apr	24 Apr	01 May
<b>NW Europe</b>										
Light sweet hydroskimming	11.21	7.28	6.84	2.15	-4.69	4.31	2.43	1.15	1.20	2.68
Light sweet cracking	18.20	11.96	12.16	5.47	-6.69	8.43	6.29	4.29	3.64	4.86
Light sweet cracking + Petchem	18.44	12.24	13.40	6.45	-6.95	9.51	7.12	5.34	4.56	5.56
Medium sour cracking*	24.48	15.99	17.54	10.93	-6.61	13.69	12.06	9.99	8.75	8.80
<b>US Gulf Coast</b>										
Light sweet cracking	29.74	21.25	25.41	18.65	-6.75	21.84	21.72	17.15	14.54	15.86
Medium sour cracking	40.17	29.28	30.92	23.75	-7.17	27.46	26.33	21.91	20.04	20.69
Heavy sour coking	54.39	40.69	40.14	30.31	-9.83	34.73	33.29	28.35	25.76	26.51
<b>Singapore</b>										
Light sweet cracking	13.13	9.43	7.75	2.82	-4.93	4.66	3.10	1.82	2.13	2.15
Light sweet cracking + Petchem	13.84	10.15	8.93	4.00	-4.93	5.83	4.27	3.02	3.29	3.76
Medium sour cracking	14.78	10.21	9.52	4.77	-4.75	6.97	5.01	3.63	3.97	3.74
Medium sour cracking + Petchem	15.48	10.93	10.69	5.93	-4.75	8.12	6.16	4.81	5.11	5.33

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

Source: IEA/Argus Media Group prices.

European refining margins in April reached their lowest level in more than a year. The region's structurally higher middle distillate yields amplified the impact of lower diesel and jet cracks that were evident in all three regional clusters. Furthermore, Europe's relatively light sweet crude slate, higher naphtha yields, and lack of refinery complexity all penalised its refineries' profitability. Consequently, European margins in April underperformed both the Asia and US benchmarks. IEA margin estimates represent average plant configurations and consequently, with margins hovering just above \$1/bbl mid-month, it could be argued that less well-positioned hydroskimming capacity was close to breakeven levels that might prompt run cuts.

Having reached \$1.15/bbl in mid-April, an early-May sell-off in crude resulted in stronger gasoline, jet and diesel cracks and a bounce in margins that may yet limit the need to reduce operating rates. Furthermore, it would be hard to argue that margins have reached the point where run cuts are inevitable, but compared to the recent exceptional strength in profitability the current margin environment may give refiners renewed caution. European cracking margins averaged \$5.47/bbl in April for light sweet crude, less than half March's average level, but in line with pre-Covid five-year average levels. The sequential increase in gasoline cracks offered some support to regional cracking margins but was insufficient to offset the lower naphtha and middle distillate cracks. Medium sour

crude processing in the region remains at a healthy premium to sweet crudes, notwithstanding the loss of Russian supplies and substitution of short-haul sour crude with longer-haul barrels.

USGC refining margins remained comparatively resilient, but nevertheless declined as middle distillate and gasoline cracks weakened on the US Gulf Coast. USGC refiners' higher gasoline yields, greater complexity and access to cost-advantaged feedstock all supported their margin outperformance during April versus the other regional benchmarks.

Outright USGC margin levels are nevertheless still extremely strong when measured against almost any historical norm. April's average WTI cracking margin of \$18.65/bbl is more than double the 2015-19 average and more than one standard deviation above its 10-year average. USGC heavy sour coking margins were \$30.31/bbl, despite the near \$10/bbl m-o-m decline. They remain the strongest in the region and globally, even if tighter sour crude markets compressed the spread between USGC sour coking and cracking margins by nearly a third to \$6.56/bbl last month - its lowest level since January 2022.

Singapore margins dropped by nearly \$5/bbl across the board, to levels last seen in the third or fourth quarter of 2021. Weaker middle distillate cracks were once again the main culprit, but the deterioration in naphtha and, to a lesser extent, gasoline cracks also undermined profitability. Industry reports in early May point to the potential for run cuts to be implemented by refineries in Asia during 2Q23, albeit perhaps in response to a further deterioration in light sweet crude margins, from current levels. The regional product supply overhang partly reflects the high Russian refined products exports which have pressured cracks.

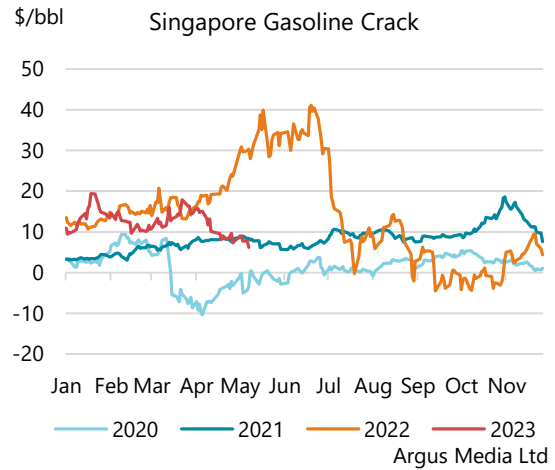
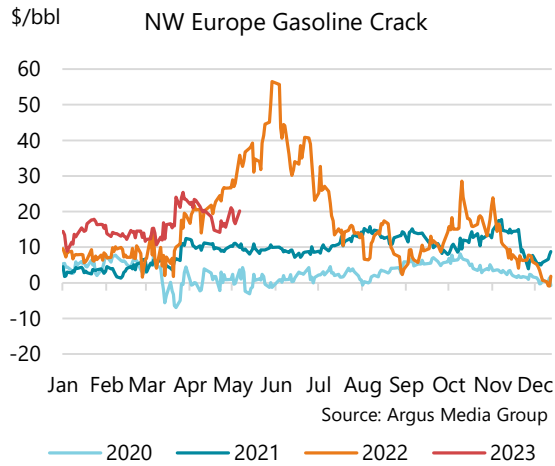
Product Prices and Differentials (\$/bbl)													
	Prices			Differentials				Week Starting					
	Feb	Mar	Apr	Feb	Mar	Apr	Mar-Apr chg	03-Apr	10-Apr	17-Apr	24-Apr	01-May	
<b>Northwest Europe</b>				to North Sea Dated									
Gasoline	96.35	94.89	103.69	13.85	16.60	18.84	2.25	22.30	21.31	16.99	15.96	18.87	
Diesel	109.89	106.98	100.97	27.39	28.69	16.13	-12.56	20.33	17.46	14.82	13.01	13.37	
Jet/Kero	112.29	104.39	100.50	29.79	26.10	15.65	-10.45	19.04	16.34	14.58	13.46	14.73	
Naphtha	80.77	75.90	76.17	-1.73	-2.39	-8.68	-6.28	-6.13	-7.98	-10.30	-9.65	-9.83	
HSFO	60.62	60.60	70.30	-21.88	-17.69	-14.54	3.15	-15.32	-14.91	-14.57	-13.59	-12.26	
0.5% Fuel Oil	85.41	81.33	83.18	2.91	3.04	-1.66	-4.70	-0.01	-2.00	-3.09	-1.29	0.26	
<b>US Gulf Coast</b>				to WTI Houston									
Gasoline	103.64	106.68	109.52	24.35	31.83	29.21	-2.62	32.40	33.85	27.39	23.84	25.41	
Diesel	116.17	112.42	105.72	36.89	37.56	25.41	-12.15	29.05	27.20	24.24	21.89	22.59	
Jet/Kero	117.43	111.18	99.44	38.15	36.32	19.13	-17.19	25.35	21.23	16.26	14.92	16.85	
Naphtha	80.36	78.04	77.93	1.07	3.18	-2.38	-5.56	-2.32	-3.09	-3.43	-0.66	-0.34	
HSFO	57.56	58.34	66.85	-21.73	-16.52	-13.46	3.06	-14.72	-14.28	-12.95	-12.13	-12.97	
0.5% Fuel Oil	93.47	87.17	88.34	14.18	12.31	8.04	-4.28	10.22	8.98	7.26	6.12	6.25	
<b>Singapore</b>				to Dubai									
Gasoline	95.86	94.25	96.26	12.36	13.72	11.30	-2.42	15.30	13.32	9.29	8.49	8.37	
Diesel	107.64	102.80	98.44	24.14	22.27	13.48	-8.79	17.27	13.42	12.02	11.95	10.93	
Jet/Kero	106.77	98.86	96.68	23.28	18.33	11.71	-6.62	13.12	11.22	11.27	11.42	11.48	
Naphtha	76.98	73.19	71.48	-6.52	-7.34	-13.49	-6.15	-12.92	-14.05	-14.26	-12.73	-12.82	
HSFO	62.14	65.41	72.77	-21.36	-15.12	-12.19	2.93	-13.58	-11.98	-12.24	-11.20	-9.44	
0.5% Fuel Oil	94.11	86.64	89.84	10.61	6.12	4.88	-1.24	3.78	5.20	4.75	5.62	8.35	

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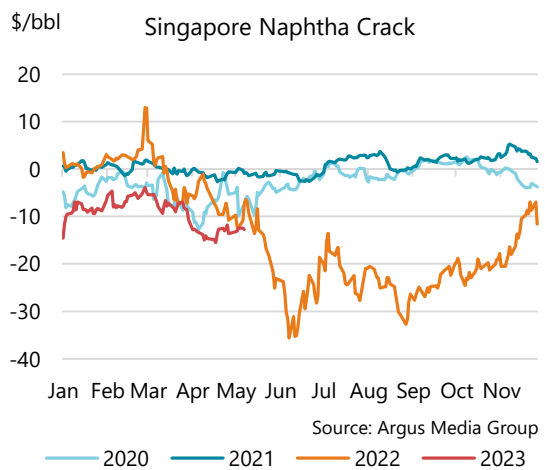
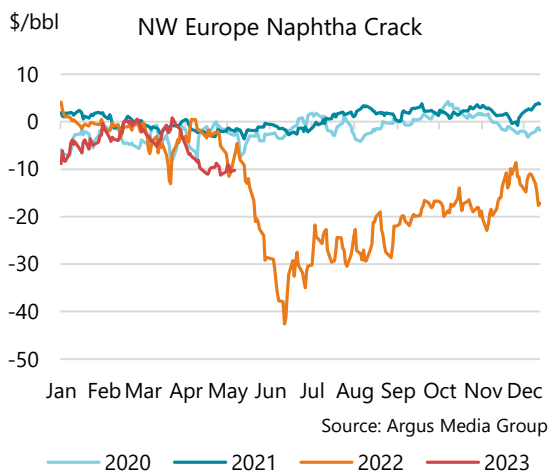
Gasoline cracks held up relatively well when compared to the collapse in naphtha and middle distillate cracks during April. Gasoline cracks fell in the US and Singapore, but increased m-o-m in Europe.

Three factors arguably contributed to the outperformance of gasoline during April. First, the switch to summer specification gasoline whose lower volatility and higher cost have been priced in. The exclusion of cheaper blending components, e.g., butane, which can increase supply during winter months necessitates more use of the expensive components. Second, demand cover in the key US

market remains extremely tight. Weekly data from the US EIA indicate that forward inventory cover has dropped to the bottom of the five-year range at below 24 days of demand. In absolute terms, inventories at the NYMEX pricing point of New York in the PADD 1B region were only just above the low point of the five-year range for the time of year. The East Coast market is similarly tight on inventories. By contrast, USGC gasoline inventories remain well above the five-year average and a year ago. The contrast between the East and Gulf Coasts supports the open arbitrage for gasoline to head to New York. Lastly, while overall refinery throughput is close to the five-year average, based on weekly data, the monthly data on FCC and reformer throughputs were weaker than average during 1Q23.

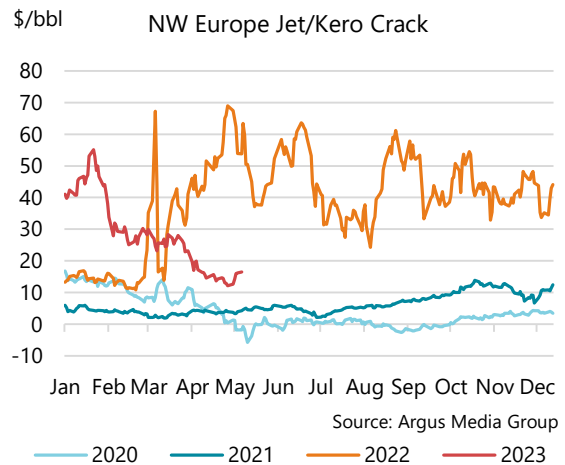
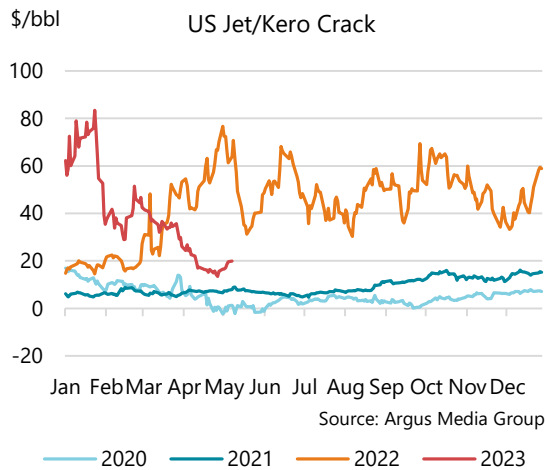


Singapore gasoline cracks remain materially weaker than in Europe and the US and are back to levels seen in 2021, whereas in the Atlantic Basin, gasoline remains above these levels. Offsetting these constructive factors has been the renewed weakness in naphtha cracks, which will incentivise additional blending of naphtha into the gasoline pool.

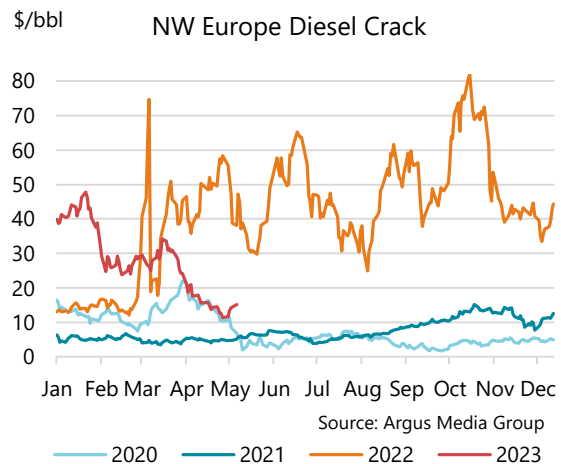
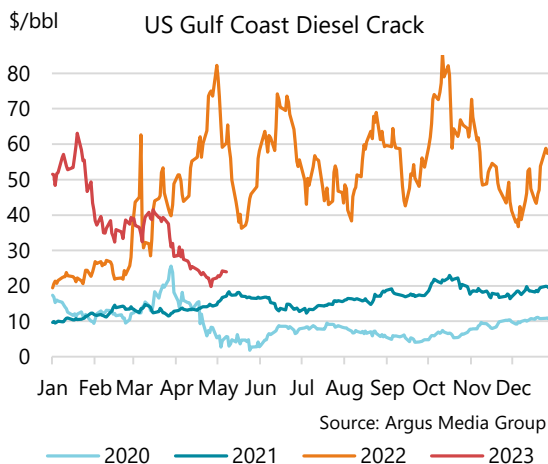


Naphtha cracks dropped by \$5-6/bbl in April with softer petrochemical demand for feedstocks and rising inventories at key hubs, e.g., the ARA in Europe both weighing on the market. As well, ExxonMobil's recently commissioned USGC Beaumont refinery expansion has reportedly boosted supplies of naphtha on the USGC, with demand from Europe tepid. In Asia, a lack of spot naphtha cargo purchases, amidst petrochemical maintenance contributed to a weaker physical market that weighed on cracks.

Jet fuel cracks were amongst the worst performing during April, declining by \$17/bbl m-o-m on the USGC and between \$6-10/bbl in Europe and Singapore. Arguably, the steep decline in US jet fuel cracks reflects the final stages of normalisation from the exceptional levels seen at the start of the year, following the weather-related disruption to US product supplies. Furthermore, US jet fuel stocks surged during March and April and, having been at the second lowest levels in four years in early March, stocks are now close to the five-year average on a seasonally adjusted basis. A similar picture of inventory normalisation is evident in the ARA market, where stocks reportedly built rapidly and now sit at the top of the ten-year range. Weekly US data point to a surge in US jet demand, to a post-Covid record, which should support cracks in the coming months and arguably justifies a rebound in jet cracks to a premium to diesel in the summer.



Given their importance to refinery profitability, diesel cracks were the real laggard during April, down \$12/bbl in the Atlantic Basin and \$9/bbl in Asia. As already noted, diesel markets exhibit signs of being much more balanced than during 1Q23. Backwardation has collapsed in futures markets that price Atlantic Basin diesel, as have prompt Asian swaps premiums, at times flirting with contango.



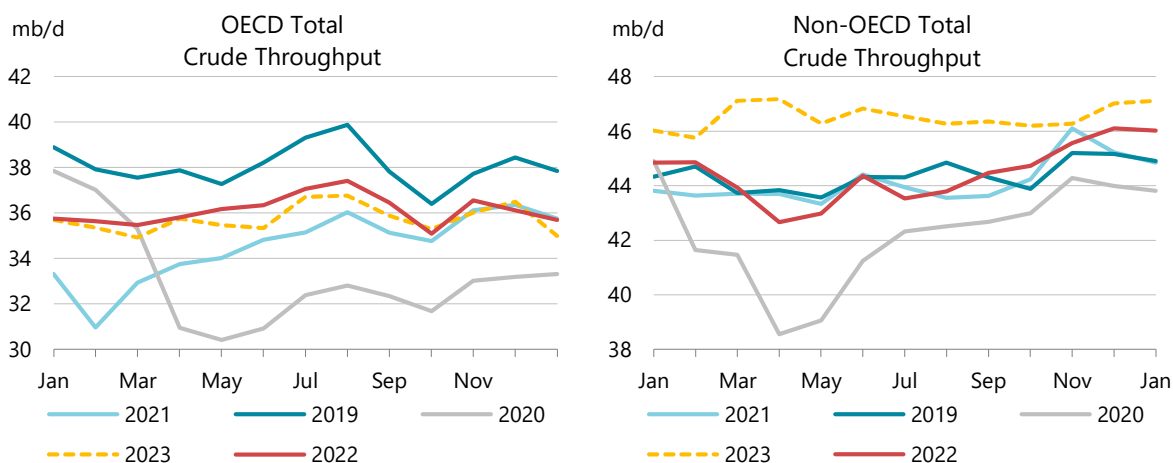
Furthermore, manufacturing sector weakness, lacklustre distillate deliveries in the US and the warmer winter all point to softer demand than markets had anticipated, with cracks signalling refineries to switch to higher gasoline yields where possible. In conjunction with the softer gasoil demand dynamics, European refineries – which represent the highest cost marginal source of supply - have seen processing costs decline as natural gas and electricity prices have continued to weaken in recent weeks.

## Regional refining developments

Global crude runs are forecast to average 82.3 mb/d in 2023, an increase of 0.3 mb/d from last month's *Report*. Much of the revision derives from stronger reported processing rates in China and India. Furthermore, weekly Russian data indicates that planned maintenance may have been deferred and we now estimate that April crude throughputs have not declined to the extent we previously anticipated.

Global crude runs in March are estimated to have been 82.1 mb/d, an increase of 2.7 mb/d y-o-y. This is 1.3 mb/d ahead of last month's forecast. Similarly, we have revised up our April estimate by 2.1 mb/d this month, (revisions to China, India, and Russia account for 1.6 mb/d of this revision), to 83 mb/d, implying annual growth of 4.5 mb/d. In large part, this extremely strong rate of growth reflects the collapse in runs last year in China, following renewed Chinese Covid-related restrictions. Growth remains concentrated in non-OECD regions, especially in Asia where the availability of cheap Russian crude is supporting record crude processing rates. We forecast that crude runs will fall to 81.7 mb/d in May and 82.1 mb/d in June as maintenance picks up and on lower margins. Activity will then accelerate to a summer peak in 3Q23.

This month's upward revisions to reported and forecast runs reflect the higher than expected demand growth so far this year. In the long run, crude processing by refineries cannot increase without a commensurate increase in demand, as surplus product inventories undermine refinery profitability. The availability of discounted Russian crude has spurred record throughputs in Asia in 1Q23 and contributed to better supplied product markets. Arguably, the weaker margin environment is a consequence of this, and we lower our expectations for 3Q23 crude runs in the US and Europe.



OECD runs were 34.9 mb/d in March, 100 kb/d ahead of expectations, but nevertheless 0.54 mb/d lower y-o-y, mainly due to weaker US processing rates. North American throughputs were nearly 200 kb/d above last month's preliminary assessment, with all four countries contributing to higher run rates. Conversely, OECD Oceania fell short by approximately 100 kb/d, mainly due to Japanese crude intake being 60 kb/d below expectations.

European crude processing was in line with forecasts, even though the impact from French industrial action was 70 kb/d higher than we had estimated. French crude throughputs averaged 570 kb/d in March, and we now assume a longer tail to the disruptions, which lowers French 2Q23 forecasts by just under 100 kb/d to 800 kb/d. Other notably weaker than expected crude runs were seen in the UK, however these were offset by still strong crude processing in Italy and the Netherlands.

### Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

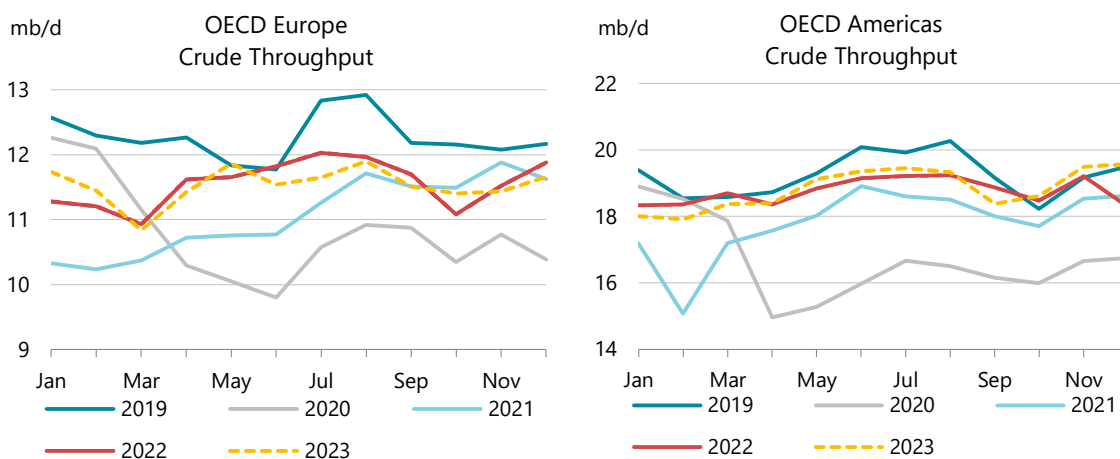
	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Change from		Utilisation rate	
							Feb 23	Mar 22	Mar 23	Mar 22
US <sup>1</sup>	15.72	16.38	15.32	15.03	15.07	15.51	0.44	-0.31	86%	89%
Canada	1.65	1.65	1.85	1.84	1.73	1.74	0.01	0.00	96%	96%
Chile	0.19	0.16	0.18	0.18	0.19	0.18	-0.01	-0.03	80%	92%
Mexico	0.81	0.92	0.83	0.86	0.81	0.84	0.02	0.01	51%	51%
<b>OECD Americas<sup>1</sup></b>	<b>18.37</b>	<b>19.11</b>	<b>18.18</b>	<b>17.90</b>	<b>17.82</b>	<b>18.27</b>	<b>0.46</b>	<b>-0.33</b>	<b>85%</b>	<b>87%</b>
France	0.45	0.89	0.99	0.98	1.00	0.57	-0.43	-0.23	46%	65%
Germany	1.88	1.90	1.83	1.67	1.66	1.60	-0.07	-0.12	78%	84%
Italy	1.33	1.27	1.28	1.36	1.17	1.23	0.06	0.00	71%	71%
Netherlands	1.05	0.93	1.03	1.07	1.11	1.02	-0.10	0.14	81%	70%
Spain	1.11	1.17	1.32	1.26	1.19	1.16	-0.03	-0.01	79%	80%
United Kingdom	1.05	0.99	1.04	1.04	1.02	0.94	-0.08	-0.11	78%	87%
Other OECD Europe <sup>2</sup>	4.11	4.27	4.29	4.26	4.20	4.23	0.03	0.25	88%	83%
<b>OECD Europe</b>	<b>10.98</b>	<b>11.42</b>	<b>11.78</b>	<b>11.64</b>	<b>11.35</b>	<b>10.74</b>	<b>-0.61</b>	<b>-0.09</b>	<b>78%</b>	<b>79%</b>
Japan	2.60	2.74	2.85	2.88	2.79	2.65	-0.14	-0.07	80%	79%
Korea	2.67	2.80	2.83	2.80	2.90	2.80	-0.10	0.02	79%	78%
Other Asia Oceania <sup>3</sup>	0.46	0.48	0.48	0.48	0.50	0.46	-0.04	-0.07	88%	81%
<b>OECD Asia Oceania</b>	<b>5.73</b>	<b>6.01</b>	<b>6.16</b>	<b>6.16</b>	<b>6.19</b>	<b>5.91</b>	<b>-0.28</b>	<b>-0.12</b>	<b>80%</b>	<b>79%</b>
<b>OECD Total</b>	<b>35.08</b>	<b>36.54</b>	<b>36.12</b>	<b>35.70</b>	<b>35.35</b>	<b>34.92</b>	<b>-0.433</b>	<b>-0.538</b>	<b>82%</b>	<b>83%</b>

<sup>1</sup> US includes US50, OECD Americas include Chile and US territories

<sup>2</sup> Includes Lithuania

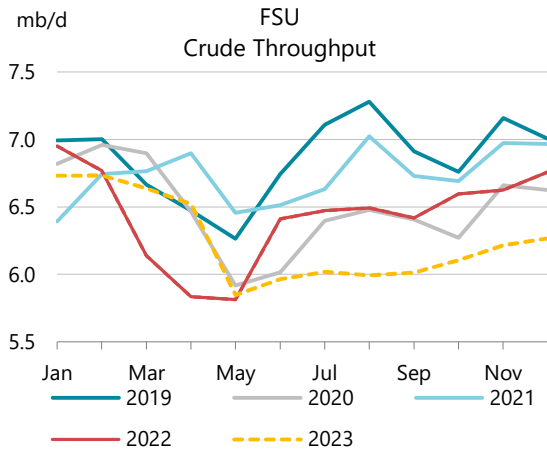
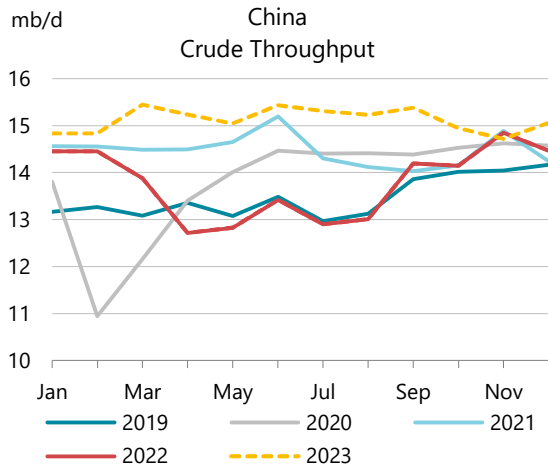
<sup>3</sup> Includes Israel

Forecast 2023 OECD runs are cut by 0.4 mb/d this month to 35.8 mb/d, to reflect weaker margins and muted demand growth in the OECD. We now forecast OECD runs will contract by 350 kb/d y-o-y, having increased by 1.7 mb/d in 2022. Runs will remain below 2019 levels in the OECD, driven largely by the closure of capacity since 2020 but also by new and highly competitive refinery capacity East of Suez.



We estimate that Chinese crude runs in March averaged 15.3 mb/d, nearly 0.5 mb/d ahead of forecast and in stark contrast to the reports of higher maintenance during the month. The availability of cheap Russian crude, extremely buoyant demand and the use of product export quotas all supported refinery activity. Chinese crude throughputs surged to 1.6 mb/d growth y-o-y. Strong annual gains should continue, given the pull-back in processing rates in the second quarter of last year. We currently anticipate y-o-y growth will average 2.3 mb/d in 2Q23, having revised up 2Q23 to 15.1 mb/d from 14.5 mb/d last month.

Indian crude throughput for March was also elevated at 5.4 mb/d, 0.3 mb/d above forecast. Indian runs are expected to remain strong in the short term before heavier maintenance in 2H23 lowers activity. However, the risks to our forecast remain skewed to the upside given the local demand picture and sustained heavy imports of discounted Russian crude. Elsewhere in Asia, we have trimmed forecasts for runs in Chinese Taipei, Malaysia, and Thailand, based on a combination of annual data submissions, revised maintenance forecasts and the weaker margin environment. In total, 2023 forecasts for Other Asia are lowered by 30 kb/d from last month to 10.7 mb/d.



Russian crude runs for April are estimated to have averaged 5.5 mb/d, based on partial weekly output data. This is 400 kb/d above last month's estimate. Despite industry reports of materially higher planned maintenance during the month, the reported level of diesel output indicates that Russian refineries have deferred the start of planned work. Nevertheless, we expect Russian refinery activity to decline in May and June as work gets underway, notwithstanding the still healthy level of product exports being reported. Middle Eastern throughput estimates are broadly unchanged this month, although the unplanned shutdown of Kuwait's Al-Zour refinery lowered estimated April runs.



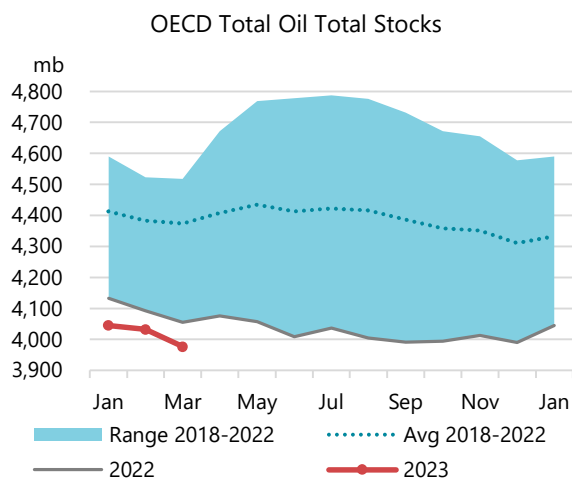
# Stocks

## Overview

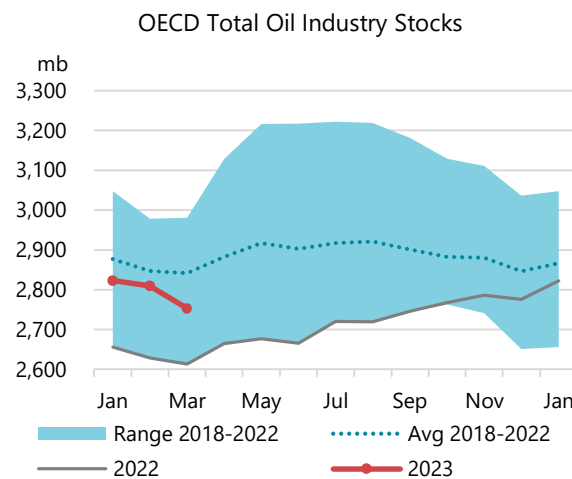
Global observed oil inventories declined by 7.9 mb in March as a surge in oil on water and a slight increase in non-OECD stocks failed to offset hefty declines in the OECD. Total OECD oil stocks plummeted by 55.6 mb to 3 976 mb, their lowest since 2004 and 397.5 mb below the five-year average. Oil on water swelled by 39.8 mb as exports rose while observed non-OECD stocks built by 7.9 mb. Preliminary data for April show a marginal decline, with stock builds in on land inventories and a draw in oil on water.



Sources: IEA, Kayrros, Kpler, FEDCom/S&P Global Platts, Enterprise Singapore



OECD industry stocks plunged by 56.3 mb in March to a six-month low of 2 753 mb, led by a sharp draw in product stocks. The deficit versus the 2018-2022 average rose to 88.7 mb. In terms of forward demand, total OECD industry stocks covered 59.9 days, down 1.4 days m-o-m but up by 2.4 days y-o-y. Crude oil, NGL and feedstock inventories fell by 4.8 mb. In OECD America, stocks decreased by 10.4 mb due to sizable exports from the US, but they were partially offset by builds in OECD Asia Oceania (+4.5 mb) and OECD Europe (+1.1 mb). Oil product stocks declined by a significant 51.5 mb across the three regions, as OECD refinery intake declined by 430 kb/d m-o-m and 540 kb/d y-o-y.



April preliminary data for the US, Europe and Japan show a stock build of 23.5 mb. Crude oil, NGL and feedstock inventories were largely unchanged as a 5.5 mb decline in crude oil was offset by a 5 mb increase in other oils. Total oil product stocks rose across the three regions by 24 mb, led by typical movements of other products (+16.6 mb). Gasoline and middle distillate inventories were up by 1.6 mb and 2.6 mb, respectively, despite a stock draw in the US. Fuel oil stocks built by 3.2 mb, mostly in the US.

Preliminary OECD Industry Stock Change in March 2023 and First Quarter 2023													
	March 2023 (preliminary)								First Quarter 2023				
	(million barrels)				(million barrels per day)				(million barrels per day)				
	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total	
<b>Crude Oil</b>	<b>-8.9</b>	<b>3.3</b>	<b>7.3</b>	<b>1.6</b>	<b>-0.3</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.3</b>
Gasoline	-15.9	-4.4	-2.3	-22.5	-0.5	-0.1	-0.1	-0.7	0.0	0.0	0.0	0.0	0.1
Middle Distillates	-8.4	-13.6	-6.3	-28.4	-0.3	-0.4	-0.2	-0.9	0.0	0.0	-0.1	0.0	0.0
Residual Fuel Oil	-1.3	-0.5	0.3	-1.6	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1
Other Products	3.6	-2.7	0.1	1.0	0.1	-0.1	0.0	0.0	-0.2	-0.1	0.0	-0.3	-0.3
<b>Total Products</b>	<b>-22.0</b>	<b>-21.2</b>	<b>-8.3</b>	<b>-51.5</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-1.7</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.4</b>	<b>-0.4</b>
Other Oils <sup>1</sup>	-1.5	-2.2	-2.8	-6.5	0.0	-0.1	-0.1	-0.2	-0.1	0.0	-0.1	-0.2	-0.2
<b>Total Oil</b>	<b>-32.4</b>	<b>-20.1</b>	<b>-3.8</b>	<b>-56.3</b>	<b>-1.0</b>	<b>-0.6</b>	<b>-0.1</b>	<b>-1.8</b>	<b>0.0</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.3</b>	<b>-0.3</b>

<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD industry stock data for February have been revised down by 30.2 mb to 2 810 mb following the submission of more complete information. The largest revisions came from OECD Americas (-18.8 mb), followed by OECD Europe (-11.6 mb). By product, crude oil, NGL and feedstock inventories were lowered by 30.2 mb. Middle distillate stocks were revised down by 6.6 mb, but were offset by increases in other products (gasoline, fuel oil, other products). January figures were also reduced, by 7 mb.

OECD Industry Stock Revisions versus April 2023 Oil Market Report								
	(million barrels)							
	Americas		Europe		Asia Oceania		OECD	
	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23
<b>Crude Oil</b>	<b>-5.4</b>	<b>-20.8</b>	<b>1.8</b>	<b>-3.9</b>	<b>0.0</b>	<b>2.1</b>	<b>-3.6</b>	<b>-22.6</b>
Gasoline	0.0	3.2	-0.9	0.1	-0.1	0.0	-1.0	3.2
Middle Distillates	0.0	-1.9	-2.2	-4.8	0.2	0.2	-2.0	-6.6
Residual Fuel Oil	0.0	1.1	0.3	0.7	-0.2	-0.2	0.1	1.6
Other Products	0.0	6.0	-0.1	-2.5	0.0	-1.7	-0.1	1.7
<b>Total Products</b>	<b>0.0</b>	<b>8.4</b>	<b>-2.9</b>	<b>-6.5</b>	<b>0.0</b>	<b>-1.8</b>	<b>-3.0</b>	<b>0.0</b>
Other Oils <sup>1</sup>	0.0	-6.4	-0.3	-1.2	0.0	0.0	-0.3	-7.6
<b>Total Oil</b>	<b>-5.4</b>	<b>-18.8</b>	<b>-1.5</b>	<b>-11.6</b>	<b>0.0</b>	<b>0.3</b>	<b>-7.0</b>	<b>-30.2</b>

<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

## Implied balance

IEA Global oil balance (implied stock change) (mb/d)													
	2019	2020	2021	1Q22	2Q22	3Q22	4Q22	2022	Jan-23	Feb-23	Mar-23	1Q23	Apr-23
Global oil balance	-0.08	2.22	-2.19	-0.73	0.08	0.37	0.63	0.09	3.01	-0.29	-0.23	0.87	0.63
Observed stock changes													
OECD industry stocks	0.05	0.41	-1.06	-0.36	0.57	0.88	0.33	0.36	1.51	-0.49	-1.82	-0.26	0.76
OECD government stocks	-0.04	0.02	-0.16	-0.46	-1.08	-1.06	-0.34	-0.74	0.25	0.02	0.02	0.10	-0.23
Non-OECD crude stocks*	0.17	0.44	-0.47	0.41	0.80	-0.51	0.36	0.26	0.49	-0.13	0.21	0.20	0.09
Selected non-OECD product stocks**	-0.14	0.12	-0.03	0.09	0.07	0.16	-0.30	0.00	0.80	-0.03	0.05	0.28	-0.12
Oil on water	0.06	0.03	-0.04	-0.53	0.53	0.97	0.13	0.28	-0.44	-0.27	1.28	0.21	0.21
Total observed stock changes	0.10	1.01	-1.75	-0.85	0.90	0.43	0.17	0.17	2.61	-0.90	-0.25	0.53	0.53
Unaccounted for balance	-0.17	1.21	-0.44	0.12	-0.82	-0.06	0.46	-0.08	0.40	0.61	0.02	0.34	0.34

\*Crude stock change data from Kayros and estimated Saldanha Bay data from Kpler. Kayros data are available for selected countries and include only, and not all, above-ground storage.

\*\*JODI data adjusted for monthly gaps in reporting, latest data for February 2023, plus Fujairah and Singapore inventories.

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

The 1Q23 global supply and demand balance shows an 870 kb/d implied stock increase - the fourth consecutive quarterly stock build. Observed stocks rose by 530 kb/d, mainly in non-OECD countries (+480 kb/d) and oil on water (+210 kb/d), while OECD stocks declined by 150 kb/d. Conversely, our

forecast indicates substantial stock draws from the second quarter through the end of the year in 2023.

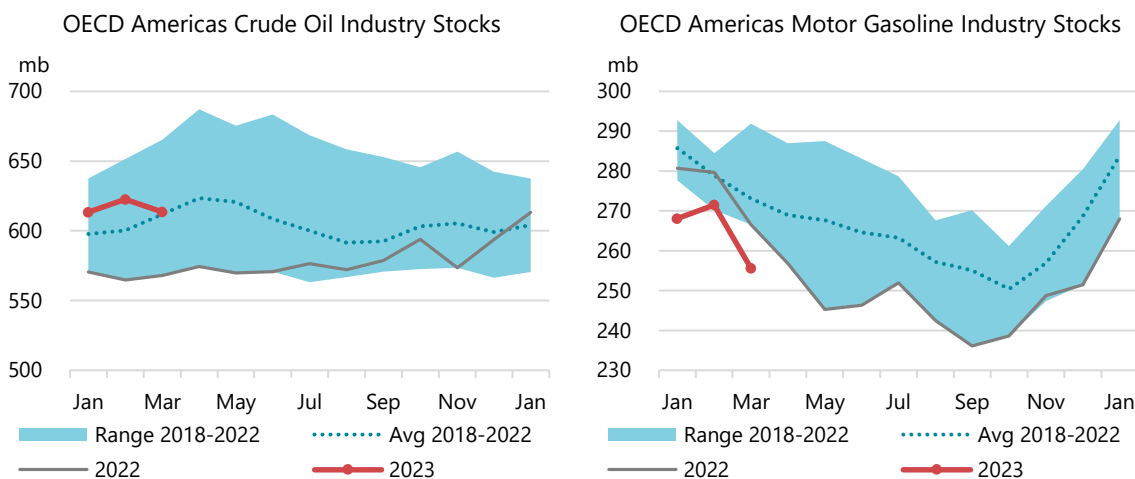
In March, observed stocks fell by 250 kb/d, largely in line with our implied balance. OECD industry stocks plunged by 1.8 mb/d, with a draw of 160 kb/d of crude, NGLs and feedstocks and a hefty 1.7 mb/d decline in oil products. OECD government inventories built by a marginal 20 kb/d. Non-OECD crude stocks rose by 210 kb/d while product stocks at Fujairah and Singapore inched up by 50 kb/d. Oil on water surged by 1.3 mb/d, led by oil products. The latter likely reflects the impact of European sanctions that definitively blocked Russian product imports starting February.

## Recent OECD industry stock changes

### OECD Americas

OECD Americas industry stocks plunged by 32.4 mb in March. The total oil stocks stood at 1 485 mb, 23.4 mb below the five-year average and at their lowest level in four months. Crude oil decreased counter-seasonally by 8.9 mb to 613.5 mb, remaining slightly above the five-year average. Crude exports from the US hit a record high, 1.5 mb/d above a year ago, but were partially offset by weak regional refining activity (-330 kb/d y-o-y). NGL and feedstock inventories also posted a counter-seasonal decline, by 1.5 mb.

Oil product stocks dropped by a larger than usual 22 mb. Gasoline and middle distillates decreased more than the seasonal average, by 15.9 mb and 8.4 mb, respectively, due to relatively weak refinery production. Fuel oil inventories fell by 1.3 mb when they usually rise by 1.3 mb, as net US imports were lower than typical levels. Other product stocks increased by 3.6 mb, in line with the seasonal trend.

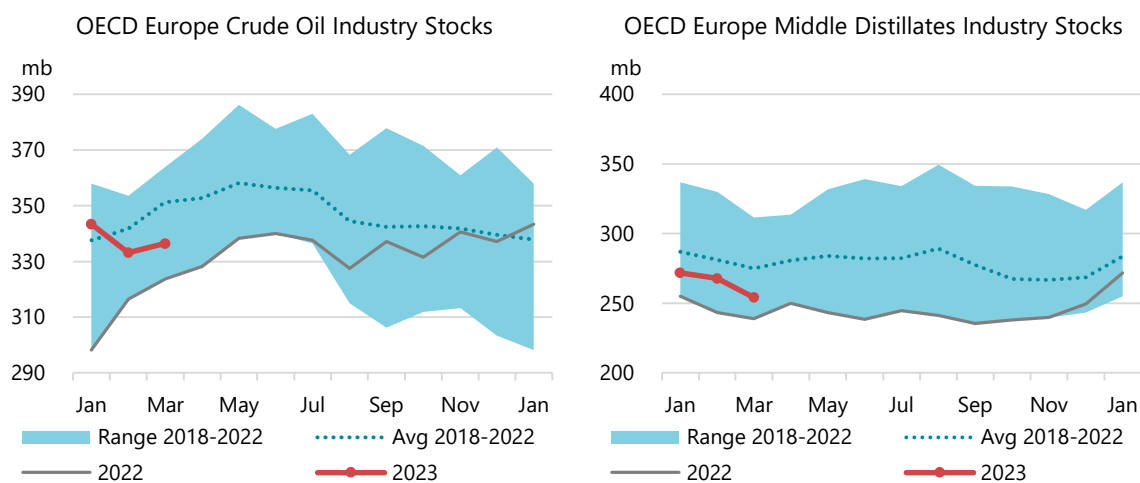


According to weekly data from the US Energy Information Administration (EIA), total industry oil stocks rose by 7 mb in April. Crude oil fell counter-seasonally to below its five-year average by 9.1 mb, even though 7.3 mb of crude oil was released from the Strategic Petroleum Reserve. Crude exports declined by 600 kb/d m-o-m, but were still 700 kb/d above a year ago while refinery crude inputs were 150 kb/d higher. NGL and feedstocks increased by 1.1 mb in the month. Oil product inventories built by 15.1 mb, mostly due to the seasonal increase in other products (+14.8 mb). Gasoline stocks fell by a further 1 mb, remaining well below their five-year range. Middle distillates declined by 1.7 mb, led by diesel (-5.7 mb). Fuel oil rose by 3 mb.

## OECD Europe

In March, commercial stocks in OECD Europe declined by 20.1 mb. At 925.4 mb, they remained 50.7 mb below the five-year average and at a five-month low. Crude stocks rose by 3.3 mb, compared to the five-year average build of 9.5 mb. NGL and feedstock inventories fell by 2.2 mb.

Total oil product stocks slumped by 21.2 mb. Middle distillate inventories fell by a significant 13.6 mb when they normally decrease by 6.1 mb. Germany posted the largest decline (-4.6 mb) in the region followed by Spain (-2.1 mb) and France (-1.5 mb). Gasoline inventories drew by 4.4 mb, in line with the seasonal trend. Fuel oil and other products decreased by 0.5 mb and 2.7 mb, respectively. French stocks fell by only 1.8 mb despite supply disruptions due to industrial action against pension reforms. While official data for March is not yet available, the release of government stocks likely limited the decline in French industry stocks.

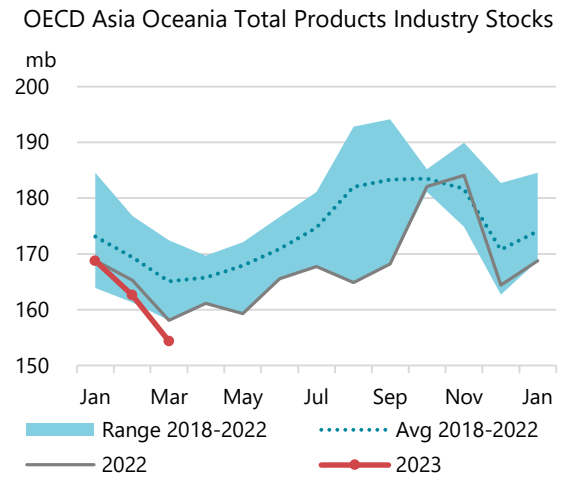
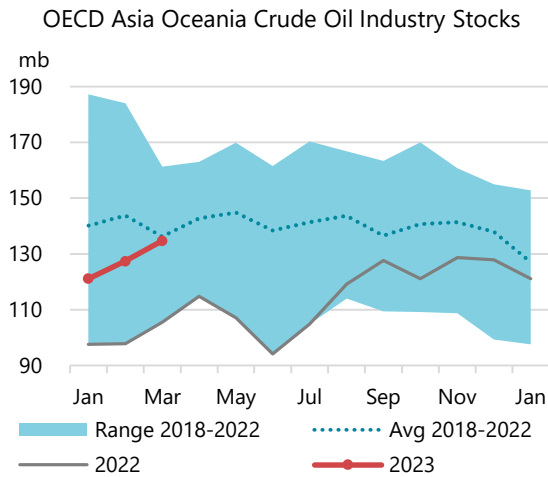


Preliminary data from *Euroilstock* for 16 countries in Europe show 2 mb of stock builds in April. Crude oil inventories fell by 3 mb, notably in Austria (-2.9 mb) and the UK (-1.8 mb) while they built in the Netherlands (+2.6 mb) and Italy (+1.1 mb). By contrast, oil product stocks rose by 5 mb. Gasoline and middle distillate increased by 2 mb each. Naphtha stocks were also up, by 1 mb. Fuel oil inventories were largely unchanged. Higher refinery intake in the region may explain the movements.

## OECD Asia Oceania

Commercial stocks in OECD Asia Oceania decreased by 3.8 mb to 343.1 mb in March, 14.6 mb below the five-year average and its lowest since August 2022. Crude stocks rose counter-seasonally by 7.3 mb, as Korean crude imports reached their highest since May 2020, according to *Kpler*. NGL and feedstock inventories decreased by 2.8 mb.

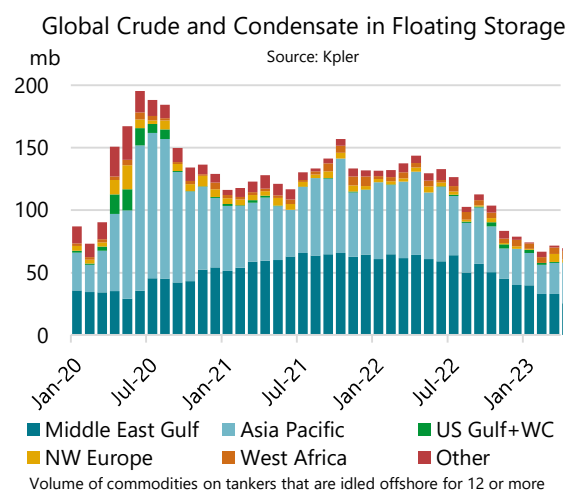
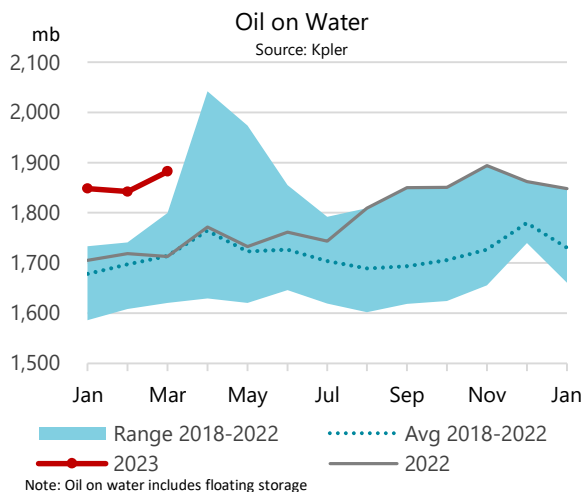
Regional product stocks declined by 8.3 mb when they typically fall by 4.4 mb, as refinery intake fell 120 kb/d y-o-y. At 154.4 mb, they hit an eight-year low. Middle distillate stocks (-6.3 mb) led the decrease, and the inventories were the lowest since 2014. Gasoline inventories were also down, by 2.3 mb. Fuel oil and other oil edged up by 0.3 mb and 0.1 mb, respectively.



Weekly data from the *Petroleum Association of Japan* show a stock increase of 14.4 mb in April, largely in line with seasonal trends. Crude oil inventories rose by 6.6 mb to a four-month high while other oil stocks remained below last year’s level although they increased by 3.9 mb. Total oil product inventories also built, by 3.9 mb. Middle distillate stocks were up by 2.4 mb, mainly in gasoil/diesel. Gasoline, fuel oil and other products edged up by 0.6 mb, 0.1 mb and 0.8 mb, respectively.

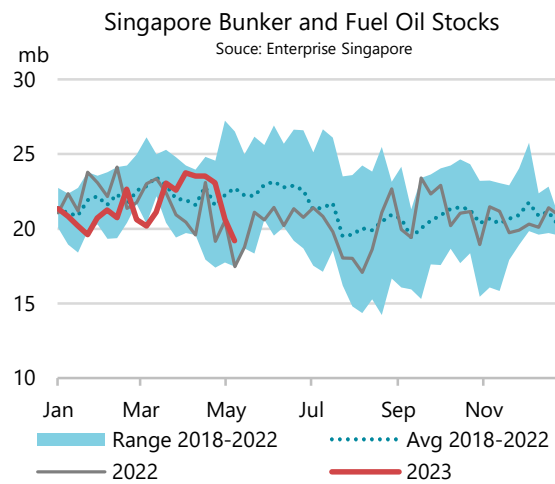
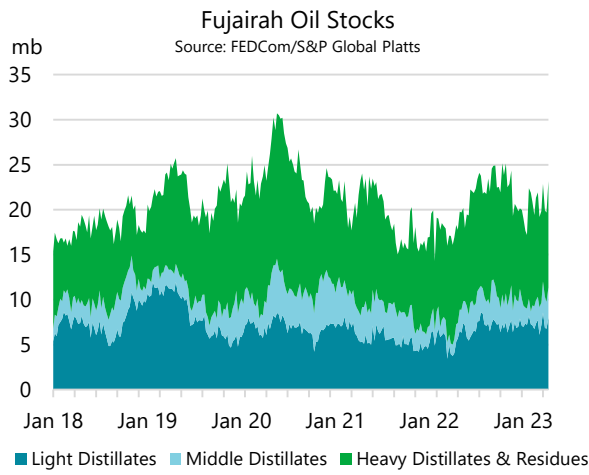
## Other stock developments

Oil on water, including floating storage, surged by 39.8 mb in March, according to *Kpler*. Crude oil inched up by 1.1 mb while oil products rose by 38.7 mb. Middle distillates accounted for half of the increase as Russian products were travelling longer distances to customers in Africa, South America and the Middle East instead of Europe. Crude oil held in floating storage rose by 4.9 mb to 71.6 mb after dropping for five months in a row. Disruptions to port operations in France due to national strikes, resulted in 6 mb of oil held offshore (later drawn down in April as the industrial action ended). Floating storage for products fell by 2.1 mb to 58.3 mb. They mainly decreased near Malaysia, where significant blending and ship-to-ship transfers are taking place.

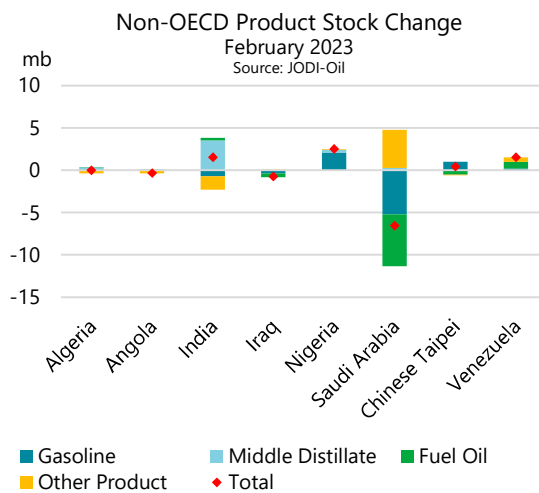
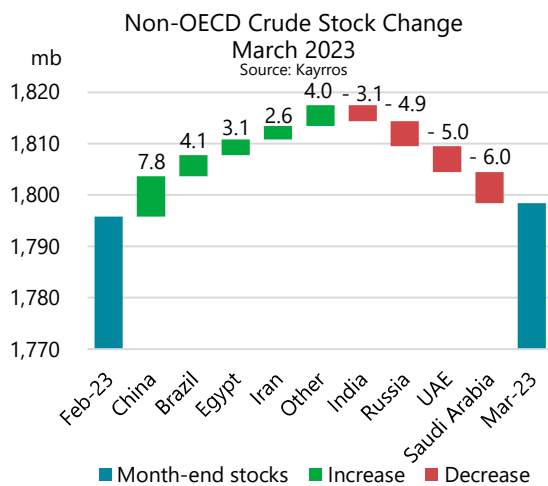


In Fujairah, independent product stocks edged down by 0.6 mb to 19.7 mb in April, according to data from *FEDCom* and *S&P Global Platts*. Residual fuel stocks fell by 0.8 mb. Light distillate inventories were largely unchanged, and middle distillate stocks increased by a marginal 0.2 mb.

Independent product inventories in Singapore dropped by 3.1 mb to 44.9 mb, the lowest since December 2022, according to *Enterprise Singapore*. Middle distillate stocks declined most, by 1.7 mb, but were still 1.3 mb higher than a year ago. Bunker and fuel oil inventories also fell, by 1.2 mb. Light distillate stocks decreased by a marginal 0.1 mb.



Observed crude stocks in floating-roof storage tanks in non-OECD countries rose by 2.6 mb in March, according to satellite data from *Kayrros*. In China, the largest crude imports since June 2020 contributed to stock builds of 7.8 mb. Egyptian stocks rose by 3.1 mb to a 21-month high, indicating active exports from Saudi Arabia to Europe through the SUMED pipeline. Stock draws in Saudi Arabia (-6 mb), the UAE (-5 mb) and Russia (-4.9 mb), mostly reversed builds seen in recent months. *Kayrros* data show non-OECD crude stocks edged down by 0.5 mb in April. Separately, *Kpler* data show 3.9 mb of crude oil imports at Saldanha Bay in South Africa. As the terminal is not connected to any refineries, we regard the net imports as non-OECD crude stock builds.

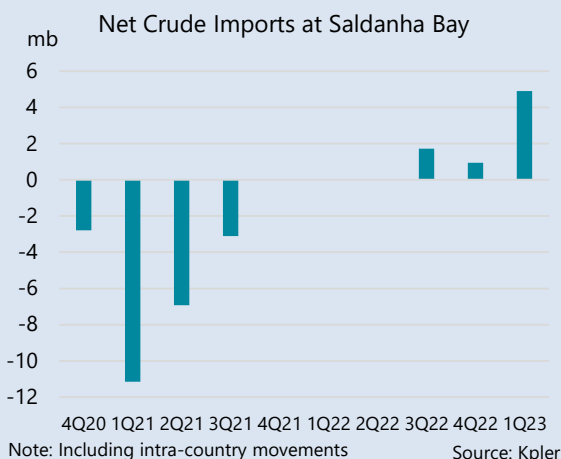


Oil product stocks in 10 non-OECD economies reporting to the *JODI-Oil* database decreased by 2.4 mb in February. The largest stock draw came from Saudi Arabia with 6.6 mb of decline. Refinery output was 310 kb/d lower y-o-y, while oil demand rose 290 kb/d over the same period to its highest February level since 2015. In Nigeria, product inventories built by 2.5 mb, mainly in gasoline due to lower demand. Venezuelan and Indian stocks also increased, by 1.5 mb each. In India, refinery production was at a record high.

### Crude oil stocks building after long hiatus at Saldanha Bay

The large Saldanha Bay underground crude oil terminal in South Africa serves three purposes: strategic storage, storage for the connected refinery, and leasing of surplus capacity for trading operations. Saldanha's location in the west of South Africa gives it easy access to refinery centres in Asia and the Atlantic Basin. Commercial use appears to have recently picked-up after an extended idle period. The deliveries into storage appear to be West African barrels struggling to find buyers East of Suez (due to cheaper Russian crude) while Atlantic Basin refiners undergo maintenance.

Astron Energy's Milnerton refinery (connected to Saldanha crude oil terminal), stopped operating after a fire in 2020 while commercial stocks built at the terminal as Covid drove a crude supply overhang. The stocks gradually drew down from 4Q20 to 3Q21 as the market flipped from contango to backwardation. Crude imports have recently picked up, however, and in 1Q23, 4.9 mb of crude oil arrived at the terminal according to *Kpler*. The biggest inflow came from Nigeria (2 mb), followed by Angola (1.9 mb), Ghana (0.9 mb) and Cameroon (0.2 mb). Preliminary data show another 3.1 mb of imports in April.



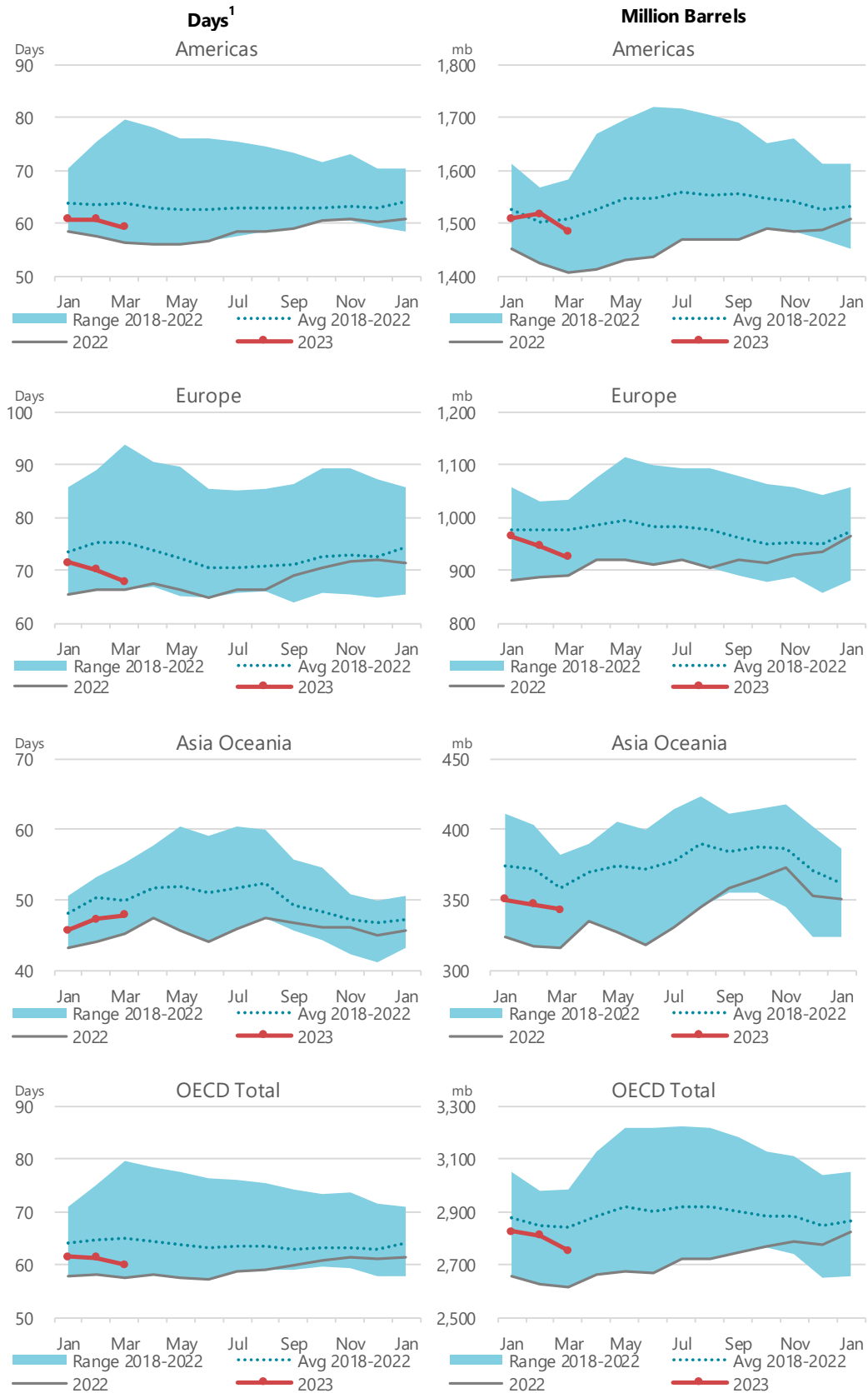
At Saldanha Bay, the Strategic Fuel Fund Association (SFF) operates 45 mb of underground tanks at three sites: Milnerton, Ogies and Saldanha. Only the latter is currently operational. In addition, Oiltanking MOGS built about 10 mb of underground tanks adjacent to the SFF terminal.

According to the Minister of Mineral Resources and Energy, the terminal held 10 mb of government crude as of April 2022. From April to early August 2022, the South African government subsidised domestic fuel prices due to rising international oil prices. Reportedly, at least ZAR 6 billion (\$370 million) of that budget was covered by the sale of strategic oil reserves. However, to date no crude oil shipments from the Saldanha terminal have been observed.

With limited operable refining capacity in South Africa, storage at the Saldanha Bay terminal is mostly leased for storage to traders today. Engen and Sapref shut their plants in December 2020 and March 2022, respectively. Sasol's gas-to-liquids facility at Mossel Bay was also idled in November 2020 leaving only the 110 kb/d Natref refinery in Sasolburg and Sasol's coal-to-liquids plant in operation. To bolster its national energy security, the government approved plans by SFF to acquire 50% of BP's petroleum products terminal in Cape Town (in August 2022) and 60% of Avedia Energy (in January 2023), which owns the LPG terminal at Saldanha Bay. Until the Milnerton refinery is restarted, we will account for net crude oil imports at Saldanha Bay as non-OECD stock changes.

### Regional OECD End-of-Month Industry Stocks

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



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



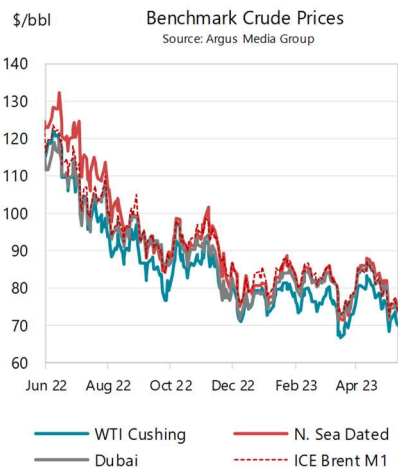
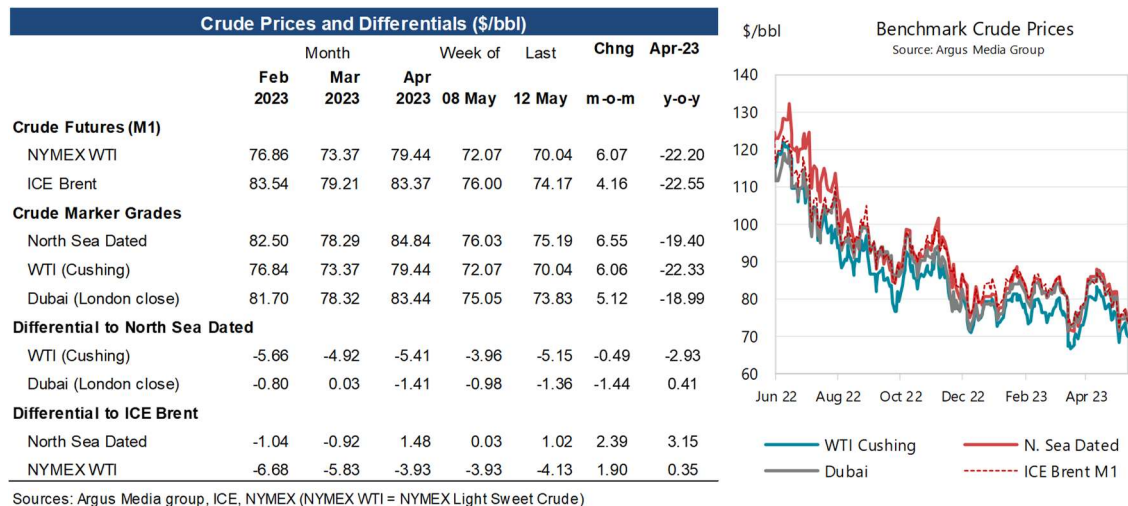
# Prices

## Overview

North Sea Dated rose by \$6.55/bbl m-o-m to \$84.84/bbl in April. Prices soared following the surprise output cuts announced by some OPEC+ members that propelled Dated to \$88.09/bbl mid-month, near 2023 highs. A softer greenback acted as a further tailwind, with the US Dollar Index falling to one-year lows. However, oil failed to hold on to its gains, as pessimism about global economic growth resurfaced, exacerbated by the ongoing tightening of bank credit and a reversal of technical support in paper markets. At the time of writing Dated was trading around \$76/bbl.

North Sea Dated firmed by \$2.39/bbl m-o-m versus front month ICE Brent futures in April, flipping from a discount to a premium on a tighter Atlantic Basin. French refiners raised operating rates as strikes tailed off while the Kirkuk-Ceyhan pipeline remained off-line, shutting in about 450 kb/d in exports. The physical premium to futures subsequently dissipated in early May as holidays slowed Asian buying of North Sea barrels, as did competing sales from Atlantic Basin producers (Brazil and West Africa).

WTI's recent strength in crude differentials persisted as US crude inventories continued to draw, at variance with their customary seasonal spring builds. Lower freight rates buttressed WTI exports, as did the grade's incorporation in the Dated price assessments for June loadings. The crude structure eased somewhat but stayed in backwardation. Lastly, gasoil consolidated its status as petroleum's weakest segment, evidenced by collapsing refining cracks and the forward curve slipping into contango accompanied by major speculative liquidation.



Economic growth is cooling in Western economies in the face of higher interest rates, with “hard landing” and recessionary scenarios gaining prominence. Economic activity remains muted, particularly in manufacturing, with consensus forecasts for 2023 GDP growth at a lacklustre 1.1% and 0.6% respectively for the US and the eurozone. The Federal Reserve and European Central Bank each raised rates by 0.25% in May. Both are thought to be near the end of their hiking cycles, although considerable uncertainty remains as robust labour markets raise the risk of protracted wage-price acceleration. US growth prospects are also weighed down by the continuing contraction of bank loans to businesses and households, as higher interest rates curtail lending margins while regional banks struggle with deposit flight.

This renders global economic activity even more dependent on the strength of emerging market growth and particularly on China's recovery building on its current momentum. The latter's economy grew by 4.5% y-o-y in 1Q23. Helped by 2022's low base effect that will buttress y-o-y growth from 2Q23 onwards, the country looks on track to attain its 5% full-year growth target. Other economic data appeared to corroborate China's economic revival, as retail sales jumped by 10.6% y-o-y in March. A return of consumer confidence is paramount to the country's fledgling economic recovery, as its manufacturing sector continues to grapple with weak external demand. This was echoed in the NBS and Caixin Manufacturing PMIs, both of which fell back into contraction in April.

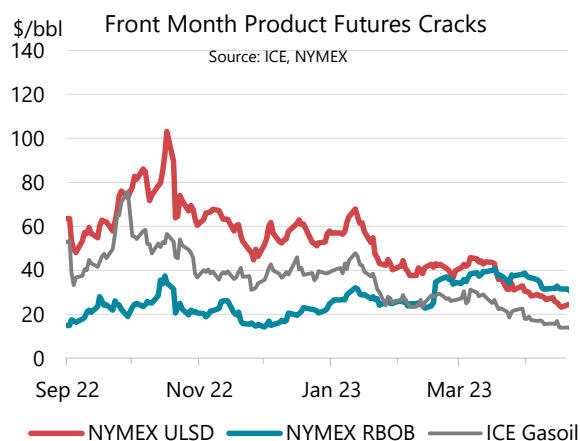
## Futures markets

Front-month WTI and Brent climbed in April by \$6/bbl and \$4/bbl, respectively. Prices initially rallied \$7/bbl in the wake of voluntary production cuts announced by some OPEC+ members and the expectation of a dovish Federal Reserve pivot. This upbeat macro sentiment also raised correlations with other assets, as ICE Brent's 20-day running correlation with the S&P 500 Index soared to 90% mid-month. However, the upbeat mood dissipated in the remainder of the month and prices gave back their gains as global growth concerns resurfaced.

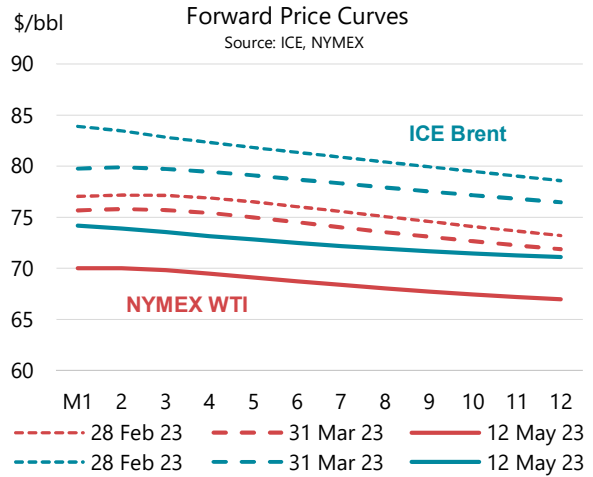
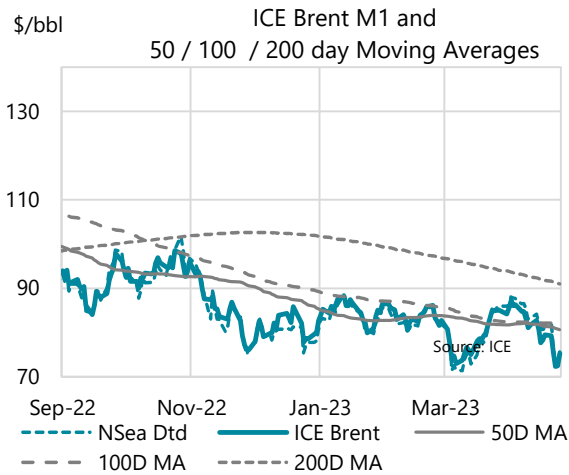
Brent was unable to hold above its 50- and 100-day moving averages, ending April about \$2/bbl below the 50- and 100-day resistance levels. Reflecting oil's protracted longer-term bear market, Brent remains around \$18/bbl below the 200-day moving average.

WTI futures gained about \$2/bbl m-o-m versus Brent, as US crude inventories recorded a second consecutive month of declines, according to weekly EIA data. The counter-seasonal trend marks the first time since 1996 that crude stocks declined in both March and April.

Resilient Russian exports, adding to higher French supplies after strikes mostly ended, also pressured diesel refining margins. ULSD versus WTI front month cracks fell by \$13/bbl m-o-m to \$29/bbl. RBOB gasoline versus WTI front-month cracks were more robust, falling only \$2/bbl to \$35/bbl, marginally below last month's record seasonal highs. Firm US driving demand sent gasoline inventories in the PADD 1B district (which includes the NYMEX New York Harbor futures delivery location) to record-low seasonal levels of 24.7 mb in late April.

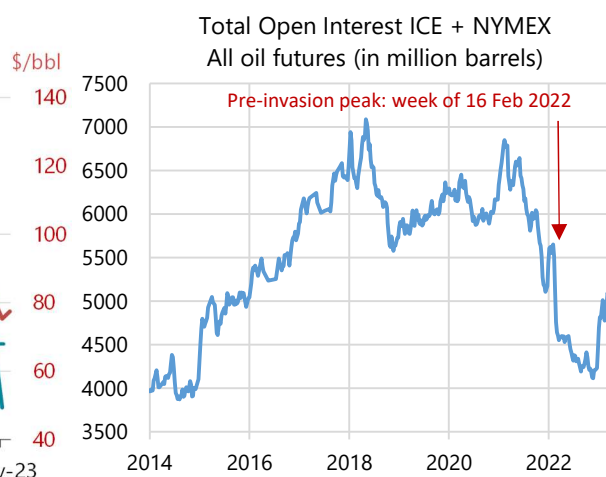
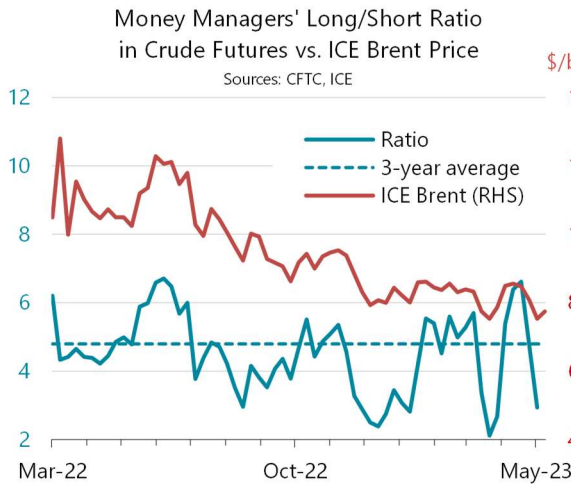


The front-month May-June WTI time spread, having oscillated between backwardation and contango throughout April, expired in a \$0.09/bbl contango. Crude structure remained inverted at about \$3/bbl for WTI and Brent over the first 12 months, and at about \$12/bbl for WTI and \$10/bbl for Brent over a five-year horizon. Forward curve weakness was especially apparent in the distillates complex. Front-month time spreads for NYMEX ULSD and ICE Gasoil traded flat at the end of the month before moving into contango in May. By way of comparison: one year ago, these were steeply backwardated in the wake of Russia's invasion of Ukraine.



The ratio of long to short crude future holdings by money managers soared by four points to 6.6 after the surprise production cuts that were announced by several OPEC+ members in early April prompted large-scale speculative short-covering as well as new incremental long positions. Net managed money short positions in crude futures fell to 78 mb, near their lowest level in four years. Investor selling subsequently recommenced against a backdrop of the deteriorating macro sentiment, with the long-short ratio ending April at 2.9. Among the products, investors continued to shun the distillates complex, as the net position of money managers in ICE Gasoil turned net short for the first time in more than two years.

Total open interest in the five main ICE and NYMEX futures contracts was stable at around 5 150 mb.

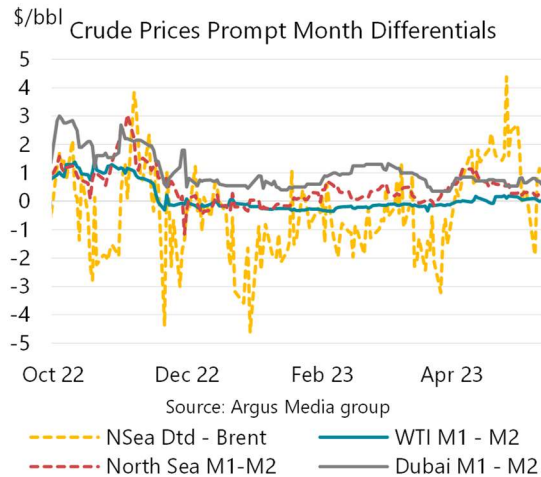
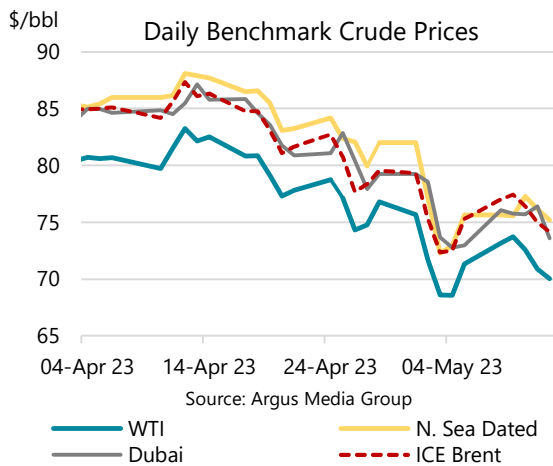


Prompt Month Oil Futures Prices											
(monthly and weekly averages, \$/bbl)											
	Apr 2023					Week Commencing:					Last:
	Feb 2023	Mar 2023	Apr 2023	m-o-m Chg	y-o-y Chg	10 Apr	17 Apr	24 Apr	01 May	08 May	
<b>NYMEX</b>											
Light Sweet Crude Oil (WTI) 1st contract	76.86	73.37	79.44	6.07	(22.20)	81.84	79.20	76.33	71.16	72.07	70.04
Light Sweet Crude Oil (WTI) 12th contract	75.33	72.03	76.69	4.66	(14.62)	75.60	74.64	72.66	68.56	69.89	66.96
RBOB	101.96	110.37	114.02	3.65	(22.75)	119.39	112.21	108.20	100.91	103.52	102.07
ULSD	118.78	114.90	108.16	(6.74)	(54.36)	112.26	107.15	101.54	96.24	99.26	96.83
ULSD (\$/mmbtu)	21.40	20.70	19.48	(1.21)	(9.79)	20.22	19.30	18.29	17.34	17.88	17.44
NYMEX Natural Gas (\$/mmbtu)	2.44	2.41	2.20	(0.21)	(4.51)	2.11	2.27	2.29	2.19	2.23	2.27
<b>ICE</b>											
Brent 1st contract	83.54	79.21	83.37	4.16	(22.55)	85.90	83.08	79.82	74.95	76.00	74.17
Brent 12th; contract	80.07	76.78	80.44	3.67	(15.15)	79.67	78.60	76.70	72.47	73.80	71.11
Gasoil	110.34	106.35	100.70	(5.65)	(46.75)	104.38	99.51	95.04	87.89	91.45	89.88
<b>Prompt Month Differentials</b>											
NYMEX WTI - ICE Brent	(6.68)	(5.83)	(3.93)	1.90	0.35	(4.06)	(3.88)	(3.49)	(3.79)	(3.93)	(4.13)
NYMEX WTI 1st vs. 12th	1.53	1.35	2.75	1.40	(7.58)	6.24	4.56	3.68	2.61	2.17	3.08
ICE Brent 1st - 12th	3.47	2.43	2.93	0.50	(7.40)	6.23	4.48	3.12	2.49	2.20	3.06
NYMEX ULSD - WTI	41.92	41.52	28.72	(12.80)	(32.16)	30.42	27.95	25.21	25.08	27.19	26.79
NYMEX RBOB - WTI	25.10	36.99	34.58	(2.41)	(0.55)	37.55	33.01	31.86	29.75	31.46	32.03
NYMEX 3-2-1 Crack (RBOB)	30.71	38.50	32.63	(5.88)	(11.08)	35.17	31.32	29.64	28.19	30.03	30.28
NYMEX ULSD - Natural Gas (\$/mmbtu)	18.96	18.29	17.29	(1.00)	(5.29)	18.11	17.03	16.00	15.15	15.65	15.18
ICE Gasoil - ICE Brent	26.80	27.15	17.33	(9.81)	(24.20)	18.47	16.43	15.22	12.94	15.44	15.71

Source: ICE, NYMEX

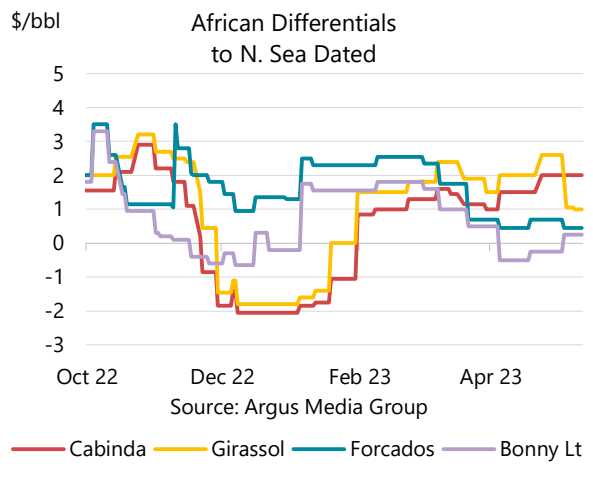
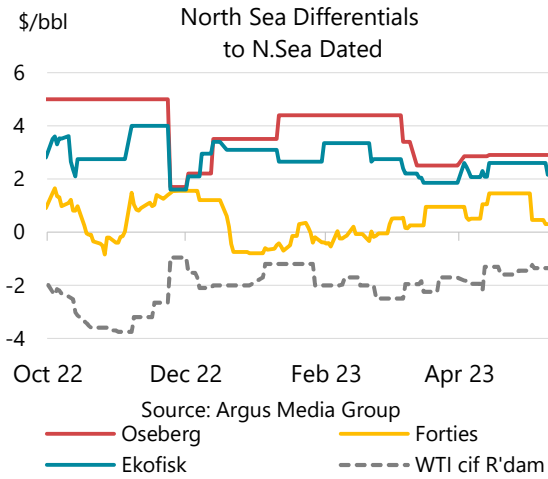
## Spot crude oil prices

On average, physical crude prices rose m-o-m on the back of renewed bullishness after additional voluntary production cuts by some OPEC+ members were announced in early April. However, these gains were quickly erased as concerns over a global economic slowdown trumped supply fears. North Sea Dated increased by \$6.55/bbl m-o-m to \$84.84/bbl, Dubai climbed \$4.98/bbl to \$83.40/bbl while WTI jumped \$6.06/bbl to \$79.44/bbl. Dated's slump continued in early May, last trading at about \$76/bbl, \$12/bbl below April's peak.

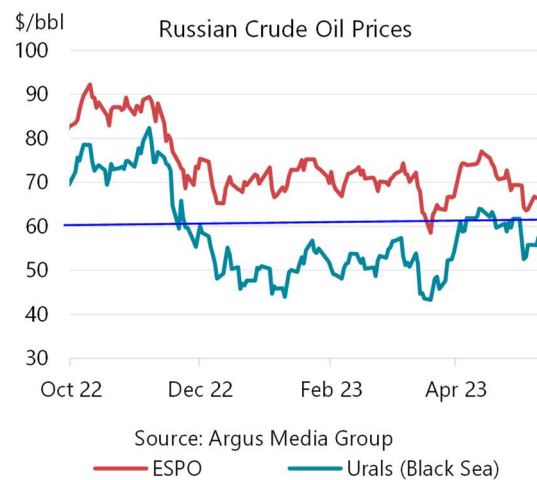
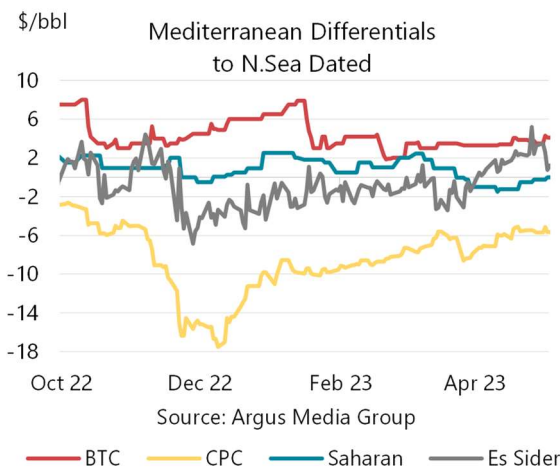


The spread between North Sea Dated and ICE Brent widened by \$2.39/bbl, with Dated moving to a \$1.48/bbl premium, having traded at a discount for the past six months as US crude piled up in the Atlantic Basin. The spread fell back to a -\$1.37/bbl discount in early May. The temporary upward swing was mostly linked to stronger demand for North Sea crudes from European refiners following maintenance and lower Iraqi Kirkuk supplies from the Ceyhan pipeline. The narrowing of the arbitrage from Europe to Asia reduced demand for North Sea crude and undermined the strength of North Sea Dated versus ICE Brent.

Additionally in Northwest Europe, seasonal maintenance in North Sea fields beginning at the end of April tightened regional supplies. The Forties differential to Dated widened by \$0.57/bbl to \$1.20/bbl. Ekofisk rose by \$0.36/bbl to a \$2.47/bbl premium over the marker while Oseberg differentials fell by \$0.11/bbl down to a \$2.88/bbl premium over the North Sea benchmark.



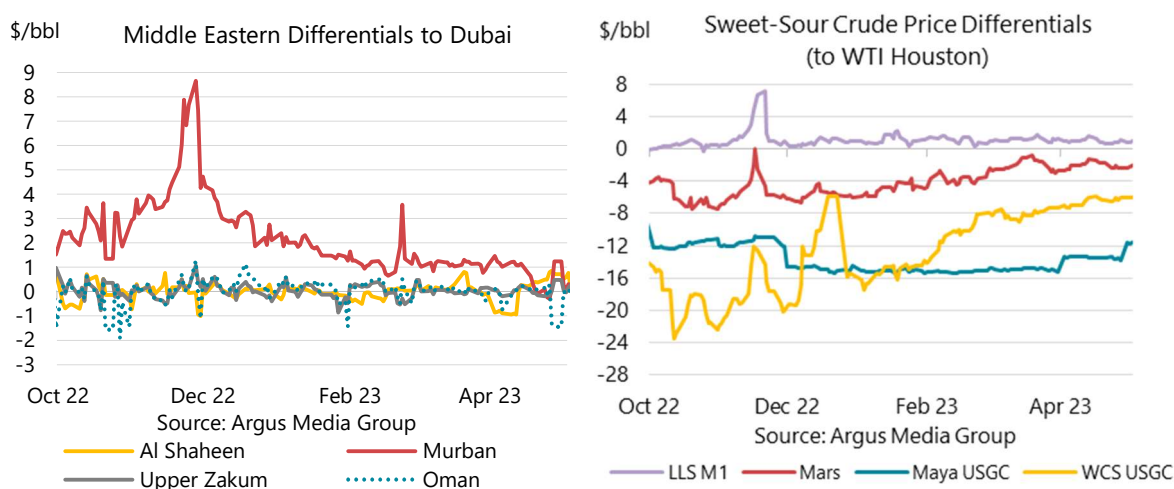
West African light sweet crudes struggled to find buyers as competition from cheaper Russian cargoes eroded their Asian market share. While prior to the invasion of Ukraine India took around 15% of West Africa's crude exports, in 1Q23 that share was reduced to roughly 5%. Similarly, China's share fell from 35% to 25%. At the same time, the French refinery strikes and the influx of US crude to the European market limited access for West African crudes to nearby refiners. Finally, the end of strikes (and *force majeure*) at ExxonMobil's Nigerian terminals boosted crude exports as shut-in volumes were released. These factors kept a lid on spreads. In April, Nigerian Forcados edged down \$0.96/bbl while Qua Iboe dropped \$0.78/bbl. Bonny Light and Brass River declined \$0.64/bbl and \$1.27/bbl respectively, both now at a discount to North Sea Dated (-\$0.28, -\$1.11/bbl). On the other hand, heavier sweet Angolan crudes were more resilient, supported by robust Chinese demand as refinery activity responded to stronger gasoline cracks and the end of maintenance. Differentials against North Sea Dated for Cabinda were up \$0.28/bbl to \$1.58/bbl. Girassol was broadly steady, up \$0.09/bbl to \$2.11/bbl.



In the Mediterranean, prices were more robust for the light sweet grades, as disruption to the Iraqi Kirkuk crude stream pulled 450 kb/d from the regional market. While weaker naphtha cracks typically push these grades lower, a strong arbitrage to the East lifted differentials. CPC discounts to North

Sea Dated narrowed by \$1.08/bbl to -\$5.99/bbl, while the Azeri/BTC premium rose \$0.32/bbl to \$3.38/bbl. Serving as an imperfect substitute to Kirkuk, Libyan Es Sider differentials gained \$0.62/bbl m-o-m while rising to a \$0.32/bbl premium against Dated. Prices for Saharan Blend were starkly impacted by the strikes in France (the main outlet for the grade) and were capped further by weakening naphtha margins. Spreads hit a trough in early April, down \$1.97/bbl m-o-m to a -\$0.93/bbl discount, before recovering in early May.

Seaborne loadings of ESPO rose m-o-m by ~75 kb/d to 861 kb/d, with a quarter of these deliveries headed to India and the remainder sailing to China. As a result, ESPO strengthened against Dubai by \$7.09/bbl to -\$10.22/bbl, with the spread narrowing sharply mid-month and even further in May. Urals differentials versus Dated narrowed by \$4.34/bbl to -\$29.49/bbl for FOB Primorsk, while FOB Novorossiysk was up \$4.62/bbl to -\$29.88/bbl, as firm Chinese and Indian buying and tightening sour crude markets pushed prices higher.



The Dubai complex failed to hold up despite the prospect of reduced supply from OPEC+, the reshuffling of Urals, the loss of Kirkuk and the restart of Kuwait's Al Zour refinery (after a brief outage), all of which tightened the sour market. Weaker light sweet crude refining margins (due to falling naphtha and middle distillates cracks) drove a preference for heavier sour grades. As Brent weakened against Dubai, this provided an opportunity for refiners East of Suez to prioritise Brent- and WTI-linked crudes, notably for US and Colombian heavy sour. With some Asian refineries still in maintenance, thinner competition for regional sour demand depressed Middle East crude values. As a result, the Murban premium to Dubai fell by \$0.42/bbl to \$0.71/bbl, dipping to a discount in mid-April against Dubai for the first time in almost a year. Similarly, Oman slipped \$0.19/bbl to a -\$0.12/bbl discount. Qatar Al-Shaheen inched down \$0.23/bbl and flipped to a -\$0.04/bbl discount, while Upper Zakum narrowed by \$0.06/bbl, to \$0.01/bbl.

In North America, the premium for WTI Midland to Cushing dropped by \$0.61/bbl to \$0.66/bbl, while WTI Houston narrowed by \$0.62/bbl to \$0.87/bbl, as April's 7.5 mb SPR release combined with lacklustre demand from European refiners and falling crude stocks at Cushing. The transatlantic arbitrage deteriorated over the month, as the spread between WTI at Houston and North Sea Dated M2 narrowed by \$1.11/bbl to -\$3.29/bbl, reflecting lower freight rates and reduced European imports. At the same time, US exports to Asia were firm: sour crude volumes to China rose nearly 200 kb/d m-o-m, reaching levels not seen since the onset of Covid. Consequently, differentials for medium sour grades strengthened. The Western Canada Select (WCS) discount to WTI at Houston narrowed by a significant \$2.09/bbl, from -\$9.46/bbl to -\$7.37/bbl.

## Spot Crude Oil Prices and Differentials

(monthly and weekly averages, \$/bbl)

	Apr 2023					Week Commencing:						Last:
	Feb	Mar	Apr	m-o-m	y-o-y							
	2023	2023	2023	Chg	Chg	10 Apr	17 Apr	24 Apr	01 May	08 May	12 May	
<b>Crudes</b>												
North Sea Dated	82.50	78.29	84.84	6.55	-19.40	87.46	84.98	82.12	74.49	76.03	75.19	
North Sea Mth 1	83.74	79.51	84.29	4.79	-21.24	87.36	84.03	81.02	74.11	75.93	75.10	
North Sea Mth 2	83.43	79.26	83.60	4.34	-21.64	86.46	83.43	80.52	73.81	75.69	74.78	
WTI (Cushing) Mth 1	76.84	73.37	79.44	6.06	-22.33	81.84	79.19	76.34	71.16	72.07	70.04	
WTI (Cushing) Mth 2	77.06	73.50	79.41	5.90	-21.45	81.76	79.24	76.24	71.08	72.02	70.02	
WTI (Houston) Mth 1	79.28	74.86	80.31	5.45	-22.62	82.61	80.03	77.16	72.11	72.95	70.97	
Urals FOB Primorsk	43.86	44.46	55.35	10.89	-8.05	56.16	55.88	54.96	47.89	49.38	48.49	
Dubai (1st month)	82.05	78.42	83.40	4.98	-19.51	85.56	83.34	80.30	74.48	75.50	73.59	
<b>Differentials to Futures</b>												
North Sea Dated vs. ICE Brent	-1.04	-0.92	1.48	2.39	3.15	1.55	1.90	2.30	-0.46	0.03	1.02	
WTI (Cushing) Mth1 vs. NYMEX	-0.02	0.00	0.00	0.00	-0.13	0.00	-0.01	0.01	0.00	0.00	0.00	
<b>Differentials to Physical Markers</b>												
WTI (Houston) vs. North Sea Mth 2	-4.14	-4.40	-3.29	1.11	-0.98	-3.85	-3.40	-3.36	-1.70	-2.74	-3.82	
WTI (Houston) vs. WTI (Cushing)	2.44	1.48	0.87	-0.62	-0.29	0.77	0.84	0.81	0.94	0.88	0.92	
Urals FOB Prim vs. North Sea Dated	-38.65	-33.83	-29.49	4.34	11.35	-31.30	-29.10	-27.16	-26.60	-26.65	-26.70	
Dubai vs. ICE Brent	-1.49	-0.79	0.03	0.82	2.37	-0.34	0.26	0.48	-0.47	-0.50	-0.58	
Dubai vs. WTI (Cushing) Mth 2	4.99	4.92	3.99	-0.92	1.94	3.80	4.10	4.06	3.40	3.48	3.57	
<b>Prompt Month Differentials</b>												
Forward North Sea Mth1-Mth2	0.32	0.25	0.69	0.44	0.40	0.90	0.60	0.50	0.30	0.24	0.32	
Forward WTI Cushing Mth1-Mth2	-0.22	-0.13	0.03	0.16	-0.89	0.08	-0.05	0.10	0.09	0.05	0.02	
Forward Dubai Mth1-Mth2	1.11	0.78	0.73	-0.05	-1.40	0.76	0.75	0.61	0.73	0.72	0.60	

Source: Argus Media group, ICE, NYMEX

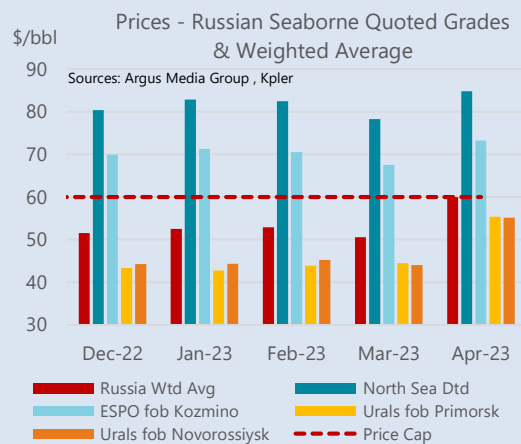
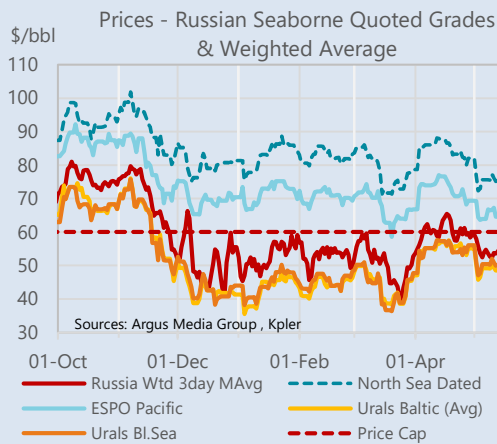
## G7 price caps review and Russian oil export revenues

Average FOB prices for seaborne Russian crude exports rose ~\$10/bbl m-o-m to \$60.47/bbl in April, slightly above the G7 price cap. Production cuts announced by several OPEC+ members in early April boosted crude prices in general (North Sea Dated +\$6.28/bbl m-o-m) while prospects for a tighter sour crude market narrowed the Urals discount to North Sea Dated by ~\$3.5/bbl. From 5 April until early May, the weighted average regularly topped the \$60/bbl cap. Urals FOB Baltic and Black Sea jumped by ~\$11/bbl to just above \$55/bbl, remaining eligible for EU services access while ESPO increased \$5.64/bbl to ~\$73/bbl. The steep price discounts continue to support strong demand for Russian crude.

	Russian Crude FOB Export Prices (\$/bbl)					Discounts to N.Sea Dated		
	Feb-23	Mar-23	Apr-23	Feb - Mar	Mar - Apr	Feb-23	Mar-23	Apr-23
<b>North Sea Dated</b>	<b>82.50</b>	<b>78.19</b>	<b>84.48</b>	<b>-4.31</b>	<b>6.28</b>			
Price Cap	60.00	60.00	60.00					
<b>Russia Wtd Avg</b>	<b>52.48</b>	<b>50.65</b>	<b>60.12</b>	<b>-1.83</b>	<b>9.47</b>	<b>-30.02</b>	<b>-27.54</b>	<b>-24.35</b>
Urals fob Primorsk	43.86	44.46	55.35	0.60	10.89	-38.65	-33.74	-29.13
Urals fob Novorossiysk	45.23	44.00	55.17	-1.23	11.17	-37.28	-34.20	-29.31
ESPO fob Kozmino	70.60	67.53	73.18	-3.07	5.64	-11.90	-10.66	-11.30

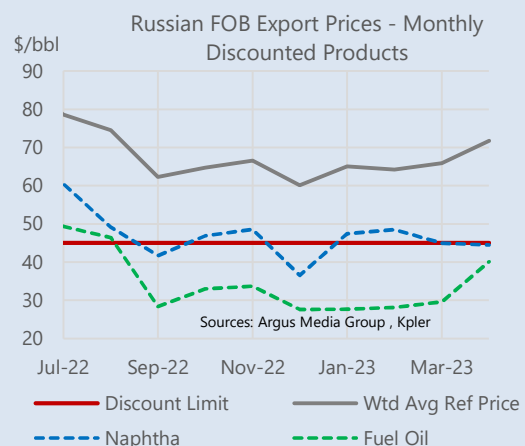
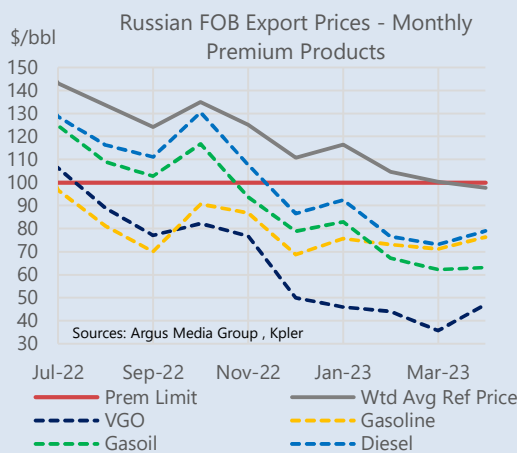
Sources: Argus Media, Kpler. Russia Wtd Avg includes Urals from Baltic ports and the Black Sea, Siberian Light and Espo.

April's weighted average price for premium products (gasoil, diesel, gasoline and VGO) in the Baltic and Black Sea rose ~\$5/bbl but remained below the \$100/bbl price cap. The gains contrast with the \$2.75/bbl drop in the similarly-weighted average reference price for the month, as international gasoil cracks collapsed. Russian premium product prices declined or stagnated versus Urals, but with the exception of naphtha and gasoline they deteriorated less than product cracks in Northwest Europe versus North Sea Dated as non-European markets for Russian products consolidated (gasoline ~\$4/bbl m-o-m versus +\$3/bbl in NW Europe, diesel and gasoil ~\$2.90/bbl versus -\$12/bbl).



Discounted products (naphtha and 3.5% sulphur fuel oil) from Baltic and Black Sea ports remained below the \$45/bbl price cap throughout April. Prices rose for 3.5% fuel to around \$40/bbl while naphtha prices stagnated at \$44.50/bbl. The deterioration in Baltic naphtha cracks (-\$11.30/bbl m-o-m) far exceeded that on the Northwest European market (-\$6/bbl) reflecting a saturation in international buyers for the Russian product. Cracks for Russian 3.5% fuel held steady at around -\$13.9/bbl while those in Northwest Europe rose \$3.25/bbl over the month to -\$13.4/bbl.

Russian FOB Export Prices (\$/bbl)											
	Feb-23	Mar-23	Apr-23	Mar	Apr	Feb-23	Mar-23	Apr-23	Mar	Apr	
<b>Premium Products</b>						<b>Discounted Products</b>					
Ref. Price	104.78	100.42	97.67	-4.36	-2.75	Ref. Price	64.22	65.84	71.68	1.62	5.84
Price Cap	100.00	100.00	100.00			Price Cap	45.00	45.00	45.00		
Avg Price	69.16	62.93	67.81	-6.22	4.87	Avg Price	33.35	35.89	41.65	2.53	5.76
Gasoline	73.08	71.19	76.30	-1.89	5.11	Naphtha	48.45	44.91	44.46	-3.54	-0.45
Diesel	76.52	73.06	79.03	-3.45	5.97	Fuel Oil	28.13	29.58	40.05	1.45	10.48
Gasoil	67.17	62.13	63.03	-5.03	0.90	Sources: Argus Media Group, Kpler					
VGO	44.02	35.69	47.11	-8.32	11.42	Note: Weighted avg prices from Baltic and Black Sea ports.					



Note: The EU's eighth sanctions package on Russia (6 October 2022) introduced price caps on Russian crude and product purchases below which deals must sit for EU operators to now provide maritime services. It aims to limit Russia's oil revenues while maintaining the flow of its oil to global markets and completes the EU's sixth sanctions package that banned use of EU maritime services to transport Russian oil. The EU agreed price caps of \$60/bbl for crude on 3 December and on 3 February \$100/bbl



for “premium” products (priced above crude) and \$45/bbl for “discounted” products (priced at a discount to crude).

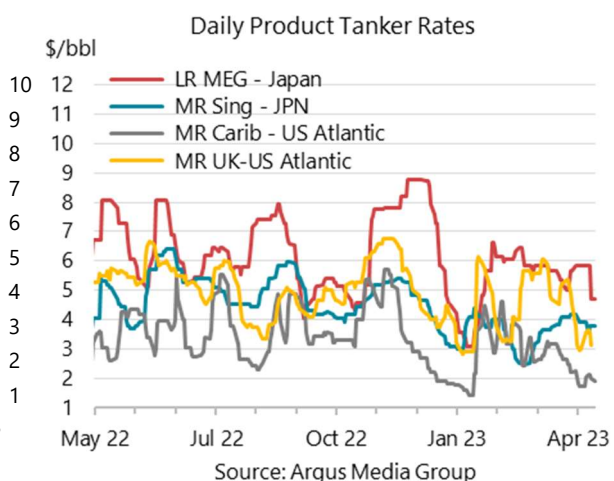
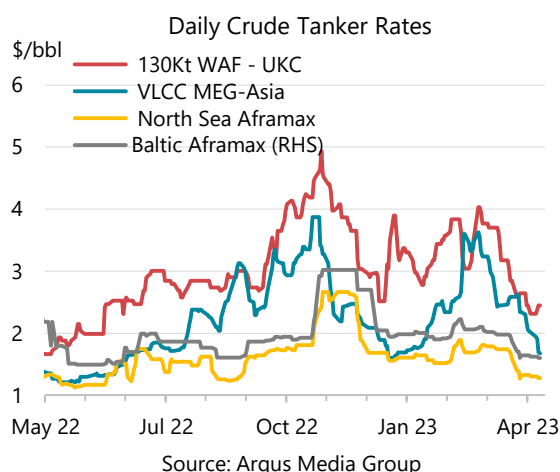
*Argus Media Group* publishes assessments of free-on-board prices (FOB, excluding freight and insurance costs) for Russian crudes amounting to ~86% of seaborne exports: Urals from Baltic ports (41%), Black Sea Urals (11%), ESPO (26%), Siberian Light (2%), Sakhalin Blend (2%) and Sokol (4%). They also publish discounts to European product prices for Russian product sold FOB Black Sea or Baltic.

The IEA calculates a weighted average Russian seaborne crude oil export price based on Argus’ assessments and *Kpler’s* seaborne export volumes by grade (pipeline flows are exempt from sanctions). This weighted average is considered by the coalition in their bi-monthly review of their price cap’s effectiveness.

The weighted average reference prices in the above product price tables and charts represent the average of the European product prices to which Argus’ discounts are applied for Russian cargoes on a product-by-product basis. It is provided to allow a measure of the current discounts on Russian product prices.

## Freight

Freight rates eased across the board for dirty tankers, amid depressed chartering activity and long tonnage lists. Rates for VLCC’s plunged due to spring refinery turnarounds in Asia, as well as a drop in European demand for US crude. Lower bunker prices have helped push down freight rates. VLCC rates for charters moving from the Middle East to Asia were down \$0.75/bbl to \$2.39/bbl. Suezmax rates from West Africa to the UK moved in a similar pattern, down \$0.76/bbl to \$2.84/bbl as cargoes were slow to clear. Baltic Aframax rates fell by \$0.52/bbl to \$2.42/bbl, while charters to the North Sea dropped \$0.26/bbl to \$1.50/bbl.



The clean tanker market reflected a similar surplus in vessels, apart from Medium Range (MR) sailings within Asia where prices for charters jumped \$0.90/bbl to \$3.95/bbl. Refinery turnarounds in Asia typically pressure MR rates, but the rise in product movements linked to the G7 sanctions on Russia has resulted in higher demand for product charters in Asia and limited availability of vessels.

Conversely, long-range (LR) shipments for products moving from the Middle East to Asia fell \$0.45/bbl to \$4.55/bbl, as increased Russian shipments to Asia crowded out these movements. Weaker import demand in the US, evidenced by increased product stocks, has pushed MR rates down for charters from the Caribbean, (-\$0.59/bbl to \$2.55/bbl) as well as for charters across the Atlantic (- \$0.27/bbl to \$4.55/bbl).

<b>Freight Costs</b>											
(monthly and weekly averages, \$/bbl)											
	<b>Apr-23</b>						<b>Week Commencing</b>				
	<b>Apr 22</b>	<b>Feb 22</b>	<b>Mar 23</b>	<b>Apr 23</b>	<b>m-o-m chg</b>	<b>y-o-y chg</b>	<b>03-Apr</b>	<b>10-Apr</b>	<b>17-Apr</b>	<b>24-Apr</b>	<b>01-May</b>
<b>Crude Tankers</b>											
VLCC MEG-Asia	1.49	1.05	3.14	2.39	-0.75	0.90	2.44	2.55	2.49	2.11	1.80
130Kt WAF - UKC	3.06	1.49	3.60	2.84	-0.76	-0.22	3.48	2.97	2.62	2.44	2.39
Baltic Aframax	6.32	1.42	2.95	2.42	-0.52	-3.90	2.75	2.70	2.22	2.14	2.09
North Sea Aframax	1.39	0.88	1.76	1.50	-0.26	0.12	1.74	1.68	1.36	1.32	1.29
<b>Product Tankers</b>											
LR MEG - Japan	4.22	2.02	6.00	5.55	-0.45	1.33	5.70	5.40	5.32	5.82	5.54
MR Sing - JPN	3.01	1.73	3.05	3.95	0.90	0.95	3.68	3.95	4.12	4.01	3.76
MR Carib - US Atlantic	3.83	1.84	3.14	2.55	-0.59	-1.28	3.16	2.87	2.39	1.91	2.00
MR UK-US Atlantic	3.64	2.56	4.82	4.55	-0.27	0.92	5.21	5.00	5.05	3.17	3.48

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# 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
<b>OECD DEMAND</b>																	
Americas	25.4	22.4	22.9	24.4	24.8	25.1	24.3	24.8	25.0	25.3	25.0	25.0	24.7	25.1	25.6	25.1	25.1
Europe	14.3	12.4	12.0	12.7	13.9	14.0	13.1	13.2	13.4	14.1	13.3	13.5	13.0	13.6	14.1	13.6	13.6
Asia Oceania	7.9	7.2	7.7	7.0	7.1	7.8	7.4	7.9	7.0	7.2	7.7	7.4	7.8	7.2	7.4	7.9	7.6
<b>Total OECD</b>	<b>47.7</b>	<b>42.0</b>	<b>42.6</b>	<b>44.1</b>	<b>45.8</b>	<b>46.9</b>	<b>44.8</b>	<b>45.8</b>	<b>45.4</b>	<b>46.6</b>	<b>46.0</b>	<b>46.0</b>	<b>45.5</b>	<b>45.9</b>	<b>47.1</b>	<b>46.6</b>	<b>46.3</b>
<b>NON-OECD DEMAND</b>																	
FSU	4.7	4.6	4.7	4.8	5.0	5.1	4.9	4.8	4.8	5.1	5.1	4.9	4.9	4.8	5.0	4.9	4.9
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	14.3	14.5	15.3	15.2	15.3	15.1	15.1	14.1	14.5	15.0	14.7	15.7	15.9	15.9	16.3	16.0
Other Asia	14.1	12.7	13.8	13.1	12.8	14.0	13.4	14.2	14.1	13.5	14.2	14.0	14.3	14.2	13.9	14.7	14.3
Americas	6.3	5.5	5.8	5.9	6.2	6.2	6.0	6.0	6.2	6.3	6.3	6.2	6.2	6.2	6.4	6.3	6.3
Middle East	8.8	8.1	8.2	8.4	8.9	8.4	8.5	8.6	9.1	9.5	9.0	9.0	8.9	9.3	9.7	9.1	9.2
Africa	4.1	3.8	4.1	4.0	4.0	4.1	4.0	4.3	4.2	4.2	4.3	4.2	4.3	4.2	4.2	4.3	4.3
<b>Total Non-OECD</b>	<b>53.0</b>	<b>49.7</b>	<b>51.7</b>	<b>52.2</b>	<b>52.9</b>	<b>53.9</b>	<b>52.7</b>	<b>53.6</b>	<b>53.2</b>	<b>54.0</b>	<b>54.7</b>	<b>53.9</b>	<b>55.0</b>	<b>55.4</b>	<b>55.9</b>	<b>56.5</b>	<b>55.7</b>
<b>Total Demand<sup>1</sup></b>	<b>100.7</b>	<b>91.7</b>	<b>94.3</b>	<b>96.2</b>	<b>98.7</b>	<b>100.8</b>	<b>97.5</b>	<b>99.4</b>	<b>98.6</b>	<b>100.6</b>	<b>100.6</b>	<b>99.8</b>	<b>100.5</b>	<b>101.3</b>	<b>103.0</b>	<b>103.1</b>	<b>102.0</b>
<b>OECD SUPPLY</b>																	
Americas	24.8	23.9	23.4	24.3	24.3	25.2	24.3	24.9	25.3	26.1	26.3	25.6	26.5	26.6	26.9	27.0	26.7
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.0	3.1	3.2	3.2	3.3	3.2	3.1	3.2	3.2
Asia Oceania	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5
<b>Total OECD<sup>2</sup></b>	<b>28.7</b>	<b>28.0</b>	<b>27.5</b>	<b>27.9</b>	<b>28.3</b>	<b>29.1</b>	<b>28.2</b>	<b>28.7</b>	<b>28.8</b>	<b>29.6</b>	<b>30.0</b>	<b>29.3</b>	<b>30.2</b>	<b>30.2</b>	<b>30.4</b>	<b>30.8</b>	<b>30.4</b>
<b>NON-OECD SUPPLY</b>																	
FSU	14.6	13.5	13.4	13.7	13.7	14.3	13.8	14.4	13.4	13.7	14.1	13.9	14.1	13.5	13.4	13.4	13.6
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.9	4.0	4.1	4.1	4.1	4.0	4.1	4.2	4.2	4.1	4.1	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia	3.3	3.0	3.0	2.9	2.8	2.8	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Americas	5.3	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.8	5.9	5.6	6.0	5.9	6.1	6.2	6.0
Middle East	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1
Africa	1.5	1.4	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
<b>Total Non-OECD<sup>2</sup></b>	<b>31.8</b>	<b>30.3</b>	<b>30.2</b>	<b>30.5</b>	<b>30.5</b>	<b>30.8</b>	<b>30.5</b>	<b>31.3</b>	<b>30.4</b>	<b>30.8</b>	<b>31.4</b>	<b>31.0</b>	<b>31.6</b>	<b>30.9</b>	<b>30.9</b>	<b>31.0</b>	<b>31.1</b>
Processing gains <sup>3</sup>	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	2.3	2.4	2.4	2.4
Global Biofuels	2.8	2.7	2.2	3.0	3.2	2.7	2.8	2.5	3.1	3.3	2.9	2.9	2.6	3.2	3.5	3.1	3.1
<b>Total Non-OPEC Supply</b>	<b>65.6</b>	<b>63.1</b>	<b>62.1</b>	<b>63.6</b>	<b>64.3</b>	<b>65.0</b>	<b>63.7</b>	<b>64.8</b>	<b>64.6</b>	<b>66.0</b>	<b>66.6</b>	<b>65.5</b>	<b>66.8</b>	<b>66.7</b>	<b>67.2</b>	<b>67.3</b>	<b>67.0</b>
<b>OPEC<sup>4</sup></b>																	
Crude	29.6	25.7	25.4	25.6	27.0	27.8	26.4	28.5	28.7	29.6	29.4	29.1	29.2	29.2	29.2	29.2	29.2
NGLs	5.3	5.2	5.1	5.2	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.4	5.3	5.4	5.4	5.4
<b>Total OPEC</b>	<b>35.0</b>	<b>30.8</b>	<b>30.5</b>	<b>30.7</b>	<b>32.1</b>	<b>33.0</b>	<b>31.6</b>	<b>33.8</b>	<b>34.0</b>	<b>34.9</b>	<b>34.7</b>	<b>34.4</b>	<b>34.6</b>	<b>34.5</b>	<b>34.6</b>	<b>34.6</b>	<b>34.6</b>
<b>Total Supply</b>	<b>100.6</b>	<b>93.9</b>	<b>92.6</b>	<b>94.3</b>	<b>96.4</b>	<b>98.0</b>	<b>95.3</b>	<b>98.7</b>	<b>98.6</b>	<b>101.0</b>	<b>101.3</b>	<b>99.9</b>	<b>101.4</b>	<b>101.4</b>	<b>101.4</b>	<b>101.4</b>	<b>101.4</b>
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>Reported OECD</b>																	
Industry	0.1	0.4	-1.2	-0.5	-1.2	-1.3	-1.1	-0.4	0.6	0.9	0.3	0.4	-0.3	-0.3	-0.3	-0.3	-0.3
Government	0.0	0.0	0.1	-0.2	-0.1	-0.3	-0.2	-0.5	-1.1	-1.1	-1.1	-0.7	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>0.0</b>	<b>0.4</b>	<b>-1.2</b>	<b>-0.7</b>	<b>-1.4</b>	<b>-1.6</b>	<b>-1.2</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.2</b>	<b>0.0</b>	<b>-0.4</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.2</b>
Floating storage/Oil in transit	0.1	0.0	-0.5	-0.5	-0.3	1.1	0.0	-0.5	0.5	1.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2
Miscellaneous to balance <sup>5</sup>	-0.1	1.8	-0.1	-0.8	-0.6	-2.3	-0.9	0.6	0.1	-0.4	0.5	0.2	0.8	0.8	0.8	0.8	0.8
<b>Total Stock Ch. &amp; Misc</b>	<b>-0.1</b>	<b>2.2</b>	<b>-1.7</b>	<b>-2.0</b>	<b>-2.2</b>	<b>-2.8</b>	<b>-2.2</b>	<b>-0.7</b>	<b>0.1</b>	<b>0.4</b>	<b>0.6</b>	<b>0.1</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>
<b>Memo items:</b>																	
Call on OPEC crude & stock changes <sup>6</sup>	29.7	23.5	27.1	27.5	29.2	30.6	28.6	29.3	28.6	29.2	28.7	29.0	28.4	29.3	30.4	30.5	29.6

<sup>1</sup> 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.

<sup>2</sup> Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.

<sup>3</sup> Net volumetric gains and losses in the refining process and marine transportation losses.

<sup>4</sup> OPEC include current members throughout the time series.

<sup>5</sup> Includes changes in non-reported stocks in OECD and non-OECD.

<sup>6</sup> Total demand minus total non-OPEC supply minus OPEC NGLs.

For the purpose of this and the following tables:

- OECD comprises of Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania,

Luxembourg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Republic of Turkey, UK, US.

- OPEC comprises of Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Neutralzone, Nigeria, Saudi Arabia, UAE, Venezuela.

- OPEC+ comprises of OPEC members throughout time series plus Sudan, South Sudan, Russia, Oman, Mexico, Malaysia, Kazakhstan, Brunei, Bahrain, Azerbaijan.

**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
<b>OECD DEMAND</b>																	
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total OECD</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.1</b>	-	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>
<b>NON-OECD DEMAND</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	0.1	0.1	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.3	-0.2	-0.1	-0.3	-0.3	-0.2
Other Asia	-	-	0.1	0.1	0.1	0.1	0.1	-	-	-	0.2	0.1	-	-	-	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
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-
<b>Total Non-OECD</b>	<b>0.1</b>	<b>0.1</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>-0.1</b>	<b>-0.1</b>	-
<b>Total Demand</b>	<b>0.1</b>	<b>0.1</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>0.2</b>	<b>0.1</b>	-	<b>0.1</b>	<b>0.1</b>
<b>OECD SUPPLY</b>																	
Americas	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-0.2	-0.2	-0.2	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total OECD</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.1</b>	<b>-0.2</b>	<b>-0.3</b>	<b>-0.2</b>	<b>-0.1</b>
<b>NON-OECD SUPPLY</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.2	0.2	0.2
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.3	-0.1	-	-0.1
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Non-OECD</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.2</b>	<b>0.2</b>	<b>0.1</b>
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Non-OPEC Supply</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.1</b>	<b>-0.2</b>	<b>-0.1</b>	-	-
<b>OPEC</b>																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total OPEC</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.1</b>	-	-	-	-
<b>Total Supply</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>0.1</b>	-	-	-	-
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>REPORTED OECD</b>																	
Industry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Floating storage/Oil in transit	-	-	-	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-0.1	-0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	-	-	-	-
<b>Total Stock Ch. &amp; Misc</b>	<b>-0.1</b>	<b>-0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	-	-	-	-	-
<b>Memo items:</b>																	
Call on OPEC crude & stock changes	0.1	0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.2	0.1	0.1	0.1

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

**Table 1b**  
**WORLD OIL SUPPLY AND DEMAND (Including OPEC+ based on current agreement<sup>1</sup>)**  
(million barrels per day)

	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
<b>Total Demand</b>	<b>100.7</b>	<b>91.7</b>	<b>94.3</b>	<b>96.2</b>	<b>98.7</b>	<b>100.8</b>	<b>97.5</b>	<b>99.4</b>	<b>98.6</b>	<b>100.6</b>	<b>100.6</b>	<b>99.8</b>	<b>100.5</b>	<b>101.3</b>	<b>103.0</b>	<b>103.1</b>	<b>102.0</b>
<b>OECD SUPPLY</b>																	
Americas <sup>2</sup>	22.8	21.9	21.5	22.3	22.4	23.3	22.4	22.9	23.3	24.0	24.3	23.6	24.4	24.4	24.7	24.9	24.6
Europe	3.4	3.6	3.6	3.1	3.4	3.4	3.4	3.3	3.0	3.1	3.2	3.2	3.3	3.2	3.1	3.2	3.2
Asia Oceania	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5
<b>Total OECD (non-OPEC+)</b>	<b>26.7</b>	<b>26.0</b>	<b>25.6</b>	<b>25.9</b>	<b>26.3</b>	<b>27.2</b>	<b>26.3</b>	<b>26.7</b>	<b>26.8</b>	<b>27.6</b>	<b>27.9</b>	<b>27.3</b>	<b>28.1</b>	<b>28.1</b>	<b>28.3</b>	<b>28.6</b>	<b>28.3</b>
<b>NON-OECD SUPPLY</b>																	
FSU <sup>3</sup>	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.9	4.0	4.1	4.1	4.1	4.0	4.1	4.2	4.2	4.1	4.1	4.2	4.3	4.3	4.3	4.2	4.3
Other Asia <sup>4</sup>	2.5	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0
Latin America	5.3	5.3	5.3	5.3	5.4	5.2	5.3	5.4	5.5	5.8	5.9	5.6	6.0	5.9	6.1	6.2	6.0
Middle East <sup>5</sup>	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Africa <sup>6</sup>	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
<b>Total Non-OECD (non-OPEC+)</b>	<b>15.3</b>	<b>15.1</b>	<b>15.1</b>	<b>15.1</b>	<b>15.1</b>	<b>14.8</b>	<b>15.0</b>	<b>15.2</b>	<b>15.2</b>	<b>15.3</b>	<b>15.5</b>	<b>15.3</b>	<b>15.8</b>	<b>15.6</b>	<b>15.8</b>	<b>15.9</b>	<b>15.8</b>
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	2.3	2.4	2.4	2.4
Global Biofuels	2.8	2.7	2.2	3.0	3.2	2.7	2.8	2.5	3.1	3.3	2.9	2.9	2.6	3.2	3.5	3.1	3.1
<b>Total Non-OPEC+</b>	<b>47.2</b>	<b>45.9</b>	<b>45.0</b>	<b>46.2</b>	<b>47.0</b>	<b>47.0</b>	<b>46.3</b>	<b>46.7</b>	<b>47.4</b>	<b>48.5</b>	<b>48.6</b>	<b>47.8</b>	<b>48.8</b>	<b>49.3</b>	<b>50.0</b>	<b>50.0</b>	<b>49.5</b>
<b>OPEC+ CRUDE</b>																	
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	1.0	1.1	1.1	1.1	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	0.5	0.6	0.5	0.5	0.5	0.5
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Brunei	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Congo	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Equatorial Guinea	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gabon	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Iran	2.4	2.0	2.3	2.4	2.5	2.5	2.4	2.5	2.5	2.5	2.6	2.5	2.7	2.8	2.8	2.8	2.7
Iraq	4.7	4.0	3.9	3.9	4.1	4.2	4.0	4.3	4.4	4.5	4.5	4.4	4.4	4.2	4.2	4.2	4.3
Kazakhstan	1.6	1.5	1.5	1.5	1.4	1.7	1.5	1.6	1.4	1.4	1.6	1.5	1.6	1.6	1.6	1.5	1.6
Kuwait	2.7	2.4	2.3	2.4	2.4	2.5	2.4	2.6	2.7	2.8	2.7	2.7	2.7	2.6	2.5	2.5	2.6
Libya	1.1	0.4	1.2	1.2	1.2	1.1	1.1	1.1	0.8	1.0	1.2	1.0	1.2	1.2	1.2	1.2	1.2
Malaysia	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Mexico	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
Nigeria	1.7	1.5	1.4	1.3	1.3	1.2	1.3	1.3	1.2	1.0	1.1	1.1	1.3	1.2	1.3	1.3	1.2
Oman	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Russia	10.4	9.4	9.3	9.5	9.7	10.0	9.6	10.0	9.4	9.8	9.8	9.8	9.7	9.4	9.3	9.3	9.4
Saudi Arabia	9.9	9.2	8.5	8.6	9.6	9.9	9.2	10.2	10.4	10.9	10.6	10.5	10.4	10.1	10.0	10.0	10.1
South Sudan	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sudan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
UAE	3.2	2.9	2.7	2.7	2.8	2.9	2.8	3.1	3.3	3.4	3.4	3.3	3.3	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	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
<b>OPEC+ Crude</b>	<b>45.9</b>	<b>40.6</b>	<b>40.0</b>	<b>40.5</b>	<b>42.0</b>	<b>43.3</b>	<b>41.5</b>	<b>44.1</b>	<b>43.4</b>	<b>44.6</b>	<b>44.6</b>	<b>44.2</b>	<b>44.4</b>	<b>43.4</b>	<b>43.2</b>	<b>43.2</b>	<b>43.5</b>
OPEC+ NGLs & Condensate	7.4	7.3	7.4	7.4	7.3	7.6	7.4	7.8	7.7	7.7	7.9	7.8	8.0	7.9	7.8	7.8	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
<b>Total OPEC+</b>	<b>53.4</b>	<b>48.0</b>	<b>47.6</b>	<b>48.1</b>	<b>49.4</b>	<b>51.0</b>	<b>49.0</b>	<b>52.0</b>	<b>51.3</b>	<b>52.5</b>	<b>52.6</b>	<b>52.1</b>	<b>52.5</b>	<b>51.3</b>	<b>51.1</b>	<b>51.1</b>	<b>51.5</b>
<b>Total Supply Oil</b>	<b>100.6</b>	<b>93.9</b>	<b>92.6</b>	<b>94.3</b>	<b>96.4</b>	<b>98.0</b>	<b>95.3</b>	<b>98.7</b>	<b>98.6</b>	<b>101.0</b>	<b>101.3</b>	<b>99.9</b>	<b>101.4</b>	<b>100.6</b>	<b>101.1</b>	<b>101.1</b>	<b>101.1</b>
<b>Memo items:</b>																	
Call on OPEC+ crude & stock changes	46.0	38.3	41.8	42.5	44.2	46.1	43.7	44.9	43.3	44.3	44.0	44.1	43.5	44.1	45.1	45.2	44.5

<sup>1</sup> From May 2023, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2023.

<sup>2</sup> OECD Americas excludes Mexico.

<sup>3</sup> FSU excludes Russia, Kazakhstan, Azerbaijan.

<sup>4</sup> Other Asia excludes Brunei, Malaysia.

<sup>5</sup> Middle East excludes Oman, Bahrain.

<sup>6</sup> 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
<b>Demand (mb/d)</b>																
Americas	22.45	22.93	24.39	24.79	25.13	24.32	24.77	24.98	25.33	24.95	25.01	24.67	25.10	25.55	25.13	25.12
Europe	12.41	11.96	12.67	13.89	13.95	13.13	13.19	13.43	14.06	13.34	13.51	12.99	13.64	14.14	13.58	13.59
Asia Oceania	7.17	7.68	7.00	7.07	7.78	7.38	7.85	6.98	7.22	7.68	7.43	7.84	7.18	7.45	7.91	7.59
<b>Total OECD</b>	<b>42.03</b>	<b>42.57</b>	<b>44.06</b>	<b>45.75</b>	<b>46.86</b>	<b>44.82</b>	<b>45.81</b>	<b>45.40</b>	<b>46.62</b>	<b>45.97</b>	<b>45.95</b>	<b>45.49</b>	<b>45.92</b>	<b>47.14</b>	<b>46.62</b>	<b>46.30</b>
Asia	27.03	28.27	28.37	28.08	29.32	28.51	29.24	28.16	28.03	29.18	28.65	30.01	30.10	29.85	31.03	30.25
Middle East	8.07	8.16	8.43	8.89	8.44	8.48	8.57	9.12	9.52	8.98	9.05	8.91	9.28	9.67	9.06	9.23
Americas	5.45	5.80	5.86	6.19	6.16	6.00	5.99	6.15	6.34	6.28	6.19	6.15	6.25	6.40	6.33	6.28
FSU	4.59	4.66	4.77	5.01	5.08	4.88	4.77	4.76	5.12	5.10	4.94	4.85	4.75	4.99	4.94	4.88
Africa	3.78	4.08	3.99	3.95	4.15	4.04	4.26	4.20	4.17	4.32	4.24	4.32	4.23	4.19	4.34	4.27
Europe	0.72	0.76	0.76	0.78	0.79	0.77	0.78	0.77	0.79	0.80	0.78	0.77	0.78	0.79	0.80	0.79
<b>Total Non-OECD</b>	<b>49.65</b>	<b>51.74</b>	<b>52.18</b>	<b>52.91</b>	<b>53.93</b>	<b>52.70</b>	<b>53.61</b>	<b>53.16</b>	<b>53.97</b>	<b>54.65</b>	<b>53.85</b>	<b>55.03</b>	<b>55.40</b>	<b>55.89</b>	<b>56.51</b>	<b>55.71</b>
<b>World</b>	<b>91.68</b>	<b>94.31</b>	<b>96.24</b>	<b>98.66</b>	<b>100.79</b>	<b>97.52</b>	<b>99.41</b>	<b>98.56</b>	<b>100.59</b>	<b>100.62</b>	<b>99.80</b>	<b>100.52</b>	<b>101.32</b>	<b>103.03</b>	<b>103.13</b>	<b>102.01</b>
of which:																
United States <sup>1</sup>	18.19	18.58	20.13	20.30	20.54	19.89	20.22	20.27	20.47	20.16	20.28	19.99	20.26	20.59	20.29	20.28
Europe 5 <sup>2</sup>	6.91	6.67	7.06	7.66	7.81	7.31	7.42	7.60	7.87	7.41	7.58	7.26	7.64	7.90	7.50	7.58
China	14.28	14.51	15.27	15.24	15.32	15.09	15.06	14.08	14.52	15.02	14.67	15.68	15.89	15.95	16.33	15.96
Japan	3.36	3.77	3.07	3.17	3.66	3.41	3.70	3.03	3.19	3.56	3.37	3.71	3.06	3.24	3.60	3.40
India	4.59	5.17	4.62	4.65	5.15	4.90	5.38	5.29	5.01	5.42	5.28	5.57	5.38	5.21	5.66	5.45
Russia	3.45	3.53	3.61	3.80	3.78	3.68	3.68	3.63	3.96	3.87	3.79	3.74	3.61	3.82	3.71	3.72
Brazil	2.87	2.93	2.94	3.15	3.08	3.03	2.98	3.02	3.19	3.17	3.09	3.09	3.10	3.23	3.22	3.16
Saudi Arabia	3.45	3.24	3.53	3.76	3.44	3.49	3.34	3.83	3.97	3.73	3.72	3.50	3.86	4.05	3.75	3.79
Canada	2.17	2.22	2.13	2.35	2.34	2.26	2.24	2.21	2.38	2.30	2.28	2.26	2.27	2.42	2.33	2.32
Korea	2.45	2.54	2.49	2.59	2.69	2.58	2.73	2.49	2.54	2.57	2.58	2.61	2.58	2.64	2.70	2.63
Mexico	1.60	1.63	1.66	1.61	1.72	1.65	1.76	1.99	1.96	1.95	1.92	1.89	2.03	2.00	1.98	1.97
Iran	1.76	1.90	1.81	1.81	1.81	1.83	1.91	1.84	1.83	1.82	1.85	1.91	1.85	1.84	1.82	1.86
<b>Total</b>	<b>65.07</b>	<b>66.68</b>	<b>68.33</b>	<b>70.09</b>	<b>71.35</b>	<b>69.12</b>	<b>70.42</b>	<b>69.26</b>	<b>70.90</b>	<b>70.99</b>	<b>70.40</b>	<b>71.20</b>	<b>71.53</b>	<b>72.90</b>	<b>72.87</b>	<b>72.13</b>
% of World	71.0%	70.7%	71.0%	71.0%	70.8%	70.9%	70.8%	70.3%	70.5%	70.6%	70.5%	70.8%	70.6%	70.8%	70.7%	70.7%
<b>Annual Change (% per annum)</b>																
Americas	-11.6	-5.5	22.7	9.7	9.1	8.3	8.0	2.5	2.2	-0.7	2.9	-0.4	0.5	0.9	0.7	0.4
Europe	-13.3	-10.2	15.3	8.1	11.7	5.7	10.3	6.0	1.2	-4.4	2.9	-1.5	1.6	0.5	1.8	0.6
Asia Oceania	-9.8	-2.6	5.6	4.4	5.5	3.0	2.3	-0.2	2.1	-1.3	0.7	-0.2	2.7	3.1	3.0	2.1
<b>Total OECD</b>	<b>-11.8</b>	<b>-6.4</b>	<b>17.5</b>	<b>8.3</b>	<b>9.2</b>	<b>6.6</b>	<b>7.6</b>	<b>3.0</b>	<b>1.9</b>	<b>-1.9</b>	<b>2.5</b>	<b>-0.7</b>	<b>1.2</b>	<b>1.1</b>	<b>1.4</b>	<b>0.8</b>
Asia	-4.2	10.1	7.7	2.7	2.0	5.5	3.4	-0.7	-0.2	-0.5	0.5	2.6	6.9	6.5	6.4	5.6
Middle East	-8.7	-1.8	12.9	5.8	4.2	5.1	5.0	8.2	7.0	6.4	6.7	4.0	1.8	1.7	0.8	2.1
Americas	-13.5	3.8	19.6	11.3	7.0	10.1	3.2	4.9	2.4	2.0	3.1	2.8	1.5	0.9	0.9	1.5
FSU	-2.9	0.0	14.4	5.4	6.7	6.5	2.4	-0.2	2.2	0.4	1.2	1.7	-0.3	-2.7	-3.0	-1.1
Africa	-8.5	-0.5	15.9	6.5	7.0	6.9	4.2	5.2	5.5	4.0	4.7	1.5	0.8	0.5	0.5	0.8
Europe	-7.5	4.1	12.3	6.0	4.5	6.6	2.7	1.9	1.5	1.2	1.8	-0.4	1.4	0.0	0.5	0.3
<b>Total Non-OECD</b>	<b>-6.3</b>	<b>5.4</b>	<b>11.0</b>	<b>4.8</b>	<b>3.7</b>	<b>6.1</b>	<b>3.6</b>	<b>1.9</b>	<b>2.0</b>	<b>1.3</b>	<b>2.2</b>	<b>2.6</b>	<b>4.2</b>	<b>3.6</b>	<b>3.4</b>	<b>3.5</b>
<b>World</b>	<b>-8.9</b>	<b>-0.3</b>	<b>13.9</b>	<b>6.4</b>	<b>6.2</b>	<b>6.4</b>	<b>5.4</b>	<b>2.4</b>	<b>2.0</b>	<b>-0.2</b>	<b>2.3</b>	<b>1.1</b>	<b>2.8</b>	<b>2.4</b>	<b>2.5</b>	<b>2.2</b>
<b>Annual Change (mb/d)</b>																
Americas	-2.95	-1.34	4.51	2.18	2.09	1.87	1.83	0.60	0.55	-0.17	0.70	-0.10	0.12	0.22	0.18	0.11
Europe	-1.90	-1.36	1.68	1.04	1.46	0.71	1.23	0.75	0.17	-0.61	0.38	-0.20	0.21	0.08	0.24	0.08
Asia Oceania	-0.78	-0.21	0.37	0.30	0.40	0.22	0.18	-0.01	0.15	-0.10	0.05	-0.01	0.19	0.22	0.23	0.16
<b>Total OECD</b>	<b>-5.63</b>	<b>-2.90</b>	<b>6.56</b>	<b>3.52</b>	<b>3.96</b>	<b>2.79</b>	<b>3.24</b>	<b>1.34</b>	<b>0.87</b>	<b>-0.88</b>	<b>1.13</b>	<b>-0.31</b>	<b>0.53</b>	<b>0.52</b>	<b>0.65</b>	<b>0.35</b>
Asia	-1.19	2.59	2.03	0.75	0.57	1.48	0.97	-0.21	-0.05	-0.14	0.14	0.77	1.94	1.83	1.85	1.60
Middle East	-0.77	-0.15	0.96	0.48	0.34	0.41	0.41	0.69	0.62	0.54	0.56	0.35	0.16	0.16	0.08	0.19
Americas	-0.85	0.21	0.96	0.63	0.40	0.55	0.18	0.29	0.15	0.12	0.19	0.17	0.09	0.06	0.05	0.09
FSU	-0.14	0.00	0.60	0.26	0.32	0.30	0.11	-0.01	0.11	0.02	0.06	0.08	-0.01	-0.14	-0.15	-0.06
Africa	-0.35	-0.02	0.55	0.24	0.27	0.26	0.17	0.21	0.22	0.17	0.19	0.06	0.04	0.02	0.02	0.03
Europe	-0.06	0.03	0.08	0.04	0.03	0.05	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00
<b>Total Non-OECD</b>	<b>-3.36</b>	<b>2.66</b>	<b>5.19</b>	<b>2.40</b>	<b>1.94</b>	<b>3.05</b>	<b>1.87</b>	<b>0.98</b>	<b>1.06</b>	<b>0.72</b>	<b>1.15</b>	<b>1.42</b>	<b>2.23</b>	<b>1.93</b>	<b>1.85</b>	<b>1.86</b>
<b>World</b>	<b>-8.98</b>	<b>-0.24</b>	<b>11.75</b>	<b>5.92</b>	<b>5.90</b>	<b>5.84</b>	<b>5.11</b>	<b>2.32</b>	<b>1.92</b>	<b>-0.16</b>	<b>2.28</b>	<b>1.11</b>	<b>2.76</b>	<b>2.45</b>	<b>2.50</b>	<b>2.21</b>
<b>Revisions to Oil Demand from Last Month's Report (mb/d)</b>																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	-0.05	0.04	0.09	0.03
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.02	0.02
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.05	0.05	0.04
<b>Total OECD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.01</b>	<b>0.00</b>	<b>0.08</b>	<b>0.00</b>	<b>0.11</b>	<b>0.16</b>	<b>0.09</b>
Asia	0.10	-0.28	-0.24	-0.28	-0.25	-0.26	-0.30	-0.29	-0.26	-0.20	-0.26	-0.20	-0.08	-0.29	-0.19	-0.19
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	-0.01	0.00	0.02
Americas	0.00	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.12	0.07	0.06	0.05	0.07
FSU	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.05	0.05	0.04	0.04
Africa	0.01	0.02	0.02	0.03	0.04	0.03	0.04	0.04	0.04	0.02	0.04	0.05	0.04	0.04	0.02	0.04
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Non-OECD</b>	<b>0.14</b>	<b>-0.17</b>	<b>-0.13</b>	<b>-0.15</b>	<b>-0.11</b>	<b>-0.14</b>	<b>-0.14</b>	<b>-0.14</b>	<b>-0.11</b>	<b>-0.06</b>	<b>-0.11</b>	<b>0.08</b>	<b>0.07</b>	<b>-0.14</b>	<b>-0.08</b>	<b>-0.02</b>
<b>World</b>	<b>0.14</b>	<b>-0.17</b>	<b>-0.13</b>	<b>-0.15</b>	<b>-0.11</b>	<b>-0.14</b>	<b>-0.14</b>	<b>-0.14</b>	<b>-0.11</b>	<b>-0.06</b>	<b>-0.11</b>	<b>0.16</b>	<b>0.07</b>	<b>-0.03</b>	<b>0.09</b>	<b>0.07</b>
<b>Revisions to Oil Demand Growth from Last Month's Report (mb/d)</b>																
World	0.07	-0.35	-0.35	-0.22	-0.22	-0.28	0.03	-0.01	0.04	0.06	0.03	0.30	0.21	0.07	0.14	0.18

<sup>1</sup> US figures exclude US territories.

<sup>2</sup> France, Germany, Italy, Spain and UK.

**Table 2a**  
**OECD REGIONAL OIL DEMAND<sup>1</sup>**  
(million barrels per day)

	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23 <sup>2</sup>	Latest month vs.	
										Jan 23	Feb 22
<b>Americas</b>											
LPG and ethane	3.69	3.84	4.18	3.62	3.78	3.79	3.83	4.05	4.04	-0.01	-0.28
Naphtha	0.25	0.21	0.22	0.21	0.20	0.20	0.21	0.22	0.18	-0.04	-0.03
Motor gasoline	10.34	10.44	10.04	10.70	10.59	10.42	10.26	9.79	10.33	0.54	0.16
Jet and kerosene	1.56	1.83	1.69	1.87	1.89	1.86	1.91	1.83	1.80	-0.02	0.15
Gasoil/diesel oil	5.06	5.19	5.33	5.14	5.09	5.21	4.94	5.04	5.29	0.25	-0.09
Residual fuel oil	0.55	0.56	0.59	0.54	0.61	0.52	0.48	0.50	0.61	0.11	0.05
Other products	2.85	2.94	2.72	2.91	3.17	2.94	2.77	2.69	2.51	-0.17	-0.28
<b>Total</b>	<b>24.31</b>	<b>25.01</b>	<b>24.77</b>	<b>24.98</b>	<b>25.33</b>	<b>24.95</b>	<b>24.39</b>	<b>24.12</b>	<b>24.76</b>	<b>0.65</b>	<b>-0.31</b>
<b>Europe</b>											
LPG and ethane	1.10	1.03	1.11	0.95	1.09	0.98	1.06	1.13	1.07	-0.06	-0.14
Naphtha	1.12	0.97	1.15	1.01	0.87	0.84	0.84	0.96	1.00	0.04	-0.20
Motor gasoline	1.93	2.04	1.88	2.08	2.16	2.04	2.03	1.82	2.02	0.20	0.06
Jet and kerosene	0.86	1.27	1.02	1.29	1.49	1.29	1.25	1.20	1.25	0.05	0.23
Gasoil/diesel oil	6.25	6.23	6.16	6.10	6.37	6.31	6.33	5.34	6.20	0.86	-0.30
Residual fuel oil	0.76	0.82	0.79	0.84	0.85	0.81	0.82	0.79	0.82	0.03	0.06
Other products	1.10	1.13	1.07	1.16	1.23	1.07	0.96	0.96	1.06	0.10	0.01
<b>Total</b>	<b>13.13</b>	<b>13.51</b>	<b>13.19</b>	<b>13.43</b>	<b>14.06</b>	<b>13.34</b>	<b>13.31</b>	<b>12.21</b>	<b>13.43</b>	<b>1.22</b>	<b>-0.28</b>
<b>Asia Oceania</b>											
LPG and ethane	0.77	0.82	0.94	0.77	0.74	0.83	0.95	0.95	1.01	0.06	0.02
Naphtha	1.95	1.86	1.93	1.78	1.90	1.84	1.93	1.96	1.91	-0.04	0.02
Motor gasoline	1.35	1.35	1.28	1.30	1.42	1.40	1.50	1.26	1.32	0.06	0.04
Jet and kerosene	0.61	0.69	0.87	0.51	0.53	0.84	1.09	1.03	1.03	0.00	0.09
Gasoil/diesel oil	1.89	1.93	1.95	1.86	1.90	2.00	2.09	1.83	1.99	0.16	-0.01
Residual fuel oil	0.45	0.48	0.52	0.45	0.47	0.50	0.54	0.55	0.54	-0.02	0.04
Other products	0.36	0.30	0.36	0.31	0.25	0.27	0.28	0.24	0.30	0.05	-0.10
<b>Total</b>	<b>7.38</b>	<b>7.43</b>	<b>7.85</b>	<b>6.98</b>	<b>7.22</b>	<b>7.68</b>	<b>8.38</b>	<b>7.82</b>	<b>8.09</b>	<b>0.27</b>	<b>0.09</b>
<b>OECD</b>											
LPG and ethane	5.56	5.70	6.23	5.34	5.61	5.60	5.84	6.13	6.12	-0.01	-0.40
Naphtha	3.33	3.04	3.30	3.00	2.97	2.89	2.98	3.13	3.09	-0.04	-0.20
Motor gasoline	13.62	13.83	13.20	14.08	14.17	13.86	13.79	12.87	13.68	0.80	0.25
Jet and kerosene	3.03	3.79	3.59	3.67	3.91	3.99	4.25	4.06	4.08	0.02	0.47
Gasoil/diesel oil	13.20	13.35	13.43	13.09	13.37	13.51	13.37	12.21	13.48	1.27	-0.40
Residual fuel oil	1.76	1.87	1.91	1.82	1.93	1.83	1.85	1.84	1.97	0.12	0.14
Other products	4.32	4.37	4.15	4.38	4.65	4.29	4.01	3.89	3.87	-0.02	-0.37
<b>Total</b>	<b>44.82</b>	<b>45.95</b>	<b>45.81</b>	<b>45.40</b>	<b>46.62</b>	<b>45.97</b>	<b>46.08</b>	<b>44.14</b>	<b>46.28</b>	<b>2.14</b>	<b>-0.51</b>

<sup>1</sup> 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. Americas comprises US 50 states, US territories, Mexico, Canada and Chile.

<sup>2</sup> Latest official OECD submissions (MOS).

**Table 2b**  
**OIL DEMAND IN SELECTED OECD COUNTRIES<sup>1</sup>**  
(million barrels per day)

	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23 <sup>2</sup>	Latest month vs.	
										Jan 23	Feb 22
<b>United States<sup>3</sup></b>											
LPG and ethane	2.88	3.06	3.37	2.89	2.95	3.01	3.03	3.23	3.17	-0.06	-0.29
Naphtha	0.19	0.14	0.15	0.14	0.13	0.13	0.13	0.14	0.11	-0.03	-0.02
Motor gasoline	8.82	8.78	8.47	9.00	8.88	8.75	8.57	8.28	8.71	0.43	0.12
Jet and kerosene	1.38	1.56	1.46	1.61	1.60	1.58	1.61	1.55	1.54	-0.01	0.14
Gasoil/diesel oil	3.97	3.96	4.14	3.89	3.86	3.96	3.72	3.90	4.02	0.12	-0.16
Residual fuel oil	0.31	0.34	0.38	0.31	0.39	0.30	0.26	0.28	0.36	0.09	0.00
Other products	2.35	2.44	2.24	2.43	2.65	2.43	2.18	2.16	2.08	-0.08	-0.22
<b>Total</b>	<b>19.89</b>	<b>20.28</b>	<b>20.22</b>	<b>20.27</b>	<b>20.47</b>	<b>20.16</b>	<b>19.49</b>	<b>19.54</b>	<b>20.00</b>	<b>0.46</b>	<b>-0.44</b>
<b>Japan</b>											
LPG and ethane	0.40	0.43	0.49	0.40	0.37	0.45	0.55	0.55	0.60	0.05	0.08
Naphtha	0.70	0.62	0.63	0.56	0.62	0.65	0.65	0.67	0.62	-0.05	-0.01
Motor gasoline	0.73	0.71	0.67	0.68	0.75	0.72	0.77	0.65	0.69	0.04	0.03
Jet and kerosene	0.37	0.38	0.58	0.25	0.24	0.47	0.68	0.63	0.66	0.03	0.03
Diesel	0.42	0.43	0.43	0.41	0.43	0.44	0.45	0.38	0.44	0.06	-0.01
Other gasoil	0.32	0.33	0.37	0.30	0.30	0.34	0.38	0.34	0.39	0.04	-0.01
Residual fuel oil	0.25	0.27	0.29	0.24	0.26	0.28	0.29	0.33	0.32	-0.01	0.04
Other products	0.22	0.21	0.23	0.18	0.22	0.21	0.22	0.22	0.21	0.00	-0.05
<b>Total</b>	<b>3.41</b>	<b>3.37</b>	<b>3.70</b>	<b>3.03</b>	<b>3.19</b>	<b>3.56</b>	<b>4.00</b>	<b>3.77</b>	<b>3.93</b>	<b>0.16</b>	<b>0.10</b>
<b>Germany</b>											
LPG and ethane	0.12	0.11	0.11	0.11	0.10	0.09	0.09	0.09	0.09	0.00	-0.03
Naphtha	0.32	0.30	0.35	0.33	0.25	0.25	0.23	0.26	0.28	0.03	-0.10
Motor gasoline	0.45	0.45	0.43	0.46	0.48	0.45	0.43	0.42	0.48	0.07	0.04
Jet and kerosene	0.13	0.19	0.15	0.20	0.22	0.21	0.20	0.18	0.17	0.00	0.02
Diesel	0.71	0.71	0.68	0.68	0.74	0.72	0.69	0.59	0.68	0.10	0.01
Other gasoil	0.27	0.29	0.29	0.25	0.31	0.31	0.32	0.25	0.32	0.07	0.00
Residual fuel oil	0.05	0.05	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.00	-0.02
Other products	0.07	0.07	0.06	0.07	0.10	0.06	0.02	0.06	0.05	-0.01	-0.01
<b>Total</b>	<b>2.13</b>	<b>2.17</b>	<b>2.15</b>	<b>2.15</b>	<b>2.26</b>	<b>2.13</b>	<b>2.03</b>	<b>1.87</b>	<b>2.11</b>	<b>0.25</b>	<b>-0.09</b>
<b>Italy</b>											
LPG and ethane	0.11	0.11	0.13	0.10	0.10	0.11	0.13	0.12	0.14	0.01	0.00
Naphtha	0.09	0.08	0.10	0.07	0.06	0.07	0.07	0.07	0.07	0.00	-0.03
Motor gasoline	0.17	0.18	0.16	0.19	0.20	0.18	0.18	0.15	0.16	0.01	-0.01
Jet and kerosene	0.06	0.09	0.07	0.10	0.11	0.08	0.08	0.07	0.08	0.01	0.01
Diesel	0.48	0.49	0.48	0.49	0.50	0.50	0.48	0.42	0.50	0.08	-0.01
Other gasoil	0.07	0.05	0.04	0.05	0.06	0.06	0.06	0.02	0.04	0.02	-0.01
Residual fuel oil	0.09	0.10	0.09	0.10	0.11	0.10	0.09	0.09	0.10	0.01	0.01
Other products	0.11	0.12	0.10	0.13	0.13	0.11	0.10	0.10	0.11	0.01	0.00
<b>Total</b>	<b>1.18</b>	<b>1.22</b>	<b>1.17</b>	<b>1.23</b>	<b>1.28</b>	<b>1.21</b>	<b>1.19</b>	<b>1.06</b>	<b>1.20</b>	<b>0.15</b>	<b>-0.03</b>
<b>France</b>											
LPG and ethane	0.11	0.10	0.12	0.10	0.10	0.07	0.08	0.11	0.12	0.02	0.00
Naphtha	0.14	0.10	0.13	0.09	0.10	0.08	0.09	0.12	0.11	-0.01	-0.03
Motor gasoline	0.21	0.23	0.21	0.24	0.26	0.23	0.24	0.22	0.22	0.00	0.00
Jet and kerosene	0.09	0.12	0.10	0.11	0.15	0.13	0.14	0.14	0.14	0.01	0.05
Diesel	0.73	0.73	0.71	0.75	0.75	0.72	0.68	0.64	0.68	0.04	-0.06
Other gasoil	0.13	0.11	0.16	0.07	0.11	0.12	0.14	0.14	0.16	0.02	-0.02
Residual fuel oil	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.03	-0.01	-0.01
Other products	0.10	0.10	0.08	0.11	0.12	0.09	0.08	0.07	0.10	0.03	0.01
<b>Total</b>	<b>1.55</b>	<b>1.53</b>	<b>1.54</b>	<b>1.50</b>	<b>1.62</b>	<b>1.47</b>	<b>1.49</b>	<b>1.48</b>	<b>1.57</b>	<b>0.09</b>	<b>-0.05</b>
<b>United Kingdom</b>											
LPG and ethane	0.11	0.11	0.12	0.12	0.10	0.09	0.09	0.09	0.10	0.01	-0.03
Naphtha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor gasoline	0.25	0.27	0.26	0.28	0.28	0.28	0.27	0.23	0.28	0.05	0.00
Jet and kerosene	0.18	0.27	0.24	0.27	0.29	0.27	0.26	0.28	0.31	0.03	0.06
Diesel	0.47	0.49	0.46	0.51	0.48	0.49	0.48	0.38	0.51	0.14	0.01
Other gasoil	0.13	0.10	0.11	0.09	0.12	0.07	0.07	0.07	0.06	-0.01	-0.06
Residual fuel oil	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00
Other products	0.10	0.11	0.11	0.10	0.11	0.11	0.11	0.10	0.12	0.02	0.02
<b>Total</b>	<b>1.26</b>	<b>1.36</b>	<b>1.31</b>	<b>1.39</b>	<b>1.40</b>	<b>1.33</b>	<b>1.30</b>	<b>1.16</b>	<b>1.40</b>	<b>0.24</b>	<b>0.00</b>
<b>Canada</b>											
LPG and ethane	0.45	0.41	0.43	0.39	0.45	0.38	0.39	0.44	0.51	0.07	0.04
Naphtha	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	-0.01	0.00
Motor gasoline	0.76	0.78	0.73	0.78	0.81	0.80	0.81	0.69	0.76	0.07	0.00
Jet and kerosene	0.09	0.14	0.10	0.13	0.17	0.15	0.17	0.14	0.12	-0.02	0.01
Diesel	0.29	0.28	0.30	0.25	0.28	0.30	0.29	0.24	0.32	0.08	0.01
Other gasoil	0.28	0.28	0.30	0.27	0.26	0.27	0.27	0.28	0.30	0.02	-0.02
Residual fuel oil	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.05	0.02	0.02
Other products	0.31	0.31	0.29	0.30	0.33	0.31	0.39	0.35	0.25	-0.10	-0.06
<b>Total</b>	<b>2.26</b>	<b>2.28</b>	<b>2.24</b>	<b>2.21</b>	<b>2.38</b>	<b>2.30</b>	<b>2.42</b>	<b>2.22</b>	<b>2.36</b>	<b>0.14</b>	<b>-0.01</b>

<sup>1</sup> 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.

<sup>2</sup> Latest official OECD submissions (MOS).

<sup>3</sup> US figures exclude US territories.



**Table 3**  
**WORLD OIL PRODUCTION**  
(million barrels per day)

	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Feb 23	Mar 23	Apr 23
<b>OPEC</b>											
<b>Crude Oil</b>											
Saudi Arabia	9.15	10.53		10.57	10.42				10.43	10.43	10.48
Iran	2.42	2.55		2.63	2.68				2.69	2.69	2.75
Iraq	4.03	4.45		4.50	4.39				4.40	4.35	4.10
UAE	2.76	3.32		3.37	3.32				3.32	3.35	3.32
Kuwait	2.42	2.70		2.71	2.68				2.68	2.68	2.68
Angola	1.12	1.14		1.08	1.05				1.06	0.97	1.06
Nigeria	1.31	1.15		1.13	1.27				1.30	1.27	1.02
Libya	1.15	0.99		1.17	1.15				1.16	1.16	1.13
Algeria	0.91	1.01		1.02	1.01				1.02	1.01	1.00
Congo	0.27	0.26		0.26	0.28				0.27	0.28	0.28
Gabon	0.18	0.19		0.18	0.20				0.20	0.19	0.20
Equatorial Guinea	0.10	0.08		0.06	0.05				0.05	0.05	0.05
Venezuela	0.61	0.70		0.68	0.71				0.69	0.73	0.78
<b>Total Crude Oil</b>	<b>26.43</b>	<b>29.06</b>		<b>29.37</b>	<b>29.22</b>				<b>29.27</b>	<b>29.16</b>	<b>28.85</b>
of which Neutral Zone <sup>1</sup>	0.25	0.28		0.27	0.26				0.24	0.28	0.27
<b>Total NGLs<sup>2</sup></b>	<b>5.16</b>	<b>5.31</b>	<b>5.36</b>	<b>5.30</b>	<b>5.37</b>	<b>5.34</b>	<b>5.36</b>	<b>5.36</b>	<b>5.37</b>	<b>5.36</b>	<b>5.36</b>
<b>Total OPEC<sup>3</sup></b>	<b>31.59</b>	<b>34.38</b>		<b>34.67</b>	<b>34.58</b>				<b>34.64</b>	<b>34.52</b>	<b>34.21</b>
<b>NON-OPEC<sup>4</sup></b>											
<b>OECD</b>											
<b>Americas</b>											
United States	16.76	17.85	18.79	18.30	18.55	18.82	18.87	18.91	18.48	18.71	18.78
Mexico	1.95	2.01	2.12	2.02	2.09	2.12	2.13	2.13	2.08	2.09	2.12
Canada	5.59	5.76	5.82	5.95	5.83	5.62	5.84	5.97	5.84	5.87	5.73
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Europe</b>	<b>3.39</b>	<b>3.15</b>	<b>3.20</b>	<b>3.20</b>	<b>3.28</b>	<b>3.18</b>	<b>3.11</b>	<b>3.25</b>	<b>3.34</b>	<b>3.32</b>	<b>3.37</b>
UK	0.88	0.83	0.77	0.81	0.83	0.77	0.69	0.79	0.91	0.84	0.83
Norway	2.05	1.90	2.00	1.97	2.00	1.98	1.99	2.02	1.98	2.05	2.11
Others	0.45	0.43	0.43	0.42	0.44	0.42	0.43	0.43	0.45	0.43	0.42
<b>Asia Oceania</b>	<b>0.51</b>	<b>0.48</b>	<b>0.47</b>	<b>0.48</b>	<b>0.47</b>	<b>0.45</b>	<b>0.47</b>	<b>0.50</b>	<b>0.50</b>	<b>0.46</b>	<b>0.49</b>
Australia	0.44	0.41	0.40	0.42	0.40	0.37	0.40	0.43	0.42	0.39	0.40
Others	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
<b>Total OECD</b>	<b>28.22</b>	<b>29.26</b>	<b>30.41</b>	<b>29.95</b>	<b>30.24</b>	<b>30.19</b>	<b>30.43</b>	<b>30.77</b>	<b>30.25</b>	<b>30.46</b>	<b>30.49</b>
<b>NON-OECD</b>											
<b>Former USSR</b>											
Russia	10.87	11.09	10.74	11.21	11.14	10.67	10.58	10.59	11.27	10.95	10.93
Azerbaijan	0.70	0.67	0.65	0.67	0.64	0.64	0.64	0.66	0.65	0.63	0.63
Kazakhstan	1.85	1.82	1.89	1.91	1.99	1.89	1.85	1.85	1.98	1.98	1.98
Others	0.35	0.32	0.31	0.31	0.32	0.31	0.31	0.31	0.32	0.32	0.32
<b>Asia</b>	<b>6.91</b>	<b>6.89</b>	<b>6.97</b>	<b>6.82</b>	<b>7.04</b>	<b>7.02</b>	<b>6.96</b>	<b>6.88</b>	<b>7.02</b>	<b>7.08</b>	<b>7.00</b>
China	4.06	4.18	4.29	4.13	4.34	4.32	4.29	4.23	4.32	4.37	4.30
Malaysia	0.57	0.56	0.57	0.57	0.58	0.57	0.56	0.56	0.58	0.58	0.57
India	0.73	0.70	0.69	0.69	0.68	0.69	0.69	0.70	0.66	0.69	0.69
Indonesia	0.68	0.63	0.63	0.63	0.64	0.63	0.63	0.62	0.65	0.64	0.64
Others	0.88	0.81	0.79	0.80	0.80	0.80	0.78	0.77	0.81	0.80	0.80
<b>Europe</b>	<b>0.11</b>	<b>0.11</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>
<b>Americas</b>	<b>5.30</b>	<b>5.64</b>	<b>6.03</b>	<b>5.90</b>	<b>5.98</b>	<b>5.85</b>	<b>6.08</b>	<b>6.22</b>	<b>5.98</b>	<b>5.88</b>	<b>5.71</b>
Brazil	3.00	3.12	3.32	3.23	3.31	3.14	3.36	3.46	3.36	3.20	3.01
Argentina	0.64	0.71	0.78	0.74	0.75	0.77	0.79	0.80	0.76	0.76	0.77
Colombia	0.74	0.76	0.77	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
Ecuador	0.48	0.47	0.46	0.46	0.44	0.47	0.47	0.47	0.41	0.44	0.47
Others	0.43	0.58	0.70	0.68	0.70	0.70	0.69	0.72	0.69	0.70	0.69
<b>Middle East</b>	<b>3.06</b>	<b>3.17</b>	<b>3.15</b>	<b>3.18</b>	<b>3.16</b>	<b>3.16</b>	<b>3.14</b>	<b>3.14</b>	<b>3.15</b>	<b>3.18</b>	<b>3.18</b>
Oman	0.98	1.07	1.05	1.08	1.07	1.05	1.03	1.03	1.07	1.07	1.07
Qatar	1.80	1.80	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Others	0.28	0.29	0.29	0.29	0.27	0.30	0.30	0.29	0.27	0.30	0.29
<b>Africa</b>	<b>1.33</b>	<b>1.29</b>	<b>1.27</b>	<b>1.29</b>	<b>1.26</b>	<b>1.27</b>	<b>1.27</b>	<b>1.28</b>	<b>1.27</b>	<b>1.26</b>	<b>1.27</b>
Egypt	0.59	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Others	0.74	0.69	0.67	0.69	0.66	0.67	0.67	0.68	0.67	0.66	0.67
<b>Total Non-OECD</b>	<b>30.48</b>	<b>30.99</b>	<b>31.11</b>	<b>31.39</b>	<b>31.63</b>	<b>30.90</b>	<b>30.92</b>	<b>31.01</b>	<b>31.74</b>	<b>31.39</b>	<b>31.11</b>
Processing gains <sup>5</sup>	2.25	2.31	2.35	2.34	2.31	2.34	2.37	2.38	2.29	2.32	2.33
Global biofuels	2.79	2.95	3.13	2.90	2.62	3.25	3.52	3.14	2.61	2.67	2.98
<b>TOTAL NON-OPEC</b>	<b>63.74</b>	<b>65.52</b>	<b>67.01</b>	<b>66.58</b>	<b>66.80</b>	<b>66.68</b>	<b>67.25</b>	<b>67.29</b>	<b>66.90</b>	<b>66.83</b>	<b>66.91</b>
<b>TOTAL SUPPLY</b>	<b>95.33</b>	<b>99.89</b>		<b>101.25</b>	<b>101.39</b>				<b>101.53</b>	<b>101.35</b>	<b>101.13</b>

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

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

<sup>3</sup> OPEC data based on today's membership throughout the time series.

<sup>4</sup> Comprises crude oil, condensates, NGLs and oil from non-conventional sources.

<sup>5</sup> Net volumetric gains and losses in refining and marine transportation losses.

**Table 3a**  
**OIL SUPPLY IN OECD COUNTRIES<sup>1</sup>**  
(thousand of barrels per day)

	2021	2022	2023	4Q22	1Q23	2Q23	3Q23	4Q23	Feb 23	Mar 23	Apr 23
<b>United States</b>											
Alaska	437	437	429	442	443	424	413	435	446	434	430
California	380	343	314	335	315	316	313	310	309	318	316
Texas	4766	5046	5287	5216	5279	5265	5288	5316	5264	5281	5255
Federal Gulf of Mexico <sup>2</sup>	1707	1743	1899	1800	1873	1912	1887	1926	1832	1872	1919
Other US Lower 48	3963	4318	4614	4521	4579	4616	4633	4627	4582	4586	4605
NGLs <sup>3</sup>	5425	5881	6161	5898	5981	6190	6253	6217	5961	6130	6185
Other Hydrocarbons	80	86	86	85	85	92	88	80	84	92	71
<b>Total</b>	<b>16759</b>	<b>17853</b>	<b>18790</b>	<b>18297</b>	<b>18554</b>	<b>18815</b>	<b>18874</b>	<b>18912</b>	<b>18478</b>	<b>18711</b>	<b>18781</b>
<b>Canada</b>											
Alberta Light/Medium/Heavy	436	491	519	503	523	521	518	514	523	529	520
Alberta Bitumen	1921	1995	2040	2061	1974	1914	2140	2131	1957	1968	1982
Saskatchewan	444	455	448	458	454	450	446	442	460	451	451
Other Crude	455	433	388	434	406	363	426	358	395	389	412
NGLs	976	1035	1036	1083	1041	1032	1032	1039	1017	1044	1036
Other Upgraders	180	181	186	189	193	180	172	199	200	200	178
Synthetic Crudes	1181	1167	1198	1218	1244	1157	1107	1283	1291	1290	1150
<b>Total</b>	<b>5593</b>	<b>5757</b>	<b>5815</b>	<b>5947</b>	<b>5835</b>	<b>5616</b>	<b>5842</b>	<b>5967</b>	<b>5843</b>	<b>5870</b>	<b>5731</b>
<b>Mexico</b>											
Crude	1780	1843	1962	1865	1933	1963	1975	1978	1929	1935	1962
NGLs	170	158	150	150	156	151	148	145	151	149	154
<b>Total</b>	<b>1954</b>	<b>2006</b>	<b>2117</b>	<b>2019</b>	<b>2093</b>	<b>2119</b>	<b>2127</b>	<b>2127</b>	<b>2085</b>	<b>2088</b>	<b>2120</b>
<b>UK</b>											
Brent Fields	25	23	19	21	23	22	14	17	21	22	22
Forties Fields	211	210	179	218	204	162	163	186	209	204	201
Ninian Fields	24	20	25	27	26	26	25	24	28	27	26
Flotta Fields	50	39	35	32	36	34	36	35	37	35	37
Other Fields	508	471	454	449	482	469	396	468	555	489	483
NGLs	67	66	60	63	61	61	60	60	58	64	61
<b>Total</b>	<b>885</b>	<b>830</b>	<b>772</b>	<b>810</b>	<b>833</b>	<b>773</b>	<b>695</b>	<b>790</b>	<b>908</b>	<b>842</b>	<b>830</b>
<b>Norway<sup>4</sup></b>											
Ekofisk-Ula Area	141	122	124	136	132	125	114	125	130	132	131
Oseberg-Troll Area	211	192	197	188	194	192	192	211	179	206	200
Statfjord-Gullfaks Area	262	250	241	262	248	244	238	233	253	250	244
Haltenbanken Area	278	237	236	231	236	233	233	245	228	237	234
Sleipner-Frigg Area	816	788	982	844	924	991	1004	1011	906	974	1004
Other Fields	92	119	22	122	80	1	8	-1	101	50	104
NGLs	250	190	197	183	192	199	196	203	186	201	194
<b>Total</b>	<b>2050</b>	<b>1899</b>	<b>2000</b>	<b>1966</b>	<b>2005</b>	<b>1984</b>	<b>1985</b>	<b>2025</b>	<b>1984</b>	<b>2051</b>	<b>2113</b>
<b>Other OECD Europe</b>											
Denmark	66	65	65	63	62	61	65	70	62	61	61
Italy	97	83	78	74	78	78	78	77	81	78	78
Türkiye	66	69	81	72	76	79	83	88	71	77	78
Other	103	81	85	77	82	88	86	84	67	89	89
NGLs	7	7	6	7	7	7	6	6	7	7	7
Non-Conventional Oils	114	121	116	128	135	111	109	109	157	115	109
<b>Total</b>	<b>452</b>	<b>426</b>	<b>431</b>	<b>420</b>	<b>440</b>	<b>424</b>	<b>428</b>	<b>434</b>	<b>446</b>	<b>425</b>	<b>422</b>
<b>Australia</b>											
Gippsland Basin	5	6	10	10	10	10	10	10	10	10	10
Cooper-Eromanga Basin	23	18	16	17	17	17	16	16	17	17	17
Carnarvon Basin	113	108	95	107	94	74	106	104	104	75	74
Other Crude	193	179	181	180	179	170	171	201	187	188	203
NGLs	109	102	99	107	99	100	98	97	98	102	100
<b>Total</b>	<b>444</b>	<b>413</b>	<b>400</b>	<b>421</b>	<b>400</b>	<b>370</b>	<b>402</b>	<b>428</b>	<b>416</b>	<b>392</b>	<b>404</b>
<b>Other OECD Asia Oceania</b>											
New Zealand	18	16	15	15	17	15	15	15	18	16	16
Japan	4	3	3	3	3	3	3	3	3	3	3
NGLs	11	11	9	9	11	9	9	9	11	9	9
Non-Conventional Oils	37	38	38	35	38	38	38	38	35	41	38
<b>Total</b>	<b>71</b>	<b>68</b>	<b>66</b>	<b>63</b>	<b>68</b>	<b>66</b>	<b>66</b>	<b>65</b>	<b>67</b>	<b>69</b>	<b>66</b>
<b>OECD</b>											
Crude Oil	19598	20205	21053	20785	20988	20849	21102	21270	20981	21005	21187
NGLs	7022	7458	7729	7509	7557	7757	7812	7785	7498	7714	7755
Non-Conventional Oils <sup>5</sup>	1596	1598	1628	1660	1699	1582	1519	1714	1772	1741	1551
<b>Total</b>	<b>28216</b>	<b>29261</b>	<b>30410</b>	<b>29953</b>	<b>30243</b>	<b>30188</b>	<b>30433</b>	<b>30769</b>	<b>30252</b>	<b>30460</b>	<b>30493</b>

<sup>1</sup> Subcategories refer to crude oil only unless otherwise noted.

<sup>2</sup> Only production from Federal waters is included.

<sup>3</sup> To the extent possible, condensates from natural gas processing plants are included with NGLs, while field condensates are aggregated with crude oil.

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

<sup>5</sup> Does not include biofuels.

**Table 3b**  
**WORLD OIL PRODUCTION (Including OPEC+ based on current agreement<sup>1</sup>)**  
(million barrels per day)

	2021	2022	2023	1Q22	2Q22	3Q22	4Q22	1Q23	Feb 23	Mar 23	Apr 23
<b>OPEC+</b>											
<b>Crude Oil</b>											
Algeria	0.91	1.01	0.98	0.99	1.01	1.02	1.02	1.01	1.02	1.01	1.00
Angola	1.12	1.14	1.08	1.16	1.17	1.15	1.08	1.05	1.06	0.97	1.06
Azerbaijan	0.59	0.56	0.53	0.58	0.56	0.55	0.55	0.53	0.53	0.51	0.51
Bahrain	0.17	0.19	0.19	0.18	0.19	0.20	0.19	0.17	0.17	0.20	0.19
Brunei	0.08	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Congo	0.27	0.26	0.27	0.27	0.26	0.26	0.26	0.28	0.27	0.28	0.28
Equatorial Guinea	0.10	0.08	0.06	0.09	0.09	0.09	0.06	0.05	0.05	0.05	0.05
Gabon	0.18	0.19	0.18	0.19	0.18	0.20	0.18	0.20	0.20	0.19	0.20
Iran	2.42	2.55	2.73	2.55	2.46	2.55	2.63	2.68	2.69	2.69	2.75
Iraq	4.03	4.45	4.25	4.29	4.45	4.54	4.50	4.39	4.40	4.35	4.10
Kazakhstan	1.52	1.50	1.58	1.63	1.43	1.35	1.60	1.65	1.63	1.63	1.63
Kuwait	2.42	2.70	2.59	2.61	2.67	2.80	2.71	2.68	2.68	2.68	2.68
Libya	1.15	0.99	1.17	1.08	0.77	0.96	1.17	1.15	1.16	1.16	1.13
Malaysia	0.42	0.40	0.38	0.41	0.39	0.38	0.40	0.39	0.40	0.39	0.39
Mexico	1.66	1.62	1.68	1.64	1.62	1.62	1.62	1.65	1.64	1.65	1.68
Nigeria	1.31	1.15	1.23	1.30	1.15	1.00	1.13	1.27	1.30	1.27	1.02
Oman	0.75	0.85	0.81	0.82	0.84	0.88	0.85	0.84	0.84	0.84	0.84
Russia	9.62	9.75	9.41	10.04	9.40	9.78	9.78	9.73	9.87	9.60	9.60
Saudi Arabia	9.15	10.53	10.13	10.17	10.44	10.92	10.57	10.42	10.43	10.43	10.48
South Sudan	0.15	0.14	0.12	0.14	0.14	0.15	0.14	0.12	0.12	0.12	0.12
Sudan	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
UAE	2.76	3.32	3.23	3.13	3.33	3.45	3.37	3.32	3.32	3.35	3.32
Venezuela	0.61	0.70	0.79	0.72	0.74	0.66	0.68	0.71	0.69	0.73	0.78
<b>Total Crude Oil</b>	<b>41.47</b>	<b>44.20</b>	<b>43.52</b>	<b>44.12</b>	<b>43.43</b>	<b>44.63</b>	<b>44.62</b>	<b>44.41</b>	<b>44.59</b>	<b>44.23</b>	<b>43.94</b>
<i>of which Neutral Zone</i>	<i>0.25</i>	<i>0.19</i>		<i>0.27</i>	<i>0.28</i>	<i>0.31</i>	<i>0.27</i>	<i>0.26</i>	<i>0.24</i>	<i>0.28</i>	<i>0.27</i>
<b>Total NGLs</b>	<b>7.55</b>	<b>7.89</b>	<b>8.01</b>	<b>7.88</b>	<b>7.86</b>	<b>7.83</b>	<b>7.99</b>	<b>8.13</b>	<b>8.14</b>	<b>8.07</b>	<b>8.05</b>
<b>TOTAL OPEC+</b>	<b>49.02</b>	<b>52.1</b>	<b>51.5</b>	<b>52.0</b>	<b>51.3</b>	<b>52.5</b>	<b>52.6</b>	<b>52.5</b>	<b>52.7</b>	<b>52.3</b>	<b>52.0</b>
<b>NON-OPEC+</b>											
<b>OECD</b>											
<b>Americas<sup>2</sup></b>	22.36	23.62	24.62	22.89	23.27	24.04	24.25	24.40	24.33	24.59	24.52
United States	16.76	17.85	18.79	17.17	17.70	18.24	18.30	18.55	18.48	18.71	18.78
Canada	5.59	5.76	5.82	5.71	5.57	5.79	5.95	5.83	5.84	5.87	5.73
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Europe</b>	3.39	3.15	3.20	3.32	3.03	3.08	3.20	3.28	3.34	3.32	3.37
UK	0.88	0.83	0.77	0.91	0.85	0.75	0.81	0.83	0.91	0.84	0.83
Norway	2.05	1.90	2.00	1.98	1.74	1.91	1.97	2.00	1.98	2.05	2.11
Others	0.45	0.43	0.43	0.43	0.43	0.42	0.42	0.44	0.45	0.43	0.42
<b>Asia Oceania</b>	0.51	0.48	0.47	0.49	0.51	0.43	0.48	0.47	0.50	0.46	0.49
Australia	0.44	0.41	0.40	0.42	0.45	0.37	0.42	0.40	0.42	0.39	0.40
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.07	0.08	0.07	0.08
<b>Total OECD (non-OPEC+)</b>	<b>26.26</b>	<b>27.26</b>	<b>28.29</b>	<b>26.70</b>	<b>26.81</b>	<b>27.55</b>	<b>27.93</b>	<b>28.15</b>	<b>28.17</b>	<b>28.37</b>	<b>28.37</b>
<b>Non-OECD</b>											
<b>FSU</b>	0.35	0.32	0.31	0.34	0.30	0.31	0.31	0.32	0.32	0.32	0.32
<b>Asia</b>	6.24	6.23	6.31	6.32	6.30	6.15	6.16	6.37	6.34	6.41	6.33
China	4.06	4.18	4.29	4.23	4.23	4.12	4.13	4.34	4.32	4.37	4.30
India	0.73	0.70	0.69	0.72	0.71	0.70	0.69	0.68	0.66	0.69	0.69
Indonesia	0.68	0.63	0.63	0.65	0.63	0.62	0.63	0.64	0.65	0.64	0.64
Others	0.77	0.72	0.69	0.73	0.72	0.71	0.72	0.71	0.71	0.71	0.71
<b>Europe</b>	0.11	0.11	0.10	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10
<b>Americas</b>	5.30	5.64	6.03	5.44	5.46	5.77	5.90	5.98	5.98	5.88	5.71
Brazil	3.00	3.12	3.32	3.08	3.00	3.16	3.23	3.31	3.36	3.20	3.01
Argentina	0.64	0.71	0.78	0.69	0.70	0.72	0.74	0.75	0.76	0.76	0.77
Colombia	0.74	0.76	0.77	0.75	0.76	0.76	0.78	0.78	0.77	0.78	0.78
Ecuador	0.48	0.47	0.46	0.47	0.45	0.47	0.46	0.44	0.41	0.44	0.47
Others	0.43	0.58	0.70	0.44	0.55	0.66	0.68	0.70	0.69	0.70	0.69
<b>Middle East</b>	1.90	1.90	1.91	1.87	1.91	1.90	1.90	1.91	1.91	1.91	1.91
Qatar	1.80	1.80	1.81	1.78	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Others	0.10	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09
<b>Africa</b>	1.12	1.09	1.09	1.10	1.10	1.09	1.09	1.09	1.09	1.09	1.09
Egypt	0.59	0.60	0.60	0.59	0.61	0.60	0.60	0.60	0.60	0.60	0.60
Others	0.52	0.49	0.49	0.51	0.48	0.49	0.49	0.49	0.49	0.49	0.49
<b>Total non-OECD (non-OPEC+)</b>	<b>15.01</b>	<b>15.29</b>	<b>15.75</b>	<b>15.18</b>	<b>15.17</b>	<b>15.32</b>	<b>15.47</b>	<b>15.76</b>	<b>15.73</b>	<b>15.70</b>	<b>15.45</b>
Processing gains	2.25	2.31	2.35	2.28	2.29	2.32	2.34	2.31	2.29	2.32	2.33
Global biofuels	2.79	2.95	3.13	2.51	3.08	3.30	2.90	2.62	2.61	2.67	2.98
<b>TOTAL NON-OPEC+</b>	<b>46.31</b>	<b>47.80</b>	<b>49.53</b>	<b>46.68</b>	<b>47.35</b>	<b>48.50</b>	<b>48.64</b>	<b>48.84</b>	<b>48.80</b>	<b>49.05</b>	<b>49.13</b>
<b>TOTAL SUPPLY</b>	<b>95.33</b>	<b>99.89</b>	<b>101.06</b>	<b>98.68</b>	<b>98.64</b>	<b>100.95</b>	<b>101.25</b>	<b>101.39</b>	<b>101.53</b>	<b>101.35</b>	<b>101.13</b>

<sup>1</sup> From May 2023, OPEC+ supply reflects latest OPEC+ deal and individual country's sustainable capacity. Libya, Iran, Venezuela held at most recent level through 2023.

<sup>2</sup> Excludes Mexico.

**Table 4**  
**OECD STOCKS AND QUARTERLY STOCK CHANGES**

	RECENT MONTHLY STOCKS <sup>2</sup>					PRIOR YEARS' STOCKS <sup>2</sup>			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Nov2022	Dec2022	Jan2023	Feb2023	Mar2023 <sup>3</sup>	Mar2020	Mar2021	Mar2022	2Q2022	3Q2022	4Q2022	1Q2023
<b>OECD INDUSTRY-CONTROLLED STOCKS<sup>1</sup></b>												
<b>OECD Americas</b>												
Crude	573.5	593.7	613.2	622.4	613.5	635.6	665.2	567.9	0.03	0.09	0.16	0.22
Motor Gasoline	248.7	251.5	268.0	271.5	255.6	291.9	266.8	266.5	-0.22	-0.11	0.17	0.05
Middle Distillate	185.6	184.1	190.0	192.2	183.8	198.5	216.2	177.9	0.01	-0.05	0.11	0.00
Residual Fuel Oil	35.5	37.6	39.0	38.6	37.3	40.7	39.4	34.5	0.01	-0.01	0.04	0.00
Total Products <sup>4</sup>	750.8	732.8	739.2	737.2	715.2	772.0	750.4	682.1	0.23	0.32	0.01	-0.20
<b>Total<sup>5</sup></b>	<b>1484.5</b>	<b>1487.2</b>	<b>1508.6</b>	<b>1517.0</b>	<b>1484.6</b>	<b>1582.6</b>	<b>1578.5</b>	<b>1407.5</b>	<b>0.32</b>	<b>0.35</b>	<b>0.20</b>	<b>-0.03</b>
<b>OECD Europe</b>												
Crude	340.6	337.2	343.3	333.1	336.4	363.9	352.9	323.8	0.18	-0.03	0.00	-0.01
Motor Gasoline	87.0	87.5	91.1	92.9	88.5	99.3	90.1	91.1	-0.06	0.01	0.00	0.01
Middle Distillate	239.7	249.7	271.8	267.8	254.2	292.2	311.6	239.0	-0.01	-0.03	0.15	0.05
Residual Fuel Oil	69.1	70.4	67.1	67.0	66.5	71.0	66.6	63.0	0.02	0.02	0.05	-0.04
Total Products <sup>4</sup>	503.2	517.3	539.5	532.7	511.5	585.9	571.9	490.0	0.09	0.03	0.18	-0.07
<b>Total<sup>5</sup></b>	<b>928.7</b>	<b>935.8</b>	<b>964.2</b>	<b>945.5</b>	<b>925.4</b>	<b>1032.5</b>	<b>1001.5</b>	<b>890.0</b>	<b>0.24</b>	<b>0.08</b>	<b>0.18</b>	<b>-0.12</b>
<b>OECD Asia Oceania</b>												
Crude	128.7	127.9	121.1	127.4	134.6	132.0	123.8	105.5	-0.12	0.36	0.00	0.07
Motor Gasoline	25.8	24.3	26.2	26.9	24.7	26.3	29.1	25.6	0.00	-0.02	0.01	0.00
Middle Distillate	72.3	62.4	64.8	60.9	54.5	68.0	63.2	56.2	0.06	0.01	0.00	-0.09
Residual Fuel Oil	19.5	16.5	15.4	16.0	16.3	18.7	17.1	15.4	0.01	0.00	0.00	0.00
Total Products <sup>4</sup>	184.1	164.4	168.8	162.6	154.4	172.5	166.0	158.1	0.08	0.03	-0.04	-0.11
<b>Total<sup>5</sup></b>	<b>373.3</b>	<b>353.2</b>	<b>350.3</b>	<b>346.9</b>	<b>343.1</b>	<b>365.9</b>	<b>346.1</b>	<b>315.7</b>	<b>0.02</b>	<b>0.44</b>	<b>-0.06</b>	<b>-0.11</b>
<b>Total OECD</b>												
Crude	1042.8	1058.8	1077.7	1082.9	1084.5	1131.5	1141.9	997.2	0.09	0.42	0.17	0.29
Motor Gasoline	361.5	363.2	385.3	391.3	368.8	417.5	385.9	383.2	-0.28	-0.12	0.18	0.06
Middle Distillate	497.5	496.2	526.7	520.9	492.5	558.7	591.0	473.1	0.06	-0.07	0.26	-0.04
Residual Fuel Oil	124.1	124.5	121.5	121.6	120.0	130.4	123.1	112.9	0.04	0.01	0.08	-0.05
Total Products <sup>4</sup>	1438.0	1414.6	1447.4	1432.6	1381.0	1530.4	1488.2	1330.2	0.40	0.38	0.15	-0.37
<b>Total<sup>5</sup></b>	<b>2786.4</b>	<b>2776.2</b>	<b>2823.1</b>	<b>2809.5</b>	<b>2753.1</b>	<b>2980.9</b>	<b>2926.1</b>	<b>2613.2</b>	<b>0.57</b>	<b>0.88</b>	<b>0.33</b>	<b>-0.26</b>
<b>OECD GOVERNMENT-CONTROLLED STOCKS<sup>6</sup></b>												
<b>OECD Americas</b>												
Crude	388.4	372.0	371.6	371.6	371.0	635.0	637.8	566.1	-0.80	-0.84	-0.48	-0.01
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
<b>OECD Europe</b>												
Crude	195.9	193.0	190.8	190.6	188.4	206.8	207.3	198.3	-0.04	-0.01	-0.01	-0.05
Products	256.2	266.4	274.6	275.4	276.4	275.3	283.1	268.4	-0.14	-0.04	0.15	0.11
<b>OECD Asia Oceania</b>												
Crude	346.4	342.8	345.0	345.3	347.8	377.4	374.6	367.8	-0.11	-0.17	0.01	0.06
Products	35.9	35.6	35.3	35.2	35.4	38.9	38.8	37.9	-0.01	0.00	-0.02	0.00
<b>Total OECD</b>												
Crude	930.7	907.9	907.4	907.5	907.2	1219.2	1219.6	1132.2	-0.94	-1.02	-0.49	-0.01
Products	294.0	304.0	311.8	312.6	313.8	316.2	324.0	308.3	-0.14	-0.04	0.14	0.11
<b>Total<sup>5</sup></b>	<b>1226.1</b>	<b>1213.8</b>	<b>1221.6</b>	<b>1222.2</b>	<b>1223.0</b>	<b>1537.2</b>	<b>1545.7</b>	<b>1442.1</b>	<b>-1.08</b>	<b>-1.06</b>	<b>-0.34</b>	<b>0.10</b>

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

<sup>2</sup> Closing stock levels.

<sup>3</sup> Estimated.

<sup>4</sup> Total products includes gasoline, middle distillates, fuel oil and other products.

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

<sup>6</sup> Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

**Table 4a**  
**INDUSTRY STOCKS<sup>1</sup> ON LAND IN SELECTED COUNTRIES**

(million barrels)

	October			November			December			January			February		
	2021	2022	%	2021	2022	%	2021	2022	%	2022	2023	%	2022	2023	%
<b>United States<sup>2</sup></b>															
Crude	436.6	439.4	0.6	433.4	416.3	-3.9	421.2	429.6	2.0	414.3	459.8	11.0	409.1	472.4	15.5
Motor Gasoline	216.7	211.0	-2.6	220.6	221.3	0.3	232.2	224.3	-3.4	251.8	239.7	-4.8	250.4	242.3	-3.2
Middle Distillate	175.8	148.2	-15.7	171.2	160.1	-6.5	168.1	156.0	-7.2	165.3	160.3	-3.0	162.2	163.6	0.9
Residual Fuel Oil	28.7	29.8	3.8	27.9	29.1	4.3	25.8	30.7	19.0	26.7	32.1	20.2	27.5	31.3	13.8
Other Products	256.4	263.2	2.7	244.8	258.5	5.6	222.3	238.0	7.1	195.4	221.2	13.2	178.0	212.5	19.4
Total Products	677.6	652.2	-3.7	664.5	669.0	0.7	648.4	649.0	0.1	639.2	653.3	2.2	618.1	649.7	5.1
Other <sup>3</sup>	138.8	139.1	0.2	135.8	140.7	3.6	129.1	143.0	10.8	136.4	141.4	3.7	138.2	144.7	4.7
<b>Total</b>	<b>1253.0</b>	<b>1230.7</b>	<b>-1.8</b>	<b>1233.7</b>	<b>1226.0</b>	<b>-0.6</b>	<b>1198.7</b>	<b>1221.6</b>	<b>1.9</b>	<b>1189.9</b>	<b>1254.5</b>	<b>5.4</b>	<b>1165.4</b>	<b>1266.8</b>	<b>8.7</b>
<b>Japan</b>															
Crude	72.8	79.1	8.7	78.1	82.7	5.9	72.9	81.0	11.1	69.2	75.5	9.1	70.7	76.1	7.6
Motor Gasoline	11.6	9.7	-16.4	10.4	11.0	5.8	10.4	10.1	-2.9	11.3	11.1	-1.8	10.9	10.4	-4.6
Middle Distillate	36.6	34.5	-5.7	36.9	37.0	0.3	33.0	31.4	-4.8	30.8	30.8	0.0	26.7	25.7	-3.7
Residual Fuel Oil	6.9	7.3	5.8	6.5	7.3	12.3	7.3	7.1	-2.7	7.0	6.3	-10.0	6.5	6.8	4.6
Other Products	39.1	39.8	1.8	36.4	38.8	6.6	33.0	36.3	10.0	34.6	34.2	-1.2	32.2	31.9	-0.9
Total Products	94.2	91.3	-3.1	90.2	94.1	4.3	83.7	84.9	1.4	83.7	82.4	-1.6	76.3	74.8	-2.0
Other <sup>3</sup>	49.9	50.7	1.6	50.9	49.7	-2.4	51.1	49.8	-2.5	47.6	49.3	3.6	43.7	45.3	3.7
<b>Total</b>	<b>216.9</b>	<b>221.1</b>	<b>1.9</b>	<b>219.2</b>	<b>226.5</b>	<b>3.3</b>	<b>207.7</b>	<b>215.7</b>	<b>3.9</b>	<b>200.5</b>	<b>207.2</b>	<b>3.3</b>	<b>190.7</b>	<b>196.2</b>	<b>2.9</b>
<b>Germany</b>															
Crude	46.4	52.0	12.1	47.0	49.8	6.0	46.3	49.4	6.7	46.1	51.7	12.1	47.3	48.0	1.5
Motor Gasoline	10.6	10.4	-1.9	10.6	10.1	-4.7	10.7	11.1	3.7	11.0	12.0	9.1	10.6	10.7	0.9
Middle Distillate	21.2	24.2	14.2	22.4	24.1	7.6	21.8	26.5	21.6	23.2	33.1	42.7	21.7	29.9	37.8
Residual Fuel Oil	8.1	9.3	14.8	8.5	9.0	5.9	8.4	9.1	8.3	8.5	8.6	1.2	8.6	8.8	2.3
Other Products	10.7	10.7	0.0	10.4	10.8	3.8	10.6	9.9	-6.6	10.2	10.3	1.0	10.0	10.2	2.0
Total Products	50.6	54.6	7.9	51.9	54.0	4.0	51.5	56.6	9.9	52.9	64.0	21.0	50.9	59.6	17.1
Other <sup>3</sup>	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
<b>Total</b>	<b>97.0</b>	<b>106.6</b>	<b>9.9</b>	<b>98.9</b>	<b>103.8</b>	<b>5.0</b>	<b>97.8</b>	<b>106.0</b>	<b>8.4</b>	<b>99.0</b>	<b>115.7</b>	<b>16.9</b>	<b>98.2</b>	<b>107.6</b>	<b>9.6</b>
<b>Italy</b>															
Crude	31.8	34.4	8.2	36.1	40.5	12.2	33.0	37.1	12.4	29.9	35.7	19.4	30.4	36.2	19.1
Motor Gasoline	11.7	10.2	-12.8	11.3	9.7	-14.2	10.0	9.9	-1.0	12.7	11.7	-7.9	11.3	10.6	-6.2
Middle Distillate	25.1	24.0	-4.4	23.8	23.4	-1.7	23.7	23.8	0.4	26.4	26.9	1.9	23.8	24.4	2.5
Residual Fuel Oil	7.1	8.1	14.1	7.5	7.9	5.3	7.1	8.6	21.1	7.5	8.3	10.7	8.1	7.5	-7.4
Other Products	11.1	11.3	1.8	10.9	10.8	-0.9	10.0	11.1	11.0	11.2	12.2	8.9	11.3	11.4	0.9
Total Products	55.0	53.6	-2.5	53.5	51.8	-3.2	50.8	53.4	5.1	57.8	59.1	2.2	54.5	53.9	-1.1
Other <sup>3</sup>	15.4	13.9	-9.7	14.5	13.5	-6.9	13.1	14.0	6.9	13.5	15.0	11.1	13.1	14.1	7.6
<b>Total</b>	<b>102.2</b>	<b>101.9</b>	<b>-0.3</b>	<b>104.1</b>	<b>105.8</b>	<b>1.6</b>	<b>96.9</b>	<b>104.5</b>	<b>7.8</b>	<b>101.2</b>	<b>109.8</b>	<b>8.5</b>	<b>98.0</b>	<b>104.2</b>	<b>6.3</b>
<b>France</b>															
Crude	12.6	15.9	26.2	11.9	13.7	15.1	8.8	10.8	22.7	9.2	12.0	30.4	12.4	11.3	-8.9
Motor Gasoline	4.0	4.7	17.5	4.1	4.6	12.2	4.5	4.1	-8.9	5.1	5.2	2.0	4.5	5.6	24.4
Middle Distillate	17.0	19.5	14.7	18.0	21.0	16.7	18.6	21.3	14.5	20.1	21.9	9.0	16.5	21.8	32.1
Residual Fuel Oil	1.6	1.9	18.8	1.7	2.4	41.2	0.9	1.7	88.9	1.3	1.9	46.2	1.3	1.4	7.7
Other Products	3.3	3.6	9.1	3.4	3.6	5.9	3.4	4.0	17.6	3.4	4.0	17.6	3.5	3.9	11.4
Total Products	25.9	29.7	14.7	27.2	31.6	16.2	27.4	31.1	13.5	29.9	33.0	10.4	25.8	32.7	26.7
Other <sup>3</sup>	7.0	7.7	10.0	6.5	7.9	21.5	6.9	7.4	7.2	7.2	7.4	2.8	7.1	7.6	7.0
<b>Total</b>	<b>45.5</b>	<b>53.3</b>	<b>17.1</b>	<b>45.6</b>	<b>53.2</b>	<b>16.7</b>	<b>43.1</b>	<b>49.3</b>	<b>14.4</b>	<b>46.3</b>	<b>52.4</b>	<b>13.2</b>	<b>45.3</b>	<b>51.6</b>	<b>13.9</b>
<b>United Kingdom</b>															
Crude	24.8	21.1	-14.9	23.4	21.6	-7.7	26.2	22.7	-13.4	22.7	25.4	11.9	26.2	25.8	-1.5
Motor Gasoline	9.5	8.9	-6.3	9.8	8.8	-10.2	10.1	8.2	-18.8	10.6	8.9	-16.0	9.6	9.8	2.1
Middle Distillate	21.3	17.5	-17.8	22.1	18.0	-18.6	21.0	19.1	-9.0	20.4	20.4	0.0	19.8	22.1	11.6
Residual Fuel Oil	1.3	1.4	7.7	1.6	1.6	0.0	1.3	1.5	15.4	1.2	1.3	8.3	1.5	1.0	-33.3
Other Products	6.5	6.6	1.5	6.1	6.9	13.1	6.1	6.1	0.0	6.0	5.8	-3.3	6.3	6.3	0.0
Total Products	38.6	34.4	-10.9	39.6	35.3	-10.9	38.5	34.9	-9.4	38.2	36.4	-4.7	37.2	39.2	5.4
Other <sup>3</sup>	9.0	9.0	0.0	9.1	8.7	-4.4	8.1	8.3	2.5	7.6	8.0	5.3	7.9	7.9	0.0
<b>Total</b>	<b>72.4</b>	<b>64.5</b>	<b>-10.9</b>	<b>72.1</b>	<b>65.6</b>	<b>-9.0</b>	<b>72.8</b>	<b>65.9</b>	<b>-9.5</b>	<b>68.5</b>	<b>69.8</b>	<b>1.9</b>	<b>71.3</b>	<b>72.9</b>	<b>2.2</b>
<b>Canada<sup>4</sup></b>															
Crude	138.0	120.3	-12.8	137.5	123.2	-10.4	132.4	129.5	-2.2	121.7	118.1	-3.0	122.4	115.9	-5.3
Motor Gasoline	14.9	15.6	4.7	15.9	15.6	-1.9	15.8	15.6	-1.3	17.3	17.2	-0.6	16.3	17.4	6.7
Middle Distillate	16.9	16.9	0.0	17.8	16.5	-7.3	18.5	18.7	1.1	18.8	20.9	11.2	18.0	19.8	10.0
Residual Fuel Oil	2.6	2.0	-23.1	2.2	2.4	9.1	2.0	2.7	35.0	1.7	2.4	41.2	2.2	2.4	9.1
Other Products	10.8	12.8	18.5	11.4	13.2	15.8	11.2	12.3	9.8	12.5	11.8	-5.6	13.2	13.2	0.0
Total Products	45.2	47.3	4.6	47.3	47.7	0.8	47.5	49.3	3.8	50.3	52.3	4.0	49.7	52.8	6.2
Other <sup>3</sup>	25.3	20.4	-19.4	23.8	19.5	-18.1	21.7	17.4	-19.8	19.4	14.7	-24.2	16.4	12.6	-23.2
<b>Total</b>	<b>208.5</b>	<b>188.0</b>	<b>-9.8</b>	<b>208.6</b>	<b>190.4</b>	<b>-8.7</b>	<b>201.6</b>	<b>196.2</b>	<b>-2.7</b>	<b>191.4</b>	<b>185.1</b>	<b>-3.3</b>	<b>188.5</b>	<b>181.3</b>	<b>-3.8</b>

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

<sup>2</sup> US figures exclude US territories.

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

<sup>4</sup> 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<sup>1</sup>**  
(millions of barrels<sup>1</sup> and 'days')

	End March 2022		End June 2022		End September 2022		End December 2022		End March 2023 <sup>3</sup>	
	Stock Level	Days Fwd <sup>2</sup> Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand
<b>OECD Americas</b>										
Canada	185.7	84	187.9	79	184.3	80	196.3	-	-	-
Chile	10.3	27	9.9	26	10.6	28	10.6	-	-	-
Mexico	35.7	20	36.6	20	36.7	21	36.6	-	-	-
United States <sup>a</sup>	1721.7	85	1675.0	82	1633.5	81	1595.7	-	-	-
<b>Total<sup>4</sup></b>	<b>1975.5</b>	<b>80</b>	<b>1931.5</b>	<b>77</b>	<b>1887.2</b>	<b>76</b>	<b>1861.2</b>	<b>75</b>	<b>1857.6</b>	<b>74</b>
<b>OECD Asia Oceania</b>										
Australia	40.0	37	38.3	35	35.8	32	38.7	-	-	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	500.5	165	502.8	158	522.4	147	513.9	-	-	-
Korea	174.6	70	165.9	65	174.5	68	173.8	-	-	-
New Zealand	6.2	43	6.2	40	5.5	30	5.3	-	-	-
<b>Total</b>	<b>721.4</b>	<b>103</b>	<b>713.3</b>	<b>99</b>	<b>738.1</b>	<b>96</b>	<b>731.7</b>	<b>93</b>	<b>726.3</b>	<b>101</b>
<b>OECD Europe<sup>5</sup></b>										
Austria	24.1	98	20.0	80	17.4	72	21.3	-	-	-
Belgium	42.9	74	44.8	75	45.4	78	45.7	-	-	-
Czech Republic	22.2	100	22.3	101	22.6	105	23.1	-	-	-
Denmark	20.3	135	21.7	141	21.1	142	23.6	-	-	-
Estonia	2.6	77	2.3	75	2.3	81	3.4	-	-	-
Finland	38.4	209	41.0	205	40.4	218	38.0	-	-	-
France	148.8	99	144.6	89	142.3	97	151.3	-	-	-
Germany	269.0	125	267.8	119	266.5	125	272.6	-	-	-
Greece	29.2	104	29.8	88	30.4	99	31.9	-	-	-
Hungary	28.0	152	29.2	160	28.6	174	28.7	-	-	-
Ireland	10.6	72	10.3	69	10.3	66	11.0	-	-	-
Italy	116.3	94	119.3	94	123.3	102	120.0	-	-	-
Latvia	2.8	79	2.8	68	2.8	78	2.9	-	-	-
Lithuania	9.8	161	8.4	117	8.2	116	8.3	-	-	-
Luxembourg	0.5	11	0.7	14	0.6	14	0.5	-	-	-
Netherlands	123.9	139	127.1	144	125.2	138	139.8	-	-	-
Norway	26.3	171	25.5	106	26.0	148	27.2	-	-	-
Poland	82.8	113	82.4	112	82.1	113	83.8	-	-	-
Portugal	21.3	84	22.5	85	21.1	100	20.0	-	-	-
Slovak Republic	12.8	135	13.2	141	13.5	137	13.1	-	-	-
Slovenia	4.6	86	4.8	92	4.5	88	4.9	-	-	-
Spain	106.6	81	107.9	83	111.5	87	109.5	-	-	-
Sweden	28.2	104	30.2	94	32.7	109	34.6	-	-	-
Switzerland	30.2	173	29.9	150	28.2	140	27.4	-	-	-
Republic of Türkiye	87.6	86	87.8	80	86.6	83	88.6	-	-	-
United Kingdom	68.6	49	67.3	48	72.4	54	65.9	-	-	-
<b>Total</b>	<b>1358.4</b>	<b>101</b>	<b>1363.8</b>	<b>97</b>	<b>1366.2</b>	<b>102</b>	<b>1397.0</b>	<b>108</b>	<b>1392.2</b>	<b>102</b>
<b>Total OECD</b>	<b>4055.3</b>	<b>90</b>	<b>4008.6</b>	<b>86</b>	<b>3991.5</b>	<b>87</b>	<b>3989.9</b>	<b>88</b>	<b>3976.1</b>	<b>87</b>
<b>DAYS OF IEA Net Imports<sup>6</sup> -</b>	<b>156</b>	<b>-</b>	<b>243</b>	<b>-</b>	<b>241</b>	<b>-</b>	<b>241</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

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

3 End December 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 <https://www.iea.org/data-and-statistics/data-tools/oil-stocks-of-iea-countries>). Net exporting IEA countries are excluded.

### TOTAL OECD STOCKS

CLOSING STOCKS	Total	Government <sup>1</sup> controlled		Industry	Total	Government <sup>1</sup> controlled	
		Millions of Barrels	Days of Fwd. Demand <sup>2</sup>			Days of Fwd. Demand <sup>2</sup>	
1Q2020	4518	1537	2981	121	41	80	
2Q2020	4778	1561	3217	113	37	76	
3Q2020	4732	1551	3181	110	36	74	
4Q2020	4578	1541	3037	108	36	72	
1Q2021	4472	1546	2926	102	35	67	
2Q2021	4407	1524	2884	97	33	63	
3Q2021	4282	1513	2770	92	32	59	
4Q2021	4134	1484	2651	90	32	58	
1Q2022	4055	1442	2613	90	32	58	
2Q2022	4009	1343	2665	86	29	57	
3Q2022	3991	1245	2746	87	27	60	
4Q2022	3990	1214	2776	88	27	61	
1Q2023	3976	1223	2753	87	27	60	

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

2 Days of forward demand calculated using actual demand except in 4Q2022 (where latest forecasts are used).

**Table 6**  
**IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS<sup>1</sup>**  
(million barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier		
											Feb 22	change	
<b>Saudi Light &amp; Extra Light</b>													
Americas	0.26	0.34	0.46	0.44	0.46	0.52	0.41	0.44	0.38	0.39	0.45	-0.06	
Europe	0.59	0.48	0.62	0.53	0.68	0.60	0.67	0.86	0.92	0.66	0.48	0.18	
Asia Oceania	1.39	1.30	1.51	1.57	1.36	1.53	1.58	1.61	1.57	1.64	1.59	0.05	
<b>Saudi Medium</b>													
Americas	0.14	0.01	..	..	..	..	..	..	..	..	..	..	
Europe	0.02	0.01	0.02	0.00	0.04	0.03	0.01	0.03	..	..	..	..	
Asia Oceania	0.25	0.21	0.23	0.20	0.26	0.26	0.23	0.26	0.26	0.19	0.17	0.03	
<b>Canada Heavy</b>													
Americas	2.39	2.59	2.61	2.69	2.54	2.58	2.63	2.55	2.73	2.74	2.92	-0.17	
Europe	0.03	0.03	0.08	0.03	0.09	0.08	0.11	0.14	0.02	0.13	0.02	0.11	
Asia Oceania	0.00	0.02	0.01	0.01	0.01	0.01	..	..	..	..	0.01	..	
<b>Iraqi Basrah Light<sup>2</sup></b>													
Americas	0.11	0.08	0.21	0.16	0.30	0.25	0.13	..	0.34	0.40	0.15	0.25	
Europe	0.58	0.62	0.69	0.61	0.64	0.82	0.69	0.66	0.71	0.75	0.68	0.08	
Asia Oceania	0.22	0.17	0.23	0.17	0.20	0.26	0.26	0.22	0.25	0.28	0.21	0.07	
<b>Kuwait Blend</b>													
Americas	..	..	..	..	..	..	..	..	..	..	..	..	
Europe	0.04	..	..	..	..	..	..	..	..	..	..	..	
Asia Oceania	0.55	0.48	0.48	0.58	0.42	0.47	0.46	0.45	0.54	0.51	0.56	-0.05	
<b>Iranian Light</b>													
Americas	..	..	..	..	..	..	..	..	..	..	..	..	
Europe	..	..	..	..	..	..	..	..	..	..	..	..	
Asia Oceania	..	..	..	..	..	..	..	..	..	..	..	..	
<b>Iranian Heavy<sup>3</sup></b>													
Americas	..	..	..	..	..	..	..	..	..	..	..	..	
Europe	..	..	..	..	..	..	..	..	..	..	..	..	
Asia Oceania	..	..	..	..	..	..	..	..	..	..	..	..	
<b>BFOE</b>													
Americas	..	0.00	..	..	..	..	..	..	..	..	..	..	
Europe	0.42	0.36	0.41	0.38	0.44	0.44	0.38	0.48	0.52	0.53	0.31	0.23	
Asia Oceania	0.03	0.05	0.03	0.02	0.06	0.02	..	..	..	..	0.08	..	
<b>Kazakhstan</b>													
Americas	..	0.01	..	..	..	..	..	..	..	..	..	..	
Europe	0.74	0.69	0.73	0.86	0.69	0.67	0.70	0.92	1.05	0.94	0.83	0.11	
Asia Oceania	0.07	0.09	0.13	0.14	0.16	0.09	0.14	0.17	0.10	0.15	0.15	0.00	
<b>Venezuelan 22 API and heavier</b>													
Americas	..	..	..	..	..	..	..	..	..	..	..	..	
Europe	0.04	..	0.01	..	..	0.04	0.02	0.03	..	..	..	..	
Asia Oceania	..	..	..	..	..	..	..	..	..	..	..	..	
<b>Mexican Maya</b>													
Americas	0.48	0.40	0.40	0.36	0.47	0.40	0.36	0.35	0.44	0.46	0.32	0.14	
Europe	0.16	0.14	0.10	0.11	0.07	0.09	0.12	0.10	0.10	0.07	0.10	-0.03	
Asia Oceania	0.12	0.14	0.06	0.08	0.05	0.04	0.08	0.09	0.03	0.07	0.11	-0.04	
<b>Russian Urals</b>													
Americas	..	..	..	..	..	..	..	..	..	..	..	..	
Europe	1.12	1.05	0.74	1.08	0.79	0.71	0.40	0.25	0.22	0.10	1.08	-0.98	
Asia Oceania	..	0.01	..	..	..	..	..	..	..	..	..	..	
<b>Cabinda and Other Angola</b>													
North America	0.01	..	0.00	..	..	0.00	..	..	..	..	..	..	
Europe	0.12	0.03	0.23	0.06	0.26	0.29	0.30	0.26	0.42	0.37	0.03	0.34	
Pacific	..	..	0.00	..	..	0.01	0.01	..	..	..	..	..	
<b>Nigerian Light<sup>4</sup></b>													
Americas	..	0.02	0.00	..	..	0.01	..	..	..	..	..	..	
Europe	0.49	0.41	0.41	0.47	0.43	0.29	0.46	0.51	0.58	0.48	0.45	0.03	
Asia Oceania	0.02	0.01	0.01	..	..	0.02	0.02	0.03	..	..	..	..	
<b>Libya Light and Medium</b>													
Americas	..	0.02	..	..	..	..	..	..	..	..	..	..	
Europe	0.19	0.80	0.63	0.66	0.56	0.52	0.76	0.72	0.65	0.74	0.84	-0.11	
Asia Oceania	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.02	..	0.02	..	

<sup>1</sup> 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.

<sup>2</sup> Iraqi Total minus Kirkuk.

<sup>3</sup> Iranian Total minus Iranian Light.

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

**Table 7**  
**REGIONAL OECD IMPORTS<sup>1,2</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier	
											Feb 22	% change
<b>Crude Oil</b>												
Americas	1896	2077	2115	2096	2075	2161	2128	2119	2067	1978	2075	-5%
Europe	8349	8516	9094	8892	9196	9298	8987	9228	8665	8503	9405	-10%
Asia Oceania	5579	5519	5839	6101	5363	6197	5694	5776	5580	6243	6112	2%
<b>Total OECD</b>	<b>15823</b>	<b>16113</b>	<b>17048</b>	<b>17089</b>	<b>16633</b>	<b>17656</b>	<b>16810</b>	<b>17122</b>	<b>16312</b>	<b>16725</b>	<b>17593</b>	<b>-5%</b>
<b>LPG</b>												
Americas	28	21	25	39	21	24	18	10	35	28	52	-46%
Europe	422	404	508	470	503	497	562	578	569	568	496	15%
Asia Oceania	559	563	580	681	569	533	539	552	678	603	669	-10%
<b>Total OECD</b>	<b>1009</b>	<b>988</b>	<b>1113</b>	<b>1189</b>	<b>1093</b>	<b>1054</b>	<b>1119</b>	<b>1141</b>	<b>1282</b>	<b>1200</b>	<b>1218</b>	<b>-1%</b>
<b>Naphtha</b>												
Americas	7	8	7	6	6	7	8	18	9	11	3	256%
Europe	409	512	305	399	409	225	192	191	216	221	397	-44%
Asia Oceania	1003	1146	1047	1078	971	1063	1074	1059	1100	1224	1093	12%
<b>Total OECD</b>	<b>1419</b>	<b>1667</b>	<b>1358</b>	<b>1482</b>	<b>1386</b>	<b>1295</b>	<b>1274</b>	<b>1268</b>	<b>1325</b>	<b>1456</b>	<b>1493</b>	<b>-2%</b>
<b>Gasoline<sup>3</sup></b>												
Americas	576	805	675	485	890	733	590	613	540	579	554	4%
Europe	109	106	101	102	125	108	69	65	54	91	119	-24%
Asia Oceania	116	146	169	157	175	173	171	156	185	216	125	73%
<b>Total OECD</b>	<b>801</b>	<b>1057</b>	<b>945</b>	<b>745</b>	<b>1190</b>	<b>1014</b>	<b>830</b>	<b>834</b>	<b>779</b>	<b>886</b>	<b>799</b>	<b>11%</b>
<b>Jet &amp; Kerosene</b>												
Americas	159	165	134	120	123	115	177	207	148	218	122	79%
Europe	337	334	453	306	429	538	536	447	363	448	282	59%
Asia Oceania	60	71	90	71	76	69	141	162	184	180	85	112%
<b>Total OECD</b>	<b>556</b>	<b>570</b>	<b>677</b>	<b>497</b>	<b>629</b>	<b>722</b>	<b>855</b>	<b>816</b>	<b>695</b>	<b>845</b>	<b>489</b>	<b>73%</b>
<b>Gasoil/Diesel</b>												
Americas	134	197	99	158	76	41	120	148	162	204	269	-24%
Europe	1192	1192	1220	1093	1145	1152	1486	1605	1301	1189	1107	7%
Asia Oceania	328	352	324	299	352	314	329	342	306	388	310	25%
<b>Total OECD</b>	<b>1654</b>	<b>1740</b>	<b>1642</b>	<b>1551</b>	<b>1572</b>	<b>1507</b>	<b>1935</b>	<b>2095</b>	<b>1770</b>	<b>1781</b>	<b>1685</b>	<b>6%</b>
<b>Heavy Fuel Oil</b>												
Americas	143	102	122	139	135	82	132	89	126	95	206	-54%
Europe	295	374	260	302	253	244	241	193	125	167	318	-48%
Asia Oceania	88	119	89	117	96	68	75	71	111	129	153	-16%
<b>Total OECD</b>	<b>526</b>	<b>594</b>	<b>470</b>	<b>559</b>	<b>484</b>	<b>393</b>	<b>448</b>	<b>353</b>	<b>361</b>	<b>390</b>	<b>676</b>	<b>-42%</b>
<b>Other Products</b>												
Americas	591	580	497	496	534	502	457	407	462	510	485	5%
Europe	574	575	608	667	557	625	582	548	612	606	811	-25%
Asia Oceania	207	233	206	221	182	218	202	182	198	210	237	-11%
<b>Total OECD</b>	<b>1372</b>	<b>1389</b>	<b>1311</b>	<b>1384</b>	<b>1274</b>	<b>1345</b>	<b>1242</b>	<b>1137</b>	<b>1272</b>	<b>1326</b>	<b>1532</b>	<b>-13%</b>
<b>Total Products</b>												
Americas	1639	1878	1558	1443	1786	1502	1502	1492	1482	1644	1691	-3%
Europe	3339	3497	3455	3339	3421	3388	3669	3627	3239	3290	3530	-7%
Asia Oceania	2360	2630	2503	2624	2420	2438	2532	2524	2762	2951	2671	10%
<b>Total OECD</b>	<b>7338</b>	<b>8005</b>	<b>7517</b>	<b>7407</b>	<b>7627</b>	<b>7329</b>	<b>7702</b>	<b>7644</b>	<b>7483</b>	<b>7884</b>	<b>7892</b>	<b>0%</b>
<b>Total Oil</b>												
Americas	3534	3955	3674	3540	3861	3663	3630	3611	3549	3622	3766	-4%
Europe	11688	12013	12549	12231	12617	12686	12656	12856	11904	11793	12935	-9%
Asia Oceania	7939	8150	8342	8725	7783	8635	8225	8300	8342	9194	8784	5%
<b>Total OECD</b>	<b>23161</b>	<b>24118</b>	<b>24564</b>	<b>24496</b>	<b>24260</b>	<b>24985</b>	<b>24512</b>	<b>24766</b>	<b>23795</b>	<b>24609</b>	<b>25484</b>	<b>-3%</b>

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels conversion factors available at <https://www.iea.org/articles/oil-market-report-glossary/#>.

2 Excludes intra-regional trade.

3 Includes additives.



**Table 7a**  
**REGIONAL OECD IMPORTS FROM NON-OECD COUNTRIES<sup>1,2</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier	
											Feb 22	% change
<b>Crude Oil</b>												
Americas	1835	1982	2049	2033	2012	2093	2056	2050	1973	1927	1998	-4%
Europe	7115	7264	7529	7550	7681	7618	7270	7522	6822	6632	8030	-17%
Asia Oceania	5051	4910	5260	5480	4849	5659	5052	5097	4978	5644	5382	5%
<b>Total OECD</b>	<b>14002</b>	<b>14156</b>	<b>14838</b>	<b>15062</b>	<b>14542</b>	<b>15370</b>	<b>14379</b>	<b>14670</b>	<b>13773</b>	<b>14203</b>	<b>15410</b>	<b>-8%</b>
<b>LPG</b>												
Americas	22	20	25	37	21	24	18	10	35	28	52	-46%
Europe	252	242	255	253	249	236	284	285	234	288	288	0%
Asia Oceania	58	47	62	90	53	55	53	25	43	91	85	7%
<b>Total OECD</b>	<b>331</b>	<b>309</b>	<b>343</b>	<b>379</b>	<b>323</b>	<b>315</b>	<b>354</b>	<b>321</b>	<b>312</b>	<b>408</b>	<b>426</b>	<b>-4%</b>
<b>Naphtha</b>												
Americas	1	4	3	3	2	2	6	15	6	9	0	15000%
Europe	390	425	271	338	332	224	190	191	195	205	377	-46%
Asia Oceania	832	975	945	942	929	953	959	937	1016	1132	987	15%
<b>Total OECD</b>	<b>1223</b>	<b>1404</b>	<b>1219</b>	<b>1283</b>	<b>1263</b>	<b>1179</b>	<b>1155</b>	<b>1143</b>	<b>1218</b>	<b>1346</b>	<b>1365</b>	<b>-1%</b>
<b>Gasoline<sup>3</sup></b>												
Americas	195	248	174	111	233	214	137	204	161	103	99	4%
Europe	104	100	84	84	103	90	58	52	39	83	109	-23%
Asia Oceania	98	141	169	157	174	173	171	156	185	216	125	73%
<b>Total OECD</b>	<b>397</b>	<b>489</b>	<b>427</b>	<b>352</b>	<b>511</b>	<b>477</b>	<b>366</b>	<b>413</b>	<b>385</b>	<b>403</b>	<b>333</b>	<b>21%</b>
<b>Jet &amp; Kerosene</b>												
Americas	55	63	47	43	33	25	89	105	76	127	47	170%
Europe	297	298	393	303	381	464	423	405	354	435	275	58%
Asia Oceania	60	71	89	71	76	69	141	162	184	180	85	112%
<b>Total OECD</b>	<b>413</b>	<b>433</b>	<b>530</b>	<b>416</b>	<b>489</b>	<b>558</b>	<b>654</b>	<b>672</b>	<b>614</b>	<b>742</b>	<b>407</b>	<b>82%</b>
<b>Gasoi/Diesel</b>												
Americas	103	134	43	87	26	12	48	75	117	140	172	-19%
Europe	1062	1109	1108	1026	1062	1037	1305	1374	1121	1039	1011	3%
Asia Oceania	323	352	324	299	352	314	329	342	306	388	310	25%
<b>Total OECD</b>	<b>1488</b>	<b>1595</b>	<b>1475</b>	<b>1412</b>	<b>1439</b>	<b>1364</b>	<b>1682</b>	<b>1791</b>	<b>1544</b>	<b>1566</b>	<b>1493</b>	<b>5%</b>
<b>Heavy Fuel Oil</b>												
Americas	110	86	90	109	101	56	96	70	109	66	121	-46%
Europe	279	347	239	282	239	215	220	171	104	155	314	-51%
Asia Oceania	88	119	89	117	96	68	75	70	111	129	153	-16%
<b>Total OECD</b>	<b>477</b>	<b>552</b>	<b>418</b>	<b>508</b>	<b>436</b>	<b>339</b>	<b>391</b>	<b>311</b>	<b>324</b>	<b>349</b>	<b>588</b>	<b>-41%</b>
<b>Other Products</b>												
Americas	514	530	420	455	471	397	359	322	338	466	449	4%
Europe	352	398	421	481	379	433	394	312	324	411	600	-32%
Asia Oceania	130	155	133	148	114	141	131	106	120	148	149	0%
<b>Total OECD</b>	<b>996</b>	<b>1083</b>	<b>975</b>	<b>1083</b>	<b>964</b>	<b>971</b>	<b>884</b>	<b>741</b>	<b>782</b>	<b>1024</b>	<b>1198</b>	<b>-14%</b>
<b>Total Products</b>												
Americas	1000	1085	803	844	887	730	753	802	842	938	941	0%
Europe	2735	2920	2772	2767	2745	2701	2873	2791	2372	2616	2975	-12%
Asia Oceania	1590	1860	1812	1824	1792	1773	1858	1798	1965	2284	1894	21%
<b>Total OECD</b>	<b>5325</b>	<b>5864</b>	<b>5386</b>	<b>5434</b>	<b>5424</b>	<b>5203</b>	<b>5485</b>	<b>5392</b>	<b>5179</b>	<b>5838</b>	<b>5809</b>	<b>0%</b>
<b>Total Oil</b>												
Americas	2835	3067	2852	2876	2900	2824	2810	2852	2814	2865	2938	-3%
Europe	9850	10183	10301	10317	10425	10318	10144	10313	9194	9249	11005	-16%
Asia Oceania	6641	6769	7072	7304	6642	7431	6911	6896	6943	7928	7276	9%
<b>Total OECD</b>	<b>19327</b>	<b>20020</b>	<b>20224</b>	<b>20497</b>	<b>19966</b>	<b>20573</b>	<b>19864</b>	<b>20061</b>	<b>18952</b>	<b>20042</b>	<b>21220</b>	<b>-6%</b>

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels

conversion factors available at <https://www.iea.org/articles/oil-market-report-glossary#>.

<sup>2</sup> Excludes intra-regional trade.

<sup>3</sup> Includes additives.

**Table 7b**  
**INTER-REGIONAL OECD TRANSFERS<sup>1,2</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier	
											Feb 22	% change
<b>Crude Oil</b>												
Americas	60	95	66	64	62	68	72	68	94	51	78	-34%
Europe	1234	1252	1565	1342	1515	1681	1717	1706	1844	1871	1375	36%
Asia Oceania	527	610	578	621	514	538	641	678	602	599	730	-18%
<b>Total OECD</b>	<b>1821</b>	<b>1957</b>	<b>2210</b>	<b>2027</b>	<b>2091</b>	<b>2286</b>	<b>2430</b>	<b>2453</b>	<b>2540</b>	<b>2521</b>	<b>2182</b>	<b>16%</b>
<b>LPG</b>												
Americas	6	1	1	2	0	0	0	0	0	0	0	na
Europe	171	162	253	217	254	261	278	293	335	280	208	34%
Asia Oceania	501	516	518	591	517	478	486	527	635	512	584	-12%
<b>Total OECD</b>	<b>678</b>	<b>679</b>	<b>771</b>	<b>810</b>	<b>771</b>	<b>739</b>	<b>764</b>	<b>820</b>	<b>970</b>	<b>792</b>	<b>792</b>	<b>0%</b>
<b>Naphtha</b>												
Americas	6	4	3	2	4	4	2	2	3	2	3	-20%
Europe	20	87	35	61	77	1	1	0	20	15	19	-21%
Asia Oceania	170	172	101	136	42	110	115	123	84	92	106	-13%
<b>Total OECD</b>	<b>196</b>	<b>263</b>	<b>139</b>	<b>200</b>	<b>123</b>	<b>115</b>	<b>119</b>	<b>125</b>	<b>107</b>	<b>110</b>	<b>128</b>	<b>-14%</b>
<b>Gasoline<sup>3</sup></b>												
Americas	382	557	501	375	656	518	452	409	379	476	455	5%
Europe	5	6	17	18	22	18	11	12	15	8	11	-28%
Asia Oceania	18	5	0	0	0	0	0	0	0	0	0	71%
<b>Total OECD</b>	<b>404</b>	<b>567</b>	<b>518</b>	<b>393</b>	<b>679</b>	<b>536</b>	<b>464</b>	<b>422</b>	<b>394</b>	<b>484</b>	<b>466</b>	<b>4%</b>
<b>Jet &amp; Kerosene</b>												
Americas	103	102	87	78	90	90	88	102	72	91	75	22%
Europe	40	35	60	3	48	74	113	42	9	12	7	84%
Asia Oceania	0	0	0	0	1	0	0	0	0	0	0	na
<b>Total OECD</b>	<b>144</b>	<b>138</b>	<b>147</b>	<b>81</b>	<b>139</b>	<b>164</b>	<b>201</b>	<b>144</b>	<b>81</b>	<b>103</b>	<b>82</b>	<b>27%</b>
<b>Gasoil/Diesel</b>												
Americas	31	63	56	71	50	29	72	73	46	64	97	-34%
Europe	131	82	112	67	83	114	181	231	180	150	95	58%
Asia Oceania	4	0	0	0	0	0	0	0	0	0	0	311%
<b>Total OECD</b>	<b>166</b>	<b>146</b>	<b>167</b>	<b>138</b>	<b>133</b>	<b>143</b>	<b>254</b>	<b>304</b>	<b>226</b>	<b>214</b>	<b>192</b>	<b>12%</b>
<b>Heavy Fuel Oil</b>												
Americas	33	16	31	31	34	25	35	19	17	29	84	-66%
Europe	16	26	21	20	14	28	22	22	20	12	4	189%
Asia Oceania	0	0	0	0	0	0	0	1	0	0	0	na
<b>Total OECD</b>	<b>49</b>	<b>42</b>	<b>52</b>	<b>50</b>	<b>48</b>	<b>53</b>	<b>57</b>	<b>42</b>	<b>37</b>	<b>41</b>	<b>89</b>	<b>-54%</b>
<b>Other Products</b>												
Americas	78	50	77	41	64	105	98	84	124	44	35	25%
Europe	222	178	186	187	178	192	189	235	288	196	211	-7%
Asia Oceania	77	78	73	73	69	77	71	76	78	62	88	-30%
<b>Total OECD</b>	<b>377</b>	<b>306</b>	<b>336</b>	<b>301</b>	<b>310</b>	<b>374</b>	<b>358</b>	<b>396</b>	<b>490</b>	<b>302</b>	<b>334</b>	<b>-10%</b>
<b>Total Products</b>												
Americas	639	793	755	600	899	772	748	691	641	706	750	-6%
Europe	604	577	683	572	676	688	795	836	867	673	555	21%
Asia Oceania	770	771	691	801	628	665	673	726	797	666	777	-14%
<b>Total OECD</b>	<b>2013</b>	<b>2141</b>	<b>2130</b>	<b>1973</b>	<b>2203</b>	<b>2125</b>	<b>2217</b>	<b>2252</b>	<b>2304</b>	<b>2046</b>	<b>2082</b>	<b>-2%</b>
<b>Total Oil</b>												
Americas	699	888	822	663	961	840	820	759	735	757	827	-8%
Europe	1838	1829	2249	1914	2191	2368	2513	2542	2710	2544	1930	32%
Asia Oceania	1297	1381	1270	1422	1141	1203	1314	1404	1398	1266	1508	-16%
<b>Total OECD</b>	<b>3834</b>	<b>4098</b>	<b>4340</b>	<b>3999</b>	<b>4294</b>	<b>4411</b>	<b>4647</b>	<b>4705</b>	<b>4844</b>	<b>4568</b>	<b>4265</b>	<b>7%</b>

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels conversion factors available at <https://www.iea.org/articles/oil-market-report-glossary#>.

<sup>2</sup> Excludes intra-regional trade.

<sup>3</sup> Includes additives.

**Table 8**  
**REGIONAL OECD CRUDE IMPORTS BY SOURCE<sup>1</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier Feb 22	change
<b>OECD Americas</b>												
Venezuela	-	-	-	-	-	-	-	-	40	58	-	-
Other Central & South America	745	719	845	780	802	917	878	845	817	762	826	-65
North Sea	59	92	64	64	62	60	72	68	94	51	78	-27
Other OECD Europe	1	3	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	91	229	43	103	27	25	19	-	33	37	110	-73
Saudi Arabia	588	427	535	571	569	487	516	567	486	462	517	-56
Kuwait	21	21	27	24	25	14	42	48	12	18	13	4
Iran	-	3	1	6	-	-	-	-	-	-	-	-
Iraq	177	152	244	225	229	277	245	276	252	298	235	63
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	5	17	12	10	19	19	-	-	-	-	-	-
Other Middle East	-	-	-	-	-	-	-	-	-	-	-	-
West Africa <sup>2</sup>	145	228	186	171	211	201	160	169	234	213	178	35
Other Africa	45	161	153	144	131	139	196	146	100	78	117	-38
Asia	17	25	5	-	-	21	-	-	-	-	-	-
Other	3	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1896</b>	<b>2077</b>	<b>2115</b>	<b>2096</b>	<b>2075</b>	<b>2161</b>	<b>2128</b>	<b>2119</b>	<b>2067</b>	<b>1978</b>	<b>2075</b>	<b>-97</b>
<b>of which Non-OECD</b>	<b>1835</b>	<b>1982</b>	<b>2049</b>	<b>2033</b>	<b>2012</b>	<b>2093</b>	<b>2056</b>	<b>2050</b>	<b>1973</b>	<b>1927</b>	<b>1998</b>	<b>-71</b>
<b>OECD Europe</b>												
Canada	95	83	129	79	139	125	173	182	98	183	100	83
Mexico + USA	1139	1169	1436	1263	1376	1556	1544	1525	1745	1688	1274	413
Venezuela	44	-	15	-	-	35	23	33	-	-	-	-
Other Central & South America	208	219	407	217	402	562	443	448	537	665	180	485
Non-OECD Europe	25	23	15	20	12	12	15	16	22	17	26	-8
Former Soviet Union	3504	3538	3179	4060	3197	2951	2527	2357	1945	1665	4657	-2991
Saudi Arabia	756	518	764	523	779	867	882	1054	1035	791	482	310
Kuwait	48	0	-	-	-	-	-	-	-	-	-	-
Iran	6	1	-	-	-	-	-	-	-	-	-	-
Iraq	814	912	989	881	1013	1121	940	914	962	732	902	-170
Oman	-	-	-	-	-	-	-	-	0	34	-	-
United Arab Emirates	-	-	48	-	31	86	76	88	67	33	-	-
Other Middle East	8	9	7	-	6	11	10	-	-	34	-	-
West Africa <sup>2</sup>	1074	822	1003	807	1169	971	1063	1224	1203	980	694	287
Other Africa	596	1197	1074	996	1038	981	1280	1387	990	1128	1055	73
Asia	0	0	1	5	-	-	-	-	-	-	-	-
Other	11	1	3	3	8	-	-	-	-	486	-	-
<b>Total</b>	<b>8329</b>	<b>8493</b>	<b>9071</b>	<b>8855</b>	<b>9170</b>	<b>9278</b>	<b>8978</b>	<b>9228</b>	<b>8605</b>	<b>8437</b>	<b>9369</b>	<b>-932</b>
<b>of which Non-OECD</b>	<b>7115</b>	<b>7264</b>	<b>7529</b>	<b>7550</b>	<b>7681</b>	<b>7618</b>	<b>7270</b>	<b>7522</b>	<b>6822</b>	<b>6632</b>	<b>8030</b>	<b>-1398</b>
<b>OECD Asia Oceania</b>												
Canada	1	16	6	9	6	10	-	-	-	-	11	-
Mexico + USA	477	496	538	582	452	486	633	678	602	599	642	-43
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	91	110	120	129	102	140	109	101	105	88	84	4
North Sea	49	98	34	30	56	42	8	-	-	-	77	-
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	300	335	238	405	272	116	161	171	126	149	403	-254
Saudi Arabia	1867	1766	1991	2029	1862	2040	2033	2228	2125	2173	2025	148
Kuwait	584	506	534	624	472	516	524	542	571	632	624	7
Iran	-	-	-	-	-	-	-	-	-	-	-	-
Iraq	224	167	220	172	204	262	241	217	235	258	207	51
Oman	22	32	40	28	39	68	26	15	32	54	18	36
United Arab Emirates	1096	1083	1287	1145	1200	1509	1288	1276	1118	1330	1084	247
Other Middle East	387	362	370	442	326	424	289	287	295	435	425	10
West Africa <sup>2</sup>	65	71	64	52	61	88	55	45	14	10	35	-25
Other Africa	42	56	37	42	31	32	43	40	48	64	22	42
Non-OECD Asia	161	175	122	126	130	97	134	128	116	113	137	-24
Other	210	241	234	277	151	367	142	47	191	338	315	23
<b>Total</b>	<b>5577</b>	<b>5515</b>	<b>5835</b>	<b>6093</b>	<b>5363</b>	<b>6197</b>	<b>5689</b>	<b>5776</b>	<b>5580</b>	<b>6243</b>	<b>6109</b>	<b>134</b>
<b>of which Non-OECD</b>	<b>5051</b>	<b>4910</b>	<b>5260</b>	<b>5480</b>	<b>4849</b>	<b>5659</b>	<b>5052</b>	<b>5097</b>	<b>4978</b>	<b>5644</b>	<b>5382</b>	<b>262</b>
<b>Total OECD Trade</b>	<b>15801</b>	<b>16085</b>	<b>17022</b>	<b>17044</b>	<b>16608</b>	<b>17636</b>	<b>16795</b>	<b>17122</b>	<b>16252</b>	<b>16658</b>	<b>17553</b>	<b>-895</b>
<b>of which Non-OECD</b>	<b>14002</b>	<b>14156</b>	<b>14838</b>	<b>15062</b>	<b>14542</b>	<b>15370</b>	<b>14379</b>	<b>14670</b>	<b>13773</b>	<b>14203</b>	<b>15410</b>	<b>-1207</b>

<sup>1</sup> 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.

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

**Table 9**  
**REGIONAL OECD GASOLINE IMPORTS BY SOURCE<sup>1</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier		
											Feb 22	change	
<b>OECD Americas</b>													
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	40	41	45	12	44	61	62	123	93	15	6	9	
ARA (Belgium Germany Netherlands)	149	194	170	126	255	199	100	84	86	118	132	-14	
Other Europe	213	327	293	222	364	266	320	295	281	312	293	19	
FSU	56	83	8	31	3	0	-	-	-	-	40	-	
Saudi Arabia	6	24	27	6	62	19	20	20	-	-	-	-	
Algeria	4	1	1	-	-	2	1	-	-	-	-	-	
Other Middle East & Africa	13	13	14	8	14	22	13	11	10	13	7	6	
Singapore	1	4	2	-	-	4	2	7	2	-	-	-	
OECD Asia Oceania	21	37	38	27	39	54	32	31	13	48	30	17	
Non-OECD Asia (excl. Singapore)	72	81	76	53	108	107	38	42	48	66	46	20	
Other	-	0	0	-	0	-	0	1	8	8	-	-	
<b>Total<sup>2</sup></b>	<b>576</b>	<b>805</b>	<b>675</b>	<b>485</b>	<b>890</b>	<b>733</b>	<b>590</b>	<b>613</b>	<b>540</b>	<b>579</b>	<b>554</b>	<b>24</b>	
<b>of which Non-OECD</b>	<b>195</b>	<b>248</b>	<b>174</b>	<b>111</b>	<b>233</b>	<b>214</b>	<b>137</b>	<b>204</b>	<b>161</b>	<b>103</b>	<b>99</b>	<b>4</b>	
<b>OECD Europe</b>													
OECD Americas	3	5	16	17	21	17	11	11	15	8	10	-3	
Venezuela	0	2	2	2	2	3	2	-	2	4	-	-	
Other Central & South America	4	7	10	14	4	14	6	6	2	15	30	-15	
Non-OECD Europe	16	10	8	5	6	14	6	2	12	10	1	9	
FSU	31	8	9	7	24	3	2	2	1	21	7	14	
Saudi Arabia	8	3	1	0	1	2	-	-	-	-	-	-	
Algeria	1	-	6	-	12	7	4	-	4	10	-	-	
Other Middle East & Africa	3	5	7	11	9	6	5	5	4	4	20	-16	
Singapore	2	0	2	1	2	1	3	5	2	1	1	0	
OECD Asia Oceania	1	1	1	1	1	1	1	1	-	0	0	0	
Non-OECD Asia (excl. Singapore)	0	3	3	3	2	4	3	2	3	3	3	0	
Other	37	62	36	41	41	37	26	32	10	15	47	-32	
<b>Total<sup>2</sup></b>	<b>107</b>	<b>106</b>	<b>101</b>	<b>102</b>	<b>125</b>	<b>108</b>	<b>69</b>	<b>65</b>	<b>54</b>	<b>91</b>	<b>119</b>	<b>-28</b>	
<b>of which Non-OECD</b>	<b>104</b>	<b>100</b>	<b>84</b>	<b>84</b>	<b>103</b>	<b>90</b>	<b>58</b>	<b>52</b>	<b>39</b>	<b>83</b>	<b>109</b>	<b>-26</b>	
<b>OECD Asia Oceania</b>													
OECD Americas	4	1	0	0	0	0	0	0	0	0	0	0	
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	
Other Central & South America	-	-	-	-	-	-	-	-	-	-	-	-	
ARA (Belgium Germany Netherlands)	4	4	0	0	0	-	0	0	0	0	-	-	
Other Europe	10	0	0	0	0	-	0	0	0	0	-	-	
FSU	0	-	-	-	-	-	-	-	-	-	-	-	
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-	
Algeria	-	-	-	-	-	-	-	-	-	-	-	-	
Other Middle East & Africa	1	-	-	-	-	-	-	-	-	-	-	-	
Singapore	51	100	126	135	122	121	125	119	144	159	112	47	
Non-OECD Asia (excl. Singapore)	37	29	30	14	44	35	26	27	31	48	3	45	
Other	9	12	13	9	9	16	20	10	10	10	10	0	
<b>Total<sup>2</sup></b>	<b>116</b>	<b>146</b>	<b>169</b>	<b>157</b>	<b>175</b>	<b>173</b>	<b>171</b>	<b>156</b>	<b>185</b>	<b>216</b>	<b>125</b>	<b>92</b>	
<b>of which Non-OECD</b>	<b>98</b>	<b>141</b>	<b>169</b>	<b>157</b>	<b>174</b>	<b>173</b>	<b>171</b>	<b>156</b>	<b>185</b>	<b>216</b>	<b>125</b>	<b>92</b>	
<b>Total OECD Trade<sup>2</sup></b>	<b>799</b>	<b>1057</b>	<b>945</b>	<b>745</b>	<b>1190</b>	<b>1014</b>	<b>830</b>	<b>834</b>	<b>779</b>	<b>886</b>	<b>799</b>	<b>87</b>	
<b>of which Non-OECD</b>	<b>397</b>	<b>489</b>	<b>427</b>	<b>352</b>	<b>511</b>	<b>477</b>	<b>366</b>	<b>413</b>	<b>385</b>	<b>403</b>	<b>333</b>	<b>70</b>	

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

<sup>2</sup> Total figure excludes intra-regional trade.

**Table 10**  
**REGIONAL OECD GASOIL/DIESEL IMPORTS BY SOURCE<sup>1</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier		
											Feb 22	change	
<b>OECD Americas</b>													
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	34	28	6	3	6	12	3	6	10	23	-	-	
ARA (Belgium Germany Netherlands)	11	34	15	40	6	3	11	13	8	2	76	-74	
Other Europe	4	5	2	2	3	0	3	4	0	-	8	-	
FSU	12	25	6	25	-	-	-	-	-	-	77	-	
Saudi Arabia	8	15	9	18	15	-	5	9	1	27	52	-26	
Algeria	-	-	-	-	-	-	-	-	-	-	-	-	
Other Middle East and Africa	9	25	4	8	-	-	8	6	11	-	19	-	
Singapore	-	2	1	2	-	-	2	5	2	6	-	-	
OECD Asia Oceania	16	25	39	29	42	26	58	56	37	62	13	49	
Non-OECD Asia (excl. Singapore)	34	27	5	0	2	-	17	35	67	72	-	-	
Other	6	12	11	31	3	-	13	15	25	12	23	-11	
<b>Total<sup>2</sup></b>	<b>134</b>	<b>197</b>	<b>99</b>	<b>158</b>	<b>76</b>	<b>41</b>	<b>120</b>	<b>148</b>	<b>162</b>	<b>204</b>	<b>269</b>	<b>-65</b>	
<b>of which Non-OECD</b>	<b>103</b>	<b>134</b>	<b>43</b>	<b>87</b>	<b>26</b>	<b>12</b>	<b>48</b>	<b>75</b>	<b>117</b>	<b>140</b>	<b>172</b>	<b>-32</b>	
<b>OECD Europe</b>													
OECD Americas	99	40	82	31	61	97	136	187	166	111	52	59	
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	
Other Central and South America	3	1	1	1	1	3	0	-	-	-	-	-	
Non-OECD Europe	30	35	43	39	46	43	45	36	13	33	29	4	
FSU	627	611	528	595	472	506	538	603	414	205	614	-409	
Saudi Arabia	193	140	166	98	163	186	216	182	234	210	39	171	
Algeria	2	-	-	-	-	-	-	-	-	-	-	-	
Other Middle East and Africa	71	158	161	137	160	147	199	169	200	291	103	188	
Singapore	17	19	37	39	50	28	33	39	28	28	87	-59	
OECD Asia Oceania	32	42	30	36	22	18	45	44	14	40	43	-4	
Non-OECD Asia (excl. Singapore)	101	126	153	88	149	105	268	344	231	221	90	131	
Other	15	20	18	30	20	19	6	1	1	50	49	1	
<b>Total<sup>2</sup></b>	<b>1190</b>	<b>1191</b>	<b>1220</b>	<b>1092</b>	<b>1145</b>	<b>1152</b>	<b>1486</b>	<b>1605</b>	<b>1301</b>	<b>1189</b>	<b>1107</b>	<b>82</b>	
<b>of which Non-OECD</b>	<b>1062</b>	<b>1109</b>	<b>1108</b>	<b>1026</b>	<b>1062</b>	<b>1037</b>	<b>1305</b>	<b>1374</b>	<b>1121</b>	<b>1039</b>	<b>1011</b>	<b>27</b>	
<b>OECD Asia Oceania</b>													
OECD Americas	4	0	0	-	-	-	0	0	0	-	-	-	
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	
Other Central and South America	0	-	-	-	-	-	-	-	-	-	-	-	
ARA (Belgium Germany Netherlands)	0	0	0	0	0	0	0	0	0	-	0	-	
Other Europe	-	0	-	-	-	-	-	-	-	0	-	-	
FSU	2	1	-	-	-	-	-	-	-	-	-	-	
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-	
Algeria	-	-	-	-	-	-	-	-	-	-	-	-	
Other Middle East and Africa	13	4	6	-	11	14	-	-	-	-	-	-	
Singapore	91	109	112	123	117	112	97	83	91	151	141	9	
Non-OECD Asia (excl. Singapore)	208	229	193	168	217	177	210	242	209	232	158	74	
Other	9	8	12	8	7	11	22	17	6	5	10	-6	
<b>Total<sup>2</sup></b>	<b>328</b>	<b>352</b>	<b>324</b>	<b>299</b>	<b>352</b>	<b>314</b>	<b>329</b>	<b>342</b>	<b>306</b>	<b>388</b>	<b>310</b>	<b>78</b>	
<b>of which Non-OECD</b>	<b>323</b>	<b>352</b>	<b>324</b>	<b>299</b>	<b>352</b>	<b>314</b>	<b>329</b>	<b>342</b>	<b>306</b>	<b>388</b>	<b>310</b>	<b>78</b>	
<b>Total OECD Trade<sup>2</sup></b>	<b>1652</b>	<b>1740</b>	<b>1642</b>	<b>1550</b>	<b>1572</b>	<b>1507</b>	<b>1935</b>	<b>2095</b>	<b>1770</b>	<b>1781</b>	<b>1685</b>	<b>95</b>	
<b>of which Non-OECD</b>	<b>1488</b>	<b>1595</b>	<b>1475</b>	<b>1412</b>	<b>1439</b>	<b>1364</b>	<b>1682</b>	<b>1791</b>	<b>1544</b>	<b>1566</b>	<b>1493</b>	<b>73</b>	

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

<sup>2</sup> Total figure excludes intra-regional trade.

**Table 11**  
**REGIONAL OECD JET AND KEROSENE IMPORTS BY SOURCE<sup>1</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier	
											Feb 22	change
<b>OECD Americas</b>												
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	5	1	0	-	-	-	1	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	5	0	-	0	-	0	-	-	-	-	-
Other Europe	4	7	1	0	1	-	4	11	-	1	-	-
FSU	0	4	1	3	-	-	-	-	-	-	9	-
Saudi Arabia	6	6	1	5	-	-	1	2	-	5	6	-1
Algeria	1	4	0	-	-	-	1	-	-	-	-	-
Other Middle East and Africa	11	18	16	11	10	6	38	43	28	50	11	39
Singapore	4	2	1	2	2	1	2	3	-	-	3	-
OECD Asia Oceania	100	91	85	78	90	90	85	91	72	90	75	16
Non-OECD Asia (excl. Singapore)	23	27	24	17	18	17	44	52	37	72	18	54
Other	4	1	3	5	4	1	1	4	11	-	-	-
<b>Total<sup>2</sup></b>	<b>159</b>	<b>165</b>	<b>134</b>	<b>120</b>	<b>123</b>	<b>115</b>	<b>177</b>	<b>207</b>	<b>148</b>	<b>218</b>	<b>122</b>	<b>96</b>
<b>of which Non-OECD</b>	<b>55</b>	<b>63</b>	<b>47</b>	<b>43</b>	<b>33</b>	<b>25</b>	<b>89</b>	<b>105</b>	<b>76</b>	<b>127</b>	<b>47</b>	<b>80</b>
<b>OECD Europe</b>												
OECD Americas	13	3	6	1	4	6	11	3	6	4	2	2
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	0	0	0	-	1	1	-	-	-	-	-	-
Non-OECD Europe	0	0	3	-	4	4	5	4	2	-	-	-
FSU	21	27	16	20	12	16	14	12	18	12	30	-18
Saudi Arabia	40	27	54	37	58	62	61	49	69	39	21	18
Algeria	9	5	4	3	8	5	-	-	-	-	11	-
Other Middle East and Africa	155	155	174	154	186	210	145	116	128	232	133	98
Singapore	10	11	13	6	11	26	10	16	6	-	-	-
OECD Asia Oceania	27	32	54	2	44	68	102	39	3	8	5	3
Non-OECD Asia (excl. Singapore)	50	62	122	78	95	125	188	207	128	150	80	70
Other	10	9	5	4	2	14	0	1	2	1	0	0
<b>Total<sup>2</sup></b>	<b>336</b>	<b>333</b>	<b>452</b>	<b>306</b>	<b>425</b>	<b>538</b>	<b>536</b>	<b>447</b>	<b>361</b>	<b>446</b>	<b>282</b>	<b>164</b>
<b>of which Non-OECD</b>	<b>297</b>	<b>298</b>	<b>393</b>	<b>303</b>	<b>381</b>	<b>464</b>	<b>423</b>	<b>405</b>	<b>354</b>	<b>435</b>	<b>275</b>	<b>160</b>
<b>OECD Asia Oceania</b>												
OECD Americas	-	0	0	0	0	-	0	0	-	0	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	0	0	-	-	-	0	0	-	-	-	-
Other Europe	-	0	0	-	1	-	-	-	-	-	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	-	1	0	-	0	-	0	0	0	0	-	-
Singapore	14	16	34	26	28	42	39	26	25	56	31	25
Non-OECD Asia (excl. Singapore)	28	34	38	20	38	20	73	83	117	73	23	50
Other	18	21	18	25	9	7	29	53	42	51	31	20
<b>Total<sup>2</sup></b>	<b>60</b>	<b>71</b>	<b>90</b>	<b>71</b>	<b>76</b>	<b>69</b>	<b>141</b>	<b>162</b>	<b>184</b>	<b>180</b>	<b>85</b>	<b>95</b>
<b>of which Non-OECD</b>	<b>60</b>	<b>71</b>	<b>89</b>	<b>71</b>	<b>76</b>	<b>69</b>	<b>141</b>	<b>162</b>	<b>184</b>	<b>180</b>	<b>85</b>	<b>95</b>
<b>Total OECD Trade<sup>2</sup></b>	<b>555</b>	<b>570</b>	<b>676</b>	<b>497</b>	<b>624</b>	<b>722</b>	<b>855</b>	<b>816</b>	<b>693</b>	<b>843</b>	<b>489</b>	<b>354</b>
<b>of which Non-OECD</b>	<b>413</b>	<b>433</b>	<b>530</b>	<b>416</b>	<b>489</b>	<b>558</b>	<b>654</b>	<b>672</b>	<b>614</b>	<b>742</b>	<b>407</b>	<b>334</b>

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

<sup>2</sup> Total figure excludes intra-regional trade.

**Table 12**  
**REGIONAL OECD RESIDUAL FUEL OIL IMPORTS BY SOURCE<sup>1</sup>**  
(thousand barrels per day)

	2020	2021	2022	1Q22	2Q22	3Q22	4Q22	Dec 22	Jan 23	Feb 23	Year Earlier	
											Feb 22	change
<b>OECD Americas</b>												
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	52	34	53	55	53	36	69	64	69	30	60	-29
ARA (Belgium Germany Netherlands)	12	6	12	6	11	14	18	-	9	17	17	0
Other Europe	21	10	19	25	23	11	18	19	8	12	67	-55
FSU	43	34	21	46	24	4	9	2	0	-	60	-
Saudi Arabia	2	0	7	1	12	8	6	2	9	-	0	-
Algeria	2	7	4	-	10	4	1	-	10	24	-	-
Other Middle East and Africa	10	8	4	6	1	3	5	2	13	9	1	8
Singapore	1	0	-	-	-	-	-	-	-	-	-	-
OECD Asia Oceania	-	0	-	-	-	-	-	-	-	-	-	-
Non-OECD Asia (excl. Singapore)	-	2	2	-	-	2	6	0	8	2	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total<sup>2</sup></b>	<b>143</b>	<b>102</b>	<b>122</b>	<b>139</b>	<b>135</b>	<b>82</b>	<b>132</b>	<b>89</b>	<b>126</b>	<b>95</b>	<b>206</b>	<b>-111</b>
<b>of which Non-OECD</b>	<b>110</b>	<b>86</b>	<b>90</b>	<b>109</b>	<b>101</b>	<b>56</b>	<b>96</b>	<b>70</b>	<b>109</b>	<b>66</b>	<b>121</b>	<b>-55</b>
<b>OECD Europe</b>												
OECD Americas	12	24	13	13	6	21	11	9	4	6	4	2
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	6	4	5	1	3	6	10	10	2	4	-	-
Non-OECD Europe	13	12	31	17	35	47	25	18	23	9	5	4
FSU	141	247	121	216	119	89	63	93	51	40	290	-250
Saudi Arabia	2	-	-	-	-	-	-	-	1	-	-	-
Algeria	2	2	5	-	13	4	2	-	7	8	-	-
Other Middle East and Africa	13	14	21	11	34	9	31	2	1	42	12	30
Singapore	3	3	2	5	0	2	0	1	2	-	-	-
OECD Asia Oceania	4	3	8	7	7	7	11	14	16	6	-	-
Non-OECD Asia (excl. Singapore)	-	-	2	-	-	3	6	5	16	0	-	-
Other	93	59	45	30	33	51	67	40	1	46	3	43
<b>Total<sup>2</sup></b>	<b>288</b>	<b>368</b>	<b>254</b>	<b>300</b>	<b>251</b>	<b>238</b>	<b>227</b>	<b>192</b>	<b>124</b>	<b>162</b>	<b>315</b>	<b>-153</b>
<b>of which Non-OECD</b>	<b>279</b>	<b>347</b>	<b>239</b>	<b>282</b>	<b>239</b>	<b>215</b>	<b>220</b>	<b>171</b>	<b>104</b>	<b>155</b>	<b>314</b>	<b>-159</b>
<b>OECD Asia Oceania</b>												
OECD Americas	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	0	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	0	0	-	0	-	0	1	-	-	-	-
Other Europe	-	-	0	-	-	-	0	-	-	-	-	-
FSU	5	0	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	13	16	12	29	15	7	-	10	-	9	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	38	30	7	6	6	2	13	19	8	-	-	-
Singapore	18	29	22	34	21	19	14	24	33	68	19	49
Non-OECD Asia (excl. Singapore)	26	47	44	64	39	32	40	27	59	61	125	-64
Other	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total<sup>2</sup></b>	<b>88</b>	<b>119</b>	<b>89</b>	<b>117</b>	<b>96</b>	<b>68</b>	<b>75</b>	<b>71</b>	<b>111</b>	<b>129</b>	<b>153</b>	<b>-24</b>
<b>of which Non-OECD</b>	<b>88</b>	<b>119</b>	<b>89</b>	<b>117</b>	<b>96</b>	<b>68</b>	<b>75</b>	<b>70</b>	<b>111</b>	<b>129</b>	<b>153</b>	<b>-24</b>
<b>Total OECD Trade<sup>2</sup></b>	<b>519</b>	<b>588</b>	<b>464</b>	<b>556</b>	<b>482</b>	<b>387</b>	<b>434</b>	<b>352</b>	<b>361</b>	<b>385</b>	<b>674</b>	<b>-288</b>
<b>of which Non-OECD</b>	<b>477</b>	<b>552</b>	<b>418</b>	<b>508</b>	<b>436</b>	<b>339</b>	<b>391</b>	<b>311</b>	<b>324</b>	<b>349</b>	<b>588</b>	<b>-238</b>

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

<sup>2</sup> Total figure excludes intra-regional trade.

**Table 13**  
**AVERAGE IEA CIF CRUDE COST AND SPOT CRUDE AND PRODUCT PRICES**

	2020	2021	2022	2Q22	3Q22	4Q22	1Q23	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23
<b>CRUDE PRICES</b>													
<b>IEA CIF Average Import<sup>1</sup></b>													
IEA Europe	42.91	70.67	100.22	111.08	102.36	89.43		91.79	84.84	82.72	82.77		
IEA Americas	37.31	64.78	90.77	106.20	92.16	77.18		78.56	71.47	68.27	68.51		
IEA Asia Oceania	46.28	70.41	102.56	113.01	111.62	96.43		94.84	91.9	86.82	86.84		
<b>IEA Total</b>	<b>42.19</b>	<b>68.87</b>	<b>98.2</b>	<b>110.17</b>	<b>101.9</b>	<b>87.97</b>		<b>89.14</b>	<b>83.17</b>	<b>79.73</b>	<b>79.83</b>		
<b>SPOT PRICES<sup>2</sup></b>													
North Sea Dated	41.76	70.82	101.10	113.90	100.66	88.36	81.11	91.10	80.36	82.86	82.50	78.29	84.84
North Sea Dated M1	42.90	71.51	101.17	114.15	100.16	89.54	82.37	92.28	81.31	84.19	83.74	79.51	84.29
WTI (Cushing) M1	39.25	68.10	94.67	108.77	91.91	82.82	75.96	84.78	76.50	78.11	76.84	73.37	79.44
WTI (Houston) M1	40.71	69.01	96.27	109.96	94.04	84.33	77.74	86.27	77.21	79.59	79.28	74.86	80.31
Urals	41.21	69.00	76.58	79.11	75.41	62.46	46.77	65.40	47.87	45.83	46.78	47.60	58.00
Dubai M1	42.36	69.35	96.32	108.12	96.79	84.68	80.20	86.12	77.09	80.41	82.05	78.42	83.40
<b>PRODUCT PRICES<sup>2</sup></b>													
<b>Northwest Europe</b>													
Gasoline	44.64	80.07	117.16	146.06	114.30	99.41	96.17	102.07	84.51	97.41	96.35	94.89	103.69
Diesel	49.34	78.41	142.39	160.84	145.21	139.55	113.71	134.75	120.56	124.73	109.89	106.98	100.97
Jet/Kero	45.80	77.31	139.96	165.15	142.09	130.90	114.74	132.07	121.11	128.40	112.29	104.39	100.50
Naphtha	40.18	71.58	86.64	97.26	77.03	72.63	77.95	75.15	66.76	77.51	80.77	75.90	76.17
HSFO	33.99	61.18	76.72	92.98	70.72	59.67	60.51	61.74	56.80	60.32	60.62	60.60	70.30
0.5% Fuel Oil	48.50	76.78	107.14	126.09	106.56	87.19	83.99	88.73	77.95	85.56	85.41	81.33	83.18
<b>Mediterranean Europe</b>													
Gasoline	45.57	80.50	119.90	147.99	117.35	103.89	100.36	112.24	89.60	100.32	99.83	100.85	104.65
Diesel	48.82	77.93	136.16	156.54	136.06	130.46	112.08	129.87	112.15	123.96	108.43	104.41	99.34
Jet/Kero	45.57	77.19	140.07	164.87	142.30	131.28	114.89	132.50	121.36	128.65	112.51	104.39	100.50
Naphtha	39.04	70.65	84.74	94.95	75.37	70.36	75.83	73.01	64.08	75.83	78.84	73.22	73.96
HSFO	34.17	60.05	73.58	89.63	65.84	56.73	56.97	58.64	53.81	55.53	56.03	59.10	68.44
<b>US Gulf Coast</b>													
Gasoline	47.30	86.49	123.12	153.69	119.07	103.04	105.58	102.36	90.55	106.15	103.64	106.68	109.52
Diesel	50.26	84.73	145.79	167.83	146.96	141.65	120.39	141.16	124.37	133.56	116.17	112.42	105.72
Jet/Kero	46.30	77.95	140.06	163.46	140.49	134.73	125.00	133.22	122.36	148.09	117.43	111.18	99.44
Naphtha	40.12	72.24	91.33	105.15	84.63	76.09	80.92	76.50	70.75	84.75	80.36	78.04	77.93
HSFO	34.71	59.90	77.10	93.04	76.51	55.48	57.10	59.87	54.18	55.23	57.56	58.34	66.85
0.5% Fuel Oil	49.88	79.69	113.04	133.17	112.20	92.69	90.54	94.68	82.69	91.63	93.47	87.17	88.34
<b>Singapore</b>													
Gasoline	45.28	78.49	110.99	137.95	106.08	89.89	95.15	93.11	85.09	95.49	95.86	94.25	96.26
Diesel	49.60	77.80	135.52	159.99	138.17	126.25	108.44	127.61	113.75	116.12	107.64	102.80	98.44
Jet/Kero	45.06	75.29	126.96	147.63	129.57	118.30	106.38	121.01	110.22	115.07	106.77	98.86	96.68
Naphtha	40.94	71.02	83.96	92.73	74.63	70.92	74.21	74.22	66.34	72.52	76.98	73.19	71.48
HSFO	38.33	63.20	77.81	98.18	69.96	58.60	62.36	61.74	56.28	58.90	62.14	65.41	72.77
0.5% Fuel Oil	52.85	80.81	116.91	139.05	116.26	97.77	90.95	99.25	88.14	92.84	94.11	86.64	89.84

<sup>1</sup>IEA CIF Average Import price for Feb 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.

<sup>2</sup> Copyright © 2023 Argus Media Limited - All rights Reserved. Currently, no 0.5% Fuel Oil assessment for Mediterranean is available.



**Table 14**  
**MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS**

April 2023

	NATIONAL CURRENCY <sup>1</sup>						US DOLLARS					
	Total Price	% change from		Ex-Tax Price	% change from		Total Price	% change from		Ex-Tax Price	% change from	
		Mar-23	Apr-22		Mar-23	Apr-22		Mar-23	Apr-22		Mar-23	Apr-22
<b>GASOLINE <sup>2</sup> (per litre)</b>												
France	1.946	1.9	7.8	0.931	3.4	-3.3	2.134	4.4	9.4	1.021	5.9	-1.9
Germany	1.861	2.1	-8.6	0.841	4.1	-20.4	2.040	4.6	-7.3	0.922	6.5	-19.2
Italy	1.874	1.1	5.6	0.808	2.0	-17.2	2.055	3.5	7.2	0.886	4.4	-16.0
Spain	1.642	0.4	-2.0	0.884	0.6	-15.5	1.800	2.7	-0.5	0.969	3.0	-14.2
United Kingdom	1.459	-0.7	-9.9	0.686	-1.2	-16.2	1.816	1.9	-13.2	0.854	1.4	-19.3
Japan	168.2	0.4	-3.1	96.3	0.6	-4.8	1.261	0.7	-8.2	0.722	0.9	-9.9
Canada	1.617	5.6	-8.0	1.120	5.1	-10.2	1.199	7.2	-13.9	0.831	6.6	-15.9
United States	0.952	5.3	-12.3	0.820	6.2	-14.1	0.952	5.3	-12.3	0.820	6.2	-14.1
<b>AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)</b>												
France	1.793	-1.6	-3.7	0.885	-2.6	-19.0	1.966	0.7	-2.2	0.970	-0.3	-17.8
Germany	1.678	-2.6	-17.4	0.865	-4.2	-30.1	1.840	-0.3	-16.1	0.948	-1.9	-29.0
Italy	1.760	-2.5	-0.6	0.826	-4.3	-23.9	1.930	-0.2	0.9	0.906	-2.0	-22.7
Spain	1.517	-3.6	-10.9	0.875	-5.1	-24.8	1.663	-1.3	-9.5	0.959	-2.8	-23.6
United Kingdom	1.625	-2.5	-7.8	0.824	-4.0	-12.2	2.022	0.0	-11.2	1.026	-1.5	-15.4
Japan	148.3	0.4	-3.3	102.8	0.5	-4.3	1.112	0.7	-8.4	0.771	0.7	-9.3
Canada	1.639	-3.5	-16.5	1.177	-6.6	-20.6	1.215	-2.1	-21.9	0.873	-5.2	-25.6
United States	1.083	-2.7	-20.0	0.929	-3.1	-22.7	1.083	-2.7	-20.0	0.929	-3.1	-22.7
<b>DOMESTIC HEATING OIL (per litre)</b>												
France	1.264	-2.0	-15.8	0.897	-2.3	-18.1	1.386	0.3	-14.6	0.984	-0.0	-16.9
Germany	1.068	-3.0	-22.4	0.756	-3.5	-31.0	1.171	-0.7	-21.2	0.828	-1.2	-29.9
Italy	1.507	-2.9	-14.5	0.832	-4.2	-20.1	1.653	-0.6	-13.2	0.913	-2.0	-18.9
Spain	1.007	-5.3	-24.6	0.735	-6.0	-26.9	1.104	-3.1	-23.4	0.806	-3.7	-25.8
United Kingdom	0.798	-0.4	-24.7	0.659	-0.4	-26.7	0.994	2.2	-27.5	0.820	2.1	-29.4
Japan <sup>3</sup>	111.1	0.1	-2.0	98.2	0.1	-2.1	0.833	0.3	-7.2	0.736	0.4	-7.2
Canada	1.548	-5.9	-20.2	1.366	-6.6	-21.0	1.148	-4.5	-25.3	1.013	-5.3	-26.0
United States	-	-	-	-	-	-	-	-	-	-	-	-
<b>LOW SULPHUR FUEL OIL FOR INDUSTRY <sup>4</sup> (per kg)</b>												
France	0.668	3.3	-19.5	0.529	4.2	-23.4	0.733	5.8	-18.2	0.580	6.7	-22.2
Germany	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0.630	-0.1	-19.7	0.599	-0.2	-20.5	0.691	2.2	-18.5	0.657	2.2	-19.3
Spain	0.577	1.2	-13.1	0.560	1.2	-13.5	0.633	3.6	-11.8	0.614	3.6	-12.2
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Prices for France, Germany, Italy and Spain are in Euros; UK in British Pounds, Japan in Yen, Canada in Canadian Dollars

<sup>2</sup> Unleaded premium (95 RON) for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States.

<sup>3</sup> Kerosene for Japan.

<sup>4</sup> VAT excluded from prices for low sulphur fuel oil when refunded to industry.

**Table 15**  
**IEA Global Indicator Refining Margins**

\$/bbl	2020	2021	2022	2Q22	3Q22	4Q22	1Q23	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23
<b>NW Europe</b>													
Light sweet hydroskimming	1.11	2.54	10.02	15.29	8.94	10.81	8.41	8.00	6.12	11.21	7.28	6.84	2.15
Light sweet cracking	2.07	3.51	16.18	22.17	15.19	18.77	14.08	15.32	12.75	18.20	11.96	12.16	5.47
Light sweet cracking + Petchem	3.23	6.55	18.41	26.45	16.98	19.60	14.69	16.36	14.38	18.44	12.24	13.40	6.45
Medium sour cracking*	4.30	6.11	39.13	59.43	37.59	38.87	19.33	43.03	21.16	24.48	15.99	17.54	10.93
Mediumsour cracking + Petchem*	5.44	9.07	41.30	63.59	39.33	39.69	19.94	44.03	22.79	24.72	16.27	18.77	11.89
<b>Mediterranean</b>													
Light sweet hydroskimming	2.36	2.90	9.05	13.88	7.56	10.84	8.45	9.22	6.59	11.21	7.49	6.77	3.22
Light sweet cracking	3.34	4.97	16.79	23.71	15.85	19.14	15.80	17.62	14.12	20.05	13.91	13.56	8.19
Medium sour cracking	5.70	5.68	21.64	30.24	20.49	24.36	21.78	22.78	19.42	27.89	18.75	18.83	11.03
<b>US Gulf Coast</b>													
Light sweet cracking	4.28	11.04	26.64	38.22	26.72	25.10	25.53	22.71	18.86	29.74	21.25	25.41	18.65
Medium sour cracking	6.61	15.79	35.70	47.39	35.32	35.01	33.40	32.36	29.05	40.17	29.28	30.92	23.75
Heavy sour coking	9.73	19.98	45.91	55.43	46.40	49.73	44.90	48.59	38.16	54.39	40.69	40.14	30.31
<b>US Midwest</b>													
Light sweet cracking	3.74	12.33	29.85	40.42	34.23	30.81	25.23	33.72	13.94	27.06	22.25	26.10	20.25
Heavy sour coking	13.26	26.02	50.57	60.64	53.96	55.59	46.84	59.49	35.85	54.29	42.96	43.57	36.77
<b>Singapore</b>													
Light sweet cracking	0.20	3.10	11.48	18.69	10.93	8.75	9.94	8.27	8.92	13.13	9.43	7.75	2.82
Light sweet cracking + Petchem	2.03	4.82	12.94	20.69	12.83	10.05	10.83	9.18	10.77	13.84	10.15	8.93	4.00
Medium sour cracking	1.80	3.92	12.87	23.35	7.91	10.83	11.35	12.17	11.19	14.78	10.21	9.52	4.77
Medium sour cracking + Petchem	3.61	5.61	14.31	25.33	9.79	12.11	12.23	13.07	13.01	15.48	10.93	10.69	5.93

Source: IEA, Argus Media Ltd prices.

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

\*From 1 December, the basis has changed from Urals NWE to Argus Brent Sour

**Table 16**  
**REFINED PRODUCT YIELDS BASED ON TOTAL INPUT (% VOLUME)<sup>1</sup>**

	Dec-22	Jan-23	Feb-23	Feb-22	Feb 23 vs Previous Month	Feb 23 vs Previous Year	Feb 23 vs 5 Year Average	5 Year Average
<b>OECD Americas</b>								
Naphtha	0.9	1.1	0.9	1.1	-0.2	-0.2	-0.4	1.3
Motor gasoline	46.3	46.6	46.0	45.9	-0.6	0.1	-0.3	46.3
Jet/kerosene	8.7	9.1	8.9	8.4	-0.2	0.5	0.2	8.6
Gasoil/diesel oil	28.6	28.0	28.0	28.4	0.0	-0.4	-0.1	28.1
Residual fuel oil	3.3	3.4	3.6	2.9	0.2	0.7	0.6	3.1
Petroleum coke	4.2	4.2	4.2	4.3	0.0	-0.1	-0.3	4.4
Other products	11.3	11.3	11.8	11.4	0.5	0.4	0.5	11.3
<b>OECD Europe</b>								
Naphtha	8.4	8.9	9.4	8.8	0.5	0.6	0.5	8.9
Motor gasoline	20.8	21.8	21.5	21.6	-0.3	-0.1	1.1	20.4
Jet/kerosene	7.6	8.3	8.3	7.7	-0.1	0.5	0.5	7.8
Gasoil/diesel oil	41.6	40.3	40.2	39.2	-0.1	1.0	0.3	39.9
Residual fuel oil	8.0	7.5	7.8	8.7	0.3	-0.9	-1.8	9.6
Petroleum coke	1.5	1.7	1.6	1.7	-0.1	-0.1	0.1	1.5
Other products	14.2	13.8	14.1	15.1	0.3	-1.0	-0.4	14.5
<b>OECD Asia Oceania</b>								
Naphtha	16.1	16.5	16.1	15.9	-0.4	0.2	0.1	15.9
Motor gasoline	21.8	21.2	21.5	21.4	0.3	0.1	0.1	21.4
Jet/kerosene	14.0	15.0	14.5	13.8	-0.5	0.8	-0.7	15.2
Gasoil/diesel oil	30.8	30.0	30.3	30.2	0.4	0.2	0.8	29.6
Residual fuel oil	8.4	8.2	8.2	8.8	0.0	-0.5	0.6	7.7
Petroleum coke	0.5	0.4	0.4	0.5	0.0	0.0	0.1	0.4
Other products	11.3	10.9	11.0	11.9	0.0	-1.0	-1.2	12.1
<b>OECD Total</b>								
Naphtha	6.0	6.3	6.3	6.2	0.0	0.1	-0.2	6.5
Motor gasoline	33.7	34.1	33.8	33.7	-0.3	0.0	0.6	33.2
Jet/kerosene	9.3	9.9	9.7	9.1	-0.2	0.5	0.1	9.6
Gasoil/diesel oil	33.3	32.3	32.3	32.2	0.0	0.2	0.1	32.2
Residual fuel oil	5.7	5.6	5.8	5.8	0.2	0.0	-0.2	6.0
Petroleum coke	2.7	2.7	2.7	2.8	0.0	-0.1	0.0	2.7
Other products	12.3	12.1	12.4	12.7	0.3	-0.3	-0.1	12.5

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

**Table 17**  
**WORLD BIOFUELS PRODUCTION**  
(thousand barrels per day)

	2020	2021	2022	3Q22	4Q22	1Q23	Feb 23	Mar 23	Apr 23
<b>ETHANOL</b>									
<b>OECD Americas</b>	<b>934</b>	<b>1008</b>	<b>1034</b>	<b>1000</b>	<b>1043</b>	<b>1041</b>	<b>1039</b>	<b>1041</b>	<b>1041</b>
United States	906	979	1002	968	1012	1005	1003	1004	1004
Other <sup>1</sup>	28	28	32	32	32	36			
<b>OECD Europe</b>	<b>95</b>	<b>101</b>	<b>106</b>	<b>116</b>	<b>97</b>	<b>101</b>	<b>100</b>	<b>109</b>	<b>109</b>
France	18	18	20	26	11	21	22	19	19
Germany	12	12	13	14	13	20	25	11	11
Spain	9	10	10	10	10	7	5	11	11
United Kingdom	6	9	9	9	9	5	1	10	10
Other <sup>1</sup>	50	53	54	56	54	49			
<b>OECD Asia Oceania</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>
Australia	4	4	4	4	4	4	4	4	4
Other <sup>1</sup>	0	0	0	0	0	0			
<b>Total OECD Ethanol</b>	<b>1033</b>	<b>1113</b>	<b>1144</b>	<b>1120</b>	<b>1144</b>	<b>1146</b>	<b>1144</b>	<b>1154</b>	<b>1154</b>
<b>Total Non-OECD Ethanol</b>	<b>751</b>	<b>718</b>	<b>756</b>	<b>1121</b>	<b>701</b>	<b>365</b>	<b>368</b>	<b>348</b>	<b>660</b>
Brazil	560	515	528	893	472	117	121	100	412
China <sup>1</sup>	69	76	81	79	86	136			
Argentina <sup>1</sup>	15	18	21	21	21	22			
Other	106	110	126	128	120	90	248	248	248
<b>TOTAL ETHANOL</b>	<b>1783</b>	<b>1832</b>	<b>1900</b>	<b>2241</b>	<b>1845</b>	<b>1511</b>	<b>1512</b>	<b>1502</b>	<b>1814</b>
<b>BIODIESEL</b>									
<b>OECD Americas</b>	<b>160</b>	<b>167</b>	<b>213</b>	<b>222</b>	<b>226</b>	<b>245</b>	<b>242</b>	<b>257</b>	<b>257</b>
United States	153	160	202	211	216	237	239	239	239
Other <sup>1</sup>	7	7	10	10	10	8			
<b>OECD Europe</b>	<b>274</b>	<b>302</b>	<b>312</b>	<b>312</b>	<b>301</b>	<b>282</b>	<b>275</b>	<b>328</b>	<b>328</b>
France	48	51	51	50	48	52	58	50	50
Germany	62	64	64	62	63	55	53	66	66
Italy <sup>1</sup>	28	24	25	30	23	23			
Spain	24	31	31	32	31	28	27	33	33
Other	112	133	141	139	137	123	114	152	152
<b>OECD Asia Oceania</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>12</b>	<b>12</b>
Australia	0	0	0	0	0	0	0	0	0
Other <sup>1</sup>	12	12	12	14	10	10			
<b>Total OECD Biodiesel</b>	<b>446</b>	<b>482</b>	<b>536</b>	<b>548</b>	<b>537</b>	<b>537</b>	<b>526</b>	<b>596</b>	<b>596</b>
<b>Total Non-OECD Biodiesel</b>	<b>422</b>	<b>472</b>	<b>513</b>	<b>513</b>	<b>513</b>	<b>571</b>	<b>571</b>	<b>571</b>	<b>571</b>
Brazil	111	116	108	116	108	109	100	135	135
Argentina <sup>1</sup>	27	36	42	42	42	40			
Other <sup>1</sup>	285	319	364	355	363	422			
<b>TOTAL BIODIESEL</b>	<b>868</b>	<b>954</b>	<b>1050</b>	<b>1062</b>	<b>1050</b>	<b>1108</b>	<b>1097</b>	<b>1168</b>	<b>1168</b>
<b>GLOBAL BIOFUELS</b>	<b>2651</b>	<b>2785</b>	<b>2950</b>	<b>3302</b>	<b>2895</b>	<b>2619</b>	<b>2609</b>	<b>2670</b>	<b>2982</b>

<sup>1</sup> monthly data not available.

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For information on the data sources, definitions, technical terms and general approach used in preparing the Oil Market Report (OMR), Market Report Series\_Oil and Annual Statistical Supplement (current issue of the Statistical Supplement dated 11 August 2022), readers are referred to the Users' Guide at <https://www.iea.org/articles/oil-market-report-glossary>. It should be noted that the spot crude and product price assessments are based on daily Argus prices, converted when appropriate to US\$ per barrel according to the Argus specification of products (Copyright © 2023 Argus Media group - all rights reserved).

