International Energy Agency

# Oil Market Report

## 15 March 2023

- Following an 80 kb/d contraction in 4Q22, world oil demand growth is set to accelerate sharply over the course of 2023, from 710 kb/d in 1Q23 to 2.6 mb/d in 4Q23. Average annual growth is forecast to ease from 2.3 mb/d in 2022 to 2 mb/d, and global oil demand to reach a record 102 mb/d. Rebounding air traffic and the release of pent-up Chinese demand dominate the recovery.

- World oil supply leapt 830 kb/d in February to 101.5 mb/d as the US and Canada rebounded strongly from winter storms and other outages. We expect non-OPEC+ to drive global output growth of 1.6 mb/d this year, enough to meet demand in 1H23 but falling short in the second half when seasonal trends and China's recovery are set to boost demand to record levels.

- Global refinery throughputs reached a seasonal low in February at 81.1 mb/d, as the muted recovery in the US merged with the start of planned seasonal maintenance elsewhere. Despite the collapse in middle distillate cracks, refining margins remain healthy, especially for those running discounted Russian crude and feedstocks. We expect 2023 runs to average 82.1 mbd, up 1.8 mbd y-o-y.

- Russian oil exports fell by 500 kb/d to 7.5 mb/d in February as the EU embargo on refined oil products came into force. Shipments to the EU fell by 800 kb/d to 600 kb/d, compared with more than 4 mb/d at the start of 2022. Sailings to China and India also fell, while cargoes without a destination surged by 600 kb/d to 800 kb/d. Export revenues plunged another $2.7 bn to $11.6 bn, down 42% on a year-ago.

- Global observed inventories surged by 52.9 mb in January, following builds in both the OECD (+57.1 mb) and non-OECD (+13 mb) and a decline in oil on water (-17.2 mb). OECD industry oil stocks rose by 54.8 mb, four times the five-year average build. At 2 851 mb, stocks reached an 18-month high. Preliminary data for the US, Europe and Japan show a 7.8 mb increase in industry stocks in February.

- In range-bound trading, crude oil futures fell by about $1/bbl m-o-m in February as optimism surrounding China's reopening faded in the face of the hawkish drift in central bank policy. WTI continued to slump in physical differentials amid ongoing US crude stock builds. Prices fell a further $3/bbl in March as macroeconomic worries escalated following the collapse of Silicon Valley Bank.

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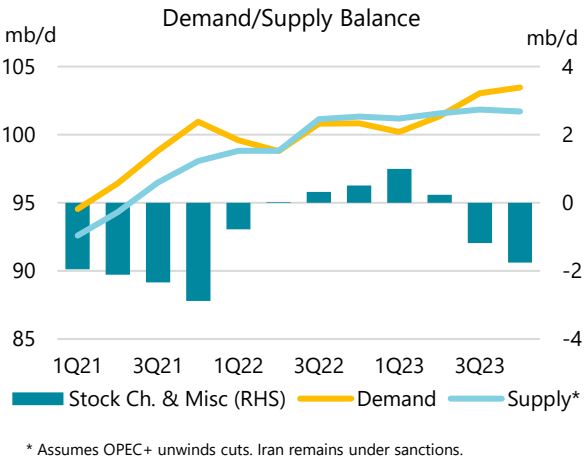
# Uncharted waters

The market is caught in the cross-currents of supply outstripping still-lacklustre demand, with stocks building to levels not seen in 18 months. Much of the supply overhang reflects ample Russian barrels racing to re-route to new destinations under the full force of EU embargoes. Despite the increasing dislocation in global trade, the rising stock cover has held the Brent crude oil futures in a relatively narrow $80-85/bbl range since the start of the year.




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

A 52.9 mb January surge in global inventories lifted known stocks to nearly 7.8 billion barrels, their highest level since September 2021 and preliminary indicators for February suggest further builds. Despite solid Asian demand growth, the market has been in surplus for three straight quarters.

While Russian oil production remained near pre-war levels in February, Russia's exports to world markets fell by more than 500 kb/d to 7.5 mb/d. Shipments to the EU plunged by 760 kb/d to just 580 kb/d. Over the past year, 4.5 mb/d of Russian oil previously going to the EU, North America and OECD Asia Oceania has had to find alternative outlets. Willing buyers in Asia, namely India and, to a lesser extent, China, have snapped up discounted crude oil cargoes, but increasing volumes on the water suggest the share of Russian oil in their import mix may be getting too big for comfort. Russia accounted for around 40% and 20% of Indian and Chinese crude imports, respectively, in February. The two countries took in more than 70% of Russia's crude exports last month.

While Russian crude oil shipments are almost exclusively heading to Asia, a more diverse set of buyers for products backed out of the EU is emerging. In February, Russian product exports to the EU and its G7 allies slumped by nearly 2 mb/d versus pre-war levels. At the same time, exports to Asia grew by less than 300 kb/d. Shipments to Africa, Türkiye and the Middle East rose by 300 kb/d, 240 kb/d and 175 kb/d, respectively, while Latin America received roughly the same as before the war. The lack of buyers saw oil pile up on the water and product exports drop by 650 kb/d y-o-y.

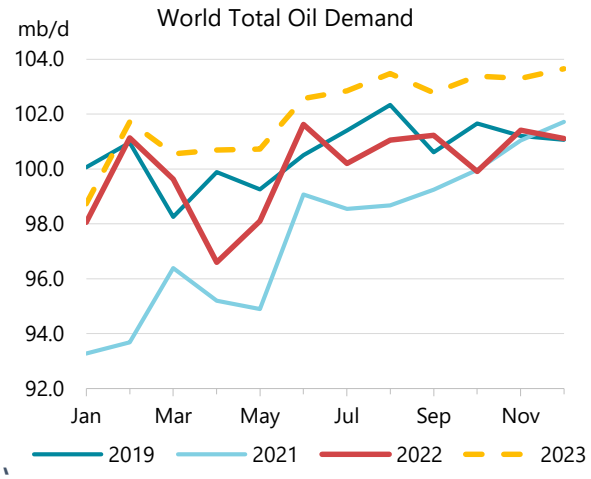
It remains to be seen if there will be sufficient appetite for Russian oil products now that the price cap is in place or if its production will start to fall under the weight of sanctions. Revenues are already dwindling. In February, Russia's estimated oil export revenues fell to $11.6 bn - a $2.7 bn decline from January when volumes were significantly higher, and nearly half pre-war levels. Russian fiscal receipts from oil sales were up 22% from January after export taxation rules were adjusted, but at $6.9 bn, just 45% of the level from a year earlier, according to the Russian finance ministry.

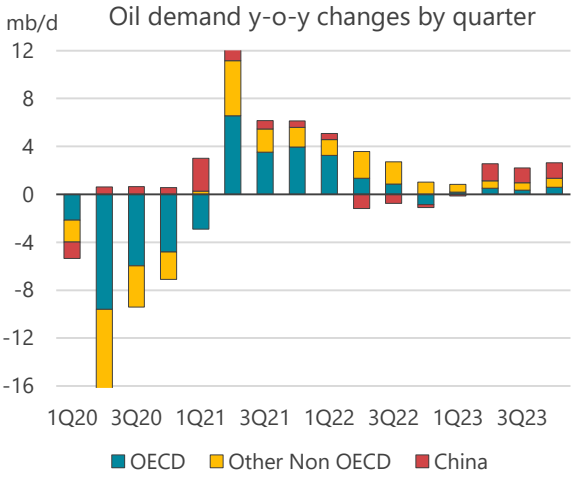
At least for this month, Moscow has signalled it will cut output by 500 kb/d. Even so, world oil supply should comfortably exceed demand in the first half of the year. Building stocks today will ease tensions as the market swings into deficit during the second half of the year when China is expected to drive world oil demand to record levels. Global demand is set to surge by 3.2 mb/d from 1Q23 to 4Q23, taking average growth for the year to 2 mb/d. Matching that increase would be a challenge even if Russia were able to maintain production at pre-war levels.

# Demand

## Overview

Global oil demand growth started 2023 with a whimper but is projected to end the year with a bang. Gains will accelerate to 2.6 mb/d year-on-year (y-o-y) in 4Q23 from only 710 kb/d in 1Q23. Average 2023 deliveries will rise by 2 mb/d to reach 102 mb/d. Rebounding jet fuel use and a resurgent China will see an overall 1Q-4Q ramp-up of 3.2 mb/d, the largest relative in-year increase since 2010 with oil use surging to 103.2 mb/d in 2H23.




The disparity between lacklustre OECD and robust non-OECD regions continued to widen. Global 4Q22 demand fell by 80 kb/d y-o-y, as an 860 kb/d OECD decline was counterbalanced by a non-OECD increment of 780 kb/d. This was the first quarter showing a y-o-y contraction since 2020. Europe (-610 kb/d y-o-y) was the main contributor to the OECD's slump, while the Middle East (+650 kb/d y-o-y) and India (+270 kb/d y-o-y) underpinned non-OECD growth.

Real-time indicators for Chinese mobility mostly stabilised after January's remarkable bounce, led by air traffic with domestic flights now well above pre-pandemic levels. In this regard, we have further increased our estimate for Chinese 2023 jet/kerosene use, by 60 kb/d – a testament to the fuel's present status as the key driver of global demand growth. Rebounding February PMIs, settling comfortably in expansionary territory, also echo the country's economic resurgence.

The global economic outlook benefitted from China's newfound momentum, particularly that for the eurozone, where sentiment continued to improve markedly, now that a winter energy crisis has been averted. US indicators were also mostly positive with persistent tightness in the labour market adding to the more confident mood.

However, the general rebound in activity, combined with stubbornly high inflation readings, revived investor concerns that central banks may turn more hawkish. The prospect of additional rate hikes sent bond yields soaring during February. Apprehension about the health of the US banking sector took centre stage following the mid-March meltdown of Silicon Valley Bank. Emerging economies, notably Egypt and Pakistan – already struggling to avoid economic collapse – found themselves in investors' crosshairs amid a surge in risk aversion. We have made corresponding reductions to both countries' oil demand outlooks.

| Global Demand by Region (thousand barrels per day) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Demand | | | | Annual Chg (kb/d) | | Annual Chg (%) | |
| | 2020 | 2021 | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Africa | 3 771 | 4 014 | 4 197 | 4 226 | 183 | 28 | 4.6 | 0.7 |
| Americas | 27 901 | 30 258 | 31 141 | 31 377 | 883 | 237 | 2.9 | 0.8 |
| Asia/Pacific | 34 095 | 36 154 | 36 332 | 37 892 | 178 | 1 560 | 0.5 | 4.3 |
| Europe | 13 136 | 13 896 | 14 291 | 14 413 | 395 | 123 | 2.8 | 0.9 |
| FSU | 4 559 | 4 855 | 4 901 | 4 843 | 45 | - 58 | 0.9 | -1.2 |
| Middle East | 8 074 | 8 484 | 9 124 | 9 267 | 639 | 143 | 7.5 | 1.6 |
| **World** | **91 537** | **97 661** | **99 985** | **102 018** | **2 323** | **2 033** | **2.4** | **2.0** |
| OECD | 42 028 | 44 822 | 45 956 | 46 365 | 1 134 | 409 | 2.5 | 0.9 |
| Non-OECD | 49 508 | 52 839 | 54 028 | 55 652 | 1 189 | 1 624 | 2.3 | 3.0 |

The extreme fragility of the petrochemical sector continues to weigh heavily on naphtha demand, which crumbled by 550 kb/d y-o-y (-7.5%) in 4Q22, the largest fall since 4Q08. This slowdown, reflecting the travails of manufacturing and construction in major economies, overwhelmingly hit OECD regions (-590 kb/d) as competition from an unprecedented wave of highly-integrated Chinese plants exacerbated a difficult situation. OECD Europe proved particularly vulnerable (-330 kb/d, -28%). Elevated natural gas prices during the fourth quarter wrecked producer margins and provoked a collapse in operating rates, generating serious doubts regarding the sustainability of the region's petrochemical industry in its current form.

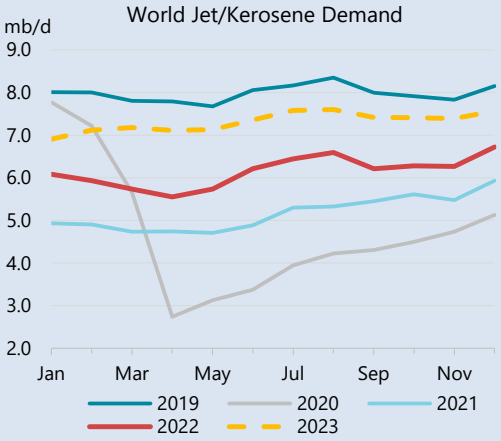
Jet/kerosene remains the major driver of global demand growth this year, although the positive momentum behind global air traffic is expect to start to fade, with pent-up demand mostly released by the end of this year. Including the impact of a reopening China, this will add 1.2 mb/d y-o-y to global jet/kerosene demand, which is set to reach 94% of 4Q19 levels by 4Q23 (see *Protracted rebound in post-pandemic air traffic propels 2023 oil demand growth*).

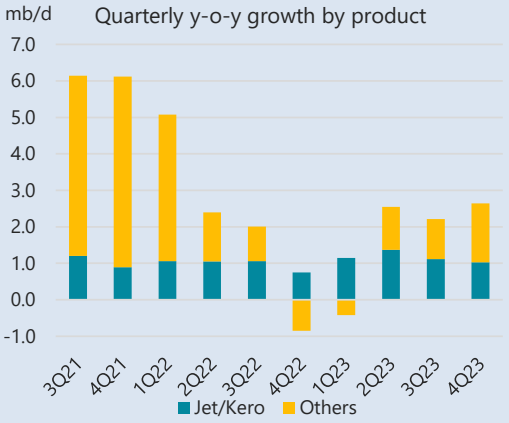
| Global Demand by Product (thousand barrels per day) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Demand | | | | Annual Chg (kb/d) | | Annual Chg (%) | |
| | 2020 | 2021 | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| LPG & Ethane | 13 147 | 13 861 | 14 269 | 14 523 | 408 | 254 | 2.9 | 1.8 |
| Naphtha | 6 438 | 6 996 | 6 831 | 6 992 | - 165 | 161 | -2.4 | 2.4 |
| Motor Gasoline | 23 668 | 25 667 | 26 063 | 26 339 | 396 | 277 | 1.5 | 1.1 |
| Jet Fuel & Kerosene | 4 723 | 5 169 | 6 150 | 7 315 | 981 | 1 165 | 19.0 | 18.9 |
| Gas/Diesel Oil | 26 142 | 27 733 | 28 494 | 28 624 | 761 | 130 | 2.7 | 0.5 |
| Residual Fuel Oil | 5 563 | 6 103 | 6 387 | 6 565 | 284 | 178 | 4.7 | 2.8 |
| Other Products | 11 858 | 12 134 | 11 792 | 11 661 | - 342 | - 132 | -2.8 | -1.1 |
| **Total Products** | **91 537** | **97 661** | **99 985** | **102 018** | **2 323** | **2 033** | **2.4** | **2.0** |

**Protracted rebound in post-pandemic air traffic propels 2023 oil demand growth**

Jet/kerosene will lead 2023 gains in global oil demand, rising by an average of 1.2 mb/d y-o-y (57% of the overall increase). This reflects a combination of the swift domestic-led rebound in Chinese air travel after public health measures were relaxed from late 2022 (+350 kb/d y-o-y) and the prolonged recovery from 2020's Covid-driven collapse in air traffic, particularly evident in Asia-Pacific (excluding China, +360 kb/d).

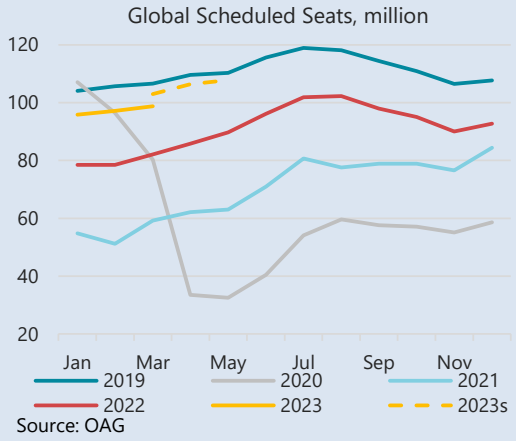
During 2022, jet/kerosene demand averaged only 77% of pre-pandemic levels. This was far behind the next lowest major product (gasoline, 98% of 2019), reflecting the outsized impact of Covid-19 on air travel and its sluggish revival. However, during 2022 jet/kerosene steadily gained ground and we expect that this year's usage should reach 92% of the 2019 mark.




Global flight counts, per *FlightRadar24*, have risen from 99 800/day in December (89% of 2019) to 107 600/day in February (1.4% above 2019). Much of this abrupt return to pre-pandemic rates reflects spiking Chinese travel (predominantly domestic, but with international flights also beginning to rise in February), and more moderate increases for routes involving other regions. Internal Chinese flight numbers have gone from about 4 000/day in early December to average more than 13 000/day in February (compared with about 10 000/day in February 2019), according to *Radarbox*.

Although the number of flights is now slightly higher than in 2019, jet/kerosene demand itself has yet to return to its previous peak. In 1Q23, deliveries will be 89% of the 1Q19 equivalent. This gap is driven partly by the fact that, on average, flights are slightly shorter (with long-haul interregional routes amongst the slowest to recover) and are flown by smaller aircraft. For example, *Boeing* reports that the share of transatlantic flights flown by twin-engine jets (in contrast to larger aircraft such as 747s and Airbus A380s) rose from 65% in 2019 to 85% in 2022. These changes mean that despite the rebound in flight counts, total seat capacity flown in late February 2023 was still about 7% below the same period in 2019, according to *OAG* data.



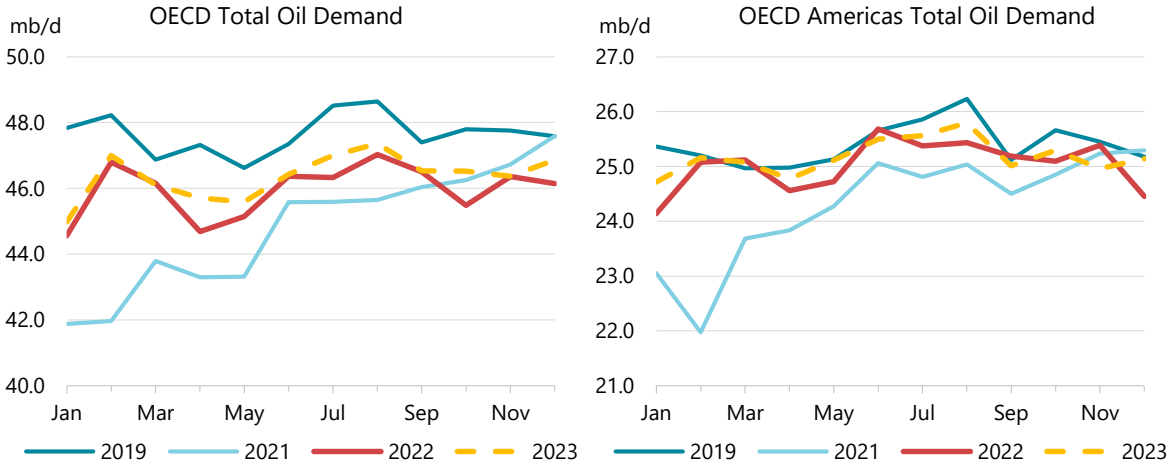

In addition, the average aircraft has become more fuel-efficient. *Airbus* estimates that models entering service now use 20-40% less fuel than those they replace. Combined with large-scale fleet turnover over the pandemic years, we estimate that this alone should result in a roughly 7% 2019-2023 reduction in overall fuel requirements per passenger kilometre.

Airline schedule data indicate that the upward momentum in traffic is likely to be maintained, with both *OAG* and *BloombergNEF* projections showing capacity closing on 2019 levels during 2Q23. As overall demand builds, especially for long-haul inter-regional routes utilising larger aircraft, jet fuel demand will benefit. Our 4Q23 forecast for jet/kerosene demand (7.5 mb/d y-o-y) stands at 94% of 4Q19. This

assumes that by the end of 2023 the rebound in air travel will have largely run its course, with organic growth in non-OECD economies lifting overall passenger numbers further beyond 2019 levels.

# OECD

OECD oil demand began 2023 in subdued fashion, with a narrow y-o-y increase of 190 kb/d estimated in 1Q23. Nevertheless, indications of fragility were apparent in official January data for Korea (-290 kb/d) and Germany (-240 kb/d). This comes on the heels of strikingly soft demand during 4Q22. Deliveries contracted in all three OECD regions, for an overall drop of 860 kb/d y-o-y, in the face of faltering macroeconomic drivers and disruptive weather conditions. December demand was especially dismal (-1.4 mb/d), with the US (-1.2 mb/d) leading losses. Overall 2023 consumption is expected to reach 46.4 mb/d, rising by 410 kb/d from 2022's 46 mb/d.




**OECD America** bore the brunt of the tumbling deliveries in December (-840 kb/d), with the US ending the year in the grip of a deep freeze and petrochemical producers curtailing operations amid oversupplied global polymer markets. Average 2022 demand hit 25 mb/d (+700 kb/d) and is expected to rise by a further 160 kb/d to 25.2 mb/d this year.

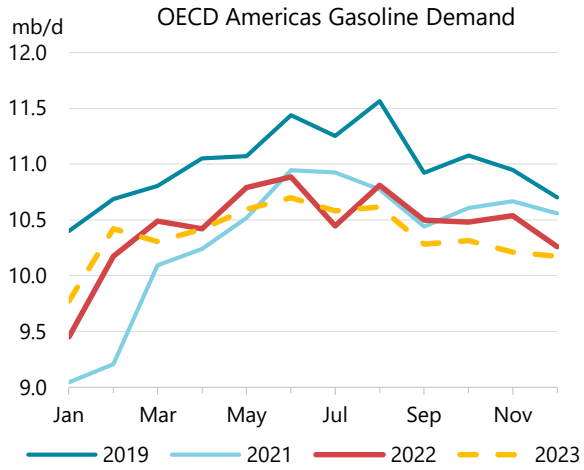
Overall **US** deliveries dropped by 360 kb/d in 4Q22 and we forecast that 1Q23 usage will edge lower y-o-y (-20 kb/d). The major drivers of this slowdown are gasoline, gasoil and LPG/ethane.

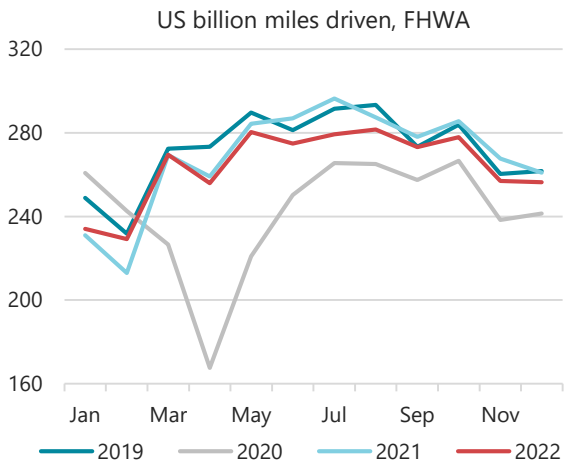
US gasoline demand declined y-o-y by 310 kb/d in December (-3.4%) and was 280 kb/d below the November level. *Federal Highway Administration* (FHWA) figures show that during December vehicles miles travelled fell y-o-y (-1.8%) for the third month running, but were roughly flat m-o-m. Weather-related logistical problems for distributors likely hampered deliveries. Preliminary numbers, based on US Energy Information Administration (EIA) weekly data indicate a further decline in January before a partial rebound in February. FHWA data show that US road traffic (excluding freight) remained ~2% below 2019 levels in 2022 despite a continuing strong economic recovery and robust employment figures, with increased remote working and high gasoline prices for much of the year likely major limiting factors.

Gasoil demand also struggled during December (-230 kb/d y-o-y). Here too, EIA preliminary figures suggest that this softness extended into the start of the year. The *S&P Global US Manufacturing PMI* indicated activity contracted in January and February (46.9 and 47.3, respectively) while

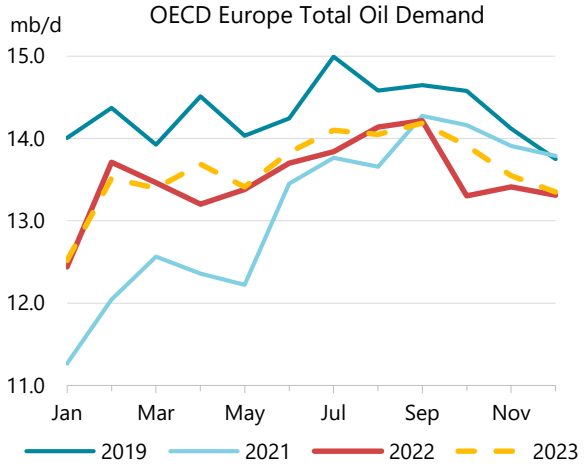
trucking indices remained persistently gloomy (*DAT Freight and Analytics* showed a 70% y-o-y fall in spot cargo volumes in February).

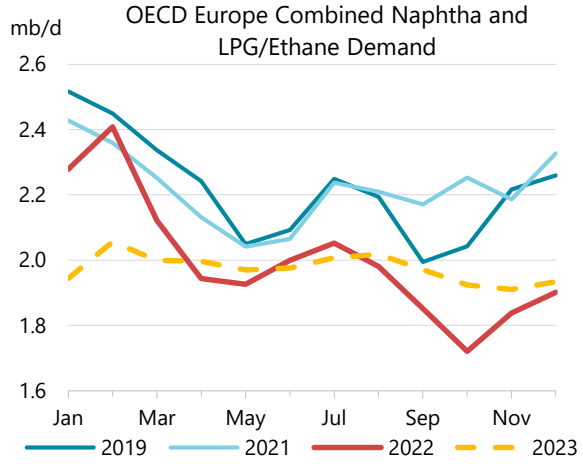
US LPG/ethane deliveries collapsed in December (440 kb/d y-o-y, -13%), led by a 310 kb/d decline in ethane. Steam cracker operating rates have been under increasing pressure since mid-2022, while cold weather further impacted operations. LPG deliveries also suffered (-130 kb/d) as weather-related distribution problems hit various regions of the country to compound reduced chemicals usage.




While the continent avoided the most pessimistic economic projections, oil demand in **OECD Europe** declined sharply during 4Q22 (-610 kb/d y-o-y). This fall, comfortably the largest of any region globally during the quarter, resulted from the conjuncture of a slowdown in industrial activity, an acute downturn amongst European chemical plants and a milder-than-usual winter. This warmer weather meant that the oil needed for domestic and commercial heating was considerably reduced and, indirectly, that much of the projected gas-to-oil switching proved unnecessary. Fourth-quarter gasoil use dropped by 380 kb/d y-o-y (-5.6%) while naphtha consumption collapsed by 330 kb/d (-28%). Average 2022 naphtha demand (970 kb/d) was at levels not seen since the mid-1980s.




In a sign that European industrial demand started the year in the doldrums, reported **German** deliveries for January show a deepening y-o-y slowdown (-240 kb/d), driven by an 80 kb/d (-9.3%) fall in gasoil use and 110 kb/d (-30%) lower naphtha use. The *S&P Global Eurozone Manufacturing PMI* showed an eighth-straight month of contraction in February (falling to 48.5 compared with

48.8 in January). Against this background, we estimate that European 1Q23 oil demand will fall by 60 kb/d y-o-y or 210 kb/d quarter-on-quarter (q-o-q).

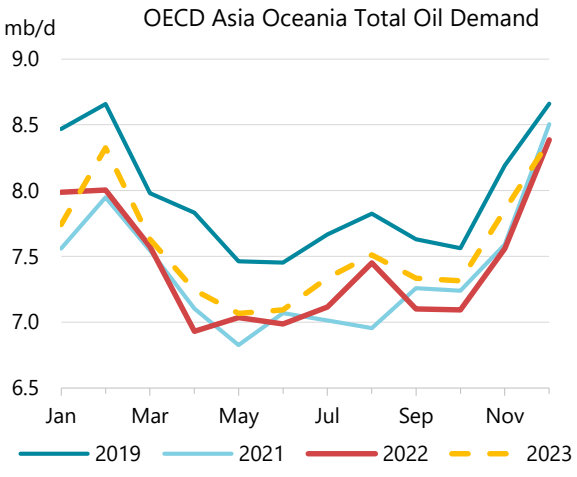
Despite the negative data for December and January, we have lifted projected 2023 European growth by 40 kb/d, to 120 kb/d. This is the result of an upwards revision, of about 0.4 percentage points, to eurozone GDP growth assumed in our balances, as well as the continuing strong performance of air traffic, supporting our forecast for jet/kerosene use (+170 kb/d for 2023). In particular, flights involving several major tourist destinations (including Spain, Portugal, France, Türkiye, Greece, Ireland and Croatia) are outperforming nearby countries relative to their pre-pandemic baseline. In general, the European economic outlook has benefitted from lower than anticipated natural gas prices and the avoidance of a full-blown energy supply crisis this winter. Germany's *ifo Business Climate Index* rose, for the fifth month in a row, to 91.1 in February, based on future expectations, but respondents' assessment of the current situation worsened slightly, indicating that in the short-term growth may be rather limited.

**OECD Demand based on Adjusted Preliminary Submissions - January 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 |
| **OECD Americas** | **9.77** | **3.4** | **1.81** | **9.4** | **3.33** | **0.7** | **1.78** | **-4.1** | **4.38** | **-2.5** | **0.62** | **11.3** | **3.02** | **7.3** | **24.72** | **2.4** |
| US* | 8.25 | 3.0 | 1.52 | 4.2 | 2.47 | -4.9 | 1.46 | -4.4 | 3.59 | -1.0 | 0.40 | 6.4 | 2.38 | 3.8 | 20.06 | 0.9 |
| Canada | 0.72 | 1.6 | 0.17 | 95.8 | 0.32 | 12.5 | 0.28 | -6.1 | 0.41 | -17.5 | 0.06 | 22.6 | 0.45 | 34.9 | 2.41 | 6.7 |
| Mexico | 0.70 | 10.6 | 0.10 | 12.4 | 0.36 | 47.9 | 0.05 | 21.6 | 0.35 | 3.4 | 0.15 | 18.8 | 0.16 | 0.0 | 1.87 | 14.7 |
| **OECD Europe** | **1.82** | **4.2** | **1.23** | **28.5** | **4.32** | **0.5** | **1.35** | **0.6** | **1.02** | **-1.3** | **0.81** | **3.3** | **1.96** | **-13.8** | **12.52** | **0.6** |
| Germany | 0.40 | -1.7 | 0.18 | 19.6 | 0.56 | -11.7 | 0.25 | -3.4 | 0.08 | -24.4 | 0.04 | -49.7 | 0.31 | -26.5 | 1.82 | -11.6 |
| United Kingdom | 0.25 | -4.0 | 0.30 | 38.6 | 0.40 | -6.8 | 0.10 | 4.7 | 0.12 | -4.5 | 0.02 | 15.4 | 0.10 | 7.5 | 1.29 | 4.3 |
| France | 0.22 | 18.3 | 0.12 | 24.0 | 0.64 | 1.5 | 0.13 | -27.1 | 0.10 | -14.8 | 0.04 | 14.0 | 0.24 | 7.9 | 1.49 | 1.8 |
| Italy | 0.17 | 17.4 | 0.09 | 31.1 | 0.44 | 1.8 | 0.03 | -18.8 | 0.12 | 0.7 | 0.11 | 30.8 | 0.14 | -25.8 | 1.08 | 2.5 |
| Spain | 0.11 | 3.3 | 0.11 | 23.5 | 0.42 | 3.3 | 0.23 | 3.1 | 0.08 | 7.1 | 0.13 | 16.4 | 0.20 | -1.1 | 1.27 | 5.5 |
| **OECD Asia & Oceania** | **1.24** | **-2.7** | **0.98** | **1.8** | **1.32** | **-2.9** | **0.49** | **-6.4** | **0.89** | **-4.4** | **0.55** | **0.2** | **2.26** | **-4.8** | **7.74** | **-3.1** |
| Japan | 0.65 | -2.1 | 0.59 | -8.1 | 0.38 | -5.7 | 0.34 | -5.9 | 0.50 | -0.5 | 0.33 | 7.4 | 0.93 | 3.0 | 3.73 | -1.7 |
| Korea | 0.22 | -9.4 | 0.21 | -2.5 | 0.37 | -10.6 | 0.09 | -12.6 | 0.33 | -9.7 | 0.20 | -11.0 | 1.16 | -11.0 | 2.58 | -10.0 |
| Australia | 0.25 | -1.0 | 0.14 | 93.7 | 0.51 | 4.8 | - | - | 0.04 | 2.4 | 0.01 | -15.0 | 0.10 | 2.7 | 1.05 | 9.7 |
| **OECD Total** | **12.83** | **2.9** | **4.03** | **12.5** | **8.97** | **0.1** | **3.63** | **-2.7** | **6.29** | **-2.6** | **1.99** | **4.7** | **7.23** | **-3.0** | **44.98** | **0.9** |

* Including US territories

**OECD Asia Oceanian** oil demand also declined y-o-y in December (-120 kb/d) and January (-240 kb/d). A combination of weak Korean data and negative preliminary indications for Japan in January as well as a downward adjustment to the Korean 2023 GDP outlook resulted in a 50 kb/d reduction in expected 2023 growth in oil use. Deliveries will climb by 130 kb/d y-o-y, dominated by a 110 kb/d increase in jet/kerosene. Air traffic in 2022 was subdued relative to other OECD regions but stands to benefit as travel to and from China increases.




**Korean** demand dropped by 290 kb/d y-o-y in January, with all product categories showing a slowdown. Notably, gasoil and naphtha deliveries, closely linked to industrial activity, fell by 60 kb/d and 50 kb/d, respectively. The *S&P Global Korea Manufacturing PMI* has registered constant declines since July 2022 and was at 48.5 in both January and February. The decline in naphtha

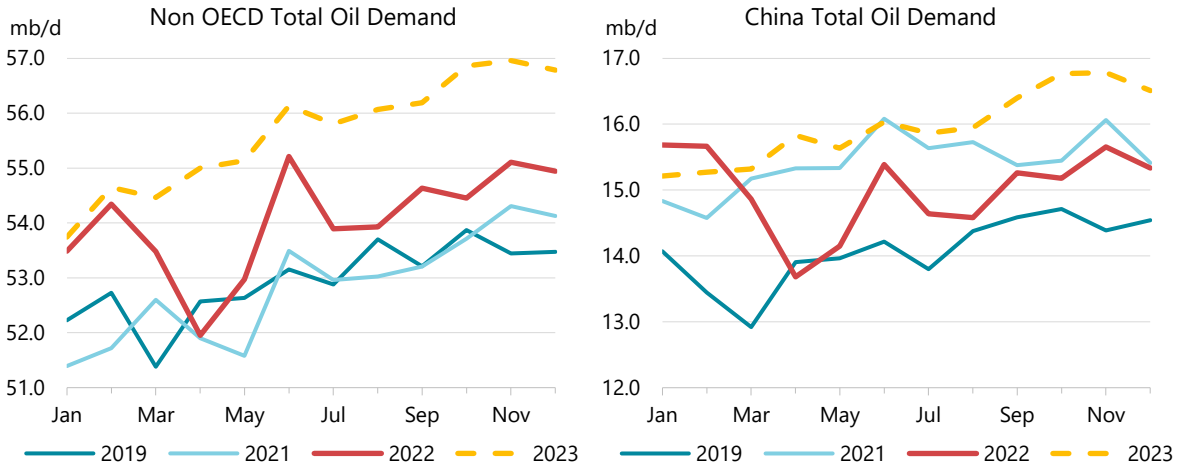
demand, was less pronounced than in Europe but nonetheless reflects the global difficulties besetting petrochemical producers.

Preliminary January indications for **Japan** are for a continued y-o-y drop in demand (-60 kb/d y-o-y), the fifth consecutive month of falls. December demand was also confirmed lower, falling by 130 kb/d y-o-y, with naphtha down by 150 kb/d. On average, usage fell by 50 kb/d y-o-y in 2022 and is only expected to increase by 30 kb/d this year, overwhelmingly driven by 50 kb/d higher jet/kerosene use. Small-scale underlying growth in road fuels will not outweigh gains in efficiency and falling petrochemical operating rates will hit feedstock consumption. Both gasoline and gasoil demand are expected to edge downwards by about 5 kb/d y-o-y in 2023.

# Non-OECD

Non-OECD regions concluded 2022 with an overall gain of 1.2 mb/d y-o-y in oil demand, to hit 54 mb/d, as a decline in lockdown-plagued China (-420 kb/d y-o-y) was counterbalanced by robust gains in India (380 kb/d) and the Middle East (640 kb/d). Growth is set to rise to 1.6 mb/d this year, as a resurgent China (960 kb/d y-o-y) leads a total Asian demand rise of 1.4 mb/d. On a product level, jet/kerosene (+730 kb/d y-o-y) will account for the bulk of this year's increase, driven by the rebound in Chinese air traffic.

Our estimate for 2023 gains in oil use has been raised by 50 kb/d y-o-y compared to last month's *Report*, largely on account of an increase in Chinese demand and smaller gains from other countries. By contrast, Egypt and Pakistan, both in the grips of acute economic crises, provide a drag on the outlook.

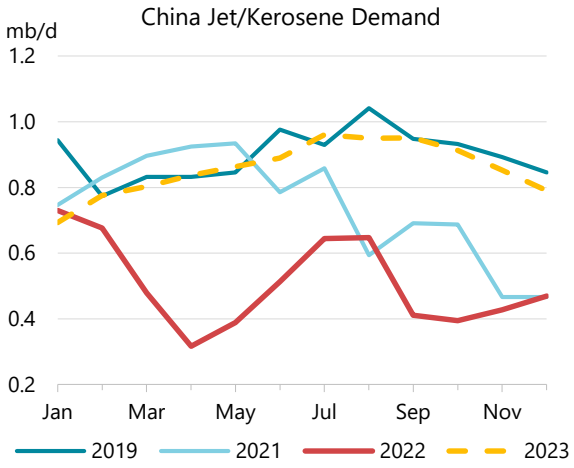


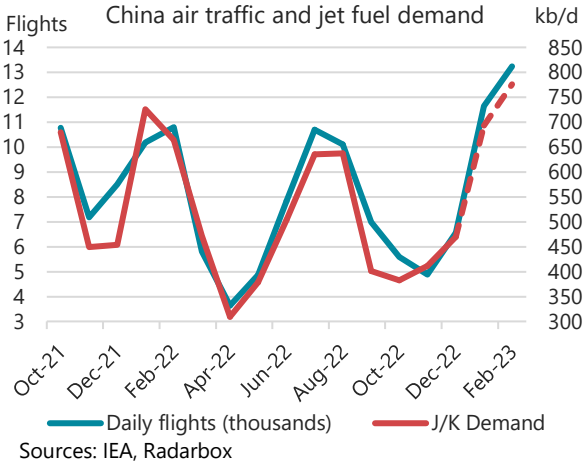

The regular monthly update of **Chinese** oil statistics was unavailable for January at the time of writing due to the New Year.

China's economic activity continued to pick up steam after the Covid exit wave passed more quickly than anticipated, with real time indicators for mobility and consumer spending consolidating following last month's bounce. Road congestion in major Chinese cities fell back marginally after January's surge, while domestic air traffic plateaued comfortably above pre-pandemic levels. At the same time, international flights showed a steady recovery and are currently at about half of 2019 levels. In a further testament to the more buoyant mood, February business activity readings showed a strong rebound, as the *Caixin Manufacturing PMI* swung into expansionary territory at 51.6, up 2.4 m-o-m. In a nascent sign that the property slump may be bottoming out, new home prices rose in January

for the first time in a year. Consensus forecast is for 2023 GDP growth of 5.2%, up half a point since the start of the year and more or less in line with its official target. This compares to 3% last year.

China's rebound is set to lose steam as the impact of the lockdowns recedes during 2023 and more bearish factors re-emerge. Overall industrial conditions remain challenging for producers, struggling with weak export demand, while geopolitical concerns and the intensifying US-China tech-war are likely to deter foreign direct investment in the medium term. This makes a lasting economic rebound conditional on consumer spending being able to maintain its recent momentum, with purchases being extended towards larger household goods. In this regard, an uncertain job market may hamper a recovery beyond the immediate release of pent-up demand. Lacklustre inflation readings (consumer prices gained only 1% y-o-y in February, compared to 2.1% in January) may be indicative of cooling household spending. The initial financial markets euphoria surrounding China's reopening subsided in February, evidenced by a falling renminbi and lower equity markets, highlighting the more challenging longer term growth path.




Sources: IEA, Radarbox

We see y-o-y demand growth reaching 1.4 mb/d during 2Q23, and subsequently settling around this level for the remainder of the year. Our 2023 forecast growth has been revised up by 70 kb/d, compared to last month's *Report*, largely due to the continuing rebound in air traffic and somewhat lower oil prices. As a result, we see oil demand in 2023 increasing by 960 kb/d y-o-y to 16 mb/d on average.

**China: Demand by Product**

(thousand barrels per day)

| | Demand | | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|---|
| | **2020** | **2021** | **2022** | **2023** | **2022** | **2023** | **2022** | **2023** |
| LPG & Ethane | 1 836 | 2 153 | 2 326 | 2 483 | 173 | 157 | 8.0 | 6.8 |
| Naphtha | 1 479 | 1 679 | 1 905 | 2 109 | 226 | 204 | 13.4 | 10.7 |
| Motor Gasoline | 3 146 | 3 519 | 3 375 | 3 590 | - 144 | 215 | -4.1 | 6.4 |
| Jet Fuel & Kerosene | 754 | 739 | 508 | 857 | - 232 | 349 | -31.3 | 68.7 |
| Gas/Diesel Oil | 3 025 | 3 448 | 3 556 | 3 748 | 108 | 192 | 3.1 | 5.4 |
| Residual Fuel Oil | 490 | 527 | 573 | 607 | 47 | 34 | 8.9 | 5.9 |
| Other Products | 3 466 | 3 353 | 2 758 | 2 571 | - 596 | - 187 | -17.8 | -6.8 |
| **Total Products** | **14 196** | **15 419** | **15 001** | **15 966** | **- 418** | **965** | **-2.7** | **6.4** |

The more risk averse turn in sentiment weighed heavily on developing nations. February saw a flare up of emerging market turmoil as Egypt, Pakistan, Sri Lanka and Bangladesh faced economic meltdowns.

**Egypt** fought to ward off a severe liquidity crunch and capital flight, as the country struggled to implement the economic reforms required under last year's International Monetary Fund (IMF) loan agreement, such as the privatisation of state-run companies. Consumer gasoline prices are higher by 13% y-o-y, according to data from *GlobalPetrolPrices* (GPP), depressing driving demand. A further 9% price increase is on the cards for 2Q23 as fuel subsidies will be cut and the Egyptian pound slumps – a series of devaluations has halved the pound's value against the US dollar over the past year. Overall oil demand is seen contracting by 30 kb/d during 2023, compared to a marginal increase seen in last month's *Report*. Fuel oil remains the only product category recording positive growth, of 10 kb/d y-o-y, by virtue of it being burnt in power generation. Here it displaces domestically produced natural gas (that is instead being exported as LNG).

**Pakistani** oil demand was lower by 90 kb/d y-o-y in January, as the country, balancing on the brink of economic collapse, urgently sought an IMF bailout to avert sovereign default. Besides the dismal macroeconomic outlook, gasoline and diesel prices have increased by 26% year to date and almost doubled y-o-y, according to data from GPP, after price hikes were implemented to meet IMF bailout conditions. Pakistan's challenging outlook is reflected in a contraction of 90 kb/d y-o-y, 20 kb/d deeper than last month's *Report*. This is the largest decline of any country except Russia, consolidating Pakistan's status as one of the few major developing nations where oil consumption remains below pre-pandemic levels.

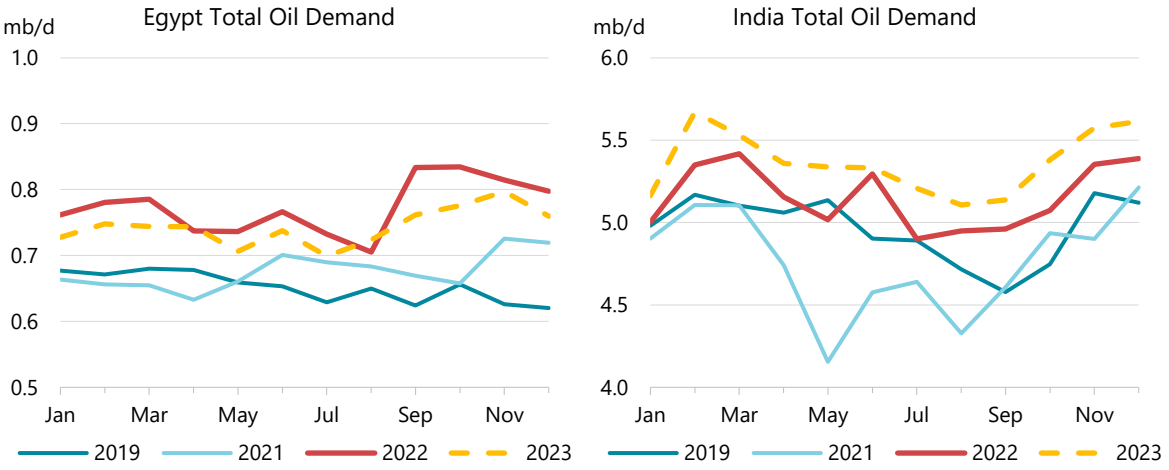
**Non-OECD: Demand by Region**
(thousand barrels per day)

| | Demand | | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|---|
| | 2020 | 2021 | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Africa | 3 771 | 4 014 | 4 197 | 4 226 | 183 | 28 | 4.6 | 0.7 |
| Asia | 26 928 | 28 772 | 28 898 | 30 327 | 126 | 1 429 | 0.4 | 4.9 |
| FSU | 4 559 | 4 855 | 4 901 | 4 843 | 45 | - 58 | 0.9 | -1.2 |
| Latin America | 5 453 | 5 943 | 6 125 | 6 201 | 182 | 76 | 3.1 | 1.2 |
| Middle East | 8 074 | 8 484 | 9 124 | 9 267 | 639 | 143 | 7.5 | 1.6 |
| Non-OECD Europe | 723 | 770 | 784 | 789 | 14 | 5 | 1.8 | 0.7 |
| **Total Products** | **49 508** | **52 839** | **54 028** | **55 652** | **1 189** | **1 624** | **2.3** | **3.0** |

**Argentina**, the IMF's biggest debtor by far, saw oil demand fall by 40 kb/d m-o-m in January (+30 kb/d y-o-y), roughly in line with seasonal trends. The country's official Economic Activity indicator fell by 1.2% y-o-y in December 2022, its first contraction in almost two years and a possible harbinger of a 1Q23 recession. Argentina's economic outlook is grim, with a consensus forecast for zero GDP growth this year. Moreover, a severe drought is likely to decimate the soybean harvest and therefore much needed hard currency proceeds, while pump gasoline prices have doubled y-o-y, in line with overall spiralling consumer price inflation. We see a 10 kb/d y-o-y drop in 2023 demand, with a jet/kerosene increase offset by declines in most other products.

**Brazil**'s economy began to slow during 2H22 and continues to lose momentum, with GDP growth seen decelerating to 0.4% from 3% last year, according to consensus estimates. This contrasts sharply with the 4.1% average during the first (2003-2010) Lula presidency, which coincided with a commodity "super cycle". The more adverse environment was reflected in the *S&P Global Brazil Manufacturing PMI* which remained in contraction for a fourth straight month in February. Moreover, the government's decision to partly reinstate the federal fuel tax for gasoline will weigh on gasoline demand (which accounted for two thirds of last year's demand growth). However, its massive commodity exports put Brazil's economy in a strong position to leverage off China's rebound – we have consequently left our 2023 demand estimate essentially unchanged at 70 kb/d y-o-y compared to last month's Report. This compares to 60 kb/d in 2022.

**Indian** oil use climbed by 450 kb/d m-o-m in February, about 150 kb/d ahead of its seasonal pattern, which has demand peaking in February/March. Consumption was 250 kb/d higher y-o-y. Although relatively robust, India's economy is not immune to the global slowdown as higher borrowing costs squeeze household spending. The *S&P Global India Manufacturing PMI,* while still comfortably in expansionary territory at 55.3, fell to a four-month low in February, reflecting the more subdued economic climate. We see demand growth of 210 kb/d y-o-y this year (here, on a country level, India finds itself eclipsed only by China), following last year's record 380 kb/d post-pandemic bounce.




**Saudi** and **Iraqi** demand each rose by 20 kb/d m-o-m during December, and were higher by 370 kb/d and 150 kb/d y-o-y, respectively. This ongoing strength occurred largely on account of direct crude used for power generation, defying its typical seasonal weakness. While Saudi Arabia's GDP growth will slow considerably in 2023 due to the weaker global macro climate and lower oil prices, increased fiscal spending and a growing contribution from the non-oil economy will dampen the slowdown in domestic oil demand. We see overall consumption growth of 20 kb/d y-o-y, comparable to Iraq's 30 kb/d.

**Russia**'s domestic economy continued to display resilience in the face of international sanctions. After contracting by a relatively modest 2.3% during 2022, GDP growth is set to return to marginally positive territory during 2Q23, partly due to a lower baseline. The IMF sees a 0.3% expansion during 2023. We project a 100 kb/d y-o-y decline in oil use during 2023, as gasoil consumption, the main driver of demand, deflates.

**Non-OECD: Demand by Product**

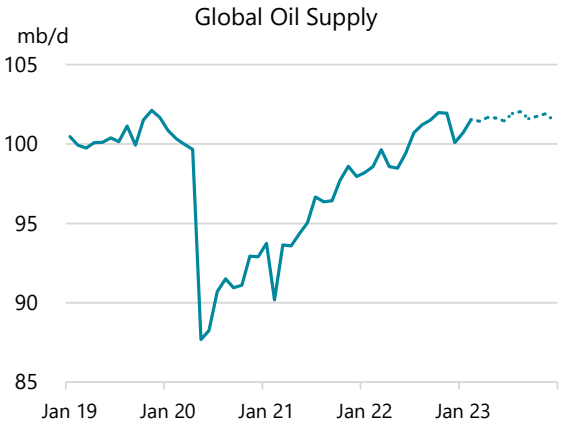
(thousand barrels per day)

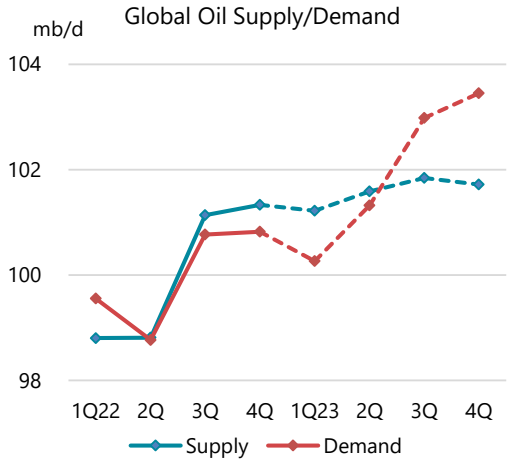
| | Demand | | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|---|
| | **2020** | **2021** | **2022** | **2023** | **2022** | **2023** | **2022** | **2023** |
| LPG & Ethane | 7 797 | 8 299 | 8 568 | 8 762 | 269 | 193 | 3.2% | 2.3% |
| Naphtha | 3 314 | 3 669 | 3 791 | 3 983 | 122 | 192 | 3.3% | 5.1% |
| Motor Gasoline | 11 008 | 12 043 | 12 230 | 12 635 | 187 | 404 | 1.6% | 3.3% |
| Jet Fuel & Kerosene | 2 127 | 2 140 | 2 360 | 3 094 | 220 | 735 | 10.3% | 31.1% |
| Gas/Diesel Oil | 13 494 | 14 529 | 15 140 | 15 340 | 612 | 199 | 4.2% | 1.3% |
| Residual Fuel Oil | 4 047 | 4 344 | 4 515 | 4 633 | 171 | 118 | 3.9% | 2.6% |
| Other Products | 7 722 | 7 815 | 7 423 | 7 206 | - 391 | - 217 | -5.0% | -2.9% |
| **Total Products** | **49 508** | **52 839** | **54 028** | **55 652** | **1 189** | **1 624** | **2.3%** | **3.0%** |

# Supply

## Overview

Global oil supply leapt 830 kb/d in February as the US and Canada rebounded strongly from winter storms and other outages. A combined increase of 700 kb/d from North America helped push global production to 101.5 mb/d in February and, based on our current forecast, it should hover around that level through June. While that's more than enough to match demand in the first half of the year, it would come nowhere close in the second half of 2023 when seasonal trends and China's recovering fuel use are expected to boost demand to record levels above 103 mb/d.




In February, total oil supply from OPEC+ rose by 180 kb/d while producers outside the bloc (non-OPEC+) delivered gains of 650 kb/d – dominated by the US and Canada. Russia, despite sanctions, led the OPEC+ increase as it continued to effectively re-route crude oil and products to Asia, Africa, the Middle East and elsewhere. This month, however, Moscow plans to turn down the taps by 500 kb/d purportedly preferring not to sell to countries that comply with G7 price caps.

For the year as a whole, we expect world oil production to grow by 1.6 mb/d, with the US and Brazil dominating growth. That's sharply lower than the huge expansion in 2022 of 4.6 mb/d, fuelled by OPEC+ as it unwound its record 2020 supply cut. An overall non-OPEC+ increase of 1.8 mb/d will be moderated by an OPEC+ decline of 250 kb/d with some Russian volumes shut in by sanctions. Output from the bloc, excluding Russia, could rise by 490 kb/d – provided Libya stabilises and Nigeria can sustain higher rates.

**Oil Supply by Select Producers**
(million barrels per day)

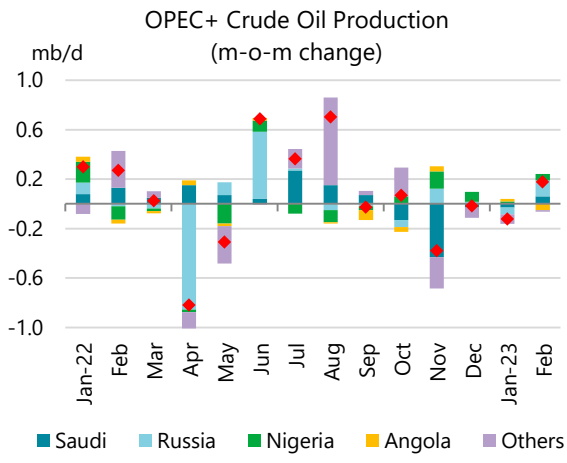
| | 2021 | Δ | 2022 | Δ | 2023 |
|---|---|---|---|---|---|
| **Non-OPEC+** | **46.4** | ***1.5*** | **47.9** | ***1.8*** | **49.8** |
| US | 16.8 | *1.1* | 18.0 | *1.0* | 18.9 |
| Canada | 5.6 | *0.2* | 5.8 | *0.1* | 5.8 |
| China | 4.1 | *0.1* | 4.2 | *0.0* | 4.2 |
| Brazil | 3.0 | *0.1* | 3.1 | *0.3* | 3.4 |
| Norway | 2.1 | *-0.2* | 1.9 | *0.1* | 2.0 |
| Guyana | 0.1 | *0.2* | 0.3 | *0.1* | 0.4 |
| Non-OPEC+ Other | 14.8 | *0.0* | 14.8 | *0.2* | 15.0 |
| **OPEC+** | **49.0** | ***3.1*** | **52.1** | ***-0.2*** | **51.8** |
| Saudi Arabia | 11.0 | *1.6* | 12.5 | *-0.1* | 12.5 |
| Russia | 10.9 | *0.2* | 11.1 | *-0.7* | 10.4 |
| Iraq | 4.1 | *0.4* | 4.6 | *0.0* | 4.5 |
| UAE | 3.6 | *0.5* | 4.1 | *0.0* | 4.1 |
| Iran | 3.4 | *0.1* | 3.5 | *0.1* | 3.7 |
| Kazakhstan | 1.8 | *0.0* | 1.8 | *0.1* | 1.9 |
| Nigeria | 1.7 | *-0.2* | 1.5 | *0.1* | 1.6 |
| OPEC+ Other | 12.5 | *0.4* | 12.9 | *0.3* | 13.2 |
| **Total Supply** | **95.4** | ***4.6*** | **100.0** | ***1.6*** | **101.6** |

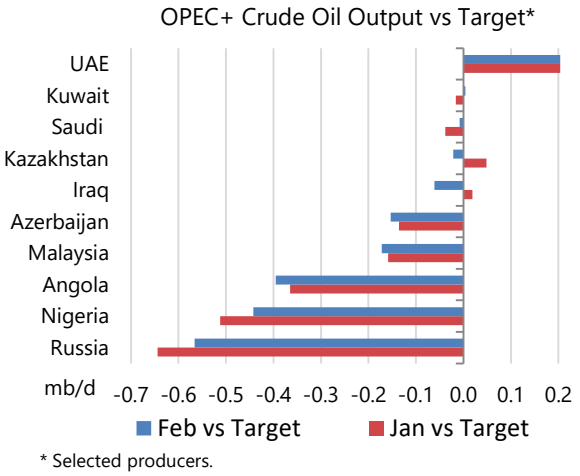
| World Oil Production by Region (OPEC+ based on current agreement) (million barrels per day) | 2021 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Africa | 7.4 | 7.4 | 7.0 | 7.0 | 7.2 | 7.2 | 7.4 | 7.4 | 7.4 | 7.3 | 7.4 |
| Latin America | 5.9 | 6.2 | 6.2 | 6.5 | 6.5 | 6.4 | 6.8 | 6.9 | 7.0 | 7.1 | 6.9 |
| North America | 24.4 | 25.0 | 25.4 | 26.2 | 26.4 | 25.7 | 26.4 | 26.8 | 27.2 | 27.3 | 26.9 |
| China | 4.1 | 4.2 | 4.2 | 4.1 | 4.1 | 4.2 | 4.3 | 4.2 | 4.2 | 4.2 | 4.2 |
| Other Asia | 3.4 | 3.3 | 3.2 | 3.1 | 3.2 | 3.2 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Europe | 3.5 | 3.4 | 3.1 | 3.2 | 3.3 | 3.3 | 3.4 | 3.3 | 3.3 | 3.4 | 3.3 |
| FSU | 13.8 | 14.4 | 13.4 | 13.7 | 14.1 | 13.9 | 14.1 | 13.3 | 12.9 | 12.9 | 13.3 |
| Middle East | 27.9 | 30.1 | 30.8 | 31.8 | 31.3 | 31.0 | 30.9 | 31.0 | 31.0 | 31.0 | 31.0 |
| **Total Oil Production** | **90.3** | **94.0** | **93.4** | **95.5** | **96.1** | **94.8** | **96.2** | **96.0** | **96.0** | **96.2** | **96.1** |
| Processing Gains | 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 | 2.5 | 3.1 | 3.3 | 2.9 | 2.9 | 2.7 | 3.2 | 3.5 | 3.1 | 3.1 |
| **Total Supply** | **95.4** | **98.8** | **98.8** | **101.1** | **101.3** | **100.0** | **101.2** | **101.6** | **101.8** | **101.7** | **101.6** |
| *OPEC Crude* | *26.4* | *28.5* | *28.7* | *29.6* | *29.4* | *29.0* | *29.2* | *29.3* | *29.3* | *29.3* | *29.3* |
| *OPEC NGLs** | *5.1* | *5.3* | *5.4* | *5.4* | *5.3* | *5.3* | *5.4* | *5.4* | *5.4* | *5.4* | *5.4* |
| *Non-OPEC OPEC+* | *17.4* | *18.2* | *17.2* | *17.5* | *17.9* | *17.7* | *17.9* | *17.2* | *16.8* | *16.8* | *17.2* |
| *Total OPEC+* | *49.0* | *52.0* | *51.3* | *52.5* | *52.6* | *52.1* | *52.5* | *51.9* | *51.5* | *51.5* | *51.8* |
| Demand | 97.7 | 99.6 | 98.8 | 100.8 | 100.8 | 100.0 | 100.3 | 101.3 | 103.0 | 103.5 | 102.0 |
| Balance | -2.3 | -0.7 | 0.0 | 0.4 | 0.5 | 0.0 | 1.0 | 0.3 | -1.1 | -1.7 | -0.4 |

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

# OPEC+ crude oil supply

OPEC+ crude oil production from all 23 countries rose 180 kb/d to 44.53 mb/d in February, with Russia, Saudi Arabia and Nigeria driving the increase. Output in Kazakhstan, Angola and Iraq declined due to maintenance and unplanned outages. Supply from OPEC countries edged up 70 kb/d to 29.17 mb/d, while volumes from non-OPEC nations rose by 110 kb/d to 15.36 mb/d. The coalition's effective spare capacity, excluding volumes of crude oil shut in by sanctions in Iran and Russia, stood at 3.7 mb/d in February, with Saudi Arabia and the UAE holding the lion's share.




* Selected producers.

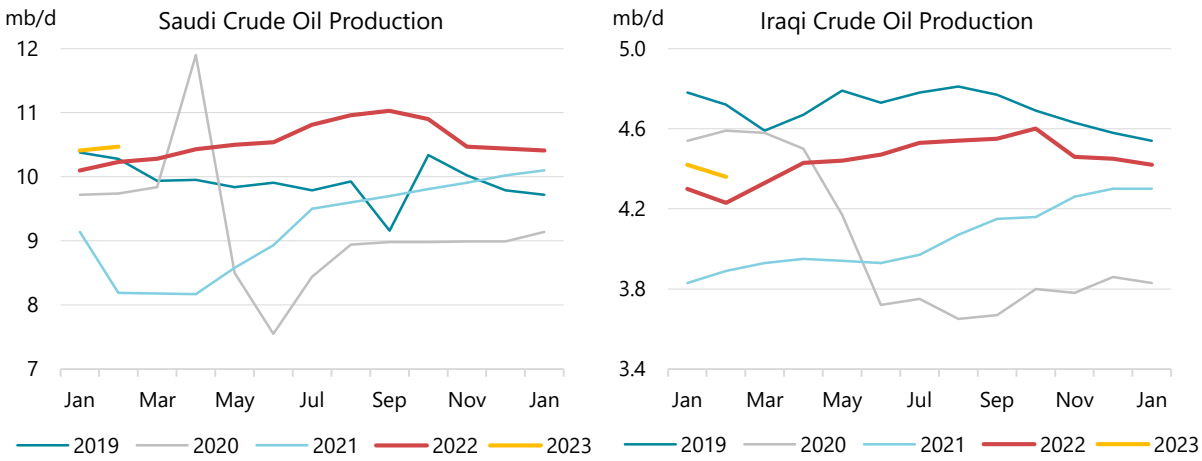
Production from the 19 members subject to quotas increased by 160 kb/d to 38.38 mb/d in February – narrowing the gap between the bloc's supply and official targets to 1.7 mb/d versus 1.9 mb/d in January. Russia, because of sanctions, pumped 570 kb/d below quota, while Nigeria, Angola and Malaysia are trailing due to operational issues.

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

| | Jan 2023 Supply | Feb 2023 Supply | Feb Prod vs Target | Feb 2023 Target | Sustainable Capacity[2] | Eff Spare Cap vs Feb[3] |
|---|---|---|---|---|---|---|
| Algeria | 1.01 | 1.02 | 0.01 | 1.01 | 1.0 | 0.0 |
| Angola | 1.11 | 1.06 | -0.40 | 1.46 | 1.2 | 0.1 |
| Congo | 0.26 | 0.28 | -0.03 | 0.31 | 0.3 | 0.0 |
| Equatorial Guinea | 0.05 | 0.06 | -0.06 | 0.12 | 0.1 | 0.0 |
| Gabon | 0.19 | 0.20 | 0.02 | 0.18 | 0.2 | 0.0 |
| Iraq | 4.42 | 4.37 | -0.06 | 4.43 | 4.7 | 0.3 |
| Kuwait | 2.68 | 2.68 | 0.00 | 2.68 | 2.8 | 0.1 |
| Nigeria | 1.25 | 1.30 | -0.44 | 1.74 | 1.4 | 0.1 |
| Saudi Arabia | 10.41 | 10.47 | -0.01 | 10.48 | 12.2 | 1.8 |
| UAE | 3.23 | 3.23 | 0.21 | 3.02 | 4.1 | 0.9 |
| **Total OPEC-10** | **24.61** | **24.67** | **-0.75** | **25.42** | **28.0** | **3.3** |
| Iran[4] | 2.63 | 2.65 | | | 3.8 | |
| Libya[4] | 1.14 | 1.16 | | | 1.2 | 0.0 |
| Venezuela[4] | 0.72 | 0.69 | | | 0.8 | 0.1 |
| **Total OPEC** | **29.10** | **29.17** | | | **33.7** | **3.4** |
| Azerbaijan | 0.53 | 0.53 | -0.15 | 0.68 | 0.6 | 0.0 |
| Kazakhstan | 1.67 | 1.61 | -0.02 | 1.63 | 1.7 | 0.0 |
| Mexico[5] | 1.65 | 1.65 | | 1.75 | 1.7 | 0.0 |
| Oman | 0.84 | 0.84 | 0.00 | 0.84 | 0.9 | 0.0 |
| Russia | 9.78 | 9.91 | -0.57 | 10.48 | 10.2 | |
| Others[6] | 0.78 | 0.82 | -0.24 | 1.06 | 0.9 | 0.1 |
| **Total Non-OPEC** | **15.26** | **15.36** | **-0.98** | **16.44** | **15.9** | **0.2** |
| **OPEC+ 19 in cut deal[4]** | **38.22** | **38.38** | **-1.72** | **40.10** | **42.2** | **3.5** |
| **Total OPEC+** | **44.36** | **44.53** | | | **49.6** | **3.7** |

1 Excludes condensates.
2 Capacity levels can be reached within 90 days and sustained for extended period.
3 Excludes shut in Iranian, Russian crude.
4 Iran, Libya, Venezuela exempt from cuts.
5 Mexico excluded from OPEC+ compliance.
6 Bahrain, Brunei, Malaysia, Sudan and South Sudan.

**Saudi** output rose 60 kb/d in February to 10.47 mb/d, within a hair's breadth of its quota, as crude shipments to world markets increased. Flows from the kingdom's Gulf neighbours were broadly steady.




Crude oil supply in the **UAE,** at 3.23 mb/d, was 210 kb/d above its OPEC+ target. **Kuwaiti** production of 2.68 mb/d was in line with its quota. Supply in **Oman** was stable at 840 kb/d. To boost its output down the road, Oman plans to launch two oil and gas exploration and production rounds. Onshore blocks will feature in the first bid round (targeted for end-1Q23) and selected offshore blocks will be offered in the second round (for end-2Q23).

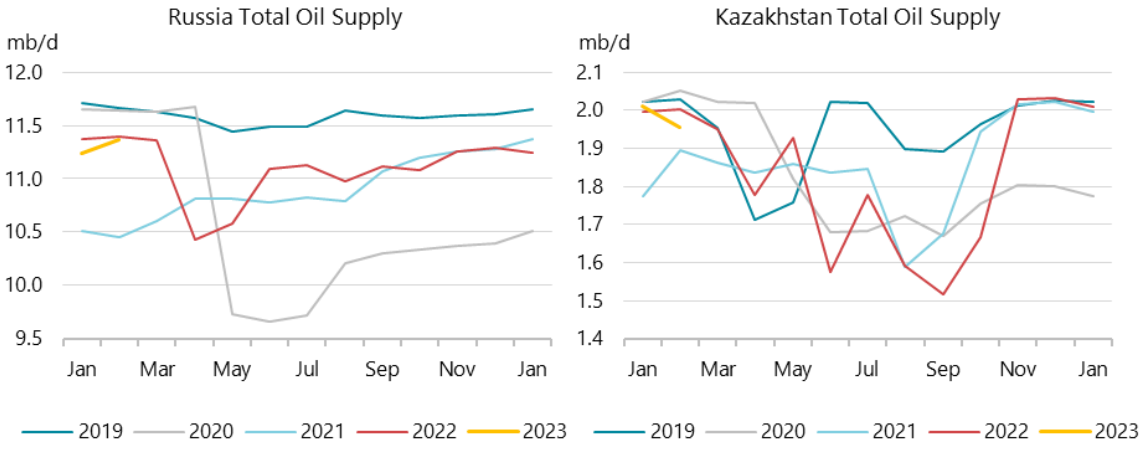
**Iraqi** production dropped 50 kb/d in February to 4.37 mb/d – 60 kb/d below its OPEC+ target. Baghdad appears to have drawn barrels out of storage to compensate for downtime at the 400 kb/d

southern West Qurna-2 oil field during scheduled maintenance. Elsewhere, Indonesia's state Pertamina has doubled its stake in the 500 kb/d West Qurna-1 oil field to 20% by acquiring a 10% share from ExxonMobil. Discussions are still underway for the sale of Exxon's remaining 22.7% share in the southern field to Iraq's Basrah Oil Co. In 2013, Exxon sold almost half its share in West Qurna-1 to China National Petroleum Corp, which currently holds 32.7%.

Crude oil output in **Iran**, exempt from the OPEC+ supply pact, edged up to 2.65 mb/d in February. Tehran appears to be keeping up brisk oil sales to China that have been running at roughly 1 mb/d since October, up around 100 kb/d from 3Q22. Talks to revive the 2015 Iran nuclear deal, which would ease sanctions, have been on hold since September. Iran could be a source of significant supply if sanctions were to be eased (our base case assumes sanctions remain in place), with 1.2-1.3 mb/d of crude oil gradually restored in about six to eight months.

**Russian** crude production rose by 130 kb/d in February to 9.91 mb/d as the country appears to have found additional outlets for its barrels despite EU sanctions. Total output of crude oil, condensates and NGLs increased to 11.37 mb/d - just 30 kb/d lower than before Russia invaded Ukraine in February 2022. Reportedly, Moscow's 500 kb/d reduction this month will not impact condensate supply of roughly 1 mb/d – thus crude oil output could fall to around 9.4 mb/d. Russian Deputy Prime Minister Alexander Novak said last month the decision to cut crude production only covers March but may be extended.

Meanwhile, Russian oil pipeline monopoly Transneft said on 27 February it had halted Russian crude deliveries to Poland. Although the EU imposed a ban on seaborne oil imports from Russia on 5 December, it is still receiving pipeline volumes. Transneft was reported as saying paperwork had not been completed for the supply of oil to Poland in the second half of February and customers there had been cut off. Polish refiner PKN Orlen said it would plug the gap from other sources. The company was taking roughly 60 kb/d of Russian crude via Druzhba, or 10% of overall imports in January.




Russian oil supply has held up surprisingly well following its invasion of Ukraine as measures have been put in place to facilitate the re-routing of crude oil exports to new markets. These robust shipments are supporting our 300 kb/d upward revision of Russian output for this year. We now expect average oil production of 10.4 mb/d in 2023, down 740 kb/d y-o-y.

**Russia re-routes to sustain oil exports, but revenues plunge**

A year on from Russia's invasion of Ukraine the country is still shipping roughly the same amount of oil to world markets. This indicates that the G7 sanctions regime has been effective in not restricting global crude and product supplies, while simultaneously curtailing Russia's ability to generate export revenue. Recent tanker tracking data suggest that Moscow has managed to re-route most of the barrels previously destined for the EU and US to new outlets in Asia, Africa and the Middle East. Although it has been relatively successful in sustaining volumes, Russia's oil revenue has taken a hit. We estimate that in February, Russia earned $11.6 bn from oil sales of 7.5 mb/d (-500 kb/d m-o-m) compared to $14.3 bn in January and nearly $20 bn a year before.

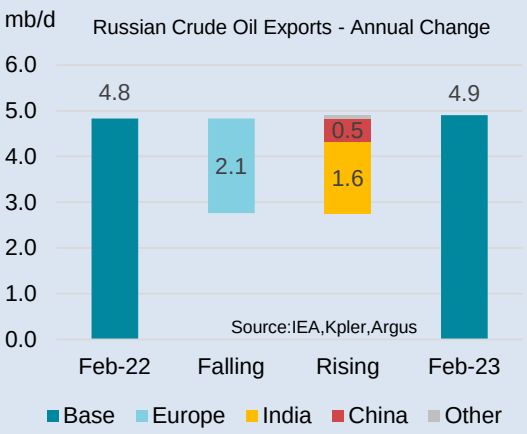
Russian Oil Exports (mb/d)

| | EU | UK+US | Türkiye | China | India | OECD Asia | Other | Unknown | Total | Crude | Products | Estimated export revenue $bn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 Mar | 3.5 | 0.2 | 0.4 | 1.8 | 0.5 | 0.4 | 0.7 | 0.0 | **7.4** | 5.1 | 2.4 | **22.1** |
| 2022 Apr | 3.5 | 0.1 | 0.4 | 1.8 | 1.0 | 0.3 | 1.0 | 0.0 | **8.0** | 5.5 | 2.5 | **20.7** |
| 2022 May | 3.4 | 0.0 | 0.3 | 2.0 | 1.0 | 0.1 | 0.8 | 0.0 | **7.7** | 5.4 | 2.3 | **21.1** |
| 2022 Jun | 3.2 | 0.0 | 0.4 | 2.2 | 0.8 | 0.0 | 1.0 | 0.0 | **7.6** | 5.2 | 2.5 | **21.6** |
| 2022 Jul | 2.8 | 0.0 | 0.4 | 1.8 | 1.1 | 0.1 | 1.1 | 0.0 | **7.4** | 4.9 | 2.4 | **19.0** |
| 2022 Aug | 3.0 | 0.0 | 0.6 | 2.0 | 1.0 | 0.1 | 1.1 | 0.0 | **7.7** | 5.1 | 2.6 | **18.0** |
| 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 | 1.3 | 0.0 | **7.7** | 5.0 | 2.7 | **17.5** |
| 2022 Nov | 2.2 | 0.0 | 0.5 | 2.0 | 1.5 | 0.1 | 1.4 | 0.0 | **7.8** | 4.9 | 2.9 | **15.9** |
| 2022 Dec | 1.9 | 0.0 | 0.4 | 2.1 | 1.7 | 0.1 | 1.3 | 0.0 | **7.6** | 4.7 | 2.9 | **13.3** |
| 2023 Jan | 1.3 | 0.0 | 0.5 | 2.5 | 1.8 | 0.0 | 1.6 | 0.3 | **8.0** | 5.1 | 2.9 | **14.3** |
| 2023 Feb | 0.6 | 0.0 | 0.5 | 2.2 | 1.7 | 0.1 | 1.6 | 0.8 | **7.5** | 4.9 | 2.6 | **11.6** |
| M-o-M chg | -0.8 | 0.0 | 0.0 | -0.4 | -0.1 | 0.1 | 0.1 | 0.6 | **-0.5** | -0.2 | -0.3 | **-2.7** |

Sources: IEA, *Argus, Kpler*.

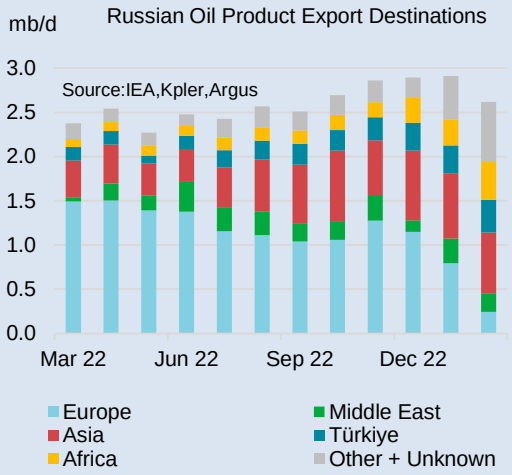
Note: Data in this table were derived by granular analysis and estimates of country of origin data in cases where shipments transit via third countries. They may differ from customs information due to calculation methodology and estimates updates.

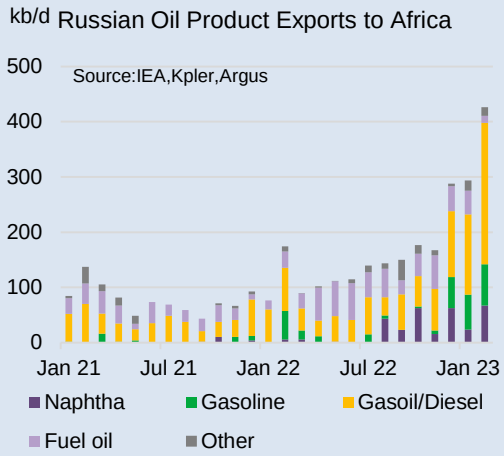
The dramatic shift in trade has seen Russian crude oil exports pivot from Europe to Asia's top consumers: China and India. By February, shipments of Russian crude to Europe had declined by 2.1 mb/d y-o-y, while exports to India had increased by 1.6 mb/d and by 500 kb/d to China. Compared with January, Russian crude oil exports were 200 kb/d lower. Confirmed shipments to China decreased by 300 kb/d from January's record-high but could end up higher once cargoes with no set destination find buyers. Exports to Europe eased by 200 kb/d m-o-m, primarily due to the halt in Druzhba pipeline flows to Poland. Turkish and Bulgarian refineries are still importing Russian seaborne crude.



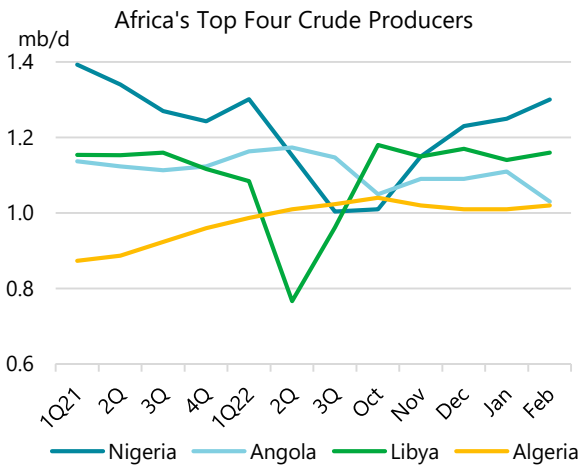

A similar pattern is expected to develop on product trade flows following the enforcement of the European products embargo last month. In February, Russian product exports to Europe decreased by 550 kb/d m-o-m and 1.7 mb/d y-o-y to 250 kb/d. Moscow appears to be re-directing some of this volume to the Middle East (+190 kb/d y-o-y), Türkiye (+230 kb/d y-o-y), Asia (+310 kb/d y-o-y) and Africa (+250 kb/d y-o-y). The Middle East was the first to emerge as a new outlet – snapping up barrels such as cheap naphtha and fuel oil very quickly after the

invasion. Türkiye as well as Asian countries started to show interest in the middle of 2022– with China, India and countries on the Malay Peninsula especially keen. With the imposition of the G7 price cap, Africa has stepped up to buy. Exports to the region have risen by 140 kb/d to 430 kb/d in February 2023, with the biggest increase for gasoil as Europe shuts down its massive imports from Russia.




**Kazakh** crude oil production fell 60 kb/d in February, to 1.61 mb/d, due to various outages. And at the start of this month, unscheduled maintenance at the Tengiz oil field has curbed flows at the country's largest oil field. Output at Tengiz reportedly slumped to 560 kb/d in early March compared to more than 600 kb/d last month. At the end of February, the central Asian country finally started shipping oil to Germany via Russia's Druzhba pipeline. Kazakhstan requested 1.2 million tonnes of capacity (24 kb/d) for all of 2023. The Druzhba pipeline is exempt from sanctions, but German refineries in Leuna and Schwedt, connected to the pipeline, have halted Russian crude purchases since the end of last year.




Combined crude oil output from African members of OPEC+ rose 80 kb/d in February as a continuing recovery in Nigeria and higher flows elsewhere in Africa more than offset a notable decline in Angola. **Nigerian** crude oil supply increased by 50 kb/d to 1.3 mb/d, the highest level since last January, as crucial export streams such as Forcados and Bonny Light ramped up further. At 250 kb/d, +30 kb/d m-o-m, Forcados was pumping at its highest mark since the end of 2019.

But the immediate outlook for Bonny Light, which pumped 80 kb/d in February, has dimmed after an explosion and fire on 3 March damaged a key oil export pipeline. A similar incident forced the closure of the Trans Niger Pipeline (TNP) early last year. It was partially restarted at the end of 2022 which helped boost production. Nigeria is relying on the full resumption of the TNP and other crucial export pipelines to further propel its production recovery. Sabotage and chronic underinvestment sank

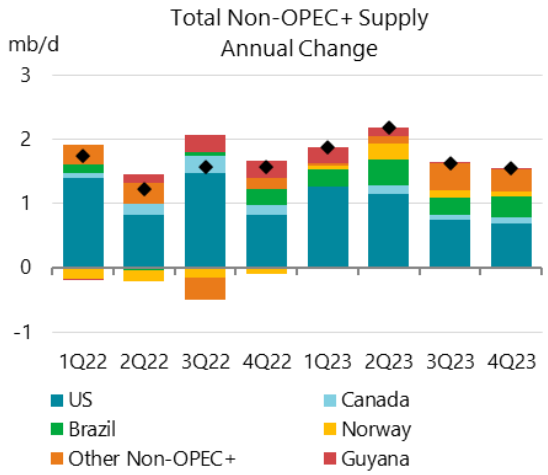
Nigerian supply to 40-year lows in 2022, but this year could see a modest rebound after the government struck a pact with security companies in the Niger delta oil heartland.

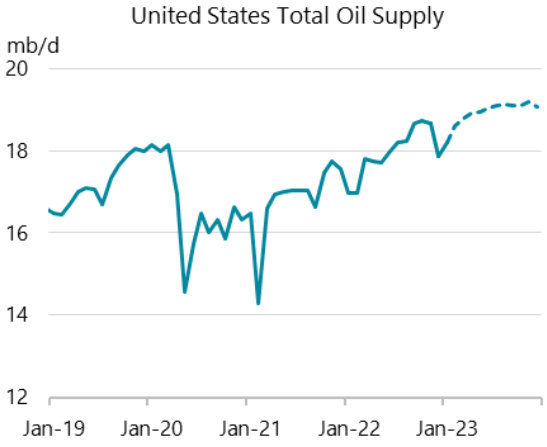
Crude supply in **Angola** fell 50 kb/d to 1.06 mb/d in February due to scheduled 35-day maintenance at the Dalia floating production storage and offloading vessel (FPSO). **Libyan** crude oil supply inched up 20 kb/d to 1.16 mb/d. Output from the North African producer has been relatively stable owing to the Tripoli-Benghazi pact of last July that ended an oil blockade.

Output in **Venezuela** slipped 30 kb/d to 690 kb/d. Caracas has meanwhile outlined a development plan with Russian oil company Rosneft to increase crude supply. Following a meeting with Rosneft president Igor Sechin, Venezuelan Oil Minister Tareck El Aissami said the two sides planned to increase crude oil production and advance new business opportunities.

# Non-OPEC+ oil supply

Output from non-OPEC+ countries jumped by 650 kb/d m-o-m in February to 48.9 mb/d. The US and Canada added 700 kb/d between them as operations recovered from a second month of winter storms and upgrader maintenance. Norway accounted for another 100 kb/d of growth as the Johan Sverdrup project ramped up, while refinery gains and biofuels fell seasonally by 80 kb/d. Latin America also declined, led by losses in Brazil, Ecuador and Colombia; with Argentina the only country on the continent to post small monthly increases. Driven by the US and Brazil, non-OPEC+ oil production will grind higher through most of 2023, to 49.8 mb/d for the year on average, up 1.8 mb/d from 2022.



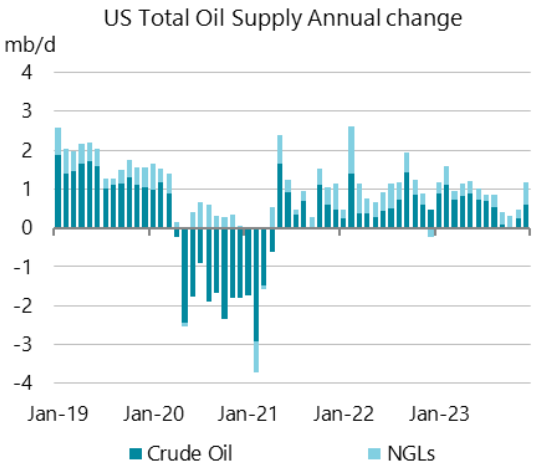




Total oil supply in the **US** grew by 1.1 mb/d in 2022 and is forecast to rise by 970 kb/d this year to average 18.9 mb/d. Crude oil will rise to 12.5 mb/d, an all-time high, and account for 610 kb/d of the increase. In December, the latest month for which official data from the US Energy Information Administration (EIA) are available, total oil supply plummeted by 840 kb/d, with NGLs accounting for 550 kb/d of the drop due primarily to ethane rejection. Crude eased by 270 kb/d, on harsh winter weather, while non-conventional (other hydrocarbons and oxygenates except ethanol) supplies fell by 10 kb/d.

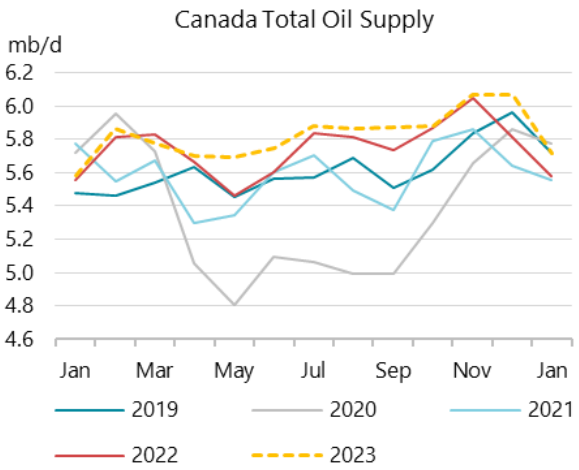
February's 410 kb/d gain added to the 370 kb/d increase seen in January, offsetting most of December's losses to lift US production to 18.6 mb/d. Growth came primarily from NGLs (260 kb/d) and lower 48 crude (130 kb/d), with many basins continuing to recover from January storms. The Gulf of Mexico rose by a modest 20 kb/d, to 1.84 mb/d, as Shell's Vito project came online. The 100 kb/d project was sanctioned in April 2018 and later simplified to serve as a design standard for

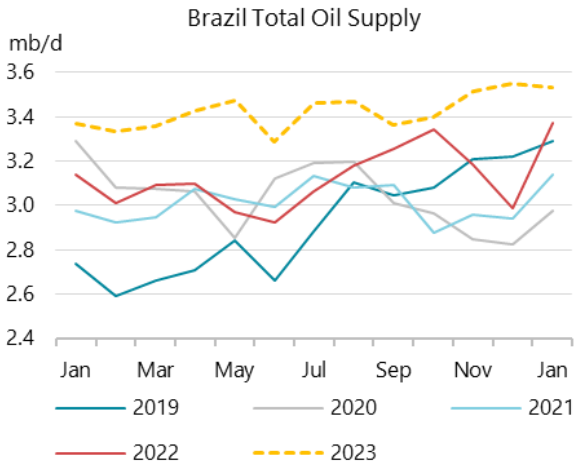
the 2024 Whale project. The design changes reduced costs and lifetime CO2 emissions from the facility by 70-80% compared to the original concept.

Washington approved the ConocoPhillips 180 kb/d Willow project in Alaska while simultaneously announcing new restrictions on arctic drilling. Conoco has said that final investment decision (FID) was contingent upon this approval. Production is expected to commence by the end of the decade. Additionally, the first lease sale since 2021 is set to occur in the Gulf of Mexico in late March. This, and the scheduled September lease sale, were mandated under 2022's Inflation Reduction Act. No further sales can be held until the US Interior Department completes its new 2023-28 leasing plan.

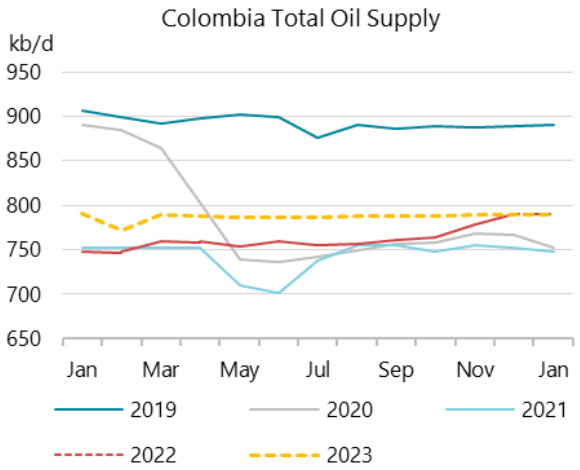


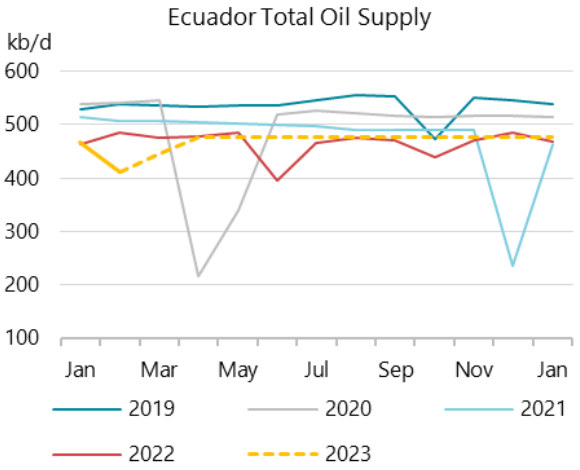

In January, **Canadian** supply fell by 220 kb/d m-o-m to 5.6 mb/d as winter weather and maintenance saw output from upgraders drop by 430 kb/d, to just under 1 mb/d, according to data from the Alberta Energy Regulator. February production increased by 290 kb/d as upgraders came back online. Output is forecast to hit a lull in 2Q23 due to spring maintenance before growing in the second half of the year. Moreover, the expected start up date for the Terra Nova project has been pushed back to the second half of the year and the Trans Mountain Expansion's (TMX) commissioning has been delayed until 1Q24. Our forecast shows that existing pipeline and rail capacity will be tight but sufficient for Western Canada until the TMX brings additional egress to the basin. Annual growth in 2023 is expected to be 80 kb/d, bringing total volumes to 5.83 mb/d.



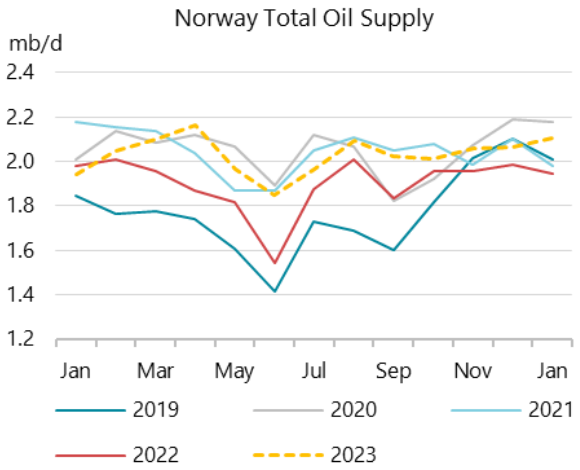

**Brazilian** output jumped by 380 kb/d in January to reach an all-time high of 3.37 mb/d, according to data from the Agencia Nacional do Petroleo (ANP). Production from the newly commissioned Itapu FPSO as well as recently installed capacity at Atapu, Mero and Sepia all contributed to the record volumes. Offshore presalt fields accounted for about 75% of January's supply and also reached a record high. Provisional daily data from the ANP shows February production slipped from January's highs by 40 kb/d to 3.33 mb/d. Output is expected to rise by 310 kb/d this year on average with the slated start up of five additional FPSOs and as Petrobras returns to normal maintenance scheduling, having cleared the remainder of postponed Covid-era maintenance late last year.

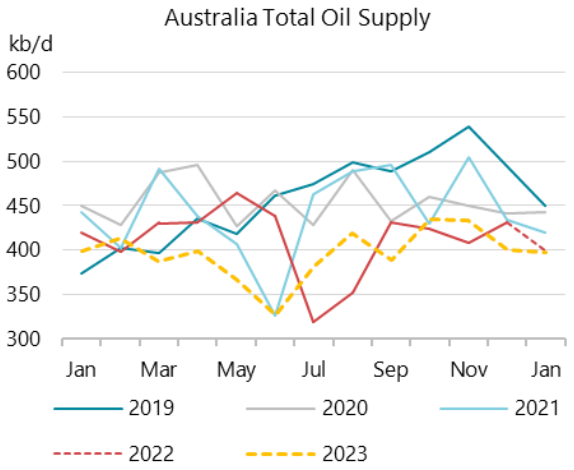



Elsewhere in Latin America, **Colombian** volumes dipped by slightly under 20 kb/d m-o-m to 770 kb/d in February as protests briefly halted oil operations. For 2023, Colombian production is expected to post a second year of moderate gains, to 790 kb/d. **Ecuadorian** supply fell by 60 kb/d m-o-m to 410 kb/d in February as flooding affected areas around the SOTE and OCP pipelines causing *force majeure*. The pipeline restarted on 3 March and production in March is expected to recover to 450 kb/d.

Data from the **Norwegian** Petroleum Directorate (NPD) show production in January fell by 40 kb/d m-o-m to 1.94 mb/d. February volumes rose by 100 kb/d as output from Johan Sverdrup climbed after technical problems were resolved. Supply in 2023 is expected to grow 120 kb/d y-o-y to 2 mb/d.



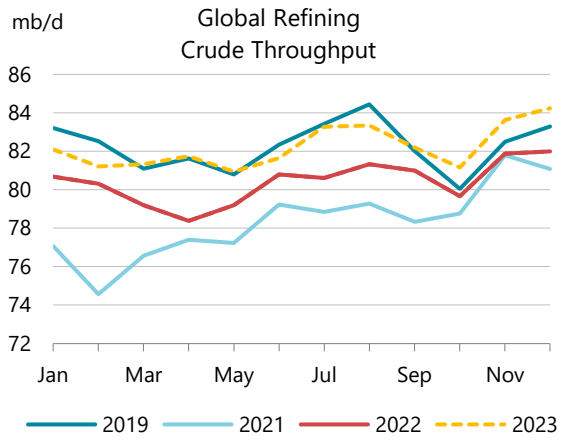

**Australian** supply rose by 10 kb/d to 410 kb/d in February. Woodside Petroleum, Australia's largest producer, announced that it would take its Ngujima-Yin FPSO in for four months of scheduled maintenance beginning in March. Production is set to be 390 kb/d next month and is forecast to stay under 400 kb/d until the FPSO returns to the Greater Enfield project. For the year as a whole, output will average 400 kb/d, down 20 kb/d y-o-y, extending a four-year slide.

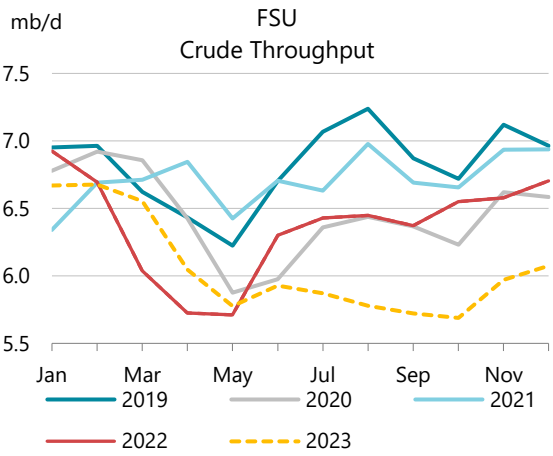
Elsewhere in the OECD, **Israel** loaded its first ever crude cargo on 14 February according to Energean, the operator of the mostly gas producing Karish field. Karish came on stream in October 2022 and while it is expected that most incremental production from Israel will be gas, the Karish field is eventually expected to ramp up to 20 kb/d of liquids exports through the Energean Power FPSO.

# Refining

## Overview

Global crude runs are forecast to average 82.1 mb/d in 2023, an increase of 1.8 mb/d y-o-y and unchanged from last month's *Report*. Stronger-than-expected refinery throughputs in January and the healthy margin environment lift our 1Q23 forecast by 0.4 mb/d. Furthermore, a higher assessment for Russian refinery intake in 2H23 is also incorporated into this *Report*, following the initial signs that Russian oil export prices remain on average below the G7 price cap and buying interest for Russia products remains healthy. However, these changes are offset by upward revisions to maintenance forecasts for the balance of the year and a delay to the forecast start-up of the Dangote refinery in Nigeria.




Refining margins weakened m-o-m during February, led by lower middle distillate cracks, in part a reflection of lower natural gas prices and recent weak gasoil demand in the OECD. Nevertheless, compared to the seasonal average, margins are healthy. Middle distillate cracks sustained their premium to light distillate and residual cracks, pointing to structurally tight jet and diesel markets.

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

| | 2019 | 2020 | 2021 | 4Q22 | 2022 | Jan-23 | Feb-23 | Mar-23 | 1Q23 | Apr-23 | 2Q23 | 3Q23 | 4Q23 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Americas | **19.1** | **16.6** | **17.8** | 18.5 | **18.7** | 17.8 | 17.9 | 18.0 | 17.9 | 18.6 | 19.1 | 19.3 | 19.2 | **18.9** |
| Europe | **12.2** | **10.7** | **11.0** | 11.4 | **11.5** | 11.7 | 11.2 | 11.1 | 11.3 | 11.6 | 11.5 | 11.8 | 11.5 | **11.5** |
| Asia Oceania | **6.8** | **5.9** | **5.8** | 6.0 | **6.0** | 6.1 | 6.0 | 6.1 | 6.1 | 5.9 | 5.3 | 5.9 | 5.9 | **5.8** |
| **Total OECD** | **38.1** | **33.2** | **34.5** | 35.9 | **36.2** | 35.6 | 35.2 | 35.2 | 35.4 | 36.1 | 35.9 | 37.1 | 36.6 | **36.2** |
| FSU | **6.8** | **6.4** | **6.7** | 6.6 | **6.4** | 6.7 | 6.7 | 6.5 | 6.6 | 6.0 | 5.9 | 5.8 | 5.9 | **6.1** |
| Non-OECD Europe | **0.5** | **0.4** | **0.4** | 0.6 | **0.5** | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.6 | 0.6 | **0.5** |
| China | **13.4** | **13.7** | **14.4** | 14.4 | **13.7** | 14.4 | 14.3 | 14.3 | 14.4 | 14.3 | 14.4 | 14.7 | 14.8 | **14.6** |
| Other Asia | **10.3** | **9.3** | **9.6** | 10.2 | **10.3** | 10.9 | 10.7 | 10.5 | 10.7 | 10.6 | 10.6 | 10.6 | 10.7 | **10.7** |
| Latin America | **3.2** | **3.0** | **3.2** | 3.5 | **3.4** | 3.5 | 3.5 | 3.6 | 3.5 | 3.7 | 3.6 | 3.6 | 3.6 | **3.6** |
| Middle East | **7.8** | **7.1** | **7.6** | 8.3 | **8.1** | 8.5 | 8.4 | 8.7 | 8.5 | 8.7 | 8.6 | 8.7 | 8.9 | **8.7** |
| Africa | **2.0** | **1.9** | **1.9** | 1.7 | **1.8** | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 1.8 | **1.8** |
| **Total Non-OECD** | **44.1** | **41.9** | **43.8** | 45.2 | **44.2** | 46.4 | 45.9 | 46.0 | 46.1 | 45.5 | 45.4 | 45.8 | 46.4 | **45.9** |
| **Total** | **82.2** | **75.0** | **78.3** | 81.1 | **80.3** | 82.0 | 81.1 | 81.2 | 81.5 | 81.6 | 81.3 | 82.8 | 82.9 | **82.1** |
| *Year-on-year change* | ***-0.2*** | ***-7.1*** | ***3.2*** | *0.6* | ***2.1*** | *1.4* | *0.9* | *2.1* | *1.5* | *3.4* | *2.0* | *2.0* | *1.8* | ***1.8*** |

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

The wide availability of discounted Russian crude supplies and the rebound in Chinese demand – following the easing of COVID-related restrictions – raise the likelihood of stronger runs in the short term. OECD January crude throughputs were marginally ahead of expectations at 35.6 mb/d, as European and North American refiners outperformed. In the coming months the rebound in OECD activity levels relies on a return of capacity from maintenance in the US, as well as in Europe, before Asia Oceanian runs enter a maintenance-driven dip in 2Q23. Forecast growth of 1.8 mb/d this year reflects both the addition of new capacity in the US, the Middle East and Asia and is predicated on the continued recovery in global oil demand. The further delay to the start-up of Nigeria's Dangote refinery provides European refineries with a limited period of respite. Nevertheless, changes to one of Europe's key export markets, and the simultaneous cuts in Nigerian crude export availability, may yet prove a difficult adjustment for some European refineries, even if this impact will be seen next year, rather than this.

# Product cracks and refinery margins

Stable crude market pricing contrasted with profoundly weaker middle distillate cracks in all regions and marginally lower gasoline cracks in February. Naphtha and fuel oil cracks strengthened, but remained at a discount to regional crudes, even as naphtha cracks flirted with positive territory in Europe in late February. The improving outlook in Chinese growth (notably the stronger PMI survey data) and the robust rebound in regional aviation demand prospects boosted middle distillate cracks in early March.

**Product Prices and Differentials ($/bbl)**

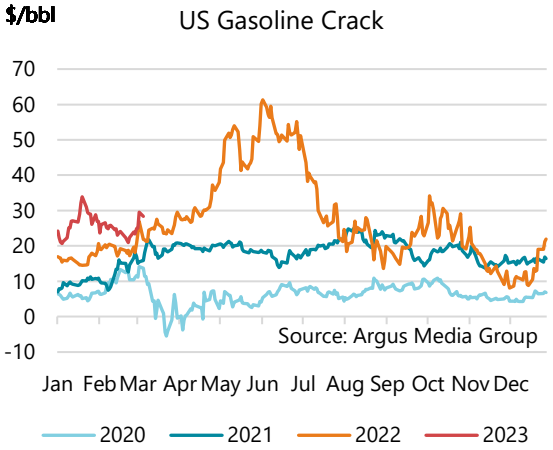
| | Prices | | | Differentials | | | | Week Starting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec | Jan | Feb | Dec | Jan | Feb | Jan-Feb chg | 06-Feb | 13-Feb | 20-Feb | 27-Feb | 06-Mar |
| **Northwest Europe** | | | | to North Sea Dated | | | | | | | | |
| Gasoline | 84.51 | 97.41 | 96.35 | 4.16 | 14.54 | 13.85 | -0.69 | 13.74 | 13.01 | 14.13 | 13.03 | 13.54 |
| Diesel | 120.56 | 124.73 | 109.89 | 40.20 | 41.87 | 27.39 | -14.48 | 26.85 | 26.46 | 25.25 | 28.99 | 26.51 |
| Jet/Kero | 121.11 | 128.40 | 112.29 | 40.75 | 45.54 | 29.79 | -15.75 | 29.93 | 28.17 | 26.57 | 28.95 | 24.77 |
| Naphtha | 66.76 | 77.51 | 80.75 | -13.60 | -5.35 | -1.75 | 3.60 | -3.49 | -2.37 | -0.31 | -0.80 | -3.52 |
| HSFO | 56.80 | 60.32 | 60.62 | -23.56 | -22.54 | -21.88 | 0.66 | -22.09 | -22.73 | -20.47 | -22.51 | -19.28 |
| 0.5% Fuel Oil | 77.95 | 85.56 | 85.41 | -2.41 | 2.70 | 2.91 | 0.21 | 3.48 | 2.15 | 1.31 | 1.51 | 2.55 |
| **US Gulf Coast** | | | | to WTI Houston | | | | | | | | |
| Gasoline | 90.55 | 106.15 | 103.64 | 13.35 | 26.57 | 24.35 | -2.21 | 25.66 | 24.38 | 22.20 | 23.93 | 28.74 |
| Diesel | 124.37 | 133.56 | 116.17 | 47.16 | 53.97 | 36.89 | -17.08 | 36.91 | 35.19 | 35.26 | 38.59 | 35.52 |
| Jet/Kero | 122.36 | 148.09 | 117.43 | 45.15 | 68.51 | 38.15 | -30.36 | 38.38 | 32.06 | 42.64 | 44.31 | 39.11 |
| Naphtha | 70.75 | 84.75 | 79.90 | -6.46 | 5.17 | 0.62 | -4.55 | 1.11 | -1.56 | 0.80 | 1.77 | 1.46 |
| HSFO | 54.18 | 55.23 | 57.56 | -23.03 | -24.35 | -21.73 | 2.63 | -21.65 | -21.78 | -20.45 | -19.82 | -17.76 |
| 0.5% Fuel Oil | 82.69 | 91.63 | 93.47 | 5.48 | 12.04 | 14.18 | 2.14 | 14.86 | 14.25 | 13.30 | 13.75 | 13.30 |
| **Singapore** | | | | to Dubai | | | | | | | | |
| Gasoline | 85.09 | 95.49 | 95.86 | 6.61 | 13.86 | 12.36 | -1.50 | 13.90 | 11.95 | 11.01 | 10.68 | 12.29 |
| Diesel | 113.75 | 116.12 | 107.64 | 35.27 | 34.50 | 24.14 | -10.35 | 24.89 | 23.26 | 20.73 | 23.57 | 22.42 |
| Jet/Kero | 110.22 | 115.07 | 106.77 | 31.74 | 33.44 | 23.28 | -10.17 | 25.49 | 21.67 | 18.63 | 21.52 | 18.90 |
| Naphtha | 66.34 | 72.52 | 76.98 | -12.14 | -9.11 | -6.52 | 2.59 | -7.25 | -7.08 | -5.55 | -4.81 | -6.36 |
| HSFO | 56.28 | 58.90 | 62.14 | -22.20 | -22.72 | -21.36 | 1.37 | -22.70 | -21.12 | -19.49 | -17.14 | -15.51 |
| 0.5% Fuel Oil | 88.14 | 92.84 | 94.11 | 9.66 | 11.21 | 10.61 | -0.60 | 14.15 | 10.13 | 5.81 | 6.20 | 6.36 |

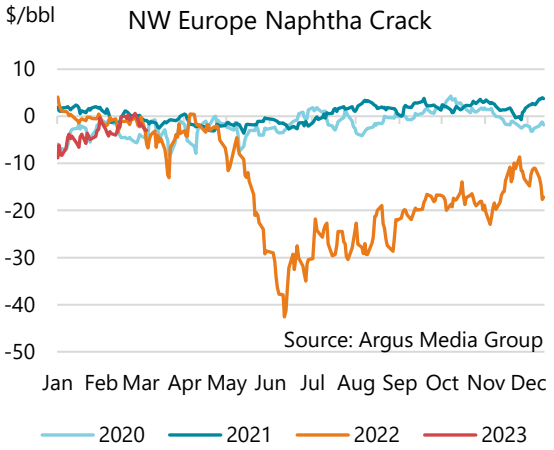


Regional gasoline cracks stayed strong relative to seasonal norms and close to year-ago highs. Gasoline stocks in the US are still low on a seasonally adjusted basis, following the weather-related supply disruption in late December and the start of heavy US refinery maintenance (+60% y-o-y in 1Q23). US gasoline cracks averaged $24.35/bbl in February, as compared to a five-year average of $10.60/bbl. European and Singapore gasoline cracks slipped marginally on the month into the low teens, but still well above the February five-year average.

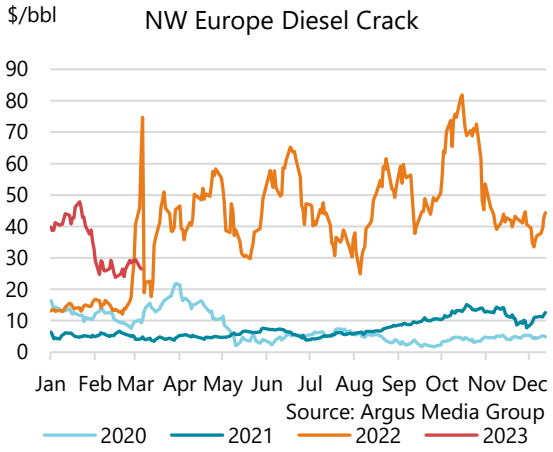
Naphtha cracks improved in Europe in February, as the lack of Russian volumes tightened regional supply. Higher cracks have encouraged replacement sources of naphtha from North Africa and

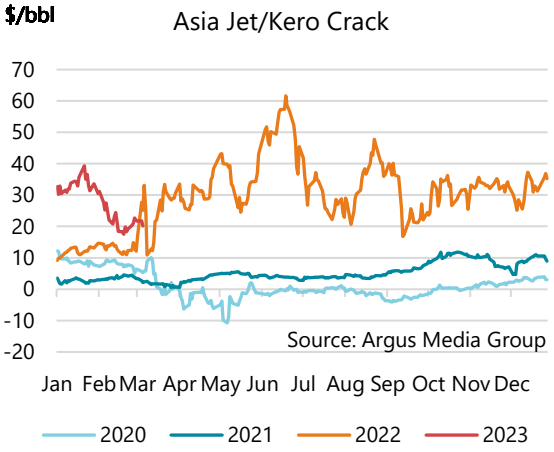
further afield. Furthermore, the partial normalisation of European natural gas and electricity prices should ease the cost pressure on local petrochemical plants in the coming months even if this *Report* only assumes a moderate recovery in regional naphtha demand in the coming months.




Diesel cracks continued to trade at historically high levels in February, averaging between $24-37/bbl against regional benchmark crudes, albeit down 30-35% on January average levels. Weaker OECD gasoil demand has undoubtedly weighed on middle distillate cracks in recent months. This has been partly offset by lingering US supply disruptions and still-elevated production costs in Europe. Despite the ongoing reduction in European gas and power prices, the rebound in feedstock costs to produce diesel from upgrading units, e.g., hydrocrackers, as well as Europe's need to attract longer-haul supplies to replace the lost Russian exports all helped support cracks, (see *Tight feedstock markets support light and middle distillate cracks*). The rebound in Chinese economic survey data boosted distillate cracks in early March, as markets moved to discount the prospect of stronger diesel demand and the knock-on impact that could have on global distillate markets. An examination of OECD refinery yield data indicates that they remain close to max middle distillate yields and the rebound of jet fuel demand that we project for 2023 will keep middle distillates front and centre of the need to boost runs in the coming quarters.

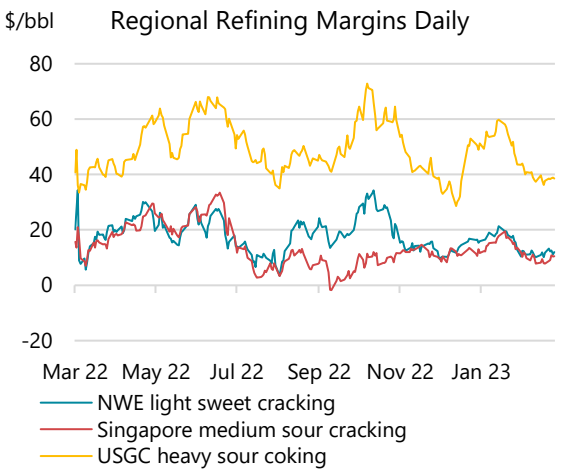


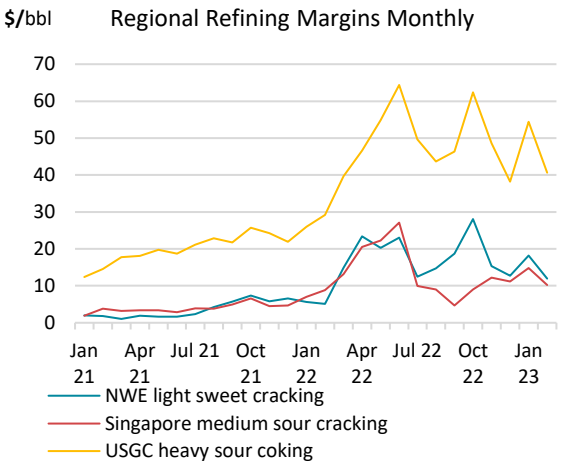




Jet/kerosene cracks moved in tandem with diesel cracks softening across the three main refining hubs by around 30-45% m-o-m. The fall in USGC jet cracks was the most dramatic, down $30/bbl from their January average, but arguably they had furthest to correct. Regional supplies normalised in January, while jet imports surged following December's weather-related supply dislocations,

allowing jet/kero inventories to recover. Nevertheless, jet cracks are likely to be supported by the need to maintain and, if possible, increase jet yields in the coming months to meet resurgent demand in China and elsewhere.

Fuel oil cracks made steady, if unspectacular, gains across the month of February. Here-again, we see the impact of the Russian sanctions contributing to the need for additional Atlantic Basin supplies to head to Asian markets. Singapore high sulphur cracks posted the largest increase, gaining $3.22/bbl during February, and reached a ten-month high in the first week of March.




Benchmark regional refinery margins fell substantially m-o-m on average in February, driven lower by the weaker middle distillate cracks. Nevertheless, they remain well-above their seasonally adjusted five-year average levels, thanks to still-robust middle distillate cracks.

**IEA Global Indicator Refining Margins**

| | | Monthly Average | | | Change | Average for week starting: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **$/bbl** | **Nov 22** | **Dec 22** | **Jan 23** | **Feb 23** | **Jan - Feb** | **06 Feb** | **13 Feb** | **20 Feb** | **27 Feb** | **06 Mar** |
| **NW Europe** | | | | | | | | | | |
| Light sweet hydroskimming | 8.00 | 6.12 | 11.21 | 7.28 | -3.93 | 7.19 | 6.67 | 6.44 | 6.75 | 4.98 |
| Light sweet cracking | 15.32 | 12.75 | 18.20 | 11.95 | -6.25 | 11.51 | 11.25 | 11.13 | 12.19 | 10.21 |
| Light sweet cracking + Petchem | 16.36 | 14.38 | 18.44 | 12.24 | -6.20 | 12.03 | 11.38 | 11.26 | 12.16 | 10.69 |
| Medium sour cracking* | 43.03 | 21.16 | 24.48 | 15.99 | -8.49 | 15.28 | 15.13 | 15.29 | 17.32 | 16.10 |
| **US Gulf Coast** | | | | | | | | | | |
| Light sweet cracking | 22.71 | 18.86 | 29.74 | 21.25 | -8.49 | 21.98 | 20.14 | 20.01 | 21.91 | 23.10 |
| Medium sour cracking | 32.36 | 29.05 | 40.17 | 29.26 | -10.91 | 29.56 | 28.08 | 28.64 | 29.42 | 29.47 |
| Heavy sour coking | 48.59 | 38.16 | 54.39 | 40.66 | -13.73 | 42.22 | 39.15 | 37.88 | 38.58 | 38.89 |
| **Singapore** | | | | | | | | | | |
| Light sweet cracking | 8.27 | 8.92 | 13.13 | 9.43 | -3.70 | 10.49 | 8.64 | 7.39 | 7.71 | 7.10 |
| Light sweet cracking + Petchem | 9.18 | 10.77 | 13.84 | 10.15 | -3.68 | 11.31 | 9.35 | 8.14 | 8.30 | 7.85 |
| Medium sour cracking | 12.17 | 11.19 | 14.78 | 10.21 | -4.57 | 10.99 | 9.58 | 8.30 | 9.90 | 9.61 |
| Medium sour cracking + Petchem | 13.07 | 13.01 | 15.48 | 10.93 | -4.55 | 11.80 | 10.28 | 9.04 | 10.48 | 10.36 |

Note: Mediterranean and US Midcontinent margins are available in Table 15 of this *Report*.
Source: IEA/Argus Media Ltd prices.
Methodology notes are avaialble at https://www.iea.org/topics/oil-market-report#methodology
*From 1/12/2022, the basis has changed from Urals NWE to Argus Brent Sour

The prospect of further demand gains in 2023, as Chinese and jet fuel demand shake off the last vestiges of Covid-19 dislocations, should support margins. G7 trade sanctions have lengthened supply chains, re-directed trade flows and now provide nimble merchant refiners with opportunities to capture additional margin on Russian crude, feedstock, and product supplies. Profitability

headwinds persist, notably the outright price and price volatility of natural gas, RINs in the US, and the cost of carbon emissions in Europe and in some US states.

# Regional refining developments

Global crude and product markets are adapting to the G7 price cap and EU import ban at a rapid rate. These changes have created a multitude of challenges and opportunities for refineries globally in equal measure. Heavily discounted Russian crude and products are flowing to new markets and creating potentially huge profit opportunities for those refiners capable of capturing them. Recent data provide evidence of these challenges and opportunities. Record Indian crude throughputs in January are emblematic of what heavily discounted crude can do to incentivise additional product supply. Concurrently, European refineries have ensured new sources of crude to compensate for the loss of Russian crude supplies while a rise in local product prices has made the higher cost of these imports affordable. Furthermore, while there is ample evidence of markets adjusting to new inter-regional crude and product flows, factors such as overall demand growth and the prospect for sustained economic growth in 2023, remain constraints on how much additional crude and products can be accommodated in the longer run.

OECD refinery crude runs were marginally ahead of expectations in January at 35.6 mb/d, declining by 0.5 mb/d m-o-m and 0.1 mb/d y-o-y. North American and European runs were better than last month's estimate, while OECD Asia Oceania underperformed by 0.1 mb/d. The US continued to account for the bulk of the y-o-y decline in runs, a reflection of the weather-related dislocation seen around the turn of the year. OECD refinery nameplate utilisation rates in the mid 80's percentile (excluding outages and maintenance) arguably understated the tightness that exists in some refined products markets.

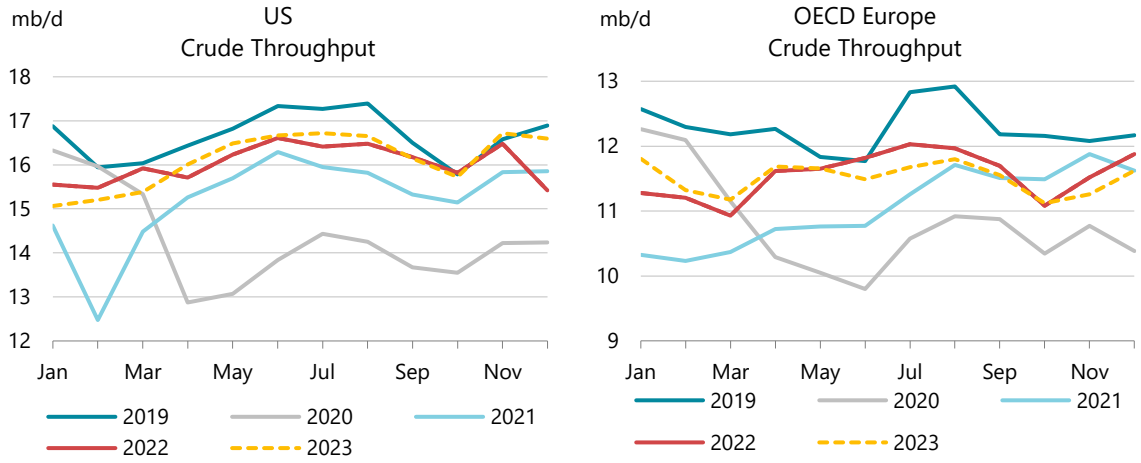
**Refinery Crude Throughput and Utilisation in OECD Countries**
(million barrels per day)

| | | | | | | | Change from | | Utilisation rate | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Aug 22 | Sep 22 | Oct 22 | Nov 22 | Dec 22 | Jan 23 | *Dec 22* | *Jan 22* | Jan 23 | Jan 22 |
| US[1] | 16.38 | 16.07 | 15.72 | 16.38 | 15.32 | 14.96 | -0.36 | -0.49 | 85% | 88% |
| Canada | 1.79 | 1.73 | 1.65 | 1.65 | 1.85 | 1.84 | -0.01 | 0.04 | 97% | 95% |
| Chile | 0.15 | 0.17 | 0.19 | 0.16 | 0.18 | 0.17 | -0.01 | -0.02 | 75% | 86% |
| Mexico | 0.81 | 0.79 | 0.81 | 0.92 | 0.83 | 0.84 | 0.00 | 0.05 | 51% | 48% |
| **OECD Americas[1]** | **19.14** | **18.77** | **18.37** | **19.11** | **18.18** | **17.81** | **-0.37** | **-0.43** | **83%** | **85%** |
| France | 1.03 | 0.88 | 0.45 | 0.89 | 0.99 | 0.98 | -0.01 | 0.19 | 86% | 70% |
| Germany | 1.76 | 1.88 | 1.88 | 1.90 | 1.83 | 1.67 | -0.17 | -0.05 | 82% | 85% |
| Italy | 1.41 | 1.40 | 1.33 | 1.27 | 1.28 | 1.40 | 0.12 | 0.27 | 81% | 65% |
| Netherlands | 1.02 | 1.04 | 1.05 | 0.93 | 1.03 | 1.11 | 0.08 | 0.14 | 91% | 80% |
| Spain | 1.30 | 1.28 | 1.11 | 1.17 | 1.32 | 1.26 | -0.06 | 0.03 | 89% | 87% |
| United Kingdom | 1.05 | 1.04 | 1.05 | 0.99 | 1.04 | 1.05 | 0.00 | 0.00 | 87% | 87% |
| Other OECD Europe[2] | 4.30 | 4.08 | 4.11 | 4.27 | 4.29 | 4.24 | -0.05 | -0.05 | 84% | 85% |
| **OECD Europe** | **11.87** | **11.60** | **10.98** | **11.42** | **11.78** | **11.70** | **-0.08** | **0.52** | **85%** | **81%** |
| Japan | 2.91 | 2.72 | 2.60 | 2.74 | 2.85 | 2.85 | 0.00 | 0.00 | 86% | 83% |
| Korea | 3.04 | 2.87 | 2.67 | 2.80 | 2.83 | 2.80 | -0.03 | -0.11 | 79% | 83% |
| Other Asia Oceania[3] | 0.45 | 0.49 | 0.46 | 0.48 | 0.48 | 0.48 | 0.00 | -0.09 | 92% | 88% |
| **OECD Asia Oceania** | **6.40** | **6.07** | **5.73** | **6.01** | **6.16** | **6.13** | **-0.03** | **-0.20** | **83%** | **83%** |
| **OECD Total** | **37.41** | **36.44** | **35.08** | **36.54** | **36.12** | **35.64** | **-0.48** | **-0.10** | **84%** | **84%** |

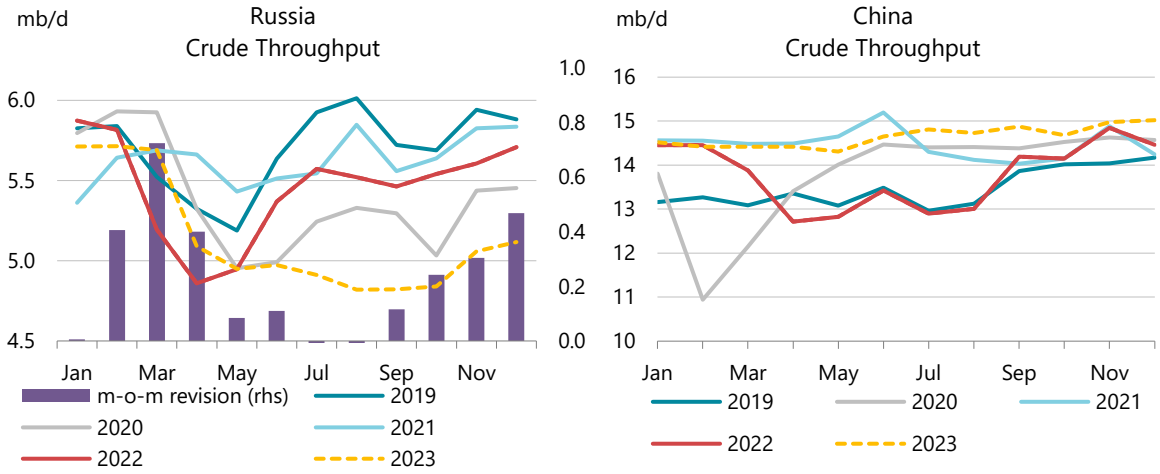
1 US includes US50, OECD Americas include Chile and US territories
2 Includes Lithuania
3 Includes Israel

Revisions to OECD December data largely counterbalanced each other, with lower US refinery crude runs offset by higher European runs, notably in the Netherlands. US refinery runs have

remained subdued through February and into the start of March, at close to 15 mb/d. Activity on the US Gulf Coast was close to 8 mb/d, which is below the seasonally adjusted average. Seasonal maintenance and unplanned outages result in our 1Q23 forecasts being trimmed to reflect the prospect of a more muted US recovery by the end of the quarter than had previously been expected.

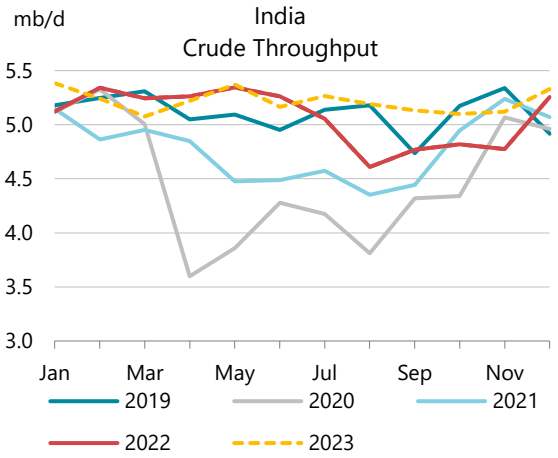


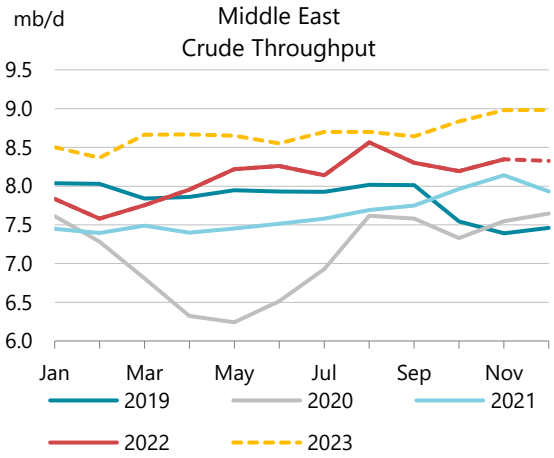

**Russian** crude runs were 0.4 mb/d ahead of our forecast for February, at 5.7 mb/d, flat m-o-m and down 100 kb/d y-o-y. Recent trade and tanker tracking data indicate that the flow of Russian products to new markets has progressed rapidly. The introduction of heavily discounted products to new markets has ensured that refineries and traders have ample incentive to accommodate these new supplies. Consequently, we have revised up our assessment of Russian crude runs for the balance of the year. Our forecast of Russian crude processing remains subject to policy changes of the Russian government, the G7 and the EU, and buyers' appetite for Russian products. Crude runs will nevertheless dip in 2Q23 as planned maintenance builds to an initial peak in May and again in the autumn. We now forecast Russian runs to average 5.1 mb/d in 2023, up from 4.9 mb/d last month, but still 320 kb/d lower y-o-y.




**Chinese** crude runs forecasts are nudged higher this month to 14.6 mb/d on average in 2023, up 0.9 mb/d y-o-y, with much of the adjustment incorporated into 1H23. The rebound in Chinese demand and the availability of cheap Russian crude both lean in favour of higher runs in the short-term, but much will depend on the allocation of product export quotas which have yet to be finalised. Elsewhere in Asia, the conclusion of maintenance in **Chinese Taipei** and **Thailand** added a combined 320 kb/d m-o-m to runs in December.

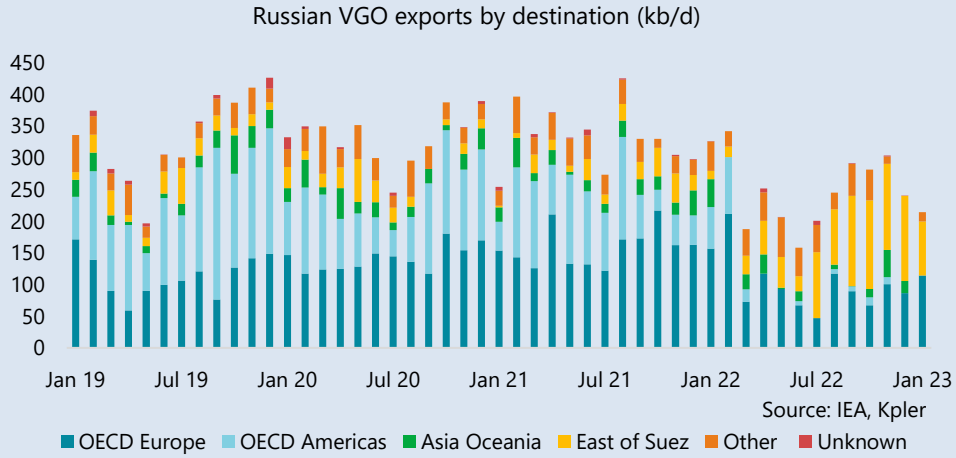
**Indian** crude runs reached 5.4 mb/d in January, a new monthly high. A moderate pullback in throughputs is expected in the short term, driven by higher maintenance levels, but thereafter fresh throughput records are expected. Indian refineries are well-positioned to capitalise on the current sanction regime and Europe's structural middle distillate import requirements. Middle Eastern forecasts are revised higher in the short term, driven by a faster ramp-up in Kuwait's Al-Zour refinery. Conversely, a heavier maintenance schedule assessment lowers our 2H23 runs forecasts.




**Tight feedstock markets support light and middle distillate cracks**

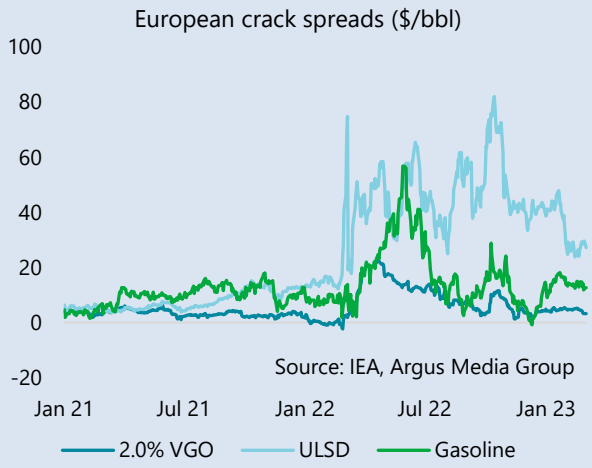
The purchase of additional intermediary feedstocks by refineries allows them to boost supplies for their upgrading units. Historically, Russian supplies of straight run residue and Vacuum Gasoil (VGO) have allowed European and North American refineries to increase light product yields for any given crude slate. In the intensely competitive marketplace that refineries operate in, this fine tuning of inputs can substantially add to the overall profit achieved.

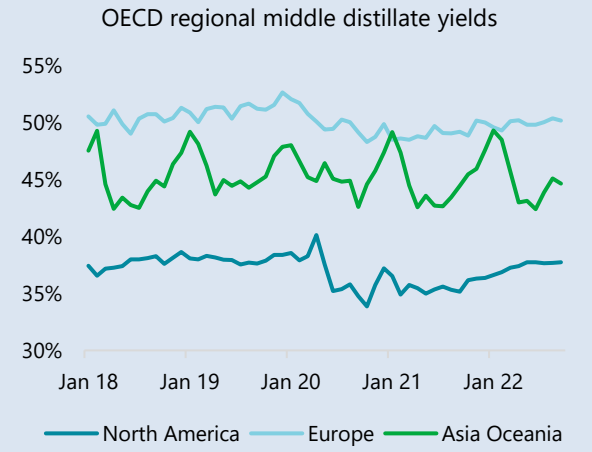



These feedstocks flow to conversion units crucial to maximise the production of transportation fuels. Diesel and gasoline production relies on a mix of straight run and upgraded material to meet finished product specifications. Catalytic crackers and hydrocrackers can process VGO to produce diesel and gasoline – albeit with a need for subsequent hydrotreating.

The loss of access to Russian VGO exports, initially for US refineries and now for European ones, has forced them to secure alternative sources of VGO and VGO-rich crude, arguably tightening Atlantic Basin regional feedstock markets. Premiums for VGO in Europe have increased in the wake of the Russian invasion of Ukraine and the prospect of further rebound in jet fuel demand this year will push refineries to maximise middle distillate yields. Consequently, VGO in Europe has consistently traded at a stronger premium to North Sea dated than before the Invasion of Ukraine and, at times, approached the price of gasoline.

OECD refinery yield data indicate that across the three OECD regions, refineries are at, or close to, the upper limit of middle distillate production. North America lags other regions due to its higher gasoline yields. Adjusting upgrading unit output yields to switch between light and middle distillate production is easier for catalytic crackers, whereas changes to hydrocracker yields are also possible but, material changes usually require a planned maintenance period to be implemented.

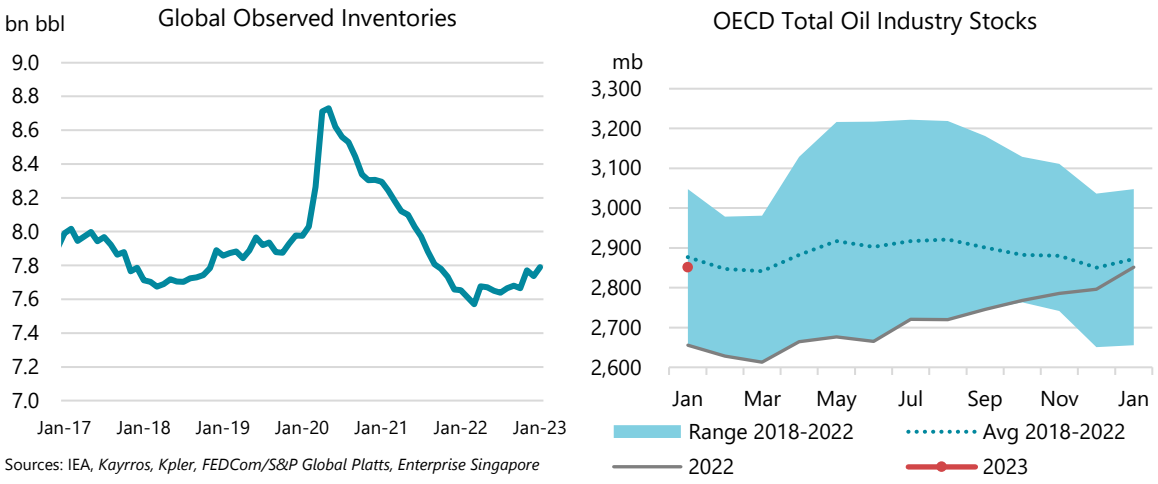


# Stocks

## Overview

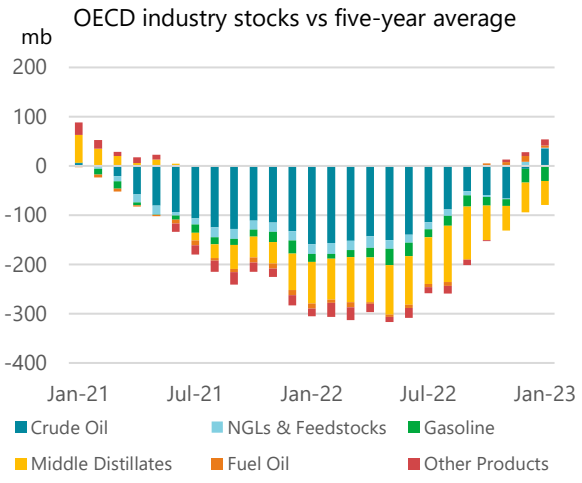
Global observed inventories surged by 52.9 mb in January, with stock builds in both the OECD (+57.1 mb) and non-OECD (+13 mb) and a decline in oil on water (-17.2 mb). Total stocks reached nearly 7.8 billion barrels, their highest level since September 2021. OECD inventories built due to a decline in demand, and as Europe started replenishing tanks ahead of a complete embargo on Russian oils.




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

In January, OECD industry oil stocks rose by 54.8 mb, four times more than the five-year average stock builds. At 2 851 mb, inventories were the highest since July 2021, 25.5 mb below the 2018-2022 average (and 110.1 mb below the 2017-2021 average). In terms of forward demand, stocks covered 61.6 days, up by 0.9 days m-o-m, but still 2.3 days below the five-year average.

Crude oil, NGL and feedstock inventories increased by 30.6 mb, mainly in the OECD Americas (+27.9 mb). Petroleum product stocks grew by 24.3 mb, led by OECD Europe (+23.8 mb). Gasoline stocks rose by 19.1 mb, largely in line with the seasonal norm. Middle distillate inventories built by 25.7 mb, more than the five-year average (+14.2 mb). Fuel oil stocks fell counter-seasonally by 1.8 mb. Other product inventories posted a seasonal decline of 18.8 mb. Thanks to the significant builds, stocks in crude oil, middle distillates, and gasoline reached their highest since April 2021, November 2021 and March 2022, respectively.




Preliminary data for the US, Europe and Japan show a 7.8 mb build in industry stocks in February. Crude oil, NGL and feedstock inventories rose for a third consecutive month, by 28.2 mb. The increase came mainly from the US (+32.2 mb). Oil product stocks fell by 20.4 mb, largely in line with

the seasonal norm. Gasoline stocks edged down by 0.2 mb. Middle distillate inventories fell by 3.2 mb. Japan (-5.3 mb) led the decline followed by Europe (-2 mb), partially offset by an increase in the US (+4.1 mb). Fuel oil and other product stocks decreased by 2.3 mb and 14.7 mb, respectively.

**Preliminary OECD Industry Stock Change in January 2023 and Fourth Quarter 2022**

| | January 2023 (preliminary) (million barrels) | | | | January 2023 (preliminary) (million barrels per day) | | | | Fourth Quarter 2022 (million barrels per day) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Am | Europe | As.Ocean | Total | Am | Europe | As.Ocean | Total | Am | Europe | As.Ocean | Total |
| **Crude Oil** | **28.4** | **8.1** | **-4.2** | **32.2** | **0.9** | **0.3** | **-0.1** | **1.0** | **0.4** | **0.0** | **0.0** | **0.4** |
| Gasoline | 14.3 | 3.9 | 0.9 | 19.1 | 0.5 | 0.1 | 0.0 | 0.6 | 0.2 | 0.0 | 0.0 | 0.2 |
| Middle Distillates | 2.9 | 20.9 | 2.0 | 25.7 | 0.1 | 0.7 | 0.1 | 0.8 | 0.1 | 0.2 | 0.0 | 0.3 |
| Residual Fuel Oil | 2.5 | -3.3 | -1.0 | -1.8 | 0.1 | -0.1 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Other Products | -21.1 | 2.3 | 0.0 | -18.8 | -0.7 | 0.1 | 0.0 | -0.6 | -0.3 | 0.0 | -0.1 | -0.4 |
| **Total Products** | **-1.4** | **23.8** | **1.9** | **24.3** | **0.0** | **0.8** | **0.1** | **0.8** | **0.0** | **0.2** | **0.0** | **0.1** |
| Other Oils[1] | -0.5 | -0.8 | -0.3 | -1.6 | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total Oil** | **26.4** | **31.0** | **-2.6** | **54.8** | **0.9** | **1.0** | **-0.1** | **1.8** | **0.4** | **0.2** | **-0.1** | **0.6** |

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

OECD stock data for December have been revised up by 29.1 mb to 2 796 mb on the receipt of more complete information. Most of the revision came from Canada (+26.9 mb, of which 27.3 mb for crude oil), reflecting export disruptions to the US due to the keystone pipeline leak. A 10.4 mb/d upward adjustment to OECD Europe inventories (mainly in the Netherlands, +11.6 mb) was partially offset by a downward revision in OECD Asia Oceania (-9.3 mb).

**OECD Industry Stock Revisions versus February 2023 Oil Market Report**

(million barrels)

| | Americas | | Europe | | Asia Oceania | | OECD | |
|---|---|---|---|---|---|---|---|---|
| | Nov-22 | Dec-22 | Nov-22 | Dec-22 | Nov-22 | Dec-22 | Nov-22 | Dec-22 |
| **Crude Oil** | **0.7** | **29.7** | **-0.4** | **2.3** | **0.0** | **-7.2** | **0.3** | **24.8** |
| Gasoline | 0.0 | -2.9 | 0.0 | 2.9 | 0.0 | -0.1 | 0.0 | -0.1 |
| Middle Distillates | 0.0 | 1.7 | 0.0 | 3.1 | 0.0 | 0.4 | 0.0 | 5.2 |
| Residual Fuel Oil | 0.0 | 1.4 | 0.0 | 0.1 | 0.0 | -0.9 | 0.0 | 0.5 |
| Other Products | -0.1 | 0.6 | 0.6 | 3.6 | 0.0 | -1.2 | 0.4 | 2.9 |
| **Total Products** | **-0.2** | **0.8** | **0.6** | **9.6** | **0.0** | **-1.8** | **0.4** | **8.6** |
| Other Oils[1] | 0.0 | -2.4 | 0.0 | -1.5 | 0.0 | -0.3 | 0.0 | -4.3 |
| **Total Oil** | **0.5** | **28.1** | **0.2** | **10.4** | **0.0** | **-9.3** | **0.7** | **29.1** |

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

# Implied balance

In January, observed oil inventories rose by 1.71 mb/d compared with an implied build of 2 mb/d. For a second consecutive month, OECD industry crude oil, NGL and feedstock inventories increased by nearly 1 mb/d. Following a 750 kb/d decline in December, product stocks bounced back by 780 kb/d. OECD government stocks built by 70 kb/d. In non-OECD regions, crude oil inventories rose by 390 kb/d, according to *Kayrros*. Product stocks in Singapore and Fujairah edged up by 30 kb/d. By contrast, oil on water, including short-term floating storage, declined by 550 kb/d, as shown by data from *Kpler*.

| IEA Global oil balance (implied stock change) (mb/d) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 2022 | Jan-23 | Feb-23 |
| Global oil balance | **0.02** | **2.34** | **-2.27** | **-0.75** | **0.04** | **0.37** | **0.51** | **0.05** | **2.00** | **-0.10** |
| Observed stock changes | | | | | | | | | | |
| OECD industry stocks | **0.05** | **0.41** | **-1.06** | -0.36 | 0.57 | 0.87 | 0.55 | **0.41** | 1.77 | 0.28 |
| OECD government stocks | **-0.04** | **0.02** | **-0.16** | -0.46 | -1.08 | -1.06 | -0.31 | **-0.73** | 0.07 | 0.00 |
| Non-OECD crude stocks* | **0.17** | **0.44** | **-0.47** | 0.40 | 0.80 | -0.56 | 0.37 | **0.25** | 0.39 | -0.25 |
| Selected non-OECD product stocks** | **-0.14** | **0.12** | **-0.03** | 0.12 | 0.07 | 0.16 | -0.27 | **0.02** | 0.03 | 0.06 |
| Oil on w ater | **0.07** | **0.02** | **-0.04** | -0.53 | 0.52 | 1.02 | 0.09 | **0.28** | -0.55 | |
| Total observed stock changes | **0.10** | **1.00** | **-1.75** | -0.83 | 0.88 | 0.42 | 0.43 | **0.23** | 1.71 | |
| Unaccounted for balance | **-0.09** | **1.34** | **-0.52** | 0.09 | -0.83 | -0.05 | 0.09 | **-0.18** | 0.29 | |

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

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

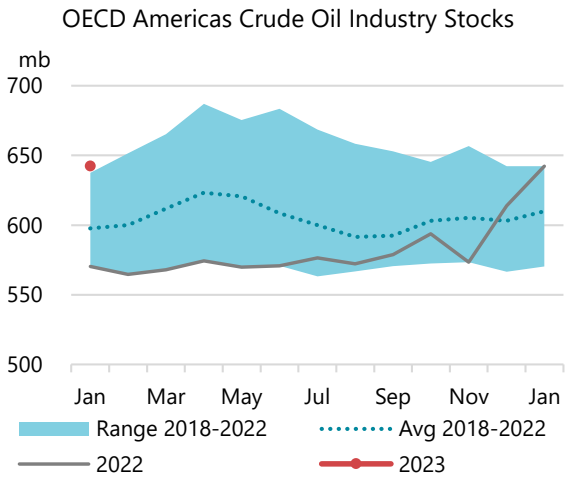
Sources: IEA, EIA, PAJ, *Euroilstock* , *Kayrros* , *JODI*, *Kpler* , *FEDCom/S&P Global Platts and Enterprise Singapore* .

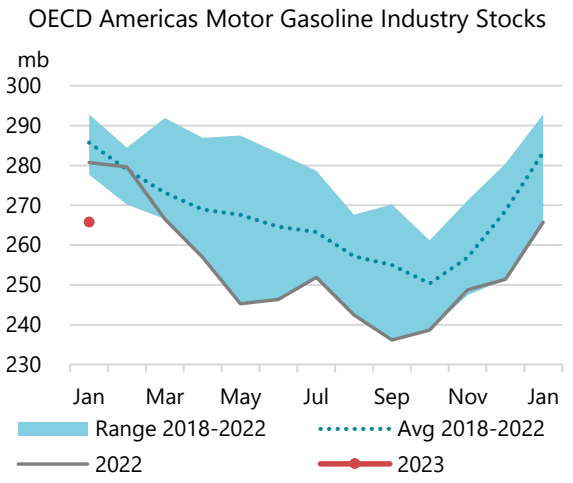
# Recent OECD industry stock changes

## OECD Americas

Industry stocks in the OECD Americas increased by 26.4 mb in January. At 1 534 mb, they were higher than the five-year average for the first time since March 2021. US refineries were still affected by the Arctic Blast at the end of December, and refining intake was 440 kb/d lower than a year before, resulting in a massive 28.4 mb crude stock build. NGL and feedstock inventories edged down by 0.5 mb.

Despite the weak refinery throughput, petroleum product stocks fell by a mere 1.4 mb versus the normal 6.5 mb seasonal draw in January. Other product inventories led the decline, falling 21.1 mb. Gasoline, middle distillates and fuel oil built by 14.3 mb, 2.9 mb and 2.5 mb, respectively, largely in line with their five-year averages.



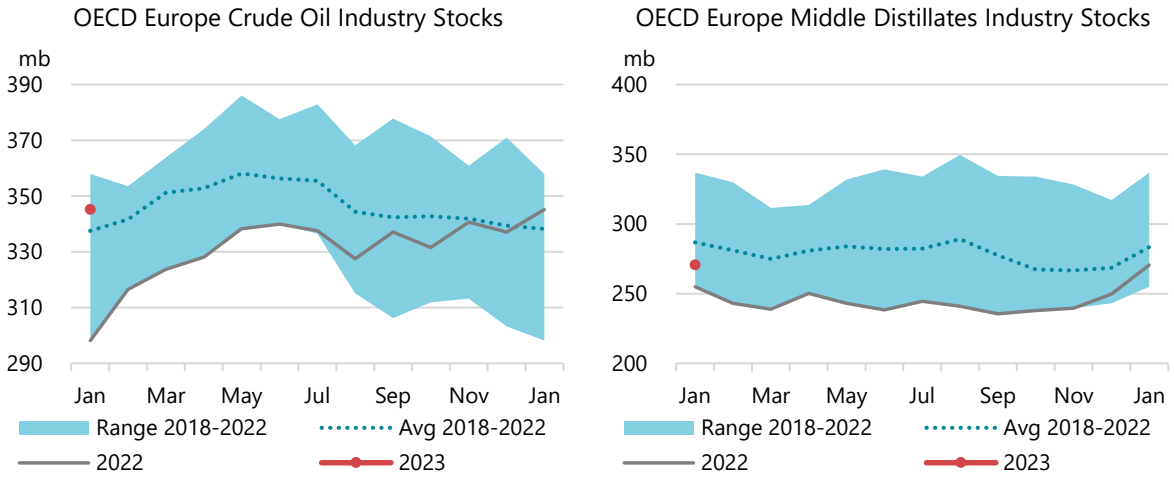

Weekly data from the US Energy Information Administration (EIA) show US industry stocks rose counter-seasonally by 21.8 mb in February when they normally decline by 20.2 mb. Crude oil stocks increased by 24.6 mb – three times larger than the five-year average, while petroleum products fell by 10.3 mb, one-third of the five-year average. Middle distillate inventories rose by 4.1 mb due to weak demand. Gasoline stocks also increased counter-seasonally, by a marginal 0.2 mb. Fuel oil

and other products fell by 1.4 mb and 13.3 mb, largely in line with typical movements. Other oil inventories rose by 7.6 mb.

## OECD Europe

OECD industry stocks in Europe gained 31 mb to 967 mb in January, hitting the highest since June 2021. Stocks were up 87.3 mb y-o-y but remained 8.9 mb below the 2018-2022 average. Crude oil stocks built by 8.1 mb, despite a 520 kb/d y-o-y increase in regional refinery intake. The largest gains came from Poland (+4.8 mb), Norway (+2.4 mb) and the Netherlands (+2.2 mb), while stocks in Italy fell by 4.8 mb. NGL and Feedstock inventories decreased counter-seasonally by a marginal 0.8 mb.

Oil product stocks built by 23.8 mb, largely in line with the seasonal trend. Right before the product import ban from Russia, middle distillate inventories increased by 20.9 mb and hit a 16-month high. Half of the stock builds came from Germany (+3.3 mb), Italy (+3.2 mb), Spain (+2.8 mb) and France (+2.3 mb). Gasoline stocks rose by 3.9 mb, but remained below the five-year range. Other product inventories were also up, by 2.3 mb. Fuel oil stocks posted a 3.3 mb counter-seasonal decrease when they usually build by 3 mb. Fuel oil stocks were still 3.9 mb above the five-year average.

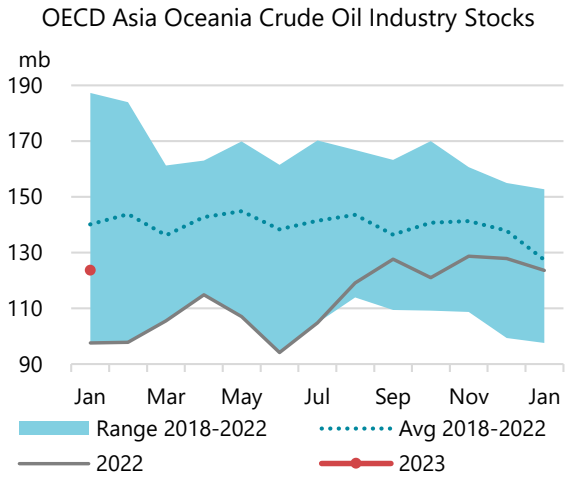


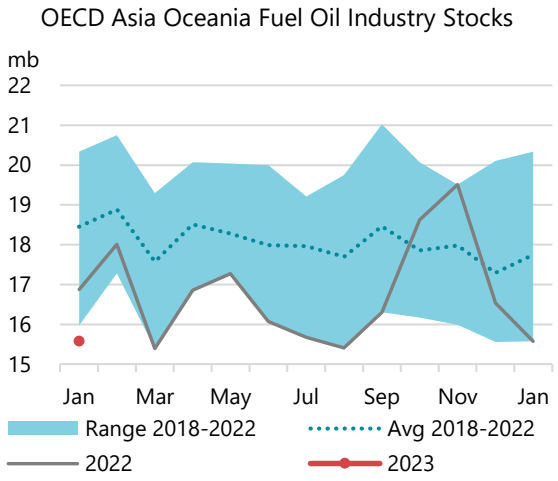

Preliminary data from *Euroilstock* for 16 countries in Europe show a draw of 2 mb in February. Crude oil inventories increased by 2 mb, led by France (+1.5 mb), while product stock declined by 4 mb. Gasoline inventories were largely unchanged, but middle distillate stocks fell by 2 mb. Decreases in France (-0.8 mb), Spain (-0.8 mb), the UK (-0.8 mb) and other countries were partially offset by builds in the Netherlands (+1.5 mb) and Austria (+0.8 mb). Fuel oil and naphtha inventories were down by 1 mb each.

## OECD Asia Oceania

OECD industry stocks in OECD Asia Pacific fell by 2.6 mb in January when they typically decrease by 8.8 mb. At 350.6 mb, stocks remain 23.4 mb below the five-year average but 27 mb higher y-o-y. Crude stocks declined by 4.2 mb, mostly due to a seasonal draw in Japan (-4.1 mb). NGL and feedstock inventories edged down by 0.3 mb.

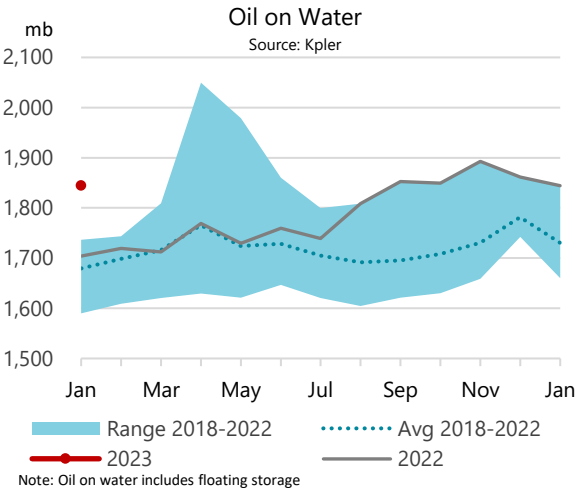
Oil product stocks built by 1.9 mb, in line with the seasonal norm. Gasoline stocks inched up by 0.9 mb. Middle distillate inventories increased by 2 mb, led by Korea (+3 mb). Fuel oil stocks decreased counter-seasonally by 1 mb, falling out of the five-year range. Other product inventories were largely unchanged.

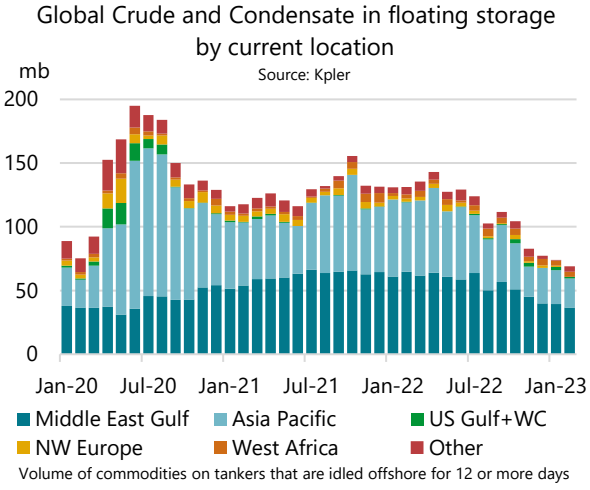


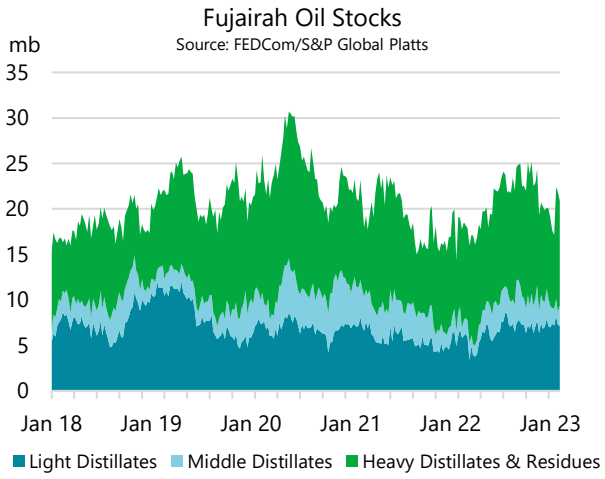

Preliminary data for January from the *Petroleum Association of Japan* show a 12 mb stock draw in February, largely in line with the seasonal trend. Crude oil inventories were mostly unchanged m-o-m, while other oils drew by 5.9 mb. Product stocks fell by 6.1 mb. The decline came mainly from middle distillates (-5.3 mb) due to seasonal heating oil demand. Gasoline and other products inched down by 0.4 mb and 0.5 mb, respectively. Fuel oil increased by a marginal 0.1 mb.

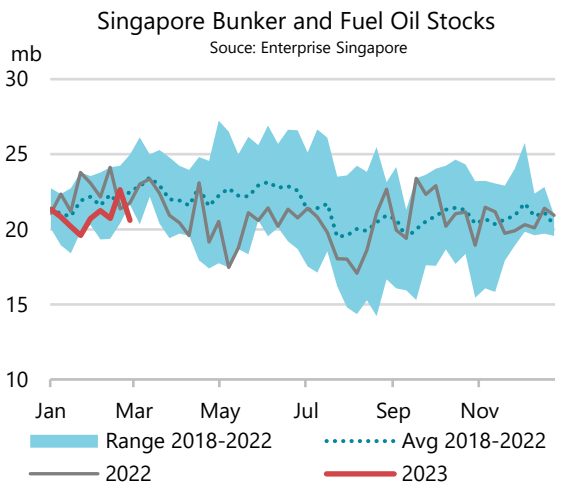
# Other stock developments




Oil on water, including floating storage, fell by 17.2 mb to 1 844 mb in January, according to vessel tracking data from *Kpler*. Crude oil increased by 3.4 mb while oil products plunged by 20.5 mb from a 21-month high the previous month, even as Russian oils were still rising (See *Russian oil on water doubled year-on-year*) and product exports dipped by 1.7 mb/d m-o-m, led by lower shipments from China and the US. Short-term floating crude oil storage decreased for a fourth consecutive month, by 3.3 mb to 74.1 mb. Volumes decreased in Western Europe (-2 mb), Asia (-1.1 mb) and other areas but were partially offset by an increase offshore the United States (+2.6 mb). Products in floating storage rebounded by 4.3 mb after falling by 6.9 mb in December. The gain came mainly from East Africa (+2.6 mb), near Mozambique.



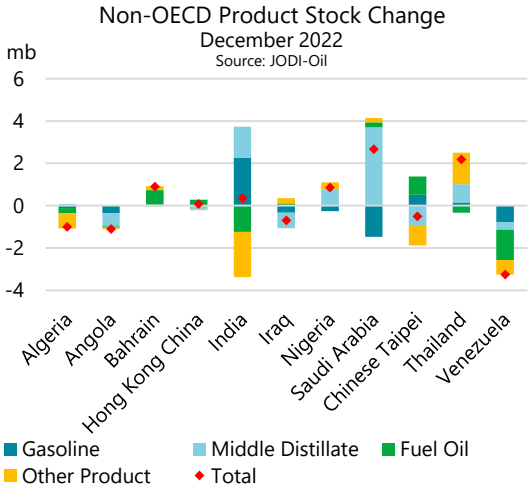




In Fujairah, *FEDCom/S&P Global Platts* data show that independent product stocks increased by 2.9 mb in February, to 21.8 mb. Heavy distillate contributed with a 3.4 mb jump, offsetting the declines of the previous two months. Total inventories hit a record since May 2021. By contrast, middle distillate inventories fell by 0.7 mb to their lowest since March 2022. Light distillate inched up by 0.2 mb.

Independent product stocks in Singapore, the world's largest bunkering hub, fell by 1.4 mb to 45.2 mb in February, according to data from *Enterprise Singapore*. Residual fuels edged up by 0.3 mb but remained below the five-year range and 0.7 mb lower y-o-y. Middle distillates declined by 1.7 mb to 7.3 mb, their lowest in nine months. Light distillates were down by a marginal 0.1 mb.

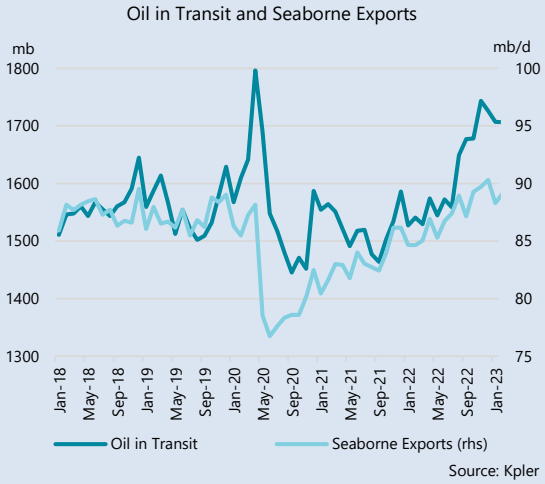
Non-OECD crude inventories in floating-roof storage tanks observed by satellites rose by 11.8 mb in January, according to *Kayrros*. The UAE posted the largest increase (8.3 mb), followed by Oman, India and Viet Nam. By contrast, China's crude stocks decreased by 5 mb. In February, non-OECD crude stocks declined by 7.9 mb, as hefty Chinese draws were partially offset by builds in Saudi Arabia, Russia, and other countries.

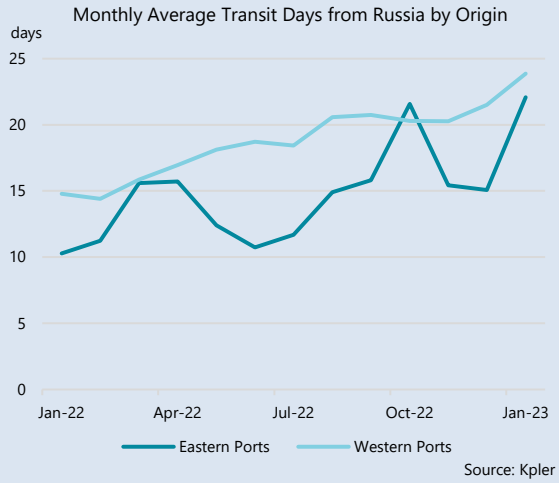
Total oil product stocks in 14 non-OECD countries reporting data to the *JODI-Oil* database increased by 0.4 mb in December. Middle distillate inventories rose by 4.1 mb, but were partially offset by declines in gasoline (-0.4 mb), fuel oil (-1.2 mb) and other products (-2.1 mb). Saudi Arabia led the increase with a 2.7 mb build, mainly in middle distillates (+3.7 mb), thanks to lower exports (-270 kb/d y-o-y). In Thailand, product stocks rose by 2.2 mb following the completion of refinery maintenance. By contrast, Venezuela posted large decreases across the barrel (-3.3 mb in all).



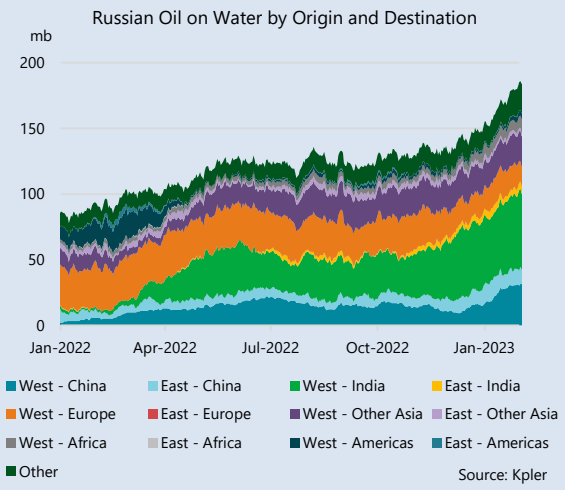
**Russian oil on water doubled year-on-year**

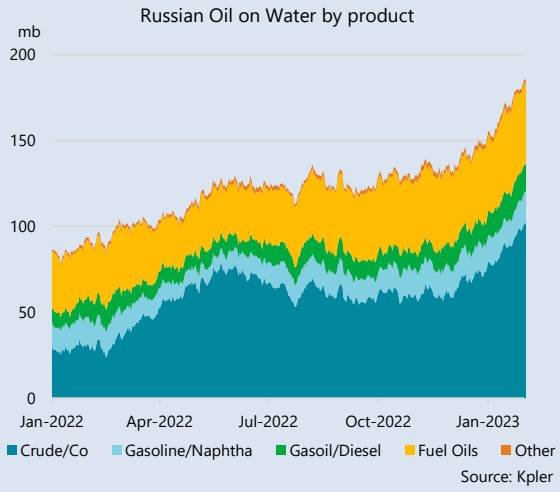
Thanks to a recovery in global oil demand, seaborne oil exports, including LPG, have returned to pre-pandemic levels of around 90 mb/d, according to *Kpler* data. Higher exports and disruptions to trade flows due to the rerouting of Russian oil to new destinations have significantly increased oil in transit (oil on water minus floating oil storage). At the end of January 2023, the amount of oil in transit was 150 mb higher than the 2019 average.




Exports to Asia from Western Russian ports (including the Arctic area) surged from negligible amounts before the war. Shipments from Western Russia to Europe take around 10 days or less, while voyages to India and China take more than 30 and 50 days, respectively. In addition, to improve the efficiency of long-distance transportation, the number of ship-to-ship operations (STS) has risen significantly, increasing the number of days required for marine transportation. Around 180 STS operations were recorded in January, roughly double the average 2021 level.



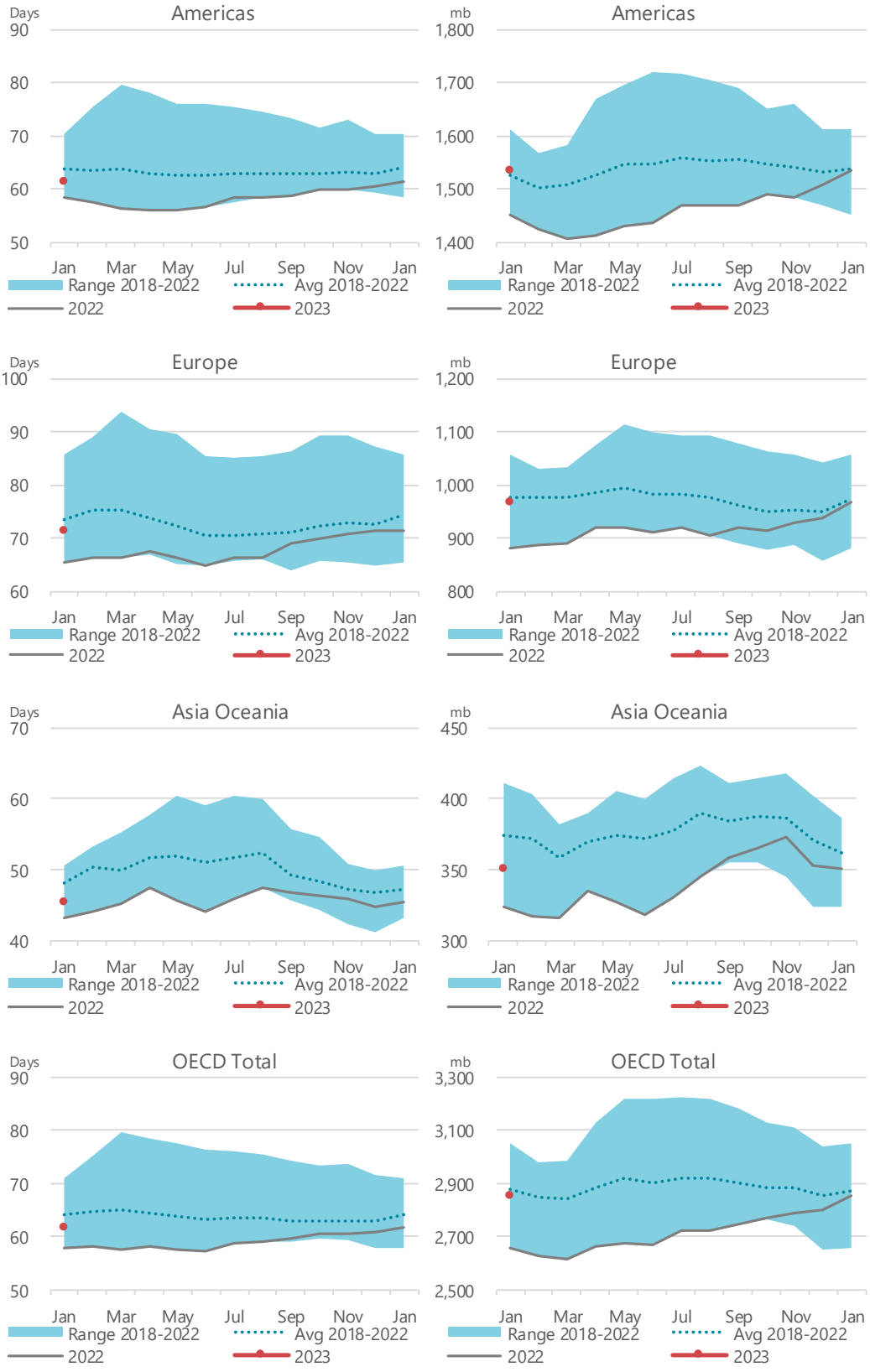




Crude oil currently makes up the bulk of Russian oil on water growth. Russian crude oil on water rose by about 70 mb, or 180%, y-o-y at the end of January 2023. The increase in Russian petroleum products was around 20 mb or 30%, but this will likely grow as the impact of the EU petroleum product embargo comes into full effect.

## Regional OECD End-of-Month Industry Stocks

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

**Days**[1] **Million Barrels**




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

# Prices

## Overview

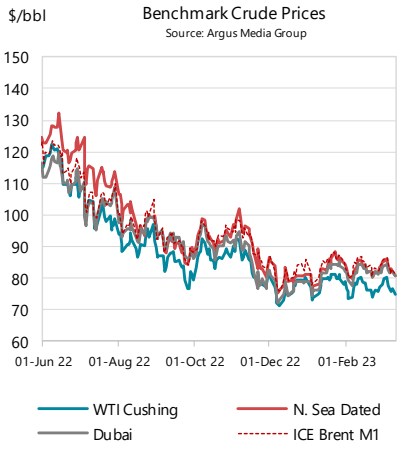
Oil failed to build on January's brief price recovery, as North Sea Dated ended the month marginally lower. Volatility continued to subside after last year's tremendous price swings, oscillating in a narrow $80-$86/bbl range over the month. Ongoing demand-side optimism surrounding China's reopening was eventually counterbalanced by a flare-up in investor concerns about central bank tightening, as well as by persistent builds in US crude inventories. The US dollar's recovery also acted as a headwind for oil prices. Oil's bearish turn gained further momentum in March, after Silicon Valley Bank's collapse prompted concerns about the impact of higher interest rates on the stability of the US banking system. At the time of writing Dated was trading at about $80/bbl, down $3/bbl since the end of February.

A relatively heavy refinery maintenance schedule depressed the Atlantic Basin's call on crude and pressured North Sea Dated price differentials. At the same time, Dubai was supported by recovering Asian purchases of Middle Eastern grades as Chinese refineries ramped up runs and product exports after the New Year holiday. This contributed to weaker diesel crack spreads, as did mild weather that weighed on heating demand. Meanwhile, the crude price structure changed little. Both WTI and Brent forward curves remained in backwardation, with only the WTI front-end trading in contango.

**Crude Prices and Differentials ($/bbl)**

| | Month | | | Week of | Last | Chng Feb-23 | |
|---|---|---|---|---|---|---|---|
| | Feb 2022 | Jan 2023 | Feb 2023 | 27 Feb | 13 Mar | m-o-m | y-o-y |
| **Crude Futures (M1)** | | | | | | | |
| NYMEX WTI | 91.63 | 78.16 | 76.86 | 77.65 | 74.80 | -1.30 | -14.77 |
| ICE Brent | 94.10 | 83.91 | 83.54 | 84.25 | 80.77 | -0.37 | -10.56 |
| **Crude Marker Grades** | | | | | | | |
| North Sea Dated | 98.01 | 82.86 | 82.50 | 83.76 | 80.67 | -0.36 | -15.51 |
| WTI (Cushing) | 91.74 | 78.11 | 76.84 | 77.65 | 74.80 | -1.27 | -14.90 |
| Dubai (London close) | 92.37 | 80.67 | 81.70 | 82.68 | 80.87 | 1.03 | -10.67 |
| **Differential to North Sea Dated** | | | | | | | |
| WTI (Cushing) | -6.28 | -4.75 | -5.66 | -6.11 | -5.87 | -0.91 | 0.61 |
| Dubai (London close) | -5.64 | -2.19 | -0.80 | -1.08 | 0.20 | 1.39 | 4.84 |
| **Differential to ICE Brent** | | | | | | | |
| North Sea Dated | 3.91 | -1.04 | -1.04 | -0.48 | -0.10 | 0.01 | -4.95 |
| NYMEX WTI | -2.47 | -5.74 | -6.68 | -6.59 | -5.97 | -0.93 | -4.20 |

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




Data releases in major economies were mostly favourable, thus corroborating the marked improvement in sentiment since China dropped its Covid restrictions. Real-time Chinese indicators such as road congestion and air traffic consolidated after January's spectacular bounce, while Chinese manufacturing and services PMIs soared to comfortably expansionary levels.

Now that fears of an acute energy crisis have abated, a broad range of indicators are confirming a rebound in eurozone economic activity. A case in point was Germany's Ifo Business Climate Index, which improved for a fifth straight month in February. US economic data were similarly resilient, confounding the gradual loss of economic momentum apparent in 2H22. Thus far, US monetary tightening has mainly made itself felt in the interest rate-sensitive housing sector, where home sales fell for a 12th straight month in January. Conversely, January saw a strong rebound in US retail sales, recording their largest monthly increase in two years. Job growth also unexpectedly accelerated as employers added more than 300 000 jobs during February.

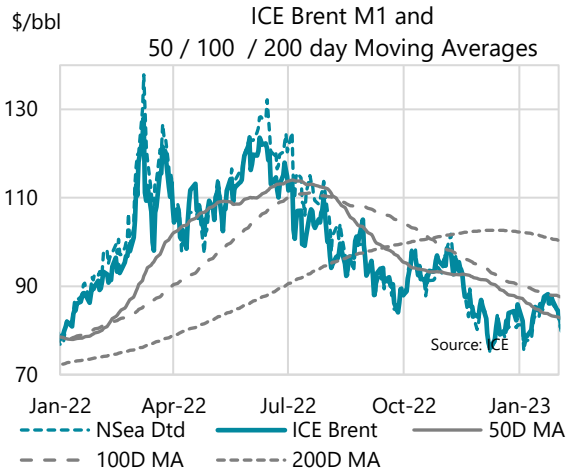
In response, economists increased consensus forecasts for 2023 GDP growth by, on average, half a percentage point versus the start of the year for each of the eurozone, the US and China (towards 0.4%, 0.7% and 5.3%, respectively), lifting oil demand prospects. However, the upswing rekindled investor worries that central banks, led by the Federal Reserve, might step up their efforts to quell inflation, thereby stymieing the incipient global recovery. The risk-averse turn was reflected in soaring bond yields - the US 10-year yield jumped by half a percentage point to four per cent, while its German equivalent soared to a 12-year high.

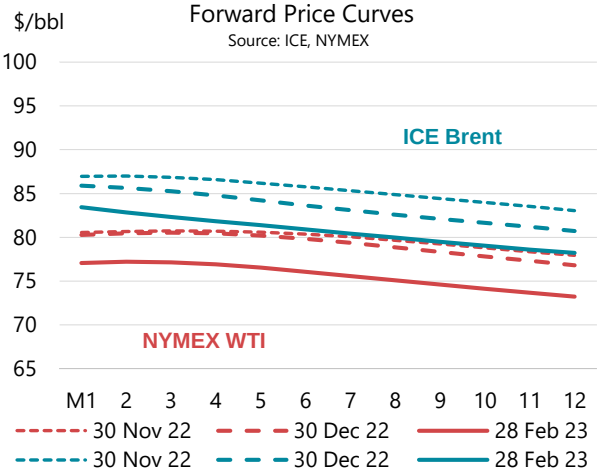
# Futures markets

Front-month WTI and Brent futures fell by $1.30/bbl and $0.40/bbl m-o-m, respectively, as China-driven growth optimism gave way to jitters over hawkish central bank policies. Surging interest rates took their toll on all sectors, particularly denting commodities' overall appeal as an asset class, with LME base metals falling by 10 per cent on average in February.

Within the crude complex, WTI bore the brunt of the downturn as US oil inventories built throughout February. According to EIA data, US crude stocks recorded their 10th straight weekly increase by the end of February - well ahead of their typical seasonal advance. A recovery in transatlantic freight rates also contributed to WTI's relative softness against Brent.

Amid range-bound trading, oil's technical price picture remained muted – Brent hovered around its 50-day moving average throughout the month but was unable to conquer its 100-day resistance, let alone the 200-day level.



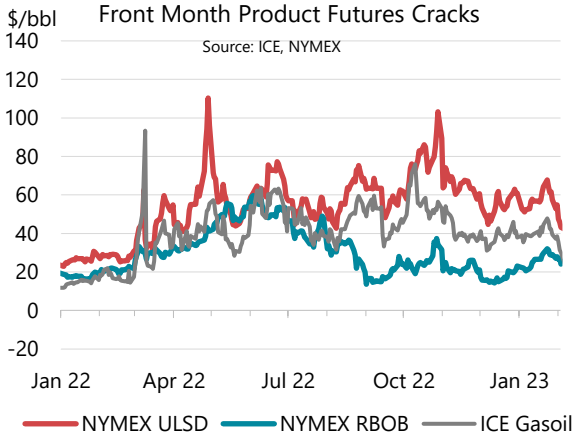



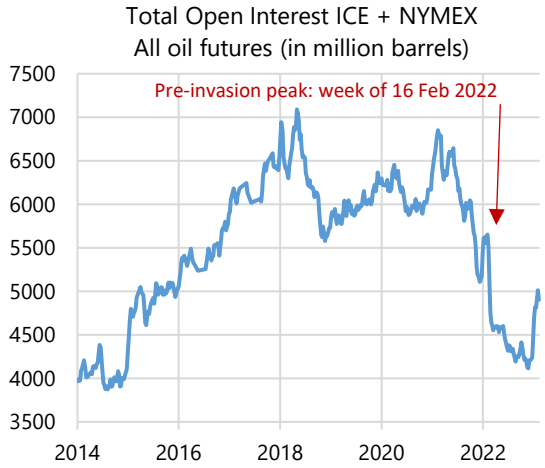

In keeping with recent months, forward curves were steady. Backwardation over the 12-month strip was about $4/bbl for WTI and $5/bbl for Brent, while Dubai time spreads of $7/bbl reflected tighter balances East of Suez. Contango remained restricted to WTI's front-end, underpinned by US crude inventories well above the 5-year average.

Front-month cracks for ULSD versus WTI fell by $15/bbl m-o-m to $42/bbl. On the whole, buyers were well covered for their immediate needs, having stocked up ahead of the 5 February EU product embargo, while clement weather in the Northern Hemisphere weighed on heating demand. At the same time, China's refiners, incentivised by elevated distillate margins, cranked up operating rates after the New Year holiday. In a testament to comfortable supplies, US distillate inventories rose by 5 mb to 122 mb during February, according to weekly EIA data, defying their customary seasonal draw.

Exchange liquidity continued its recovery of recent months as lower exchange margins enticed traders back into the market. Total open interest in the five main ICE and NYMEX contracts climbed above 5 000 mb for the first time since the invasion.

Complete US investor positioning data for February were unavailable at the time of writing due to the delay of Commitments of Traders data reported by the US Commodity Futures Trading Commission.



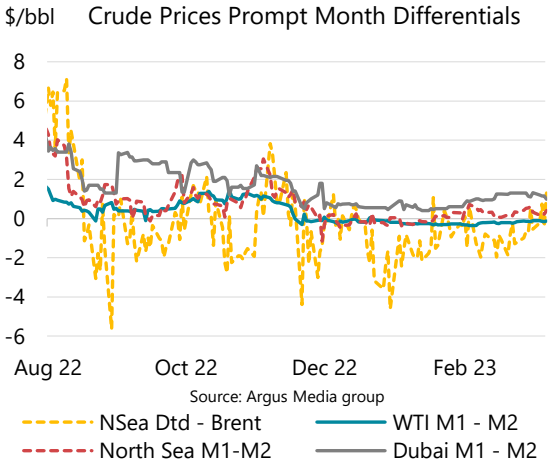

**Prompt Month Oil Futures Prices**
(monthly and weekly averages, $/bbl)

| | | | | Feb 2023 | | Week Commencing: | | | | | Last |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec 2022 | Jan 2023 | Feb 2023 | m-o-m Chg | y-o-y Chg | 30 Jan | 06 Feb | 13 Feb | 20 Feb | 27 Feb | 13 Mar |
| **NYMEX** | | | | | | | | | | | |
| Light Sweet Crude (WTI) 1st contract | 76.52 | 78.16 | 76.86 | -1.30 | -14.77 | 76.49 | 77.50 | 78.52 | 75.46 | 77.65 | 74.80 |
| Light Sweet Crude (WTI) 12th contract | 74.40 | 75.72 | 73.98 | -1.74 | -5.22 | 73.73 | 74.47 | 75.51 | 72.91 | 73.98 | 71.71 |
| RBOB | 93.57 | 104.34 | 101.96 | -2.38 | -10.88 | 103.06 | 102.85 | 103.83 | 99.66 | 108.60 | 108.84 |
| ULSD | 131.19 | 135.56 | 118.78 | -16.78 | -0.79 | 125.30 | 119.67 | 119.39 | 115.62 | 120.07 | 115.98 |
| ULSD ($/mmbtu) | 23.63 | 24.42 | 21.40 | -3.02 | -0.14 | 22.57 | 21.56 | 21.51 | 20.83 | 21.63 | 20.89 |
| NYMEX Natural Gas ($/mmbtu) | 5.77 | 3.42 | 2.44 | -0.99 | -2.03 | 2.54 | 2.48 | 2.42 | 2.25 | 2.81 | 2.61 |
| **ICE** | | | | | | | | | | | |
| Brent 1st contract | 81.34 | 83.91 | 83.54 | -0.37 | -10.56 | 82.87 | 84.13 | 85.14 | 82.62 | 84.25 | 80.77 |
| Brent 12th; contract | 78.75 | 80.12 | 78.83 | -1.29 | -3.79 | 78.53 | 79.03 | 80.14 | 78.43 | 79.03 | 76.46 |
| Gasoil | 119.03 | 124.08 | 110.10 | -13.98 | -1.60 | 117.34 | 109.46 | 110.94 | 107.09 | 112.86 | 107.95 |
| **Prompt Month Differentials** | | | | | | | | | | | |
| NYMEX WTI - ICE Brent | -4.82 | -5.74 | -6.68 | -0.93 | -4.20 | -6.38 | -6.63 | -6.62 | -7.16 | -6.59 | -5.97 |
| NYMEX WTI 1st vs. 12th | 2.12 | 2.44 | 2.88 | 0.44 | -9.55 | 2.76 | 3.03 | 3.01 | 2.55 | 3.67 | 3.09 |
| ICE Brent 1st - 12th | 2.59 | 3.79 | 4.71 | 0.92 | -6.77 | 4.34 | 5.10 | 5.00 | 4.19 | 5.22 | 4.31 |
| NYMEX ULSD - WTI | 54.68 | 57.39 | 41.92 | -15.47 | 13.98 | 48.81 | 42.17 | 40.87 | 40.16 | 42.42 | 41.18 |
| NYMEX RBOB - WTI | 17.05 | 26.18 | 25.10 | -1.08 | 3.89 | 26.57 | 25.35 | 25.31 | 24.20 | 30.94 | 34.04 |
| NYMEX 3-2-1 Crack (RBOB) | 29.59 | 36.58 | 30.71 | -5.88 | 7.26 | 33.98 | 30.96 | 30.49 | 29.52 | 34.77 | 36.42 |
| NYMEX ULSD - Natural Gas ($/mmbtu) | 17.87 | 21.00 | 18.96 | -2.04 | 1.88 | 20.03 | 19.08 | 19.09 | 18.57 | 18.82 | 18.29 |
| ICE Gasoil - ICE Brent | 37.69 | 40.17 | 26.56 | -13.61 | 8.96 | 34.47 | 25.33 | 25.80 | 24.47 | 28.61 | 27.18 |

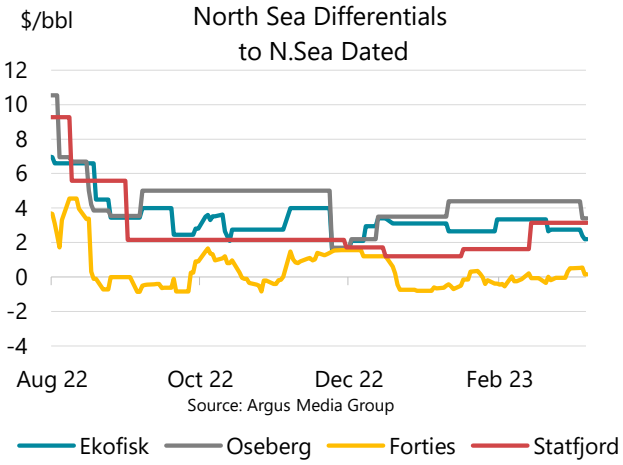
Source: ICE, NYMEX.

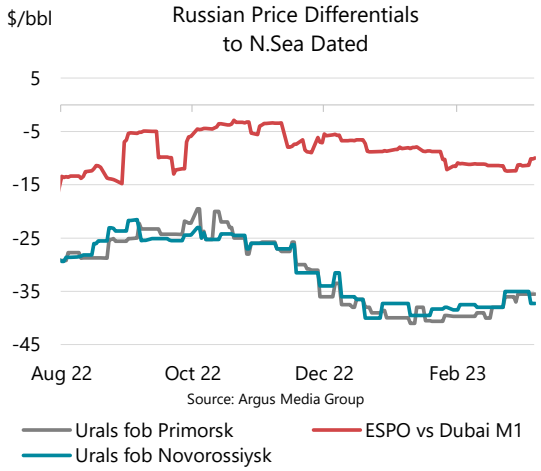
# Spot crude oil prices

Physical crude prices were subdued in February, reflecting a well-supplied market despite an improving demand outlook. North Sea Dated fluctuated in a ~$6/bbl range over the month but eased by only $0.36/bbl m-o-m to $82.50/bbl. WTI Cushing dropped by $1.27/bbl to $76.84/bbl amid persistent stock builds and higher freight rates that pressured export values. Dubai, by contrast, rose $1.64/bbl m-o-m to $82.05/bbl, as strong Asian buying lifted the Middle East sour complex. The steepening backwardation in the Dubai forward market reflected refiners' positioning ahead of anticipated growth in Chinese demand.

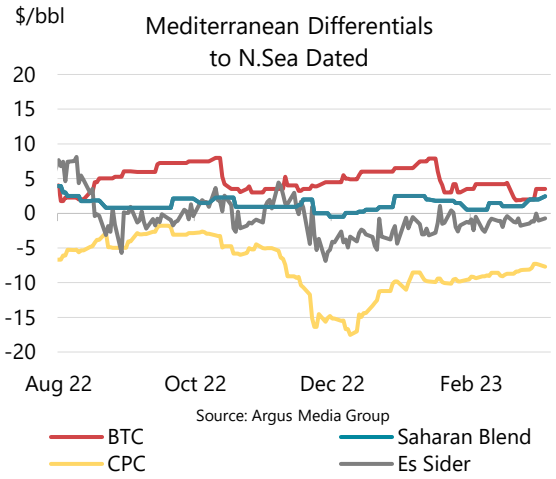


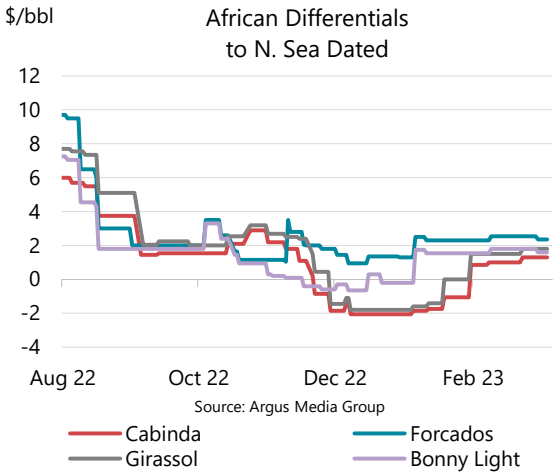

North Sea Dated remained at a $1.04/bbl discount to ICE Brent for a second month, highlighting the crude supply overhang dominating the Atlantic Basin. At the same time, North Sea grades priced against Dated all firmed, backed by higher naphtha and gasoline cracks. Forties rose by $0.19/bbl to -$0.15/bbl m-o-m, before ending at a premium in the first week of March (+$0.50/bbl). Statfjord increased substantially in February, by $1.04/bbl to $2.46/bbl, while Oseberg and Ekofisk saw more modest gains of $0.26/bbl and $0.35/bbl, respectively. Given the regional crude overhang, widening differentials would appear counterintuitive. However, the loss of access to Russian Urals for European refiners, higher freight rates and recovering Chinese demand have driven up local differentials. Traders are now prepared to pay a premium to keep crude in the region, and almost no North Sea crude sailed east in February.



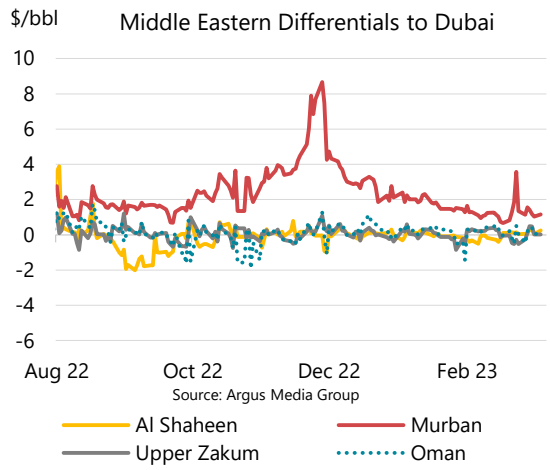

In the Mediterranean, crude differentials were mixed. Azeri/BTC along with Saharan blend struggled to gain support as lower gasoil cracks pressured light crude oil prices lower. The Azeri/BTC premium was $2.07/bbl lower m-o-m to $3.36/bbl while Saharan blend dropped $0.84/bbl to $1.05/bbl. Conversely, the CPC spread to North Sea narrowed by $0.91/bbl to a -$8.72/bbl discount, as higher naphtha margins and lower freight rates attracted higher volumes. Es Sider's spread rose marginally by $0.15/bbl to -$0.35/bbl, competing with more robust CPC loadings. The Urals price discount to Dated narrowed after Russia announced production cuts of about 500 kb/d in March (Urals FOB Primorsk +$1.40/bbl to -$38.65/bbl, Urals FOB Novorossiysk +$1.22/bbl to -$37.48/bbl).

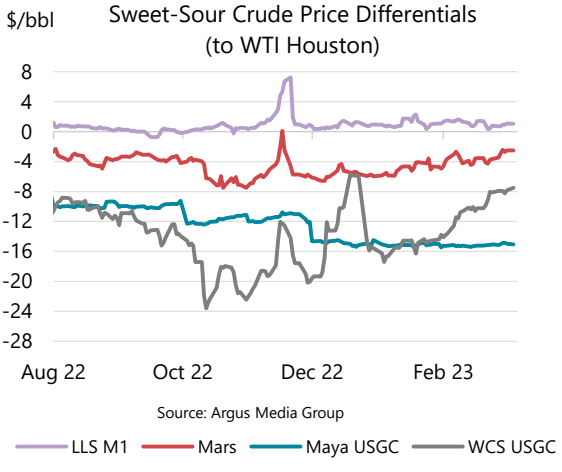



West African sweet grades were broadly steady in February as Chinese demand quickly cleared the prompt month's loading program. Angolan crudes moved back to a premium to Dated, having trailed at a discount for the latter part of 2022. Girassol increased by $2.37/bbl to $1.56/bbl, while Cabinda rose by $2.43/bbl to a $1.02/bbl premium. Nigerian grades gained about $0.30/bbl on average amid stable trading.

Differentials against Dubai for sour crudes in the Middle East were little changed, despite indications of firm buying interest from Asian refiners. Murban spreads fell by $0.51/bbl to $1.30/bbl m-o-m, while Qatar's Al-Shaheen moved from parity to a -$0.11/bbl discount. Meanwhile, Upper Zakum was mostly flat (+$0.06/bbl m-o-m), rising to a $0.04/bbl premium. However, prices rose sharply at the end of February to a $0.52/bbl premium amid aggressive buying from Chinese refiners ahead of greenfield refinery ramp ups, as well as by a shift by state-owned refiners away from Russian grades. ESPO blend's discount to Dubai in February widened by $2.38/bbl to -$11.45/bbl but continued to trade above the $60/bbl price cap at $70/bbl. Elsewhere, weaker middle distillate margins weighed on light sweet Asia-Pacific differentials, as Tapis dropped by $1.76/bbl to $7.94/bbl, while Minas fell by $1.41/bbl to a -$0.53/bbl discount.




In the US, WTI at Cushing weakened versus Houston as early maintenance for refiners triggered hefty inventory builds. The WTI Houston versus Cushing spread widened by $0.97/bbl to $2.44/bbl. At the same time, WTI Midland's discount to Houston narrowed by $1.04/bbl to $2.22/bbl on strong crude exports that in February reached a record 5.6 mb/d (according to weekly EIA data). WTI prices at Houston firmed after their steep discount to Dated attracted buying interest. US Gulf sour

differentials benefitted from strong Asian demand. Mars moved up by $1.18/bbl to a -$3.73/bbl discount, while WCS narrowed sharply by $3.72/bbl to -$13.02/bbl after production in Alberta was disrupted.

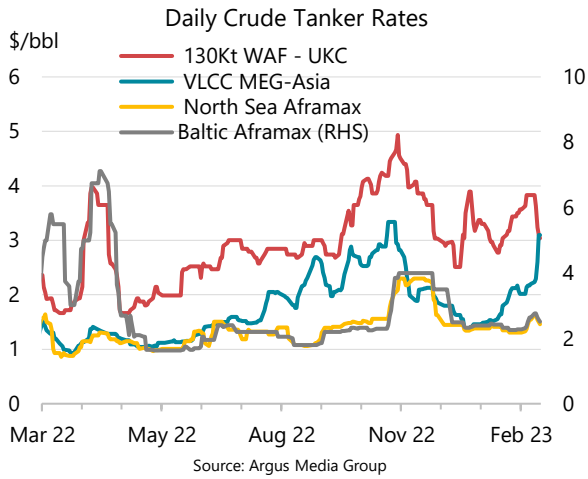
**Spot Crude Oil Prices and Differentials**
(monthly and weekly averages, $/bbl)

| | | | Feb 2023 | | | Week Commencing: | | | | | Last: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec 2022 | Jan 2023 | Feb 2023 | m-o-m Chg | y-o-y Chg | 30 Jan | 06 Feb | 13 Feb | 20 Feb | 27 Feb | 13 Mar |
| **Crudes** | | | | | | | | | | | |
| North Sea Dated | 80.36 | 82.86 | 82.50 | -0.36 | -15.51 | 82.59 | 82.76 | 83.92 | 81.53 | 83.76 | 80.67 |
| North Sea Mth 1 | 81.31 | 84.19 | 83.74 | -0.45 | -13.61 | 84.19 | 83.98 | 84.97 | 82.74 | 84.52 | 82.22 |
| North Sea Mth 2 | 81.46 | 84.23 | 83.43 | -0.80 | -10.73 | 83.83 | 83.57 | 84.85 | 82.51 | 84.03 | 81.72 |
| WTI (Cushing) Mth 1 | 76.50 | 78.11 | 76.84 | -1.27 | -14.90 | 76.49 | 77.50 | 78.52 | 75.36 | 77.65 | 74.80 |
| WTI (Cushing) Mth 2 | 76.62 | 78.40 | 77.06 | -1.34 | -13.25 | 76.80 | 77.75 | 78.74 | 75.51 | 77.79 | 74.91 |
| WTI (Houston) Mth 1 | 77.21 | 79.59 | 79.28 | -0.30 | -13.94 | 78.74 | 79.98 | 81.19 | 77.77 | 79.72 | 76.55 |
| Urals FOB Primorsk | 43.35 | 42.81 | 43.86 | 1.04 | -47.08 | 42.89 | 43.20 | 44.52 | 44.33 | 47.86 | 46.67 |
| Dubai (1st month) | 77.09 | 80.41 | 82.05 | 1.64 | -10.43 | 81.53 | 81.24 | 83.63 | 81.82 | 82.37 | 82.24 |
| **Differentials to Futures** | | | | | | | | | | | |
| North Sea Dated vs. ICE Brent | -0.98 | -1.04 | -1.04 | 0.01 | -4.95 | -0.28 | -1.37 | -1.22 | -1.09 | -0.48 | -0.10 |
| WTI (Cushing) Mth1 vs. NYMEX | -0.02 | -0.05 | -0.02 | 0.03 | -0.13 | 0.00 | 0.00 | 0.00 | -0.10 | 0.00 | 0.00 |
| **Differentials to Physical Markers** | | | | | | | | | | | |
| WTI (Houston) vs. North Sea Mth 2 | -4.25 | -4.64 | -4.14 | 0.50 | -3.21 | -5.09 | -3.59 | -3.66 | -4.74 | -4.32 | -5.17 |
| WTI (Houston) vs.WTI (Cushing) | 0.71 | 1.47 | 2.44 | 0.97 | 0.95 | 2.25 | 2.47 | 2.66 | 2.41 | 2.07 | 1.75 |
| Urals FOB Prim. vs. North Sea Dated | -37.01 | -40.05 | -38.65 | 1.40 | -31.57 | -39.70 | -39.56 | -39.40 | -37.20 | -35.90 | -34.00 |
| Dubai vs. ICE Brent | -4.25 | -3.49 | -1.49 | 2.01 | 0.19 | -1.34 | -2.90 | -1.52 | -0.80 | -1.88 | 1.47 |
| Dubai vs. WTI (Cushing) Mth 2 | 0.47 | 2.02 | 4.99 | 2.97 | 2.82 | 4.72 | 3.49 | 4.89 | 6.32 | 4.58 | 7.33 |
| **Prompt Month Differentials** | | | | | | | | | | | |
| Forward North Sea Mth1-Mth2 | -0.14 | -0.04 | 0.32 | 0.36 | -2.88 | 0.36 | 0.41 | 0.13 | 0.23 | 0.49 | 0.50 |
| Forward WTI Cushing Mth1-Mth2 | -0.12 | -0.28 | -0.22 | 0.06 | -1.65 | -0.31 | -0.25 | -0.21 | -0.15 | -0.13 | -0.11 |
| Forward Dubai Mth1-Mth2 | 0.62 | 0.58 | 1.11 | 0.53 | -0.93 | 0.75 | 0.97 | 40.63 | 1.29 | 1.23 | 1.00 |

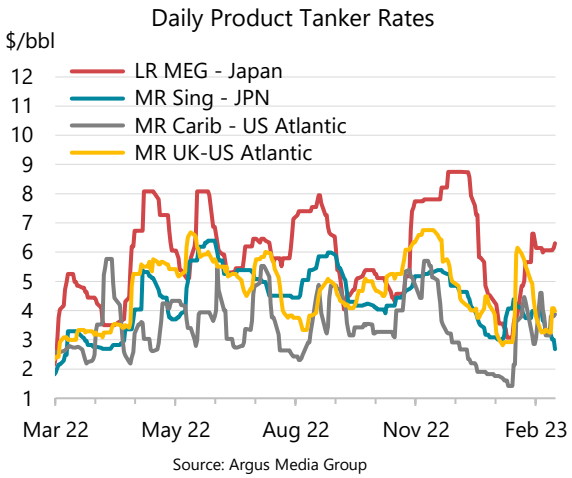
Source: Argus Media group, ICE, NYMEX

# Freight

Global tanker rates in February saw large gains for VLCCs and for tankers out of West Africa. Dirty tanker rates for long-range vessels rose in February with VLCC charters up $0.35/bbl to $1.87/bbl. Rates climbed to $2.23/bbl in early March but remained well below November's peak of $3.34/bbl. On average, Suezmax rates for charters out of West Africa gained just $0.06/bbl m-o-m despite rising by $1/bbl from an early February trough to almost $3.9/bbl in early March as available tankers were quick to clear. Aframax rates were little changed, dropping around $0.11/bbl m-o-m for both Baltic and North Sea shipments.




Source: Argus Media Group




Source: Argus Media Group

Rates for clean product shipments regained some ground in February, with the exception of long-haul shipments from the Middle East to Asia. Rates for the latter fell by $0.95/bbl m-o-m to average $4.87/bbl. Fees came off sharply at the end of January due to the 5 February EU embargo on Russian products, before consolidating at around $3.62/bbl in early February. Rates subsequently rebounded mid-month, climbing $2.51/bbl to $6.13/bbl by early March. Medium Range (MR) charters all strengthened at the start of February but mostly failed to keep their early momentum. In particular, routes from the Caribbean to North America gained $1.19/bbl m-o-m to $3.15/bbl. Europe to US freight rates were up $0.59/bbl m-o-m, hitting a high of $6.15 mid-February before falling back towards month-end. At the same time, shipments within Asia increased by $0.43/bbl m-o-m to $3.99/bbl.

### G7 price caps - Russian oil export price review

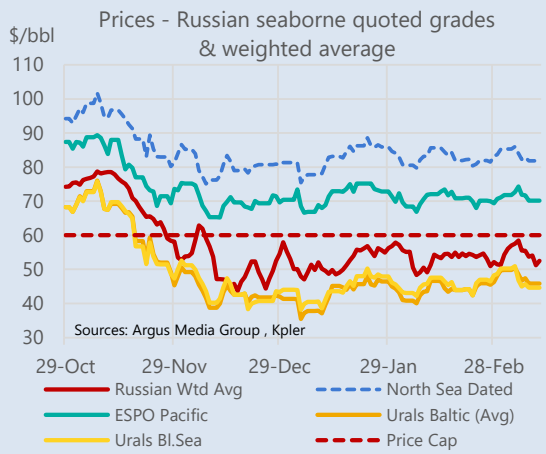
The EU's eighth sanctions package on Russia (6 October 2022) introduced price caps on Russian crude and product purchases below which deals must sit for EU operators to now provide maritime services. It aims to limit Russia's oil revenues while maintaining the flow of its oil to global markets and complements 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).

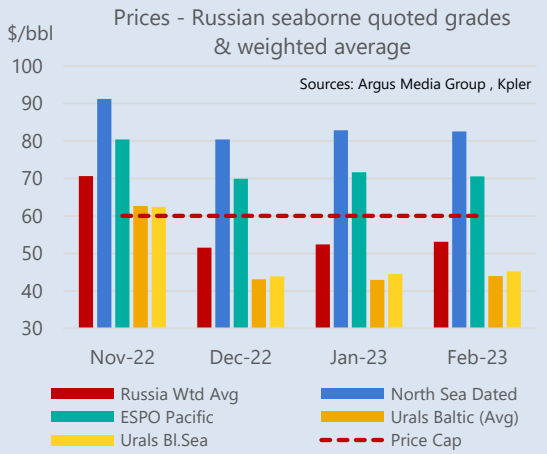
| | Russian Crude FOB Export Prices ($/bbl) | | | | | Discounts to North Sea Dated | | |
|---|---|---|---|---|---|---|---|---|
| | Dec-22 | Jan-23 | Feb-23 | Dec - Jan | Jan - Feb | Dec-22 | Jan-23 | Feb-23 |
| **North Sea Dated** | **80.40** | **82.87** | **82.50** | **2.47** | **-0.36** | | | |
| Price Cap | 60.00 | 60.00 | 60.00 | | | -20.40 | -22.87 | -22.50 |
| **Russia Wtd Avg** | **51.73** | **52.70** | **52.48** | **0.97** | **-0.22** | **-28.66** | **-30.16** | **-30.02** |
| Urals Baltic (Avg) | 43.11 | 42.96 | 43.99 | -0.14 | 1.03 | -37.29 | -39.90 | -38.51 |
| Urals Bl.Sea | 43.90 | 44.51 | 45.27 | 0.61 | 0.76 | -36.50 | -38.36 | -37.23 |
| ESPO Pacific | 69.94 | 71.68 | 70.53 | 1.74 | -1.15 | -10.46 | -11.18 | -11.97 |

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

*Argus Media Group* publishes assessments of free-on-board (FOB, excluding freight and insurance costs) prices 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, albeit with significant ranges of uncertainty. The IEA calculates a weighted average Russian seaborne crude oil export price based on *Argus*' assessments of their values and *Kpler*'s export volumes by grade (pipeline flows are exempt from sanctions). It is considered by the price cap coalition in their bi-monthly review of price cap effectiveness.

The Russian seaborne weighted average FOB crude export price was $52.48/bbl in February (-$30.02/bbl versus North Sea Dated at $82.50/bbl and -$0.22/bbl m-o-m). While Urals prices rose overall in February and their discount to North Sea Dated narrowed, they were well below the $60/bbl price cap. ESPO, Sakhalin Blend and Sokol on the other hand all traded above the price cap threshold despite m-o-m declines for ESPO and Sakhalin Blend, while Siberian Light fell over $5/bbl m-o-m to just below $50/bbl.




Argus price assessments for premium products include gasoil and diesel in the Baltic and Black Sea as well as gasoline in the Baltic and VGO. All have been lower than the $100/bbl price cap since December. After a slight rise in January, all prices fell below $80/bbl in February. Discounted products include naphtha as well as 3.5% sulphur fuel oil from Baltic and Black Sea ports. Since December, the monthly average discounted product price has been below $40/bbl. Fuel has been below $30/bbl while naphtha has progressively risen to reach ~$48.50/bbl in February.

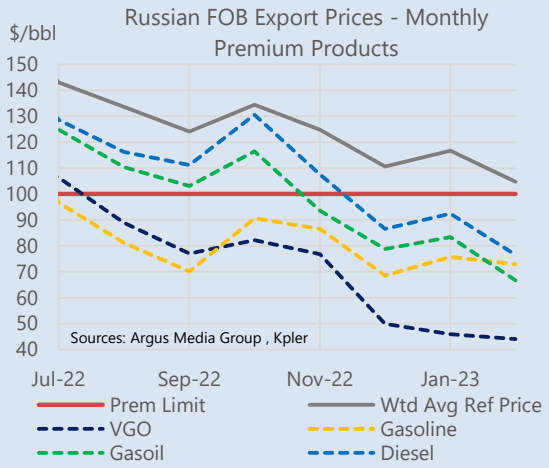
**Russian FOB Export Prices ($/bbl)**

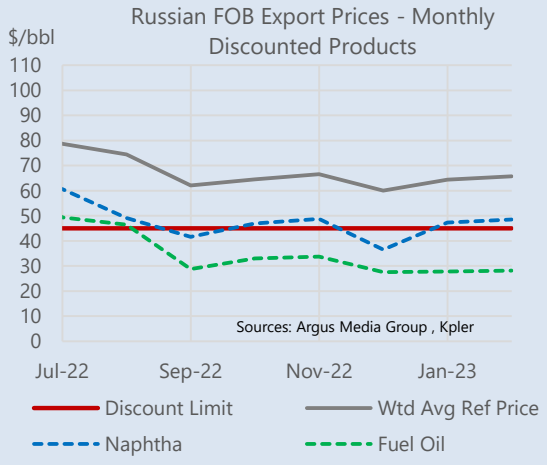
| | Dec-22 | Jan-23 | Feb-23 | Dec - Jan | Jan - Feb |
|---|---|---|---|---|---|
| **Premium Products** | | | | | |
| Reference | 110.61 | 116.73 | 104.75 | 6.12 | -11.98 |
| **Price Cap** | 100.00 | 100.00 | 100.00 | | |
| **Avg Price** | 77.72 | 81.67 | 68.83 | 3.95 | -12.84 |
| **Gasoline** | 68.55 | 75.78 | 72.93 | 7.23 | -2.85 |
| **Diesel** | 86.56 | 92.44 | 76.51 | 5.88 | -15.93 |
| **Gasoil** | 78.84 | 83.36 | 66.69 | 4.52 | -16.67 |
| **VGO** | 49.87 | 45.90 | 44.02 | -3.97 | -1.88 |

| | Dec-22 | Jan-23 | Feb-23 | Dec - Jan | Jan - Feb |
|---|---|---|---|---|---|
| **Discounted Products** | | | | | |
| Reference | 60.08 | 64.35 | 65.77 | 4.27 | 1.42 |
| **Price Cap** | 45.00 | 45.00 | 45.00 | | |
| **Avg Price** | 31.29 | 34.34 | 34.86 | 3.04 | 0.53 |
| **Naphtha** | 36.58 | 47.32 | 48.50 | 10.73 | 1.18 |
| **Fuel Oil** | 27.60 | 27.80 | 28.15 | 0.20 | 0.36 |

*Sources: Argus Media Group, Kpler*

*Note: Weighted avg prices from Baltic and Black Sea ports.*




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

# Tables

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

| | 2019 | 2020 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 2021 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD DEMAND** | | | | | | | | | | | | | | | | | |
| Americas | 25.4 | 22.4 | 22.9 | 24.4 | 24.8 | 25.1 | 24.3 | 24.8 | 25.0 | 25.3 | 25.0 | 25.0 | 25.0 | 25.1 | 25.5 | 25.1 | 25.2 |
| 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 | 13.1 | 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 | 7.9 | 7.1 | 7.4 | 7.8 | 7.6 |
| **Total OECD** | **47.7** | **42.0** | **42.6** | **44.1** | **45.8** | **46.9** | **44.8** | **45.8** | **45.4** | **46.6** | **46.0** | **46.0** | **46.0** | **45.9** | **47.0** | **46.6** | **46.4** |
| **NON-OECD DEMAND** | | | | | | | | | | | | | | | | | |
| FSU | 4.7 | 4.6 | 4.6 | 4.7 | 5.0 | 5.1 | 4.9 | 4.7 | 4.7 | 5.1 | 5.1 | 4.9 | 4.8 | 4.7 | 4.9 | 4.9 | 4.8 |
| Europe | 0.8 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| China | 14.1 | 14.2 | 14.9 | 15.6 | 15.6 | 15.6 | 15.4 | 15.4 | 14.4 | 14.8 | 15.4 | 15.0 | 15.3 | 15.8 | 16.1 | 16.7 | 16.0 |
| Other Asia | 14.1 | 12.7 | 13.7 | 13.0 | 12.8 | 13.9 | 13.4 | 14.1 | 14.0 | 13.4 | 14.0 | 13.9 | 14.4 | 14.4 | 14.0 | 14.7 | 14.4 |
| Americas | 6.3 | 5.5 | 5.7 | 5.8 | 6.1 | 6.1 | 5.9 | 5.9 | 6.1 | 6.3 | 6.2 | 6.1 | 6.0 | 6.2 | 6.3 | 6.3 | 6.2 |
| Middle East | 8.8 | 8.1 | 8.2 | 8.4 | 8.9 | 8.4 | 8.5 | 8.6 | 9.2 | 9.6 | 9.1 | 9.1 | 8.8 | 9.4 | 9.8 | 9.2 | 9.3 |
| Africa | 4.1 | 3.8 | 4.1 | 4.0 | 3.9 | 4.1 | 4.0 | 4.2 | 4.2 | 4.1 | 4.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.3 | 4.2 |
| **Total Non-OECD** | **52.9** | **49.5** | **51.9** | **52.3** | **53.1** | **54.0** | **52.8** | **53.7** | **53.4** | **54.1** | **54.8** | **54.0** | **54.3** | **55.4** | **56.0** | **56.9** | **55.7** |
| **Total Demand[1]** | **100.6** | **91.5** | **94.5** | **96.4** | **98.8** | **100.9** | **97.7** | **99.6** | **98.8** | **100.8** | **100.8** | **100.0** | **100.3** | **101.3** | **103.0** | **103.5** | **102.0** |
| **OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| Americas | 24.8 | 23.9 | 23.5 | 24.4 | 24.4 | 25.3 | 24.4 | 25.0 | 25.4 | 26.2 | 26.4 | 25.7 | 26.4 | 26.8 | 27.2 | 27.3 | 26.9 |
| 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 | 3.2 | 3.3 | 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 |
| **Total OECD[2]** | **28.7** | **28.0** | **27.6** | **28.0** | **28.3** | **29.2** | **28.3** | **28.8** | **28.9** | **29.7** | **30.0** | **29.4** | **30.1** | **30.5** | **30.8** | **31.1** | **30.6** |
| **NON-OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| 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 | 13.3 | 12.9 | 12.9 | 13.3 |
| 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 | 4.2 | 4.2 | 4.2 | 4.2 |
| Other Asia | 3.3 | 3.0 | 3.0 | 2.9 | 2.8 | 2.8 | 2.9 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 |
| Americas | 5.3 | 5.3 | 5.3 | 5.3 | 5.4 | 5.2 | 5.3 | 5.4 | 5.5 | 5.8 | 5.8 | 5.6 | 6.0 | 6.1 | 6.2 | 6.2 | 6.1 |
| Middle East | 3.0 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| 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 |
| **Total Non-OECD[2]** | **31.8** | **30.4** | **30.2** | **30.5** | **30.5** | **30.8** | **30.5** | **31.4** | **30.5** | **30.9** | **31.4** | **31.0** | **31.6** | **30.8** | **30.5** | **30.5** | **30.8** |
| Processing gains[3] | 2.4 | 2.1 | 2.1 | 2.2 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 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 | 2.7 | 3.2 | 3.5 | 3.1 | 3.1 |
| **Total Non-OPEC Supply** | **65.6** | **63.1** | **62.2** | **63.7** | **64.4** | **65.1** | **63.8** | **65.0** | **64.8** | **66.2** | **66.6** | **65.7** | **66.7** | **66.9** | **67.1** | **67.0** | **66.9** |
| **OPEC[4]** | | | | | | | | | | | | | | | | | |
| Crude | 29.6 | 25.7 | 25.4 | 25.6 | 27.0 | 27.8 | 26.4 | 28.5 | 28.7 | 29.6 | 29.4 | 29.0 | | | | | |
| NGLs | 5.3 | 5.1 | 5.1 | 5.1 | 5.1 | 5.2 | 5.1 | 5.3 | 5.4 | 5.4 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| **Total OPEC** | **35.0** | **30.8** | **30.4** | **30.7** | **32.1** | **33.0** | **31.5** | **33.8** | **34.1** | **34.9** | **34.7** | **34.4** | | | | | |
| **Total Supply** | **100.6** | **93.9** | **92.6** | **94.3** | **96.5** | **98.1** | **95.4** | **98.8** | **98.8** | **101.1** | **101.3** | **100.0** | | | | | |
| **STOCK CHANGES AND MISCELLANEOUS** | | | | | | | | | | | | | | | | | |
| **Reported OECD** | | | | | | | | | | | | | | | | | |
| Industry | 0.1 | 0.4 | -1.2 | -0.5 | -1.2 | -1.3 | -1.1 | -0.4 | 0.6 | 0.9 | 0.6 | 0.4 | | | | | |
| Government | 0.0 | 0.0 | 0.1 | -0.2 | -0.1 | -0.3 | -0.2 | -0.5 | -1.1 | -1.1 | -0.3 | -0.7 | | | | | |
| **Total** | **0.0** | **0.4** | **-1.2** | **-0.7** | **-1.4** | **-1.6** | **-1.2** | **-0.8** | **-0.5** | **-0.2** | **0.2** | **-0.3** | | | | | |
| Floating storage/Oil in transit | 0.1 | 0.0 | -0.4 | -0.5 | -0.3 | 1.1 | 0.0 | -0.5 | 0.5 | 1.0 | 0.1 | 0.3 | | | | | |
| Miscellaneous to balance[5] | -0.1 | 1.9 | -0.3 | -0.8 | -0.7 | -2.3 | -1.0 | 0.6 | 0.1 | -0.5 | 0.2 | 0.1 | | | | | |
| **Total Stock Ch. & Misc** | **0.0** | **2.3** | **-1.9** | **-2.1** | **-2.3** | **-2.8** | **-2.3** | **-0.7** | **0.0** | **0.4** | **0.5** | **0.0** | | | | | |
| **Memo items:** | | | | | | | | | | | | | | | | | |
| Call on OPEC crude & stock changes[6] | 29.6 | 23.3 | 27.2 | 27.6 | 29.3 | 30.6 | 28.7 | 29.3 | 28.7 | 29.2 | 28.9 | 29.0 | 28.2 | 29.0 | 30.5 | 31.0 | 29.7 |

1 Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning,oil from non-conventional sources and other sources of supply. Includes biofuels.
2 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 OPEC include current members throughout the time series.
5 Includes changes in non-reported stocks in OECD and non-OECD.
6 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, Hungry, Iceland, Ireland, Isreal, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherland, Norway, NewZealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Republic of Türkyie, 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 throughtout time series plus Sudan, South Sudan, Russia, Oman, Mexico, Malaysia, Kazahkstan, 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD DEMAND** | | | | | | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | -0.2 | - | - | - | - | -0.1 | - |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - | -0.2 | - | - | - | - |
| **Total OECD** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-0.2** | **-** | **-0.1** | **-** | **0.1** | **-0.1** | **-** |
| **NON-OECD DEMAND** | | | | | | | | | | | | | | | | | |
| FSU | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.1 |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| China | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | - | - | 0.1 |
| Other Asia | - | - | -0.1 | - | - | - | - | - | - | - | 0.1 | - | - | - | - | - | - |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Middle East | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - | 0.1 | - |
| Africa | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Non-OECD** | **0.1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.2** | **0.1** | **0.2** | **0.1** | **-** | **0.1** | **0.1** |
| **Total Demand** | **0.1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.1** | **0.2** | **0.1** | **-** | **0.1** |
| **OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | -0.1 | - | -0.1 | - | - | - | - |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total OECD** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-0.1** | **-** | **-0.1** | **-** | **-** | **-0.1** | **-** |
| **NON-OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| FSU | - | - | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.4 | 0.3 | 0.2 | 0.3 |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| China | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Asia | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - |
| Middle East | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Africa | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Non-OECD** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.3** | **0.5** | **0.3** | **0.2** | **0.3** |
| Processing gains | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Global Biofuels | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Non-OPEC Supply** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-0.1** | **-** | **0.3** | **0.4** | **0.3** | **0.1** | **0.3** |
| **OPEC** | | | | | | | | | | | | | | | | | |
| Crude | - | - | - | - | - | - | - | - | - | - | - | - | | | | | |
| NGLs | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total OPEC** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | | | | | |
| **Total Supply** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-0.1** | **-** | | | | | |
| **STOCK CHANGES AND MISCELLANEOUS** | | | | | | | | | | | | | | | | | |
| **REPORTED OECD** | | | | | | | | | | | | | | | | | |
| Industry | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.1 | | | | | |
| Government | - | - | - | - | - | - | - | - | - | - | 0.1 | - | | | | | |
| **Total** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.4** | **0.1** | | | | | |
| Floating storage/Oil in transit | - | - | - | - | - | - | - | - | - | - | - | - | | | | | |
| Miscellaneous to balance | - | - | - | - | - | - | - | - | -0.1 | - | -0.5 | -0.2 | | | | | |
| **Total Stock Ch. & Misc** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-0.1** | **-** | **-0.1** | **-0.1** | | | | | |
| **Memo items:** | | | | | | | | | | | | | | | | | |
| Call on OPEC crude & stock changes | - | - | - | - | - | - | - | - | 0.1 | - | 0.1 | 0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 |

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

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

| | 2019 | 2020 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 2021 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Demand** | **100.6** | **91.5** | **94.5** | **96.4** | **98.8** | **100.9** | **97.7** | **99.6** | **98.8** | **100.8** | **100.8** | **100.0** | **100.3** | **101.3** | **103.0** | **103.5** | **102.0** |
| **OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| Americas[2] | 22.9 | 21.9 | 21.5 | 22.4 | 22.4 | 23.4 | 22.4 | 23.0 | 23.4 | 24.2 | 24.3 | 23.7 | 24.3 | 24.7 | 25.0 | 25.1 | 24.8 |
| 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 | 3.2 | 3.3 | 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 |
| **Total OECD (non-OPEC+)** | **26.8** | **26.0** | **25.7** | **26.0** | **26.4** | **27.3** | **26.3** | **26.8** | **26.9** | **27.7** | **28.0** | **27.4** | **28.0** | **28.3** | **28.6** | **28.9** | **28.5** |
| **NON-OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| FSU[3] | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Europe | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| China | 3.9 | 4.0 | 4.1 | 4.1 | 4.1 | 4.0 | 4.1 | 4.2 | 4.2 | 4.1 | 4.1 | 4.2 | 4.3 | 4.2 | 4.2 | 4.2 | 4.2 |
| Other Asia[4] | 2.5 | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Latin America | 5.3 | 5.3 | 5.3 | 5.3 | 5.4 | 5.2 | 5.3 | 5.4 | 5.5 | 5.8 | 5.8 | 5.6 | 6.0 | 6.1 | 6.2 | 6.2 | 6.1 |
| Middle East[5] | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| Africa[6] | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| **Total Non-OECD (non-OPEC+)** | **15.3** | **15.1** | **15.1** | **15.1** | **15.2** | **14.8** | **15.0** | **15.2** | **15.2** | **15.4** | **15.4** | **15.3** | **15.7** | **15.8** | **15.8** | **15.8** | **15.8** |
| 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 | 2.7 | 3.2 | 3.5 | 3.1 | 3.1 |
| **Total Non-OPEC+** | **47.2** | **45.9** | **45.1** | **46.3** | **47.1** | **47.1** | **46.4** | **46.8** | **47.5** | **48.7** | **48.7** | **47.9** | **48.7** | **49.7** | **50.3** | **50.2** | **49.8** |
| **OPEC+ CRUDE** | | | | | | | | | | | | | | | | | |
| Algeria | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Angola | 1.4 | 1.3 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 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 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 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 | 2.4 | 2.5 | 2.6 | 2.5 | 2.6 | 2.7 | 2.7 | 2.7 | 2.6 |
| 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 | 4.4 | 4.4 | 4.4 | 4.4 |
| 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 | 1.5 | 1.6 | 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 | 2.7 | 2.7 | 2.7 | 2.7 |
| 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 | 1.7 | 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 | 1.2 | 1.2 | 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 | 8.8 | 8.6 | 8.5 | 8.9 |
| Saudi Arabia | 9.9 | 9.2 | 8.5 | 8.6 | 9.6 | 9.9 | 9.2 | 10.2 | 10.5 | 10.9 | 10.6 | 10.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 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 | 3.3 | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Venezuela | 0.9 | 0.5 | 0.5 | 0.5 | 0.6 | 0.8 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 |
| **OPEC+ Crude** | **45.9** | **40.6** | **40.0** | **40.5** | **42.0** | **43.3** | **41.5** | **44.1** | **43.4** | **44.6** | **44.6** | **44.2** | **44.3** | **43.7** | **43.3** | **43.3** | **43.6** |
| OPEC+ NGLs & Condensate | 7.4 | 7.2 | 7.4 | 7.4 | 7.3 | 7.5 | 7.4 | 7.7 | 7.8 | 7.7 | 7.9 | 7.8 | 8.0 | 8.1 | 8.1 | 8.1 | 8.1 |
| OPEC+ Nonconventionals | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **Total OPEC+** | **53.4** | **47.9** | **47.5** | **48.0** | **49.4** | **51.0** | **49.0** | **52.0** | **51.3** | **52.5** | **52.6** | **52.1** | **52.5** | **51.9** | **51.5** | **51.5** | **51.8** |
| **Total Supply Oil** | **100.6** | **93.9** | **92.6** | **94.3** | **96.5** | **98.1** | **95.4** | **98.8** | **98.8** | **101.1** | **101.3** | **100.0** | **101.2** | **101.6** | **101.8** | **101.7** | **101.6** |
| **Memo items:** | | | | | | | | | | | | | | | | | |
| Call on OPEC+ crude & stock changes | 45.9 | 38.2 | 41.9 | 42.6 | 44.3 | 46.1 | 43.7 | 44.9 | 43.4 | 44.2 | 44.1 | 44.1 | 43.4 | 43.4 | 44.5 | 45.0 | 44.1 |

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

2 OECD Americas excludes Mexico.

3 FSU excludes Russia, Kazakhstan, Azerbaijan.

4 Other Asia excludes Brunei, Malaysia.

5 Middle East excludes Oman, Bahrain.

6 Africa excludes Sudan, South Sudan.

## Table 2
## SUMMARY OF GLOBAL OIL DEMAND

| | 2020 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 2021 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Demand (mb/d)** | | | | | | | | | | | | | | | | |
| Americas | 22.45 | 22.93 | 24.39 | 24.79 | 25.13 | 24.32 | 24.77 | 24.98 | 25.33 | 24.97 | 25.02 | 24.98 | 25.13 | 25.46 | 25.13 | 25.18 |
| Europe | 12.41 | 11.96 | 12.67 | 13.89 | 13.95 | 13.13 | 13.19 | 13.43 | 14.06 | 13.34 | 13.51 | 13.13 | 13.64 | 14.11 | 13.60 | 13.62 |
| Asia Oceania | 7.17 | 7.68 | 7.00 | 7.07 | 7.78 | 7.38 | 7.85 | 6.98 | 7.22 | 7.68 | 7.43 | 7.88 | 7.13 | 7.40 | 7.85 | 7.57 |
| **Total OECD** | **42.03** | **42.57** | **44.06** | **45.75** | **46.86** | **44.82** | **45.81** | **45.40** | **46.62** | **45.99** | **45.96** | **45.99** | **45.90** | **46.97** | **46.59** | **46.37** |
| Asia | 26.93 | 28.55 | 28.61 | 28.35 | 29.56 | 28.77 | 29.54 | 28.45 | 28.24 | 29.37 | 28.90 | 29.70 | 30.19 | 30.02 | 31.38 | 30.33 |
| Middle East | 8.07 | 8.16 | 8.43 | 8.89 | 8.44 | 8.48 | 8.57 | 9.19 | 9.63 | 9.10 | 9.12 | 8.77 | 9.36 | 9.76 | 9.16 | 9.27 |
| Americas | 5.45 | 5.74 | 5.80 | 6.13 | 6.09 | 5.94 | 5.92 | 6.09 | 6.28 | 6.21 | 6.12 | 6.01 | 6.18 | 6.33 | 6.28 | 6.20 |
| FSU | 4.56 | 4.63 | 4.74 | 4.99 | 5.05 | 4.86 | 4.73 | 4.72 | 5.08 | 5.06 | 4.90 | 4.79 | 4.71 | 4.95 | 4.92 | 4.84 |
| Africa | 3.77 | 4.06 | 3.97 | 3.92 | 4.11 | 4.01 | 4.21 | 4.16 | 4.12 | 4.29 | 4.20 | 4.23 | 4.20 | 4.15 | 4.32 | 4.23 |
| Europe | 0.72 | 0.76 | 0.76 | 0.78 | 0.79 | 0.77 | 0.78 | 0.77 | 0.79 | 0.80 | 0.78 | 0.78 | 0.78 | 0.79 | 0.81 | 0.79 |
| **Total Non-OECD** | **49.51** | **51.91** | **52.31** | **53.06** | **54.05** | **52.84** | **53.75** | **53.37** | **54.15** | **54.83** | **54.03** | **54.27** | **55.42** | **56.02** | **56.87** | **55.65** |
| **World** | **91.54** | **94.48** | **96.37** | **98.81** | **100.90** | **97.66** | **99.56** | **98.77** | **100.77** | **100.82** | **99.98** | **100.27** | **101.32** | **102.98** | **103.45** | **102.02** |
| of which: | | | | | | | | | | | | | | | | |
| United States[1] | 18.19 | 18.58 | 20.13 | 20.30 | 20.54 | 19.89 | 20.22 | 20.27 | 20.47 | 20.16 | 20.28 | 20.21 | 20.31 | 20.51 | 20.27 | 20.32 |
| Europe 5[2] | 6.91 | 6.67 | 7.06 | 7.66 | 7.81 | 7.31 | 7.42 | 7.60 | 7.87 | 7.41 | 7.58 | 7.35 | 7.63 | 7.87 | 7.50 | 7.59 |
| China | 14.20 | 14.87 | 15.58 | 15.58 | 15.64 | 15.42 | 15.39 | 14.40 | 14.82 | 15.39 | 15.00 | 15.27 | 15.83 | 16.07 | 16.68 | 15.97 |
| Japan | 3.36 | 3.77 | 3.07 | 3.17 | 3.66 | 3.41 | 3.70 | 3.03 | 3.19 | 3.56 | 3.37 | 3.75 | 3.05 | 3.23 | 3.59 | 3.40 |
| India | 4.58 | 5.04 | 4.49 | 4.52 | 5.02 | 4.77 | 5.25 | 5.16 | 4.88 | 5.29 | 5.15 | 5.43 | 5.35 | 5.10 | 5.53 | 5.35 |
| Russia | 3.42 | 3.50 | 3.59 | 3.77 | 3.75 | 3.66 | 3.65 | 3.60 | 3.94 | 3.85 | 3.76 | 3.65 | 3.55 | 3.76 | 3.67 | 3.66 |
| Brazil | 2.87 | 2.91 | 2.92 | 3.13 | 3.06 | 3.01 | 2.95 | 3.00 | 3.17 | 3.15 | 3.07 | 3.01 | 3.09 | 3.22 | 3.22 | 3.13 |
| Saudi Arabia | 3.45 | 3.24 | 3.53 | 3.76 | 3.44 | 3.49 | 3.34 | 3.83 | 3.97 | 3.73 | 3.72 | 3.38 | 3.84 | 4.01 | 3.73 | 3.74 |
| Canada | 2.17 | 2.22 | 2.13 | 2.35 | 2.34 | 2.26 | 2.24 | 2.21 | 2.38 | 2.33 | 2.29 | 2.33 | 2.26 | 2.41 | 2.36 | 2.34 |
| Korea | 2.45 | 2.54 | 2.49 | 2.59 | 2.69 | 2.58 | 2.73 | 2.49 | 2.54 | 2.57 | 2.58 | 2.64 | 2.55 | 2.62 | 2.67 | 2.62 |
| Mexico | 1.60 | 1.63 | 1.66 | 1.61 | 1.72 | 1.65 | 1.76 | 1.99 | 1.96 | 1.95 | 1.92 | 1.90 | 2.02 | 1.99 | 1.97 | 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 |
| **Total** | **64.95** | **66.86** | **68.45** | **70.25** | **71.48** | **69.27** | **70.57** | **69.40** | **71.02** | **71.21** | **70.55** | **70.82** | **71.33** | **72.64** | **73.02** | **71.96** |
| % of World | 71.0% | 70.8% | 71.0% | 71.1% | 70.8% | 70.9% | 70.9% | 70.3% | 70.5% | 70.6% | 70.6% | 70.6% | 70.4% | 70.5% | 70.6% | 70.5% |
| **Annual Change (% per annum)** | | | | | | | | | | | | | | | | |
| Americas | -11.6 | -5.5 | 22.7 | 9.7 | 9.1 | 8.3 | 8.0 | 2.5 | 2.2 | -0.6 | 2.9 | 0.8 | 0.6 | 0.5 | 0.6 | 0.6 |
| Europe | -13.3 | -10.2 | 15.3 | 8.1 | 11.7 | 5.7 | 10.3 | 6.0 | 1.2 | -4.4 | 2.9 | -0.4 | 1.6 | 0.3 | 2.0 | 0.9 |
| Asia Oceania | -9.8 | -2.6 | 5.6 | 4.4 | 5.5 | 3.0 | 2.3 | -0.2 | 2.1 | -1.3 | 0.7 | 0.4 | 2.1 | 2.4 | 2.2 | 1.8 |
| **Total OECD** | **-11.8** | **-6.4** | **17.5** | **8.3** | **9.2** | **6.6** | **7.6** | **3.0** | **1.9** | **-1.8** | **2.5** | **0.4** | **1.1** | **0.7** | **1.3** | **0.9** |
| Asia | -4.4 | 11.8 | 9.4 | 3.8 | 3.1 | 6.8 | 3.4 | -0.6 | -0.4 | -0.6 | 0.4 | 0.6 | 6.1 | 6.3 | 6.8 | 4.9 |
| Middle East | -8.7 | -1.8 | 12.9 | 5.8 | 4.2 | 5.1 | 5.0 | 9.0 | 8.2 | 7.7 | 7.5 | 2.4 | 1.8 | 1.4 | 0.7 | 1.6 |
| Americas | -13.5 | 2.7 | 18.4 | 10.2 | 6.0 | 9.0 | 3.1 | 4.9 | 2.4 | 1.9 | 3.1 | 1.4 | 1.5 | 0.9 | 1.1 | 1.2 |
| FSU | -3.5 | 0.0 | 14.5 | 5.5 | 6.8 | 6.5 | 2.1 | -0.4 | 2.0 | 0.1 | 0.9 | 1.1 | -0.3 | -2.6 | -2.7 | -1.2 |
| Africa | -8.8 | -0.8 | 15.7 | 6.0 | 6.3 | 6.4 | 3.7 | 4.6 | 5.3 | 4.5 | 4.6 | 0.4 | 1.1 | 0.7 | 0.6 | 0.7 |
| Europe | -7.5 | 4.1 | 12.3 | 5.9 | 4.5 | 6.6 | 2.6 | 1.8 | 1.4 | 1.5 | 1.8 | -0.2 | 1.7 | 0.3 | 0.9 | 0.7 |
| **Total Non-OECD** | **-6.5** | **6.2** | **11.8** | **5.2** | **4.2** | **6.7** | **3.5** | **2.0** | **2.0** | **1.5** | **2.3** | **1.0** | **3.8** | **3.5** | **3.7** | **3.0** |
| **World** | **-9.0** | **0.1** | **14.3** | **6.6** | **6.5** | **6.7** | **5.4** | **2.5** | **2.0** | **-0.1** | **2.4** | **0.7** | **2.6** | **2.2** | **2.6** | **2.0** |
| **Annual Change (mb/d)** | | | | | | | | | | | | | | | | |
| Americas | -2.95 | -1.34 | 4.51 | 2.18 | 2.09 | 1.87 | 1.83 | 0.60 | 0.55 | -0.15 | 0.70 | 0.21 | 0.14 | 0.13 | 0.16 | 0.16 |
| Europe | -1.90 | -1.36 | 1.68 | 1.04 | 1.46 | 0.71 | 1.23 | 0.75 | 0.17 | -0.61 | 0.38 | -0.06 | 0.21 | 0.05 | 0.26 | 0.12 |
| Asia Oceania | -0.78 | -0.21 | 0.37 | 0.30 | 0.40 | 0.22 | 0.18 | -0.01 | 0.15 | -0.10 | 0.05 | 0.03 | 0.15 | 0.17 | 0.17 | 0.13 |
| **Total OECD** | **-5.63** | **-2.90** | **6.56** | **3.52** | **3.96** | **2.79** | **3.24** | **1.34** | **0.87** | **-0.86** | **1.13** | **0.19** | **0.51** | **0.35** | **0.59** | **0.41** |
| Asia | -1.23 | 3.01 | 2.45 | 1.05 | 0.88 | 1.84 | 0.98 | -0.16 | -0.11 | -0.19 | 0.13 | 0.16 | 1.74 | 1.78 | 2.00 | 1.43 |
| Middle East | -0.77 | -0.15 | 0.96 | 0.48 | 0.34 | 0.41 | 0.41 | 0.76 | 0.73 | 0.65 | 0.64 | 0.21 | 0.17 | 0.13 | 0.07 | 0.14 |
| Americas | -0.85 | 0.15 | 0.90 | 0.57 | 0.34 | 0.49 | 0.18 | 0.28 | 0.15 | 0.12 | 0.18 | 0.08 | 0.09 | 0.06 | 0.07 | 0.08 |
| FSU | -0.16 | 0.00 | 0.60 | 0.26 | 0.32 | 0.30 | 0.10 | -0.02 | 0.10 | 0.01 | 0.05 | 0.05 | -0.01 | -0.13 | -0.13 | -0.06 |
| Africa | -0.36 | -0.03 | 0.54 | 0.22 | 0.24 | 0.24 | 0.15 | 0.18 | 0.21 | 0.19 | 0.18 | 0.02 | 0.04 | 0.03 | 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 | 0.01 | 0.01 |
| **Total Non-OECD** | **-3.43** | **3.01** | **5.54** | **2.62** | **2.16** | **3.33** | **1.84** | **1.06** | **1.09** | **0.78** | **1.19** | **0.52** | **2.05** | **1.87** | **2.04** | **1.62** |
| **World** | **-9.06** | **0.11** | **12.09** | **6.14** | **6.12** | **6.12** | **5.08** | **2.40** | **1.95** | **-0.08** | **2.32** | **0.71** | **2.55** | **2.22** | **2.63** | **2.03** |
| **Revisions to Oil Demand from Last Month's Report (mb/d)** | | | | | | | | | | | | | | | | |
| Americas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.17 | -0.04 | 0.04 | -0.03 | 0.00 | -0.07 | -0.01 |
| Europe | 0.00 | 0.00 | -0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.01 | 0.01 | 0.09 | 0.08 | -0.04 | 0.03 |
| Asia Oceania | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.01 | -0.16 | -0.01 | 0.01 | -0.02 | -0.04 |
| **Total OECD** | **-** | **0.00** | **-0.01** | **-** | **-0.01** | **-0.00** | **-** | **-0.00** | **-0.00** | **-0.16** | **-0.04** | **-0.11** | **0.05** | **0.08** | **-0.12** | **-0.02** |
| Asia | 0.01 | -0.07 | -0.06 | 0.01 | -0.03 | -0.04 | 0.01 | 0.01 | 0.01 | 0.08 | 0.03 | 0.09 | 0.12 | 0.01 | 0.02 | 0.06 |
| Middle East | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.02 | 0.01 | 0.01 | 0.01 | 0.08 | 0.03 |
| Americas | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| FSU | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.04 | 0.03 | 0.03 | 0.06 |
| Africa | 0.01 | 0.03 | 0.03 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | -0.03 | -0.03 | -0.03 | -0.02 | -0.03 |
| Europe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Non-OECD** | **0.02** | **-0.04** | **-0.02** | **0.04** | **-0.01** | **-0.01** | **0.02** | **0.03** | **0.03** | **0.19** | **0.07** | **0.23** | **0.14** | **0.02** | **0.09** | **0.12** |
| **World** | **0.02** | **-0.03** | **-0.03** | **0.04** | **-0.02** | **-0.01** | **0.02** | **0.03** | **0.02** | **0.02** | **0.02** | **0.12** | **0.19** | **0.11** | **-0.03** | **0.10** |
| **Revisions to Oil Demand Growth from Last Month's Report (mb/d)** | | | | | | | | | | | | | | | | |
| World | -0.04 | -0.06 | -0.06 | 0.01 | -0.04 | -0.03 | 0.06 | 0.06 | -0.01 | 0.04 | 0.04 | 0.10 | 0.16 | 0.08 | -0.06 | 0.07 |

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

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

| | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 [2] | Latest month vs. Nov 22 | Latest month vs. Dec 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Americas** | | | | | | | | | | | |
| LPG and ethane | 3.69 | 3.85 | 4.18 | 3.62 | 3.78 | 3.81 | 3.69 | 3.85 | 3.89 | 0.04 | -0.43 |
| Naphtha | 0.25 | 0.21 | 0.22 | 0.21 | 0.20 | 0.20 | 0.19 | 0.21 | 0.21 | 0.00 | -0.07 |
| Motor gasoline | 10.34 | 10.44 | 10.04 | 10.70 | 10.59 | 10.42 | 10.48 | 10.54 | 10.26 | -0.28 | -0.30 |
| Jet and kerosene | 1.56 | 1.83 | 1.69 | 1.87 | 1.89 | 1.86 | 1.81 | 1.86 | 1.91 | 0.05 | 0.13 |
| Gasoil/diesel oil | 5.06 | 5.19 | 5.33 | 5.14 | 5.09 | 5.21 | 5.34 | 5.36 | 4.94 | -0.42 | -0.09 |
| Residual fuel oil | 0.55 | 0.56 | 0.59 | 0.54 | 0.61 | 0.52 | 0.53 | 0.56 | 0.48 | -0.07 | -0.16 |
| Other products | 2.85 | 2.94 | 2.72 | 2.91 | 3.17 | 2.94 | 3.05 | 3.01 | 2.77 | -0.25 | 0.08 |
| **Total** | **24.31** | **25.02** | **24.77** | **24.98** | **25.33** | **24.97** | **25.09** | **25.39** | **24.45** | **-0.94** | **-0.84** |
| **Europe** | | | | | | | | | | | |
| LPG and ethane | 1.10 | 1.03 | 1.11 | 0.95 | 1.09 | 0.98 | 0.90 | 0.98 | 1.06 | 0.07 | -0.10 |
| Naphtha | 1.12 | 0.97 | 1.15 | 1.01 | 0.87 | 0.84 | 0.82 | 0.85 | 0.84 | -0.01 | -0.32 |
| Motor gasoline | 1.93 | 2.04 | 1.88 | 2.08 | 2.16 | 2.04 | 2.01 | 2.08 | 2.03 | -0.04 | 0.05 |
| Jet and kerosene | 0.86 | 1.27 | 1.02 | 1.29 | 1.49 | 1.29 | 1.41 | 1.21 | 1.25 | 0.04 | 0.15 |
| Gasoil/diesel oil | 6.25 | 6.24 | 6.16 | 6.10 | 6.37 | 6.31 | 6.21 | 6.37 | 6.34 | -0.03 | -0.22 |
| Residual fuel oil | 0.76 | 0.82 | 0.79 | 0.84 | 0.85 | 0.81 | 0.81 | 0.80 | 0.82 | 0.03 | 0.03 |
| Other products | 1.10 | 1.13 | 1.07 | 1.16 | 1.23 | 1.07 | 1.14 | 1.12 | 0.96 | -0.15 | -0.06 |
| **Total** | **13.13** | **13.51** | **13.19** | **13.43** | **14.06** | **13.34** | **13.30** | **13.41** | **13.31** | **-0.10** | **-0.48** |
| **Asia Oceania** | | | | | | | | | | | |
| LPG and ethane | 0.77 | 0.82 | 0.94 | 0.77 | 0.74 | 0.83 | 0.71 | 0.84 | 0.95 | 0.12 | 0.06 |
| Naphtha | 1.95 | 1.86 | 1.93 | 1.78 | 1.90 | 1.84 | 1.73 | 1.88 | 1.93 | 0.04 | -0.24 |
| Motor gasoline | 1.35 | 1.35 | 1.28 | 1.30 | 1.42 | 1.40 | 1.35 | 1.34 | 1.50 | 0.16 | 0.03 |
| Jet and kerosene | 0.61 | 0.69 | 0.87 | 0.51 | 0.53 | 0.84 | 0.66 | 0.75 | 1.09 | 0.34 | 0.16 |
| Gasoil/diesel oil | 1.89 | 1.93 | 1.95 | 1.86 | 1.90 | 2.00 | 1.91 | 1.99 | 2.09 | 0.11 | 0.00 |
| Residual fuel oil | 0.45 | 0.48 | 0.52 | 0.45 | 0.47 | 0.50 | 0.45 | 0.50 | 0.54 | 0.04 | 0.03 |
| Other products | 0.36 | 0.30 | 0.36 | 0.31 | 0.25 | 0.27 | 0.28 | 0.26 | 0.28 | 0.01 | -0.17 |
| **Total** | **7.38** | **7.43** | **7.85** | **6.98** | **7.22** | **7.68** | **7.09** | **7.56** | **8.38** | **0.82** | **-0.12** |
| **OECD** | | | | | | | | | | | |
| LPG and ethane | 5.56 | 5.70 | 6.23 | 5.34 | 5.61 | 5.62 | 5.30 | 5.67 | 5.90 | 0.23 | -0.46 |
| Naphtha | 3.33 | 3.04 | 3.30 | 3.00 | 2.97 | 2.89 | 2.74 | 2.95 | 2.98 | 0.03 | -0.64 |
| Motor gasoline | 13.62 | 13.83 | 13.20 | 14.08 | 14.17 | 13.86 | 13.85 | 13.95 | 13.79 | -0.16 | -0.22 |
| Jet and kerosene | 3.03 | 3.79 | 3.59 | 3.67 | 3.91 | 3.98 | 3.88 | 3.82 | 4.25 | 0.43 | 0.44 |
| Gasoil/diesel oil | 13.20 | 13.35 | 13.43 | 13.09 | 13.37 | 13.51 | 13.45 | 13.72 | 13.37 | -0.35 | -0.31 |
| Residual fuel oil | 1.76 | 1.87 | 1.91 | 1.82 | 1.93 | 1.83 | 1.80 | 1.86 | 1.85 | -0.01 | -0.10 |
| Other products | 4.32 | 4.37 | 4.15 | 4.38 | 4.65 | 4.29 | 4.48 | 4.39 | 4.00 | -0.39 | -0.15 |
| **Total** | **44.82** | **45.96** | **45.81** | **45.40** | **46.62** | **45.99** | **45.49** | **46.36** | **46.15** | **-0.21** | **-1.44** |

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

## Table 2b
## OIL DEMAND IN SELECTED OECD COUNTRIES[1]
(million barrels per day)

| | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 [2] | Latest month vs. Nov 22 | Latest month vs. Dec 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **United States[3]** | | | | | | | | | | | |
| LPG and ethane | 2.88 | 3.06 | 3.37 | 2.89 | 2.95 | 3.01 | 2.94 | 3.07 | 3.03 | -0.05 | -0.44 |
| Naphtha | 0.19 | 0.14 | 0.15 | 0.14 | 0.13 | 0.13 | 0.12 | 0.14 | 0.13 | -0.01 | -0.08 |
| Motor gasoline | 8.82 | 8.78 | 8.47 | 9.00 | 8.88 | 8.75 | 8.83 | 8.85 | 8.57 | -0.28 | -0.31 |
| Jet and kerosene | 1.38 | 1.56 | 1.46 | 1.61 | 1.60 | 1.58 | 1.53 | 1.61 | 1.61 | 0.00 | 0.09 |
| Gasoil/diesel oil | 3.97 | 3.96 | 4.14 | 3.89 | 3.86 | 3.96 | 4.10 | 4.06 | 3.72 | -0.34 | -0.23 |
| Residual fuel oil | 0.31 | 0.34 | 0.38 | 0.31 | 0.39 | 0.30 | 0.28 | 0.35 | 0.26 | -0.09 | -0.17 |
| Other products | 2.35 | 2.44 | 2.24 | 2.43 | 2.65 | 2.43 | 2.62 | 2.51 | 2.18 | -0.33 | -0.03 |
| **Total** | **19.89** | **20.28** | **20.22** | **20.27** | **20.47** | **20.16** | **20.41** | **20.59** | **19.49** | **-1.10** | **-1.17** |
| **Japan** | | | | | | | | | | | |
| LPG and ethane | 0.40 | 0.43 | 0.49 | 0.40 | 0.37 | 0.45 | 0.36 | 0.44 | 0.55 | 0.11 | 0.05 |
| Naphtha | 0.70 | 0.62 | 0.63 | 0.56 | 0.62 | 0.65 | 0.64 | 0.66 | 0.65 | -0.01 | -0.15 |
| Motor gasoline | 0.73 | 0.71 | 0.67 | 0.68 | 0.75 | 0.72 | 0.71 | 0.68 | 0.77 | 0.09 | -0.01 |
| Jet and kerosene | 0.37 | 0.38 | 0.58 | 0.25 | 0.24 | 0.47 | 0.32 | 0.41 | 0.68 | 0.28 | 0.05 |
| Diesel | 0.42 | 0.43 | 0.43 | 0.41 | 0.43 | 0.44 | 0.42 | 0.44 | 0.45 | 0.02 | -0.01 |
| Other gasoil | 0.32 | 0.33 | 0.37 | 0.30 | 0.30 | 0.34 | 0.31 | 0.34 | 0.38 | 0.05 | 0.00 |
| Residual fuel oil | 0.25 | 0.27 | 0.29 | 0.24 | 0.26 | 0.28 | 0.26 | 0.28 | 0.29 | 0.01 | 0.01 |
| Other products | 0.22 | 0.21 | 0.23 | 0.18 | 0.22 | 0.21 | 0.22 | 0.20 | 0.22 | 0.01 | -0.06 |
| **Total** | **3.41** | **3.37** | **3.70** | **3.03** | **3.19** | **3.56** | **3.23** | **3.45** | **4.00** | **0.55** | **-0.13** |
| **Germany** | | | | | | | | | | | |
| LPG and ethane | 0.12 | 0.11 | 0.11 | 0.11 | 0.10 | 0.09 | 0.08 | 0.09 | 0.09 | 0.00 | -0.02 |
| Naphtha | 0.32 | 0.30 | 0.35 | 0.33 | 0.25 | 0.25 | 0.23 | 0.27 | 0.23 | -0.03 | -0.12 |
| Motor gasoline | 0.45 | 0.45 | 0.43 | 0.46 | 0.48 | 0.45 | 0.45 | 0.48 | 0.43 | -0.06 | -0.02 |
| Jet and kerosene | 0.13 | 0.19 | 0.15 | 0.20 | 0.22 | 0.21 | 0.24 | 0.18 | 0.20 | 0.02 | 0.04 |
| Diesel | 0.71 | 0.71 | 0.68 | 0.68 | 0.74 | 0.72 | 0.71 | 0.77 | 0.69 | -0.08 | -0.01 |
| Other gasoil | 0.27 | 0.29 | 0.29 | 0.25 | 0.31 | 0.31 | 0.31 | 0.30 | 0.32 | 0.03 | -0.03 |
| Residual fuel oil | 0.05 | 0.05 | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 | 0.00 | -0.03 |
| Other products | 0.07 | 0.07 | 0.06 | 0.07 | 0.10 | 0.06 | 0.09 | 0.06 | 0.02 | -0.03 | -0.04 |
| **Total** | **2.13** | **2.17** | **2.15** | **2.15** | **2.26** | **2.13** | **2.16** | **2.19** | **2.03** | **-0.16** | **-0.23** |
| **Italy** | | | | | | | | | | | |
| LPG and ethane | 0.11 | 0.11 | 0.13 | 0.10 | 0.10 | 0.11 | 0.10 | 0.11 | 0.13 | 0.02 | -0.02 |
| 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 | 0.19 | 0.18 | -0.01 | 0.00 |
| Jet and kerosene | 0.06 | 0.09 | 0.07 | 0.10 | 0.11 | 0.08 | 0.10 | 0.08 | 0.08 | 0.00 | 0.01 |
| Diesel | 0.48 | 0.49 | 0.48 | 0.49 | 0.50 | 0.50 | 0.49 | 0.52 | 0.48 | -0.03 | -0.03 |
| Other gasoil | 0.07 | 0.05 | 0.04 | 0.05 | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 0.01 | -0.01 |
| Residual fuel oil | 0.09 | 0.10 | 0.09 | 0.10 | 0.11 | 0.10 | 0.11 | 0.09 | 0.09 | -0.01 | 0.00 |
| Other products | 0.11 | 0.12 | 0.10 | 0.13 | 0.13 | 0.11 | 0.12 | 0.12 | 0.10 | -0.02 | -0.01 |
| **Total** | **1.18** | **1.22** | **1.17** | **1.23** | **1.28** | **1.21** | **1.22** | **1.22** | **1.19** | **-0.04** | **-0.08** |
| **France** | | | | | | | | | | | |
| LPG and ethane | 0.11 | 0.10 | 0.12 | 0.10 | 0.10 | 0.07 | 0.07 | 0.07 | 0.08 | 0.02 | -0.04 |
| Naphtha | 0.14 | 0.10 | 0.13 | 0.09 | 0.10 | 0.08 | 0.07 | 0.08 | 0.09 | 0.01 | -0.07 |
| Motor gasoline | 0.21 | 0.23 | 0.21 | 0.24 | 0.26 | 0.23 | 0.22 | 0.23 | 0.24 | 0.00 | 0.01 |
| Jet and kerosene | 0.09 | 0.12 | 0.10 | 0.11 | 0.15 | 0.13 | 0.10 | 0.14 | 0.14 | 0.00 | 0.04 |
| Diesel | 0.73 | 0.73 | 0.71 | 0.75 | 0.75 | 0.72 | 0.74 | 0.73 | 0.68 | -0.05 | -0.05 |
| Other gasoil | 0.13 | 0.11 | 0.16 | 0.07 | 0.11 | 0.12 | 0.09 | 0.12 | 0.14 | 0.03 | -0.03 |
| Residual fuel oil | 0.03 | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.04 | 0.04 | 0.00 | 0.01 |
| Other products | 0.10 | 0.10 | 0.08 | 0.11 | 0.12 | 0.09 | 0.09 | 0.10 | 0.08 | -0.02 | 0.00 |
| **Total** | **1.55** | **1.53** | **1.54** | **1.50** | **1.62** | **1.47** | **1.42** | **1.49** | **1.49** | **-0.01** | **-0.11** |
| **United Kingdom** | | | | | | | | | | | |
| LPG and ethane | 0.11 | 0.11 | 0.12 | 0.12 | 0.10 | 0.09 | 0.09 | 0.09 | 0.09 | 0.00 | -0.02 |
| Naphtha | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| Motor gasoline | 0.25 | 0.27 | 0.26 | 0.28 | 0.28 | 0.28 | 0.28 | 0.29 | 0.27 | -0.02 | -0.01 |
| Jet and kerosene | 0.18 | 0.27 | 0.24 | 0.27 | 0.29 | 0.27 | 0.29 | 0.26 | 0.26 | 0.00 | -0.02 |
| Diesel | 0.47 | 0.49 | 0.46 | 0.51 | 0.48 | 0.49 | 0.49 | 0.50 | 0.48 | -0.02 | 0.00 |
| Other gasoil | 0.13 | 0.10 | 0.11 | 0.09 | 0.12 | 0.07 | 0.08 | 0.07 | 0.07 | -0.01 | -0.04 |
| Residual fuel oil | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 |
| Other products | 0.10 | 0.11 | 0.11 | 0.10 | 0.11 | 0.11 | 0.10 | 0.10 | 0.11 | 0.01 | 0.01 |
| **Total** | **1.26** | **1.36** | **1.31** | **1.39** | **1.40** | **1.33** | **1.36** | **1.34** | **1.30** | **-0.03** | **-0.08** |
| **Canada** | | | | | | | | | | | |
| LPG and ethane | 0.45 | 0.42 | 0.43 | 0.39 | 0.45 | 0.40 | 0.37 | 0.39 | 0.45 | 0.06 | 0.01 |
| Naphtha | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.04 | 0.05 | 0.01 | 0.00 |
| Motor gasoline | 0.76 | 0.78 | 0.73 | 0.78 | 0.81 | 0.80 | 0.80 | 0.80 | 0.81 | 0.01 | 0.03 |
| Jet and kerosene | 0.09 | 0.14 | 0.10 | 0.13 | 0.17 | 0.15 | 0.16 | 0.11 | 0.17 | 0.05 | 0.04 |
| Diesel | 0.29 | 0.28 | 0.30 | 0.25 | 0.28 | 0.31 | 0.28 | 0.33 | 0.31 | -0.02 | 0.07 |
| Other gasoil | 0.28 | 0.28 | 0.30 | 0.27 | 0.26 | 0.27 | 0.26 | 0.29 | 0.27 | -0.01 | -0.01 |
| Residual fuel oil | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.04 | 0.02 | 0.04 | 0.02 | 0.00 |
| Other products | 0.31 | 0.31 | 0.29 | 0.30 | 0.33 | 0.31 | 0.24 | 0.32 | 0.38 | 0.06 | 0.07 |
| **Total** | **2.26** | **2.29** | **2.24** | **2.21** | **2.38** | **2.33** | **2.19** | **2.31** | **2.49** | **0.19** | **0.21** |

1 Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.
2 Latest official OECD submissions (MOS).
3 US figures exclude US territories.

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

| | 2021 | 2022 | 2023 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEC** | | | | | | | | | | | |
| **Crude Oil** | | | | | | | | | | | |
| Saudi Arabia | 9.15 | 10.56 | | 10.93 | 10.60 | | | | 10.44 | 10.41 | 10.47 |
| Iran | 2.42 | 2.53 | | 2.54 | 2.63 | | | | 2.66 | 2.63 | 2.65 |
| Iraq | 4.03 | 4.45 | | 4.54 | 4.50 | | | | 4.45 | 4.42 | 4.37 |
| UAE | 2.76 | 3.28 | | 3.41 | 3.33 | | | | 3.23 | 3.23 | 3.23 |
| Kuwait | 2.42 | 2.70 | | 2.80 | 2.71 | | | | 2.66 | 2.68 | 2.68 |
| Angola | 1.12 | 1.14 | | 1.15 | 1.08 | | | | 1.09 | 1.11 | 1.06 |
| Nigeria | 1.31 | 1.15 | | 1.00 | 1.13 | | | | 1.23 | 1.25 | 1.30 |
| Libya | 1.15 | 0.99 | | 0.96 | 1.17 | | | | 1.17 | 1.14 | 1.16 |
| Algeria | 0.91 | 1.01 | | 1.02 | 1.02 | | | | 1.01 | 1.01 | 1.02 |
| Congo | 0.27 | 0.26 | | 0.26 | 0.26 | | | | 0.26 | 0.26 | 0.28 |
| Gabon | 0.18 | 0.19 | | 0.20 | 0.18 | | | | 0.19 | 0.19 | 0.20 |
| Equatorial Guinea | 0.10 | 0.08 | | 0.09 | 0.06 | | | | 0.05 | 0.05 | 0.06 |
| Venezuela | 0.61 | 0.70 | | 0.66 | 0.68 | | | | 0.66 | 0.72 | 0.69 |
| **Total Crude Oil** | **26.43** | **29.04** | | **29.55** | **29.36** | | | | **29.10** | **29.10** | **29.17** |
| *of which Neutral Zone* [1] | *0.25* | *0.28* | | *0.31* | *0.27* | | | | *0.24* | *0.26* | *0.24* |
| **Total NGLs** [2] | **5.12** | **5.33** | **5.39** | **5.38** | **5.34** | **5.37** | **5.38** | **5.39** | **5.29** | **5.36** | **5.36** |
| **Total OPEC** [3] | **31.55** | **34.38** | | **34.93** | **34.70** | | | | **34.39** | **34.46** | **34.53** |
| **NON-OPEC** [4] | | | | | | | | | | | |
| **OECD** | | | | | | | | | | | |
| **Americas** | 24.39 | 25.74 | 26.91 | 26.19 | 26.36 | 26.38 | 26.83 | 27.15 | 25.70 | 25.89 | 26.58 |
| United States | 16.83 | 17.96 | 18.93 | 18.36 | 18.41 | 18.53 | 18.98 | 19.11 | 17.84 | 18.20 | 18.61 |
| Mexico | 1.95 | 2.01 | 2.14 | 2.02 | 2.03 | 2.10 | 2.14 | 2.16 | 2.05 | 2.10 | 2.09 |
| Canada | 5.59 | 5.75 | 5.83 | 5.80 | 5.91 | 5.74 | 5.71 | 5.87 | 5.81 | 5.58 | 5.87 |
| Chile | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| **Europe** | 3.39 | 3.16 | 3.24 | 3.08 | 3.19 | 3.27 | 3.22 | 3.18 | 3.19 | 3.16 | 3.28 |
| UK | 0.88 | 0.83 | 0.79 | 0.75 | 0.81 | 0.82 | 0.80 | 0.72 | 0.78 | 0.80 | 0.82 |
| Norway | 2.05 | 1.90 | 2.02 | 1.91 | 1.97 | 2.03 | 1.99 | 2.03 | 1.98 | 1.94 | 2.04 |
| Others | 0.45 | 0.43 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| **Asia Oceania** | 0.51 | 0.48 | 0.47 | 0.43 | 0.48 | 0.47 | 0.44 | 0.47 | 0.50 | 0.47 | 0.49 |
| Australia | 0.44 | 0.41 | 0.40 | 0.37 | 0.42 | 0.40 | 0.36 | 0.40 | 0.43 | 0.40 | 0.41 |
| Others | 0.07 | 0.07 | 0.06 | 0.07 | 0.06 | 0.07 | 0.06 | 0.06 | 0.07 | 0.07 | 0.06 |
| **Total OECD** | **28.29** | **29.37** | **30.62** | **29.70** | **30.04** | **30.12** | **30.49** | **30.79** | **29.39** | **29.51** | **30.36** |
| **NON-OECD** | | | | | | | | | | | |
| **Former USSR** | 13.77 | 13.90 | 13.26 | 13.67 | 14.09 | 14.07 | 13.26 | 12.90 | 14.30 | 14.22 | 14.29 |
| Russia | 10.87 | 11.09 | 10.35 | 11.07 | 11.21 | 11.14 | 10.31 | 10.05 | 11.29 | 11.24 | 11.37 |
| Azerbaijan | 0.70 | 0.67 | 0.67 | 0.66 | 0.67 | 0.65 | 0.66 | 0.67 | 0.67 | 0.65 | 0.65 |
| Kazakhstan | 1.85 | 1.82 | 1.93 | 1.63 | 1.91 | 1.96 | 1.97 | 1.86 | 2.03 | 2.01 | 1.95 |
| Others | 0.35 | 0.32 | 0.31 | 0.31 | 0.31 | 0.32 | 0.31 | 0.31 | 0.32 | 0.32 | 0.32 |
| **Asia** | 6.91 | 6.88 | 6.84 | 6.78 | 6.81 | 6.92 | 6.87 | 6.83 | 6.76 | 6.91 | 6.90 |
| China | 4.06 | 4.18 | 4.21 | 4.12 | 4.13 | 4.26 | 4.22 | 4.21 | 4.06 | 4.25 | 4.24 |
| Malaysia | 0.57 | 0.56 | 0.55 | 0.54 | 0.57 | 0.56 | 0.55 | 0.55 | 0.58 | 0.57 | 0.56 |
| India | 0.73 | 0.70 | 0.69 | 0.70 | 0.69 | 0.68 | 0.69 | 0.70 | 0.69 | 0.68 | 0.68 |
| Indonesia | 0.68 | 0.63 | 0.61 | 0.62 | 0.63 | 0.62 | 0.62 | 0.61 | 0.62 | 0.63 | 0.63 |
| Others | 0.88 | 0.81 | 0.77 | 0.79 | 0.80 | 0.79 | 0.78 | 0.76 | 0.80 | 0.79 | 0.79 |
| **Europe** | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| **Americas** | 5.30 | 5.63 | 6.13 | 5.77 | 5.84 | 6.01 | 6.10 | 6.15 | 5.69 | 6.06 | 5.94 |
| Brazil | 3.00 | 3.10 | 3.42 | 3.16 | 3.17 | 3.35 | 3.40 | 3.43 | 2.99 | 3.37 | 3.33 |
| Argentina | 0.64 | 0.71 | 0.77 | 0.72 | 0.74 | 0.75 | 0.77 | 0.78 | 0.74 | 0.75 | 0.75 |
| Colombia | 0.74 | 0.76 | 0.79 | 0.76 | 0.78 | 0.78 | 0.79 | 0.79 | 0.79 | 0.79 | 0.77 |
| Ecuador | 0.48 | 0.47 | 0.47 | 0.47 | 0.46 | 0.44 | 0.48 | 0.48 | 0.48 | 0.47 | 0.41 |
| Others | 0.43 | 0.58 | 0.68 | 0.66 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| **Middle East** | 3.08 | 3.20 | 3.21 | 3.25 | 3.21 | 3.19 | 3.22 | 3.22 | 3.22 | 3.17 | 3.20 |
| Oman | 0.98 | 1.07 | 1.07 | 1.10 | 1.08 | 1.07 | 1.07 | 1.07 | 1.08 | 1.07 | 1.08 |
| Qatar | 1.82 | 1.84 | 1.85 | 1.84 | 1.84 | 1.85 | 1.85 | 1.85 | 1.84 | 1.85 | 1.85 |
| Others | 0.28 | 0.29 | 0.29 | 0.31 | 0.29 | 0.27 | 0.29 | 0.29 | 0.30 | 0.24 | 0.27 |
| **Africa** | 1.34 | 1.31 | 1.29 | 1.31 | 1.31 | 1.28 | 1.29 | 1.29 | 1.29 | 1.27 | 1.29 |
| 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 | 0.71 | 0.69 | 0.71 | 0.71 | 0.68 | 0.69 | 0.69 | 0.69 | 0.67 | 0.69 |
| **Total Non-OECD** | **30.51** | **31.03** | **30.83** | **30.88** | **31.37** | **31.58** | **30.83** | **30.47** | **31.36** | **31.73** | **31.73** |
| Processing gains [5] | 2.25 | 2.31 | 2.35 | 2.32 | 2.34 | 2.31 | 2.34 | 2.37 | 2.38 | 2.33 | 2.29 |
| Global biofuels | 2.79 | 2.95 | 3.13 | 3.30 | 2.89 | 2.66 | 3.23 | 3.50 | 2.57 | 2.68 | 2.64 |
| **TOTAL NON-OPEC** | **63.84** | **65.66** | **66.93** | **66.21** | **66.64** | **66.67** | **66.89** | **67.14** | **65.70** | **66.26** | **67.01** |
| **TOTAL SUPPLY** | **95.39** | **100.03** | | **101.14** | **101.33** | | | | **100.10** | **100.72** | **101.55** |

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

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

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

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

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

## Table 3a
## OIL SUPPLY IN OECD COUNTRIES[1]
(thousand of barrels per day)

| | 2021 | 2022 | 2023 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **United States** | | | | | | | | | | | |
| Alaska | 437 | 437 | 423 | 425 | 442 | 442 | 418 | 404 | 447 | 451 | 446 |
| California | 380 | 343 | 326 | 340 | 335 | 331 | 328 | 325 | 332 | 333 | 331 |
| Texas | 4766 | 5041 | 5281 | 5093 | 5196 | 5204 | 5282 | 5301 | 5147 | 5153 | 5215 |
| Federal Gulf of Mexico[2] | 1707 | 1744 | 1861 | 1796 | 1803 | 1835 | 1875 | 1858 | 1784 | 1827 | 1844 |
| Other US Lower 48 | 3963 | 4317 | 4597 | 4404 | 4518 | 4550 | 4606 | 4612 | 4392 | 4503 | 4573 |
| NGLs[3] | 5425 | 5881 | 6197 | 6090 | 5897 | 5937 | 6217 | 6353 | 5513 | 5712 | 5971 |
| Other Hydrocarbons | 156 | 202 | 248 | 213 | 220 | 230 | 250 | 253 | 220 | 220 | 230 |
| **Total** | **16835** | **17964** | **18933** | **18362** | **18412** | **18529** | **18977** | **19105** | **17835** | **18200** | **18610** |
| **Canada** | | | | | | | | | | | |
| Alberta Light/Medium/Heavy | 436 | 491 | 511 | 496 | 503 | 516 | 512 | 509 | 496 | 516 | 517 |
| Alberta Bitumen | 1921 | 1995 | 2076 | 2107 | 2061 | 2097 | 1936 | 2140 | 1994 | 2117 | 2103 |
| Saskatchewan | 444 | 455 | 453 | 457 | 461 | 459 | 455 | 451 | 457 | 460 | 459 |
| Other Crude | 456 | 430 | 436 | 412 | 422 | 429 | 456 | 458 | 412 | 449 | 452 |
| NGLs | 975 | 1032 | 1039 | 1008 | 1054 | 1043 | 1035 | 1035 | 1024 | 1050 | 1044 |
| Other Upgraders | 180 | 181 | 177 | 177 | 189 | 161 | 176 | 172 | 191 | 133 | 175 |
| Synthetic Crudes | 1181 | 1167 | 1141 | 1139 | 1218 | 1035 | 1134 | 1107 | 1233 | 858 | 1125 |
| **Total** | **5593** | **5752** | **5833** | **5797** | **5908** | **5740** | **5705** | **5872** | **5808** | **5584** | **5874** |
| **Mexico** | | | | | | | | | | | |
| Crude | 1780 | 1843 | 1980 | 1848 | 1865 | 1937 | 1978 | 2006 | 1880 | 1934 | 1924 |
| NGLs | 170 | 161 | 154 | 164 | 160 | 157 | 155 | 152 | 161 | 158 | 157 |
| **Total** | **1954** | **2009** | **2138** | **2017** | **2029** | **2099** | **2137** | **2163** | **2045** | **2096** | **2086** |
| **UK** | | | | | | | | | | | |
| Brent Fields | 25 | 23 | 19 | 15 | 21 | 23 | 22 | 15 | 22 | 23 | 23 |
| Forties Fields | 211 | 210 | 188 | 164 | 218 | 215 | 171 | 172 | 215 | 214 | 218 |
| Ninian Fields | 24 | 20 | 27 | 15 | 27 | 28 | 27 | 26 | 30 | 27 | 29 |
| Flotta Fields | 50 | 39 | 32 | 38 | 32 | 33 | 31 | 33 | 35 | 31 | 34 |
| Other Fields | 508 | 471 | 463 | 455 | 447 | 458 | 491 | 417 | 423 | 442 | 450 |
| NGLs | 67 | 66 | 61 | 61 | 63 | 62 | 61 | 61 | 60 | 63 | 62 |
| **Total** | **885** | **830** | **790** | **749** | **808** | **818** | **804** | **724** | **785** | **801** | **816** |
| **Norway[4]** | | | | | | | | | | | |
| Ekofisk-Ula Area | 141 | 122 | 123 | 136 | 136 | 133 | 125 | 112 | 133 | 135 | 133 |
| Oseberg-Troll Area | 211 | 192 | 227 | 166 | 188 | 222 | 226 | 229 | 201 | 213 | 227 |
| Statfjord-Gullfaks Area | 262 | 250 | 250 | 246 | 262 | 259 | 254 | 248 | 269 | 258 | 260 |
| Haltenbanken Area | 278 | 237 | 239 | 237 | 231 | 237 | 236 | 236 | 237 | 235 | 237 |
| Sleipner-Frigg Area | 816 | 788 | 975 | 794 | 844 | 935 | 956 | 1001 | 851 | 860 | 947 |
| Other Fields | 92 | 119 | 13 | 135 | 122 | 51 | -1 | 8 | 103 | 52 | 50 |
| NGLs | 250 | 190 | 195 | 191 | 183 | 190 | 196 | 194 | 188 | 190 | 190 |
| **Total** | **2050** | **1899** | **2023** | **1906** | **1966** | **2028** | **1992** | **2027** | **1983** | **1942** | **2044** |
| **Other OECD Europe** | | | | | | | | | | | |
| Denmark | 66 | 65 | 64 | 62 | 63 | 62 | 61 | 64 | 61 | 62 | 62 |
| Italy | 97 | 83 | 84 | 82 | 74 | 84 | 84 | 84 | 78 | 82 | 85 |
| Türkiye | 66 | 69 | 82 | 72 | 72 | 76 | 80 | 84 | 73 | 74 | 76 |
| Other | 103 | 81 | 85 | 78 | 80 | 88 | 86 | 84 | 80 | 88 | 88 |
| NGLs | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 6 | 6 | 7 | 7 |
| Non-Conventional Oils | 114 | 122 | 103 | 124 | 125 | 106 | 103 | 102 | 122 | 104 | 108 |
| **Total** | **452** | **426** | **425** | **424** | **420** | **422** | **421** | **425** | **421** | **417** | **424** |
| **Australia** | | | | | | | | | | | |
| Gippsland Basin | 5 | 6 | 10 | 4 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Cooper-Eromanga Basin | 23 | 18 | 16 | 17 | 17 | 17 | 17 | 16 | 17 | 17 | 17 |
| Carnarvon Basin | 113 | 108 | 95 | 100 | 107 | 94 | 74 | 106 | 106 | 105 | 104 |
| Other Crude | 193 | 179 | 180 | 161 | 180 | 183 | 168 | 170 | 181 | 177 | 186 |
| NGLs | 109 | 102 | 95 | 85 | 107 | 95 | 96 | 95 | 118 | 91 | 96 |
| **Total** | **444** | **413** | **396** | **367** | **421** | **400** | **364** | **397** | **432** | **399** | **413** |
| **Other OECD Asia Oceania** | | | | | | | | | | | |
| New Zealand | 18 | 16 | 15 | 15 | 15 | 16 | 15 | 15 | 15 | 16 | 16 |
| Japan | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| NGLs | 11 | 11 | 9 | 10 | 9 | 9 | 9 | 9 | 10 | 9 | 9 |
| Non-Conventional Oils | 37 | 38 | 38 | 39 | 35 | 38 | 38 | 38 | 41 | 38 | 36 |
| **Total** | **71** | **68** | **65** | **67** | **63** | **65** | **65** | **64** | **70** | **66** | **64** |
| **OECD** | | | | | | | | | | | |
| Crude Oil | 19599 | 20198 | 21144 | 20378 | 20756 | 21033 | 20995 | 21204 | 20488 | 20870 | 21134 |
| NGLs | 7020 | 7458 | 7764 | 7624 | 7490 | 7509 | 7784 | 7913 | 7090 | 7287 | 7544 |
| Non-Conventional Oils[5] | 1672 | 1715 | 1711 | 1697 | 1792 | 1574 | 1706 | 1676 | 1811 | 1357 | 1678 |
| **Total** | **28292** | **29371** | **30619** | **29699** | **30037** | **30115** | **30485** | **30793** | **29388** | **29514** | **30356** |

1 Subcategories refer to crude oil only unless otherwise noted.
2 Only production from Federal waters is included.
3 To the extent possible, condensates from natural gas processing plants are included with NGLs, while field condensates are aggregated with crude oil.
4 North Sea production is grouped into crude streams that include all fields being processed through the named field complex, i.e. the name corresponds to the crude stream not just the field of that name.
5 Does not include biofuels.

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

| | 2021 | 2022 | 2023 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEC+** | | | | | | | | | | | |
| **Crude Oil** | | | | | | | | | | | |
| Algeria | 0.91 | 1.01 | 1.01 | 0.99 | 1.01 | 1.02 | 1.02 | 1.01 | 1.01 | 1.01 | 1.02 |
| Angola | 1.12 | 1.14 | 1.09 | 1.16 | 1.17 | 1.15 | 1.08 | 1.09 | 1.09 | 1.11 | 1.06 |
| Azerbaijan | 0.59 | 0.56 | 0.55 | 0.58 | 0.56 | 0.55 | 0.55 | 0.53 | 0.55 | 0.53 | 0.53 |
| Bahrain | 0.17 | 0.19 | 0.18 | 0.18 | 0.19 | 0.20 | 0.19 | 0.16 | 0.20 | 0.14 | 0.17 |
| Brunei | 0.08 | 0.07 | 0.07 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 |
| Congo | 0.27 | 0.26 | 0.27 | 0.27 | 0.26 | 0.26 | 0.26 | 0.27 | 0.26 | 0.26 | 0.28 |
| Equatorial Guinea | 0.10 | 0.08 | 0.07 | 0.09 | 0.09 | 0.09 | 0.06 | 0.06 | 0.05 | 0.05 | 0.06 |
| Gabon | 0.18 | 0.19 | 0.18 | 0.19 | 0.18 | 0.20 | 0.18 | 0.19 | 0.19 | 0.19 | 0.20 |
| Iran | 2.42 | 2.53 | 2.65 | 2.53 | 2.43 | 2.54 | 2.63 | 2.64 | 2.66 | 2.63 | 2.65 |
| Iraq | 4.03 | 4.45 | 4.43 | 4.29 | 4.45 | 4.54 | 4.50 | 4.41 | 4.45 | 4.42 | 4.37 |
| Kazakhstan | 1.52 | 1.50 | 1.59 | 1.63 | 1.43 | 1.35 | 1.60 | 1.61 | 1.68 | 1.67 | 1.61 |
| Kuwait | 2.42 | 2.70 | 2.68 | 2.61 | 2.67 | 2.80 | 2.71 | 2.68 | 2.66 | 2.68 | 2.68 |
| Libya | 1.15 | 0.99 | 1.18 | 1.08 | 0.77 | 0.96 | 1.17 | 1.16 | 1.17 | 1.14 | 1.16 |
| Malaysia | 0.42 | 0.40 | 0.38 | 0.41 | 0.39 | 0.38 | 0.40 | 0.40 | 0.41 | 0.40 | 0.39 |
| Mexico | 1.66 | 1.62 | 1.69 | 1.64 | 1.62 | 1.62 | 1.62 | 1.66 | 1.62 | 1.65 | 1.65 |
| Nigeria | 1.31 | 1.15 | 1.25 | 1.30 | 1.15 | 1.00 | 1.13 | 1.28 | 1.23 | 1.25 | 1.30 |
| Oman | 0.75 | 0.85 | 0.84 | 0.82 | 0.84 | 0.88 | 0.85 | 0.84 | 0.84 | 0.84 | 0.84 |
| Russia | 9.62 | 9.75 | 8.89 | 10.04 | 9.40 | 9.78 | 9.78 | 9.68 | 9.83 | 9.78 | 9.91 |
| Saudi Arabia | 9.15 | 10.56 | 10.47 | 10.20 | 10.49 | 10.93 | 10.60 | 10.45 | 10.44 | 10.41 | 10.47 |
| South Sudan | 0.15 | 0.14 | 0.12 | 0.14 | 0.14 | 0.15 | 0.14 | 0.12 | 0.12 | 0.11 | 0.13 |
| Sudan | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| UAE | 2.76 | 3.28 | 3.24 | 3.09 | 3.29 | 3.41 | 3.33 | 3.23 | 3.23 | 3.23 | 3.23 |
| Venezuela | 0.61 | 0.70 | 0.77 | 0.72 | 0.74 | 0.66 | 0.68 | 0.71 | 0.66 | 0.72 | 0.69 |
| **Total Crude Oil** | **41.47** | **44.18** | **43.65** | **44.10** | **43.41** | **44.59** | **44.62** | **44.32** | **44.48** | **44.36** | **44.53** |
| *of which Neutral Zone* | *0.25* | *0.19* | | *0.27* | *0.28* | *0.31* | *0.27* | *0.25* | *0.24* | *0.26* | *0.24* |
| **Total NGLs** | **7.50** | **7.91** | **8.19** | **7.86** | **7.88** | **7.86** | **8.03** | **8.16** | **8.09** | **8.16** | **8.16** |
| **TOTAL OPEC+** | **48.97** | **52.1** | **51.8** | **52.0** | **51.3** | **52.5** | **52.6** | **52.5** | **52.6** | **52.5** | **52.7** |
| **NON-OPEC+** | | | | | | | | | | | |
| **OECD** | | | | | | | | | | | |
| **Americas**[2] | 22.44 | 23.73 | 24.78 | 22.99 | 23.39 | 24.17 | 24.33 | 24.28 | 23.65 | 23.79 | 24.49 |
| United States | 16.83 | 17.96 | 18.93 | 17.25 | 17.81 | 18.36 | 18.41 | 18.53 | 17.83 | 18.20 | 18.61 |
| Canada | 5.59 | 5.75 | 5.83 | 5.73 | 5.57 | 5.80 | 5.91 | 5.74 | 5.81 | 5.58 | 5.87 |
| Chile | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| **Europe** | 3.39 | 3.16 | 3.24 | 3.32 | 3.03 | 3.08 | 3.19 | 3.27 | 3.19 | 3.16 | 3.28 |
| UK | 0.88 | 0.83 | 0.79 | 0.91 | 0.85 | 0.75 | 0.81 | 0.82 | 0.78 | 0.80 | 0.82 |
| Norway | 2.05 | 1.90 | 2.02 | 1.98 | 1.74 | 1.91 | 1.97 | 2.03 | 1.98 | 1.94 | 2.04 |
| Others | 0.45 | 0.43 | 0.42 | 0.43 | 0.43 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| **Asia Oceania** | 0.51 | 0.48 | 0.47 | 0.49 | 0.51 | 0.43 | 0.48 | 0.47 | 0.50 | 0.47 | 0.49 |
| Australia | 0.44 | 0.41 | 0.40 | 0.42 | 0.45 | 0.37 | 0.42 | 0.40 | 0.43 | 0.40 | 0.41 |
| Others | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.06 | 0.07 | 0.07 | 0.07 | 0.08 |
| **Total OECD (non-OPEC+)** | **26.34** | **27.36** | **28.48** | **26.81** | **26.93** | **27.68** | **28.01** | **28.02** | **27.34** | **27.42** | **28.27** |
| **Non-OECD** | | | | | | | | | | | |
| **FSU** | 0.35 | 0.32 | 0.31 | 0.34 | 0.30 | 0.31 | 0.31 | 0.32 | 0.32 | 0.32 | 0.32 |
| **Asia** | 6.24 | 6.23 | 6.20 | 6.32 | 6.30 | 6.15 | 6.16 | 6.26 | 6.08 | 6.25 | 6.24 |
| China | 4.06 | 4.18 | 4.21 | 4.23 | 4.23 | 4.12 | 4.13 | 4.26 | 4.06 | 4.25 | 4.24 |
| India | 0.73 | 0.70 | 0.69 | 0.72 | 0.71 | 0.70 | 0.69 | 0.68 | 0.69 | 0.68 | 0.68 |
| Indonesia | 0.68 | 0.63 | 0.61 | 0.65 | 0.63 | 0.62 | 0.63 | 0.62 | 0.62 | 0.63 | 0.63 |
| Others | 0.77 | 0.72 | 0.67 | 0.73 | 0.72 | 0.71 | 0.71 | 0.69 | 0.70 | 0.70 | 0.69 |
| **Europe** | 0.11 | 0.11 | 0.10 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| **Americas** | 5.30 | 5.63 | 6.13 | 5.44 | 5.46 | 5.77 | 5.84 | 6.01 | 5.69 | 6.06 | 5.94 |
| Brazil | 3.00 | 3.10 | 3.42 | 3.08 | 3.00 | 3.16 | 3.17 | 3.35 | 2.99 | 3.37 | 3.33 |
| Argentina | 0.64 | 0.71 | 0.77 | 0.69 | 0.70 | 0.72 | 0.74 | 0.75 | 0.74 | 0.75 | 0.75 |
| Colombia | 0.74 | 0.76 | 0.79 | 0.75 | 0.76 | 0.76 | 0.78 | 0.78 | 0.79 | 0.79 | 0.77 |
| Ecuador | 0.48 | 0.47 | 0.47 | 0.47 | 0.45 | 0.47 | 0.46 | 0.44 | 0.48 | 0.47 | 0.41 |
| Others | 0.43 | 0.58 | 0.68 | 0.44 | 0.55 | 0.66 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| **Middle East** | 1.92 | 1.93 | 1.95 | 1.91 | 1.94 | 1.94 | 1.94 | 1.95 | 1.94 | 1.95 | 1.95 |
| Qatar | 1.82 | 1.84 | 1.85 | 1.82 | 1.84 | 1.84 | 1.84 | 1.85 | 1.84 | 1.85 | 1.85 |
| Others | 0.10 | 0.10 | 0.09 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| **Africa** | 1.12 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.10 | 1.11 | 1.11 | 1.11 | 1.11 |
| Egypt | 0.59 | 0.60 | 0.60 | 0.59 | 0.61 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |
| Others | 0.53 | 0.51 | 0.51 | 0.52 | 0.50 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| **Total non-OECD (non-OPEC+)** | **15.04** | **15.32** | **15.79** | **15.24** | **15.22** | **15.37** | **15.45** | **15.75** | **15.24** | **15.78** | **15.66** |
| Processing gains | 2.25 | 2.31 | 2.35 | 2.28 | 2.29 | 2.32 | 2.34 | 2.31 | 2.38 | 2.33 | 2.29 |
| Global biofuels | 2.79 | 2.95 | 3.13 | 2.52 | 3.08 | 3.30 | 2.89 | 2.66 | 2.57 | 2.68 | 2.64 |
| **TOTAL NON-OPEC+** | **46.42** | **47.94** | **49.75** | **46.84** | **47.52** | **48.68** | **48.69** | **48.73** | **47.53** | **48.21** | **48.86** |
| **TOTAL SUPPLY** | **95.39** | **100.03** | **101.59** | **98.81** | **98.81** | **101.14** | **101.33** | **101.22** | **100.10** | **100.72** | **101.55** |

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

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

| | RECENT MONTHLY STOCKS[2] in Million Barrels | | | | | PRIOR YEARS' STOCKS[2] in Million Barrels | | | STOCK CHANGES in mb/d | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sep2022 | Oct2022 | Nov2022 | Dec2022 | Jan2023[3] | Jan2020 | Jan2021 | Jan2022 | 1Q2022 | 2Q2022 | 3Q2022 | 4Q2022 |
| **OECD INDUSTRY-CONTROLLED STOCKS[1]** | | | | | | | | | | | | |
| **OECD Americas** | | | | | | | | | | | | |
| Crude | 578.9 | 593.9 | 573.5 | 613.9 | 642.2 | 594.6 | 637.5 | 570.5 | -0.23 | 0.03 | 0.09 | 0.38 |
| Motor Gasoline | 236.2 | 238.7 | 248.7 | 251.4 | 265.7 | 292.8 | 285.8 | 280.7 | 0.08 | -0.22 | -0.11 | 0.17 |
| Middle Distillate | 174.2 | 175.1 | 185.6 | 184.1 | 187.0 | 216.3 | 238.8 | 193.9 | -0.20 | 0.01 | -0.05 | 0.11 |
| Residual Fuel Oil | 34.4 | 36.0 | 35.5 | 37.6 | 40.1 | 35.8 | 40.5 | 33.7 | 0.03 | 0.01 | -0.01 | 0.04 |
| Total Products[4] | 732.3 | 735.1 | 750.8 | 732.8 | 731.4 | 794.7 | 804.3 | 726.0 | -0.48 | 0.23 | 0.32 | 0.01 |
| **Total5** | **1468.8** | **1488.7** | **1484.5** | **1507.2** | **1533.7** | **1550.4** | **1610.6** | **1452.4** | **-0.64** | **0.32** | **0.35** | **0.42** |
| **OECD Europe** | | | | | | | | | | | | |
| Crude | 337.2 | 331.5 | 340.6 | 337.1 | 345.2 | 351.9 | 358.0 | 298.2 | 0.23 | 0.18 | -0.03 | 0.00 |
| Motor Gasoline | 87.2 | 86.3 | 87.0 | 87.4 | 91.3 | 96.5 | 102.4 | 93.9 | 0.06 | -0.06 | 0.01 | 0.00 |
| Middle Distillate | 235.5 | 238.0 | 239.7 | 249.7 | 270.6 | 298.2 | 336.8 | 255.1 | -0.05 | -0.01 | -0.03 | 0.15 |
| Residual Fuel Oil | 66.2 | 67.0 | 69.1 | 70.2 | 66.9 | 66.4 | 68.4 | 61.9 | 0.04 | 0.02 | 0.02 | 0.04 |
| Total Products[4] | 500.3 | 498.2 | 502.8 | 517.1 | 540.9 | 573.3 | 619.9 | 509.2 | 0.06 | 0.09 | 0.03 | 0.18 |
| **Total5** | **918.5** | **914.4** | **928.3** | **936.0** | **967.0** | **1004.8** | **1056.1** | **879.7** | **0.37** | **0.24** | **0.08** | **0.19** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| Crude | 127.6 | 121.1 | 128.7 | 127.9 | 123.7 | 118.3 | 144.7 | 97.6 | 0.07 | -0.12 | 0.36 | 0.00 |
| Motor Gasoline | 23.5 | 24.7 | 25.8 | 24.3 | 25.2 | 27.3 | 30.1 | 27.0 | 0.02 | 0.00 | -0.02 | 0.01 |
| Middle Distillate | 62.4 | 68.8 | 72.3 | 62.4 | 64.3 | 75.6 | 71.8 | 61.8 | -0.09 | 0.06 | 0.01 | 0.00 |
| Residual Fuel Oil | 16.3 | 18.6 | 19.5 | 16.5 | 15.6 | 20.0 | 16.0 | 16.9 | -0.02 | 0.01 | 0.00 | 0.00 |
| Total Products[4] | 168.2 | 182.1 | 184.1 | 164.4 | 166.4 | 184.6 | 177.0 | 168.8 | -0.05 | 0.08 | 0.03 | -0.04 |
| **Total5** | **358.5** | **364.9** | **373.3** | **353.2** | **350.6** | **367.8** | **381.0** | **323.7** | **-0.09** | **0.02** | **0.44** | **-0.06** |
| **Total OECD** | | | | | | | | | | | | |
| Crude | 1043.6 | 1046.5 | 1042.8 | 1078.9 | 1111.1 | 1064.8 | 1140.2 | 966.3 | 0.07 | 0.09 | 0.42 | 0.38 |
| Motor Gasoline | 346.8 | 349.6 | 361.5 | 363.1 | 382.2 | 416.6 | 418.3 | 401.6 | 0.16 | -0.28 | -0.12 | 0.18 |
| Middle Distillate | 472.1 | 481.9 | 497.5 | 496.2 | 521.9 | 590.1 | 647.4 | 510.8 | -0.33 | 0.06 | -0.07 | 0.26 |
| Residual Fuel Oil | 116.9 | 121.6 | 124.1 | 124.4 | 122.6 | 122.1 | 124.8 | 112.5 | 0.05 | 0.04 | 0.01 | 0.08 |
| Total Products[4] | 1400.7 | 1415.4 | 1437.7 | 1414.3 | 1438.6 | 1552.6 | 1601.1 | 1404.0 | -0.47 | 0.40 | 0.37 | 0.15 |
| **Total5** | **2745.8** | **2768.0** | **2786.1** | **2796.5** | **2851.3** | **2923.0** | **3047.7** | **2655.8** | **-0.36** | **0.57** | **0.87** | **0.55** |
| **OECD GOVERNMENT-CONTROLLED STOCKS[6]** | | | | | | | | | | | | |
| **OECD Americas** | | | | | | | | | | | | |
| Crude | 416.4 | 398.6 | 388.4 | 372.0 | 371.5 | 635.0 | 638.1 | 588.3 | -0.31 | -0.80 | -0.84 | -0.48 |
| Products | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| **OECD Europe** | | | | | | | | | | | | |
| Crude | 194.0 | 193.4 | 195.9 | 193.0 | 191.3 | 206.1 | 205.1 | 199.6 | -0.02 | -0.04 | -0.01 | -0.01 |
| Products | 252.3 | 251.7 | 256.2 | 269.6 | 271.8 | 274.9 | 282.3 | 276.4 | -0.09 | -0.14 | -0.04 | 0.19 |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| Crude | 342.3 | 343.7 | 346.4 | 342.8 | 345.0 | 377.4 | 374.6 | 370.1 | -0.03 | -0.11 | -0.17 | 0.01 |
| Products | 37.3 | 36.0 | 35.9 | 35.6 | 35.3 | 38.9 | 38.8 | 38.4 | -0.01 | -0.01 | 0.00 | -0.02 |
| **Total OECD** | | | | | | | | | | | | |
| Crude | 952.7 | 935.6 | 930.7 | 907.9 | 907.8 | 1218.4 | 1217.7 | 1158.0 | -0.35 | -0.94 | -1.02 | -0.49 |
| Products | 291.6 | 289.7 | 294.0 | 307.2 | 309.0 | 315.8 | 323.1 | 316.8 | -0.11 | -0.14 | -0.04 | 0.17 |
| **Total[5]** | **1245.4** | **1226.2** | **1226.1** | **1217.0** | **1219.2** | **1536.0** | **1542.8** | **1476.4** | **-0.46** | **-1.08** | **-1.06** | **-0.31** |

1 Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.
2 Closing stock levels.
3 Estimated.
4 Total products includes gasoline, middle distillates, fuel oil and other products.
5 Total includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.
6 Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

## Table 4a
## INDUSTRY STOCKS[1] ON LAND IN SELECTED COUNTRIES

(million barrels)

| | August | | | September | | | October | | | November | | | December | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2021 | 2022 | % | 2021 | 2022 | % | 2021 | 2022 | % | 2021 | 2022 | % | 2021 | 2022 | % |
| **United States[2]** | | | | | | | | | | | | | | | |
| Crude | 421.5 | 419.7 | -0.4 | 420.3 | 428.8 | 2.0 | 436.6 | 439.4 | 0.6 | 433.4 | 416.3 | -3.9 | 421.2 | 429.6 | 2.0 |
| Motor Gasoline | 225.6 | 215.6 | -4.4 | 227.0 | 209.6 | -7.7 | 216.7 | 211.0 | -2.6 | 220.6 | 221.3 | 0.3 | 232.2 | 224.3 | -3.4 |
| Middle Distillate | 182.2 | 152.7 | -16.2 | 176.8 | 147.6 | -16.5 | 175.8 | 148.2 | -15.7 | 171.2 | 160.1 | -6.5 | 168.1 | 156.0 | -7.2 |
| Residual Fuel Oil | 29.8 | 28.6 | -4.0 | 27.8 | 27.3 | -1.8 | 28.7 | 29.8 | 3.8 | 27.9 | 29.1 | 4.3 | 25.8 | 30.7 | 19.0 |
| Other Products | 256.5 | 254.6 | -0.7 | 261.3 | 264.9 | 1.4 | 256.4 | 263.2 | 2.7 | 244.8 | 258.5 | 5.6 | 222.3 | 238.0 | 7.1 |
| Total Products | 694.1 | 651.5 | -6.1 | 692.9 | 649.4 | -6.3 | 677.6 | 652.2 | -3.7 | 664.5 | 669.0 | 0.7 | 648.4 | 649.0 | 0.1 |
| Other[3] | 134.6 | 141.2 | 4.9 | 137.7 | 136.8 | -0.7 | 138.8 | 139.1 | 0.2 | 135.8 | 140.7 | 3.6 | 129.1 | 143.0 | 10.8 |
| **Total** | **1250.2** | **1212.4** | **-3.0** | **1250.9** | **1215.0** | **-2.9** | **1253.0** | **1230.7** | **-1.8** | **1233.7** | **1226.0** | **-0.6** | **1198.7** | **1221.6** | **1.9** |
| **Japan** | | | | | | | | | | | | | | | |
| Crude | 73.9 | 76.2 | 3.1 | 70.8 | 86.2 | 21.8 | 72.8 | 79.1 | 8.7 | 78.1 | 82.7 | 5.9 | 72.9 | 81.0 | 11.1 |
| Motor Gasoline | 9.9 | 9.6 | -3.0 | 10.2 | 9.7 | -4.9 | 11.6 | 9.7 | -16.4 | 10.4 | 11.0 | 5.8 | 10.4 | 10.1 | -2.9 |
| Middle Distillate | 34.4 | 30.9 | -10.2 | 36.2 | 31.4 | -13.3 | 36.6 | 34.5 | -5.7 | 36.9 | 37.0 | 0.3 | 33.0 | 31.4 | -4.8 |
| Residual Fuel Oil | 7.3 | 6.8 | -6.8 | 7.4 | 6.8 | -8.1 | 6.9 | 7.3 | 5.8 | 6.5 | 7.3 | 12.3 | 7.3 | 7.1 | -2.7 |
| Other Products | 36.3 | 36.9 | 1.7 | 37.7 | 39.1 | 3.7 | 39.1 | 39.8 | 1.8 | 36.4 | 38.8 | 6.6 | 33.0 | 36.3 | 10.0 |
| Total Products | 87.9 | 84.2 | -4.2 | 91.5 | 87.0 | -4.9 | 94.2 | 91.3 | -3.1 | 90.2 | 94.1 | 4.3 | 83.7 | 84.9 | 1.4 |
| Other[3] | 52.9 | 49.2 | -7.0 | 51.4 | 51.2 | -0.4 | 49.9 | 50.7 | 1.6 | 50.9 | 49.7 | -2.4 | 51.1 | 49.8 | -2.5 |
| **Total** | **214.7** | **209.6** | **-2.4** | **213.7** | **224.4** | **5.0** | **216.9** | **221.1** | **1.9** | **219.2** | **226.5** | **3.3** | **207.7** | **215.7** | **3.9** |
| **Germany** | | | | | | | | | | | | | | | |
| Crude | 47.8 | 47.9 | 0.2 | 45.3 | 47.8 | 5.5 | 46.4 | 52.0 | 12.1 | 47.0 | 49.8 | 6.0 | 46.3 | 49.4 | 6.7 |
| Motor Gasoline | 9.5 | 9.2 | -3.2 | 9.6 | 10.5 | 9.4 | 10.6 | 10.4 | -1.9 | 10.6 | 10.1 | -4.7 | 10.7 | 11.1 | 3.7 |
| Middle Distillate | 25.1 | 23.1 | -8.0 | 21.8 | 24.0 | 10.1 | 21.2 | 24.2 | 14.2 | 22.4 | 24.1 | 7.6 | 21.8 | 26.6 | 22.0 |
| Residual Fuel Oil | 8.1 | 8.2 | 1.2 | 8.1 | 9.2 | 13.6 | 8.1 | 9.3 | 14.8 | 8.5 | 9.0 | 5.9 | 8.4 | 9.0 | 7.1 |
| Other Products | 10.5 | 10.4 | -1.0 | 10.3 | 10.9 | 5.8 | 10.7 | 10.7 | 0.0 | 10.4 | 10.8 | 3.8 | 10.6 | 10.1 | -4.7 |
| Total Products | 53.2 | 50.9 | -4.3 | 49.8 | 54.6 | 9.6 | 50.6 | 54.6 | 7.9 | 51.9 | 54.0 | 4.0 | 51.5 | 56.8 | 10.3 |
| Other[3] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **101.0** | **98.8** | **-2.2** | **95.1** | **102.4** | **7.7** | **97.0** | **106.6** | **9.9** | **98.9** | **103.8** | **5.0** | **97.8** | **106.2** | **8.6** |
| **Italy** | | | | | | | | | | | | | | | |
| Crude | 32.9 | 36.2 | 10.0 | 33.6 | 40.0 | 19.0 | 31.8 | 34.4 | 8.2 | 36.1 | 40.5 | 12.2 | 33.0 | 37.1 | 12.4 |
| Motor Gasoline | 9.3 | 10.2 | 9.7 | 9.6 | 11.1 | 15.6 | 11.7 | 10.2 | -12.8 | 11.3 | 9.7 | -14.2 | 10.0 | 9.9 | -1.0 |
| Middle Distillate | 26.6 | 21.7 | -18.4 | 26.6 | 22.8 | -14.3 | 25.1 | 24.0 | -4.4 | 23.8 | 23.4 | -1.7 | 23.7 | 23.8 | 0.4 |
| Residual Fuel Oil | 7.5 | 7.0 | -6.7 | 7.0 | 8.1 | 15.7 | 7.1 | 8.1 | 14.1 | 7.5 | 7.9 | 5.3 | 7.1 | 8.6 | 21.1 |
| Other Products | 11.5 | 10.7 | -7.0 | 11.0 | 11.6 | 5.5 | 11.1 | 11.3 | 1.8 | 10.9 | 10.8 | -0.9 | 10.0 | 11.1 | 11.0 |
| Total Products | 54.9 | 49.6 | -9.7 | 54.2 | 53.6 | -1.1 | 55.0 | 53.6 | -2.5 | 53.5 | 51.8 | -3.2 | 50.8 | 53.4 | 5.1 |
| Other[3] | 14.3 | 14.6 | 2.1 | 14.8 | 14.3 | -3.4 | 15.4 | 13.9 | -9.7 | 14.5 | 13.5 | -6.9 | 13.1 | 14.0 | 6.9 |
| **Total** | **102.1** | **100.4** | **-1.7** | **102.6** | **107.9** | **5.2** | **102.2** | **101.9** | **-0.3** | **104.1** | **105.8** | **1.6** | **96.9** | **104.5** | **7.8** |
| **France** | | | | | | | | | | | | | | | |
| Crude | 13.4 | 11.5 | -14.2 | 12.2 | 11.6 | -4.9 | 12.6 | 15.9 | 26.2 | 11.9 | 13.7 | 15.1 | 8.8 | 10.8 | 22.7 |
| Motor Gasoline | 4.2 | 5.4 | 28.6 | 4.0 | 4.6 | 15.0 | 4.0 | 4.7 | 17.5 | 4.1 | 4.6 | 12.2 | 4.5 | 4.1 | -8.9 |
| Middle Distillate | 21.3 | 21.8 | 2.3 | 19.5 | 17.2 | -11.8 | 17.0 | 19.5 | 14.7 | 18.0 | 21.0 | 16.7 | 18.6 | 21.3 | 14.5 |
| Residual Fuel Oil | 1.7 | 3.0 | 76.5 | 2.0 | 2.5 | 25.0 | 1.6 | 1.9 | 18.8 | 1.7 | 2.4 | 41.2 | 0.9 | 1.7 | 88.9 |
| Other Products | 3.1 | 3.7 | 19.4 | 3.2 | 4.0 | 25.0 | 3.3 | 3.6 | 9.1 | 3.4 | 3.6 | 5.9 | 3.4 | 4.0 | 17.6 |
| Total Products | 30.3 | 33.9 | 11.9 | 28.7 | 28.3 | -1.4 | 25.9 | 29.7 | 14.7 | 27.2 | 31.6 | 16.2 | 27.4 | 31.1 | 13.5 |
| Other[3] | 7.0 | 7.1 | 1.4 | 7.0 | 7.6 | 8.6 | 7.0 | 7.7 | 10.0 | 6.5 | 7.9 | 21.5 | 6.9 | 7.9 | 14.5 |
| **Total** | **50.7** | **52.5** | **3.6** | **47.9** | **47.5** | **-0.8** | **45.5** | **53.3** | **17.1** | **45.6** | **53.2** | **16.7** | **43.1** | **49.8** | **15.5** |
| **United Kingdom** | | | | | | | | | | | | | | | |
| Crude | 24.0 | 25.9 | 7.9 | 24.9 | 27.9 | 12.0 | 24.8 | 21.1 | -14.9 | 23.4 | 21.6 | -7.7 | 26.2 | 22.7 | -13.4 |
| Motor Gasoline | 9.3 | 9.2 | -1.1 | 8.7 | 9.4 | 8.0 | 9.5 | 8.9 | -6.3 | 9.8 | 8.8 | -10.2 | 10.1 | 8.2 | -18.8 |
| Middle Distillate | 23.7 | 18.6 | -21.5 | 21.4 | 19.1 | -10.7 | 21.3 | 17.5 | -17.8 | 22.1 | 18.0 | -18.6 | 21.0 | 19.1 | -9.0 |
| Residual Fuel Oil | 1.2 | 1.5 | 25.0 | 1.3 | 1.4 | 7.7 | 1.3 | 1.4 | 7.7 | 1.6 | 1.6 | 0.0 | 1.3 | 1.5 | 15.4 |
| Other Products | 6.9 | 6.9 | 0.0 | 7.1 | 7.1 | 0.0 | 6.5 | 6.6 | 1.5 | 6.1 | 6.9 | 13.1 | 6.1 | 6.2 | 1.6 |
| Total Products | 41.1 | 36.2 | -11.9 | 38.5 | 37.0 | -3.9 | 38.6 | 34.4 | -10.9 | 39.6 | 35.3 | -10.9 | 38.5 | 35.0 | -9.1 |
| Other[3] | 8.2 | 7.4 | -9.8 | 8.2 | 7.5 | -8.5 | 9.0 | 9.0 | 0.0 | 9.1 | 8.7 | -4.4 | 8.1 | 8.3 | 2.5 |
| **Total** | **73.3** | **69.5** | **-5.2** | **71.6** | **72.4** | **1.1** | **72.4** | **64.5** | **-10.9** | **72.1** | **65.6** | **-9.0** | **72.8** | **66.0** | **-9.3** |
| **Canada[4]** | | | | | | | | | | | | | | | |
| Crude | 132.2 | 118.9 | -10.1 | 133.3 | 116.1 | -12.9 | 138.0 | 120.3 | -12.8 | 137.5 | 123.2 | -10.4 | 132.4 | 149.8 | 13.1 |
| Motor Gasoline | 13.9 | 14.7 | 5.8 | 14.4 | 15.1 | 4.9 | 14.9 | 15.6 | 4.7 | 15.9 | 15.6 | -1.9 | 15.8 | 15.6 | -1.3 |
| Middle Distillate | 20.2 | 17.5 | -13.4 | 17.5 | 16.7 | -4.6 | 16.9 | 16.9 | 0.0 | 17.8 | 16.5 | -7.3 | 18.5 | 18.7 | 1.1 |
| Residual Fuel Oil | 2.0 | 2.3 | 15.0 | 2.4 | 2.4 | 0.0 | 2.6 | 2.0 | -23.1 | 2.2 | 2.4 | 9.1 | 2.0 | 2.7 | 35.0 |
| Other Products | 12.0 | 13.6 | 13.3 | 11.2 | 13.3 | 18.8 | 10.8 | 12.8 | 18.5 | 11.4 | 13.2 | 15.8 | 11.2 | 12.3 | 9.8 |
| Total Products | 48.1 | 48.1 | 0.0 | 45.5 | 47.5 | 4.4 | 45.2 | 47.3 | 4.6 | 47.3 | 47.7 | 0.8 | 47.5 | 49.3 | 3.8 |
| Other[3] | 26.7 | 21.1 | -21.0 | 25.3 | 20.7 | -18.2 | 25.3 | 20.4 | -19.4 | 23.8 | 19.5 | -18.1 | 21.7 | 17.4 | -19.8 |
| **Total** | **207.0** | **188.1** | **-9.1** | **204.1** | **184.3** | **-9.7** | **208.5** | **188.0** | **-9.8** | **208.6** | **190.4** | **-8.7** | **201.6** | **216.5** | **7.4** |

1 Stocks are primary national territory stocks on land (excluding utilitity stocks and including pipeline and entrepot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.
2 US figures exclude US territories.
3 Other includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.
4 Canadian stock information for recent months is the administration's best estimate. Data are usually finalised three months after first publication.

## Table 5
## TOTAL STOCKS ON LAND IN OECD COUNTRIES[1]
('millions of barrels' and 'days')

| | End December 2021 | | End March 2022 | | End June 2022 | | End September 2022 | | End December 2022 [3] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock Level | Days Fwd[2] Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand |
| **OECD Americas** | | | | | | | | | | |
| Canada | 201.7 | 90 | 185.7 | 84 | 187.9 | 79 | 184.3 | 79 | 216.5 | - |
| Chile | 10.8 | 28 | 10.3 | 27 | 9.9 | 26 | 10.6 | 28 | 10.6 | - |
| Mexico | 36.7 | 22 | 35.7 | 20 | 36.6 | 20 | 36.7 | 21 | 36.4 | - |
| United States[4] | 1794.3 | 89 | 1721.7 | 85 | 1675.0 | 82 | 1633.5 | 81 | 1595.7 | - |
| **Total[4]** | **2065.6** | **84** | **1975.5** | **80** | **1931.5** | **77** | **1887.2** | **76** | **1881.3** | **75** |
| **OECD Asia Oceania** | | | | | | | | | | |
| Australia | 37.6 | 36 | 40.0 | 37 | 38.3 | 35 | 35.8 | 32 | 38.7 | - |
| Israel | - | - | - | - | - | - | - | - | - | - |
| Japan | 519.4 | 140 | 500.5 | 165 | 502.8 | 158 | 522.4 | 147 | 513.9 | - |
| Korea | 168.8 | 62 | 174.6 | 70 | 165.9 | 65 | 174.5 | 68 | 173.8 | - |
| New Zealand | 6.8 | 44 | 6.2 | 43 | 6.2 | 40 | 5.5 | 30 | 5.3 | - |
| **Total** | **732.6** | **93** | **721.4** | **103** | **713.3** | **99** | **738.1** | **96** | **731.7** | **93** |
| **OECD Europe[5]** | | | | | | | | | | |
| Austria | 20.9 | 85 | 24.1 | 98 | 20.0 | 80 | 17.4 | 72 | 21.4 | - |
| Belgium | 43.3 | 68 | 42.9 | 74 | 44.8 | 75 | 45.4 | 78 | 45.7 | - |
| Czech Republic | 22.5 | 107 | 22.2 | 100 | 22.3 | 101 | 22.6 | 105 | 23.1 | - |
| Denmark | 22.7 | 161 | 20.3 | 135 | 21.7 | 141 | 21.1 | 142 | 23.6 | - |
| Estonia | 2.5 | 90 | 2.6 | 77 | 2.3 | 75 | 2.3 | 81 | 3.4 | - |
| Finland | 36.2 | 189 | 38.4 | 209 | 41.0 | 205 | 40.4 | 218 | 38.0 | - |
| France | 151.6 | 98 | 148.8 | 99 | 144.6 | 89 | 142.3 | 97 | 154.9 | - |
| Germany | 268.9 | 125 | 269.0 | 125 | 267.8 | 119 | 266.5 | 125 | 272.6 | - |
| Greece | 29.4 | 107 | 29.2 | 104 | 29.8 | 88 | 30.1 | 98 | 31.6 | - |
| Hungary | 27.0 | 143 | 28.0 | 152 | 29.2 | 160 | 28.6 | 174 | 28.7 | - |
| Ireland | 10.8 | 70 | 10.6 | 72 | 10.3 | 69 | 10.3 | 66 | 11.0 | - |
| Italy | 112.5 | 96 | 116.3 | 94 | 119.3 | 94 | 123.3 | 102 | 120.0 | - |
| Latvia | 2.6 | 76 | 2.8 | 79 | 2.8 | 68 | 2.8 | 78 | 2.9 | - |
| Lithuania | 8.2 | 137 | 9.8 | 161 | 8.4 | 117 | 8.2 | 116 | 8.3 | - |
| Luxembourg | 0.6 | 11 | 0.5 | 11 | 0.7 | 14 | 0.6 | 14 | 0.5 | - |
| Netherlands | 109.5 | 130 | 123.9 | 139 | 127.1 | 144 | 125.2 | 138 | 139.9 | - |
| Norway | 21.4 | 112 | 26.3 | 171 | 25.5 | 106 | 26.0 | 148 | 27.2 | - |
| Poland | 80.6 | 112 | 82.8 | 113 | 82.4 | 112 | 82.1 | 113 | 83.8 | - |
| Portugal | 20.9 | 89 | 21.3 | 84 | 22.5 | 85 | 21.1 | 100 | 20.0 | - |
| Slovak Republic | 12.2 | 134 | 12.8 | 135 | 13.2 | 141 | 13.5 | 137 | 13.1 | - |
| Slovenia | 5.2 | 108 | 4.6 | 86 | 4.8 | 92 | 4.5 | 88 | 4.9 | - |
| Spain | 104.9 | 84 | 106.6 | 81 | 107.9 | 83 | 111.5 | 87 | 109.5 | - |
| Sweden | 30.1 | 99 | 28.2 | 104 | 30.2 | 94 | 32.7 | 109 | 34.5 | - |
| Switzerland | 31.5 | 168 | 30.2 | 173 | 29.9 | 150 | 28.2 | 140 | 27.4 | - |
| Republic of Türkiye | 87.4 | 96 | 87.6 | 86 | 87.8 | 80 | 86.6 | 83 | 88.6 | - |
| United Kingdom | 72.8 | 55 | 68.6 | 49 | 67.3 | 48 | 72.4 | 54 | 66.0 | - |
| **Total** | **1336.2** | **101** | **1358.4** | **101** | **1363.8** | **97** | **1365.9** | **102** | **1400.5** | **107** |
| **Total OECD** | **4134.4** | **90** | **4055.3** | **90** | **4008.6** | **86** | **3991.2** | **87** | **4013.4** | **87** |
| **DAYS OF IEA Net Imports[6]** | **-** | **156** | **-** | **156** | **-** | **243** | **-** | **241** | **-** | **241** |

1 Total Stocks are industry and government-controlled stocks (see breakdown in the table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.
2 Note that days of forward demand represent the stock level divided by the forward quarter average daily demand and is very different from the days of net imports used for the calculation of IEA Emergency Reserves.
3 End 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 www.iea.org/netimports.asp). Net exporting IEA countries are excluded.

## TOTAL OECD STOCKS

| CLOSING STOCKS | Total | Government[1] controlled | Industry | Total | Government[1] controlled | Industry |
|---|---|---|---|---|---|---|
| | *Millions of Barrels* | | | *Days of Fwd. Demand*[2] | | |
| 4Q2019 | 4429 | 1535 | 2894 | 98 | 34 | 64 |
| 1Q2020 | 4518 | 1537 | 2981 | 121 | 41 | 80 |
| 2Q2020 | 4778 | 1561 | 3217 | 113 | 37 | 76 |
| 3Q2020 | 4732 | 1551 | 3181 | 110 | 36 | 74 |
| 4Q2020 | 4578 | 1541 | 3037 | 108 | 36 | 72 |
| 1Q2021 | 4472 | 1546 | 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 | 4013 | 1217 | 2796 | 87 | 26 | 61 |

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[1]
(million barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Saudi Light & Extra Light** | | | | | | | | | | | | |
| Americas | 0.26 | 0.34 | 0.46 | 0.44 | 0.46 | 0.52 | 0.41 | 0.35 | 0.44 | 0.44 | 0.45 | -0.01 |
| Europe | 0.59 | 0.48 | 0.62 | 0.53 | 0.68 | 0.60 | 0.67 | 0.57 | 0.58 | 0.86 | 0.53 | 0.33 |
| Asia Oceania | 1.39 | 1.30 | 1.51 | 1.57 | 1.36 | 1.53 | 1.58 | 1.48 | 1.66 | 1.61 | 1.77 | -0.16 |
| **Saudi Medium** | | | | | | | | | | | | |
| Americas | 0.14 | 0.01 | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.02 | 0.01 | 0.02 | 0.00 | 0.04 | 0.03 | 0.01 | 0.00 | - | 0.03 | - | - |
| Asia Oceania | 0.25 | 0.21 | 0.23 | 0.20 | 0.26 | 0.26 | 0.23 | 0.17 | 0.26 | 0.26 | 0.27 | -0.01 |
| **Canada Heavy** | | | | | | | | | | | | |
| Americas | 2.39 | 2.59 | 2.61 | 2.69 | 2.54 | 2.58 | 2.63 | 2.72 | 2.62 | 2.55 | 2.89 | -0.34 |
| Europe | 0.03 | 0.03 | 0.08 | 0.03 | 0.09 | 0.08 | 0.11 | 0.11 | 0.09 | 0.14 | 0.04 | 0.10 |
| Asia Oceania | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | - | - | - | - | - | - |
| **Iraqi Basrah Light[2]** | | | | | | | | | | | | |
| Americas | 0.11 | 0.08 | 0.21 | 0.16 | 0.30 | 0.25 | 0.13 | 0.19 | 0.21 | - | 0.26 | - |
| Europe | 0.58 | 0.62 | 0.69 | 0.61 | 0.64 | 0.82 | 0.69 | 0.64 | 0.76 | 0.66 | 0.61 | 0.05 |
| Asia Oceania | 0.22 | 0.17 | 0.23 | 0.17 | 0.20 | 0.26 | 0.26 | 0.22 | 0.35 | 0.22 | 0.19 | 0.03 |
| **Kuwait Blend** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.04 | - | - | - | - | - | - | - | - | - | - | - |
| Asia Oceania | 0.55 | 0.48 | 0.48 | 0.58 | 0.42 | 0.47 | 0.46 | 0.41 | 0.51 | 0.45 | 0.50 | -0.05 |
| **Iranian Light** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - |
| **Iranian Heavy[3]** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - |
| **BFOE** | | | | | | | | | | | | |
| Americas | - | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.42 | 0.36 | 0.41 | 0.38 | 0.44 | 0.44 | 0.38 | 0.35 | 0.31 | 0.48 | 0.46 | 0.01 |
| Asia Oceania | 0.03 | 0.05 | 0.03 | 0.02 | 0.06 | 0.02 | - | - | - | - | 0.06 | - |
| **Kazakhstan** | | | | | | | | | | | | |
| Americas | - | 0.01 | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.74 | 0.69 | 0.73 | 0.86 | 0.69 | 0.67 | 0.70 | 0.55 | 0.62 | 0.92 | 0.84 | 0.08 |
| Asia Oceania | 0.07 | 0.09 | 0.13 | 0.14 | 0.16 | 0.09 | 0.14 | 0.11 | 0.14 | 0.17 | 0.14 | 0.03 |
| **Venezuelan 22 API and heavier** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.04 | - | 0.01 | - | - | 0.04 | 0.02 | - | 0.03 | 0.03 | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - |
| **Mexican Maya** | | | | | | | | | | | | |
| Americas | 0.48 | 0.40 | 0.40 | 0.36 | 0.47 | 0.40 | 0.36 | 0.46 | 0.28 | 0.35 | 0.30 | 0.05 |
| Europe | 0.16 | 0.14 | 0.10 | 0.11 | 0.07 | 0.09 | 0.12 | 0.10 | 0.17 | 0.10 | 0.13 | -0.03 |
| Asia Oceania | 0.12 | 0.14 | 0.06 | 0.08 | 0.05 | 0.04 | 0.08 | 0.10 | 0.04 | 0.09 | 0.10 | -0.01 |
| **Russian Urals** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | 1.12 | 1.05 | 0.74 | 1.08 | 0.79 | 0.71 | 0.40 | 0.50 | 0.47 | 0.25 | 0.99 | -0.75 |
| Asia Oceania | - | 0.01 | - | - | - | - | - | - | - | - | - | - |
| **Cabinda and Other Angola** | | | | | | | | | | | | |
| North America | 0.01 | - | 0.00 | - | - | 0.00 | - | - | - | - | - | - |
| Europe | 0.12 | 0.03 | 0.23 | 0.06 | 0.26 | 0.29 | 0.30 | 0.28 | 0.36 | 0.26 | 0.03 | 0.23 |
| Pacific | - | - | 0.00 | - | - | 0.01 | 0.01 | 0.03 | - | - | - | - |
| **Nigerian Light[4]** | | | | | | | | | | | | |
| Americas | - | 0.02 | 0.00 | - | - | 0.01 | - | - | - | - | - | - |
| Europe | 0.49 | 0.41 | 0.41 | 0.47 | 0.43 | 0.29 | 0.46 | 0.23 | 0.64 | 0.51 | 0.48 | 0.04 |
| Asia Oceania | 0.02 | 0.01 | 0.01 | - | - | 0.02 | 0.02 | 0.02 | - | 0.03 | - | - |
| **Libya Light and Medium** | | | | | | | | | | | | |
| Americas | - | 0.02 | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.19 | 0.80 | 0.63 | 0.66 | 0.56 | 0.52 | 0.76 | 0.86 | 0.69 | 0.72 | 0.83 | -0.10 |
| Asia Oceania | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | - | 0.03 | 0.01 | 0.03 | -0.02 |

1 Data based on monthly submissions from IEA countries to the crude oil import register (in '000 bbl), subject to availability. May differ from Table 8 of the Report. IEA Americas includes United States and Canada. IEA Europe includes all countries in OECD Europe except Estonia, Hungary, Slovenia and Latvia. IEA Asia Oceania includes Australia, New Zealand, Korea and Japan.
2 Iraqi Total minus Kirkuk.
3 Iranian Total minus Iranian Light.
4 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

## Table 7
## REGIONAL OECD IMPORTS[1,2]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier % change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crude Oil** | | | | | | | | | | | | |
| Americas | 1896 | 2077 | 2116 | 2096 | 2075 | 2161 | 2131 | 1969 | 2304 | 2126 | 2178 | -2% |
| Europe | 8349 | 8516 | 9094 | 8892 | 9196 | 9298 | 8987 | 8625 | 9113 | 9228 | 8837 | 4% |
| Asia Oceania | 5579 | 5519 | 5839 | 6101 | 5363 | 6197 | 5694 | 5336 | 5978 | 5776 | 5905 | -2% |
| **Total OECD** | **15823** | **16113** | **17049** | **17089** | **16633** | **17656** | **16812** | **15930** | **17395** | **17130** | **16920** | **1%** |
| **LPG** | | | | | | | | | | | | |
| Americas | 28 | 21 | 25 | 39 | 21 | 24 | 18 | 14 | 31 | 10 | 31 | -66% |
| Europe | 422 | 404 | 508 | 470 | 503 | 497 | 562 | 550 | 556 | 578 | 532 | 9% |
| Asia Oceania | 559 | 563 | 580 | 681 | 569 | 533 | 539 | 490 | 575 | 552 | 584 | -5% |
| **Total OECD** | **1009** | **988** | **1113** | **1189** | **1093** | **1054** | **1119** | **1054** | **1163** | **1141** | **1146** | **0%** |
| **Naphtha** | | | | | | | | | | | | |
| Americas | 7 | 8 | 7 | 6 | 6 | 7 | 8 | 2 | 4 | 18 | 14 | 28% |
| Europe | 409 | 512 | 305 | 399 | 409 | 225 | 192 | 231 | 151 | 191 | 538 | -64% |
| Asia Oceania | 1003 | 1146 | 1047 | 1078 | 971 | 1063 | 1074 | 1089 | 1075 | 1059 | 1282 | -17% |
| **Total OECD** | **1419** | **1667** | **1358** | **1482** | **1386** | **1295** | **1274** | **1322** | **1230** | **1268** | **1834** | **-31%** |
| **Gasoline[3]** | | | | | | | | | | | | |
| Americas | 576 | 805 | 675 | 485 | 890 | 733 | 590 | 579 | 576 | 613 | 524 | 17% |
| Europe | 109 | 106 | 101 | 102 | 125 | 108 | 69 | 82 | 61 | 65 | 158 | -59% |
| Asia Oceania | 116 | 146 | 169 | 157 | 175 | 173 | 170 | 177 | 180 | 153 | 155 | -1% |
| **Total OECD** | **801** | **1057** | **945** | **745** | **1190** | **1014** | **829** | **837** | **818** | **831** | **837** | **-1%** |
| **Jet & Kerosene** | | | | | | | | | | | | |
| Americas | 159 | 165 | 134 | 120 | 123 | 115 | 177 | 163 | 162 | 207 | 161 | 28% |
| Europe | 337 | 334 | 453 | 306 | 429 | 538 | 536 | 597 | 566 | 447 | 456 | -2% |
| Asia Oceania | 60 | 71 | 90 | 71 | 76 | 69 | 141 | 123 | 139 | 162 | 93 | 73% |
| **Total OECD** | **556** | **570** | **677** | **497** | **629** | **722** | **855** | **883** | **867** | **815** | **710** | **15%** |
| **Gasoil/Diesel** | | | | | | | | | | | | |
| Americas | 134 | 197 | 99 | 158 | 76 | 41 | 120 | 50 | 163 | 148 | 126 | 18% |
| Europe | 1192 | 1192 | 1220 | 1093 | 1145 | 1152 | 1486 | 1521 | 1327 | 1605 | 1081 | 48% |
| Asia Oceania | 328 | 352 | 324 | 299 | 352 | 314 | 331 | 303 | 343 | 347 | 349 | -1% |
| **Total OECD** | **1654** | **1740** | **1643** | **1551** | **1572** | **1507** | **1937** | **1874** | **1833** | **2100** | **1556** | **35%** |
| **Heavy Fuel Oil** | | | | | | | | | | | | |
| Americas | 143 | 102 | 122 | 139 | 135 | 82 | 132 | 118 | 189 | 89 | 115 | -22% |
| Europe | 295 | 374 | 260 | 302 | 253 | 244 | 241 | 277 | 254 | 193 | 432 | -55% |
| Asia Oceania | 88 | 119 | 89 | 117 | 96 | 68 | 75 | 90 | 64 | 72 | 146 | -51% |
| **Total OECD** | **526** | **594** | **470** | **559** | **484** | **393** | **448** | **485** | **507** | **354** | **694** | **-49%** |
| **Other Products** | | | | | | | | | | | | |
| Americas | 591 | 580 | 497 | 496 | 534 | 502 | 457 | 496 | 468 | 407 | 486 | -16% |
| Europe | 574 | 575 | 607 | 667 | 557 | 622 | 582 | 582 | 619 | 548 | 573 | -4% |
| Asia Oceania | 207 | 233 | 206 | 221 | 182 | 218 | 202 | 225 | 200 | 182 | 241 | -24% |
| **Total OECD** | **1372** | **1389** | **1310** | **1384** | **1274** | **1342** | **1242** | **1303** | **1287** | **1137** | **1300** | **-13%** |
| **Total Products** | | | | | | | | | | | | |
| Americas | 1639 | 1878 | 1558 | 1443 | 1786 | 1502 | 1502 | 1422 | 1594 | 1492 | 1457 | 2% |
| Europe | 3339 | 3497 | 3454 | 3339 | 3421 | 3385 | 3669 | 3840 | 3535 | 3627 | 3769 | -4% |
| Asia Oceania | 2360 | 2630 | 2503 | 2624 | 2420 | 2438 | 2533 | 2496 | 2576 | 2527 | 2851 | -11% |
| **Total OECD** | **7338** | **8005** | **7516** | **7407** | **7627** | **7326** | **7703** | **7758** | **7705** | **7647** | **8077** | **-5%** |
| **Total Oil** | | | | | | | | | | | | |
| Americas | 3534 | 3955 | 3674 | 3540 | 3861 | 3663 | 3633 | 3391 | 3898 | 3619 | 3634 | 0% |
| Europe | 11688 | 12013 | 12548 | 12231 | 12617 | 12683 | 12656 | 12465 | 12648 | 12856 | 12606 | 2% |
| Asia Oceania | 7939 | 8150 | 8342 | 8725 | 7783 | 8635 | 8226 | 7832 | 8554 | 8303 | 8756 | -5% |
| **Total OECD** | **23161** | **24118** | **24565** | **24496** | **24260** | **24982** | **24515** | **23688** | **25100** | **24777** | **24996** | **-1%** |

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#a.
2 Excludes intra-regional trade.
3 Includes additives.

## Table 7a
## REGIONAL OECD IMPORTS FROM NON-OECD COUNTRIES[1,2]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier % change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crude Oil** | | | | | | | | | | | | |
| Americas | 1835 | 1982 | 2049 | 2033 | 2012 | 2093 | 2059 | 1895 | 2230 | 2057 | 2063 | 0% |
| Europe | 7115 | 7264 | 7529 | 7550 | 7681 | 7618 | 7270 | 7033 | 7256 | 7522 | 7527 | 0% |
| Asia Oceania | 5051 | 4910 | 5260 | 5480 | 4849 | 5659 | 5052 | 4663 | 5409 | 5097 | 5496 | -7% |
| **Total OECD** | **14002** | **14156** | **14838** | **15062** | **14542** | **15370** | **14381** | **13590** | **14894** | **14676** | **15086** | **-3%** |
| **LPG** | | | | | | | | | | | | |
| Americas | 22 | 20 | 25 | 37 | 21 | 24 | 18 | 14 | 31 | 10 | 31 | -66% |
| Europe | 252 | 242 | 255 | 253 | 249 | 236 | 284 | 279 | 287 | 285 | 277 | 3% |
| Asia Oceania | 58 | 47 | 62 | 90 | 53 | 55 | 53 | 47 | 87 | 25 | 44 | -43% |
| **Total OECD** | **331** | **309** | **343** | **379** | **323** | **315** | **354** | **339** | **405** | **321** | **352** | **-9%** |
| **Naphtha** | | | | | | | | | | | | |
| Americas | 1 | 4 | 3 | 3 | 2 | 2 | 6 | 0 | 2 | 15 | 11 | 37% |
| Europe | 390 | 425 | 271 | 338 | 332 | 224 | 190 | 228 | 151 | 191 | 526 | -64% |
| Asia Oceania | 832 | 975 | 945 | 942 | 929 | 953 | 959 | 976 | 964 | 937 | 1175 | -20% |
| **Total OECD** | **1223** | **1404** | **1219** | **1283** | **1263** | **1179** | **1155** | **1203** | **1117** | **1143** | **1712** | **-33%** |
| **Gasoline[3]** | | | | | | | | | | | | |
| Americas | 195 | 248 | 174 | 111 | 233 | 214 | 137 | 104 | 103 | 204 | 163 | 26% |
| Europe | 104 | 100 | 84 | 84 | 103 | 90 | 58 | 68 | 53 | 52 | 152 | -66% |
| Asia Oceania | 98 | 141 | 169 | 157 | 174 | 173 | 170 | 176 | 180 | 153 | 155 | -1% |
| **Total OECD** | **397** | **489** | **426** | **352** | **511** | **477** | **365** | **349** | **337** | **409** | **469** | **-13%** |
| **Jet & Kerosene** | | | | | | | | | | | | |
| Americas | 55 | 63 | 47 | 43 | 33 | 25 | 89 | 104 | 58 | 105 | 115 | -9% |
| Europe | 297 | 298 | 393 | 303 | 381 | 464 | 423 | 455 | 409 | 405 | 411 | -1% |
| Asia Oceania | 60 | 71 | 89 | 71 | 76 | 69 | 141 | 123 | 139 | 162 | 93 | 73% |
| **Total OECD** | **413** | **433** | **530** | **416** | **489** | **558** | **654** | **681** | **606** | **672** | **619** | **8%** |
| **Gasoil/Diesel** | | | | | | | | | | | | |
| Americas | 103 | 134 | 43 | 87 | 26 | 12 | 48 | 4 | 64 | 75 | 88 | -15% |
| Europe | 1062 | 1109 | 1108 | 1026 | 1062 | 1037 | 1305 | 1358 | 1179 | 1374 | 998 | 38% |
| Asia Oceania | 323 | 352 | 324 | 299 | 352 | 314 | 331 | 303 | 343 | 347 | 349 | -1% |
| **Total OECD** | **1488** | **1595** | **1475** | **1412** | **1439** | **1364** | **1683** | **1665** | **1586** | **1796** | **1435** | **25%** |
| **Heavy Fuel Oil** | | | | | | | | | | | | |
| Americas | 110 | 86 | 90 | 109 | 101 | 56 | 96 | 92 | 128 | 70 | 100 | -30% |
| Europe | 279 | 347 | 239 | 282 | 239 | 215 | 220 | 261 | 227 | 171 | 423 | -60% |
| Asia Oceania | 88 | 119 | 89 | 117 | 96 | 68 | 75 | 90 | 64 | 71 | 146 | -52% |
| **Total OECD** | **477** | **552** | **418** | **508** | **436** | **339** | **391** | **443** | **419** | **312** | **670** | **-53%** |
| **Other Products** | | | | | | | | | | | | |
| Americas | 514 | 530 | 420 | 455 | 471 | 397 | 359 | 385 | 370 | 322 | 437 | -26% |
| Europe | 352 | 398 | 421 | 481 | 379 | 433 | 394 | 421 | 449 | 312 | 366 | -15% |
| Asia Oceania | 130 | 155 | 133 | 148 | 114 | 141 | 131 | 135 | 152 | 106 | 128 | -17% |
| **Total OECD** | **996** | **1083** | **975** | **1083** | **964** | **971** | **884** | **941** | **971** | **741** | **930** | **-20%** |
| **Total Products** | | | | | | | | | | | | |
| Americas | 1000 | 1085 | 803 | 844 | 887 | 730 | 753 | 703 | 756 | 802 | 944 | -15% |
| Europe | 2735 | 2920 | 2772 | 2767 | 2745 | 2701 | 2873 | 3069 | 2756 | 2791 | 3152 | -11% |
| Asia Oceania | 1590 | 1860 | 1812 | 1824 | 1792 | 1773 | 1859 | 1849 | 1930 | 1801 | 2091 | -14% |
| **Total OECD** | **5325** | **5864** | **5387** | **5434** | **5424** | **5203** | **5486** | **5621** | **5442** | **5395** | **6187** | **-13%** |
| **Total Oil** | | | | | | | | | | | | |
| Americas | 2835 | 3067 | 2853 | 2876 | 2900 | 2824 | 2812 | 2598 | 2986 | 2859 | 3007 | -5% |
| Europe | 9850 | 10183 | 10301 | 10317 | 10425 | 10318 | 10144 | 10102 | 10012 | 10313 | 10680 | -3% |
| Asia Oceania | 6641 | 6769 | 7072 | 7304 | 6642 | 7431 | 6912 | 6512 | 7338 | 6899 | 7586 | -9% |
| **Total OECD** | **19327** | **20020** | **20225** | **20497** | **19966** | **20573** | **19868** | **19211** | **20336** | **20070** | **21273** | **-6%** |

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels
converson factors available at https://www.iea.org/articles/oil-market-report-glossary#a.
2 Excludes intra-regional trade.
3 Includes additives.

## Table 7b
## INTER-REGIONAL OECD TRANSFERS[1,2]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier % change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crude Oil** | | | | | | | | | | | | |
| Americas | 60 | 95 | 66 | 64 | 62 | 68 | 72 | 74 | 74 | 69 | 115 | -40% |
| Europe | 1234 | 1252 | 1565 | 1342 | 1515 | 1681 | 1717 | 1593 | 1857 | 1706 | 1309 | 30% |
| Asia Oceania | 527 | 610 | 578 | 621 | 514 | 538 | 641 | 673 | 570 | 678 | 409 | 66% |
| **Total OECD** | **1821** | **1957** | **2210** | **2027** | **2091** | **2286** | **2431** | **2340** | **2500** | **2454** | **1834** | **34%** |
| **LPG** | | | | | | | | | | | | |
| Americas | 6 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | na |
| Europe | 171 | 162 | 253 | 217 | 254 | 261 | 278 | 271 | 269 | 293 | 255 | 15% |
| Asia Oceania | 501 | 516 | 518 | 591 | 517 | 478 | 486 | 444 | 488 | 527 | 540 | -2% |
| **Total OECD** | **678** | **679** | **771** | **810** | **771** | **739** | **764** | **715** | **757** | **820** | **795** | **3%** |
| **Naphtha** | | | | | | | | | | | | |
| Americas | 6 | 4 | 3 | 2 | 4 | 4 | 2 | 2 | 2 | 2 | 3 | -10% |
| Europe | 20 | 87 | 35 | 61 | 77 | 1 | 1 | 3 | 0 | 0 | 11 | -100% |
| Asia Oceania | 170 | 172 | 101 | 136 | 42 | 110 | 115 | 113 | 111 | 123 | 107 | 14% |
| **Total OECD** | **196** | **263** | **139** | **200** | **123** | **115** | **119** | **118** | **113** | **125** | **122** | **3%** |
| **Gasoline[3]** | | | | | | | | | | | | |
| Americas | 382 | 557 | 501 | 375 | 656 | 518 | 452 | 475 | 473 | 409 | 362 | 13% |
| Europe | 5 | 6 | 17 | 18 | 22 | 18 | 11 | 14 | 8 | 12 | 6 | 106% |
| Asia Oceania | 18 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -56% |
| **Total OECD** | **404** | **567** | **518** | **393** | **679** | **536** | **464** | **489** | **481** | **422** | **368** | **15%** |
| **Jet & Kerosene** | | | | | | | | | | | | |
| Americas | 103 | 102 | 87 | 78 | 90 | 90 | 88 | 59 | 105 | 102 | 46 | 121% |
| Europe | 40 | 35 | 60 | 3 | 48 | 74 | 113 | 142 | 156 | 42 | 45 | -7% |
| Asia Oceania | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | na |
| **Total OECD** | **144** | **138** | **147** | **81** | **139** | **164** | **201** | **201** | **261** | **144** | **91** | **58%** |
| **Gasoil/Diesel** | | | | | | | | | | | | |
| Americas | 31 | 63 | 56 | 71 | 50 | 29 | 72 | 46 | 99 | 73 | 38 | 94% |
| Europe | 131 | 82 | 112 | 67 | 83 | 114 | 181 | 163 | 148 | 231 | 84 | 177% |
| Asia Oceania | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -42% |
| **Total OECD** | **166** | **146** | **167** | **138** | **133** | **143** | **254** | **209** | **247** | **304** | **121** | **151%** |
| **Heavy Fuel Oil** | | | | | | | | | | | | |
| Americas | 33 | 16 | 31 | 31 | 34 | 25 | 35 | 26 | 61 | 19 | 15 | 26% |
| Europe | 16 | 26 | 21 | 20 | 14 | 28 | 22 | 17 | 27 | 22 | 9 | 153% |
| Asia Oceania | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | na |
| **Total OECD** | **49** | **42** | **52** | **50** | **48** | **53** | **57** | **43** | **88** | **42** | **24** | **74%** |
| **Other Products** | | | | | | | | | | | | |
| Americas | 78 | 50 | 77 | 41 | 64 | 105 | 98 | 111 | 98 | 84 | 50 | 70% |
| Europe | 222 | 178 | 186 | 187 | 178 | 189 | 189 | 161 | 169 | 235 | 207 | 14% |
| Asia Oceania | 77 | 78 | 73 | 73 | 69 | 77 | 71 | 90 | 48 | 76 | 113 | -33% |
| **Total OECD** | **377** | **306** | **335** | **301** | **310** | **371** | **358** | **362** | **315** | **396** | **370** | **7%** |
| **Total Products** | | | | | | | | | | | | |
| Americas | 639 | 793 | 755 | 600 | 899 | 772 | 748 | 719 | 838 | 691 | 513 | 35% |
| Europe | 604 | 577 | 683 | 572 | 676 | 685 | 795 | 771 | 779 | 836 | 617 | 36% |
| Asia Oceania | 770 | 771 | 691 | 801 | 628 | 665 | 673 | 647 | 646 | 726 | 760 | -5% |
| **Total OECD** | **2013** | **2141** | **2129** | **1973** | **2203** | **2122** | **2217** | **2137** | **2263** | **2252** | **1890** | **19%** |
| **Total Oil** | | | | | | | | | | | | |
| Americas | 699 | 888 | 822 | 663 | 961 | 840 | 821 | 793 | 912 | 760 | 628 | 21% |
| Europe | 1838 | 1829 | 2248 | 1914 | 2191 | 2365 | 2513 | 2364 | 2636 | 2542 | 1926 | 32% |
| Asia Oceania | 1297 | 1381 | 1270 | 1422 | 1141 | 1203 | 1314 | 1320 | 1216 | 1404 | 1169 | 20% |
| **Total OECD** | **3834** | **4098** | **4339** | **3999** | **4294** | **4408** | **4648** | **4477** | **4764** | **4706** | **3723** | **26%** |

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#a.
2 Excludes intra-regional trade.
3 Includes additives.

## Table 8
## REGIONAL OECD CRUDE IMPORTS BY SOURCE[1]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | | | | | |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central & South America | 745 | 719 | 845 | 780 | 802 | 917 | 878 | 784 | 1010 | 845 | 762 | 83 |
| North Sea | 59 | 92 | 65 | 64 | 62 | 60 | 72 | 74 | 74 | 69 | 115 | -45 |
| Other OECD Europe | 1 | 3 | - | - | - | - | - | - | - | - | - | - |
| Non-OECD Europe | - | - | - | - | - | - | - | - | - | - | - | - |
| Former Soviet Union | 91 | 229 | 43 | 103 | 27 | 25 | 19 | 52 | 6 | - | 132 | - |
| Saudi Arabia | 588 | 427 | 536 | 571 | 569 | 487 | 517 | 474 | 505 | 572 | 574 | -2 |
| Kuwait | 21 | 21 | 27 | 24 | 25 | 14 | 42 | 41 | 39 | 48 | 12 | 36 |
| Iran | - | 3 | 1 | 6 | - | - | - | - | - | - | - | - |
| Iraq | 177 | 152 | 244 | 225 | 229 | 277 | 245 | 195 | 265 | 276 | 223 | 53 |
| Oman | - | - | - | - | - | - | - | - | - | - | - | - |
| United Arab Emirates | 5 | 17 | 12 | 10 | 19 | 19 | - | - | - | - | 32 | - |
| Other Middle East | - | - | - | - | - | - | - | - | - | - | - | - |
| West Africa[2] | 145 | 228 | 186 | 171 | 211 | 201 | 160 | 137 | 173 | 171 | 180 | -9 |
| Other Africa | 45 | 161 | 153 | 144 | 131 | 139 | 196 | 212 | 232 | 146 | 148 | -2 |
| Asia | 17 | 25 | 5 | - | - | 21 | - | - | - | - | - | - |
| Other | 3 | - | - | - | - | - | - | - | - | - | - | - |
| **Total** | **1896** | **2077** | **2116** | **2096** | **2075** | **2161** | **2131** | **1969** | **2304** | **2126** | **2178** | **-52** |
| ***of which Non-OECD*** | **1835** | **1982** | **2049** | **2033** | **2012** | **2093** | **2059** | **1895** | **2230** | **2057** | **2063** | **-6** |
| **OECD Europe** | | | | | | | | | | | | |
| Canada | 95 | 83 | 129 | 79 | 139 | 125 | 173 | 188 | 147 | 182 | 45 | 137 |
| Mexico + USA | 1139 | 1169 | 1436 | 1263 | 1376 | 1556 | 1544 | 1405 | 1709 | 1525 | 1265 | 260 |
| Venezuela | 44 | - | 15 | - | - | 35 | 23 | - | 37 | 33 | - | - |
| Other Central & South America | 208 | 219 | 407 | 217 | 402 | 562 | 443 | 551 | 328 | 448 | 301 | 148 |
| Non-OECD Europe | 25 | 23 | 15 | 20 | 12 | 12 | 15 | 13 | 18 | 16 | 23 | -7 |
| Former Soviet Union | 3504 | 3538 | 3179 | 4060 | 3197 | 2951 | 2527 | 2500 | 2731 | 2357 | 3825 | -1468 |
| Saudi Arabia | 756 | 518 | 764 | 523 | 779 | 867 | 882 | 799 | 790 | 1054 | 425 | 630 |
| Kuwait | 48 | 0 | - | - | - | - | - | - | - | - | 0 | - |
| Iran | 6 | 1 | - | - | - | - | - | - | - | - | - | - |
| Iraq | 814 | 912 | 989 | 881 | 1013 | 1121 | 940 | 918 | 990 | 914 | 849 | 66 |
| Oman | - | - | - | - | - | - | - | - | - | - | - | - |
| United Arab Emirates | - | - | 48 | - | 31 | 86 | 76 | 61 | 78 | 88 | - | - |
| Other Middle East | 8 | 9 | 7 | - | 6 | 11 | 10 | 31 | - | - | - | - |
| West Africa[2] | 1074 | 822 | 1003 | 807 | 1169 | 971 | 1063 | 885 | 1080 | 1224 | 888 | 336 |
| Other Africa | 596 | 1197 | 1074 | 996 | 1038 | 981 | 1280 | 1249 | 1201 | 1387 | 1152 | 234 |
| Asia | 0 | 0 | 1 | 5 | - | - | - | - | - | - | - | - |
| Other | 11 | 1 | 3 | 3 | 8 | - | - | - | - | - | - | - |
| **Total** | **8329** | **8493** | **9071** | **8855** | **9170** | **9278** | **8978** | **8600** | **9109** | **9228** | **8772** | **456** |
| ***of which Non-OECD*** | **7115** | **7264** | **7529** | **7550** | **7681** | **7618** | **7270** | **7033** | **7256** | **7522** | **7527** | **-6** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| Canada | 1 | 16 | 6 | 9 | 6 | 10 | - | - | - | - | - | - |
| Mexico + USA | 477 | 496 | 538 | 582 | 452 | 486 | 633 | 648 | 570 | 678 | 311 | 367 |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central & South America | 91 | 110 | 120 | 129 | 102 | 140 | 109 | 86 | 142 | 101 | 126 | -25 |
| North Sea | 49 | 98 | 34 | 30 | 56 | 42 | 8 | 25 | - | - | 98 | - |
| Other OECD Europe | - | - | - | - | - | - | - | - | - | - | - | - |
| Non-OECD Europe | - | - | - | - | - | - | - | - | - | - | - | - |
| Former Soviet Union | 300 | 335 | 238 | 405 | 272 | 116 | 161 | 136 | 178 | 171 | 360 | -190 |
| Saudi Arabia | 1867 | 1766 | 1991 | 2029 | 1862 | 2040 | 2033 | 1944 | 1925 | 2228 | 2392 | -165 |
| Kuwait | 584 | 506 | 534 | 624 | 472 | 516 | 524 | 476 | 554 | 542 | 549 | -7 |
| Iran | - | - | - | - | - | - | - | - | - | - | - | - |
| Iraq | 224 | 167 | 220 | 172 | 204 | 262 | 241 | 220 | 287 | 217 | 189 | 28 |
| Oman | 22 | 32 | 40 | 28 | 39 | 68 | 26 | 30 | 33 | 15 | 16 | -1 |
| United Arab Emirates | 1096 | 1083 | 1287 | 1145 | 1200 | 1509 | 1288 | 1326 | 1263 | 1276 | 1256 | 20 |
| Other Middle East | 387 | 362 | 370 | 442 | 326 | 424 | 289 | 289 | 291 | 287 | 335 | -48 |
| West Africa[2] | 65 | 71 | 64 | 52 | 61 | 88 | 55 | 90 | 29 | 45 | 45 | 0 |
| Other Africa | 42 | 56 | 37 | 42 | 31 | 32 | 43 | 60 | 30 | 40 | 61 | -21 |
| Non-OECD Asia | 161 | 175 | 122 | 126 | 130 | 97 | 134 | 122 | 154 | 128 | 141 | -13 |
| Other | 210 | 241 | 234 | 277 | 151 | 367 | 142 | -120 | 512 | 47 | 19 | 29 |
| **Total** | **5577** | **5515** | **5835** | **6093** | **5363** | **6197** | **5689** | **5333** | **5967** | **5776** | **5899** | **-123** |
| ***of which Non-OECD*** | **5051** | **4910** | **5260** | **5480** | **4849** | **5659** | **5052** | **4663** | **5409** | **5097** | **5496** | **-398** |
| **Total OECD Trade** | **15801** | **16085** | **17022** | **17044** | **16608** | **17636** | **16798** | **15902** | **17379** | **17130** | **16848** | **282** |
| ***of which Non-OECD*** | **14002** | **14156** | **14838** | **15062** | **14542** | **15370** | **14381** | **13590** | **14894** | **14676** | **15086** | **-410** |

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes, and converted to barrels at 7.37 barrels per tonne.Data will differ from Table 6 which is based on submissions in barrels.
2 West Africa includes Angola, Nigeria, Gabon, Equatorial Guniea, Congo and Democratic Republic of Congo.

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

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | | | | | |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central & South America | 40 | 41 | 45 | 12 | 44 | 61 | 62 | 12 | 52 | 123 | 52 | 71 |
| ARA (Belgium Germany Netherlands) | 149 | 194 | 170 | 126 | 255 | 199 | 100 | 111 | 106 | 84 | 113 | -28 |
| Other Europe | 213 | 327 | 293 | 222 | 364 | 266 | 320 | 334 | 333 | 295 | 223 | 72 |
| FSU | 56 | 83 | 8 | 31 | 3 | 0 | - | - | - | - | 42 | - |
| Saudi Arabia | 6 | 24 | 27 | 6 | 62 | 19 | 20 | 18 | 24 | 20 | - | - |
| Algeria | 4 | 1 | 1 | - | - | 2 | 1 | - | 4 | - | - | - |
| Other Middle East & Africa | 13 | 13 | 14 | 8 | 14 | 22 | 13 | 17 | 11 | 11 | - | - |
| Singapore | 1 | 4 | 2 | - | - | 4 | 2 | - | - | 7 | - | - |
| OECD Asia Oceania | 21 | 37 | 38 | 27 | 39 | 54 | 32 | 31 | 34 | 31 | 26 | 4 |
| Non-OECD Asia (excl. Singapore) | 72 | 81 | 76 | 53 | 108 | 107 | 38 | 57 | 13 | 42 | 68 | -26 |
| Other | - | 0 | 0 | - | 0 | - | 0 | - | - | 1 | - | - |
| **Total[2]** | **576** | **805** | **675** | **485** | **890** | **733** | **590** | **579** | **576** | **613** | **524** | **89** |
| ***of which Non-OECD*** | **195** | **248** | **174** | **111** | **233** | **214** | **137** | **104** | **103** | **204** | **163** | **41** |
| **OECD Europe** | | | | | | | | | | | | |
| OECD Americas | 3 | 5 | 16 | 17 | 21 | 17 | 11 | 14 | 7 | 11 | 5 | 6 |
| Venezuela | 0 | 2 | 2 | 2 | 2 | 3 | 2 | 5 | 3 | - | - | - |
| Other Central & South America | 4 | 7 | 10 | 14 | 4 | 14 | 6 | 6 | 6 | 6 | - | - |
| Non-OECD Europe | 16 | 10 | 8 | 5 | 6 | 14 | 6 | 5 | 12 | 2 | 9 | -7 |
| FSU | 31 | 8 | 9 | 7 | 24 | 3 | 2 | 2 | 2 | 2 | 2 | 0 |
| Saudi Arabia | 8 | 3 | 1 | 0 | 1 | 2 | - | - | - | - | - | - |
| Algeria | 1 | - | 6 | - | 12 | 7 | 4 | 10 | 2 | - | - | - |
| Other Middle East & Africa | 3 | 5 | 7 | 11 | 9 | 6 | 5 | 3 | 6 | 5 | 1 | 4 |
| Singapore | 2 | 0 | 2 | 1 | 2 | 1 | 3 | 1 | 3 | 5 | 0 | 5 |
| OECD Asia Oceania | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 0 |
| Non-OECD Asia (excl. Singapore) | 0 | 3 | 3 | 3 | 2 | 4 | 3 | 7 | 1 | 2 | 3 | -1 |
| Other | 37 | 62 | 36 | 41 | 41 | 37 | 26 | 28 | 17 | 32 | 137 | -105 |
| **Total[2]** | **107** | **106** | **101** | **102** | **125** | **108** | **69** | **82** | **61** | **65** | **158** | **-93** |
| **of which Non-OECD** | **104** | **100** | **84** | **84** | **103** | **90** | **58** | **68** | **53** | **52** | **152** | **-99** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| 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 | 0 | 0 |
| Other Europe | 10 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 |
| FSU | 0 | - | - | - | - | - | - | - | - | - | - | - |
| Saudi Arabia | - | - | - | - | - | - | - | - | - | - | - | - |
| Algeria | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East & Africa | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Singapore | 51 | 100 | 125 | 135 | 122 | 121 | 124 | 111 | 146 | 116 | 146 | -31 |
| Non-OECD Asia (excl. Singapore) | 37 | 29 | 30 | 14 | 44 | 35 | 26 | 26 | 26 | 27 | - | - |
| Other | 9 | 12 | 13 | 9 | 9 | 16 | 20 | 40 | 9 | 10 | 9 | 1 |
| **Total[2]** | **116** | **146** | **169** | **157** | **175** | **173** | **170** | **177** | **180** | **153** | **155** | **-2** |
| **of which Non-OECD** | **98** | **141** | **169** | **157** | **174** | **173** | **170** | **176** | **180** | **153** | **155** | **-2** |
| **Total OECD Trade[2]** | **799** | **1057** | **945** | **745** | **1190** | **1014** | **829** | **837** | **818** | **831** | **837** | **-6** |
| **of which Non-OECD** | **397** | **489** | **426** | **352** | **511** | **477** | **365** | **349** | **337** | **409** | **469** | **-60** |

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.
2 Total figure excludes intra-regional trade.

## Table 10
## REGIONAL OECD GASOIL/DIESEL IMPORTS BY SOURCE[1]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | | | | | |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 34 | 28 | 6 | 3 | 6 | 12 | 3 | 4 | 0 | 6 | 9 | -3 |
| ARA (Belgium Germany Netherlands) | 11 | 34 | 15 | 40 | 6 | 3 | 11 | 1 | 19 | 13 | - | - |
| Other Europe | 4 | 5 | 2 | 2 | 3 | 0 | 3 | 0 | 6 | 4 | 0 | 4 |
| FSU | 12 | 25 | 6 | 25 | - | - | - | - | - | - | 11 | - |
| Saudi Arabia | 8 | 15 | 9 | 18 | 15 | - | 5 | - | 5 | 9 | 12 | -3 |
| Algeria | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East and Africa | 9 | 25 | 4 | 8 | - | - | 8 | - | 18 | 6 | 26 | -20 |
| Singapore | - | 2 | 1 | 2 | - | - | 2 | - | 1 | 5 | - | - |
| OECD Asia Oceania | 16 | 25 | 39 | 29 | 42 | 26 | 58 | 44 | 74 | 56 | 38 | 18 |
| Non-OECD Asia (excl. Singapore) | 34 | 27 | 5 | 0 | 2 | - | 17 | - | 15 | 35 | 24 | 10 |
| Other | 6 | 12 | 11 | 31 | 3 | - | 13 | - | 24 | 15 | 6 | 9 |
| **Total[2]** | **134** | **197** | **99** | **158** | **76** | **41** | **120** | **50** | **163** | **148** | **126** | **23** |
| ***of which Non-OECD*** | **103** | **134** | **43** | **87** | **26** | **12** | **48** | **4** | **64** | **75** | **88** | **-13** |
| **OECD Europe** | | | | | | | | | | | | |
| OECD Americas | 99 | 40 | 82 | 31 | 61 | 97 | 136 | 114 | 107 | 187 | 51 | 136 |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 3 | 1 | 1 | 1 | 1 | 3 | 0 | 0 | - | - | 9 | - |
| Non-OECD Europe | 30 | 35 | 43 | 39 | 46 | 43 | 45 | 59 | 41 | 36 | 33 | 3 |
| FSU | 627 | 611 | 528 | 595 | 472 | 506 | 538 | 454 | 559 | 603 | 487 | 116 |
| Saudi Arabia | 193 | 140 | 166 | 98 | 163 | 186 | 216 | 217 | 251 | 182 | 128 | 54 |
| Algeria | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East and Africa | 71 | 158 | 161 | 137 | 160 | 147 | 199 | 243 | 184 | 169 | 228 | -59 |
| Singapore | 17 | 19 | 37 | 39 | 50 | 28 | 33 | 34 | 24 | 39 | 30 | 9 |
| OECD Asia Oceania | 32 | 42 | 30 | 36 | 22 | 18 | 45 | 50 | 41 | 44 | 32 | 12 |
| Non-OECD Asia (excl. Singapore) | 101 | 126 | 153 | 88 | 149 | 105 | 268 | 344 | 111 | 344 | 96 | 248 |
| Other | 15 | 20 | 18 | 30 | 20 | 19 | 6 | 6 | 10 | 1 | -14 | 15 |
| **Total[2]** | **1190** | **1191** | **1220** | **1092** | **1145** | **1152** | **1486** | **1521** | **1327** | **1605** | **1081** | **524** |
| ***of which Non-OECD*** | **1062** | **1109** | **1108** | **1026** | **1062** | **1037** | **1305** | **1358** | **1179** | **1374** | **998** | **376** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| OECD Americas | 4 | 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 | 0 |
| Other Europe | - | 0 | - | - | - | - | - | - | - | - | 0 | - |
| FSU | 2 | 1 | - | - | - | - | - | - | - | - | - | - |
| Saudi Arabia | - | - | - | - | - | - | - | - | - | - | - | - |
| Algeria | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East and Africa | 13 | 4 | 6 | - | 11 | 14 | - | - | - | - | 1 | - |
| Singapore | 91 | 109 | 112 | 123 | 117 | 112 | 97 | 97 | 111 | 84 | 106 | -21 |
| Non-OECD Asia (excl. Singapore) | 208 | 229 | 194 | 168 | 217 | 177 | 212 | 166 | 223 | 246 | 238 | 8 |
| Other | 9 | 8 | 12 | 8 | 7 | 11 | 22 | 40 | 8 | 17 | 5 | 12 |
| **Total[2]** | **328** | **352** | **324** | **299** | **352** | **314** | **331** | **303** | **343** | **347** | **349** | **-2** |
| ***of which Non-OECD*** | **323** | **352** | **324** | **299** | **352** | **314** | **331** | **303** | **343** | **347** | **349** | **-2** |
| **Total OECD Trade[2]** | **1652** | **1740** | **1642** | **1550** | **1572** | **1507** | **1937** | **1874** | **1833** | **2100** | **1556** | **544** |
| ***of which Non-OECD*** | **1488** | **1595** | **1475** | **1412** | **1439** | **1364** | **1683** | **1665** | **1586** | **1796** | **1435** | **361** |

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.
2 Total figure excludes intra-regional trade.

## Table 11
## REGIONAL OECD JET AND KEROSENE IMPORTS BY SOURCE[1]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | | | | | |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 5 | 1 | 0 | - | - | - | 1 | 3 | - | - | - | - |
| ARA (Belgium Germany Netherlands) | - | 5 | 0 | - | 0 | - | 0 | 1 | - | - | - | - |
| Other Europe | 4 | 7 | 1 | 0 | 1 | - | 4 | 0 | - | 11 | - | - |
| FSU | 0 | 4 | 1 | 3 | - | - | - | - | - | - | 28 | - |
| Saudi Arabia | 6 | 6 | 1 | 5 | - | - | 1 | - | - | 2 | 20 | -17 |
| Algeria | 1 | 4 | 0 | - | - | - | 1 | - | 4 | - | 8 | - |
| Other Middle East and Africa | 11 | 18 | 16 | 11 | 10 | 6 | 38 | 52 | 19 | 43 | 33 | 10 |
| Singapore | 4 | 2 | 1 | 2 | 2 | 1 | 2 | - | 2 | 3 | - | - |
| OECD Asia Oceania | 100 | 91 | 85 | 78 | 90 | 90 | 85 | 59 | 105 | 91 | 46 | 45 |
| Non-OECD Asia (excl. Singapore) | 23 | 27 | 24 | 17 | 18 | 17 | 44 | 48 | 32 | 52 | 26 | 26 |
| Other | 4 | 1 | 3 | 5 | 4 | 1 | 1 | - | - | 4 | - | - |
| **Total[2]** | **159** | **165** | **134** | **120** | **123** | **115** | **177** | **163** | **162** | **207** | **161** | **45** |
| ***of which Non-OECD*** | **55** | **63** | **47** | **43** | **33** | **25** | **89** | **104** | **58** | **105** | **115** | **-10** |
| **OECD Europe** | | | | | | | | | | | | |
| OECD Americas | 13 | 3 | 6 | 1 | 4 | 6 | 11 | 15 | 14 | 3 | 4 | -1 |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 0 | 0 | 0 | - | 1 | 1 | - | - | - | - | - | - |
| Non-OECD Europe | 0 | 0 | 3 | - | 4 | 4 | 5 | 0 | 11 | 4 | - | - |
| FSU | 21 | 27 | 16 | 20 | 12 | 16 | 14 | 15 | 17 | 12 | 28 | -16 |
| Saudi Arabia | 40 | 27 | 54 | 37 | 58 | 62 | 61 | 71 | 62 | 49 | 34 | 15 |
| Algeria | 9 | 5 | 4 | 3 | 8 | 5 | - | - | - | - | - | - |
| Other Middle East and Africa | 155 | 155 | 174 | 154 | 186 | 210 | 145 | 169 | 151 | 116 | 185 | -69 |
| Singapore | 10 | 11 | 13 | 6 | 11 | 26 | 10 | 9 | 3 | 16 | 6 | 10 |
| OECD Asia Oceania | 27 | 32 | 54 | 2 | 44 | 68 | 102 | 127 | 142 | 39 | 41 | -2 |
| Non-OECD Asia (excl. Singapore) | 50 | 62 | 122 | 78 | 95 | 125 | 188 | 190 | 166 | 207 | 110 | 98 |
| Other | 10 | 9 | 5 | 4 | 2 | 14 | 0 | - | 0 | 1 | 48 | -47 |
| **Total[2]** | **336** | **333** | **452** | **306** | **425** | **538** | **536** | **597** | **566** | **447** | **456** | **-9** |
| ***of which Non-OECD*** | **297** | **298** | **393** | **303** | **381** | **464** | **423** | **455** | **409** | **405** | **411** | **-6** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| OECD Americas | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | - | - | - | - | - | - | - | - | - | - | - | - |
| ARA (Belgium Germany Netherlands) | - | 0 | 0 | - | - | - | 0 | - | - | 0 | - | - |
| Other Europe | - | 0 | 0 | - | 1 | - | - | - | - | - | - | - |
| FSU | - | - | - | - | - | - | - | - | - | - | - | - |
| Saudi Arabia | - | - | - | - | - | - | - | - | - | - | - | - |
| Algeria | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East and Africa | - | 1 | 0 | - | 0 | - | 0 | - | 0 | 0 | - | - |
| Singapore | 14 | 16 | 34 | 26 | 28 | 42 | 39 | 43 | 49 | 26 | 17 | 9 |
| Non-OECD Asia (excl. Singapore) | 28 | 34 | 38 | 20 | 38 | 20 | 72 | 63 | 71 | 83 | 30 | 53 |
| Other | 18 | 21 | 18 | 25 | 9 | 7 | 29 | 16 | 19 | 53 | 47 | 6 |
| **Total[2]** | **60** | **71** | **90** | **71** | **76** | **69** | **141** | **123** | **139** | **162** | **93** | **69** |
| ***of which Non-OECD*** | **60** | **71** | **89** | **71** | **76** | **69** | **141** | **123** | **139** | **162** | **93** | **69** |
| **Total OECD Trade[2]** | **555** | **570** | **676** | **497** | **624** | **722** | **855** | **883** | **867** | **815** | **710** | **105** |
| ***of which Non-OECD*** | **413** | **433** | **530** | **416** | **489** | **558** | **654** | **681** | **606** | **672** | **619** | **52** |

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.
2 Total figure excludes intra-regional trade.

## Table 12
## REGIONAL OECD RESIDUAL FUEL OIL IMPORTS BY SOURCE[1]
(thousand barrels per day)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Oct 22 | Nov 22 | Dec 22 | Year Earlier Dec 21 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | | | | | |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 52 | 34 | 53 | 55 | 53 | 36 | 69 | 55 | 90 | 64 | 61 | 3 |
| ARA (Belgium Germany Netherlands) | 12 | 6 | 12 | 6 | 11 | 14 | 18 | 19 | 35 | - | 15 | - |
| Other Europe | 21 | 10 | 19 | 25 | 23 | 11 | 18 | 7 | 26 | 19 | - | - |
| FSU | 43 | 34 | 21 | 46 | 24 | 4 | 9 | 21 | 6 | 2 | 12 | -10 |
| Saudi Arabia | 2 | 0 | 7 | 1 | 12 | 8 | 6 | - | 15 | 2 | - | - |
| Algeria | 2 | 7 | 4 | - | 10 | 4 | 1 | - | 3 | - | 27 | - |
| Other Middle East and Africa | 10 | 8 | 4 | 6 | 1 | 3 | 5 | 4 | 10 | 2 | 0 | 1 |
| Singapore | 1 | 0 | - | - | - | - | - | - | - | - | - | - |
| OECD Asia Oceania | - | 0 | - | - | - | - | - | - | - | - | - | - |
| Non-OECD Asia (excl. Singapore) | - | 2 | 2 | - | - | 2 | 6 | 12 | 4 | 0 | - | - |
| Other | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total[2]** | **143** | **102** | **122** | **139** | **135** | **82** | **132** | **118** | **189** | **89** | **115** | **-26** |
| ***of which Non-OECD*** | **110** | **86** | **90** | **109** | **101** | **56** | **96** | **92** | **128** | **70** | **100** | **-30** |
| **OECD Europe** | | | | | | | | | | | | |
| OECD Americas | 12 | 24 | 13 | 13 | 6 | 21 | 11 | 10 | 13 | 9 | 9 | 0 |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 6 | 4 | 5 | 1 | 3 | 6 | 10 | - | 21 | 10 | 2 | 8 |
| Non-OECD Europe | 13 | 12 | 31 | 17 | 35 | 47 | 25 | 54 | 4 | 18 | 16 | 2 |
| FSU | 141 | 247 | 121 | 216 | 119 | 89 | 63 | 53 | 42 | 93 | 233 | -141 |
| Saudi Arabia | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Algeria | 2 | 2 | 5 | - | 13 | 4 | 2 | - | 7 | - | - | - |
| Other Middle East and Africa | 13 | 14 | 21 | 11 | 34 | 9 | 31 | 44 | 46 | 2 | 24 | -22 |
| Singapore | 3 | 3 | 2 | 5 | 0 | 2 | 0 | - | - | 1 | 0 | 1 |
| OECD Asia Oceania | 4 | 3 | 8 | 7 | 7 | 7 | 11 | 7 | 14 | 14 | - | - |
| Non-OECD Asia (excl. Singapore) | - | - | 2 | - | - | 3 | 6 | 7 | 7 | 5 | - | - |
| Other | 93 | 59 | 45 | 30 | 33 | 51 | 67 | 62 | 100 | 40 | 147 | -107 |
| **Total[2]** | **288** | **368** | **254** | **300** | **251** | **238** | **227** | **237** | **254** | **192** | **432** | **-240** |
| ***of which Non-OECD*** | **279** | **347** | **239** | **282** | **239** | **215** | **220** | **261** | **227** | **171** | **423** | **-252** |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| OECD Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Venezuela | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Central and South America | 0 | - | - | - | - | - | - | - | - | - | - | - |
| ARA (Belgium Germany Netherlands) | - | 0 | 0 | - | 0 | - | 0 | 0 | - | 1 | - | - |
| Other Europe | - | - | 0 | - | - | - | 0 | 0 | - | - | - | - |
| FSU | 5 | 0 | - | - | - | - | - | - | - | - | - | - |
| Saudi Arabia | 1 | 13 | 16 | 12 | 29 | 15 | 7 | - | 22 | - | 28 | - |
| Algeria | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Middle East and Africa | 38 | 30 | 7 | 6 | 6 | 2 | 13 | 14 | 4 | 19 | 43 | -24 |
| Singapore | 18 | 29 | 22 | 34 | 21 | 19 | 15 | 4 | 15 | 26 | 13 | 13 |
| Non-OECD Asia (excl. Singapore) | 26 | 47 | 44 | 64 | 39 | 32 | 40 | 71 | 23 | 26 | 64 | -37 |
| Other | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total[2]** | **88** | **119** | **89** | **117** | **96** | **68** | **75** | **90** | **64** | **72** | **146** | **-75** |
| ***of which Non-OECD*** | **88** | **119** | **89** | **117** | **96** | **68** | **75** | **90** | **64** | **71** | **146** | **-75** |
| **Total OECD Trade[2]** | **519** | **588** | **464** | **556** | **482** | **387** | **434** | **445** | **507** | **352** | **694** | **-341** |
| ***of which Non-OECD*** | **477** | **552** | **418** | **508** | **436** | **339** | **391** | **443** | **419** | **312** | **670** | **-357** |

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

2 Total figure excludes intra-regional trade.

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

($/bbl)

| | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Sep 22 | Oct 22 | Nov 22 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CRUDE PRICES** | | | | | | | | | | | | | |
| **IEA CIF Average Import**[1] | | | | | | | | | | | | | |
| IEA Europe | 42.91 | 70.67 | 100.22 | 97.95 | 111.08 | 102.36 | 89.43 | 92.34 | 92.21 | 91.79 | 84.84 | | |
| IEA Americas | 37.31 | 64.78 | 90.77 | 86.94 | 106.20 | 92.16 | 77.18 | 83.23 | 81.53 | 78.56 | 71.47 | | |
| IEA Asia Oceania | 46.28 | 70.41 | 102.56 | 89.86 | 113.01 | 111.62 | 96.43 | 107.28 | 102.95 | 94.84 | 91.9 | | |
| **IEA Total** | **42.19** | **68.87** | **98.2** | **92.72** | **110.17** | **101.9** | **87.97** | **93.54** | **91.95** | **89.14** | **83.17** | | |
| **SPOT PRICES**[2] | | | | | | | | | | | | | |
| North Sea Dated | 41.76 | 70.82 | 101.10 | 102.12 | 113.90 | 100.66 | 88.36 | 89.76 | 93.11 | 91.10 | 80.36 | 82.86 | 82.50 |
| North Sea Dated M1 | 42.90 | 71.51 | 101.17 | 101.45 | 114.15 | 100.16 | 89.54 | 91.49 | 94.52 | 92.28 | 81.31 | 84.19 | 83.74 |
| WTI (Cushing) M1 | 39.25 | 68.10 | 94.67 | 95.18 | 108.77 | 91.91 | 82.82 | 83.96 | 87.26 | 84.78 | 76.50 | 78.11 | 76.84 |
| WTI (Houston) M1 | 40.71 | 69.01 | 96.27 | 96.77 | 109.96 | 94.04 | 84.33 | 86.34 | 89.60 | 86.27 | 77.21 | 79.59 | 79.28 |
| Urals | 41.21 | 69.00 | 76.58 | 89.49 | 79.11 | 75.41 | 62.46 | 68.59 | 73.28 | 65.40 | 47.87 | 45.83 | 46.78 |
| Dubai M1 | 42.36 | 69.35 | 96.32 | 96.06 | 108.12 | 96.79 | 84.68 | 91.10 | 91.08 | 86.12 | 77.09 | 80.41 | 82.05 |
| **PRODUCT PRICES**[2] | | | | | | | | | | | | | |
| **Northwest Europe** | | | | | | | | | | | | | |
| Gasoline | 44.64 | 80.07 | 117.16 | 110.20 | 146.06 | 114.30 | 99.41 | 98.47 | 110.80 | 102.07 | 84.51 | 97.41 | 96.35 |
| Diesel | 49.34 | 78.41 | 142.39 | 124.88 | 160.84 | 145.21 | 139.55 | 139.29 | 162.68 | 134.75 | 120.56 | 124.73 | 109.89 |
| Jet/Kero | 45.80 | 77.31 | 139.96 | 122.94 | 165.15 | 142.09 | 130.90 | 134.91 | 138.99 | 132.07 | 121.11 | 128.40 | 112.29 |
| Naphtha | 40.18 | 71.58 | 86.64 | 99.99 | 97.26 | 77.03 | 72.63 | 70.37 | 75.57 | 75.15 | 66.76 | 77.51 | 80.75 |
| HSFO | 33.99 | 61.18 | 76.72 | 84.19 | 92.98 | 70.72 | 59.67 | 63.12 | 60.23 | 61.74 | 56.80 | 60.32 | 60.62 |
| 0.5% Fuel Oil | 48.50 | 76.78 | 107.14 | 109.62 | 126.09 | 106.56 | 87.19 | 96.12 | 94.38 | 88.73 | 77.95 | 85.56 | 85.41 |
| **Mediterranean Europe** | | | | | | | | | | | | | |
| Gasoline | 45.57 | 80.50 | 119.90 | 111.66 | 147.99 | 117.35 | 103.89 | 99.07 | 108.74 | 112.24 | 89.60 | 100.32 | 99.83 |
| Diesel | 48.82 | 77.93 | 136.16 | 122.53 | 156.54 | 136.06 | 130.46 | 132.06 | 148.51 | 129.87 | 112.15 | 123.96 | 108.43 |
| Jet/Kero | 45.57 | 77.19 | 140.07 | 123.04 | 164.87 | 142.30 | 131.28 | 135.16 | 139.44 | 132.50 | 121.36 | 128.65 | 112.51 |
| Naphtha | 39.04 | 70.65 | 84.74 | 98.64 | 94.95 | 75.37 | 70.36 | 68.91 | 73.55 | 73.01 | 64.08 | 75.83 | 78.82 |
| HSFO | 34.17 | 60.05 | 73.58 | 82.75 | 89.63 | 65.84 | 56.73 | 52.07 | 57.51 | 58.64 | 53.81 | 55.53 | 56.03 |
| **US Gulf Coast** | | | | | | | | | | | | | |
| Gasoline | 47.30 | 86.49 | 123.12 | 116.70 | 153.69 | 119.07 | 103.04 | 106.77 | 116.16 | 102.36 | 90.55 | 106.15 | 103.64 |
| Diesel | 50.26 | 84.73 | 145.79 | 126.70 | 167.83 | 146.96 | 141.65 | 140.22 | 159.40 | 141.16 | 124.37 | 133.56 | 116.17 |
| Jet/Kero | 46.30 | 77.95 | 140.06 | 121.54 | 163.46 | 140.49 | 134.73 | 136.19 | 148.53 | 133.22 | 122.36 | 148.09 | 117.43 |
| Naphtha | 40.12 | 72.24 | 91.33 | 99.45 | 105.15 | 84.63 | 76.09 | 75.70 | 81.05 | 76.50 | 70.75 | 84.75 | 79.90 |
| HSFO | 34.71 | 59.90 | 77.10 | 83.38 | 93.04 | 76.51 | 55.48 | 61.76 | 52.59 | 59.87 | 54.18 | 55.23 | 57.56 |
| 0.5% Fuel Oil | 49.88 | 79.69 | 113.04 | 114.08 | 133.17 | 112.20 | 92.69 | 99.54 | 100.80 | 94.68 | 82.69 | 91.63 | 93.47 |
| **Singapore** | | | | | | | | | | | | | |
| Gasoline | 45.28 | 78.49 | 110.99 | 111.63 | 137.95 | 106.08 | 89.89 | 94.03 | 91.16 | 93.11 | 85.09 | 95.49 | 95.86 |
| Diesel | 49.60 | 77.80 | 135.52 | 119.08 | 159.99 | 138.17 | 126.25 | 129.66 | 137.25 | 127.61 | 113.75 | 116.12 | 107.64 |
| Jet/Kero | 45.06 | 75.29 | 126.96 | 113.53 | 147.63 | 129.57 | 118.30 | 121.58 | 123.40 | 121.01 | 110.22 | 115.07 | 106.77 |
| Naphtha | 40.94 | 71.02 | 83.96 | 98.04 | 92.73 | 74.63 | 70.92 | 68.22 | 71.86 | 74.22 | 66.34 | 72.52 | 76.98 |
| HSFO | 38.33 | 63.20 | 77.81 | 85.69 | 98.18 | 69.96 | 58.60 | 60.36 | 57.46 | 61.74 | 56.28 | 58.90 | 62.14 |
| 0.5% Fuel Oil | 52.85 | 80.81 | 116.91 | 115.97 | 139.05 | 116.26 | 97.77 | 101.48 | 105.77 | 99.25 | 88.14 | 92.84 | 94.11 |

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

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

IEA Americas includes United States and Canada.

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

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

February 2023

| | NATIONAL CURRENCY [1] | | | | | | US DOLLARS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Price | % change from Jan-23 | % change from Feb-22 | Ex-Tax Price | % change from Jan-23 | % change from Feb-22 | Total Price | % change from Jan-23 | % change from Feb-22 | Ex-Tax Price | % change from Jan-23 | % change from Feb-22 |
| **GASOLINE [2] (per litre)** | | | | | | | | | | | | |
| France | 1.909 | 3.5 | 6.8 | 0.900 | 6.4 | 12.6 | 2.043 | 2.9 | 0.7 | 0.963 | 5.7 | 6.3 |
| Germany | 1.817 | 1.8 | - | 0.804 | 0.1 | -7.9 | 1.945 | 1.2 | -5.6 | 0.861 | -0.5 | -13.1 |
| Italy | 1.862 | 1.7 | 1.0 | 0.798 | 3.4 | 1.9 | 1.993 | 1.1 | -4.7 | 0.854 | 2.7 | -3.8 |
| Spain | 1.640 | 1.0 | 3.5 | 0.882 | 1.5 | 5.5 | 1.755 | 0.4 | -2.3 | 0.944 | 0.9 | -0.5 |
| United Kingdom | 1.481 | - 0.9 | 0.3 | 0.704 | -1.5 | 8.3 | 1.790 | -2.0 | -10.4 | 0.851 | -2.6 | -3.3 |
| Japan | 167.6 | - 0.4 | - 2.5 | 95.8 | -0.5 | -3.9 | 1.262 | -2.0 | -15.4 | 0.721 | -2.1 | -16.7 |
| Canada | 1.503 | - 1.8 | - 6.5 | 1.040 | -2.3 | -6.2 | 1.117 | -1.9 | -11.6 | 0.773 | -2.4 | -11.3 |
| United States | 0.896 | 1.6 | - 3.6 | 0.764 | 1.9 | -4.3 | 0.896 | 1.6 | -3.6 | 0.764 | 1.9 | -4.3 |
| **AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)** | | | | | | | | | | | | |
| France | 1.841 | - 2.2 | 7.8 | 0.925 | -3.5 | 13.6 | 1.971 | -2.8 | 1.7 | 0.990 | -4.1 | 7.2 |
| Germany | 1.762 | - 4.3 | 4.8 | 0.936 | -10.7 | -0.7 | 1.886 | -4.9 | -1.1 | 1.002 | -11.2 | -6.3 |
| Italy | 1.852 | - 1.5 | 8.0 | 0.901 | -2.6 | 14.2 | 1.982 | -2.1 | 1.9 | 0.964 | -3.2 | 7.8 |
| Spain | 1.626 | - 3.4 | 10.5 | 0.965 | -4.6 | 15.3 | 1.740 | -4.0 | 4.3 | 1.033 | -5.2 | 8.8 |
| United Kingdom | 1.696 | - 1.4 | 11.8 | 0.883 | -2.3 | 29.1 | 2.050 | -2.5 | -0.2 | 1.067 | -3.4 | 15.2 |
| Japan | 147.8 | - 0.3 | - 2.5 | 102.4 | -0.3 | -3.2 | 1.113 | -1.9 | -15.5 | 0.771 | -1.9 | -16.1 |
| Canada | 1.744 | - 11.1 | 6.9 | 1.301 | -13.1 | 10.4 | 1.296 | -11.2 | 1.1 | 0.967 | -13.3 | 4.4 |
| United States | 1.166 | - 3.6 | 9.5 | 1.012 | -4.2 | 10.7 | 1.166 | -3.6 | 9.5 | 1.012 | -4.2 | 10.7 |
| **DOMESTIC HEATING OIL (per litre)** | | | | | | | | | | | | |
| France | 1.310 | - 4.1 | 10.6 | 0.935 | -4.8 | 12.5 | 1.402 | -4.7 | 4.3 | 1.001 | -5.3 | 6.2 |
| Germany | 1.132 | - 8.4 | 12.6 | 0.809 | -12.8 | 3.3 | 1.211 | -8.9 | 6.2 | 0.866 | -13.3 | -2.5 |
| Italy | 1.579 | - 4.6 | 3.8 | 0.891 | -6.6 | 5.5 | 1.691 | -5.2 | -2.1 | 0.954 | -7.2 | -0.4 |
| Spain | 1.093 | - 6.8 | 12.9 | 0.807 | -7.5 | 14.6 | 1.170 | -7.3 | 6.5 | 0.863 | -8.1 | 8.2 |
| United Kingdom | 0.839 | - 9.2 | 7.5 | 0.697 | -10.4 | 10.4 | 1.014 | -10.2 | -4.0 | 0.843 | -11.4 | -1.5 |
| Japan [3] | 111.1 | - 0.2 | 0.9 | 98.2 | -0.2 | 0.9 | 0.836 | -1.8 | -12.5 | 0.739 | -1.8 | -12.5 |
| Canada | 1.787 | - 9.3 | 16.4 | 1.592 | -9.3 | 17.6 | 1.328 | -9.5 | 10.0 | 1.183 | -9.5 | 11.2 |
| United States | - | - | - | - | - | - | - | - | - | - | - | - |
| **LOW SULPHUR FUEL OIL FOR INDUSTRY [4] (per kg)** | | | | | | | | | | | | |
| France | 0.672 | 3.0 | - 10.6 | 0.533 | 3.9 | -13.1 | 0.720 | 2.4 | -15.7 | 0.570 | 3.2 | -18.0 |
| Germany | - | - | - | - | - | - | - | - | - | - | - | - |
| Italy | 0.652 | 1.5 | - 5.7 | 0.620 | 1.6 | -6.0 | 0.698 | 0.9 | -11.0 | 0.664 | 1.0 | -11.3 |
| Spain | 0.580 | - 1.2 | 4.8 | 0.563 | -1.2 | 5.0 | 0.621 | -1.8 | -1.1 | 0.603 | -1.8 | -0.9 |
| United Kingdom | - | - | - | - | - | - | - | - | - | - | - | - |
| Japan | - | - | - | - | - | - | - | - | - | - | - | - |
| Canada | - | - | - | - | - | - | - | - | - | - | - | - |
| United States | - | - | - | - | - | - | - | - | - | - | - | - |

1 Prices for France, Germany, Italy and Spain are in Euros; UK in British Pounds, Japan in Yen, Canada in Canadian Dollars
2 Unleaded premium (95 RON) for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States.
3 Kerosene for Japan.
4 VAT excluded from prices for low sulphur fuel oil when refunded to industry.

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

| $/bbl | 2020 | 2021 | 2022 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | Sep 22 | Oct 22 | Nov 22 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NW Europe** | | | | | | | | | | | | | |
| Light sweet hydroskimming | 1.11 | 2.54 | 10.02 | 5.27 | 15.29 | 8.94 | 10.81 | 12.60 | 18.20 | 8.00 | 6.12 | 11.21 | 7.28 |
| Light sweet cracking | 2.07 | 3.51 | 16.18 | 8.85 | 22.17 | 15.19 | 18.77 | 18.73 | 28.10 | 15.32 | 12.75 | 18.20 | 11.95 |
| Light sweet cracking + Petchem | 3.23 | 6.55 | 18.41 | 10.98 | 26.45 | 16.98 | 19.60 | 19.25 | 27.95 | 16.36 | 14.38 | 18.44 | 12.24 |
| Medium sour cracking* | 4.30 | 6.11 | 39.13 | 21.55 | 59.43 | 37.59 | 38.87 | 36.92 | 51.37 | 43.03 | 21.16 | 24.48 | 15.99 |
| Mediumsour cracking + Petchem* | 5.44 | 9.07 | 41.30 | 23.63 | 63.59 | 39.33 | 39.69 | 37.42 | 51.22 | 44.03 | 22.79 | 24.72 | 16.27 |
| **Mediterranean** | | | | | | | | | | | | | |
| Light sweet hydroskimming | 2.36 | 2.90 | 9.05 | 4.13 | 13.88 | 7.56 | 10.84 | 13.16 | 16.58 | 9.22 | 6.59 | 11.21 | 7.49 |
| Light sweet cracking | 3.34 | 4.97 | 16.79 | 8.76 | 23.71 | 15.85 | 19.14 | 20.07 | 25.52 | 17.62 | 14.12 | 20.05 | 13.91 |
| Medium sour cracking | 5.70 | 5.68 | 21.64 | 11.85 | 30.24 | 20.49 | 24.36 | 22.74 | 30.72 | 22.78 | 19.42 | 27.89 | 18.75 |
| **US Gulf Coast** | | | | | | | | | | | | | |
| Light sweet cracking | 4.28 | 11.04 | 26.64 | 16.54 | 38.22 | 26.72 | 25.10 | 25.24 | 33.60 | 22.71 | 18.86 | 29.74 | 21.25 |
| Medium sour cracking | 6.61 | 15.79 | 35.70 | 25.08 | 47.39 | 35.32 | 35.01 | 32.85 | 43.51 | 32.36 | 29.05 | 40.17 | 29.26 |
| Heavy sour coking | 9.73 | 19.98 | 45.91 | 32.06 | 55.43 | 46.40 | 49.73 | 46.34 | 62.38 | 48.59 | 38.16 | 54.39 | 40.66 |
| **US Midwest** | | | | | | | | | | | | | |
| Light sweet cracking | 3.74 | 12.33 | 29.85 | 13.95 | 40.42 | 34.23 | 30.81 | 36.13 | 44.90 | 33.72 | 13.94 | 27.06 | 22.25 |
| Heavy sour coking | 13.26 | 26.02 | 50.57 | 32.07 | 60.64 | 53.96 | 55.59 | 56.76 | 71.61 | 59.49 | 35.85 | 54.29 | 42.94 |
| **Singapore** | | | | | | | | | | | | | |
| Light sweet cracking | 0.20 | 3.10 | 11.48 | 7.94 | 18.69 | 10.93 | 8.75 | 8.85 | 9.10 | 8.27 | 8.92 | 13.13 | 9.43 |
| Light sweet cracking + Petchem | 2.03 | 4.82 | 12.94 | 8.63 | 20.69 | 12.83 | 10.05 | 11.28 | 10.28 | 9.18 | 10.77 | 13.84 | 10.15 |
| Medium sour cracking | 1.80 | 3.92 | 12.87 | 9.85 | 23.35 | 7.91 | 10.83 | 4.63 | 9.01 | 12.17 | 11.19 | 14.78 | 10.21 |
| Medium sour cracking + Petchem | 3.61 | 5.61 | 14.31 | 10.53 | 25.33 | 9.79 | 12.11 | 7.02 | 10.17 | 13.07 | 13.01 | 15.48 | 10.93 |

Source: IEA, Argus Media Ltd prices.

Methodology notes are avaialble 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)[1]

| | Oct-22 | Nov-22 | Dec-22 | Dec-21 | Dec 22 vs Previous Month | Dec 22 vs Previous Year | Dec 22 vs 5 Year Average | 5 Year Average |
|---|---|---|---|---|---|---|---|---|
| **OECD Americas** | | | | | | | | |
| Naphtha | 0.9 | 1.0 | 0.9 | 1.1 | -0.1 | -0.3 | -0.5 | 1.4 |
| Motor gasoline | 46.2 | 46.4 | 46.3 | 48.2 | -0.2 | -1.9 | -1.1 | 47.4 |
| Jet/kerosene | 8.7 | 8.8 | 8.7 | 8.1 | -0.1 | 0.6 | 0.1 | 8.6 |
| Gasoil/diesel oil | 29.2 | 29.4 | 28.6 | 28.1 | -0.8 | 0.5 | -0.3 | 28.9 |
| Residual fuel oil | 3.2 | 2.9 | 3.3 | 2.6 | 0.4 | 0.7 | 0.5 | 2.8 |
| Petroleum coke | 4.2 | 4.2 | 4.2 | 4.3 | -0.1 | -0.1 | -0.3 | 4.4 |
| Other products | 11.6 | 11.3 | 11.3 | 10.9 | 0.0 | 0.4 | 1.0 | 10.4 |
| **OECD Europe** | | | | | | | | |
| Naphtha | 8.7 | 8.3 | 8.4 | 8.5 | 0.2 | -0.1 | -0.1 | 8.6 |
| Motor gasoline | 19.5 | 20.6 | 20.9 | 21.2 | 0.3 | -0.3 | -0.1 | 21.0 |
| Jet/kerosene | 7.7 | 7.5 | 7.6 | 6.5 | 0.2 | 1.1 | 0.1 | 7.5 |
| Gasoil/diesel oil | 39.9 | 41.1 | 41.6 | 41.3 | 0.5 | 0.3 | 0.5 | 41.1 |
| Residual fuel oil | 9.3 | 8.0 | 8.0 | 8.7 | 0.0 | -0.7 | -0.9 | 8.9 |
| Petroleum coke | 1.7 | 1.6 | 1.5 | 1.6 | -0.1 | 0.0 | 0.1 | 1.5 |
| Other products | 15.2 | 15.2 | 14.2 | 15.0 | -0.9 | -0.8 | 0.2 | 14.0 |
| **OECD Asia Oceania** | | | | | | | | |
| Naphtha | 16.0 | 16.7 | 16.1 | 16.1 | -0.6 | 0.0 | 0.4 | 15.7 |
| Motor gasoline | 21.0 | 21.2 | 21.8 | 22.9 | 0.6 | -1.1 | -0.4 | 22.2 |
| Jet/kerosene | 13.5 | 14.0 | 14.0 | 13.3 | 0.1 | 0.7 | -0.7 | 14.7 |
| Gasoil/diesel oil | 31.3 | 30.4 | 30.8 | 30.2 | 0.4 | 0.6 | 1.1 | 29.7 |
| Residual fuel oil | 8.9 | 8.9 | 8.4 | 8.2 | -0.6 | 0.2 | 1.3 | 7.1 |
| Petroleum coke | 0.3 | 0.3 | 0.5 | 0.5 | 0.1 | 0.0 | 0.0 | 0.4 |
| Other products | 11.9 | 11.3 | 11.3 | 12.3 | 0.0 | -1.0 | -0.7 | 12.1 |
| **OECD Total** | | | | | | | | |
| Naphtha | 5.9 | 5.9 | 6.0 | 6.1 | 0.1 | -0.1 | -0.3 | 6.3 |
| Motor gasoline | 33.5 | 34.1 | 33.7 | 35.2 | -0.4 | -1.5 | -0.7 | 34.4 |
| Jet/kerosene | 9.2 | 9.2 | 9.3 | 8.5 | 0.0 | 0.7 | -0.1 | 9.4 |
| Gasoil/diesel oil | 33.0 | 33.2 | 33.2 | 32.7 | 0.0 | 0.6 | 0.4 | 32.9 |
| Residual fuel oil | 6.1 | 5.5 | 5.7 | 5.5 | 0.2 | 0.2 | 0.2 | 5.5 |
| Petroleum coke | 2.7 | 2.8 | 2.7 | 2.7 | -0.1 | -0.1 | -0.1 | 2.8 |
| Other products | 12.8 | 12.5 | 12.3 | 12.5 | -0.2 | -0.2 | 0.5 | 11.8 |

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

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

| | 2020 | 2021 | 2022 | 2Q22 | 3Q22 | 4Q22 | Dec 22 | Jan 23 | Feb 23 |
|---|---|---|---|---|---|---|---|---|---|
| **ETHANOL** | | | | | | | | | |
| **OECD Americas** | **934** | **1008** | **1034** | **1038** | **1000** | **1043** | **1002** | **1041** | **1041** |
| United States | 906 | 979 | 1002 | 1006 | 968 | 1012 | 970 | 1004 | 1004 |
| Other [1] | 28 | 28 | 32 | 32 | 32 | 32 | | | |
| **OECD Europe** | **95** | **101** | **107** | **112** | **117** | **97** | **104** | **106** | **106** |
| France | 18 | 18 | 20 | 23 | 26 | 11 | 18 | 20 | 20 |
| Germany | 12 | 12 | 13 | 14 | 14 | 13 | 13 | 13 | 13 |
| Spain | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| United Kingdom | 6 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Other [1] | 50 | 53 | 54 | 55 | 57 | 54 | | | |
| **OECD Asia Oceania** | **4** | **4** | **4** | **4** | **4** | **4** | **4** | **5** | **5** |
| Australia | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Other [1] | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| **Total OECD Ethanol** | **1033** | **1113** | **1144** | **1154** | **1120** | **1144** | **1109** | **1152** | **1152** |
| **Total Non-OECD Ethanol** | **751** | **718** | **756** | **865** | **1121** | **701** | **443** | **379** | **333** |
| Brazil | 560 | 515 | 528 | 637 | 893 | 472 | 214 | 131 | 85 |
| China [1] | 69 | 76 | 81 | 79 | 79 | 86 | | | |
| Argentina [1] | 15 | 18 | 21 | 21 | 21 | 21 | | | |
| Other | 106 | 110 | 126 | 128 | 128 | 120 | 228 | 248 | 248 |
| **TOTAL ETHANOL** | **1783** | **1832** | **1900** | **2019** | **2241** | **1845** | **1552** | **1531** | **1485** |
| **BIODIESEL** | | | | | | | | | |
| **OECD Americas** | **160** | **167** | **212** | **212** | **222** | **222** | **215** | **254** | **254** |
| United States | 153 | 160 | 201 | 201 | 211 | 212 | 205 | 239 | 239 |
| Other [1] | 7 | 7 | 10 | 10 | 10 | 10 | | | |
| **OECD Europe** | **274** | **302** | **312** | **324** | **313** | **299** | **277** | **316** | **316** |
| France | 48 | 51 | 51 | 57 | 50 | 48 | 40 | 51 | 51 |
| Germany | 62 | 64 | 64 | 65 | 62 | 63 | 62 | 63 | 63 |
| Italy [1] | 28 | 24 | 25 | 29 | 30 | 23 | | | |
| Spain | 24 | 31 | 31 | 31 | 32 | 31 | 31 | 32 | 32 |
| Other | 112 | 133 | 141 | 142 | 140 | 134 | 124 | 144 | 144 |
| **OECD Asia Oceania** | **12** | **12** | **12** | **13** | **14** | **10** | **9** | **12** | **12** |
| Australia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other [1] | 12 | 12 | 12 | 13 | 14 | 10 | | | |
| **Total OECD Biodiesel** | **446** | **482** | **535** | **549** | **549** | **530** | **501** | **581** | **581** |
| **Total Non-OECD Biodiesel** | **422** | **472** | **513** | **513** | **513** | **513** | **513** | **571** | **571** |
| Brazil | 111 | 116 | 108 | 105 | 116 | 110 | 105 | 88 | 135 |
| Argentina [1] | 27 | 36 | 42 | 42 | 42 | 42 | | | |
| Other [1] | 285 | 319 | 363 | 366 | 355 | 362 | | | |
| **TOTAL BIODIESEL** | **868** | **954** | **1049** | **1062** | **1062** | **1044** | **1015** | **1152** | **1152** |
| **GLOBAL BIOFUELS** | **2651** | **2785** | **2949** | **3081** | **3304** | **2889** | **2566** | **2683** | **2637** |

1 monthly data not available.

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International Energy Agency

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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).