Organization of the Petroleum Exporting Countries

OPEC Monthly Oil Market Report

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Feature article:
World oil market prospects for the second half of 2023

Organization of the Petroleum Exporting Countries

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Oil Market Highlights

Crude Oil Price Movements

The OPEC Reference Basket (ORB) fell by $8.31, or 9.9%, m-o-m to average $75.82/b in May. The ICE Brent front-month contract declined by $7.68, or 9.2%, m-o-m to $75.69/b, and NYMEX WTI front-month contract declined by $7.82, or 9.8%, m-o-m to average $71.62/b. The DME Oman front-month contract declined by $8.69, or 10.4% m-o-m, to settle at $74.78/b. The front-month ICE Brent/NYMEX WTI spread widened by 14¢ m-o-m to average $4.07/b in May. The futures forward curves of ICE Brent, NYMEX WTI and DME Oman weakened during the month, and hedge funds and other money managers heavily cut bullish positions in ICE Brent and NYMEX WTI.

World Economy

World economic growth is estimated at 3.3% for 2022 and forecast at 2.6% for 2023, both unchanged from the previous month's assessment. While economic activities have been steady so far in the 1H22, the global economy continues to navigate through uncertainties including high inflation, higher interest rates in the US and the Euro-zone, and high debt levels in many regions. The US economic growth forecast for 2023 is revised up by 0.1% to stand at 1.3%, following a growth of 2.1% for 2022. The Euro-zone's economic growth forecast for 2023 remains at 0.8%, following a growth of 3.5% for 2022. Japan's economic growth forecast remains at 1.0% for both 2022 and 2023. China's economic growth forecast remains at 5.2% for 2023, following a growth of 3.0% for 2022. India's 2022 economic growth estimate is unchanged at 6.7%, and the forecast for 2023 remains at 5.6%. Brazil's economic growth estimates for 2022 and 2023 are unchanged at 2.9% and 1.0%, respectively. Russia's growth is also unchanged, with an estimated contraction of 2.1% for 2022 and a forecast contraction of 0.5% for 2023.

World Oil Demand

The world oil demand growth estimate for 2022 remains unchanged from last month's assessment, with y-o-y growth of 2.5 mb/d. For 2023, the forecast for world oil demand growth remains broadly unchanged at 2.3 mb/d. China, Latin America, and the Middle East have been revised up slightly, while OECD Europe, Other Asia and Africa have been adjusted slightly lower. The OECD is expected to grow by about 50 tb/d and the non-OECD by about 2.3 mb/d in 2023.

World Oil Supply

Non-OPEC liquids supply is estimated to have grown by 1.9 mb/d in 2022, broadly unchanged from the previous month's assessment. The main drivers of liquids supply growth for 2022 were the US, Russia, Canada, Guyana, China and Brazil, while the largest declines were seen in Norway and Thailand. For 2023, non-OPEC liquids production growth remains unchanged from last month's assessment, at 1.4 mb/d, y-o-y. The main drivers of liquids supply growth are expected to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, while declines are expected primarily from Russia. Uncertainties remain related to US shale oil output potential and unplanned maintenance in 2023. OPEC NGLs and non-conventional liquids are forecast to grow by 0.1 mb/d in 2022 to average 5.39 mb/d and by 50 tb/d to average 5.44 mb/d in 2023. OPEC-13 crude oil production in May decreased by 464 tb/d m-o-m to average 28.06 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Refinery margins in the US Gulf Coast (USGC) declined for the second-consecutive month in May to their lowest level this year. This downturn – attributable to rising refinery product output levels – was considerably more limited than that seen in April, with most of the decline driven by transport fuels. In Rotterdam, margins showed solid gains backed by stronger gasoline and fuel oil markets. Lower feedstock prices provided further support and led to mild gains for Asian refining economics. Preliminary estimates indicate that the global refinery intake rose further m-o-m in May, increasing 556 tb/d to average 81.3 mb/d.

Tanker Market

Dirty freight rates showed mixed movement in May. VLCCs experienced m-o-m declines on all monitored routes, with Middle East-to-East spot freight rates falling 27% as long-haul tanker demand declined. Suezmax rates recovered some of the previous month's losses, with rates on the USGC-to-Europe route increasing 35%. Aframax spot freight rates showed a strong performance on the Caribbean-to-US East Coast route, which jumped 121%, while Mediterranean routes saw a mixed performance, with intra-Med rates up 2% and Mediterranean-to-Northwest Europe rates down 9%. Clean freight rates showed declines on all reported routes, with the steepest losses on West of Suez routes.

Crude and Refined Products Trade

Preliminary data shows US crude imports increased m-o-m in May to average 6.4 mb/d. US crude exports exhibited a still strong performance, averaging 4.3 mb/d, although lower than the record level of 4.8 mb/d achieved in March. China's crude imports in April fell back from the high levels of the previous month, to average about 10.3 mb/d, although preliminary data shows a recovery in May to average 12.2 mb/d. China's product imports jumped 26% to reach a record high of 2.2 mb/d, driven by inflows of LPG, naphtha and fuel oil. In April, India's crude imports slipped further from the 10-month high seen in February to average a still robust 4.8 mb/d. India's product exports fell sharply from last month's high levels to average 1.1 mb/d. Japan's crude imports recovered in April from seasonal lows, averaging 2.9 mb/d. Japan's product exports, including LPG, continued to decline, averaging 378 tb/d in April, the lowest since the same month last year. Preliminary estimates for May show OECD Europe crude imports declined seasonally, while tanker tracking data shows product imports remaining close to year-ago levels.

Commercial Stock Movements

Preliminary April 2023 data sees total OECD commercial oil stocks up m-o-m by 30.2 mb. At 2,808 mb, they were 144 mb higher than the same time one year ago, but 74 mb lower than the latest five-year average and 119 mb below the 2015–2019 average. Within the components, crude stocks fell by 0.5 mb, while product stocks rose m-o-m by 30.6 mb. OECD commercial crude stocks stood at 1,384 mb in April. This was 77 mb higher than the same time a year ago, but 42 mb below the latest five-year average and 88 mb lower than the 2015–2019 average. Total product inventories stood at 1,424 mb, representing a surplus of 66 mb above the same time a year ago, However, this was 32 mb lower than the latest five-year average and 30 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.1 days in April to stand at 60.9 days. This is 2.9 days above the April 2022 level, but 3.3 days lower than the latest five-year average and 1.3 days below the 2015–2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2022 remains unchanged from last month's assessment at 28.4 mb/d. This is around 0.5 mb/d higher than in 2021. Demand for OPEC crude in 2023 also remains unchanged from the previous assessment at 29.3 mb/d. This is around 0.9 mb/d higher than in 2022.

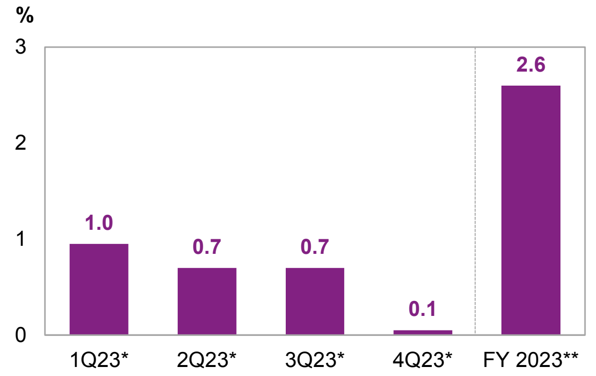
Feature Article

World oil market prospects for the second half of 2023

So far, both the US and the Euro-zone have experienced steady economic growth this year. Meanwhile, India, Brazil and Russia saw economic growths that clearly surpassed expectations. Moreover, the positive effects of China's reopening have continued supporting global economic growth. However, global economic growth in 2H23 continues navigating through uncertainties including elevated key-policy rates, persistently high core inflation and a continued tight labour market. Moreover, it is still unclear how the geopolitical conflict in Eastern Europe will be resolved.

Since the beginning of the year, the main economic support, at the global level, from the services sector, especially travel and transportation, tourism, leisure and hospitality. On the other hand, the manufacturing sector's dynamic has been very much lacklustre. This trend is expected to lead into the summer holiday season in the northern hemisphere, supported by still-sufficient disposable income levels, particularly in advanced economies. China is also benefitting from pent-up demand in the services sector after around three years of lockdowns. However, as the services sector-related spending tightens in 3Q23, inflation, financial tightening and rising geopolitical uncertainty, may dampen the growth dynamic towards the end of the year *(see **Graph 1**)*.

Graph 1: World GDP growth, q-o-q and y-o-y



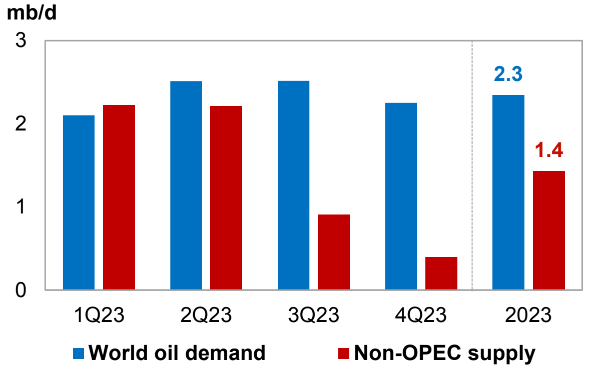
*Note: * Q-o-q change and ** Y-o-y change. Source: OPEC.*

Turning to the oil market, global oil demand is forecast to grow by 2.4 mb/d y-o-y in 2H23. For the year, world oil demand is forecast to grow by 2.3 mb/d *(see **Graph 2**).* In the OECD, oil demand is estimated to increase by 0.2 mb/d in 2H23 y-o-y, driven mostly by the US and Asia Pacific. However, OECD Europe is anticipated to be weak. In terms of products, jet kerosene and gasoline are anticipated to be the drivers of demand in the region, while diesel is expected to be subdued by weak economic activity and geopolitically induced supply-chain bottlenecks. Naphtha is also anticipated to remain in a contraction zone due to weak petrochemical margins. In the non-OECD, the opening of China and better-than-expected performance in other countries of the region are expected to drive oil demand. Improving driving mobility and air travel recovery, as well as improvements in manufacturing sector activity, are projected to support jet/ kerosene, gasoline and distillate demand. Oil demand in the non-OECD is forecast to grow on average by 2.2 mb/d y-o-y in 2H23, with China remaining the largest contributor to oil demand growth. In terms of main products, jet fuel is expected to lead oil demand growth in the region, followed by gasoline and diesel, and supported by the "other products" category.

Following the estimated growth of 2.2 mb/d y-o-y in 1H23, the non-OPEC liquids supply is forecast to grow by 0.7 mb/d y-o-y in 2H23. For the entire year, the non-OPEC liquids supply is anticipated to grow by 1.4 mb/d y-o-y (*see **Graph 2***).

On a regional basis, OECD liquids supply is expected to grow by 1.3 mb/d y-o-y in 2H23, mainly in the US, with a projected increase of 0.8 mb/d, and additional incremental production is expected to come from Norway and Canada. However, liquids supply from the non-OECD region is forecast to drop by 0.7 mb/d y-o-y in 2H23. Higher production from Latin America, Other Eurasia and China is forecast to be more than offset by lower output in Russia, amid uncertainty, particularly regarding US shale oil developments, which continue to dominate in 2H23.

Graph 2: World oil demand and Non-OPEC supply, y-o-y changes



Note: 2023 = Forecast. Source: OPEC.

Given the uncertainty in the world economy and global oil markets, the Declaration of Cooperation (DoC) countries have decided in their 35th OPEC and non-OPEC Ministerial Meeting to continue their precautious, proactive, and pre-emptive approach and hence maintain their production adjustments until end of 2024, while monitoring the market closely to support stability in the months to come.

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Crude Oil Price Movements

The OPEC Reference Basket (ORB) value declined in May, dropping by $8.31/b, or 9.9%, to stand at $75.82/b. All ORB component values declined alongside their respective crude oil benchmarks, which largely offset a rise in most official selling prices in all regions.

Crude oil futures prices extended their losses in May experiencing a heavy selloff. Market sentiment weakened due to renewed worries about an economic slowdown and re-emerging US banking sector concerns. Investor sentiment also came under additional pressure after the US Federal Reserve increased its key interest rate again. Selloffs from hedge funds and other money managers cut net long positions by about 120 mb, fuelling the price decline.

On a monthly average, the ICE Brent front-month contract fell by $7.67, or 9.2%, to stand at $75.69/b in May. The NYMEX WTI front-month contract fell by $7.82, or 9.8%, to an average of $71.62/b. DME Oman crude oil futures prices fell m-o-m by $8.70, or 10.4%, to settle at $74.78/b.

Hedge funds and other money managers heavily cut their bullish positions in May after they were net buyers the previous month. This fuelled price volatility and contributed to a drop in futures prices. Money managers turned bearish on the outlook for crude oil prices and rushed to close long positions that had been built in April, amid weakness in the broader financial market and uncertainty about the US debt ceiling talks, with a deal agreed in early June, and subdued Chinese economic data that weighed on investor sentiment. Over the month, money managers cut their futures and options net long positions by 23,245 lots, between the weeks of 2 and 30 May, or 7.9% of the total net long positions.

The front end of major futures contracts ICE Brent, NYMEX WTI and DME Oman weakened in May compared with April, signalling a deteriorating economic and oil demand outlook. However, price benchmarks remained in backwardation for most of the month. Selling pressure was more pronounced in the nearest futures contracts compared to forwards contracts.

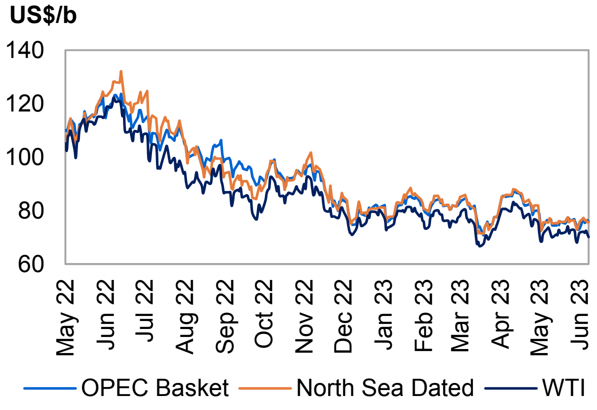
The premium of light sweet to medium sour crudes in all major regions continued to narrow in May. This was amid weaker light sweet crude market fundamentals and a narrower spread between light/medium distillates and heavy distillate product margins, such as the diesel/gasoil-HSFO spread. A well-supplied light sweet crude market and high US crude exports weighed on the value of light sweet crudes. Meanwhile, stronger HSFO margins that have risen for several months added support to heavy sour crudes.

Crude spot prices

Crude spot prices fell sharply in May erasing all of the previous month's gains, with the North Sea Dated benchmark dropping the most. On average, it was nearly 11% lower m-o-m. Selloffs in futures markets, high crude oil supply availability in Northwest Europe, an uncertain demand outlook and mixed refining margins weighed on the value of North Sea Dated.

Soft buying interest from several Asian buyers due to refinery turnarounds weighed on spot prices. Diesel margins continued to decline for several weeks, specifically in Asia, which also contributed to weakening oil prices.

Graph 1 - 1: Crude oil price movements



Sources: Argus, OPEC and Platts.

Despite the overall bearish sentiment, however, some factors provided support to spot prices. A large drop in US crude oil stocks in the week of 16 May provided some relief to the market. Additionally, renewed demand from French refiners and a wildfire outbreak in Canada, which reduced exports to the US, contributed to putting a floor under spot prices.

The value of the physical crude benchmark North Sea Dated against the ICE Brent futures benchmark narrowed by $1.41 on average in May, to a 12¢/b premium. This signalled softer physical crude market fundamentals, compared to the previous month.

Crude Oil Price Movements

All physical crude oil benchmarks declined m-o-m in May, with North Sea Dated falling the most among the main spot benchmarks, dropping by $9.08, or 10.7%, to average $75.82/b. WTI and Dubai front months fell respectively by $7.80 and $8.27, or 9.8% and 9.9%, to settle at $71.64/b and $75.13/b.

Table 1 - 1: OPEC Reference Basket and selected crudes, US$/b

			Change		*Year-to-date*	
OPEC Reference Basket (ORB)	**Apr 23**	**May 23**	**May 23/Apr 23**	**%**	**2022**	**2023**
ORB	**84.13**	**75.82**	**-8.31**	**-9.9**	**102.80**	**80.17**
Arab Light	85.65	77.72	-7.93	-9.3	103.69	82.00
Basrah Medium	81.75	73.32	-8.43	-10.3	101.36	77.10
Bonny Light	85.94	75.63	-10.31	-12.0	105.98	80.96
Djeno	77.45	68.37	-9.08	-11.7	97.14	73.19
Es Sider	84.00	75.32	-8.68	-10.3	104.34	79.61
Girassol	87.01	77.20	-9.81	-11.3	106.40	81.89
Iran Heavy	84.58	76.47	-8.11	-9.6	102.92	80.46
Kuwait Export	85.49	77.42	-8.07	-9.4	103.90	81.58
Merey	62.58	56.22	-6.36	-10.2	79.13	59.76
Murban	84.11	75.66	-8.45	-10.0	101.58	80.83
Rabi Light	84.44	75.36	-9.08	-10.8	104.13	80.18
Sahara Blend	85.40	76.42	-8.98	-10.5	107.47	81.76
Zafiro	85.90	76.82	-9.08	-10.6	106.08	80.89
Other Crudes						
North Sea Dated	84.90	75.82	-9.08	-10.7	104.59	80.64
Dubai	83.40	75.13	-8.27	-9.9	99.66	79.75
Isthmus	72.61	65.78	-6.83	-9.4	97.41	67.93
LLS	81.29	73.73	-7.56	-9.3	101.37	78.22
Mars	78.30	71.09	-7.21	-9.2	97.38	74.32
Minas	81.36	73.72	-7.64	-9.4	100.28	78.85
Urals	59.97	55.22	-4.75	-7.9	85.63	53.66
WTI	79.44	71.64	-7.80	-9.8	99.33	75.69
Differentials						
North Sea Dated/WTI	5.46	4.18	-1.28	-	5.26	4.95
North Sea Dated/LLS	3.61	2.09	-1.52	-	3.22	2.42
North Sea Dated/Dubai	1.50	0.69	-0.81	-	4.93	0.89

Sources: Argus, Direct Communication, OPEC and Platts.

Crude oil differentials were mixed in May, as softer demand from some European and Asian buyers and further improving west-to-east arbitrage weighed on the value of differentials. Most North Sea crude differentials weakened last month on lower European demand, the higher availability of similar crude quality, and tumbling light distillate product margins, including naphtha and diesel. Forties and Ekofisk crude differentials declined m-o-m in May by 96¢ and 47¢ each to settle respectively at premiums of $2.00/b and 23¢/b. However, crude differentials for Johan Sverdrup strengthened against North Sea Dated on firm demand for the grade in the first half of the month. Johan Sverdrup's crude differential rose m-o-m by 29¢/b in May to average a premium of 35¢/b.

Most **West African crude differentials** rose in May on strong demand from Asian refiners as the west-to-east arbitrage improved significantly amid a narrower Brent-Dubai spread. This made Brent-related crude more attractive in the east-Suez market. On a monthly average, Bonny Light, Forcados and Qua Iboe crude differentials to North Sea Dated rose in May by 66¢, 7¢ and 15¢, respectively, to stand at premiums of 38¢/b, 66¢/b and 43¢/b. The crude differential of Cabinda crude rose m-o-m in May by 36¢ on average, to a premium of $1.94/b, compared with a premium of $1.58/b in April. Likewise, in the Mediterranean, Saharan Blend crude differentials strengthened last month, increasing by 30¢ m-o-m to stand at a discount of 63¢/b. The Caspian light sour CPC Blend crude rose by 6¢ to stand at a $2.67/b discount to North Sea Dated. However, Azeri Light crude weakened against the North Sea Dated by 17¢ to stand at a premium of $3.22/b.

In the **Middle East**, several **crude differentials** to Dubai fell in May. The value of the Oman crude differential declined by 73¢ m-o-m to a premium of 91¢/b. In the USGC, the crude differentials of Light Louisiana Sweet (LLS) and Mars sour strengthened on firm demand from USCG refiners. The sour market firmed the most on supply disruptions, after the Zydeco pipeline, which transports crude from Houston to Louisiana, was halted for several weeks. LLS and Mars sour crude differentials against WTI at Cushing rose m-o-m in May, increasing by 23¢ and 60¢ on a monthly average, respectively, to a premium of $2.09/b and a discount of 54¢/b.

OPEC Reference Basket (ORB)

The **ORB** value declined in May, dropping by $8.31/b, or 9.9%, to stand at $75.82/b, as all ORB component values dropped alongside their perspective crude oil benchmarks. This largely offset a rise in most official selling prices in all regions. On a yearly average, the ORB was down $22.63, or 22.0%, from $102.80/b in 2022 to an average of $80.17/b in 2023.

All **ORB component values** fell last month alongside their respective crude oil benchmarks. West and North African Basket components – Bonny Light, Djeno, Es Sider, Girassol, Rabi Light, Sahara Blend, and Zafiro – declined by $9.29 m-o-m in May, or 11.0% on average, to $75.02/b.

Multiple region destination grades – Arab Light, Basrah Light, Iran Heavy, and Kuwait Export – fell by $8.14 m-o-m, or 9.6% on average, to settle at $76.23/b. Murban crude declined by $8.45 m-o-m, or 10.0% on average, to settle at $75.66/b, and the Merey crude component fell by $6.36 m-o-m, or 10.2% on average, to settle at $56.22/b.

The oil futures market

Crude oil futures prices extended their losses in May experiencing a heavy selloff due to a sharp drop in the broader financial markets. Oil futures were already under downward pressure in the second half of April amid a drop in financial markets, as market sentiment weakened due to renewed worries about an economic slowdown and re-emerging concerns about the US banking sector.

Market sentiment in May remained greatly influenced by broader financial market conditions, concerns about the banking system and macroeconomic uncertainties, which helped push oil futures prices sharply lower in the first week of May. Investor sentiment also came under additional pressure after the US Federal Reserve increased its key interest rate by a quarter point in an attempt to reduce high inflation levels, the tenth-rate increase in fourteen months. Selloffs from hedge funds and other money managers cutting net long positions by about 120 mb fuelled price decline.

Factors such as unexpected drops in China's manufacturing activity in April, uncertainty about the strength of China’s oil demand recovery, mixed US inventory and demand data and disappointing China export growth added downward pressure and fuelled further volatility in crude oil futures prices.

Crude futures prices steadied in the second half of May, although the uncertainty surrounding the US debt ceiling negotiations amid rising concerns about a potential default, as well as a rebound in the US dollar value remained a drag on oil futures. This largely offset the EIA weekly data that showed a hefty 12.5 mb drop in US crude stocks in the week of 19 May, better-than-expected US employment data.

Table 1 - 2: Crude oil futures, US$/b

			Change		*Year-to-date*	
Crude oil futures	**Apr 23**	**May 23**	**May 23/Apr 23**	**%**	**2022**	**2023**
NYMEX WTI	79.44	71.62	-7.82	-9.8	99.20	75.69
ICE Brent	83.37	75.69	-7.67	-9.2	102.33	80.94
DME Oman	83.47	74.78	-8.70	-10.4	99.70	79.66
Spread						
ICE Brent-NYMEX WTI	3.93	4.07	0.14	3.6	3.13	5.25

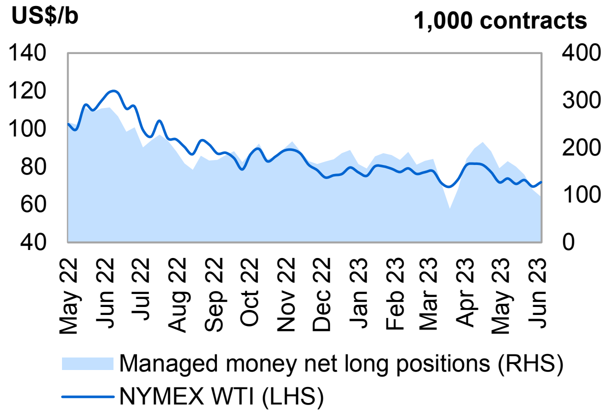
Note: Totals may not add up due to independent rounding. Sources: CME, DME, ICE and OPEC.

On a monthly average, the **ICE Brent** front-month contract fell by $7.67 in May, or 9.2%, to stand at $75.69/b, and the **NYMEX WTI** front-month contract declined by $7.82, or 9.8%, to average $71.62/b. In 2023, ICE Brent was $21.39, or 20.9%, lower compared with 2022, at an average of $80.94/b, and NYMEX WTI was lower by $23.51, or 23.7%, at $75.69/b. **DME Oman** crude oil futures prices fell m-o-m in May by $8.70, or 10.4%, to settle at $74.78/b. In 2023, DME Oman was lower by $20.04, or 20.1%, compared with the previous year, at $79.66/b.

The **ICE Brent–NYMEX WTI front-month differential** remained relatively narrow in May compared to the 1Q23, although the spread widened m-o-m as the NYMEX WTI price fell more than ICE Brent. In addition to selloffs from money managers in the WTI-related futures and options market that weighed on the value of NYMEX WTI, rising crude stocks of more than 5 mb at Cushing in May, according to EIA weekly data, added downward pressure on WTI futures prices. The ICE Brent–NYMEX WTI front-month spread widened by 14¢ in May compared to April to stand at $4.07/b. However, the spread between North Sea Dated and WTI Houston narrowed by $1.38 last month to $3.22/b, as crude in the USGC was under pressure from the high supply availability of light sweet crude and lower arbitrage economics to Europe, amid the availability of more attractive similar crude qualities in the Atlantic Basin.

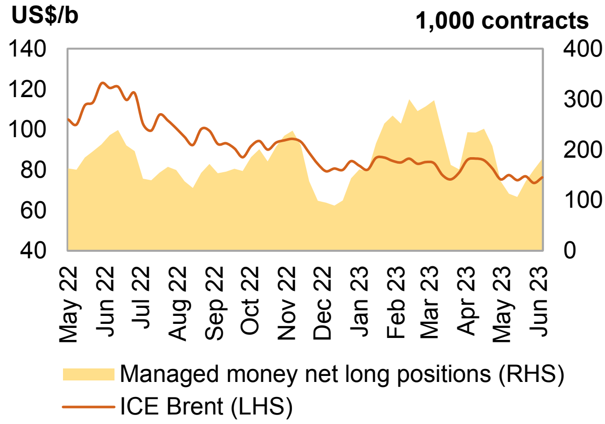
Hedge funds and other money managers heavily cut their bullish positions in May after they were net buyers in April. This fuelled price volatility and contributed to a drop in futures prices. Speculators sharply reduced net long positions in the first half of May, particularly in the NYMEX WTI futures and options contracts. They were net sellers of about 133 mb between the weeks of 25 April and 16 May in both ICE Brent and NYMEX WTI contracts. Money managers turned bearish on the outlook for crude oil prices and rushed to close long positions built in April, amid a weakening in the broader financial market and uncertainty about the US debt ceiling talks, with a deal agreed in early June, as well as subdued economic data in China that weighed on investors sentiment. Over the month, money managers cut their futures and options net long positions in ICE Brent and NYMEX WTI by 23,245 lots, or 7.9% of total net long positions, between the weeks of 2 and 30 May to 271,638 contracts.

Graph 1 - 2: NYMEX WTI vs. Managed Money net long positions



Sources: CFTC, CME and OPEC.

Graph 1 - 3: ICE Brent vs. Managed Money net long positions



Sources: ICE and OPEC.

Money managers heavily cut bullish **NYMEX WTI** positions in early May, as related net-long positions dropped by 35.869 lots during the week ending 2 May. NYMEX WTI futures and options net long positions also declined in the second half of the month. Over the month, NYMEX WTI net positions declined by 45,709 lots, or 29.1%, between the weeks of 2 and 30 May, to stand at 111,338 contracts, according to the US Commodity Futures Trading Commission (CFTC). The drop in net long positions was mainly driven by a large build in short positions. During the same period, gross short positions rose by 50,935 lots, or 107.7%, to 98,208 contracts, its highest since the week of 21 March, while gross long positions rose by 5,226 lots, or 2.6%, to 209,546 contracts.

Money managers were sellers of a net of the equivalent of about 31 mb of the **ICE Brent** contract in the first half of May. Combined futures and options net long positions related to Brent fell by 31,114 lots, or 22.6%, to stand at 106,722 contracts in the week of 16 May, according to the ICE Exchange. In the second half of May, however, money managers recovered all contracts sold in the first part of May. Consequently, over the month, ICE Brent net positions rose by 22,464 lots, or 16.3%, between the weeks of 2 and 30 May, to stand at 160,300 contracts. This is due to a cut in gross short positions by 7,251 lots, or 9.8%, to stand at 66,658 contracts, while gross long positions increased by 15,213 lots, or 7.2%, to 226,958 contracts over the same period.

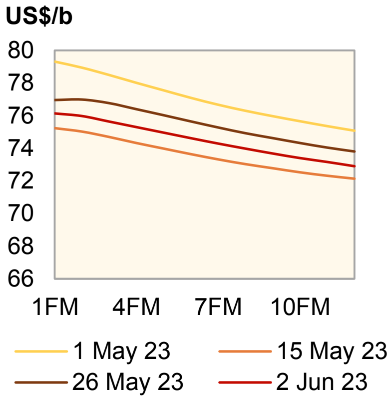
The **long-to-short ratio of speculative positions** in the NYMEX WTI contract declined to 2:1 in the week of 30 May, compared with 4:1 in the week of 2 May. The ICE Brent long-to-short ratio was unchanged in the week of 30 May at 3:1, compared with the week of 2 May.

Total futures and options open interest volumes on the two exchanges rose in May, increasing by 1.5% m-o-m, or 76,220 contracts, to stand at 5.2 million contracts in the week ending 30 May.

The futures market structure

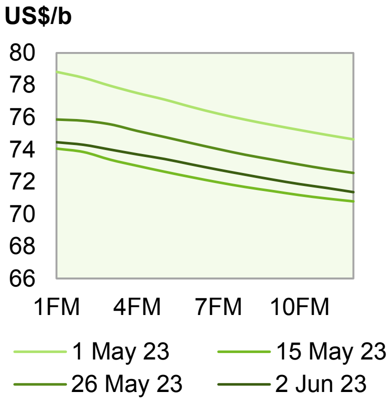
The front end of major futures contracts – ICE Brent, NYMEX WTI and DME Oman – weakened last month compared with April, signalling a deteriorating economic and oil demand outlook. However, price benchmarks remained in backwardation for most of the month. The forward curve of major futures benchmarks flattened in the front, as the nearest time spreads narrowed. Selling pressure was more pronounced in the nearest futures contracts compared to forwards contracts. Signs of a well-supplied spot market, growing concerns over a potential global economic slowdown, and uncertainty about short-term demand growth weighed on the prompt-month contracts. The back of the curve remained in steep backwardation as the outlook for oil fundamentals remained supportive in 2H23, although the value of the whole curve declined.

Graph 1 - 4: ICE Brent forward curves



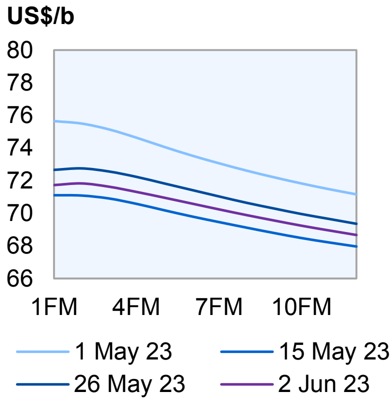
Sources: ICE and OPEC.

Graph 1 - 5: DME Oman forward curves



Sources: DME and OPEC.

Graph 1 - 6: NYMEX WTI forward curves



Sources: CME and OPEC.

The backwardation structure of **Brent futures** softened in May, as plentiful Atlantic Basin crude supply, high volume arrivals in Europe from the USGC and soft demand from Asian and European buyers weighed more on the front-month price compared with forward-month contracts. Weak macroeconomic sentiment and selloffs in ICE Brent futures in the first half of the month also weighed on front-month contracts. The ICE Brent front-month premium to the third month narrowed m-o-m by 33¢ to a backwardation of 42¢/b. Similarly, ICE Brent's M1/M6 backwardation weakened last month by 92¢ to settle at $1.48 on average, compared with a backwardation of $2.39 in April.

DME Oman and **Dubai** price backwardation weakened last month, as prompt-month prices came under downward pressure due to softer demand from Asian refiners. Improving west-to-east arbitrage opportunities, reflected in further narrowed the EFS Dubai, which should increase crude flow from the Atlantic Basin to Asia weighed on the value of Dubai-linked grades. On a monthly average, the DME Oman M1/M3 spread narrowed by 62¢ m-o-m to a backwardation of 60¢/b in May.

The front end of the **NYMEX WTI** forward curve remained in backwardation for most of May trading sessions, although the third-to-third month spread contracted m-o-m. Selloffs in NYMEX WTI contracts, rising US crude oil stocks at Cushing and uncertainty about the demand outlook weighed on the nearest futures contracts. The NYMEX WTI M1/M3-month spread narrowed 20¢ to stand at a backwardation of 19¢/b on average in May, compared with a backwardation of 39¢/b in April.

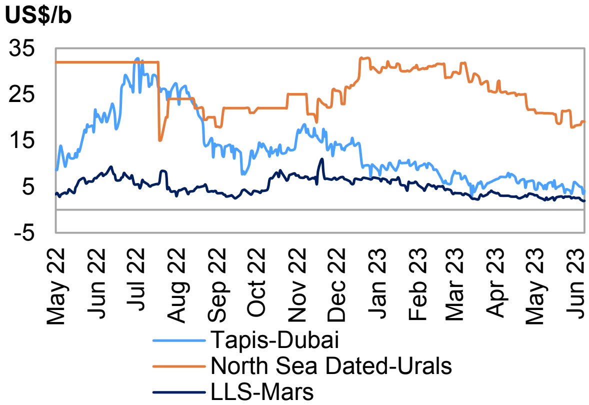
In terms of the **M1/M3 structure**, the North Sea Brent M1/M3 spread narrowed in May on a monthly average by 75¢ to a backwardation of 29¢/b, compared with $1.04/b in April. The Dubai M1-M3 and WTI M1-M3 spreads also narrowed on average in May by 67¢ and 20¢ respectively, to a backwardation of $1.08/b and 13¢/b, compared to a backwardation of $1.75/b and 33¢/b.

Crude spreads

The **premium of light sweet to medium sour crudes** continued to narrow in May in all major regions amid weaker light sweet crude market fundamentals. Moreover, the value of the medium and heavy sour crudes performed better than light sweet crudes amid a narrowed spread between light/medium distillates and heavy distillate product margins, such as the diesel/gasoil-HSFO spread. A decline in margins of light and some middle distillate products, specifically naphtha and diesel cracks, a well-supplied light sweet crude market and high US crude exports weighed on the value of light sweet crudes. Meanwhile, stronger HSFO margins that have risen for several months added support to heavy sour crudes.

In **Europe**, the North Sea Dated-Urals crude spread narrowed in May, as the assessment of Urals crude differentials in the Mediterranean and Northwest Europe was seen higher by reporting agencies. This was amid robust demand from some Asian refiners, including India. Moreover, the halt of some crude supplies from Turkey's Ceyhan oil terminal, mainly sour crude, tightened the sour crude supply outlook in the Mediterranean. Sustained US crude exports to Europe, mainly light sweet crude, weighed on the value of the sweet market in Europe. The differential between Ekofisk and Johan Sverdrup crudes narrowed m-o-m by 84¢ to an average of $1.44/b in May The North Sea Dated-Urals crude differential in the Mediterranean narrowed m-o-m by $4.33 on average to stand at $20.60/b in May.

Graph 1 - 7: Differential in Asia, Europe and USGC



Sources: Argus, OPEC and Platts.

However, the discount of Urals crude differentials to the North Sea dated rose in Northwest Europe, widening by $3.36 on average m-o-m to stand at $23.49/b.

In **Asia**, the sweet-sour crude differential represented in the Tapis-Dubai spread also narrowed in May, as the decline in sour crude prices was limited amid demand and higher heavy fuel oil margins in Asia. Further improvements in the west-to-east arbitrage that would raise the flow of light sweet crude from the Atlantic Basin to Asia contributed to pushing the value of sweet crudes in the Asia Pacific lower. The Brent-Dubai spread narrowed by 81¢ in May to a premium of 69¢/b, making Brent-related crude more competitive in the East of Suez market. The Brent-Dubai exchange of futures for swaps (EFS) narrowed last month by 41¢ to $2.40/b. The Tapis/Dubai spread narrowed by $1.69 in May to a premium of $4.89/b, from a $6.58/b premium in April.

In the **USGC**, the value of light sweet crude also weakened last month against the value of sour crude, as the sour crude market was supported by demand from USCG refiners and supply disruptions, following the Zydeco pipeline outage. Meanwhile, light sweet crude in the USGC was under pressure from high supply and competitiveness from similar crude qualities in the Atlantic Basin. The decline in middle distillate margins, specifically diesel, also weighed on the value of light sweet crudes, including LLS. The LLS premium over medium sour Mars narrowed on average in May by 36¢ to stand at $2.63/b.

Commodity Markets

Selected commodity price indices receded across the board in May, erasing gains from the previous month. Prices of all the energy and base metal indices components fell m-o-m. Meanwhile, price movements within the precious metal index were mixed over the same period, though heavily skewed towards the downside.

In the futures markets, sentiment remained mixed in May, though it shifted towards the downside. Money managers' net length decreased m-o-m in May after two consecutive months of increases, while total open interest rose for the fifth consecutive month over the same period.

Despite May improvement in China's manufacturing activity, selected commodity prices remained under pressure due to softer demand amid a weaker-than-expected economic recovery. Outside of China, persistent inflationary pressures, particularly core inflation, raised expectations of additional interest rate hikes by the US Federal Reserve, thus adding downward pressure on prices amid a stronger US dollar. Furthermore, weaker global manufacturing activity remained a drag on commodity demand in May.

Trends in selected commodity markets

The **energy price index** receded in May by 11.3% m-o-m, thus erasing gains from the previous month. All components of the index fell m-o-m, led by sharp declines in Europe's natural gas, coal, and average crude oil prices. US natural gas prices also fell m-o-m, however the decline was less severe than with other commodity prices. Y-o-y, the index was down by 56.3%.

The **non-energy index** declined by 3.6% m-o-m in May following renewal of the Black Sea safe corridor agreement. Moreover, low trading activity added downward pressure amid a seasonal demand decline for some agricultural commodities. The index was down y-o-y by 16.4%.

Table 2 - 1: Commodity prices

Commodity	Unit	*Monthly averages*			*% Change*	*Year-to-date*	
		Mar 23	Apr 23	May 23	May 23/Apr 23	2022	2023
Energy*	Index	**103.5**	**109.3**	**97.0**	**-11.3**	**147.6**	**107.9**
Coal, Australia	US$/mt	187.2	194.3	160.5	-17.4	282.7	213.5
Crude oil, average	US$/b	76.5	82.5	74.1	-10.1	100.7	78.7
Natural gas, US	US$/mbtu	2.3	2.2	2.1	-0.7	5.7	2.5
Natural gas, Europe	US$/mbtu	13.8	13.5	10.1	-25.2	31.9	14.8
Non-energy*	Index	**114.7**	**115.8**	**111.6**	**-3.6**	**133.9**	**115.4**
Base metal*	Index	**113.1**	**113.6**	**107.1**	**-5.7**	**139.6**	**114.5**
Precious metals*	Index	**144.1**	**152.7**	**151.5**	**-0.8**	**143.8**	**146.7**

*Note: * World Bank commodity price indices (2010 = 100).*
Sources: World Bank and OPEC.

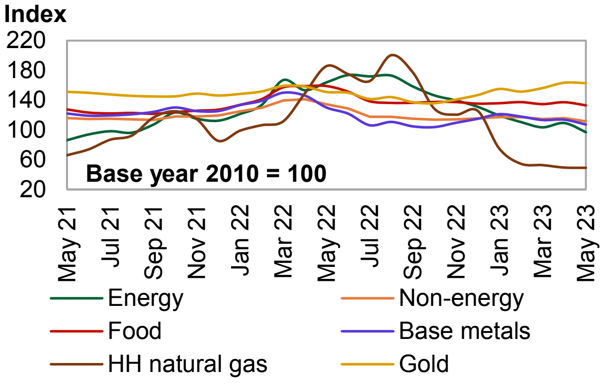
Average **crude oil prices** fell sharply m-o-m by 10.4% amid mounting pressure from soft market fundamentals throughout the month of May, exacerbated by global macroeconomic headwinds. Y-o-y, prices were down by 32.7%.

Henry Hub's natural gas prices continued to decline in May, falling for the fifth consecutive month. Prices fell by 0.7% m-o-m amid a combination of mild weather, increased production and healthy storage levels. According to data from the Energy Information Administration (EIA), underground storage is reported to be hovering around 20% above the five-year average. Additionally, the decline in US LNG demand amid lower European and Asian natural gas prices added more downward pressure Henry hub prices. Prices were down by 73.6% y-o-y.

Natural gas prices in Europe receded for the fifth consecutive month. The average Title Transfer Facility (TTF) price went from $13.5/mmbtu in April to $10.1/mmbtu in May, a 25.2% decline m-o-m. TTF prices fell to their lowest levels since April 2022, as a combination of softer demand, robust storage levels and LNG supplies remained steady. Data from Gas Infrastructure Europe showed EU gas storage at 68.87% as of the end of May, up from 59.68% at the end of April. Prices were down y-o-y by 65.3%.

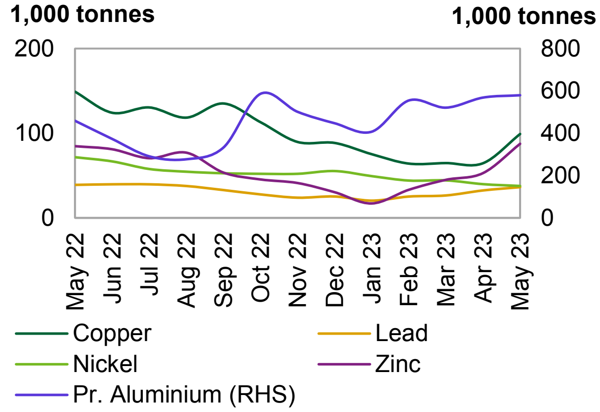
Australian thermal coal prices declined in May, erasing gains from the previous month. Prices fell sharply by 17.4% m-o-m as Chinese demand faded following a buying rush the previous month. Additionally, an increase in Chinese coal production, combined with imports of discounted Russian coal, weighed on the demand for Australian thermal coal. Outside of China, coal demand from Europe continued to decline, while other Asian countries showed a significant storage build-up ahead of summer demand. Y-o-y, prices were down by 56.3%.

Graph 2 - 1: Major commodity price indices



Sources: World Bank, S&P Goldman Sachs, Haver Analytics and OPEC.

Graph 2 - 2: Inventories at the LME



Sources: LME, Thomson Reuters and OPEC.

The **base metal index** fell by 5.7% m-o-m in May, erasing gains from the previous month. All components of the index fell m-o-m, led by sharp declines in zinc and iron ore. Despite China's improvement in its manufacturing PMI m-o-m (up to 50.9 in May), weak demand for metals remained a drag to metal prices amid ongoing property and construction challenges. Outside of China, the global manufacturing PMI remained essentially flat, below the expansion level in May. Moreover, a stronger USD further weighed on demand for metals. The index was down by 17.6% y-o-y.

Aluminum prices receded in May by 3.2% m-o-m. Prices fell amid ongoing inventory build-ups at London Metal Exchange (LME) warehouses. Aluminum inventories at the LME rose for the second consecutive month, increasing by 1.9% m-o-m in May. Prices were down by 19.8% y-o-y.

Average monthly **copper prices** continued their downward trajectory in May, declining for the fourth consecutive month by 6.7% m-o-m. Prices remained pressured by weaker global manufacturing activity and macroeconomic headwinds. Moreover, LME warehouses showed an increase in inventory by 53.6% m-o-m in May. Y-o-y, prices were down by 12.4%.

Lead prices receded after two consecutive months of decline. Prices fell by 3.1% m-o-m in May, under pressure from a combination of weaker global manufacturing activity and an oversupply of the metal. According to data from the LME, inventories rose by 12.0% m-o-m in May. Prices were down by 2.7% y-o-y.

Both **nickel and zinc prices** declined m-o-m in May. Nickel prices fell by 8.1% m-o-m, while zinc prices fell for the fourth consecutive month, declining by 10.5% m-o-m in the same period. Meanwhile, iron ore prices fell for the second consecutive month, declining by 10.4% m-o-m in May. Prices of all three metals fell amid weaker demand in China's industrial production. Y-o-y, nickel prices were down by 21.7%, while those for zinc were down by 34.0%.

The **precious metals index** fell in May after two consecutive months of gains. The index fell by 0.8% m-o-m, pressured by a stronger US dollar amid renewed expectations of interest rate hikes by the US Federal Reserve. Movement within the index components was mixed in May but skewed towards the downside. Gold and silver prices fell by 0.4% and 3.0% respectively m-o-m, while platinum rose for the third consecutive month, increasing by 1.1% over the same period. Y-o-y, the index continued to trend upwards, up by 8.3%. Gold was also up by 7.8%, silver by 10.8% and platinum by 10.9% y-o-y.

Investment flows into commodities

Total **money managers**' net length decreased in May after two consecutive months of increases. Net length decreased m-o-m by 27.3% in May, driven by declines in copper, crude oil and gold, which were partially offset by an increase in natural gas. Meanwhile, total open interest rose for the fifth consecutive month, increasing by 0.9% m-o-m over the same period. Gold led the gains in open interest for the third consecutive month, followed by natural gas and crude oil, which were partially offset by a another month of declines in copper.

Table 2 - 2: CFTC data on non-commercial positions, 1,000 contracts

Selected commodity	*Open interest*		*Net length*			
	Apr 23	May 23	Apr 23	% OI	May 23	% OI
Crude oil	2,402	2,405	195	8	158	7
Natural gas	1,344	1,361	-20	-1	-46	-3
Gold	734	758	137	19	136	18
Copper	230	228	5	2	-18	-8

Note: Data on this table is based on a monthly average.

Sources: CFTC and OPEC.

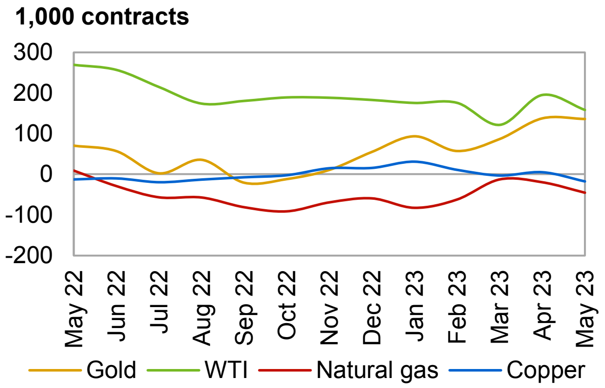
Total **crude oil (WTI) open interest (OI)** increased for the fifth consecutive month, rising marginally by 0.1% m-o-m. Meanwhile, money managers' net length decreased by 18.9% over the same period. Mounting pressure from macroeconomic headwinds weighed on money managers' sentiment in May.

Total **Henry Hub natural gas OI** rose for the eighth consecutive month, increasing by 1.2% m-o-m. Money managers increased their net length by 127.6% over the same period. The increase in net length was driven mainly by a sharp reduction in short positions by money managers, however sentiment remained bearish as the ratio of short positions over long positions remained high.

Gold's OI rose for the third consecutive month, increasing by 3.2% m-o-m in May. Meanwhile, money managers reduced their net length by 1.2% m-o-m over the same period. The decline in money managers' net length underscores their expectation of interest rates hikes amid persistent inflationary pressures.

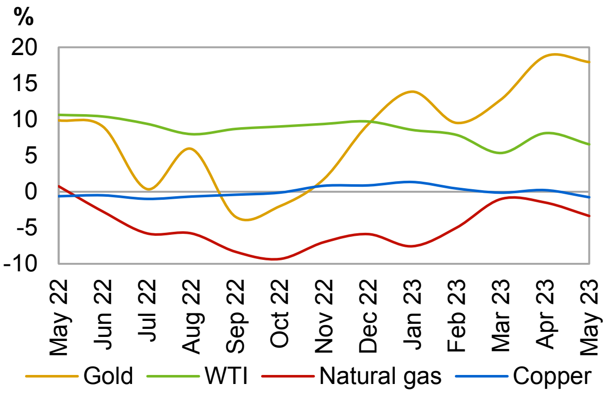
Copper's OI decreased for the third consecutive month, falling m-o-m by 0.9% in May. Money managers also decreased their net length sharply in May, falling by 465.8% m-o-m. Weaker industrial activity dampened money managers' sentiment towards the metal.

Graph 2 - 3: Money managers' activity in key commodities, net length



Note: Data on this graph is based on a monthly average.
Sources: CFTC and OPEC.

Graph 2 - 4: Money managers' activity in key commodities, as % of open interest



Note: Data on this graph is based on a monthly average.
Sources: CFTC and OPEC.

World Economy

The global GDP growth forecast remains unchanged at 2.6% for 2023, following estimated growth of 3.3% in 2022. World economic growth developments remain uneven among economies. While some economies have performed better than expected in 1H23 with further upside potential to materialize in 2H23, other economies seem to be struggling. Since the global pandemic, the divergence in economic growth trends has been strongly influenced by a combination of factors such as monetary and fiscal policy decisions, trade-related disputes, adverse weather conditions, and the repercussions of geopolitical conflicts.

In the first half of this year, economic growth was steady in the US and better -than-expected in Japan, but declined in the Euro-zone. In the emerging economies better-than-expected 1Q23 GDP growth was recorded in India, Brazil and in Russia. Moreover, the positive effects of China's reopening have continued to support global economic growth.

However, there are rising uncertainties regarding economic growth in 2H23 amid ongoing high inflation, already elevated key interest rates and a tight labour markets. Moreover, it is still unclear as to how and when the geopolitical conflict in Eastern Europe might be resolved.

In addition, banking sector turbulence in the US and Europe has stoked worries in capital markets, raising questions about financial stability in light of the inflation-driven monetary tightening cycle. Moreover, sovereign debt stands at record-high levels in many economies.

Upside potential may come from less accentuated inflation, providing central banks with room for accommodative monetary policies towards the end of the year. Emerging Asia, particularly India, but also Brazil and Russia could surprise to the upside, with domestic demand and external trade accelerating further. An even stronger-than-anticipated rebound in China after the reopening of its economy may provide further support to global economic growth this year. Moreover, if the US continues to keep its 1H23 momentum, while at the same time managing a soft-landing, growth could turn out higher-than expected.

Table 3 - 1: Economic growth rate and revision, 2022–2023*, %

	World	OECD	US	Euro-zone	UK	Japan	China	India	Brazil	Russia
2022	**3.3**	**2.9**	**2.1**	**3.5**	**4.1**	**1.0**	**3.0**	**6.7**	**2.9**	**-2.1**
Change from previous month	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2023	**2.6**	**1.1**	**1.3**	**0.8**	**0.0**	**1.0**	**5.2**	**5.6**	**1.0**	**-0.5**
Change from previous month	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

*Note: * 2023 = Forecast. The GDP numbers have been adjusted to reflect 2017 ppp.*

Source: OPEC.

Update on the latest global developments

While growth trends have been divergent among the various key-economies, the 1Q23 GDP growth dynamic has slightly surprised to the upside on an average global level. GDP growth in 1Q23 was revised up by the statistical offices in both the US and Japan, as it turned out to be better-than-expected previously. In the emerging economies 1Q23 GDP growth was better than expected in India, Brazil and Russia. A measured slow-down in trade and domestic consumption in China seems to be temporary. Recent lead indicators point to the continuing positive effects of China's reopening from 1Q23.

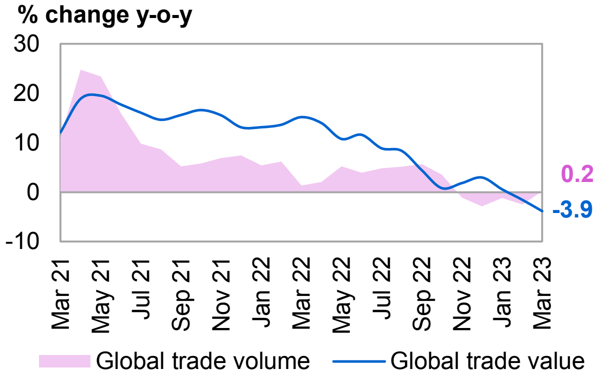
Inflation has retracted in most advanced economies, according to the latest available data. In the US, inflation stood at 4.9% y-o-y in April, the lowest level since mid-2021. Euro-zone inflation stood at 6.1% in May, the latest available month, which marks the lowest level since March 2022. Continued high inflation remains a concern for both the US Federal Reserve (US Fed) and the European Central Bank (ECB), which may lead the central banks to continue tight monetary policies, particularly as core inflation remains high. The central banks of Canada and Australia, facing similar inflationary pressures, raised interest rates further at the beginning of June.

Global trade rose slightly in March in volume terms, but retracted in value terms. Global trade in value terms declined by 3.9% y-o-y, after a decline of 1.6% y-o-y in February, based on the CPB World Trade Monitor Index provided by the CPB Netherlands Bureau for Economic Policy Analysis.

Trade in volume terms rose by 0.2% y-o-y in March, after a decline of 2.5% y-o-y in February.

The developments in both volume and value were impacted by China's trade dynamic, which started improving in March in volume terms. The relative decline in commodity prices in 1Q23 and the weakening of the US dollar were other influential factors.

Graph 3 - 1: Global trade



Sources: Netherlands Bureau for Economic Policy Analysis, and Haver Analytics.

Near-term global expectations

After the majority of key economies showed robust economic growth in 1Q23, a steady growth trend is forecast for 2Q23. Inflation has decreased in the past few months, but remains high, particularly in the advanced economies, where core inflation has remained elevated. This may prompt key central banks to continue tightening their monetary policies, especially in the Euro-zone, the UK and the US. Central banks in emerging economies enjoy more room for an accommodative policy given that inflation has retraced to more reasonable levels in Brazil, India, and Russia and is at only very low levels in China.

The quarterly growth differences among major economies in trend and magnitude, which occurred in 1Q23 are forecast to continue in 2H23. While only very low growth is expected in the US, similar to Japan and the Euro-zone, both China and India are foreseen to show relatively high growth. In general, the short-term global growth outlook will depend largely on inflation trends and the inflation expectations of central banks as well as resulting monetary policies in key economies, particularly the US and the Euro-zone.

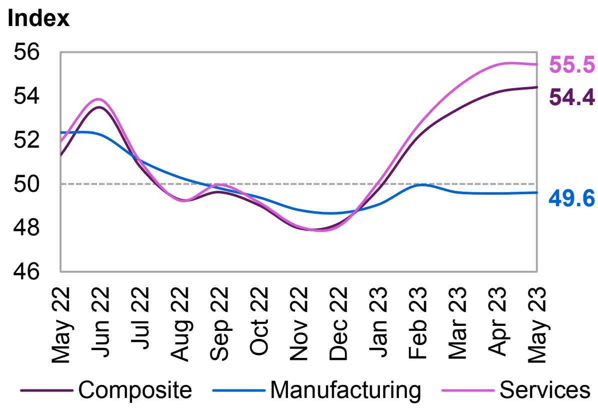
The 2Q23 growth dynamic considers ongoing growth momentum and a continuation of the trend following 1Q23 global GDP growth of 2.5% y-o-y. As a result 2Q23 global GDP growth is forecast to reach 2.9% y-o-y, followed by 2.7% y-o-y in 3Q23 and 2.4% y-o-y in 4Q23. While upside potential exists, downside risks, including debt-related challenges, geopolitical uncertainties, and inflation, which will need to be carefully monitored.

Global purchasing managers' indices (PMIs) in May reflect a continued positive trend in the services sector and a stabilisation in the downward-shift in manufacturing.

The global **manufacturing PMI** remained at 49.6, unchanged for the third consecutive month in May.

The **global services sector PMI** was almost unchanged as it increased to 55.5 in May, following 55.4 in April.

Graph 3 - 2: Global PMI



Sources: JP Morgan, S&P Global and Haver Analytics.

The latest GDP data for 2H22 reconfirms the annual **2022 GDP growth** forecast of 3.3% from the previous monthly assessment.

The **growth forecast for 2023** remains unchanged as well at 2.6%. Although projected to slow down from 2022, growth remains robust in 1H23.

Table 3 - 2: World economic growth rate and revision, 2022–2023*, %

	World
2022	**3.3**
Change from previous month	0.0
2023	**2.6**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

OECD

OECD Americas

US

Update on the latest developments

GDP growth in 1Q23 was revised up slightly to 1.3% q-o-q SAAR, following the first estimate of 1.1% q-o-q SAAR, as provided by the Bureau of Economic Analysis. This follows GDP growth of 2.6% q-o-q SAAR in 4Q22 and 3.2% q-o-q SAAR in 3Q22, marking an obvious slowdown. The volatile inventory component provided a 0.6 percentage point (pp) drag to GDP growth, hence it is expected to recover in 2Q23 and provide support to the current quarterly growth. Personal consumption expenditures increased by a considerable 4% q-o-q SAAR, pointing to strong underlying consumer spending, a momentum that is considered to have carried over into 2Q23. However, rising challenges for debt-financed consumption in the US have emerged with ongoing rising delinquencies in consumer credit-related financing. In the meantime, the debt ceiling issues were resolved and Congress agreed on a debt-ceiling suspension until January 2025, including a cap of 1% on spending increases for the 2025 fiscal year.

While general **inflation** retracted, core inflation remains persistently high. The general price index has now slowed for ten consecutive months to stand at 4.9% y-o-y in April, following 5% y-o-y in March and after reaching a level of 6% y-o-y in February. Nevertheless, core inflation remained at a high level of 5.5% in April and compared with 5.6% y-o-y in March, surpassing general inflation. So it remains to be seen, how the US Fed will react after it had lifted its key policy rate by 25 bp in May and confirmed to stay the course in its aim to reduce inflation, particularly core inflation. The Fed is also being steered by its guidelines, the core index of personal consumption expenditures (PCE). This inflation index increased in April, as it stood at 4.4%, a rise from the March level of 4.2% y-o-y. Continuing rises in wages and salaries, leading to higher prices in the services sector, are playing a role, as the PCE services price index rose by 5.5% y-o-y in April, unchanged from March.

The **consumer confidence index** as reported by the Conference Board retracted for the second consecutive month in May, standing at 102.3, after 103.7 in April and 104 in March. However, this is still slightly above pre-pandemic levels of slightly below 100 but indicates a somewhat slowing dynamic.

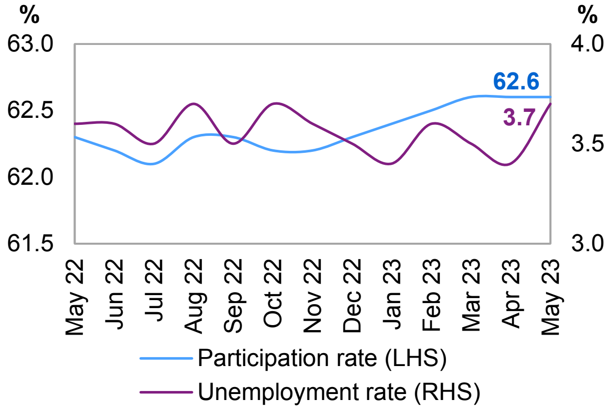
The labour market cooled a bit in May, but remained robust. The **unemployment rate** rose to 3.7%, after it had fallen to 3.4% in April after 3.5% in March.

The **participation rate** remained unchanged at 62.6% after it had gradually improved up to May, the same level for the third consecutive month.

Non-farm payrolls rose strongly again in May. There were 339,000 new jobs recorded in May, compared with an upwardly revised number of 294,000 in April and comparing with 217,000 in March. Corresponding hourly wage growth remained strong.

Hourly earnings rose by 4.3% y-o-y in May, following a rise of 4.4% y-o-y in April and 4.3% y-o-y in March.

Graph 3 - 3: US monthly labour market



Sources: Bureau of Labor Statistics and Haver Analytics.

Near-term expectations

After 1Q23 **US GDP growth** slowed from 4Q22, a continuation of this trend is expected throughout the year. The growth dynamic in the US continued on a decelerating trend, as indicated by the latest lead-indicators such as PMIs and manufacturing orders. Inflation has slowed, but remains high. Persistently high core inflation may pressure the Fed to continue the monetary tightening cycle. The Fed has lifted its key policy rate already by 500 bp since the end of 2021. The upper band of the key-policy rate already stands at 5.25%, levels that are usually followed by a time of clear economic deceleration. Given that interest rate differentials between long-term and the short-term interest rates rose back towards March levels, the US banking sector-related challenges may re-emerge, among other financial sector related issues.

The outcome of the agreement in Congress on the debt ceiling, including a cap of 1% on spending increases for the 2025 fiscal year, may have only limited impact on spending abilities in the future. However, the Treasury will now need to rapidly rebuild its cash balance with an estimated $1 trillion after the forced debt issuance suspension period. The potential effects of this issuing spree may be pushing up yields on government debt and are also likely to crowd out other issuers.

As private household consumption remained surprisingly strong in 1Q23, amid an ongoing tight labour market and rising disposable income, the 2Q23 momentum is forecast to be similarly well supported. This is despite the major interest rate increases of the Fed that the US economy needs to digest. However, the effects of monetary tightening usually take effect with a lag of 18 months or longer. 1Q23 GDP growth was reported at 1.3% q-o-q SAAR and the gradually softening dynamic is forecast to carry on throughout the year. 2Q23 growth is forecast at 0.8% q-o-q SAAR. This is projected to be followed by 0.2% q-o-q SAAR in 3Q23 and 0.1% q-o-q SAAR in 4Q23.

Following core inflation of 6.1% in 2022, the forecast for 2023 is around 4.5%. Tight monetary policies are forecast to continue with some possibility of further interest rate hikes this year. However, for the time being the key policy rate is projected to remain at the current level of an upper-band interest rate of 5.25%.

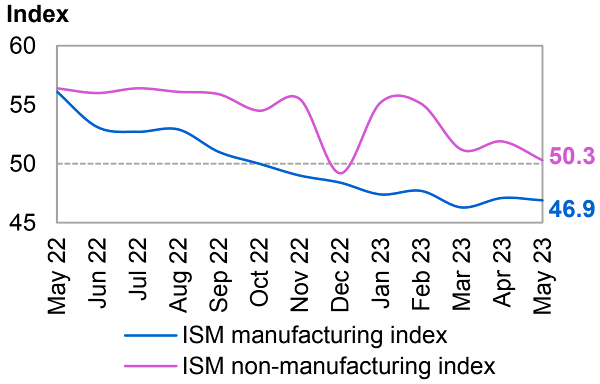
While private household consumption remains supportive so far, gradually rising delinquency rates in consumer loans and other debt-related fragilities will need to be carefully monitored in the coming months. Bankruptcy filings have reached 16.5% y-o-y in March the highest level since 2010 and delinquency rates for consumer loans have also started to rise again in 1Q23.

May **PMI** levels, as provided by the Institute for Supply Management (ISM), reflect an ongoing contraction in the manufacturing sector and a continued slowdown in the services sector.

The May **manufacturing PMI** stood at 46.9, after a level of 47.1 in April. It remained below the growth-indicating level of 50 for the seventh consecutive month.

The index level for the **services sector**, representing around 70% of the US economy, retracted in May and stood at 50.3, following 51.9 in April.

Graph 3 - 4: US-ISM manufacturing and non-manufacturing indices



Sources: Institute for Supply Management and Haver Analytics.

Taking into account the upward revision of 1Q23 GDP growth as well as a mild carry-over of the dynamic into 2Q23, the **2023 GDP growth forecast** was revised up slightly to stand at 1.3%, compared with the previous month's forecast of 1.2%.

This follows a growth estimate of 2.1% for **2022**.

Table 3 - 3: US economic growth rate and revision, 2022–2023*, %

	US
2022	**2.1**
Change from previous month	0.0
2023	**1.3**
Change from previous month	0.1

*Note: * 2023 = Forecast.*

Source: OPEC.

OECD Europe

Euro-zone

Update on the latest developments

After a mildly positive **1Q23 GDP** growth of 0.3% q-o-q SAAR was reported by Eurostat, the European Statistical Agency, in the last month the level was revised down significantly in the agency's update in June. In this most recent update GDP was reported to have declined by 0.4% q-o-q SAAR in 1Q23. This comes after a GDP decline of 0.4% q-o-q SAAR in 4Q22 as well. Household consumption declined by 1% q-o-q SAAR. Government spending even fell by 6.1% q-o-q SAAR, pointing to the fiscal limitations in combination with rising interest rates. So after some optimism emerged at the beginning of the year, the consequences of monetary tightening, ongoing high inflation, and the fallout from the tension in Eastern Europe have dampened the economic dynamic slightly more than previously estimated. While spending in the services sector has supported the Euro-zone economy since the beginning of the year, the manufacturing sector-related activity seems to have been a significant drag.

Inflation retracted significantly in May, after it had unexpectedly risen in April. May's inflation level stood at 6.1%, following an April level of 7% y-o-y and 6.9% y-o-y in March. Core inflation remained persistently high, a trend that has led the ECB to continue its monetary tightening up to May. Core inflation stood at 6.8% y-o-y in May, after 7.3% y-o-y in April and following 7.5% y-o-y in March.

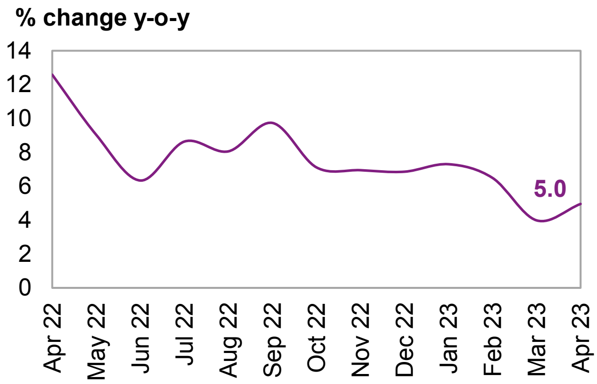
Given the ongoing **monetary tightening** cycle of the ECB, lending activity slowed significantly in past months, rising by 3% in April, after 3.6% y-o-y in March and following 4.1% y-o-y in February. Banks constitute an important provider of liquidity, particularly to small- and medium-sized enterprises in the Euro-zone. Another aspect that has re-emerged recently was the ongoing liquidity crunch in the US small and medium-sized banking sector. That may again cause a spill-over to the European banking system, as was already seen in March.

The **labour market** maintained its positive trajectory, with unemployment improving further. According to the latest numbers from Eurostat, the unemployment rate stood at 6.5% in April, following 6.6% in 1Q23.

Positively, growth in **retail sales** in value terms rebounded in April, increasing by 5% y-o-y, compared with an increase of 4% y-o-y in March.

Spending in volume terms improved very slightly as well, as it fell by 2.4% y-o-y in April, compared with a contraction of 3.2% y-o-y in March.

Graph 3 - 5: Euro-zone retail sales



Sources: Statistical Office of the European Communities and Haver Analytics.

Industrial production (IP) turned negative again in March, after it had recovered in January and February. IP contracted by 2.1% y-o-y in March, after rising by 2.1% y-o-y in February and 0.7% y-o-y in January. On a monthly basis industrial activity declined by 4.1% m-o-m in March, compared with an increase of 1.5% m-o-m in February and an increase of 0.6% m-o-m in January.

Near-term expectations

GDP growth was significantly slowing in 2H22 and economic measures such as recent PMIs, lending activity, and manufacturing orders indicate that this dynamic continues. Considering the high 2022 GDP growth as a high comparison base, ongoing inflation-related issues and consequently rising interest rates the Euro-zone is forecast to face a low growth momentum in 2023. While manufacturing has shown a lacklustre performance since the beginning of the year, the services sector has performed relatively better, benefitting from the ongoing recovery in leisure and tourism. However, inflation seems to have already depressed spending abilities in 1Q23 and this will constitute a dampening factor. Inflation remained high in May, and core inflation, in particular, is expected to remain high in 2023. Inflation is anticipated to remain elevated at almost 5% y-o-y in 2023, compared with an inflation level of 8.4% y-o-y in 2022.

Consequently, the **ECB** is forecast to continue its monetary tightening actions in June and likely in July, when the central bank is expected to lift interest rates in both meetings by 25 basis-points. This will move the main key policy rate beyond 4%. Consequently, solid Euro-zone lending activity – an important factor for investment and growth during the post-pandemic recovery – is forecast to slow further, with subsequent negative impacts, especially on the real estate sector and business-related investments in general. This comes in combination with a likely tightening in lending standards by European banks in light of the latest banking wobbles. So, the flow of liquidity is expected to slow further, impacting Euro-zone growth.

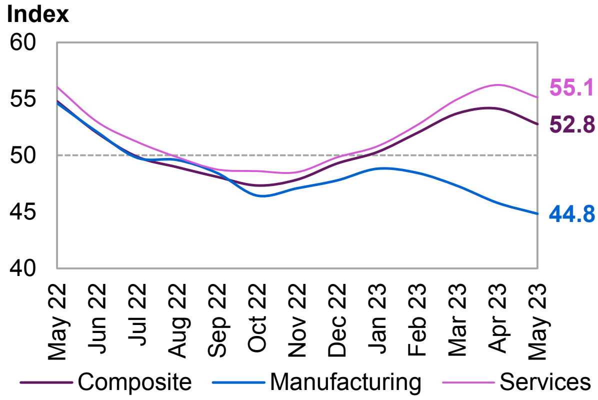
After a 1Q23 GDP decline of 0.4% q-o-q SAAR, growth is forecast to pick up in 2Q23, when it is forecast to stand at 1.6% q-o-q SAAR. In 3Q23, GDP growth is forecast to decelerate to stand at 1.2% q-o-q SAAR and is projected to slow to 0.8% q-o-q SAAR in 4Q23.

The **Euro-zone's May PMI** pointed to continued challenges in the manufacturing sector – remaining in contractionary territory – and a slight downward momentum in the services sector.

The **PMI for services**, the largest sector in the Euro-zone fell slightly to 55.1 in May from 56.2 in April and compared with 55 in March.

The **manufacturing PMI** remained in contractionary territory, standing at 44.8 in May, after 45.8 in April, and 47.3 in March.

Graph 3 - 6: Euro-zone PMIs



Sources: S&P Global and Haver Analytics.

GDP growth for 2023 remains unchanged at 0.8% y-o-y. This takes into consideration the impact of a variety of dampening factors, including inflation and further monetary tightening, ongoing energy supply constraints and other associated issues. It also anticipates some rebound from the 1Q23 GDP decline and rising services sector activity in the summer months. The 2023 growth forecast compares with the actual **2022 GDP growth** of 3.5% y-o-y.

Table 3 - 4: Euro-zone economic growth rate and revision, 2022–2023*, %

	Euro-zone
2022	**3.5**
Change from previous month	0.0
2023	**0.8**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

OECD Asia Pacific

Japan

Update on latest developments

Japan's economic growth dynamic in 1Q23 was better than initially reported, as the Ministry of Economy, Trade and Industry (METI) revised up 1Q23 growth to stand at 2.7% q-o-q SAAR, compared with its previous estimate of 1.6%. Private household consumption was strong, rising by 2.1% q-o-q SAAR, compared with growth of 0.9% q-o-q SAAR in 4Q22. While the domestic side has improved in 1Q23, external demand has weakened, as exports declined by 15.9% q-o-q SAAR. April showed a continued slowing trend in exports. The **industrial sector** has been a weak spot in past months, but it has picked up, with monthly improvements seen since the beginning of the year. The services sector, to a major extent supporting 1H23 momentum, may see some further support, considering Japan's removal of all major COVID-19-related border restrictions at the end of April. This will provide another supporting factor for tourism.

Inflation remains high. It rose to a level of 3.5% y-o-y in April, following 3.2% y-o-y in March. Comparable with inflationary trends in other economies, core inflation – excluding food and energy – a main guideline for central bank policies, rose as well, reaching 2.5% y-o-y in April, after standing at 2.3% y-o-y in March and 2.1% y-o-y in February. With rising inflationary momentum, the Bank of Japan (BoJ) will likely need to respond and tighten monetary policies further. In its most recent economic outlook, the BoJ forecasts that core consumer prices will fall below its 2% target in 2023.

For the time being, the BoJ kept its interest rate unchanged in its latest rate-setting meeting at the end of April. Interestingly, the ECB has recently warned that a policy shift of the BoJ may cause the risk of a sell-off of Euro-zone government bonds, given that Japanese investors own around 2% to 5% of ECB member countries government debt.

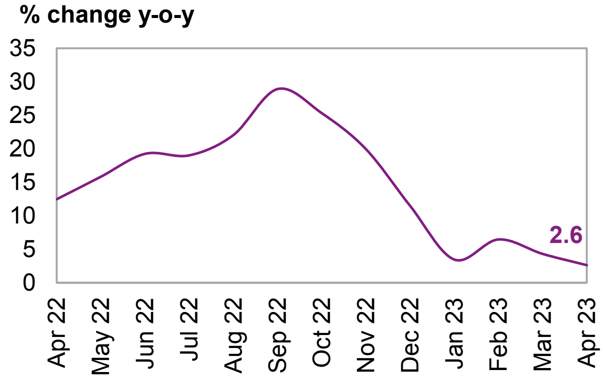
Similar to other major economies, **IP** in **Japan** remained weak but signalled the potential onset of an improving trend. The April level increased by 0.2% y-o-y on a seasonally adjusted base. This comes after March levels declined by 1.1% y-o-y after contracting 1.8% y-o-y in February.

Exports remained expansionary on an annual base, but have been in a clear slowing trend in the past months. Exports rose by 2.6% y-o-y in April on a non-seasonally adjusted base. This compares with growth of 4.3% y-o-y in March and 6.5% y-o-y in February.

Retail sales continued their solid trend, rising by 5.1% y-o-y in April, after rising by 6.9% y-o-y in March and 7.3% y-o-y in. The trend points to an ongoing, but decelerating improvement in the domestic consumption dynamic.

Consumer confidence improved further, standing at 35.7 in May, after 34.6 in April, and 33.5 in March, confirming domestic improvements in the Japanese economy in 2Q23. Moreover, the rise in consumer confidence suggests that household expenditure remained sound towards the end of the current quarter.

Graph 3 - 7: Japan's exports



Sources: Ministry of Finance, Japan Tariff Association and Haver Analytics.

Near-term expectations

Growth in Japan is forecast to remain well supported, mainly driven currently by the services sector, which is expected to improve further. Meanwhile the industrial sector seems to have turned the corner, adding support to the ongoing momentum. Also exports could be expected to improve again in the coming months, with especially China, as the most important Asian trading partner, to accelerate its growth further. However, while the economy is forecast to see steady growth in 2023, it will face limitations due to factors such as a tight labour market, high inflation, and an already high utilization rate in its industrial base. Domestic demand is forecast to remain strong throughout 2023 and is expected to recover, in particular when compared with COVID-19 impacted consumption in 2022.

Growth in Japan is expected to stay at around the same level as in 2022. After very low growth in 4Q22, which stood at 0.4% q-o-q SAAR, growth has picked up again in 1Q23 to stand at 2.7% q-o-q SAAR. The GDP growth pattern is then forecast to remain relatively stable, with GDP growth of around 1% q-o-q SAAR in the remaining three quarters on average.

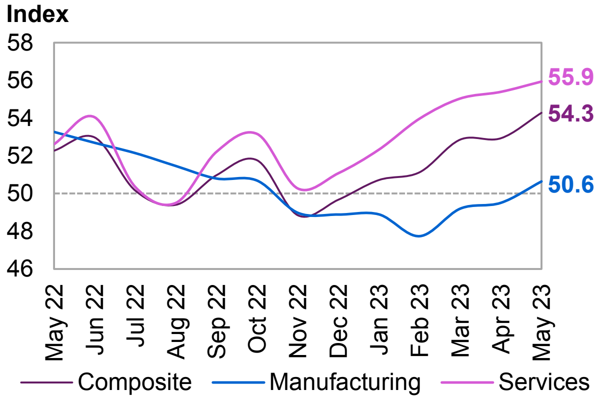
It is uncertain how the **BoJ** will address the current rise in core inflation, but it may require more assertive monetary tightening measures. Although inflation is projected to average around 1.5% y-o-y in 2023 after peaking at 2.5% y-o-y in 2022, it was observed to be at nearly 3.9% y-o-y in 4Q22 and 3.5% y-o-y in April. Inflation is therefore expected to stand at slightly more than 3% y-o-y in 1H23, before moving down towards the end of the year, where it may hover around slightly above 1%.

May PMI numbers reflected an improvement in both the manufacturing and services sectors. Importantly, the manufacturing sector moved back into expansionary territory, above the index level of 50, and also the services sector appears to have increased further.

The **services sector PMI**, which constitutes around two-thirds of the Japanese economy, rose to 55.9 in May, following 55.4 in April, and after reaching 55 in March.

The **manufacturing PMI** rose to stand at 50.6 in May, after 49.5 in April and after standing at 49.2 in March.

Graph 3 - 8: Japan's PMIs



Sources: S&P Global and Haver Analytics.

While there is some upside risk, given the accelerating dynamic in domestic demand, the **2023 GDP growth forecast** remains at 1%. This considers a relatively stable growth level of around 1% q-o-q SAAR on a quarterly level for the remaining three quarters. Momentum is forecast to be supported by domestic demand, mainly from the services sector, and by a gradual improvement in exports. The projection for 2023 follows a growth estimate of 1% for **2022**

Table 3 - 5: Japan's economic growth rate and revision, 2022–2023*, %

	Japan
2022	**1.0**
Change from previous month	0.0
2023	**1.0**
Change from previous month	0.0

*Note: * 2023 = Forecast.*
Source: OPEC.

Non-OECD

China

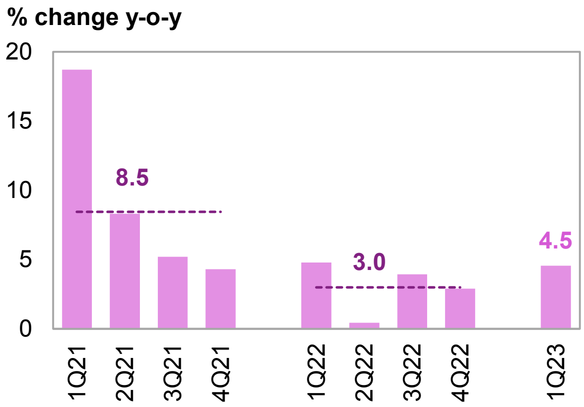
Update on the latest developments

China's underlying economic momentum seems to remain intact, despite some aspects in China's economy have softened recently. While China's 1Q23 GDP growth was reported at 4.5%, the quarterly momentum seems to have picked up.

Very much supported by reopening efforts, the economic dynamic picked up towards the end of 1Q23, carrying over into 2Q23 as indicated by lead-indicators, like PMI indices. The ongoing dynamic seems to be still very much driven by pent-up demand in the services sector.

The latest available data for April shows that IP activity picked up again to stand at 5.6% y-o-y, compared with 3.9% y-o-y in March. This follows a combined January and February IP pick-up of 2.4% y-o-y.

Graph 3 - 9: China's GDP growth



Sources: National Bureau of Statistics and Haver Analytics.

However, the monthly IP indicator was reported at -0.5% m-o-m, compared with a rise of 0.3% m-o-m in March. Therefore the periodical trend will need to be carefully monitored in the near-term, given the distorted base in the last year due to ongoing lockdowns.

Retail trade picked up as it increased by 18.5% in April, compared with 10.6% y-o-y in March and 3.5% y-o-y for January–February combined during the Luna-year season. Also for the retail-trade area it may be more sensitive to compare the monthly trend, given the distorted base from last year. Based on the China National Bureau of Statistics, the monthly growth in retail sales has slowed down somewhat to stand at 0.5% m-o-m in April, after 0.8% m-o-m in March and 1.6% m-o-m in February, a trend that will need to be monitored as well.

Another factor that will require following is international trade, as China's economy was very much driven by exports in past years. After **export volumes** declined considerably over most of 2022 and in the first two months of the year, they recovered strongly in March and April, rising by 15.3% y-o-y and 10.9% y-o-y respectively.

In the meantime the **annual inflation rate** retracted considerably to only 0.1% y-o-y in April, following 0.7% y-o-y in March, 1% in February and 2.1% in January. That provides the government with also more room to manoeuvre if fiscal or monetary policy support is needed.

Near-term expectations

As it seems China's **growth momentum** has decelerated in recent months following a robust initial rebound. The economy experienced a recovery in 1Q23, primarily fuelled by a sharp increase in mobility, leading to a revival in the leisure and tourism sector. Currently, most mobility indicators have either reached or surpassed pre-pandemic levels. Since consumer spending is mainly concentrated on services, the demand for goods has not been strong domestically, resulting in a stalled recovery in the manufacturing sector. Nevertheless, China's post-reopening recovery is forecast to continue. Despite the recent slowdown in activities, which may persist until around the middle of the year, key growth drivers could accelerate China's recovery in the second half of the year and beyond.

The general unemployment rate has fallen since the beginning of the year, and improvements in the labour market are expected to continue, supporting domestic demand. Rising credit growth observed in Q1 and April is also expected to stimulate domestic demand in 2023. Although there has been a recent cooling down of the property sector due to weakening sentiment, it is still projected to achieve low growth in 2Q23 and beyond. Moreover, the improving labour market conditions, the recovery in consumer confidence and high excess savings are expected to drive growth at the end of 2Q23, with a carry-over in 2H23.

In terms of monetary policy, the relative accommodative policy framework is forecast to continue, however, with authorities remaining prudent and the central bank expected to refrain from broad-based rate cuts. Moreover, widening interest rate differentials with other major central banks and the consequent depreciation pressures on the renminbi will keep the central bank to act carefully in lowering interest rates. However, with projected inflation to remain low throughout 2023, there is some flexibility in supporting the economy via monetary and fiscal measures, if necessary.

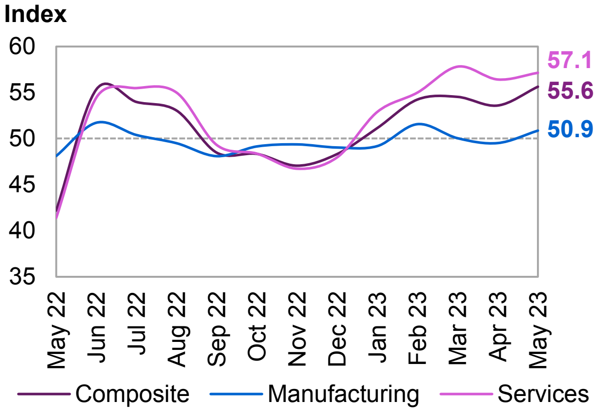
The current projections for GDP growth suggest a relatively even distribution throughout the year. After 1Q23 growth was reported at 4.5% y-o-y, 2Q23 GDP growth is forecast to pick up further and stand at 5.8% y-o-y, followed by 5.5% y-o-y in 3Q23 and 5% y-o-y in 4Q23. This will lead the Chinese economy to expand by 5.2% y-o-y in 2023. With the ongoing trend of increasing domestic consumption and external demand, there is the possibility of some additional upside potential.

May PMI readings, as provided by S&P Global, show that the services sector is performing very well, while activity in the manufacturing sector is also improving.

The **manufacturing PMI** moved back into expansionary territory in May to stand at 50.9. This comes after it had fallen into contractionary territory below 50 to stand at 49.5 in April, following 50 in March.

The **services sector index** has risen to stand at a level of 57.1 in May, after it stood at 56.4 in April and reaching 57.8 in March.

Graph 3 - 10: China's PMI



Sources: Caixin, S&P Global and Haver Analytics.

The **2023 GDP growth forecast** remains at 5.2%, following GDP growth of 3% in **2022**. Expectations for ongoing supportive pent-up demand in 2H23 and a continued improving economy in combination with additional measures undertaken by authorities to prop up economic growth have not changed and were confirmed by the latest indicators.

Table 3 - 6: China's economic growth rate and revision, 2022–2023*, %

	China
2022	**3.0**
Change from previous month	0.0
2023	**5.2**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

Other Asia

India

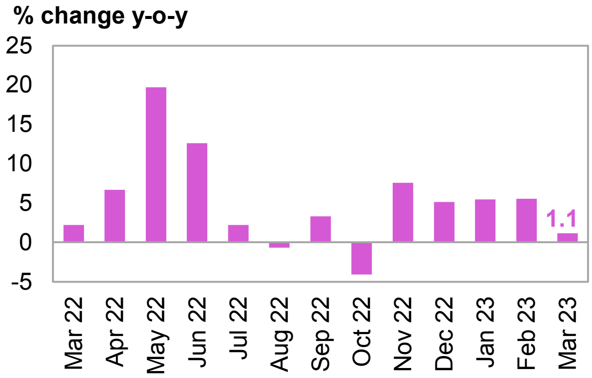
Update on the latest developments

India continues to enjoy sound momentum. After better-than-expected growth in 1Q23, lead indicators and output measures point to an ongoing positive dynamic in 2Q23. Moreover, inflation has retracted most recently, providing the central bank with flexibility to act, if needed. Following GDP growth of 3.3% y-o-y in 3Q22 and 4.4% y-o-y in 4Q22, 1Q23 GDP was reported at 6.1% y-o-y. The main support came from investments into the economy, as gross capital formation contributed 2.8 pp to 1Q23 GDP growth and exports, which contributed 2.6 pp to 1Q23 GDP growth. Private household consumption contributed 1.6 pp. Thus, domestic demand remained relatively weak in recent months and growth still lags behind pre-pandemic levels, when domestic consumption grew by around 3%. While in most major economies, the services sector has been the driving force in GDP growth, India is also benefitting from significant development of its manufacturing base, in addition to a thriving services sector.

Industrial production advanced by 1.1% y-o-y in March, which is considerably lower than the rate of 5.6% y-o-y seen in February, 5.5% y-o-y in January and 4.7% in December. This brings quarterly average growth to 4%, compared with 2.8% y-o-y in 4Q22.

The **unemployment rate** retracted to stand at 7.7% in May, after reaching 8.1% in April and 7.8% in March, compared with 7.5% in February.

Graph 3 - 11: India's industrial production

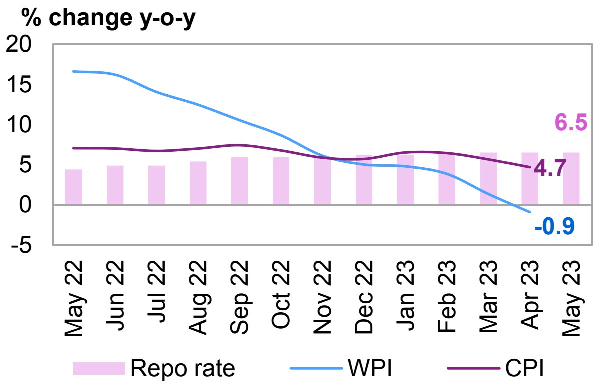


Sources: Ministry of Statistics and Program Implementation of India and Haver Analytics.

Inflation in India slowed considerably in April. The **general CPI index** retracted to stand at 4.7% y-o-y, compared with 5.7% y-o-y in March and 6.4% y-o-y in February. The April level marked the lowest level since October 2021.

Core inflation also slowed, standing at 5.1% y-o-y in April, compared with 5.7% y-o-y in March and 6.1% y-o-y in February. The whole sales price index (WPI) even turned negative, falling by 0.9% y-o-y in April, driven by deflationary trends in the non-food sector.

Graph 3 - 12: Repo rate and inflation in India



Sources: Ministry of Commerce and Industry, Reserve Bank of India and Haver Analytics.

India's **trade balance** posted a deficit of about $15.2 billion in April, compared with a deficit of $18.6 billion in March and $18.4 billion in April last year.

Monthly **exports** rose by $34.7 billion in April from $41.4 billion in March, compared with $39.7 billion in April last year.

Meanwhile, monthly **imports** increased to stand at $40.9 billion in April, compared with $60 billion in March, after a level of $58.1 billion was reached in April last year.

Graph 3 - 13: India's trade balance

Sources: Ministry of Commerce and Industry and Haver Analytics.

Near-term expectations

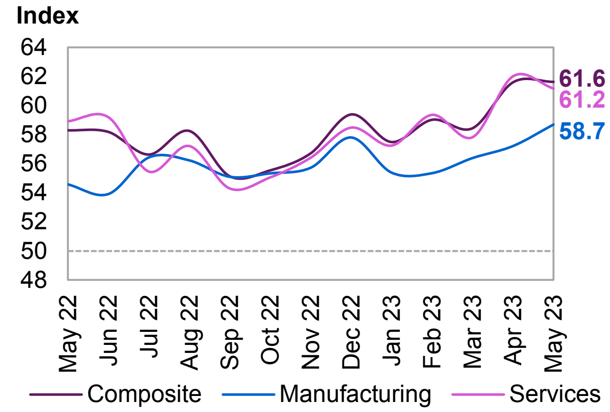
After a GDP growth rebound in 1Q23 spurred on by sound economic momentum and fiscal stimulus measures in the current fiscal year, India's **GDP growth in 2023** is forecast to remain well supported. The services sector is expected to remain the primary contributor to GDP growth in 2023, bolstered by strong exports. Despite weakness in domestic demand, the manufacturing sector has started improving, and construction activity could receive support from a government-initiated capex push. Another contributing factor is the most recent slow-down in inflation, particularly core-inflation. As this trend is forecast to continue, the Reserve Bank of India (RBI) may have some room to lower key policy rates later in the year. The RBI kept its key policy rate unchanged at 6.5% at its latest meeting in May. Nonetheless, due to the impact of the global economic slowdown, as well as persistently high interest rates in India and the base effect of exceptionally high GDP growth in 2022, the economy is projected to experience lower growth in 2023 compared with last year. However, considering the latest developments, there is potential economic growth upside to the current 2023 GDP growth forecast.

After 1Q23 GDP growth was reported at 6.1% y-o-y, the momentum is forecast to decelerate slightly. 2Q23 GDP growth is forecast at 5.8% y-o-y, while 3Q23 is forecast to stand at 5.3% y-o-y and 4Q23 at 5.2% y-o-y. However, and while decelerating, this anticipates that the growth rate in 1H23 will surpass that of 2H22.

The S&P Global **manufacturing PMI** continued to expand, reaching a strong 58.7 in May, compared with 57.2 in April, and after seeing an already high level of 56.4 in March. This highlights a further expansionary trend going into 2Q23.

The **services PMI** indicated ongoing strong momentum. While it retracted slightly, it remained at a high level, standing at 61.2 in May, after reaching 62 in April and compared with 57.8 in March.

Graph 3 - 14: India's PMIs



Sources: S&P Global and Haver Analytics.

The steady growth momentum in 1H23 and some carry-over into 2H23 will lead India's **2023 GDP growth** to reach 5.6%, unchanged from last month's forecast. While this is an annual deceleration, the 1H23 momentum is clearly a rebound from the low growth India experienced in 4Q22. Considering the accelerating growth in 1Q23, the trend may speed up further into 2Q23 and beyond, potentially lifting it above the current GDP growth forecast. Growth is expected to be primarily supported by the services sector, fiscal stimulus and a rebound in consumption in 2H23. These projections follow very strong **2022 GDP growth** of 6.7%.

Table 3 - 7: India's economic growth rate and revision, 2022–2023*, %

	India
2022	**6.7**
Change from previous month	0.0
2023	**5.6**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

Latin America

Brazil

Update on latest developments

Brazil posted strong 1Q23 GDP growth at 4% y-o-y. Despite high interest rates and the rise in inflation over the past months, consumption grew by 3.5% y-o-y. This follows 4Q22 GDP growth of 1.9% y-o-y, the lowest quarterly growth seen in 2022, all based on data from Brazil's statistical office, the Instituto Brasileiro de Geografia e Estatistica. Sector-wise, the agricultural sector contributed the most, expanding by 18.4% y-o-y. The industrial sector expanded by 1.8% y-o-y, and the services sector grew by 2.9% y-o-y. The strong data may also lead to positive spill-overs in 2Q23.

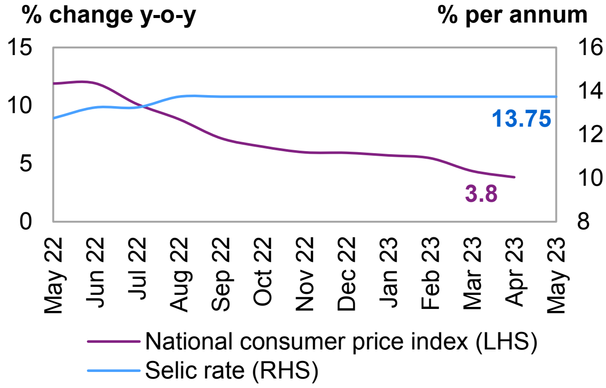
This positive momentum coincides with decelerating inflation and ongoing sound consumer confidence. This provides a good base for the government's agenda to initiate a new fiscal framework. A main aspect in this fiscal framework is redefining the fiscal anchor, aiming to replace the spending cap that was adopted in 2016 and limit public spending to no more than the official inflation rate of the previous year. This would provide the government with more flexibility to support social welfare measures. However, it includes a spending cap of a minimum of 0.6% and a maximum of 2.5% above inflation. It would also limit additional spending to 70% of fiscal revenue growth, but only if the primary surplus targets are met. The government is committed to achieving a primary budget surplus of 1% of GDP by 2026 and will be forced to reduce spending if it fails to meet its fiscal targets. The fiscal framework has passed the House and will now go to the Senate.

In addition, the government intends to introduce new taxes to finance a gradual increase in social welfare-related spending. These will include measures targeting tax evasion, and closing tax loopholes, among other measures. Furthermore, plans are underway to reform the tax code and the VAT framework.

On a positive note, **inflation** retracted significantly in 2H22 and has continued this trend since the beginning of the year. It stood at 3.8% y-o-y in April, following 4.4% y-o-y in March and 5.5% y-o-y in February. This compares with the 2022 inflation rate of 9.4%.

The central bank has so far kept its key policy rate at 13.75%. The central bank's inflation target stands at 3.25%, and a new target may be defined soon. Even as a new inflation target, possibly to be set at 3%, will be defined, there is room for the central bank to manoeuvre and lower interest rates. The central bank has kept the **key policy rate** unchanged after lifting interest rates significantly since 2021.

Graph 3 - 15: Brazil's inflation vs. interest rate



Sources: Banco Central do Brasil, Instituto Brasileiro de Geografia e Estatística and Haver Analytics.

Unemployment saw an upward trend in 1Q23, but retracted in April. Based on the usual three-month moving average, Brazil's **unemployment rate** stood at 8.5% in April, following 8.8% in March, 8.6% in February and 8.4% in January.

Meanwhile, **consumer confidence** rose in May to stand at 87.7, after it had retracted in April to 85.7 and was at 88.2 in March, as measured by the Fundação Getúlio Vargas Institute.

Near-term expectations

The 1Q23 GDP growth level indicates continued momentum in Brazil's economy. While sector-wise the dynamic was very much driven by agriculture, an expected rebound in manufacturing and continued support from the services sector are forecast to continue providing a sound base for GDP growth in 2023. Sound expectations for external trade, with support from the recovery in China and envisaged domestic reforms, including fiscal restructuring, will also provide support. While these factors may provide better-than-expected growth in the remaining three quarters, the Brazilian economy is expected to experience a slowdown in 2023 due to persistent high-interest rates and the limited fiscal space to support growth. Inflation is forecast to slow, but to remain above 4% in 2023. This compares with the central bank's current inflation target of 3.25%. However, with the inflationary trend slowing considerably up to April, a more accommodative stance towards 2H23 is possible.

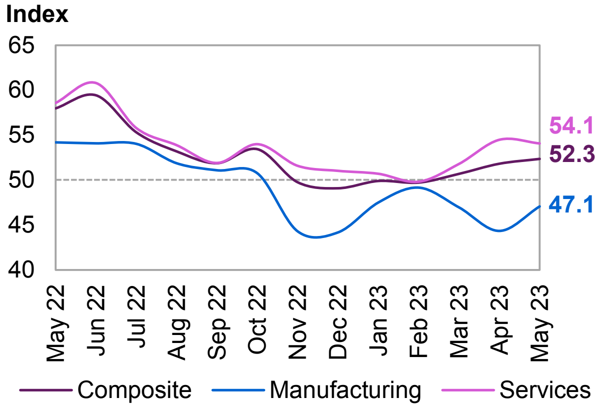
The agricultural sector's robust 1Q23 output and a potential increase in Brazil's export market share could provide an upside to the economy. The Eastern European tensions and severe drought in Argentina may also improve Brazil's competitive position in global trade this year. Following 1Q23 GDP growth of 4%, the GDP growth rate is currently expected to slow in the remaining three quarters with growth rates below 1%. However, the current momentum and the carry-over of the 1Q23 dynamic make it likely that upside potential will be seen. Additionally, the possibility of more accommodative monetary policies in 2H23, coupled with expanding export opportunities, could lift growth beyond current expectations.

May PMI indices indicate a rebound in manufacturing and continued support from the services sector.

The **manufacturing PMI** stood at 47.1, after dropping to 44.3 in April and at 47 in March. However, it remained below the growth-indicating level of 50 for the seventh consecutive month.

The **services PMI** retracted slightly as it reached a level of 54.1 in May, after 54.5 in April and 51.8 in March.

Graph 3 - 16: Brazil's PMIs



Sources: HSBC, S&P Global and Haver Analytics.

Despite the current challenging economic conditions, the 1Q23 GDP growth momentum indicated that there is potential for growth to improve further. A continued decline in inflation could lead to a more accommodative monetary policy in 2H23, potentially bolstering growth towards the end of the year. Additionally, envisaged fiscal reforms may provide a supportive factor that could improve asset market conditions and increase business confidence. While developments will be closely monitored, the forecast for **GDP growth in 2023** remains unchanged from last month, with a projected growth rate of 1.0%, following reported growth of 2.9% in **2022**.

Table 3 - 8: Brazil's economic growth rate and revision, 2022–2023*, %

	Brazil
2022	**2.9**
Change from previous month	0.0
2023	**1.0**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

Africa

South Africa

Update on the latest developments

South Africa's 1H23 economic growth momentum remained impacted by the constraints in power supply. The latest factory data suggests a sluggish beginning to 2Q23 as the significant power outages experienced since last year have reached an unprecedented scale, hindering substantial growth in the near future. After a GDP decline in 4Q22 of seasonally adjusted (sa) 1.1% q-o-q, 1Q23 GDP growth was reported at a level of 0.4% q-o-q sa. Challenges continued in 2Q23 and there is a high possibility of only low growth in 1H23 GDP. In addition, inflation remains elevated, primarily driven by food price pressures arising from the consequences of load shedding. This has led to ongoing tightening in monetary policies by the central bank, with a consequent dampening effect on South Africa's economy.

Inflation remains high and persistent, mirroring the current global inflationary environment. Headline inflation in urban areas retracted slightly in April, standing at 6.8% y-o-y, following a level of 7.1% y-o-y in March ,7% in February and after reaching 6.9% y-o-y in January. Corresponding core inflation stood at 5.3% y-o-y in April, after 5.2% y-o-y in both March and February and 4.9% y-o-y in January. Consequently, the **central bank** raised interest rates, as continued blackouts in South Africa complicate its aim to keep inflation under control. The South African Reserve Bank raised its key policy rate by 0.5 pp to 8.25% in April.

Near-term expectations

While 1Q23 GDP growth rebounded somewhat from the 4Q22 contraction, a continuation of this trend will be limited given the ongoing constraints from the power sector in South Africa's economy, ongoing high inflation and the increasingly elevated interest rates as an outcome of the current situation. Due to ongoing economic challenges in South Africa, growth is expected to significantly slow in 2023, compared with 2022. Prospects for the 1H23 GDP dynamic have worsened and the risk is clearly skewed to the downside. The economy is forecast to grow at a low level with 2Q23 growth of 0.2% q-o-q sa, following the reported 0.4% q-o-q sa in 1Q23. Average quarterly growth is forecast at almost 0.2% q-o-q sa in 2H23.

In addition to the power supply issue, the South African economy faces further challenges, including a currently soft commodities market, ongoing domestic political issues, and the resulting rise in domestic uncertainty. Additionally, the central bank has indicated its continued intention to continue its monetary tightening efforts to control inflation, which will have a further dampening effect on the economy. In that respect, the central bank will likely lift the key policy rate by a further 25 bp to stand at 8.5% in 2H23. Finally, there is a greater likelihood of increased load-shedding levels this winter due to the inconsistent performance of the system during the previous winter and the extended repair work being conducted.

The forward-looking seasonally adjusted composite **PMI,** as provided by S&P Global, retracted further in anticipation of an additional deterioration in the economy. It stood at 47.9 in May, following a level of 49.6 in April and after reaching 49.7 in March.

Considering the ongoing multiple issues, the **2023 GDP growth forecast** was revised down to stand at 0.4%, compared with a 1% GDP growth forecast for 2023 in the previous month. Still downside risk prevails and near-term developments will need close monitoring. A more accentuated slowdown or even a decline from GDP growth of 2% in **2022** could easily materialise, given the current state of the economy and particularly the dampening effects from the power sector.

Table 3 - 9: South Africa's economic growth rate and revision, 2022–2023*, %

	South Africa
2022	**2.0**
Change from previous month	0.0
2023	**0.4**
Change from previous month	-0.6

*Note: * 2023 = Forecast.*

Source: OPEC.

Russia and Central Asia

Russia

Update on the latest developments

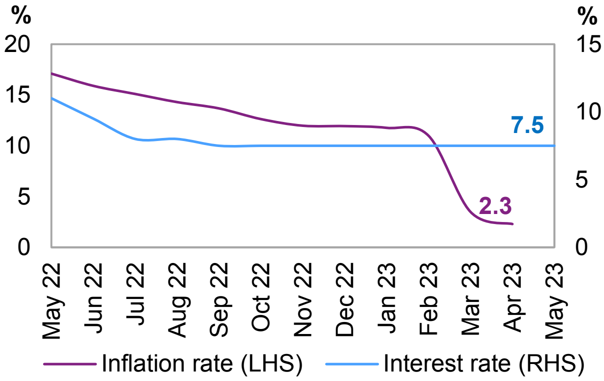
The Russian economy is continuing to perform relatively well and it seems that it continues to weather ongoing challenges better than most observers anticipated. The impact of the conflict can be observed in indicators such as industrial production and wholesale trade. However, the magnitude of these effects was insufficient to disrupt the overall recovery. While the positive effects from significant fiscal easing – implemented at the beginning of 2022-23 – are expected to diminish soon, monetary policy remains relatively conservative and hence would provide some room for counterbalancing negative effects. GDP contracted by 1.9% y-o-y in 1Q23, as shown in figures released by the Russian Federal State Statistic Service. This comes after a 4Q22 decline of 2.7% y-o-y. The economic growth trend in 2Q23 seems to improve further, as indicated by lead business and consumer confidence indices. The central bank's consumer sentiment index retracted slightly in May to stand at an index level of 4, but this comes after it reached the highest level since 2018 in March at an index level of 6. Meanwhile, the rouble continued weakening, a development that has likely contributed to inflationary risks.

However, **consumer inflation** retracted further in April to stand at 2.3% y-o-y, following a level of 3.5% y-o-y in March, well below the central bank's inflation target of 4%. In February, inflation stood at 11% y-o-y, compared with 11.8% y-o-y in January. Russia's central bank held its **policy rate** at 7.5% in May.

On an annual basis, the **rebound in IP** continued in April, when it rose by 5.2% y-o-y, after a rise of 1.2% y-o-y in March. IP had declined by 1.7% y-o-y in February and contracted by 2.4% y-o-y in January.

Russia's **jobless rate** continued improving as it stood at 3.3% in April, compared with 3.5% in 1Q23 and coming off from 3.7% in December and November.

Graph 3 - 17: Russia's inflation vs. interest rate



Sources: Federal State Statistics Service, Central Bank of Russian Federation and Haver Analytics.

Near-term expectations

The range of **uncertainties** for near-term Russian economic growth remains broad. Nevertheless, when considering the recent positive developments in industrial production, the labour market and the recovery in consumer confidence, Russia's growth risk for 2023 seems to be skewed to the upside. With consumer confidence at high levels and income growth remaining healthy, consumption recovery should continue in the near term. Additionally business confidence in the manufacturing sector points to a supportive development in the coming quarters. Moreover, government-led measures are expected to continue counterbalancing ongoing economic challenges.

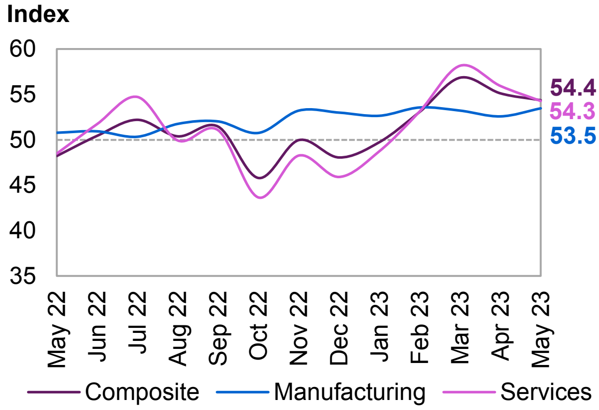
Following a reported 4Q22 GDP decline of 2.7% y-o-y, the contraction continued in 1Q23, when **GDP growth** declined by 1.9% y-o-y. GDP growth in 2Q23 is forecast to decline by 1.6% y-o-y. This 1H23 decline is expected to be followed by a rebound in 2H23 at average quarterly GDP growth rates of 0.6% y-o-y. While consumption is expected to rebound, the government's counterbalancing measures are expected to compensate for the negative impact of external pressure to a significant extent. However, uncertainties related to the impact of sanctions and developments in the commodities sector in 2023 make it challenging to forecast economic growth in the near term. Moreover, given the recent decline in headline inflation, the Central Bank of the Russian Federation (CBR) may consider a more accommodative monetary policy in the coming months, depending on the continued near-term path of inflation.

PMI indices in May reflect an ongoing expansionary trend in both the manufacturing and services sectors.

May's S&P global **manufacturing PMI** rose to stand at 53.5, following a level of 52.6 in April and 53.2 in March.

The **services PMI** retracted slightly and stood at 54.3 in May, compared with 55.9 in April, after it had reached 58.1 in March.

Graph 3 - 18: Russia's PMI



Sources: HSBC, S&P Global and Haver Analytics.

GDP growth in 2023 is unchanged from the previous month as it is forecast to decline by 0.5%. While based on previous months' developments the risk to the forecast is skewed to the upside, the forecast remains subject to high levels of uncertainty amid ongoing challenges to the Russian economy. The small contraction forecast for 2023 follows a reported **2022** GDP decline of 2.1%.

Table 3 - 10: Russia's economic growth rate and revision, 2022–2023*, %

	Russia
2022	**-2.1**
Change from previous month	0.0
2023	**-0.5**
Change from previous month	0.0

*Note: * 2023 = Forecast.*

Source: OPEC.

OPEC Member Countries

Saudi Arabia

The **Saudi Arabian economy** expanded 3.8% y-o-y in 1Q23, with indications of a 5.4% y-o-y rise in non-oil activities and a 1.4% y-o-y increase in oil activities. Government activities remained strong and rose by 4.9% y-o-y. The non-oil sector has continued to play a dominant role in driving growth this year in Saudi Arabia. Private household consumption expanded by 3.9% y-o-y. The PMI retracted very slightly and remained at a high level of 58.5 in May, following an index level of 59.6 in April and 58.7 in March, supported by strong economic conditions and stronger employment numbers. The unemployment rate fell to 4.8% in 4Q22, the lowest quarterly level last year. Inflation stood at 2.7% y-o-y in April and March, after a level of 3% y-o-y in February, the lowest rate since July 2022. In May, the Saudi Central Bank increased the key policy rate by 25 basis points to 5.75%, aligning with the US dollar interest rate regime. Growth in the near-term is expected to remain strong, with both the oil and the non-oil sector supporting the momentum with a strong commitment to government reform programs.

Nigeria

Nigeria's economy grew by 2.4% y-o-y in 1Q23, after growth of 3.6% y-o-y in 4Q22. Nigeria's economy seems to be continuously challenged by a variety of factors this year. Slowing growth in the services sector, slowing crude oil-output, and a deceleration in manufacturing and farming industries are among the most important issues. Additionally, the economy is further burdened by ongoing high inflation and import restrictions. As a consequence, business activity and consumer spending remain subdued. Inflation data for April show an ongoing acceleration, with an annual rate of 22.2% y-o-y, up from 22% y-o-y in March. Food inflation has been a key factor in this rise, reaching 24.6% y-o-y in April, following a rise of 24.5% y-o-y in March. Consequently, the Central Bank of Nigeria lifted the key policy rate to 18.5% in May, after 18% in April and following a 50 bp hike in March and a 100 bp hike in January. Despite the challenges, April's Stanbic IBTC Bank Nigeria PMI recovered strongly to stand at 54 in May, after 53.8 in April, compared with only 42.3 in March, indicating a potential near-term recovery.

The United Arab Emirates (UAE)

While the oil-sector remains a major support factor for the **UAE's economy**, the non-oil sector is expected to continue its robust growth in 2023, building on the solid growth momentum of 2022. Importantly, the UAE's travel and tourism sector is recovering robustly, with a 55.8% y-o-y increase in passengers at Dubai International Airport in 1Q23, reaching 95.6% of its pre-pandemic levels. It is anticipated that passenger figures will surpass those of 2019 this year. This revival in tourism, coupled with a growing population and government support, is contributing to the overall economic growth and the UAE's capability to withstand global economic challenges.

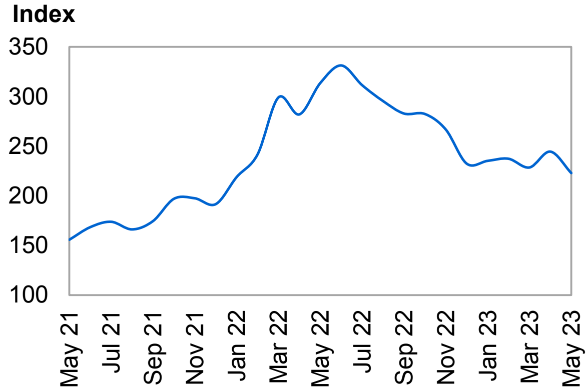
The country's Purchasing Managers' Index (PMI) has remained at a high level, but retracted slightly in May to a level of 55.5, after 56.6 in April, therefore suggesting that the expansionary trend will be maintained. In addition, the Ministry of Finance announced additional exceptions to its impending corporate tax structure, set to enforce a 9% federal corporate tax from June 1. The most recent exemptions include private regulated pension funds and social security funds. These join the list of previously announced exceptions, which catered to companies serving the broader public interest, enterprises in free zones, and investment funds. Finally, the Central Bank of the UAE mirrored the 25 bp increase in interest rates implemented by the US Federal Reserve, resulting in a total rise of 500 bp in just over a year. The short-term interest rate is now approaching its highest level since before the global financial crisis.

The impact of the US dollar (USD) and inflation on oil prices

The **US dollar (USD) index** rebounded in May, increasing by 1.0% m-o-m. The USD advanced as persistent inflationary pressures, particularly core inflation, raised expectations of additional interest rate hikes by the US Federal Reserve. Additionally, signs of a resilient US economy underpinned the USD amid ongoing debt ceiling uncertainties. Y-o-y, the index was down by 0.3%.

The USD rose in May against some major developed market (DM) currencies. M-o-m, it rose against the euro by 0.9% and by 2.9% against the yen. The USD fell for the second consecutive month against the pound, declining by 0.3% m-o-m in May. Y-o-y, the USD was up 2.9% and 6.5% against the euro and yen respectively; however, it was down by 0.3% against the pound over the same period.

Graph 3 - 19: The Modified Geneva I + US$ Basket (base June 2017 = 100)



Sources: IMF and OPEC.

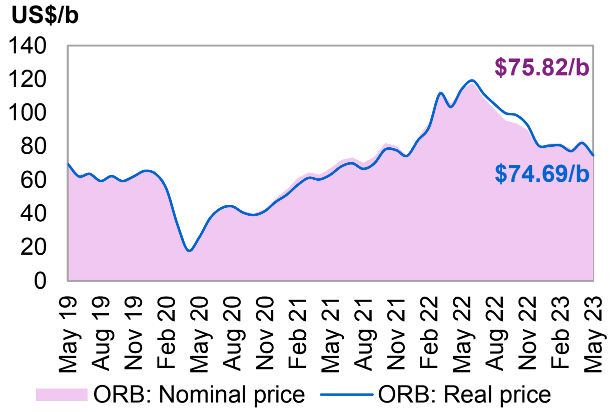
In terms of emerging market (EM) currencies, the USD rose in May against the rupee by 0.4% m-o-m, and by 1.5% against the yuan over the same period. Meanwhile, it fell against the real for the second consecutive month in May, declining by 0.7% m-o-m. Y-o-y, the USD was up by 6.5%, by 4.1%, and by 0.1% against rupee, the yuan and the real respectively.

The differential between **nominal and real ORB prices** narrowed m-o-m. Inflation (nominal price minus real price) went from $2.11/b in April to $1.13/b in May, a 46.4% decline m-o-m.

In **nominal terms**, accounting for inflation, the ORB price went from $84.13/b in April to $75.82/b in May, a 9.9% decrease m-o-m. Y-o-y, the ORB was down by 33.4% in nominal terms.

In **real terms** (excluding inflation), the ORB went from $82.02/b in April to $74.69/b in May, an 8.9% decrease m-o-m. Y-o-y, the ORB was down by 34.6% in real terms.

Graph 3 - 20: Impact of inflation and currency fluctuations on the spot ORB price (base June 2017 = 100)



Source: OPEC.

World Oil Demand

World oil demand growth in 2022 remains broadly unchanged from last month at 2.5 mb/d y-o-y. However, a slight upward adjustment was effected in 4Q22, on the back of a slight improvement in OECD Americas in that quarter. Total world oil demand is expected to average 99.6 mb/d in 2022.

For 2023, the forecast for world oil demand growth is also unchanged from the previous month's assessment at 2.3 mb/d, with the OECD up by 0.05 mb/d y-o-y and non-OECD growth at close to 2.3 mb/d y-o-y. Minor downward adjustments were made to the OECD due to weak performance in the second quarter. Nevertheless, these were offset by minor upward adjustments due to better-than-expected performance in China's economy, while other regions are expected to see slight declines, due to economic challenges that are likely to weigh on oil demand. Accordingly, in 2Q23, oil demand is expected to rise by around 2.3 mb/d y-o-y. Total world oil demand is anticipated to reach 101.9 mb/d in 2023. However, this forecast is subject to many uncertainties, including global economic developments and ongoing geopolitical tensions.

Table 4 - 1: World oil demand in 2022, mb/d

World oil demand	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21 Growth	%
Americas	24.32	24.77	24.98	25.33	24.95	25.01	0.70	2.86
of which US	*20.03*	*20.38*	*20.41*	*20.62*	*20.32*	*20.43*	*0.40*	*1.98*
Europe	13.13	13.19	13.43	14.07	13.34	13.51	0.38	2.90
Asia Pacific	7.38	7.85	6.99	7.22	7.68	7.43	0.05	0.70
Total OECD	**44.82**	**45.81**	**45.39**	**46.62**	**45.97**	**45.95**	**1.13**	**2.52**
China	15.00	14.77	14.45	14.67	15.51	14.85	-0.15	-0.98
India	4.77	5.18	5.16	4.95	5.26	5.14	0.37	7.66
Other Asia	8.67	9.13	9.31	8.77	8.89	9.02	0.36	4.11
Latin America	6.23	6.32	6.36	6.55	6.52	6.44	0.21	3.38
Middle East	7.79	8.06	8.15	8.53	8.44	8.29	0.50	6.45
Africa	4.22	4.51	4.15	4.25	4.69	4.40	0.18	4.21
Russia	3.61	3.67	3.42	3.45	3.71	3.56	-0.05	-1.48
Other Eurasia	1.21	1.22	1.16	1.00	1.21	1.15	-0.06	-5.07
Other Europe	0.75	0.79	0.75	0.73	0.80	0.77	0.01	1.75
Total Non-OECD	**52.25**	**53.65**	**52.90**	**52.89**	**55.03**	**53.62**	**1.36**	**2.61**
Total World	**97.08**	**99.45**	**98.29**	**99.51**	**101.00**	**99.57**	**2.49**	**2.57**
Previous Estimate	97.08	99.45	98.29	99.51	101.00	99.57	2.49	2.57
Revision	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Note: Totals may not add up due to independent rounding. Source: OPEC.

Table 4 - 2: World oil demand in 2023*, mb/d

World oil demand	2022	1Q23	2Q23	3Q23	4Q23	2023	Change 2023/22 Growth	%
Americas	25.01	24.61	25.14	25.51	25.09	25.09	0.08	0.31
of which US	*20.43*	*20.16*	*20.43*	*20.75*	*20.37*	*20.43*	*0.00*	*-0.01*
Europe	13.51	12.93	13.33	14.10	13.37	13.43	-0.07	-0.53
Asia Pacific	7.43	7.89	7.05	7.27	7.70	7.47	0.04	0.55
Total OECD	**45.95**	**45.44**	**45.52**	**46.87**	**46.15**	**46.00**	**0.05**	**0.10**
China	14.85	15.63	15.56	15.43	16.16	15.70	0.84	5.69
India	5.14	5.40	5.41	5.21	5.50	5.38	0.24	4.75
Other Asia	9.02	9.40	9.65	9.14	9.24	9.35	0.33	3.67
Latin America	6.44	6.60	6.49	6.71	6.68	6.62	0.19	2.90
Middle East	8.29	8.63	8.47	8.86	8.73	8.67	0.38	4.55
Africa	4.40	4.69	4.34	4.43	4.88	4.59	0.19	4.21
Russia	3.56	3.68	3.45	3.59	3.87	3.65	0.09	2.49
Other Eurasia	1.15	1.24	1.16	1.02	1.22	1.16	0.01	1.15
Other Europe	0.77	0.84	0.76	0.75	0.83	0.80	0.03	3.61
Total Non-OECD	**53.62**	**56.12**	**55.29**	**55.16**	**57.10**	**55.92**	**2.30**	**4.29**
Total World	**99.57**	**101.55**	**100.80**	**102.03**	**103.25**	**101.91**	**2.35**	**2.36**
Previous Estimate	99.57	101.58	100.70	102.03	103.25	101.90	2.33	2.34
Revision	0.00	-0.03	0.10	0.00	0.01	0.02	0.02	0.02

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

OECD

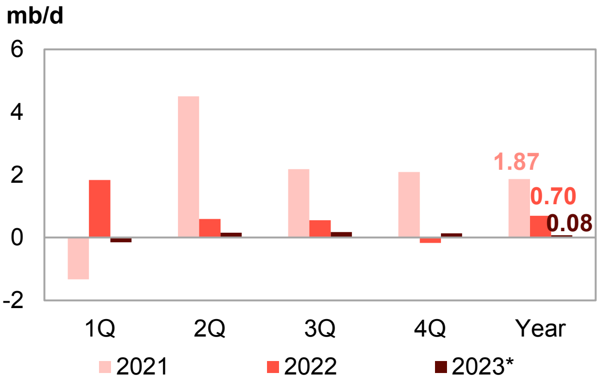
OECD Americas

Update on the latest developments

Oil demand in OECD Americas in March saw growth of 50 tb/d y-o-y, up from an annual decline of 0.3 mb/d y-o-y in February. Oil demand was driven by requirements for transportation fuels in Canada and Mexico.

Gasoline demand in the region increased in March by 0.14 mb/d y-o-y, slightly below growth of 0.16 mb/d y-o-y seen the previous month. Similarly, jet /kerosene posted y-o-y growth of 0.12 mb/d, compared with growth of 0.16 mb/d seen in February. Demand for LPG reversed a three-month long declining trend to show y-o-y growth of 0.1 mb/d. However, all other products remained weak in OECD Americas in March.

Graph 4 - 1: OECD Americas oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

Oil demand in the **US** continued to decline for the fourth consecutive month by 61 tb/d y-o-y, albeit this being an improvement compared with the 0.4 mb/d y-o-y decline seen in February.

The manufacturing PMI in the US was still below expansion at 46.3 in March, sliding from 47.7 in February to remain in contraction for the sixth consecutive month. On the other hand, the services PMI was at 51.2 points in March, following 55.1 points in February. Similarly, the seasonally adjusted vehicle miles travelled for March 2023 showed an increase of 0.3% over March 2022. The International Air Transport Association's (IATA) Air Passenger Market Analysis reported that in March, international revenue passenger kilometres (RPKs) for airlines in North America grew by 51.6% and carriers in the US have mostly recovered to pre-pandemic levels with regard to domestic traffic.

The largest decline in oil demand among products in the US in March was seen in residual fuels, which recorded a y-o-y decline of 0.2 mb/d, compared with zero growth seen the previous month. As weak manufacturing activity continues to weigh, diesel demand continued to show a y-o-y decline for the fifth consecutive month, down by 60 tb/d y-o-y in March, albeit showing an improvement from the 0.2 mb/d y-o-y decline in February. Furthermore, the "other products" category also declined y-o-y by 80 tb/d, albeit this being an improvement from the y-o-y decline of 0.2 mb/d seen in February. Naphtha weakened by 10 tb/d y-o-y in March, following a y-o-y decline of about 30 tb/d in February.

On a positive note; on the back of improved mobility, demand for gasoline increased further from y-o-y growth of 0.1 mb/d in February to 0.15 mb/d y-o-y in March. Jet/kerosene also increased by almost 0.1 mb/d y-o-y, posting gains for the twenty fourth consecutive month. Finally, LPG saw growth of 40 tb/d y-o-y, compared with a y-o-y decline of more than 0.3 mb/d seen in February.

Table 4 - 3: US oil demand, mb/d

By product	Mar 22	Mar 23	Change Mar 23/Mar 22 Growth	%
LPG	3.55	3.59	0.04	1.0
Naphtha	0.16	0.14	-0.01	-7.7
Gasoline	8.86	9.01	0.15	1.7
Jet/kerosene	1.52	1.61	0.09	5.6
Diesel	4.16	4.10	-0.06	-1.4
Fuel oil	0.44	0.25	-0.19	-43.1
Other products	2.12	2.04	-0.08	-3.6
Total	**20.80**	**20.74**	**-0.06**	**-0.3**

Note: Totals may not add up due to independent rounding. Sources: EIA and OPEC.

Near-term expectations

In **2Q23**, GDP growth rates in the **US** are expected to remain steady and potentially slightly higher than observed in the first quarter. However, the manufacturing PMI should remain below growth-indicating levels for the sixth consecutive month. This continued weakening manufacturing activity is likely to impact on demand for industrial fuels. In the second quarter, US oil demand is projected to grow marginally y-o-y by 20 tb/d. Anticipated growth will be driven by transportation fuels, jet fuel and gasoline on the back of air travel recovery and the summer driving season, while diesel and petrochemical feedstock are anticipated to remain relatively weak due anticipated weaker manufacturing and petrochemical sector activity.

In **3Q23**, the peak driving season in the **US**, inflation is expected to continue to decline. Furthermore, the services PMI has shown signs of rebounding. Similarly, domestic airline activity has surpassed pre-pandemic levels and international travel is near 2019 levels. These factors are expected to support oil demand growth of 0.1 mb/d y-o-y in 3Q23. Transportation fuels, including jet/kerosene and gasoline, are expected to drive oil demand growth. However, risks are still skewed to the downside, with a focus on the macroeconomic performance of the US economy.

OECD Europe

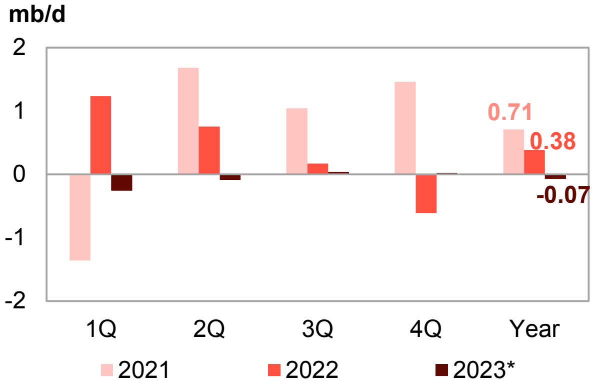
Update on the latest developments

Oil demand in OECD Europe declined further in March by 0.2 mb/d y-o-y, although showing a slight improvement from the 0.3 mb/d y-o-y decline seen in February.

The region is still facing some macroeconomic headwinds. Inflation in the Euro-zone rose rather unexpectedly again, standing at 6.9% y-o-y in March. The Euro-zone's manufacturing PMI remained in contractionary territory, standing at 47.3 in March, down from 48.5 in February. Nevertheless, the PMI for services pointed to some improvement to stand at 55 points, up from 52.7 in February.

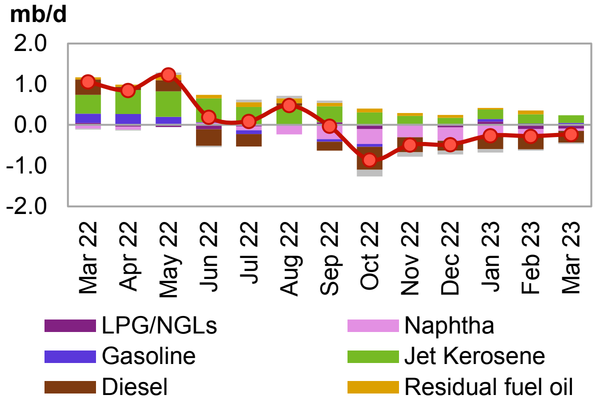
IATA reported that the region's airline domestic RPKs stood above pre-pandemic levels for the 11th consecutive month, with 10.4% growth seen over March 2019. Similarly, airlines carried 38.5% more international passenger traffic in March compared with the previous year, but remained 13.7% below the levels seen in 2019 for the same period.

Graph 4 - 2: OECD Europe's oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

Graph 4 - 3: OECD Europe's oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, OPEC and national sources.

Diesel sustained a seventh consecutive monthly decline of 0.3 mb/d y-o-y, around the same decline seen in February. Likewise, demand for petrochemical feedstock also remained weak, with naphtha contracting by 50 tb/d y-o-y, although this was an improvement from the 0.2 mb/d y-o-y decline seen in February. LPG demand also softened by 0.1 mb/d y-o-y for a second consecutive month. The "other products" category additionally saw a decline of 30 tb/d y-o-y for the sixth consecutive month.

On the positive side, continued improvements in airline activity supported jet/kerosene growth, which was up by almost 0.2 mb/d, y-o-y broadly the same y-o-y growth rate as posted in February. Gasoline saw y-o-y growth of 50 tb/d, up from 30 tb/d y-o-y growth seen in the previous month. Finally, residual fuels remained flat in March, compared with a y-o-y increase of 0.1 mb/d in February.

Near-term expectations

In **2Q23**, GDP growth in the region is projected to be positive, though low. Furthermore, manufacturing activity is also anticipated to continue weakening due to slow economic activity and supply chain bottlenecks. Accordingly, oil demand growth in the quarter is anticipated to decline by 90 tb/d y-o-y, compared with an annual decline of 0.3 mb/d seen in the first quarter. Transportation fuels, most notably jet fuel and gasoline, are expected to support oil demand improvements in the second quarter.

By **3Q23**, oil demand in the region is expected to improve slightly to show only a marginal decline of 30 tb/d y-o-y compared with 2Q23. In this quarter as well, oil demand is anticipated to be mainly supported by jet fuel and gasoline. However, diesel and petrochemical feedstock are projected to remain weak. The risks, however, are skewed to the downside, hinging on geopolitical developments and the possibility of an economic recession in the region.

OECD Asia Pacific

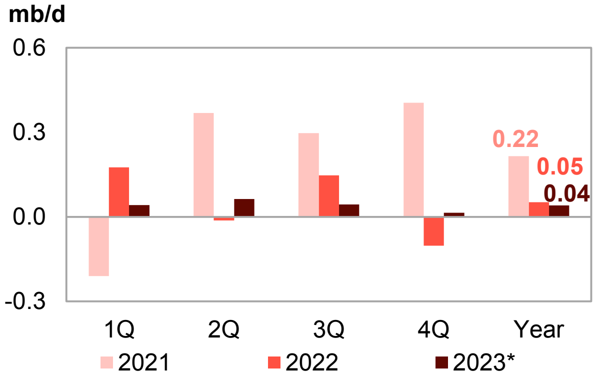
Update on the latest developments

Oil demand in OECD Asia Pacific saw growth of nearly 0.2 mb/d y-o-y in March, broadly the same as in February. Oil demand in the region was mostly driven by Australia, as demand for oil in the two largest oil-consuming countries of the region — Japan and South Korea — remained soft on the back of weak macroeconomic performance and continuing low manufacturing activity. The manufacturing PMIs for both Japan and South Korea were below the expansion threshold in March.

In **Japan**, the manufacturing PMI stood at 49.2 in March, albeit showing an improvement from 47.7 points in in February. However, Japan's services sector PMI rose to 55 points in March, compared with 54 points in February. Furthermore, the annual headline inflation in Japan fell slightly to 3.2% in March compared with 3.3% in February, which is still high for the country, increasing the likelihood of monetary tightening by the Bank of Japan.

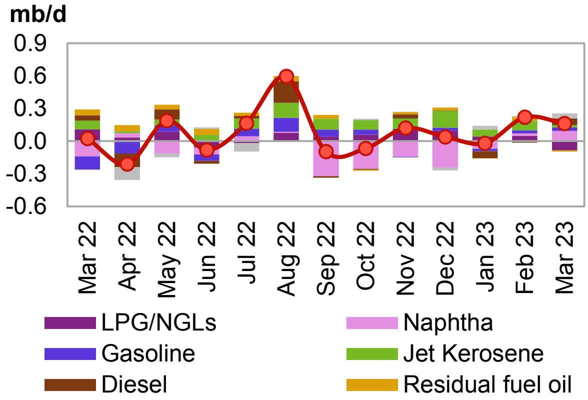
The **South Korean** manufacturing PMI in February also stood in contraction at 48.7 in March, almost the same as the 48.5 seen the previous month. The annual consumer price index in the country declined to 3.3% in March, compared with 4.8% in February, according to the Bank of Korea. This was the slowest annual rise since February 2021.

Graph 4 - 4: OECD Asia Pacific oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

Graph 4 - 5: OECD Asia Pacific oil demand, y-o-y change



Sources: IEA, JODI, METI and OPEC.

Airline activity in the **OECD Asia Pacific** region remained healthy, according to a report from the IATA. Asia Pacific carriers continued to show strong signs of recovery in March, with annual growth of 283.1% seen in international RPKs. Over the same period, the region's airlines saw its RPKs increase to 64.4% of pre-pandemic levels. International traffic flows from and within the area continued to see recovery and growth. Within the Asia Pacific region, traffic reached 53.1% of pre-pandemic levels.

Looking at the contribution of specific products in March oil demand, naphtha led overall demand growth by nearly 10 tb/d y-o-y, down from 20 tb/d y-o-y growth seen in February. Diesel saw y-o-y growth of 60 tb/d, from a slight annual decline of 13 tb/d y-o-y the previous month. The "other products" category saw y-o-y growth of 50 tb/d, up from 10 tb/d y-o-y growth in February. Gasoline recorded y-o-y growth of 30 tb/d for the second consecutive month.

Demand for naphtha was in contraction for five consecutive months prior to February 2022, as average run rates at major naphtha cracking centres were in decline due to a slowdown in the manufacturing and construction sectors, which typically drive demand for various petrochemical products. However, the opening of China has seen naphtha improving to show y-o-y growth for a second consecutive month in March. Furthermore, on the back of an improvement in air travel activity in the region, jet kerosene saw y-o-y growth of around 20 tb/d, however, this is a slight decline from the almost 90 tb/d y-o-y growth seen in February. LPG saw a y-o-y contraction of 90 tb/d in March, down from the 50 tb/d y-o-y growth seen in February.

Near-term expectations

The region's GDP is projected to remain positive in 2023, supporting services and manufacturing activity. The services PMIs in Japan and Australia are on a rising trend, reaching 56 point and 52.6 points, respectively, in March. Furthermore, petrochemical feedstock requirements are likely to get a boost from the opening of the Chinese economy, which will also support the petrochemical industry of the entire region. Accordingly, OECD Asia Pacific's oil demand is projected to grow y-o-y by 60 tb/d in **2Q23**.

In **3Q23**, further improvements in air traffic and driving mobility, combined with the ongoing recovery in petrochemical industry operations, are anticipated to support oil demand growth to the tune of 40 tb/d y-o-y, mainly supported by jet fuel, gasoline and petrochemical feedstock.

Non-OECD

China

Update on the latest developments

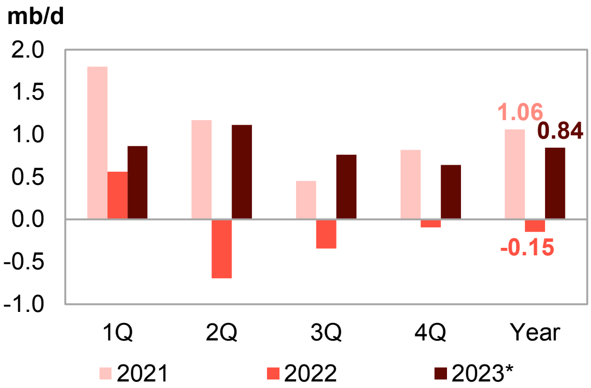
Beyond expectations, oil demand in **China** posted considerable 3 mb/d y-o-y growth in April, following already healthy 1.4 mb/d y-o-y growth in March. M-o-m oil demand in the country increased by 1.8 mb/d. Growth in oil demand was supported by a weak baseline and healthy economic activity, amid strong petrochemical industry requirements.

In April, the services PMI was in expansion zone at 56.4, reflecting strong momentum in business and social activity after the reopening of the country from lockdown.

Similarly, the National Bureau of Statistics of China shows that daily highway traffic in China during 29 April to 3 May more than doubled y-o-y to some 9% higher than 2019 levels. During same period, domestic air travel demand soared, with daily passenger flights surging to 14% higher than levels during the same period in 2019, and international flights reached 30% of 2019 levels in early April.

However, the manufacturing PMI decelerated into contraction at 49.2 points in April, from 51.9 points in March.

Graph 4 - 6: China's oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

Diesel led demand in China's April overall demand mix with 0.8 mb/d y-o-y growth, up from an increase of 0.3 mb/d y-o-y in March. Diesel has been the most important refined product in China's oil demand palette, accounting for a third of consumption. The product is consumed in industry as well as in freight, fuelling trucks and commercial vehicles in construction and agricultural sector activity. On the back of a surge in mobility, gasoline demand also rose strongly by 0.6 mb/d y-o-y from 0.1 mb/d y-o-y growth in March. Similarly, strong air travel activity supported jet fuel to post y-o-y growth of 0.4 mb/d, up from 0.2 mb/d y-o-y growth in March. On the back of considerable petrochemical sector requirements, LPG posted y-o-y growth of more than 0.5 mb/d, up from a 30 tb/d annual decline in March. Furthermore, naphtha saw y-o-y growth of almost 0.2 mb/d. Finally, residual fuels saw y-o-y growth of 0.6 mb/d, while the "other fuels" category increased by 0.1 mb/d, almost the same as in March.

Table 4 - 4: China's oil demand*, mb/d

			Change Apr 23/Apr 22	
By product	**Apr 22**	**Apr 23**	**Growth**	**%**
LPG	1.92	2.45	0.53	27.5
Naphtha	1.37	1.53	0.16	11.5
Gasoline	3.34	3.90	0.56	16.7
Jet/kerosene	0.55	0.93	0.38	68.8
Diesel	2.84	3.67	0.83	29.1
Fuel oil	0.63	1.19	0.56	89.3
Other products	3.02	3.12	0.10	3.4
Total	**13.68**	**16.79**	**3.12**	**22.8**

*Note: * Apparent oil demand. Totals may not add up due to independent rounding.*
Sources: Argus Global Markets, China OGP (Xinhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.

Near-term expectations

Oil demand for most products in China has been very healthy since the abandonment of COVID-19 lockdown restrictions. Furthermore, China's GDP growth is anticipated to remain firm at 5.2% in 2023. Similarly, the road transport index and domestic flight counts have already exceeded pre-pandemic levels, and international flights recently approached 50% of 2019 levels. Finally, petrochemical feedstock demand is also healthy, with more petrochemical plants expected to come on stream, including the Yantai Shandong Petrochemical plant. These factors are anticipated to support oil demand in the near term.

In **2Q23**, oil demand is set to see y-o-y growth of 1.1 mb/d. Domestic and international airline activity is expected to rise, as momentum in international business and tourism continues. This is also providing support for jet fuel demand to spur oil demand growth. Gasoline demand is forecast to improve, driven by a strong rebound in mobility. Similarly, healthy petrochemical industry operations will boost feedstock demand for light distillates. Fiscal stimulus, along with infrastructure expansion in 2023, will set the stage for a robust diesel consumption recovery.

In **3Q23**, oil demand is expected to increase y-o-y by a solid 0.8 mb/d. Jet fuel will again drive oil demand growth in this quarter, with millions of air passengers expected to support air travel activity for local and business travellers to and from China. Light distillates are also expected to continue rising, with ongoing expansion in petrochemical industries. Increased mobility and rising construction activity will boost demand for gasoline and diesel.

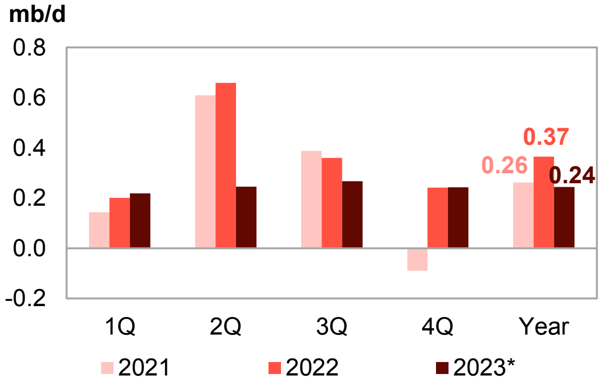
India

Update on the latest developments

Oil demand in India declined by 10 tb/d y-o-y in April, after over one year of uninterrupted monthly y-o-y growth. The "other products" category saw a strong y-o-y decline by 0.3 mb/d, which more than offset the demand growth of other oil products seen in April. The decline relates specifically to bitumen and petcoke demand, which have been capped by lower construction activities and substitution.

Both the manufacturing and services sectors in India have been performing very well to support oil demand for over a year. The manufacturing PMI in India continued to expand, reaching a strong 57.2 in April, after seeing an already high 56.4 in March. Similarly, the services PMI indicated ongoing strong momentum, rising to 62 points in April, compared with 57.8 in March. In addition, annual consumer inflation eased to 4.7% in April from 5.6% in March. In addition, annual consumer inflation eased to 4.7% in April from 5.6% in March.

Graph 4 - 7: India's oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

According to the automotive content creator autopunditz.com, vehicles sales in the Indian market increased by over 13% compared with April one year ago.

Despite the strong decline seen in the "other products" category, demand for other oil products remained healthy in April. On the back of healthy manufacturing, mining and agricultural activity, diesel saw y-o-y growth of 0.2 mb/d, up from a y-o-y increase of 20 tb/d in March. Naphtha improved by 30 tb/d y-o-y growth in April, compared with almost zero growth in March. Healthy mobility and improved air travel activity supported gasoline and jet/ kerosene growth of around 20 tb/d y-o-y for each. Similarly, residual fuels saw 20 tb/d y-o-y growth, up from no y-o-y growth in March.

Table 4 - 5: India's oil demand, mb/d

By product	Apr 22	Apr 23	Change Apr 23/Apr 22 Growth	%
LPG	0.86	0.86	0.00	-0.2
Naphtha	0.31	0.35	0.03	9.9
Gasoline	0.81	0.83	0.02	2.8
Jet/kerosene	0.19	0.20	0.02	9.1
Diesel	1.81	1.99	0.18	9.8
Fuel oil	0.16	0.18	0.02	11.6
Other products	1.02	0.74	-0.27	-26.8
Total	**5.16**	**5.15**	**-0.01**	**-0.2**

Note: Totals may not add up due to independent rounding.

Sources: JODI, Petroleum Planning and Analysis Cell of India and OPEC.

Near-term expectations

Looking forward, with anticipated healthy economic activity and ongoing growth in air travel, India's demand for oil products is anticipated to remain strong in 2023.

In **2Q23**, oil demand is projected to rise by 0.3 mb/d y-o-y. The government's proposed increase in capital spending is expected to boost the momentum of economic development, as construction and manufacturing activity accelerates. These factors, combined with a steady rise in airline activity, will support healthy oil demand growth.

In **3Q23**, oil demand is expected to remain solid at 0.3 mb/d, with transportation fuels, notably gasoline, transportation diesel and jet/kerosene, expected to be the drivers. However, in 3Q23, oil demand is anticipated to be affected by the impact of the monsoon season from July to September.

Latin America

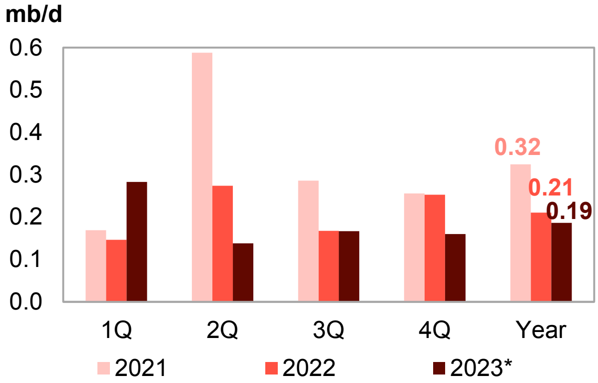
Update on the latest developments

Oil demand in Latin America increased y-o-y by 0.4 mb/d in March, up from 0.3 mb/d y-o-y growth seen in February. Brazil, Argentina and Venezuela were the main drivers of oil demand in the region.

Annual inflation in Brazil has been seen to slow further to 4.2% in March, from 5.6% in February, but remained above the Central Bank's target of 3.25%. The services PMI in Brazil rose from 49.8 points in February to 51.8 points in March. However, Brazil's manufacturing PMI index in March stood in contraction territory at 46.9 points, down from 49 points in February.

Airline activity in Latin America continued to improve, as IATA's monthly statistics show that domestic RPKs in the region remained above pre-pandemic levels, and international RPKs grew by 36.5% y-o-y in March.

Graph 4 - 8: Latin America's oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

For the third consecutive month, gasoline remained the main driver of oil demand in the region, supported by a recovery in mobility, as gasoline grew by around 150 tb/d y-o-y for the second consecutive month. Residual fuels also saw more than 0.1 mb/d y-o-y growth in March. Similarly, diesel saw y-o-y growth by more than 0.1 mb/d, up from a y-o-y decline of 20 tb/d in February. Jet/kerosene saw y-o-y growth of 30 tb/d, following a similar y-o-y increase a month earlier. In terms of petrochemical feedstock, LPG saw y-o-y growth of 25 tb/d. The "other products" category, as well as demand for naphtha, remained broadly flat y-o-y in March.

Near-term expectations

In the near term, oil demand is anticipated to see y-o-y growth by more than 0.1 mb/d in **2Q23**, as GDP growth for the region is anticipated to remain positive in 2023. The services PMI in Brazil, one of the major oil consuming countries in the region, has been steadily in expansion for more than one year, and is anticipated to support demand for transportation fuels. Accordingly, jet fuel and gasoline are forecast to be the main drivers for oil demand growth in the quarter. Additionally, expected improvements in manufacturing activity and petrochemical feedstock requirements should support demand for distillates.

In **3Q23**, projected further mobility and air travel improvements are expected to increase momentum in transportation fuel demand, leading to growth of almost 0.2 mb/d y-o-y. The outlook sees transportation fuels growing the most, followed by diesel and petrochemical feedstock.

Middle East

Update on the latest developments

The **Middle East** posted strong growth of 0.6 mb/d y-o-y in March, broadly the same growth level for the fourth consecutive month. Saudi Arabia and Iraq were the main drivers of oil demand in March.

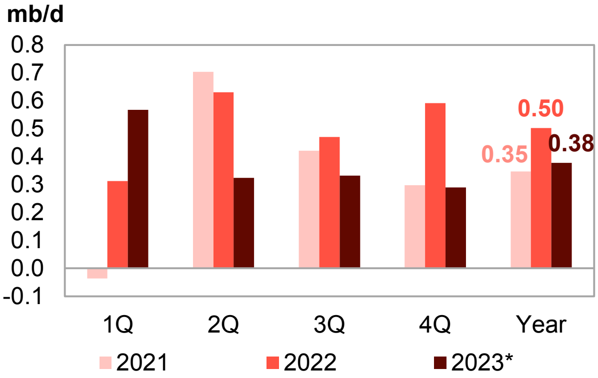
The purchasing managers' indices (PMIs) for March reflect continuing acceleration in composite PMIs in the major economies of the region, suggesting ongoing strong economic activity. Saudi Arabia's composite PMI rose to 58.7 points and the UAE posted a strong composite PMI of 55.8 points in March.

Similarly, the IATA reported that domestic airline traffic within the Middle East in March, in terms of international RPKs performed by Middle East carriers, grew by 43.1% y-o-y, recovering to 92.5% of 2019 levels.

Looking at oil products in the Middle East, the largest increase for the second consecutive month was recorded in the 'other products' category at 0.26 mb/d. In addition, diesel posted y-o-y growth of 0.1 mb/d. Strong growth in airline activity in the Middle East region boosted jet/kerosene demand by 0.1 mb/d for the third consecutive month in March.

At the same time, gasoline inched up by 15 tb/d y-o-y, and residual fuels increased by 70 tb/d y-o-y. Furthermore, petrochemical feedstock LPG and naphtha saw y-o-y growth of 30 tb/d and 10 tb/d, y-o-y, respectively.

Graph 4 - 9: Middle East's oil demand, y-o-y change



*Note: * 2023 = Forecast.*
Source: OPEC.

Table 4 - 6: Saudi Arabia's oil demand, mb/d

By product	Apr 22	Apr 23	Change Apr 23/Apr 22 Growth	%
LPG	0.05	0.05	0.00	8.5
Gasoline	0.47	0.49	0.02	4.1
Jet/kerosene	0.09	0.09	0.00	2.3
Diesel	0.54	0.54	0.00	-0.8
Fuel oil	0.60	0.64	0.04	6.1
Other products	0.48	0.45	-0.03	-5.7
Total	**2.23**	**2.26**	**0.03**	**1.3**

Note: Totals may not add up due to independent rounding.
Sources: JODI and OPEC.

Near-term expectations

Expected healthy economic activity and steadily rising composite PMIs in the major consuming countries in the region, combined with strong growth in airline activity, are expected to support oil demand growth in the Middle East by 0.3 mb/d y-o-y in both **2Q23** and **3Q23**. Moreover, demand growth in the region is expected to be supported by fuel oil for electricity generation in Iraq and Saudi Arabia, particularly in the hot summer months, combined with an expected increase in activity during the upcoming Hajj pilgrimage in June and July.

World Oil Supply

Non-OPEC liquids supply in 2022 (including processing gains) is estimated to have grown y-o-y by 1.9 mb/d to average 65.7 mb/d. This is largely unchanged from the previous month's assessment. Total US liquids production is estimated to have increased y-o-y by 1.2 mb/d to average 19.2 mb/d in 2022, which was the largest increase across the year.Russia, Canada, Guyana and China are all estimated to have grown by around 0.2 mb/d y-o-y. At the same time, production is estimated to have ssen the largest declines in Norway and Thailand.

Non-OPEC liquids production in 2023 is forecast to grow y-o-y by 1.4 mb/d to average 67.2 mb/d, unchanged from last month. Minor downward revisions to Other Asia and some other countries were offset by upward revisions to liquids production, mainly OECD Americas.

US crude oil and condensate production in March 2023 was the highest since March 2020, at the start of the COVID-19 pandemic. Output in 1Q23 was around 10% higher than the same period last year. At the same time, NGLs production in 1Q23 was up y-o-y by 40%. The overall oil rig count has dropped for several consecutive weeks, however, it is expected to be essentially above maintenance requirements. Gradual and steady growth is expected for US shale oil production throughout the year. Accordingly, US liquids supply growth for 2023 is forecast at 1.1 mb/d. Output growth in the North Sea region remains broadly unchanged following scheduled production ramp-ups in Norway. The main growth drivers for 2023 are anticipated to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, whereas oil production is forecast to decline primarily in Russia. Nevertheless, there remain uncertainties related to US shale oil output potential and unplanned maintenance in 2023.

OPEC NGLs and non-conventional liquids production in 2022 is forecast to have grown by 0.1 mb/d to average 5.4 mb/d, and is expected to increase by 50 tb/d to average 5.4 mb/d in 2023. OPEC-13 crude oil production in May decreased by 464 tb/d m-o-m to average 28.06 mb/d, according to available secondary sources.

Non-OPEC liquids production in May, including OPEC NGLs, is estimated to have declined m-o-m by 0.6 mb/d to average 72.2 mb/d, but is up by 2.0 mb/d y-o-y. As a result, preliminary data indicates that May's global oil supply decreased by 1.0 mb/d m-o-m to average 100.2 mb/d, up by 1.7 mb/d y-o-y.

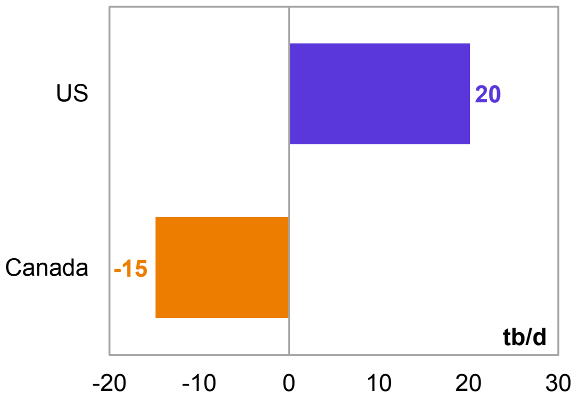
Estimates for **non-OPEC liquids supply in 2022** remained broadly unchanged at an average of 65.7 mb/d, with y-o-y growth of 1.9 mb/d.

Non-OPEC liquids production in 2023 is forecast to expand by 1.4 mb/d. This is broadly unchanged with the previous month's assessment, following some up and down revisions in a number of countries.

Overall **OECD supply growth** expectations for 2023 have risen slightly. While OECD Europe saw minor downward revisions, OECD Americas was revised up slightly. OECD Asia Pacific was broadly unchanged from the previous month's assessment.

The n**on-OECD supply growth** projection for 2023 has been revised down marginally and is now expected to drop y-o-y by around 0.1 mb/d.

Graph 5 - 1:Major revisions to annual supply change forecast in 2023*, MOMR June 23/May 23

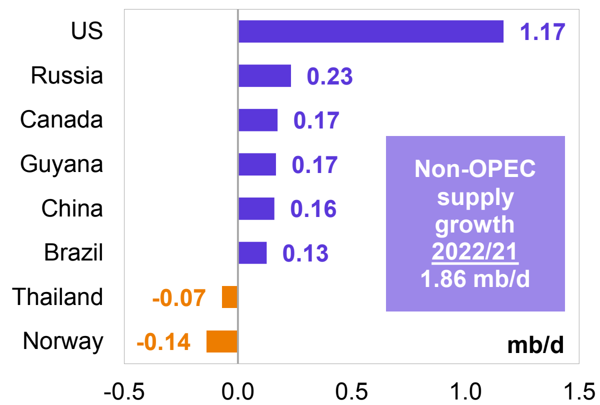


*Note: * 2023 = Forecast. Source: OPEC.*

Key drivers of growth and decline

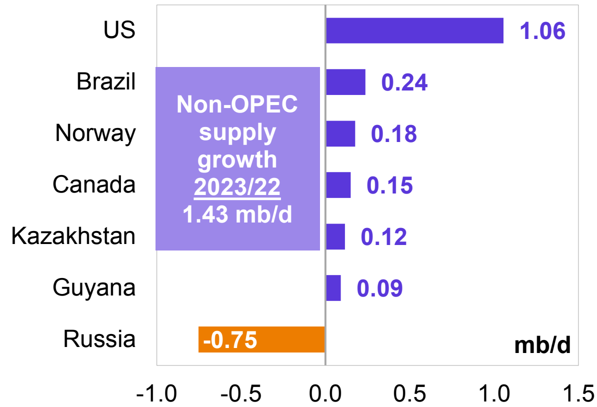
The **key drivers of non-OPEC liquids supply growth in 2022** are estimated to be the US, Russia, Canada, Guyana, China and Brazil, while oil production is expected to see the largest declines in Norway and Thailand.

Graph 5 - 2: Annual liquids production changes y-o-y for selected countries in 2022



Source: OPEC.

Graph 5 - 3: Annual liquids production changes y-o-y for selected countries in 2023*



Note: * 2023 = Forecast. Source: OPEC.

For **2023**, the key drivers of non-OPEC supply growth are forecast to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, while oil production is projected to see the largest decline in Russia.

Non-OPEC liquids production in 2022 and 2023

Table 5 - 1: Non-OPEC liquids production in 2022, mb/d

Non-OPEC liquids production	2021	1Q22	2Q22	3Q22	4Q22	2022	*Change 2022/21* Growth	%
Americas	25.45	26.09	26.50	27.26	27.50	26.84	1.40	5.48
of which US	*18.04*	*18.51*	*19.07*	*19.57*	*19.68*	*19.21*	*1.17*	*6.47*
Europe	3.79	3.72	3.46	3.51	3.59	3.57	-0.22	-5.79
Asia Pacific	0.51	0.49	0.51	0.43	0.49	0.48	-0.03	-6.23
Total OECD	**29.75**	**30.30**	**30.48**	**31.20**	**31.58**	**30.89**	**1.14**	**3.85**
China	4.32	4.54	4.54	4.42	4.42	4.48	0.16	3.70
India	0.78	0.79	0.78	0.76	0.76	0.77	-0.01	-0.80
Other Asia	2.42	2.37	2.32	2.24	2.31	2.31	-0.11	-4.74
Latin America	5.96	6.11	6.18	6.46	6.59	6.34	0.38	6.35
Middle East	3.19	3.23	3.28	3.32	3.30	3.29	0.10	3.16
Africa	1.34	1.31	1.30	1.31	1.28	1.30	-0.04	-3.17
Russia	10.80	11.33	10.63	11.01	11.17	11.03	0.23	2.15
Other Eurasia	2.93	3.04	2.76	2.59	2.92	2.83	-0.10	-3.34
Other Europe	0.11	0.11	0.11	0.10	0.10	0.11	-0.01	-6.36
Total Non-OECD	**31.85**	**32.82**	**31.90**	**32.22**	**32.86**	**32.45**	**0.60**	**1.89**
Total Non-OPEC production	61.60	63.12	62.38	63.42	64.44	63.34	1.75	2.84
Processing gains	2.29	2.40	2.40	2.40	2.40	2.40	0.11	4.90
Total Non-OPEC liquids production	**63.88**	**65.52**	**64.78**	**65.82**	**66.84**	**65.74**	**1.86**	**2.91**
Previous estimate	63.90	65.55	64.80	65.83	66.85	65.76	1.86	2.91
Revision	-0.02	-0.03	-0.02	-0.02	-0.01	-0.02	0.00	0.00

Note: Totals may not add up due to independent rounding. Source: OPEC.

Table 5 - 2: Non-OPEC liquids production in 2023*, mb/d

Non-OPEC liquids production	2022	1Q23	2Q23	3Q23	4Q23	2023	Change 2023/22 Growth	%
Americas	26.84	27.87	27.90	28.21	28.44	28.11	1.26	4.71
of which US	*19.21*	*20.07*	*20.18*	*20.34*	*20.47*	*20.26*	*1.06*	*5.50*
Europe	3.57	3.66	3.69	3.80	3.94	3.77	0.20	5.66
Asia Pacific	0.48	0.46	0.48	0.49	0.48	0.48	0.00	-0.79
Total OECD	**30.89**	**32.00**	**32.06**	**32.50**	**32.85**	**32.36**	**1.46**	**4.73**
China	4.48	4.63	4.59	4.50	4.50	4.56	0.08	1.73
India	0.77	0.76	0.78	0.78	0.78	0.78	0.00	0.52
Other Asia	2.31	2.33	2.35	2.34	2.37	2.35	0.04	1.61
Latin America	6.34	6.70	6.67	6.70	6.79	6.72	0.38	5.95
Middle East	3.29	3.27	3.29	3.30	3.30	3.29	0.00	0.10
Africa	1.30	1.26	1.32	1.32	1.31	1.31	0.01	0.61
Russia	11.03	11.23	10.38	9.76	9.78	10.28	-0.75	-6.81
Other Eurasia	2.83	2.99	2.98	2.94	2.98	2.97	0.14	5.07
Other Europe	0.11	0.10	0.10	0.10	0.10	0.10	0.00	-2.83
Total Non-OECD	**32.45**	**33.28**	**32.46**	**31.75**	**31.92**	**32.35**	**-0.10**	**-0.32**
Total Non-OPEC production	63.34	65.28	64.52	64.26	64.77	64.70	1.36	2.15
Processing gains	2.40	2.47	2.47	2.47	2.47	2.47	0.07	2.96
Total Non-OPEC liquids production	**65.74**	**67.75**	**66.99**	**66.73**	**67.24**	**67.17**	**1.43**	**2.18**
Previous estimate	65.76	67.62	66.90	66.82	67.44	67.19	1.43	2.17
Revision	-0.02	0.12	0.10	-0.10	-0.20	-0.02	0.00	0.00

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

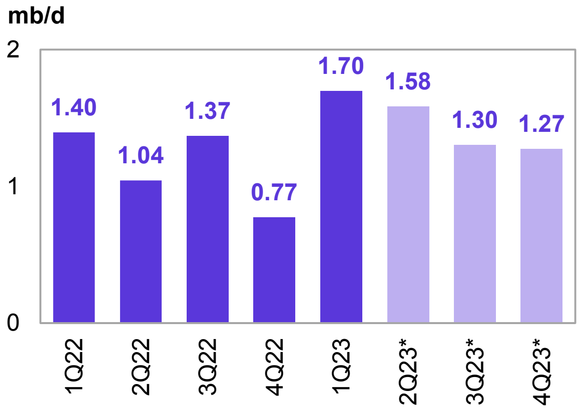
OECD

OECD liquids production in 2022 is estimated to have increased y-o-y by 1.1 mb/d to average 30.9 mb/d. This is primarily unchanged compared with last month.

For **2023**, oil production in the OECD region is forecast to expand by 1.5 mb/d to average 32.4 mb/d. This is revised up by a minor 6 tb/d, mainly due to changes in OECD Americas.

Growth is expected to be led by OECD Americas, which will expand by 1.3 mb/d to average 28.1 mb/d. This is an upward revision of 14 tb/d compared with last month's assessment, due to higher expected growth in the US and Mexico. Yearly liquids production in OECD Europe is anticipated to grow by 0.2 mb/d to average 3.8 mb/d, down by a minor 8 tb/d compared with the previous month. OECD Asia Pacific is expected to remain largely unchanged at an average 0.5 mb/d.

Graph 5 - 4: OECD quarterly liquids supply, y-o-y changes



*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

OECD Americas

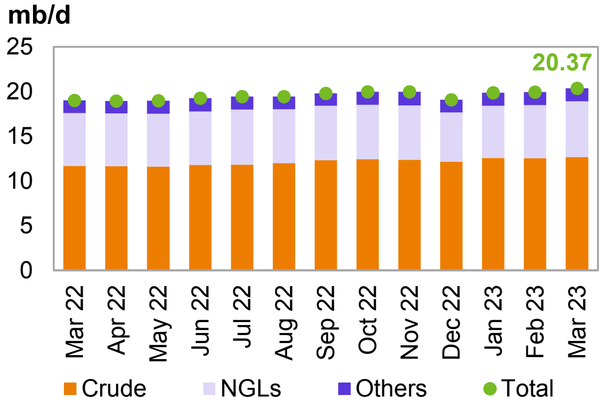
US

US liquids production in **March** jumped m-o-m by 430 tb/d to average 20.4 mb/d, the highest level on record. This was up by 1.3 mb/d compared with March 2022.

Crude oil and condensate production rose m-o-m by 171 tb/d in **March 2023** to average 12.7 mb/d, up y-o-y by 1.0 mb/d.

In terms of **crude and condensate production breakdown by region (PADDs)**, production increased mainly in the US Gulf Coast (USGC) region, rising by 163 tb/d to average 9.2 mb/d. Production in the Midwest, however, fell by 23 tb/d to 1.7 mb/d. While the East Coast remained broadly unchanged m-o-m, output in the Rocky Mountain region increased by 43 tb/d and in the West Coast it fell by 10 tb/d. Onshore production growth in the main regions was primarily driven by a strong recovery in Texas and Gulf of Mexico (GoM) fields.

Graph 5 - 5: US monthly liquids output by key component



Sources: EIA and OPEC.

NGLs production was up m-o-m by 250 tb/d to average 6.2 mb/d in March. This was higher y-o-y by 0.3 mb/d. According to the US Department of Energy (DoE), production of **non-conventional liquids** (mainly ethanol) remained chiefly unchanged m-o-m at an average of 1.5 mb/d. Preliminary estimates see non-conventional liquids averaging around 1.5 mb/d in April, largely unchanged compared with March.

GoM production rose m-o-m by 45 tb/d to average 1.9 mb/d in March, with normal production seen in most Gulf Coast offshore platforms with the exception the expected Mars reduction due to the Vito oil field tie-in processes. In the **onshore Lower 48**, crude and condensate production increased m-o-m by 137 tb/d to average 10.4 mb/d in March.

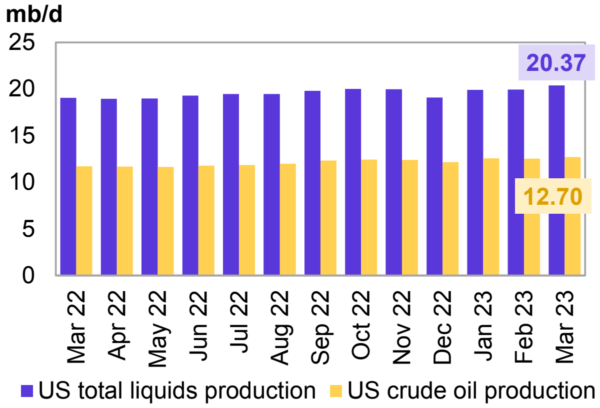
Table 5 - 3: US crude oil production by selected state and region, tb/d

				Change	
State	**Mar 22**	**Feb 23**	**Mar 23**	**m-o-m**	**y-o-y**
Texas	4,976	5,301	5,398	*97*	*422*
Gulf of Mexico (GOM)	1,691	1,827	1,872	*45*	*181*
New Mexico	1,468	1,802	1,824	*22*	*356*
North Dakota	1,110	1,128	1,095	*-33*	*-15*
Alaska	440	446	435	*-11*	*-5*
Colorado	439	418	441	*23*	*2*
Oklahoma	408	421	429	*8*	*21*
Total	**11,701**	**12,525**	**12,696**	***171***	***995***

Sources: EIA and OPEC.

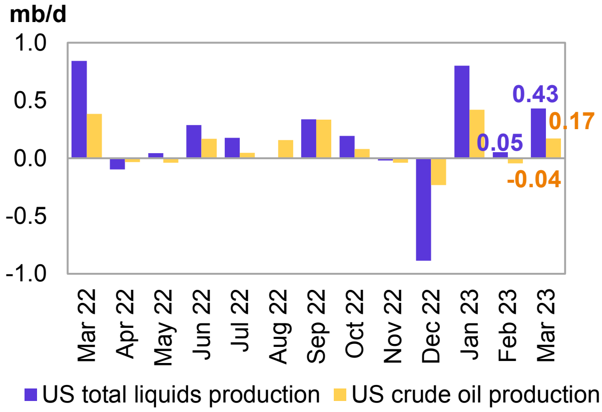
Looking at **individual states**, New Mexico's oil production rose by 22 tb/d to average 1.8 tb/d, which is 356 tb/d higher than a year ago. Production from Texas was up by 97 tb/d to average 5.4 mb/d, which is 422 tb/d higher than a year ago. In the Midwest, North Dakota's production fell m-o-m by 33 tb/d to average 1.1 mb/d, down y-o-y by 15 tb/d. Oklahoma's production was up m-o-m by 8 tb/d to average 0.4 mb/d. Production in Alaska dropped by 11 tb/d, while output in Colorado jumped m-o-m by 23 tb/d.

Graph 5 - 6: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 7: US monthly crude oil and total liquids supply, m-o-m changes



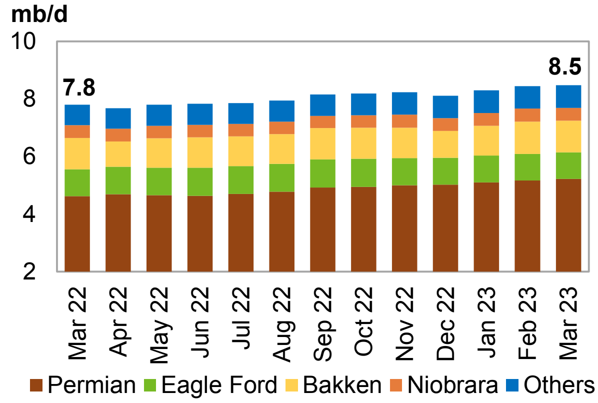
Sources: EIA and OPEC.

US tight crude output in **March** is estimated to have risen by 26 tb/d m-o-m to average 8.5 mb/d, according to the latest estimate from the US Energy Information Administration (EIA). This was 0.7 mb/d higher than in the same month last year.

The m-o-m increase from shale and tight formations using horizontal wells came mainly from Permian shale production in Texas and New Mexico, where output rose by 62 tb/d to average 5.2 mb/d. This was up y-o-y by 607 tb/d.

In North Dakota, Bakken shale oil output fell by 32 tb/d m-o-m to average 1.1 mb/d, albeit still up by 4 tb/d y-o-y. Tight crude output at Eagle Ford in Texas dropped by a minor 4 tb/d to average 0.9 mb/d, which is down y-o-y by 11 tb/d. Production in Niobrara-Codell in Colorado and Wyoming was unchanged at an average of 0.4 mb/d.

Graph 5 - 8: US tight crude output breakdown



Sources: EIA and OPEC.

US liquids production in 2022, excluding processing gains, is estimated to have expanded y-o-y by 1.2 mb/d to average 19.2 mb/d. This is broadly unchanged from the previous assessment. Tight crude is assessed to have grown by 0.5 mb/d in 2022 to average 7.9 mb/d. In addition, NGLs (mainly from unconventional basins) are estimated to have grown by 0.5 mb/d to average 5.9 mb/d, and production in the GoM is estimated to have increased slightly by 36 tb/d. Non-conventional liquids and crude from conventional reservoirs are assessed to have expanded by 76 tb/d to average 1.4 mb/d and by 51 tb/d to average 2.3 mb/d, respectively.

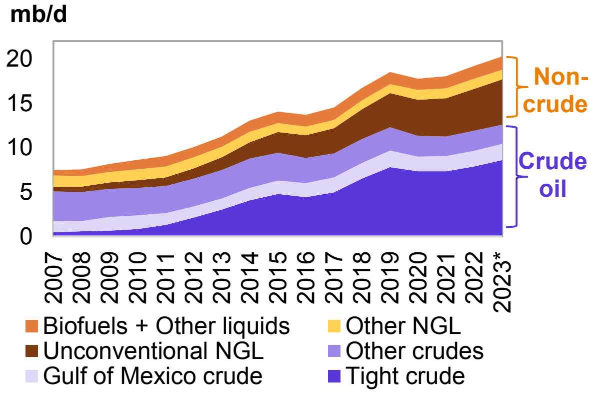
US crude oil and condensate production is estimated to grow by 0.6 mb/d y-o-y to average 11.9 mb/d in 2022.

US liquids production in 2023, excluding processing gains, is forecast to expand y-o-y by 1.1 mb/d to average 20.3 mb/d. This is up by 20 tb/d compared with the previous assessment. Higher-than-expected output in the 1Q23 was partially compensated by a lower forecast for the rest of the year. Better drilling activity and fewer supply chain/logistical issues in the prolific Permian, Eagle Ford and Bakken shale sites are still assumed for the remainder of 2023.

Given a sound level of oil field drilling and well completions, crude oil output is anticipated to increase by 0.7 mb/d y-o-y to average 12.6 mb/d.

Average tight crude output in 2023 is forecast at 8.6 mb/d, up y-o-y by 0.7 mb/d.

Graph 5 - 9: US liquids supply developments by component



*Note: * 2023 = Forecast.*
Source: OPEC.

At the same time, NGLs production and non-conventional liquids, particularly ethanol, are forecast to increase y-o-y by 0.3 mb/d and 40 tb/d, to average 6.2 mb/d and 1.5 mb/d, respectively.

The 2023 forecast assumes ongoing capital discipline, less inflationary pressure, as well as moderate supply chain issues and oil field service constraints (labour and equipment). Tightness in the hydraulic fracking and professional labour market is still expected to remain a challenge for US upstream producers this year.

Table 5 - 4: US liquids production breakdown, mb/d

US liquids	2021	Change 2021/20	2022	Change 2022/21	2023*	Change 2023/22
Tight crude	7.34	0.00	7.89	0.55	8.60	0.71
Gulf of Mexico crude	1.71	0.04	1.74	0.04	1.83	0.09
Conventional crude oil	2.20	-0.11	2.25	0.05	2.16	-0.09
Total crude	**11.25**	**-0.06**	**11.89**	**0.63**	**12.59**	**0.71**
Unconventional NGLs	4.31	0.23	4.74	0.43	5.10	0.36
Conventional NGLs	1.12	0.02	1.14	0.02	1.09	-0.05
Total NGLs	**5.42**	**0.25**	**5.88**	**0.46**	**6.19**	**0.30**
Biofuels + Other liquids	1.36	0.10	1.44	0.08	1.48	0.04
US total supply	**18.04**	**0.28**	**19.21**	**1.17**	**20.26**	**1.06**

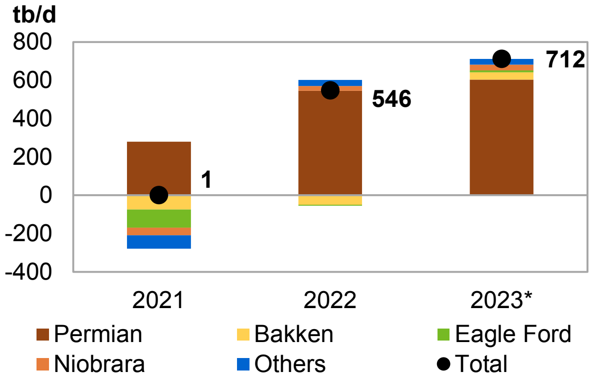
*Note: * 2023 = Forecast. Sources: EIA, OPEC and Rystad Energy.*

US tight crude production in the **Permian** in 2022 is estimated to have increased y-o-y by 0.5 mb/d to 4.7 mb/d. It is forecast to grow y-o-y by 0.6 mb/d to average 5.3 mb/d in 2023.

The **Bakken** shale production decline that occurred in 2020 and 2021 continued in 2022. Tight crude production in the Bakken is estimated to have dropped by 49 tb/d in 2022 to average 1.0 mb/d. This is much lower than the pre-pandemic average output of 1.4 mb/d.

In addition to several weather-related outages, drilling activity in **North Dakota** is expected to be lower than levels required to substantially recover output. In 2023, however, growth is forecast to resume, albeit at just 39 tb/d to average 1.1 mb/d.

Graph 5 - 10: US tight crude output by shale play, y-o-y changes



*Note: * 2023 = Forecast.*
Sources: EIA and OPEC.

The **Eagle Ford** in Texas saw output of 1.2 mb/d in 2019, followed by declines in the period 2020 to 2022. It fell by an estimated 6 tb/d y-o-y to average 0.95 mb/d in 2022. Growth of around 10 tb/d is forecast for 2023, to average 0.96 mb/d.

Niobrara production is estimated to have grown y-o-y by 24 tb/d in 2022 to average 437 tb/d and is forecast to increase by 30 tb/d in 2023 to average 467 tb/d. Given current drilling and completion activities, other shale plays are expected to show marginal increases of 32 tb/d and 30 tb/d in 2022 and 2023, respectively.

Table 5 - 5: US tight oil production growth, mb/d

US tight oil	2021	Change 2021/20	2022	Change 2022/21	2023*	Change 2023/22
Permian tight	4.19	0.28	4.74	0.55	5.34	0.60
Bakken shale	1.08	-0.07	1.03	-0.05	1.07	0.04
Eagle Ford shale	0.96	-0.09	0.95	-0.01	0.96	0.01
Niobrara shale	0.41	-0.04	0.44	0.02	0.47	0.03
Other tight plays	0.70	-0.07	0.73	0.03	0.76	0.03
Total	**7.34**	**0.00**	**7.89**	**0.55**	**8.60**	**0.71**

*Note: * 2023 = Forecast. Source: OPEC.*

US rig count, spudded, completed, DUC wells and fracking activity

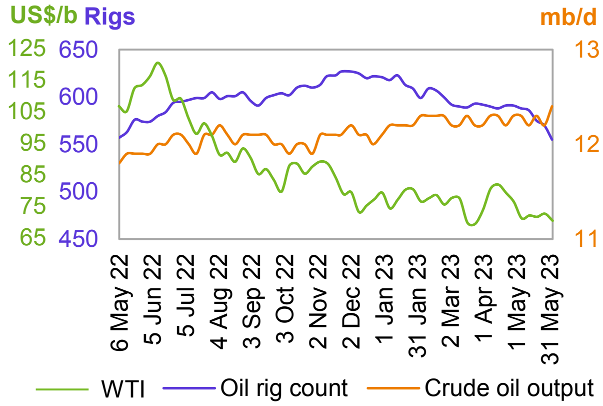
Total **active US drilling rigs** in the week ending 2 June 2023 fell by 15 to 696, according to Baker Hughes. This was down by 31 rigs compared with a year ago. The number of active offshore rigs remained steady w-o-w at 20. This was higher by four compared with the same month a year earlier. Onshore oil and gas rigs were lower by 15 w-o-w to stand at 674 rigs, with two rigs in inland waters. This is down by 36 rigs y-o-y.

The **US horizontal rig count** fell w-o-w by 14 to 628, compared with 666 horizontal rigs a year ago. The number of drilling rigs for oil dropped by 15 w-o-w to 555. However, gas-drilling rigs remained unchanged w-o-w at 137.

The Permian's rig count dropped by two w-o-w to 348 rigs. At the same time, rig counts dropped by two in Eagle Ford and Williston to 58 and 36, respectively. The rig count fell w-o-w by one in Cana Woodford to 21 and remained steady in DJ-Niobrara at 14.

One operating oil rig remained in the Barnett basin, down by one compared with the previous month, but unchanged w-o-w.

Graph 5 - 11: US weekly rig count vs. US crude oil output and WTI price



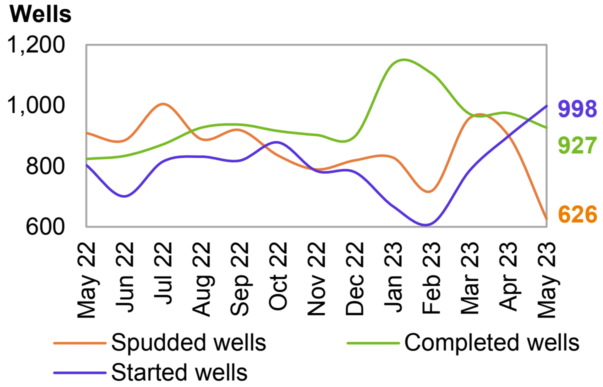
Sources: Baker Hughes, EIA and OPEC.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays, based on EIA-DPR regions, included 902 horizontal wells spudded in April (as per preliminary data). This is down m-o-m by 57, and 1% higher than in April 2022.

April preliminary data indicates a higher number of completed wells at 975, which is up y-o-y by 36%. The number of started wells was estimated at 898, which is 39% higher than a year earlier.

Preliminary data for May 2023 sees 626 spudded, 927 completed and 998 started wells, according to Rystad Energy.

Graph 5 - 12: Spudded, completed and started wells in US shale plays

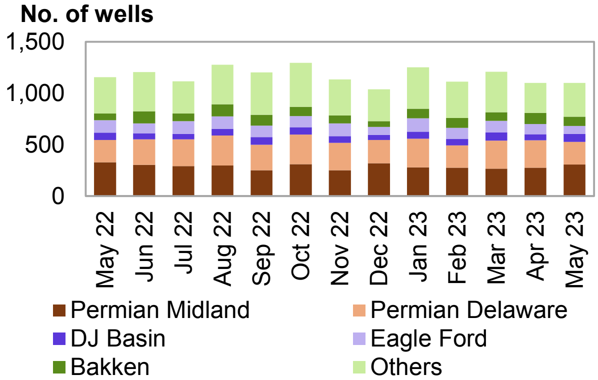


Note: Apr 23-May 23 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations by region**, Rystad Energy reported that 1,207 wells were fracked in March 2023. In April and May, it stated that 1,101 and 1,100 wells began fracking, respectively. Preliminary numbers are based on analysis of high-frequency satellite data.

Preliminary April data showed that 276 and 268 wells were fracked in the Permian Midland and Permian Delaware, respectively. Compared with March, there was a decline of 4 wells in the Delaware and a jump of 10 in the Midland. Data also indicated that 56 wells were fracked in the DJ Basin, 100 in Eagle Ford and 110 in Bakken.

Graph 5 - 13: Fracked wells count per month



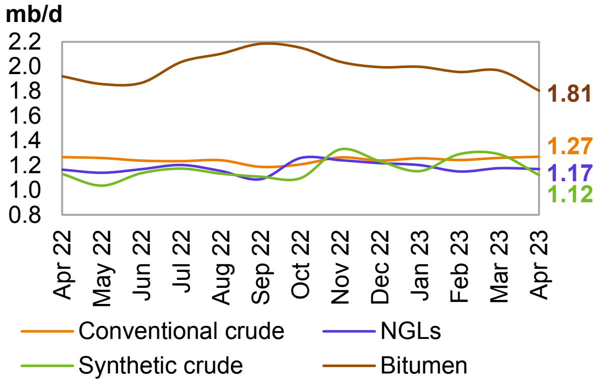
Note: Apr 23-May 23 = Preliminary data.
Sources: Rystad Energy Shale Well Cube and OPEC.

Canada

Canada's liquids production in **April** is estimated to have dropped m-o-m by 327 tb/d to average 5.4 mb/d. This is the lowest output seen since May 2022.

Conventional crude production increased m-o-m in April by 9 tb/d to average 1.3 mb/d, while NGLs output decreased marginally by 7 tb/d to average 1.2 mb/d. Crude bitumen production output fell m-o-m by 162 tb/d, and synthetic crude declined m-o-m by 167 tb/d. Taken together, crude bitumen and synthetic crude production decreased by 329 tb/d to 2.9 mb/d.

Graph 5 - 14: Canada's monthly liquids production development by type



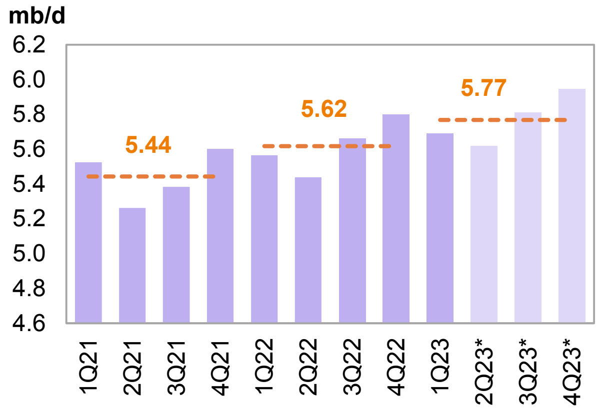
Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

Canada's liquids supply in **2022** is estimated to have expanded by 0.2 mb/d to average 5.6 mb/d, broadly unchanged from the previous assessment. Oil sands output, mainly from Alberta, saw growth of 60 tb/d y-o-y to average 3.2 mb/d in 2022.

Canada's production in 1Q23, was lower-than-expected and under pressure due to freezing weather and lower bitumen production.

For **2023**, Canada's liquids production is forecast to increase at a pace roughly similar to 2022, rising by 0.2 mb/d to average 5.8 mb/d. This is down by 15 tb/d compared with the previous assessment due to a data revision in 1Q23 from the Alberta Energy Regulator. Incremental production in the following months is expected to come through oil sand project ramp-ups and debottlenecks, alongside conventional growth.

Graph 5 - 15: Canada's quarterly liquids production and forecast



*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

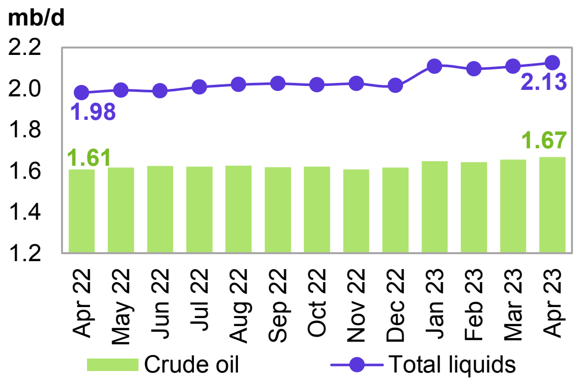
Scheduled maintenance programmes during 2Q23 and 3Q23 are expected to soften output, however, oil sands are projected to be the main driver of Canada's production through to the end of the year, driven by Kearl debottlenecking and CNRL Horizon optimization. Additionally, the Terra Nova Floating Production Storage and Offloading unit (FPSO) is expected to restart production in mid-2023. Declines in liquid production are expected in May due to the wildfire season especially in western Canada, however, the effecct is expected to be minor on an annualized basis.

Mexico

Mexico's crude output increased m-o-m by 12 tb/d in **April** to average 1.7 mb/d, and NGLs output rose by 6 tb/d. Mexico's total April liquids output m-o-m rose by 18 tb/d to an average of 2.1 mb/d, according to the Comisión Nacional de Hidrocarburos (CNH). This was higher than expected, mainly due to the persistent ramp-up of Pemex's priority fields.

For **2022**, Mexico's liquids production is estimated to have averaged 2.0 mb/d, broadly unchanged from the previous month's assessment. Growth of 50 tb/d is estimated for 2022.

Graph 5 - 16: Mexico's monthly liquids and crude production development



Sources: Mexico Comision Nacional de Hidrocarburos (CNH) and OPEC

For **2023**, liquids production is now forecast to rise by 59 tb/d to average 2.1 mb/d. This is up by 9 tb/d from the previous assessment, due to higher liquid output in April and improved expectations for the rest of the year.

In its latest investor presentation, Pemex highlighted the importance of its priority fields (mainly condensate and light crude) to achieve its production goal. In April, Pemex's strategy in focusing on onshore and shallow-water developments resulted in Mexico's highest production since May 2018, and this strategy could continue to support production over the short term. However, it is expected that declines from mature fields could start offsetting monthly gains from new fields once again in 2H23.

OECD Europe

Norway

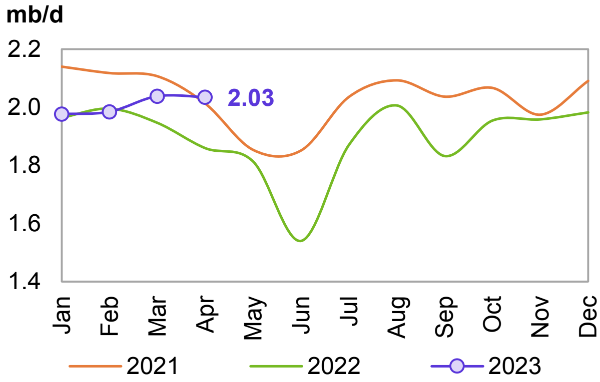
Norwegian liquids production in **April** remained broadly unchanged m-o-m at to average 2.1 mb/d, in line with Johan Sverdrup phase-2 ramp-up expectations.

Norway's crude production declined by 24 tb/d m-o-m in April to average 1.8 mb/d, albeit higher by 144 tb/d y-o-y. Monthly oil production was 0.5% lower than the Norwegian Petroleum Directorate's (NPD) forecast.

Production of NGLs and condensates, however, rose by 20 tb/d m-o-m to average 0.2 mb/d, according to NPD data.

For **2022**, production in the Norwegian Continental Shelf is estimated to have declined by around 140 tb/d y-o-y to average 1.9 mb/d, reflecting some poor performance in Norwegian fields.

Graph 5 - 17: Norway's monthly liquids production development



Sources: The Norwegian Petroleum Directorate (NPD) and OPEC.

For **2023**, Norwegian liquids production is forecast to expand by 0.2 mb/d, unchanged compared with last month's forecast, to average 2.1 mb/d.

A number of small-to-large projects are scheduled to begin in 2023. The Johan Sverdrup ramp-up is projected to be the main source of growth following its phase 2 start-up in December 2022. Norway's Equinor stated in May 2023 that is planned to maintain Johan Sverdrup output at a higher level close to 755 tb/d after a successful testing of the facilities. At the same time, Neptune Energy announced the start-up of its Fenja field, which is expected to produce around 35 tboe/d. Fenja is tied back to the Equinor-operated Njord complex, which resumed operations in December 2022.

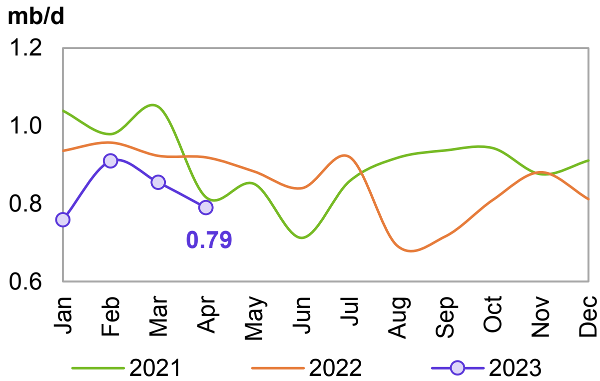
UK

In **April, UK liquids production** fell m-o-m by 65 tb/d to average 0.8 mb/d. Crude oil output dropped by 68 tb/d m-o-m to average 0.7 mb/d, which was lower by 123 tb/d y-o-y, according to official data. NGLs output remained broadly unchanged to average 87 tb/d. UK liquids output in April was down 14% compared to April 2023, mainly due to natural declines and outages.

For **2022**, UK liquids production is estimated to have dropped by 51 tb/d to average 0.9 mb/d. This is broadly unchanged from the previous assessment.

For **2023**, UK liquids production is forecast to increase by 20 tb/d to average 0.9 mb/d, down by a minor 8 tb/d from the previous assessment due to lower-than-expected April 2023 output.

Graph 5 - 18: UK monthly liquids production development

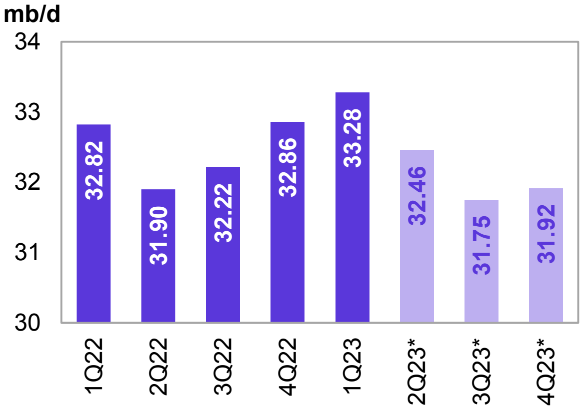


Sources: UK Department for Business, Energy and Industrial Strategy and OPEC.

A number of new fields, including Seagull, the Penguins Redevelopment, Captain EOR and Saturn Banks phase 1 will help offset base declines in 2023. However, project sanctioning will be essential to maintain future oil and gas output, as UK production has been in long-term decline. Shell UK Ltd completed restart operations at Pierce field in the UK Central North Sea following an upgrade to allow gas to be produced after years of producing only oil. Gross peak production is expected to reach 30 tboe/d, more than twice the production prior to redevelopment, with more gas being produced than oil.

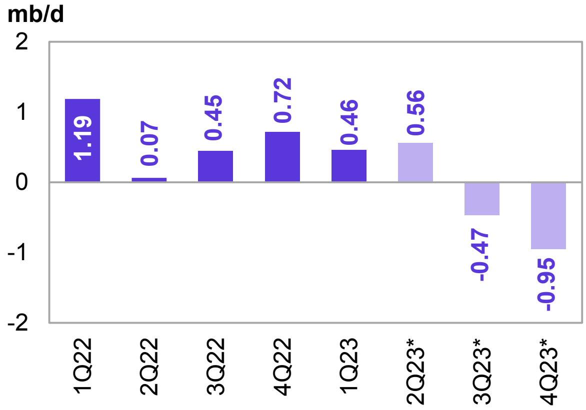
Non-OECD

Graph 5 - 19: Non-OECD quarterly liquids production and forecast



*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

Graph 5 - 20: Non-OECD quarterly liquids supply, y-o-y changes

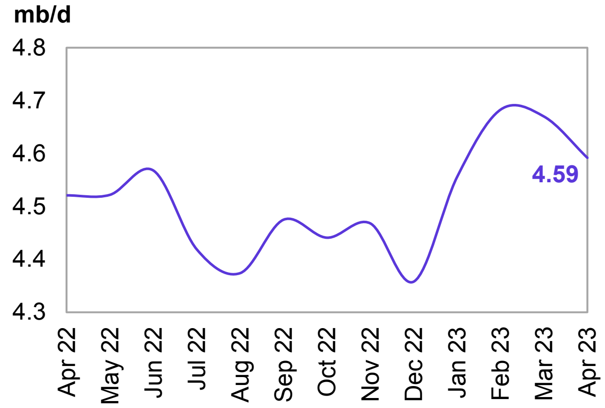


*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

China

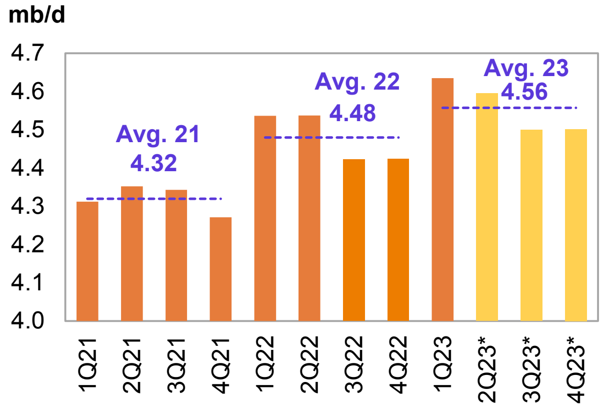
China's liquids production fell m-o-m in **April** by 78 tb/d to average 4.6 mb/d, which is up by 71 tb/d y-o-y, according to official data. Crude oil output in April averaged 4.2 mb/d, down by 78 tb/d compared with the previous month, but higher y-o-y by 68 tb/d. NGLs and condensate production was largely stable m-o-m, averaging 48 tb/d.

Graph 5 - 21: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 22: China's quarterly liquids production and forecast



*Note: * 2Q23-4Q23 = Forecast. Sources: CNPC and OPEC.*

For **2022**, growth of 160 tb/d is estimated with production averaging 4.5 mb/d. This is unchanged from the previous assessment and higher by 3.6% y-o-y.

For **2023**, y-o-y growth of about 78 tb/d is forecast for an average of 4.6 m/d, roughly unchanged from last month's assessment. Natural decline rates are expected to be offset by additional growth through more infill wells and enhanced oil recovery (EOR) projects amid efforts by state-owned oil companies to safeguard their energy supply.

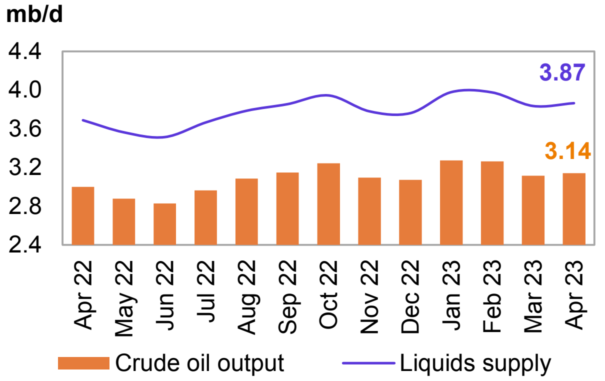
New offshore discoveries, the development of remote onshore basins and more investment in advanced EOR projects are expected to offset declining output in mature fields. Upstream investment is expected to remain structurally elevated, considering initial 2023 capex announcements by Chinese major oil and gas companies, as well as their seven-year action plan that began in 2019 and focuses on domestic upstream production growth.

Latin America

Brazil

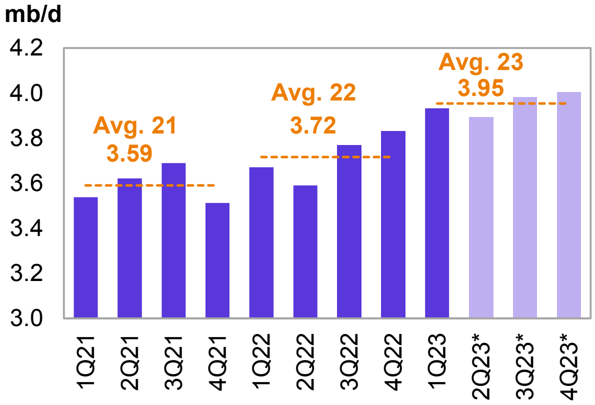
Brazil's crude output in **April** rose m-o-m by 26 tb/d to average 3.1 mb/d, mainly due to a post-salt production recovery. However, NGLs production was broadly unchanged at an average 80 tb/d and it is expected to remain flat in May. Biofuels output (mainly ethanol) was largely unchanged, m-o-m, at an average of 644 tb/d, with preliminary data showing a steady trend in May. The country's total liquids production increased by 29 tb/d in April to average 3.9 mb/d. This is slightly lower than the highest production rate on record in January 2023, due to maintenance in some pre-salt fields.

Graph 5 - 23: Brazil's monthly liquids production development by type



Sources: Brazilian National Agency of Petroleum, Natural Gas and Biofuels (ANP) and OPEC.

Graph 5 - 24: Brazil's quarterly liquids production



*Note: * 2Q23-4Q23 = Forecast. Sources: ANP and OPEC.*

For **2022,** Brazil's liquids supply, including biofuels, is estimated to have increased y-o-y by 0.1 mb/d to average 3.7 mb/d, primarily unchanged from the previous assessment.

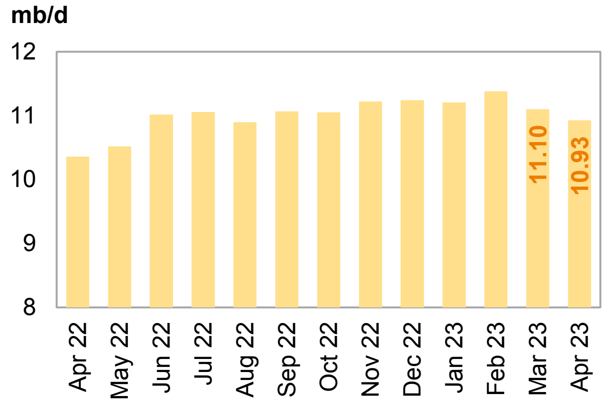
For **2023**, Brazil's liquids supply, including biofuels, is forecast to rise y-o-y by 0.2 mb/d to average 4.0 mb/d, unchanged from the previous forecast.

Crude oil output is set to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula), Peregrino, Sepia, Marlim and Itapu (Florim) fields. However, offshore maintenance is expected to cause some interruptions in major fields. Petrobras has also started production at the fifth FPSO in the giant Buzios field in the deepwater pre-salt Santos Basin offshore Brazil, according to Offshore Magazine; the Almirante Barroso platform has capacity to produce up to 150 tb/d of oil and 6 million cm/d of gas and inject 220 tb/d of water.

Russia

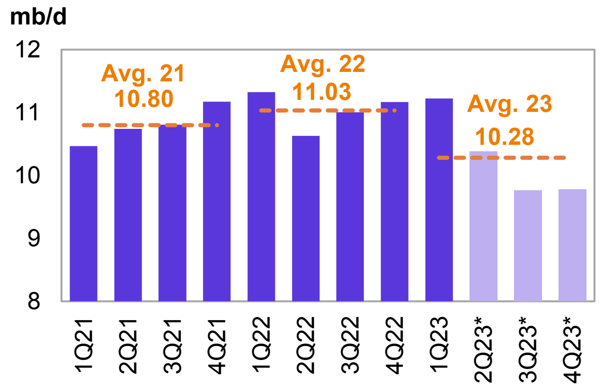
Russia's liquids production in April fell m-o-m by 176 tb/d to average 10.9 mb/d. This includes 9.6 mb/d of crude oil and 1.4 mb/d of NGLs and condensate.

Graph 5 - 25: Russia's monthly liquids production



Sources: Nefte Compass and OPEC.

Graph 5 - 26: Russia's quarterly liquids production



*Note: * 2Q23-4Q23 = Forecast.*
Sources: Nefte Compass and OPEC.

Russian liquids output in **2022** is estimated to have increased y-o-y by 0.2 mb/d to average 11.0 mb/d. This is broadly unchanged from the previous month's assessment.

For **2023**, Russian liquids production is forecast to drop by 0.75 mb/d to average 10.28 mb/d, unchanged from the previous month's assessment. It is worth noting that the expected contraction takes into account recently announced voluntary production adjustments to the end of 2023.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan increased by a minor 6 tb/d m-o-m to average 2.0 mb/d in **April**. Crude production was up by 20 tb/d m-o-m to average 1.6 mb/d, while NGLs and condensate output declined by 14 tb/d m-o-m to average 0.4 mb/d.

Kazakhstan's liquids supply for **2022** is forecast to have declined y-o-y by 44 tb/d to average 1.8 mb/d. This is broadly unchanged compared with the previous month's assessment.

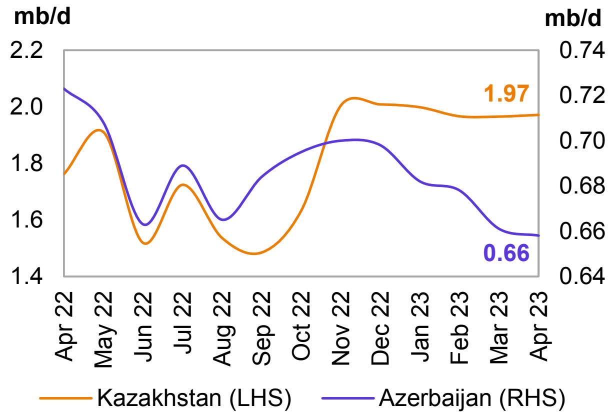
For **2023**, liquids supply is forecast to increase by 0.1 mb/d, up by a minor 9 tb/d compared with the previous forecast due to better-than-expexted production in April.

Azerbaijan's liquids production in April remained broadly stable m-o-m, averaging 0.7 mb/d, which is a drop of 65 tb/d y-o-y. Crude production averaged 512 tb/d, with NGLs output at 146 tb/d, according to official sources.

For **2022**, liquids supply in Azerbaijan is estimated to have declined y-o-y by 40 tb/d to average 0.7 mb/d.

Azerbaijan's liquids supply for **2023** is forecast to rise by 29 tb/d to average 0.7 mb/d. This is a downward revision of a minor 8 tb/d, due to lower-than-expected production in major oil fields in April. The main declines in legacy reservoirs, like Azeri-Chirag-Guneshli (ACG) oil fields, are expected to be offset by ramp-ups in other fields. Growth is forecast to come mainly from the Shah Deniz and Absheron gas condensate projects.

Graph 5 - 27: Caspian monthly liquids production development by selected country



Sources: Nefte Compass, JODI and OPEC.

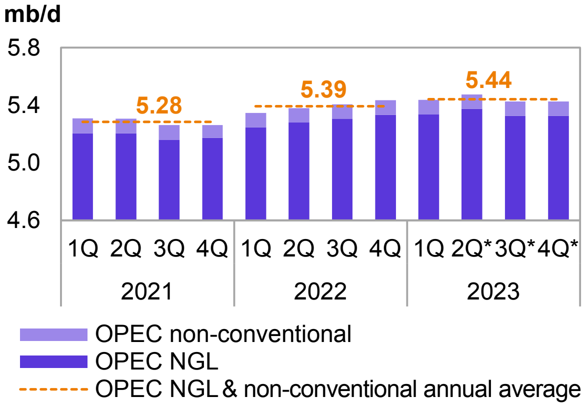
OPEC NGLs and non-conventional oils

OPEC NGLs and non-conventional liquids in 2022 are estimated to have grown by 0.1 mb/d to average 5.4 mb/d, unchanged from the previous assessment.

NGLs output in 1Q23 is expected to have averaged 5.34 mb/d, while OPEC non-conventional output remained steady at 0.1 mb/d. Taken together, 5.46 mb/d is expected for April, according to preliminary data.

OPEC NGLs and non-conventional liquids are forecast to expand by around 50 tb/d in **2023** to average 5.4 mb/d. NGLs production is projected to grow by 50 tb/d to average 5.3 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

Graph 5 - 28: OPEC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

Table 5 - 6: OPEC NGL + non-conventional oils, mb/d

OPEC NGL and non-coventional oils	2021	Change 21/20	2022	Change 22/21	1Q23	2Q23	3Q23	4Q23	2023	Change 23/22
OPEC NGL	**5.18**	*0.12*	**5.29**	*0.11*	5.34	5.37	5.33	5.33	**5.34**	*0.05*
OPEC non-conventional	**0.10**	*0.00*	**0.10**	*0.00*	0.10	0.10	0.10	0.10	**0.10**	*0.00*
Total	**5.28**	***0.12***	**5.39**	***0.11***	**5.44**	**5.47**	**5.43**	**5.43**	**5.44**	***0.05***

Note: 2023 = Forecast. Source: OPEC.

OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 28.06 mb/d in May 2023, lower by 464 tb/d m-o-m. Crude oil output increased mainly in Nigeria, IR Iran and Angola, while production in Saudi Arabia, the UAE and Kuwait declined.

Table 5 - 7: OPEC crude oil production based on *secondary sources*, tb/d

Secondary sources	2021	2022	3Q22	4Q22	1Q23	Mar 23	Apr 23	May 23	*Change May/Apr*
Algeria	913	1,017	1,040	1,030	1,015	1,012	1,010	974	*-36*
Angola	1,122	1,140	1,155	1,084	1,063	978	1,091	1,145	*54*
Congo	263	261	264	252	270	273	261	265	*4*
Equatorial Guinea	98	84	90	63	53	46	60	56	*-3*
Gabon	182	197	201	199	194	197	209	210	*1*
IR Iran	2,392	2,554	2,565	2,567	2,568	2,577	2,619	2,679	*61*
Iraq	4,046	4,439	4,522	4,505	4,372	4,339	4,115	4,137	*22*
Kuwait	2,419	2,704	2,801	2,712	2,684	2,680	2,650	2,555	*-95*
Libya	1,143	981	976	1,153	1,157	1,159	1,160	1,169	*8*
Nigeria	1,372	1,204	1,063	1,172	1,345	1,357	1,098	1,269	*171*
Saudi Arabia	9,114	10,530	10,893	10,605	10,358	10,411	10,496	9,977	*-519*
UAE	2,727	3,066	3,168	3,094	3,044	3,041	3,034	2,894	*-140*
Venezuela	553	673	657	662	696	703	726	735	*9*
Total OPEC	**26,345**	**28,852**	**29,397**	**29,097**	**28,820**	**28,773**	**28,529**	**28,065**	***-464***

Notes: Totals may not add up due to independent rounding, given available secondary sources to date. Source: OPEC.

Table 5 - 8: OPEC crude oil production based on *direct communication*, tb/d

Direct communication	2021	2022	3Q22	4Q22	1Q23	Mar 23	Apr 23	May 23	*Change May/Apr*
Algeria	911	1,020	1,050	1,030	1,011	1,008	999	962	*-37*
Angola	1,124	1,137	1,147	1,071	1,046	972	1,063	1,111	*48*
Congo	267	262	261	261	278	285	277	285	*9*
Equatorial Guinea	93	81	83	56	51	48	49	61	*12*
Gabon	181	191	198	183	201	190	197	218	*21*
IR Iran	..	..	..	..	..	..	..	..	*..*
Iraq	3,971	4,453	4,632	4,505	4,288	4,200	3,938	3,955	*17*
Kuwait	2,415	2,707	2,799	2,721	2,676	2,676	2,676	2,548	*-128*
Libya	1,207	..	..	..	..	..	1,210	1,158	*-52*
Nigeria	1,323	1,138	985	1,137	1,277	1,268	999	1,184	*185*
Saudi Arabia	9,125	10,591	10,968	10,622	10,456	10,464	10,461	9,959	*-502*
UAE	2,718	3,064	3,170	3,093	3,041	3,045	3,041	2,891	*-150*
Venezuela	636	716	673	693	731	754	810	819	*9*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	***..***

Notes: .. Not available. Totals may not add up due to independent rounding. Source: OPEC.

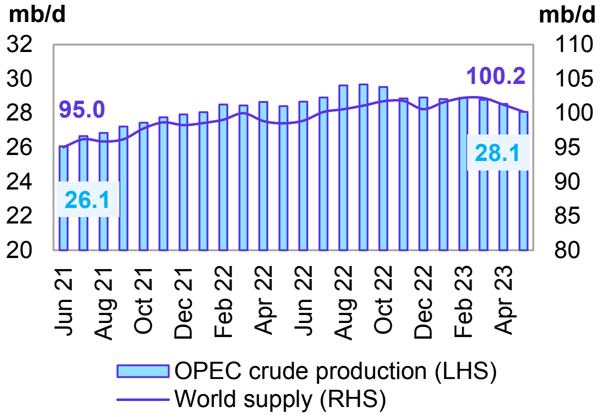
World oil supply

Preliminary data indicates that **global liquids production in May** decreased by 1.02 mb/d to average 100.2 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have decreased m-o-m in May 2023 by 0.6 mb/d to average 72.2 mb/d. This was higher by 2.0 mb/d y-o-y. Preliminary estimated production rises in May were mainly driven by Other Asia and Other Eurasia and were more than offset by drops in Russia and Canada.

The **share of OPEC crude oil in total global production** in May, decreased 0.2 pp to stand at 28.0% compared with the previous month. Estimates are based on preliminary data for non-OPEC supply, OPEC NGLs and non-conventional oil, while assessments for OPEC crude production are based on secondary sources.

Graph 5 - 29: OPEC crude production and world oil supply development



Source: OPEC.

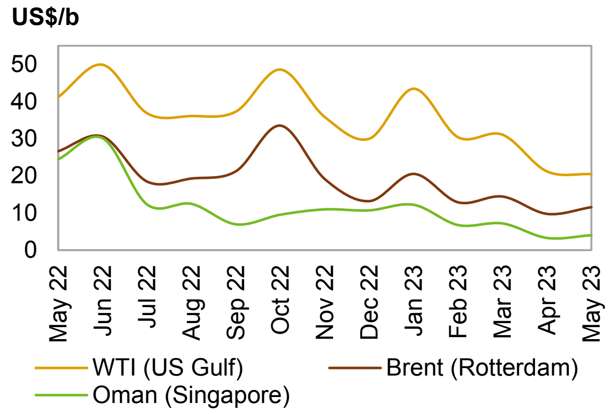
Product Markets and Refinery Operations

In May, USGC refinery margins saw their second consecutive monthly loss, declining to their lowest level this year. This downturn, attributable to rising refinery output levels, was vastly more limited compared to that seen in April, with most of the pressure stemming from transport fuels. In Rotterdam, margins showed solid gains backed by stronger gasoline and fuel oil markets. Lower feedstock prices provided further support and led to mild gains in Asian refining economics.

Global refinery intake in May rose further and according to preliminary estimates was 556 tb/d higher m-o-m at 81.3 mb/d. In the coming months, refinery intakes are expected to remain well supported by a boost in fuel consumption given the onset of the summer season. Going forward, the rise in product outputs will be challenged by stronger demand. This will likely keep product balances somewhat constrained, and provide upward pressure on product crack spreads in the near term.

Refinery margins

Graph 6 - 1: Refining margins



Sources: Argus and OPEC.

USGC refining margins against WTI eased to reach their lowest level this year. This reflects the expansion of US transport fuel balances as refineries continue to ramp up processing rates following the recent heavy maintenance season. The weakness derived from the middle and top sections of the barrel, but was much more pronounced on the gasoline side. An upward trend in USGC total gasoline inventories up to mid-May exerted pressure on USGC gasoline crack spreads. Although on a wider spectrum gasoline inventories declined slightly nationwide, and markets for the fuel remain bullish given the onset of the summer season. In terms of operations, US refinery intake continued to increase and gained 240 tb/d m-o-m to an average of 16.61 mb/d in May. USGC margins against WTI averaged $20.46/b, down by 74¢ m-o-m and $20.77 y-o-y.

Refinery margins in Rotterdam against Brent strengthened, outperforming those seen in the USGC and Singapore, as lower feedstock prices, and strong gasoline exports to the US backed European product markets. In addition, significant high sulphur fuel oil stock draws led to three consecutive weeks of inventory declines in Amsterdam-Rotterdam-Antwerp as a result of strong exports to Asia. Tightening HSFO availability in NWE provided support to the products markets and enabled fuel oil crack spreads to post solid m-o-m gains, contributing to the positive product market performance in NWE. Ongoing maintenance in Germany and Russia over May, likely kept European refinery processing rates capped, but this is expected to subside going forward, unlocking some upside potential for European refinery throughputs in the near term.

Refinery throughput in Europe continued to rise in May. According to preliminary data, it was 200 tb/d higher at an average of 9.84 mb/d. Refinery margins against Brent in Europe averaged $11.55/b in May, $1.80 higher compared with a month earlier, but $15.05 lower y-o-y.

Singapore refining margins against Oman increased, albeit by a lesser magnitude compared to their NWE counterparts, with fuel oil markets representing the most significant source of strength. In China, strict customs inspections led to a reduction in bitumen imports, which prompted Chinese independent refiners to boost HSFO imports for feedstock blending, as well as gasoline and gasoil production. This largely contributed to fuel oil market improvement in the region. In India, gasoline and diesel exports increased m-o-m, according to secondary sources. However, this support proved to be rather insufficient to counter supply side pressures as refinery output levels for both products remained strong. Going forward, fuel oil markets in Asia are most likely to continue to be well supported by rising power generation requirements from the Asia and Middle East.

In May, refinery intakes declined further, dropping 210 tb/d relative to the previous month to average 27.08 mb/d, according to preliminary data. Refinery margins against Oman in Asia gained 74¢ m-o-m to average $4.03/b, which was $20.39 lower y-o-y.

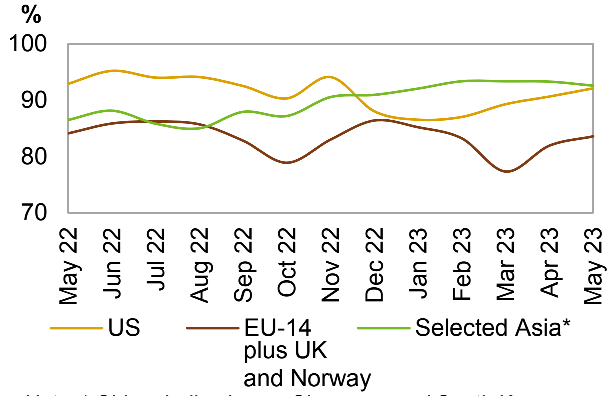
Refinery operations

US refinery utilization rates increased in May to an average of 92.09%, which corresponds to a throughput of 16.61 mb/d. This represented a rise of 1.5 pp and 240 tb/d compared with April. Y-o-y, the May refinery utilization rate was down by 0.8 pp, with throughput showing a 381 tb/d drop.

European refinery utilization averaged 83.56% in May, corresponding to a throughput of 9.84 mb/d. This is a m-o-m rise of 1.7 pp or 200 tb/d. On a y-o-y basis, utilization rates were down by 0.5 pp, while throughput was lower by 130 tb/d.

In **Selected Asia** – comprising Japan, China, India, Singapore and South Korea – refinery utilization rates decreased to an average of 92.58% in May, corresponding to a throughput of 27.08 mb/d. Compared with the previous month, utilization rates were down by 0.7 pp, and throughput was lower by 210 tb/d. However, y-o-y utilization rates were higher by 6.1 pp, and throughput was up by 486 tb/d.

Graph 6 - 2: Refinery utilization rates



*Note: * China, India, Japan, Singapore and South Korea.*
Sources: Argus, EIA, Euroilstock, PAJ and OPEC.

Table 6 - 1: Refinery operations in selected OECD countries

	Refinery throughput, mb/d				Refinery utilization, %			
	Mar 23	Apr 23	May 23	Change May/Apr	Mar 23	Apr 23	May 23	Change May/Apr
US	**16.07**	**16.37**	**16.61**	**0.24**	**89.26**	**90.63**	**92.09**	**1.5 pp**
Euro-14, plus UK and Norway	**9.10**	**9.64**	**9.84**	**0.20**	**77.30**	**81.90**	**83.56**	**1.7 pp**
France	0.52	0.73	0.82	0.09	45.18	63.43	71.43	8.0 pp
Germany	1.60	1.74	1.77	0.03	77.75	84.77	86.09	1.3 pp
Italy	1.23	1.36	1.39	0.02	64.79	71.74	72.96	1.2 pp
UK	0.94	1.06	1.07	0.02	79.79	90.28	91.63	1.4 pp
Selected Asia*	**27.30**	**27.29**	**27.08**	**-0.21**	**93.36**	**93.30**	**92.58**	**-0.7 pp**

*Note: * Includes Japan, China, India, Singapore and South Korea.*
Sources: Argus Media, EIA, Euroilstock, NBS, PAJ and OPEC.

Table 6 - 2: Refinery crude throughput, mb/d

Refinery crude throughput	2020	2021	2022	2Q22	3Q22	4Q22	1Q23	2Q23
OECD Americas	**16.59**	**17.79**	**18.66**	**18.74**	**19.00**	**18.53**	**17.98**	**18.71**
of which US	*14.72*	*15.66*	*16.46*	*16.61*	*16.82*	*16.35*	*15.79*	*16.69*
OECD Europe	**10.65**	**10.92**	**11.43**	**11.57**	**11.79**	**11.38**	**11.17**	**11.39**
of which:								
France	*0.67*	*0.69*	*0.84*	*0.84*	*0.96*	*0.78*	*0.83*	*0.80*
Germany	*1.72*	*1.72*	*1.83*	*1.87*	*1.83*	*1.87*	*1.64*	*1.75*
Italy	*1.11*	*1.23*	*1.32*	*1.42*	*1.41*	*1.29*	*1.25*	*1.35*
UK	*0.92*	*0.92*	*1.04*	*1.06*	*1.02*	*1.03*	*1.00*	*0.99*
OECD Asia Pacific	**5.87**	**5.76**	**6.04**	**5.83**	**6.17**	**5.97**	**6.03**	**5.36**
of which Japan	*2.48*	*2.49*	*2.71*	*2.60*	*2.73*	*2.73*	*2.77*	*2.56*
Total OECD	**33.12**	**34.47**	**36.13**	**36.14**	**36.96**	**35.88**	**35.18**	**35.46**
Latin America	**3.20**	**3.50**	**3.40**	**3.53**	**3.44**	**3.36**	**3.23**	**3.60**
Middle East	**6.10**	**6.80**	**7.29**	**7.27**	**7.35**	**7.40**	**7.28**	**7.68**
Africa	**1.79**	**1.77**	**1.84**	**1.84**	**1.88**	**1.84**	**1.73**	**1.97**
India	**4.42**	**4.73**	**5.00**	**5.22**	**4.69**	**4.89**	**5.35**	**5.31**
China	**13.48**	**14.07**	**13.49**	**12.89**	**13.00**	**14.14**	**14.57**	**14.74**
Other Asia	**4.72**	**4.72**	**4.98**	**5.15**	**5.02**	**4.85**	**5.05**	**5.15**
Russia	**5.39**	**5.61**	**5.46**	**5.04**	**5.50**	**5.59**	**5.67**	**5.57**
Other Eurasia	**1.10**	**1.23**	**1.22**	**1.21**	**1.20**	**1.21**	**1.25**	**1.23**
Other Europe	**0.43**	**0.41**	**0.50**	**0.51**	**0.55**	**0.50**	**0.46**	**0.51**
Total Non-OECD	**40.63**	**42.85**	**43.17**	**42.67**	**42.64**	**43.78**	**44.59**	**45.75**
Total world	**73.75**	**77.32**	**79.30**	**78.81**	**79.60**	**79.67**	**79.77**	**81.21**

Note: Totals may not add up due to independent rounding.

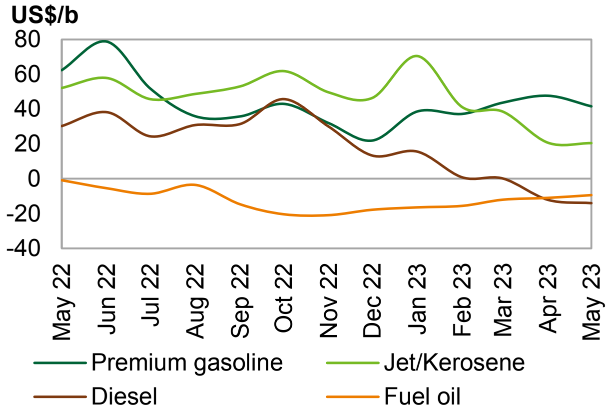
Sources: AFREC, APEC, EIA, IEA, Euroilstock, PAJ, Ministry data, including Ministry of Energy of the Russian Federation, Ministry of Petroleum and Natural Gas of India, OPEC and JODI.

Product markets

US market

The **USGC gasoline crack spread** weakened reflecting rising gasoline availability during the first half of the month as gasoline PADD 3 inventory levels increased up to mid-May. Refineries continued to ramp up processing rates with stronger fuel output levels contributing to an expanding gasoline balance in the USGC. However, nationwide gasoline inventories remained relatively low. USGC wholesale gasoline 93 prices fell by $13.00/b m-o-m, to average $113.16/b in May. This was the largest monthly price loss across the barrel in the USGC, in response to the products expanding balance and a drop in crude prices. Compared to the same month a year earlier, gasoline prices were $58.99/b lower, reflecting an improved balance relative to the strong tightness witnessed in 2022.

Graph 6 - 3: US Gulf crack spread vs. WTI



Sources: Argus and OPEC.

Expectations of stronger consumption levels in the coming months given the onset of the summer season, points to solid upside potential for US gasoline markets going forward. The USGC gasoline crack spread lost $6.09 m-o-m to average $41.52/b in May. This was $20.77 lower y-o-y.

The USGC jet/kerosene crack spread continued to trend downwards for the fourth consecutive month, although exhibiting the smallest loss across the barrel in the USGC. This weakness was mainly a result of rising availability amid weak demand, as jet fuel inventories experienced considerable stock builds throughout May. They ended the month higher compared to that registered at the end of April. Wholesale prices dropped by $8.05/b over the month to an average of $92.09/b. The US jet/kerosene crack spread against WTI averaged $20.45/b, down by 25¢ m-o-m and by $31.62 y-o-y.

The USGC gasoil crack spread declined further to fall deeper into negative territory and reach a new multi-year low, indicating negative profits for refiners producing gasoil. Expectations of weaker demand from the trucking and industrial sectors, amid recession fears and rising refinery outputs, contributed to the poor performance in gasoil crack spreads. With this development, US refiners will most likely shift their focus to gasoline production. Gasoil inventories in PADD 3 trended slightly higher, however, nationwide total inventories remain low and were almost unchanged relative to levels recorded at the same time last year. Gasoil prices averaged $57.56/b in May, down $9.71 relative to April. The US gasoil crack spread against WTI averaged minus $14.08/b, down by $1.91 m-o-m and $44.27 y-o-y.

The USGC fuel oil crack spread against WTI maintained its positive momentum for the sixth consecutive month, although it still remained in negative territory. This improvement was mostly attributed to a contraction in the product's domestic balance over the month due to lower exports, as well as supportive FCC margins as gasoline market improvements likely provided better economic incentives for fuel oil to gasoline conversion. In May, the US fuel oil crack spread against WTI averaged minus $9.32/b, higher by $1.59/b m-o-m, but lower by $8.55 y-o-y.

European market

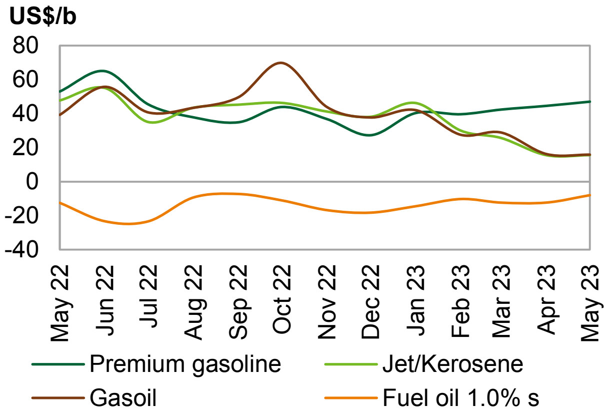
Gasoline crack spreads strengthened as the regional market for the product benefitted from exports to the US. Continuing refinery maintenance in Germany, one of the largest European product demand centers, likely unlocked an uptick in demand and provided additional support. Although gasoline refinery output levels were on the rise, gasoline balances remained under pressure, while the bullish market sentiment linked to the onset of the summer season and expectations of a stronger gasoline market will likely drove crack spreads higher. Going forward, gasoline crack spreads are set to benefit from better export opportunities and expectations of stronger mobility activity amid warmer weather. The gasoline crack spread against Brent averaged $47.03/b in May, which was $2.47/b higher m-o-m but was $5.98 lower y-o-y.

In May, jet/kerosene crack spreads remained relatively unchanged with subdued demand-side dynamics and rising refinery output levels preventing any significant gains. In the coming months, jet/kerosene markets are expected to strengthen as air travel activities improve over the summer. The Rotterdam jet/kerosene crack spread against Brent averaged $15.64/b, up by 4¢ m-o-m but down by $32.04 y-o-y.

Gasoil 10 ppm crack spreads saw losses, declining for the second consecutive month affected by supply-side dynamics. Improvement in refinery output levels, as well a ample availabilities in international supplies led to a weaker market. The gasoil crack spread against Brent averaged $15.82/b, down by 38¢ m-o-m and $23.42 y-o-y.

At the bottom of the barrel, fuel oil 1.0% crack spreads gained solid ground as lower availability and rising ARA fuel oil inventories triggered a bearish market sentiment. HSFO markets within the region strengthened as secondary unit processing rates increased, while concernes over lower heavy crude availability going forward and rising residual fuel demand in Asia likely contributed to the positive performance. Russian barrels were diverted to Asia given the product flow adjustments following the EU sanctions.

Graph 6 - 4: Rotterdam crack spreads vs. Brent



Sources: Argus and OPEC.

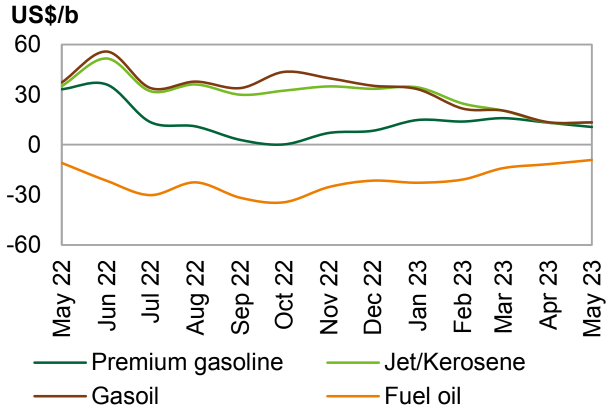
In terms of prices, fuel oil 1.0% decreased in value m-o-m to average $67.86/b, which was $4.72 lower relative to the previous month. In NWE, 1% fuel oil cracks against Brent averaged minus $7.96/b in May, having gained $4.37 m-o-m and $4.51 y-o-y.

Asian market

The **Asian gasoline 92 crack** weakened and was the strongest negative performer compared to all other key products reflecting the strong production levels within the region. Despite the region's ongoing refinery maintenance season, offline capacities have remained very low, indicating stability in regional product output levels. The Singapore gasoline crack spread against Dubai in May averaged $10.56/b. This was down $2.56 m-o-m and $22.60 y-o-y.

Asian naphtha crack spreads weakened in May to reach the lowest level since November 2022. This was a result of several factors, including the limited naphtha price advantage over LPG, and subdued naphtha demand due to steam cracker maintenance works in the region, which contributed to lower naphtha requirements, which resulted in a weaker regional naphtha market.

Graph 6 - 5: Singapore crack spreads vs. Dubai



Sources: Argus and OPEC.

Declining ethylene cracker margins and a monthly drop in North East Asia naptha-propane spread per metric tons in Asia, most likely wighed further on the naphtha market performance.The Singapore naphtha crack spread against Oman averaged minus $12.88/b, dropping by $1.02 m-o-m and 81¢ y-o-y.

In the middle of the barrel, **jet/kerosene crack spreads** remained nearly unchanged as rising supplies were being offset by improvement in demand from the region's aviation sector. Expectations of pick up in international air travel activities in the coming months, and stronger export requirements to the West will most likely provide solid support over the summer season. The Singapore jet/kerosene crack spread against Oman averaged $13.46/b, slightly up by $0.08 m-o-m but down by $21.61 y-o-y.

The Singapore **gasoil crack spread** lost some ground, and was the second largest source of weakness in the Asian product market, following gasoline. Pressures from strong volume arrivals from the Middle East amid declining import requirements from Europe, with global inventories showing signs of recovery, affected the regional gasoil market. The Singapore gasoil crack spread against Oman averaged $13.38/b, down 13¢ m-o-m and $23.87 y-o-y.

The Singapore **fuel oil 3.5% crack spread** was the main positive performer and refinery margin contributor across the barrel. This was supported by a hike in fuel oil imports from China, as strikter bitumen import customs inspections supressed bitumen demand. This measure to counter tax fraud in the country prompted independent refiners to resort to fuel oil imports for feedstock blending and fuel oil conversion. Going forward, rising fuel oil requirements for power generation should support fuel crack spreads. Singapore fuel oil cracks against Oman averaged minus $9.15/b, which was up by $2.51 m-o-m, and by $1.77 y-o-y.

Table 6 - 3: Short-term prospects for product markets and refinery operations

Event	Time frame	Observations	Asia	Europe	US
Chinese fuel export quotas	Jun 23 – Aug 23	Although export quotas declined relative to the previous batch, Chinese independent refiners are expected to boost product output. This should continue to sustain Chinese runs, but also potentially exert some pressure to product performance, mainly in Singapore.	↓ Pressure on product markets	↓ Pressure on product markets	↓ Pressure on product markets
Summer driving season	Jun 23– Oct 23	Based on seasonal trends, and lower fuel prices y-o-y, US gasoline demand is expected to pick-up and is set to support crack spreads for the same product in the near term.	↑ Support for gasoline markets	↑ Support for gasoline markets	↑ Support for gasoline markets
Power generation (cooling)	Jun 23 – Sept 23	Higher fuel oil demand is expected during the summer months to fuel cooling systems in the East. This, in addition to the rerouting of Russian Fuel oil flows, will likely lead to a boost in fuel oil crack spreads.	↑ Support for gasoline markets	↑ Support for gasoline markets	↑ Support for gasoline markets
Hurricane season	Jun 23 – Oct 23	Risk of product supply disruptions could exacerbate the impact of potential summer improvements in demand, by exerting pressure on product availability and pushing up fuel values, particularly in the US.	↑ Support for gasoline markets	↑ Support for gasoline markets	↑ Support for gasoline markets

Source: OPEC.

Table 6 - 4: Refined product prices, US$/b

		Apr 23	May 23	Change May/Apr	Annual avg. 2022	Year-to-date 2023
US Gulf (Cargoes FOB)						
Naphtha*		75.27	69.54	-5.73	89.24	76.66
Premium gasoline	(unleaded 93)	127.05	113.16	-13.89	134.59	117.60
Regular gasoline	(unleaded 87)	110.21	101.94	-8.27	123.34	106.06
Jet/Kerosene		100.14	92.09	-8.05	140.17	114.11
Gasoil	(0.2% S)	67.27	57.56	-9.71	122.10	73.91
Fuel oil	(3.0% S)	66.85	60.37	-6.48	76.84	59.69
Rotterdam (Barges FoB)						
Naphtha		74.88	64.70	-10.18	85.08	73.96
Premium gasoline	(unleaded 98)	129.47	122.85	-6.62	136.26	123.67
Jet/Kerosene		100.51	91.46	-9.05	139.86	107.50
Gasoil/Diesel	(10 ppm)	101.11	91.64	-9.47	142.32	106.96
Fuel oil	(1.0% S)	72.58	67.86	-4.72	88.77	69.41
Fuel oil	(3.5% S)	72.43	66.91	-5.52	78.86	64.89
Mediterranean (Cargoes FOB)						
Naphtha		71.54	63.28	-8.26	82.26	71.14
Premium gasoline**		104.90	94.55	-10.35	120.04	100.23
Jet/Kerosene		95.67	89.03	-6.64	135.36	103.06
Diesel		99.34	90.68	-8.66	135.91	105.36
Fuel oil	(1.0% S)	77.13	72.46	-4.67	94.51	74.34
Fuel oil	(3.5% S)	67.38	62.35	-5.03	72.30	59.55
Singapore (Cargoes FOB)						
Naphtha		71.54	62.25	-9.29	83.91	71.30
Premium gasoline	(unleaded 95)	100.14	90.29	-9.85	115.05	97.44
Regular gasoline	(unleaded 92)	96.52	85.69	-10.83	111.02	93.56
Jet/Kerosene		96.78	88.59	-8.19	126.76	101.21
Gasoil/Diesel	(50 ppm)	98.24	88.75	-9.49	134.94	102.44
Fuel oil	(180 cst)	92.91	86.37	-6.54	129.75	97.52
Fuel oil	(380 cst 3.5% S)	71.74	65.98	-5.76	76.63	64.25

*Note: * Barges. ** Cost, insurance and freight (CIF).*

Sources: Argus and OPEC.

Tanker Market

Dirty freight rates showed mixed movement in May. VLCCs experienced declines on all monitored routes, with Middle East-to-East spot freight rates falling 27% as long-haul tanker demand declined. Suezmax rates recovered some of the previous month's losses, with rates on the USGC-to-Europe route increasing 35%. Aframax spot freight rates showed a strong performance on the US Gulf Coast, with rates on the Caribbean-to-US East Coast route, up 121%, while Mediterranean routes saw a mixed performance, with intra-Med rates up 2% and Mediterranean-to-Northwest Europe rates down 9%.

Clean freight rates showed declines on all reported routes, with the strongest losses on West of Suez routes. Rates around the Mediterranean were down by about 44% while the Northwest Europe to US East Coast route declined 30%.

Spot fixtures

Latest estimates show **global spot fixtures** declined in May to average 12.98 mb/d. Fixtures dropped m-o-m by 1.4 mb/d, or almost 10%, with declines driven by lower volumes out of the Middle East. Compared with the previous year, spot fixtures fell 1.8 mb/d, or 12%.

Table 7 - 1: Spot fixtures, mb/d

Spot fixtures	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
All areas	16.36	14.40	12.98	-1.42
OPEC	11.00	9.78	9.07	-0.71
Middle East/East	6.38	5.90	4.82	-1.08
Middle East/West	1.22	1.26	1.05	-0.21
Outside Middle East	3.40	2.62	3.20	0.58

Sources: Oil Movements and OPEC.

OPEC spot fixtures fell in May by 0.7 mb/d, or over 7%, to average 9.1 mb/d. In comparison with the same month in 2022, fixtures were lower by 1.3 mb/d, or about 13%.

Middle East-to-East fixtures declined by 1.1 mb/d, or over 18%, to average 4.8 mb/d. Compared with the same month of the previous year, eastward flows from the Middle East decreased 1.3 mb/d, or about 21%.

Spot fixtures on the **Middle East-to-West** route also declined m-o-m in May, dropping by about 0.2 mb/d, or about 17%, to average around 1.1 mb/d. Y-o-y, fixtures were down by 0.5 mb/d, or almost 32%.

Fixtures on routes **outside the Middle East** provided a bright spot, up 22% or 0.6 mb/d m-o-m to average 3.2 mb/d. Compared to the same month last year, fixtures on the route rose 0.4 mb/d, or around 16%.

Sailings and arrivals

OPEC sailings declined in May to average 22.2 mb/d. This represents a m-o-m drop of about 1.1 mb/d, or almost 5%. Y-o-y, OPEC sailings were down by about 0.4 mb/d, or less than 2%.

Middle East sailings averaged 17.4 mb/d in May, representing a decline of 0.7 mb/d or about 4%. Y-o-y, sailings from the region increased by 0.6 mb/d, or close to 4%.

Table 7 - 2: Tanker sailings and arrivals, mb/d

Sailings	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
OPEC	23.27	23.33	22.20	-1.13
Middle East	17.93	18.09	17.38	-0.71
Arrivals				
North America	9.12	9.15	9.37	0.22
Europe	12.51	12.15	12.37	0.22
Far East	16.53	16.03	16.25	0.22
West Asia	9.14	8.37	8.59	0.22

Sources: Oil Movements and OPEC.

Crude arrivals rose on all monitored routes in May. **North American arrivals** saw a gain of 0.2 mb/d, or more than 2%, to average 9.4 mb/d. Y-o-y, arrivals in North America were 0.7 mb/d higher, or 8%. **Arrivals in Europe** increased by 0.2 mb/d, or about 2%, m-o-m to average 12.4 mb/d. However, compared to the same month last year, arrivals to Europe were 1.1 mb/d, or over 8% lower.

Far East arrivals averaged 16.3 mb/d, representing a gain of 0.2 mb/d, or over 1%, compared with the previous month and around 2.4 mb/d, or about 17%, higher y-o-y. **Arrivals in West Asia** increased by 0.2 mb/d, or almost 3%, to average 8.6 mb/d. Y-o-y, arrivals in the region were up by 0.3 mb/d, or approaching 4%.

Dirty tanker freight rates

Very large crude carriers (VLCCs)

VLCC spot rates retreated further in May, down 27% compared to the previous month. However, y-o-y, VLCC rates were still up 19% on average. Lower volumes out of the Middle East weighed on VLCC values.

On the **Middle East-to-East** route, rates fell m-o-m by 27% to average WS48 points. This was still 14% higher y-o-y. Rates on the **Middle East-to-West** route declined 25% m-o-m to average WS36 points. Y-o-y, rates on the route were still up 44%.

West Africa-to-East spot rates fell m-o-m by 26% to average WS49 points in May. Compared with the same month of 2022, rates were 11% higher.

Table 7 - 3: Dirty VLCC spot tanker freight rates, Worldscale (WS)

VLCC	Size *1,000 DWT*	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
Middle East/East	230-280	87	66	48	-18
Middle East/West	270-285	58	48	36	-12
West Africa/East	260	86	66	49	-17

Sources: Argus and OPEC.

Suezmax

Suezmax rates in May offset some of the previous month's decline, gaining 18% m-o-m. Compared with the same month of the previous year, rates were 31% higher.

Spot freight rates on the **West Africa-to-USGC** route increased by 4% m-o-m to average WS106 points. Y-o-y, rates were 28% higher.

Rates on the **USGC-to-Europe** route increased by 35% to average WS104 points. Compared with the same month of 2022, they were 33% higher.

Table 7 - 4: Dirty Suezmax spot tanker freight rates, WS

Suezmax	Size *1,000 DWT*	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
West Africa/US Gulf Coast	130-135	128	102	106	4
US Gulf Coast/ Europe	150	120	77	104	27

Sources: Argus and OPEC.

Aframax

Aframax spot freight rates saw mixed movement in May, as strength on the Caribbean to US East Coast route offset weakness on East of Suez routes and out of the Mediterranean. On average, Aframax rates increased 16% in May. Compared with the same month of 2022, rates were 22% higher.

Rates on the **Indonesia-to-East route** dropped 15% m-o-m to average WS154 in May. Compared with the same month last year, rates were 10% lower.

In contrast, spot rates on the **Caribbean-to-USEC route** rebounded strongly, up 121%, to average WS256 points. Y-o-y, rates were 57% higher.

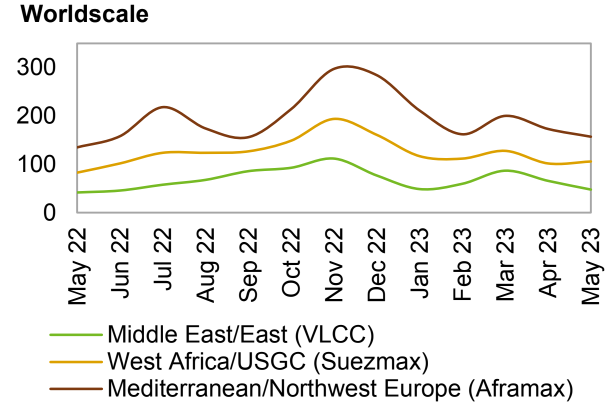
Table 7 - 5: Dirty Aframax spot tanker freight rates, WS

Aframax	Size *1,000 DWT*	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
Indonesia/East	80-85	187	182	154	-28
Caribbean/US East Coast	80-85	339	116	256	140
Mediterranean/Mediterranean	80-85	221	176	179	3
Mediterranean/Northwest Europe	80-85	200	173	157	-16

Sources: Argus and OPEC.

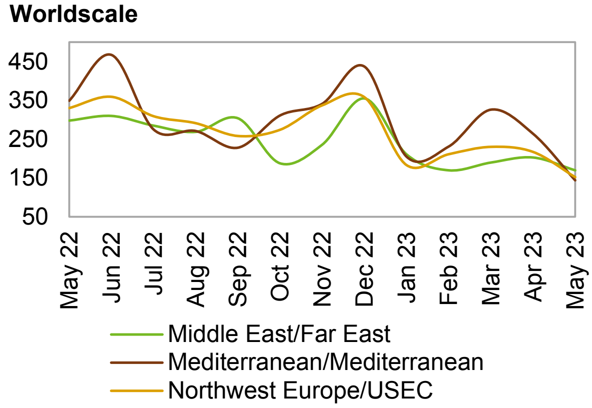
Cross-Med spot freight rates rose 2% m-o-m to average W179 points. This represented a 29% gain y-o-y. On the **Mediterranean-to-Northwest Europe (NWE)** route, rates fell a further 9% m-o-m to average WS157 points. Compared with the same month of 2022, rates were around 16% higher.

Graph 7 - 1: Crude oil spot tanker freight rates, monthly average



Sources: Argus and OPEC.

Graph 7 - 2: Products spot tanker freight rates, monthly average



Sources: Argus and OPEC.

Clean tanker freight rates

Clean spot freight rates experienced declines across all reported routes, primarily driven by weakness in the West of Suez market. On average, rates fell 29% m-o-m and were down 49% compared with May 2022 levels.

Table 7 - 6: Clean spot tanker freight rates, WS

East of Suez	Size *1,000 DWT*	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
Middle East/East	30-35	190	203	170	-33
Singapore/East	30-35	187	243	235	-8
West of Suez					
Northwest Europe/US East Coast	33-37	230	217	152	-65
Mediterranean/Mediterranean	30-35	326	264	144	-120
Mediterranean/Northwest Europe	30-35	336	274	154	-120

Sources: Argus and OPEC.

Rates on the **Middle East-to-East** route declined by 16% m-o-m in May to average WS170. Y-o-y, rates were up 43%. Clean spot freight rates on the **Singapore-to-East** route fell 3% m-o-m to average WS235 and declined 30% compared with the same month of 2022.

Spot freight rates on the **NWE-to-USEC** route declined by 30% m-o-m to average WS152 points in May, and were down 54% y-o-y. Rates for the **Cross-Med** route fell by 45% to average WS144 points, while rates on the **Med-to-NWE** route declined by 44% to average WS154 points. Compared with the same month of the previous year, rates delined 59% and 57%, respectively.

Crude and Refined Products Trade

Preliminary data shows US crude imports increased m-o-m in May to average 6.4 mb/d. US crude exports exhibited a still strong performance, averaging 4.3 mb/d, albeit lower than the record level of 4.8 mb/d achieved in March.

China's crude imports in April fell back from the high levels of the previous month, to average about 10.3 mb/d, although preliminary data for May shows a recovery to average 12.2 mb/d. China's product imports jumped 26% to reach a record high of 2.2 mb/d, pushed higher by inflows of LPG, naphtha and fuel oil.

India's crude imports slipped in April averaging 4.8 mb/d, down from the 10-month high achieved in February. India's product exports fell sharply from the previous month's high levels to average 1.1 mb/d.

Japan's crude imports recovered in April from seasonal lows to average 2.9 mb/d. Japan's product exports, including LPG, continued to decline, averaging 378 tb/d in April, the lowest since the same month last year.

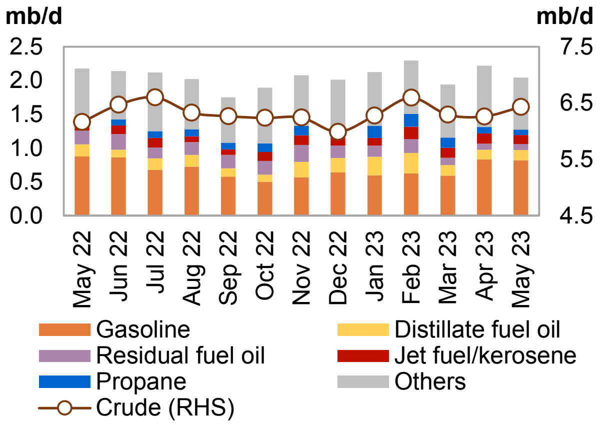
Preliminary estimates for May show OECD Europe crude imports declined seasonally. Tanker tracking data shows total product imports at around year-ago levels, with diesel flows up compared to the same month last year.

US

Preliminary data shows **US crude imports** increased in **May** by about 3% m-o-m to average 6.4 mb/d. Compared with the same month last year, crude imports were about 0.3 mb/d, or some 4%, higher.

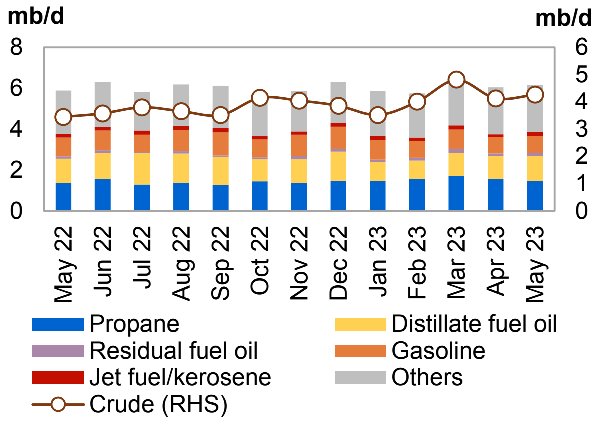
Canada remained the **top supplier of crude** in May, with a share of 55%, according to preliminary weekly data from the US Energy Information Administration (EIA). Mexico was second with 10% and Saudi Arabia was third with a 6% share.

Graph 8 - 1: US imports of crude and products



Sources: EIA and OPEC.

Graph 8 - 2: US exports of crude and products



Sources: EIA and OPEC.

US crude exports recovered slightly to average 4.3 mb/d in May, as flows to Europe picked up. Crude outflows rose 0.1 tb/d, or close to 3% m-o-m. Compared to the same month last year, outflows were 0.8 mb/d, or 24%, higher.

In terms of **destination**, the latest EIA monthly data shows Europe receiving a 45% share of US crude exports in **March**. This compares with 41% in the same month of 2022. China took 19% and South Korea took 7%.

Based on preliminary weekly data, **US net crude imports** averaged 2.2 mb/d in May**.** This compares with 2.1 mb/d the month before and 2.7 mb/d in the same month last year.

On the **products** side, **imports** fell back m-o-m in **May** to average just under 2.1 mb/d, driven by lower jet fuel and gasoline inflows. Compared with the same month last year, product inflows fell 0.1 mb/d, or around 6%.

Product exports strengthened m-o-m to average near 6.2 mb/d amid higher flows to Europe. Compared with the previous month, product exports were up 0.1 mb/d, or about 2%. Y-o-y, product outflows were around 0.3 mb/d, or almost 5%, higher.

As a result, preliminary data showed **US net product exports** averaging 4.1 mb/d in May, compared to about 3.8 mb/d in April and 3.7 mb/d in the same month last year.

Preliminary data indicates that US **net crude and product exports** averaged 1.9 mb/d in May. This compares with 1.7 mb/d the month before and about 1.0 mb/d in the same month last year.

Table 8 - 1: US crude and product net imports, mb/d

US	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
Crude oil	1.49	2.14	2.17	0.03
Total products	-4.52	-3.82	-4.11	-0.29
Total crude and products	**-3.04**	**-1.68**	**-1.94**	**-0.26**

Note: Totals may not add up due to independent rounding.
Sources: EIA and OPEC.

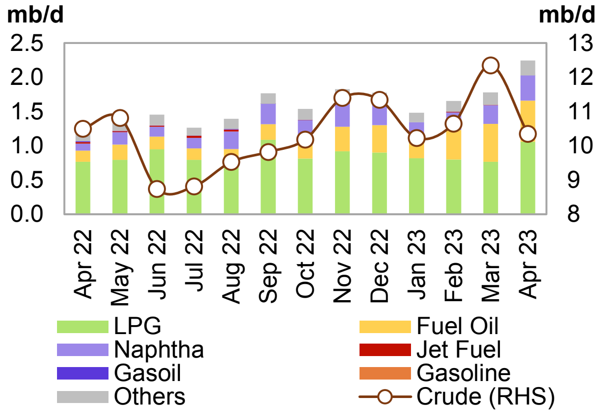
Looking ahead, US crude imports are likely to remain supported by the higher demand summer driving season. US crude and product exports are seen picking up due to trade dislocations, although the latter has seen some competition from lower priced Russian barrels in Brazil.

China

China's crude imports fell sharply in **April** from the previous month's high levels to average 10.3 mb/d. Compared with the previous month, crude inflows dropped 2.0 mb/d, or over 16%. Y-o-y, China's crude imports were marginally lower, down 0.2 mb/d, or slightly more than 1%.

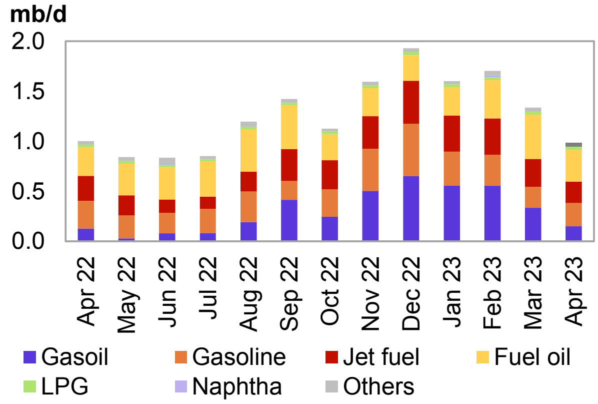
Preliminary customs data for **May** show crude imports averaging 12.2 mb/d. This would be the third-highest on record following 12.4 mb/d in March 2023 and just under 13 m/d at the height of the pandemic in June 2020. The high level was driven by new capacity coming on-stream and a return of refineries from maintenance.

Graph 8 - 3: China's import of crude and total products



Sources: China OGP and OPEC.

Graph 8 - 4: China's export of total products



Sources: China OGP and OPEC.

In terms of **crude imports by source**, Russia remained at the top spot in **April** with over 18%. Saudi Arabia was second with a share of 17% and Iraq was third with almost 12%.

Product imports increased for the third-consecutive month, up 26% to reach a record high of 2.2 mb/d in **April**. Gains were driven by LPG, naphtha and fuel oil inflows. Compared to the same period last year, imports were a considerable 1.0 mb/d, or around 83%, higher. Preliminary customs data for **May** shows product imports continuing to move higher, up 4% m-o-m, despite more strict inspections of refinery feedstocks weighing on inflows.

Product exports declined a further 26% in **April**, falling below 1.0 mb/d for the first time since July 2022. Declines were led by diesel and fuel oil. Compared to the same period last year, product exports were about 2% lower. Preliminary customs data shows product outflows sharply higher in **May**, up around 30% m-o-m, supported by new quota allocations and weaker than expected domestic demand.

As a result, China was a **net product importer** in **April** for the second month in a row at 1.3 mb/d. This compares to net imports of 0.4 mb/d the month before and 0.2 mb/d in the same month of 2022.

Table 8 - 2: China's crude and product net imports, mb/d

China	Feb 23	Mar 23	Apr 23	*Change* Apr 23/Mar 23
Crude oil	10.63	12.29	10.35	-1.94
Total products	-0.05	0.44	1.26	0.82
Total crude and products	**10.58**	**12.73**	**11.61**	**-1.12**

Note: Totals may not add up due to independent rounding.

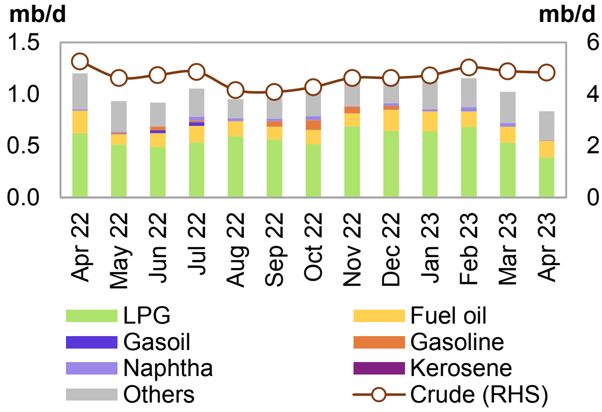
Sources: China OGP and OPEC.

India

India's crude imports slipped from high levels to average 4.8 mb/d in **April**. This represents a m-o-m decline of only 55 tb/d, or about 1%. Y-o-y, crude inflows fell by 0.4 mb/d, or around 8%.

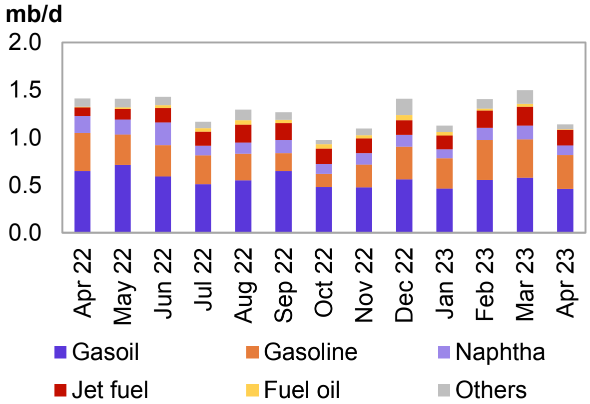
In terms of **crude imports by source**, Kpler data shows Russia was the top supplier of crude to India in April with a share of 43%. Iraq was second with 18%, followed by Saudi Arabia with 15%.

Graph 8 - 5: India's imports of crude and products



Sources: PPAC and OPEC.

Graph 8 - 6: India's exports of products



Sources: PPAC and OPEC.

In terms of **products**, **imports** declined 18% m-o-m to average 0.8 mb/d. Declines were led by LPG and naphtha. Compared with the same month last year, inflows were sharply lower, down 30%, or 0.4 mb/d.

Product exports fell sharply from high levels, averaging 1.1 mb/d, down by 0.4 mb/d, or 24%. Losses were seen across all major products, with the exception being kerosene. Y-o-y, product exports fell by 0.3 mb/d, or about 19%.

As a result, India remained a **net product exporter** in April at 301 tb/d, which compares to 476 tb/d the month before. In April 2022, India's net exports averaged 208 tb/d.

Table 8 - 3: India's crude and product net imports, mb/d

India	Feb 23	Mar 23	Apr 23	*Change* Apr 23/Mar 23
Crude oil	5.04	4.89	4.84	-0.05
Total products	-0.25	-0.48	-0.30	0.18
Total crude and products	**4.79**	**4.42**	**4.54**	**0.12**

Note: Totals may not add up due to independent rounding.

India data table does not include information for crude import and product export by Reliance Industries.

Sources: PPAC and OPEC.

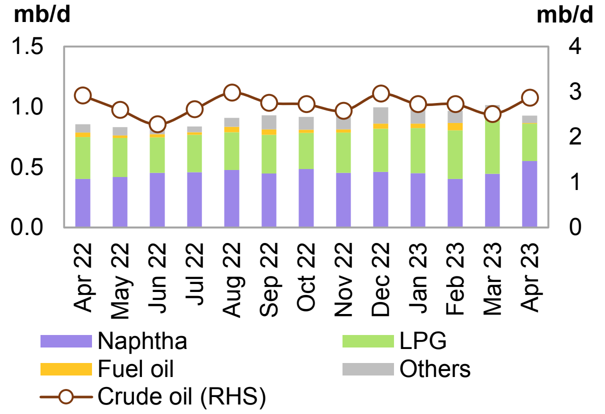
Looking ahead, crude imports could decline further from elevated levels, but are likely to remain supported by international demand for refined products. Product exports are expected to pick up supported by summer demand in the Northern Hemisphere.

Japan

Japan's crude imports recovered in **April** from seasonal lows to average 2.9 mb/d. This was up by 0.4 mb/d, or almost 15%. Compared with the same month of 2022, imports were slightly higher, up by 44 tb/d, or less than 2%.

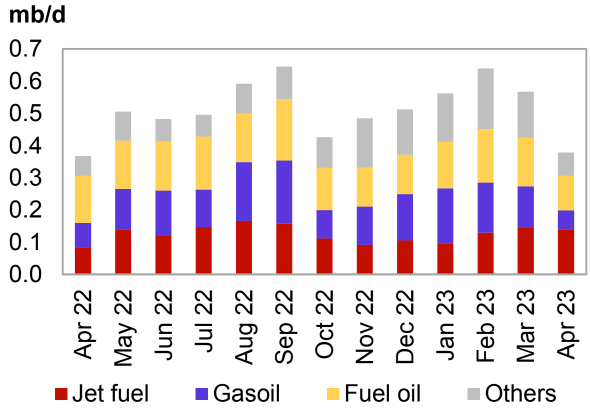
In terms of **crude imports by source**, the United Arab Emirates (UAE) rose to the top spot in April with a share of 42%. Saudi Arabia was second with 35%, followed by Kuwait with almost 9%.

Graph 8 - 7: Japan's imports of crude and products



Sources: METI and OPEC.

Graph 8 - 8: Japan's exports of products



Sources: METI and OPEC.

Product imports, including LPG, were slightly lower, averaging 0.9 mb/d. This was down by about 90 tb/d, or around 9%, m-o-m. Declines were driven by LPG and fuel oil, partially offset by gains in naphtha. Compared to the same month of the previous year, imports were up by 69 tb/d, or about 8%.

Product exports continued to decline, averaging 378 tb/d in April. This represents a drop of about 190 tb/d, or 33%, compared to the previous month, with declines seen across all major products. Compared with the same month last year, outflows edged up 11 tb/d, or about 3%.

Consequently, Japan's **net product imports**, including LPG, averaged 548 tb/d in April. This compares with 448 tb/d the month before and 489 tb/d in April 2022.

Table 8 - 4: Japan's crude and product net imports, mb/d

Japan	Feb 23	Mar 23	Apr 23	*Change* Apr 23/Mar 23
Crude oil	2.73	2.51	2.87	0.36
Total products	0.33	0.45	0.55	0.10
Total crude and products	**3.06**	**2.95**	**3.42**	**0.46**

Note: Totals may not add up due to independent rounding.
Sources: METI and OPEC.

Looking ahead, tanker tracking data shows Japan's crude imports in May edging down amid lower volumes from the UAE, which fell back from strong levels seen in April. Product inflows are seen lower amid decreased imports of naphtha and LPG. Japan's product exports are seen declining amid continued low outflows of diesel and muted Chinese demand.

OECD Europe

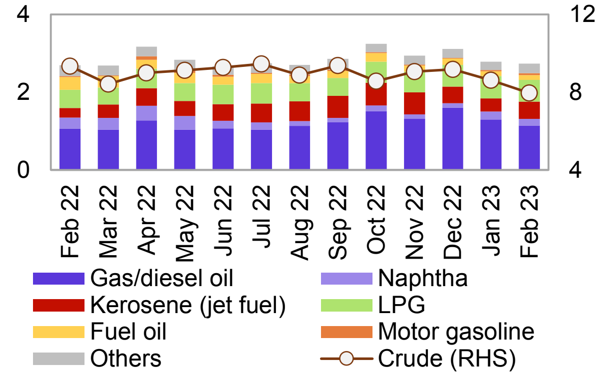
The latest regional data shows **OECD Europe imports** declined in **February**, averaging just under 8.0 mb/d. Crude flows into the region were down 0.6 mb/d, or about 8% m-o-m. Y-o-y, crude imports declined 1.4 mb/d, or almost 15%.

In terms of **import sources** from outside the region, the US was the top supplier in February with close to 1.6 mb/d. Kazakhstan and Saudi Arabia came in second and third, respectively, with 0.9 mb/d and 0.8 mb/d.

Crude exports averaged just 20 tb/d, as more North Sea crude remained in the region. This represented a m-o-m decline of 82 tb/d. Y-o-y, crude exports out of the region were 0.5 mb/d, or almost 96%, lower.

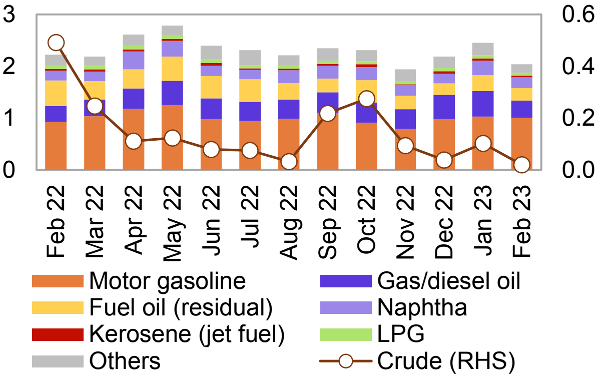
Net crude imports averaged 7.9 mb/d in February, compared with 8.5 mb/d the month before and almost 8.9 mb/d in February 2022.

Graph 8 - 9: OECD Europe imports of crude and products



Sources: IEA and OPEC.

Graph 8 - 10: OECD Europe exports of crude and products



Sources: IEA and OPEC.

In terms of **products**, **imports** decreased by 48 tb/d or about 2% m-o-m to average 2.7 mb/d in February, with declines driven by diesel. Compared with February 2022, product inflows were up by 47 tb/d or about 2%.

Product exports fell m-o-m by 17%, or 0.4 mb/d, to average 2.0 mb/d, amid lower flows across most major products. Y-o-y, exports were down by 0.2 mb/d or about 8%.

Net product imports averaged 696 tb/d in February, compared with net imports of 332 tb/d the month before and 469 tb/d in February 2022.

Combined, **net crude and product imports** averaged 8.6 mb/d in February. This compares with 8.8 mb/d the month before and 9.3 mb/d in February 2022.

Table 8 - 5: OECD Europe's crude and product net imports, mb/d

OECD Europe	Dec 22	Jan 23	Feb 23	*Change* Feb 23/Jan 23
Crude oil	9.13	8.51	7.94	-0.56
Total products	0.92	0.33	0.70	0.36
Total crude and products	**10.05**	**8.84**	**8.64**	**-0.20**

Note: Totals may not add up due to independent rounding.

Sources: IEA and OPEC.

Preliminary estimates for **May** show OECD Europe crude imports declined seasonally. Tanker tracking data shows total product imports at around year-ago levels, with diesel flows up compared to the same month last year.

Eurasia

Total crude oil exports from Russia and Central Asia averaged 6.8 mb/d in April. This represents an increase of 240 tb/d, or 4%, compared to the previous month. Flows were down 356 tb/d, or 5%, compared with the same month last year.

Crude exports through the **Transneft system** increased in April, with gains on most outlets. Outflows averaged almost 4.1 mb/d, representing a m-o-m increase of 370 tb/d, or almost 10%. Compared with the same month last year, exports were 484 tb/d, or 10%, lower. Exports from the **Baltic Sea** jumped 14% to average 1.7 mb/d. Flows from Primorsk increased 200 tb/d, or almost 24%, to average 1.0 mb/d. Exports from Ust-Luga edged up 17 tb/d, or about 2%, to average 702 tb/d. Shipments from the **Black Sea** port of Novorossiysk were broadly unchanged at an average of 657 tb/d.

Shipments via the **Druzhba** pipeline picked up m-o-m, gaining 51 tb/d, or almost 23%, to average 271 tb/d in April. Compared to the same month last year, exports on the pipeline were 0.6 mb/d, or 68%, lower. Exports to China via the **ESPO pipeline** rose 28 tb/d, or about 5%, to average 587 tb/d in April. Flows to the Pacific port of **Kozmino** increased 75 tb/d, or about 9% m-o-m, to average 870 tb/d.

In the **Lukoil system**, exports via the Varandey offshore platform in the Barents Sea declined m-o-m by about 11% to average 100 tb/d in April. There were no exports from the Kaliningrad terminal for the sixth month in a row.

On other routes, **Russia's Far East** exports increased 11% to average 323 tb/d in April. This was a 59 tb/d, or 22%, gain compared to the volumes shipped in the same month last year.

Central Asian exports averaged 216 tb/d in April, down 15 tb/d, or 7%, from the month before, and a decline of 5% y-o-y.

Black Sea total exports from the **CPC terminal** dropped by over 10%, or 162 tb/d, to average 1.4 mb/d in April. This was a gain of 12% compared with the same month last year. Flows on the Supsa pipeline remained at zero in April. Exports via the **Baku-Tbilisi-Ceyhan (BTC) pipeline** increased in April, up by about 5%, or 29 tb/d, to average 658 tb/d.

Total product exports from Russia and Central Asia fell by 9%, or 253 tb/d m-o-m, to average 2.7 mb/d in April. M-o-m losses were led by gasoil, down 15%, along with VGO and gasoline, offset by a 81 tb/d increase in fuel oil. Y-o-y, total product exports increased 10%, or 242 tb/d, in April, led by increases in gasoil and naphtha.

Commercial Stock Movements

Preliminary April 2023 data sees total OECD commercial oil stocks up m-o-m by 30.2 mb. At 2,808 mb, they were 144 mb higher than the same time one year ago, but 74 mb lower than the latest five-year average and 119 mb below the 2015–2019 average. Within the components, crude stocks fell by 0.5 mb, while product stocks rose m-o-m by 30.6 mb.

OECD commercial crude stocks stood at 1,384 mb in April. This was 77 mb higher than the same time a year ago, but 42 mb below the latest five-year average and 88 mb lower than the 2015–2019 average. Total product inventories stood at 1,424 mb, representing a surplus of 66 mb above the same time a year ago, but 32 mb lower than the latest five-year average and 30 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.1 days in April to stand at 60.9 days. This is 2.9 days above the April 2022 level, but 3.3 days lower than the latest five-year average and 1.3 days less than the 2015–2019 average.

Preliminary data for May 2023 showed that total US commercial oil stocks rose m-o-m by 21.5 mb to stand at 1,256 mb. This is 83.3 mb, or 7.1%, higher than the same month in 2022, but 29.4 mb, or 2.3%, below the latest five-year average. Crude stocks fell by 0.4 mb, while product stocks rose by 21.9 mb.

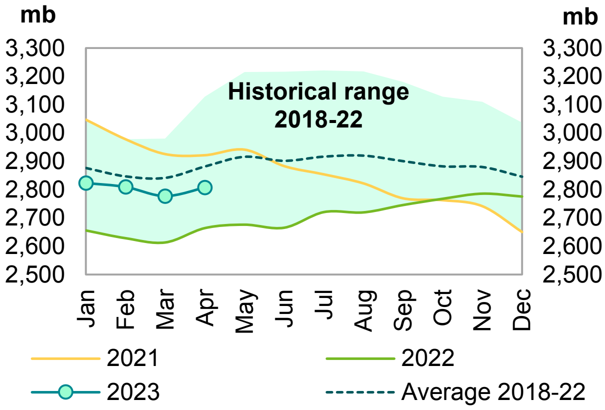
OECD

Preliminary **April 2023** data sees **total OECD commercial oil stocks** up m-o-m by 30.2 mb. At 2,808 mb, they were 144 mb higher than the same time one year ago, but 74 mb lower than the latest five-year average and 119 mb below the 2015–2019 average.

Within the components, crude stocks fell by 0.5 mb, while product stocks rose m-o-m by 30.6 mb. Within OECD regions, total commercial oil stocks in April increased in all regions.

OECD commercial **crude stocks** stood at 1,384 mb in April. This was 77 mb higher than the same time a year ago, but 42 mb below the latest five-year average and 88 mb lower than the 2015–2019 average.

Graph 9 - 1: OECD commercial oil stocks



Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

M-o-m, OECD Americas and OECD Europe saw crude stock draws of 5.8 mb and 2.6 mb, respectively, while stocks in OECD Asia-Pacific rose by 7.9 mb.

Total product inventories rose by 30.6 mb in April to stand at 1,424 mb. This is 66 mb above the same time a year ago, but 32 mb lower than the latest five-year average and 30 mb below the 2015–2019 average. M-o-m, product stocks in OECD Americas, OECD Asia Pacific and OECD Europe witnessed a product stock build of 21.5 mb, 5.1 mb and 4.0 mb, respectively.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	Apr 22	Feb 23	Mar 23	Apr 23	*Change* Apr 23/Mar 23
Crude oil	1,306	1,377	1,384	1,384	*-0.5*
Products	1,358	1,433	1,393	1,424	*30.6*
Total	**2,664**	**2,809**	**2,778**	**2,808**	***30.2***
Days of forward cover	**58.0**	**61.7**	**61.0**	**60.9**	***-0.1***

Note: Totals may not add up due to independent rounding.

Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

In terms of **days of forward cover**, OECD commercial stocks fell m-o-m by 0.1 days in April to stand at 60.9 days. This is 2.9 days above the April 2022 level, but 3.3 days lower than the latest five-year average and 1.3 days less than the 2015–2019 average.

Within OECD regions, OECD Americas and OECD Europe were 3.8 days and 4.6 days below the latest five-year average to stand at 59.0 days and 69.0 days respectively, while they were at 52.1 days in OECD Asia-Pacific, 0.6 days above the latest five-year average.

OECD Americas

OECD Americas' total commercial stocks rose by 15.7 mb m-o-m in April to settle at 1,500 mb. This is 89 mb higher than the same month in 2022, but 26 mb bellow the latest five-year average.

Commercial **crude oil stocks** in OECD Americas dropped m-o-m by 5.8 mb in April to stand at 764 mb, which is 34 mb higher than in April 2022, but 23 mb bellow the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher US crude runs, which increased by around 300 tb/d to 16.37 mb/d.

By contrast, **total product stocks** in OECD Americas rose m-o-m, increasing by 21.5 mb in April to stand at 737 mb. This is 56 mb higher than the same month in 2022, but 2.8 mb below the latest five-year average. Lower consumption in the region was behind the product stock build.

OECD Europe

OECD Europe's total commercial stocks rose m-o-m by 1.5 mb in April to settle at 939 mb. This is 20 mb higher than the same month in 2022, but 47 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** fell m-o-m by 2.6 mb to end April at 418 mb. This is 14 mb higher than one year ago, but 18 mb below the latest five-year average. The fall in crude oil inventories came on the back of higher refinery throughput in the EU-14, plus the UK and Norway increasing m-o-m by around 540 tb/d to stand at 9.64 mb/d.

By contrast, Europe's **product stocks** rose m-o-m by 4.0 mb to end April at 522 mb. This is 6.2 mb higher than a year ago at the same time, but 29 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks rose m-o-m by 13.0 mb in April to stand at 368 mb. This is 34 mb higher than the same time a year ago, but 0.7 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** rose m-o-m by 7.9 mb to end April at 203 mb. This is 30 mb higher than one year ago, but 0.6 mb below the latest five-year average.

OECD Asia Pacific's **product inventories** also rose by 5.1 mb m-o-m to end April at 166 mb. This is 4.4 mb higher than one year ago, but 0.2 mb below the latest five-year average.

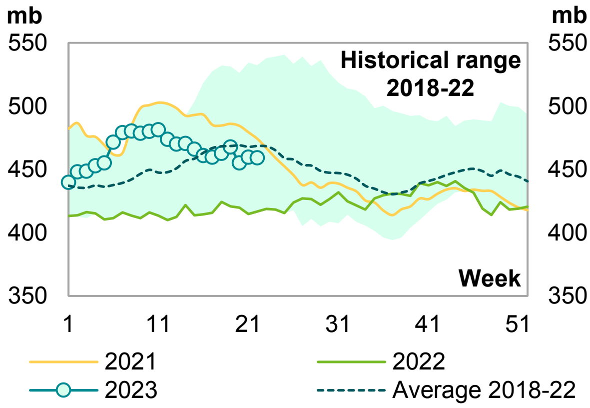
US

Preliminary data for **May 2023** showed that **total US commercial oil stocks** rose m-o-m by 21.5 mb to stand at 1,256 mb. This is 83.3 mb, or 7.1%, higher than the same month in 2022, but 29.4 mb, or 2.3%, below the latest five-year average. Crude stocks fell by 0.4 mb, while product stocks rose by 21.9 mb.

US commercial **crude stocks** in May stood at 459.2 mb. This is 44.9 mb, or 10.8%, higher than the same month of 2022, but 6.4 mb, or 1.4%, less than the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher crude runs, which increased by around 240 tb/d to 16.61 mb/d.

By contrast, **total product stocks** rose in May to stand at 796.5 mb. This is 38.3 mb, or 5.1%, higher than May 2022 levels, but 23.0 mb, or 2.8%, lower than the latest five-year average. The product stock build could be attributed to lower product consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

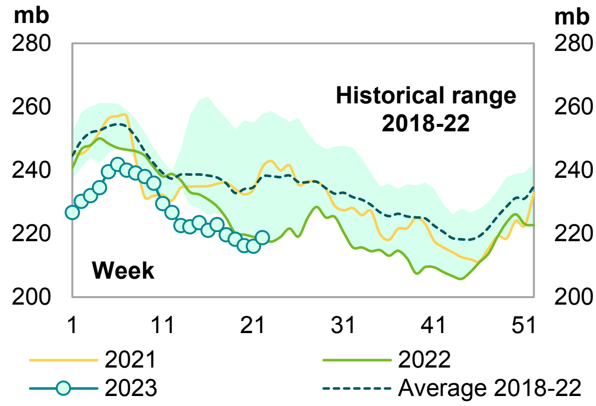
Gasoline stocks fell m-o-m by 4.1 mb in May to settle at 218.8 mb. This is 1.9 mb, or 0.9%, higher than the same month of 2022; but 20.9 mb, or 8.7%, below the latest five-year average.

By contrast, **distillate stocks** rose m-o-m, increasing by 1.4 mb in May to stand at 218.8 mb. This is 2.2 mb, or 2.0%, higher than the same month of 2022, but 22.5 mb, or 16.8%, below the latest five-year average.

Residual fuel oil stocks also rose m-o-m by 0.4 mb in May. At 32.7 mb, this was 3.5 mb, or 12.1%, higher than a year earlier, and 0.4 mb, or 1.2%, above the latest five-year average

Jet fuel stocks rose m-o-m by 0.7 mb, ending May at 42.3 mb. This is 0.9 mb, or 2.2%, higher than the same month in 2022 and 1.1 mb, or 2.7%, above the latest five-year average.

Graph 9 - 3: US weekly gasoline inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	May 22	Mar 23	Apr 23	May 23	*Change* May 23/Apr 23
Crude oil	**414.3**	**465.4**	**459.6**	**459.2**	***-0.4***
Gasoline	220.7	225.3	222.9	218.8	*-4.1*
Distillate fuel	109.5	112.3	110.3	111.7	*1.4*
Residual fuel oil	29.2	29.6	32.3	32.7	*0.4*
Jet fuel	41.4	37.7	41.6	42.3	*0.7*
Total products	**758.2**	**765.4**	**774.6**	**796.5**	***21.9***
Total	**1,172.5**	**1,230.8**	**1,234.3**	**1,255.7**	***21.5***
SPR	**523.1**	**371.2**	**364.9**	**353.6**	***-11.4***

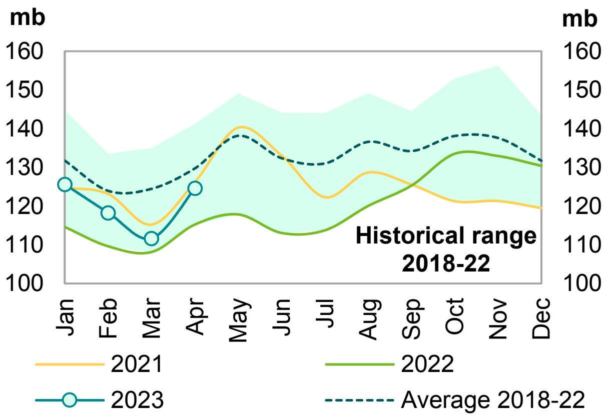
Sources: EIA and OPEC.

Japan

In **Japan**, **total commercial oil stocks** in **April** rose m-o-m by 13.0 mb to settle at 124.7 mb. This is 9.4 mb, or 8.2%, higher than the same month in 2022, but 5.1 mb, or 3.9%, below the latest five-year average. Crude and product stocks rose m-o-m by 7.9 mb and 5.1 mb, respectively.

Japanese **commercial crude oil stocks** rose m-o-m by 7.9 mb in April to stand at 70.0 mb. This is 5.2 mb, or 8.0%, higher than the same month of 2022, but 3.7 mb, or 5.1%, lower than the latest five-year average. This crude stock build came on the back of higher crude imports, which increased m-o-m by 364 tb/d, or 14.5%, to stand at 2.87 mb/d.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Gasoline stocks rose m-o-m by 0.4 mb to stand at 10.5 mb in April. This was 0.1 mb, or 0.9%, above a year earlier, but 1.0 mb, or 8.6%, lower than the latest five-year average. The build came on the back of lower domestic sales, which decreased by 1.9% m-o-m.

Distillate stocks also rose m-o-m by 2.8 mb to end April at 22.1 mb. This is 1.8 mb, or 8.8%, above the same month of 2022, but 1.1 mb, or 4.5%, below the latest five-year average. Within distillate components, jet fuel, kerosene and gasoil stocks increased by 19.3%, 4.0% and 23.1%, respectively.

Total residual fuel oil stocks rose m-o-m by 0.1 mb to end April at 11.5 mb. This is 0.5 mb, or 4.9%, higher than in the same month of 2022, but 0.8 mb, or 6.4%, below the latest five-year average. Within the components, fuel oil A stocks dropped m-o-m by 2.6% while fuel oil B.C stocks rose by 2.6%.

Table 9 - 3: Japan's commercial oil stocks*, mb

Japan's stocks	Apr 22	Feb 23	Mar 23	Apr 23	*Change Apr 23/Mar 23*
Crude oil	**64.8**	**65.7**	**62.0**	**70.0**	***7.9***
Gasoline	10.4	10.5	10.0	10.5	*0.4*
Naphtha	8.8	9.2	8.9	10.7	*1.8*
Middle distillates	20.3	21.3	19.3	22.1	*2.8*
Residual fuel oil	11.0	11.5	11.4	11.5	*0.1*
Total products	**50.4**	**52.6**	**49.6**	**54.7**	***5.1***
Total**	**115.2**	**118.3**	**111.7**	**124.7**	***13.0***

*Note: * At the end of the month. ** Includes crude oil and main products only.*

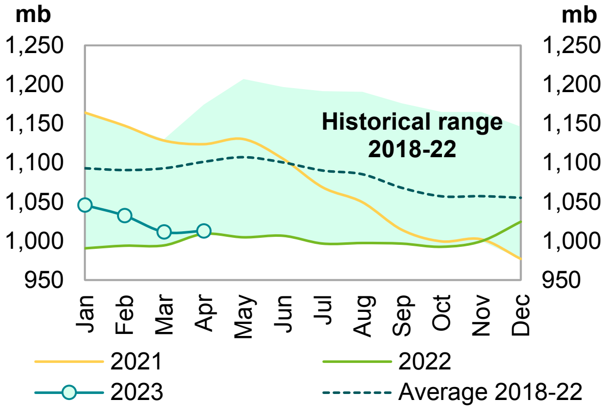
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for **April** showed that **total European commercial oil stocks** rose m-o-m by 1.5 mb to stand at 1,012.8 mb. At this level, they were 3.7 mb, or 0.4%, above the same month of 2022, but 88.2 mb, or 8.0%, lower than the latest five-year average. Crude stocks fell m-o-m by 2.6 mb, while product stocks rose by 4.0 mb.

European **crude inventories** fell in April to stand at 431.3 mb. This is 3.8 mb, or 0.9%, higher than the same month in 2022, but 43.0 mb, or 9.1%, below the latest five-year average. The fall in crude oil inventories came on the back of higher refinery throughput in the EU-14, plus the UK and Norway increasing m-o-m by around 540 tb/d to stand at 9.64 mb/d.

Graph 9 - 5: EU-14 plus UK and Norway total oil stocks



Sources: Argus, Euroilstock and OPEC.

By contrast, **total European product stocks** rose by 4.0 mb m-o-m to end April at 581.4 mb. This is 0.1 mb lower than the same month of 2022, and 45.2 mb, or 7.2%, below the latest five-year average.

Gasoline stocks rose m-o-m by 1.5 mb in April to stand at 110.8 mb. At this level, they were 3.7 mb, or 3.2%, lower than the same time in 2022 and 6.4 mb, or 5.5%, below the latest five-year average.

Middle distillate stocks also rose m-o-m by 2.2 mb in April to stand at 378.9 mb. This is 7.0 mb, or 1.9%, higher the same month in 2022, but 34.5 mb, or 8.4%, lower than the latest five-year average.

Residual fuel stocks increased m-o-m by 0.3 mb in April to stand at 61.2 mb. This is 1.3 mb, or 2.1%, lower than the same month in 2022, and 3.9 mb, or 6.0%, below the latest five-year average.

Naphtha stocks rose m-o-m by 0.1 mb in April, ending the month at 30.5 mb. This is 2.1 mb, or 6.5%, lower than the April 2022 level, and 0.4 mb, or 1.2%, below the latest five-year average.

Table 9 - 4: EU-14 plus UK and Norway's total oil stocks, mb

EU stocks	Apr 22	Feb 23	Mar 23	Apr 23	*Change Apr 23/Mar 23*
Crude oil	**427.6**	**425.8**	**433.9**	**431.3**	***-2.6***
Gasoline	114.4	112.6	109.3	110.8	*1.5*
Naphtha	32.7	28.9	30.5	30.5	*0.1*
Middle distillates	371.9	403.9	376.7	378.9	*2.2*
Fuel oils	62.6	61.1	60.9	61.2	*0.3*
Total products	**581.5**	**606.5**	**577.4**	**581.4**	***4.0***
Total	**1,009.1**	**1,032.3**	**1,011.3**	**1,012.8**	***1.5***

Sources: Argus, Euroilstock and OPEC.

Singapore, Amsterdam-Rotterdam-Antwerp (ARA) and Fujairah

Singapore

In **April**, **total product stocks in Singapore** fell m-o-m by 2.1 mb to reach 45.9 mb. This is 5.6 mb, or 13.9%, higher than the same month in 2022, but 0.1 mb, or 0.3%, below the latest five-year average.

Light distillate stocks fell m-o-m by 0.3 mb in April to stand at 15.2 mb. This is 1.3 mb, or 9.1%, higher than the same month of 2022 and 1.6 mb, or 11.4 %, above the latest five-year average.

Middle distillate stocks also dropped m-o-m by 1.6 mb in April to stand at 8.0 mb. This is 1.4 mb, or 20.9%, higher than a year earlier, but 2.6 mb, or 24.7%, lower than the latest five-year average.

Residual fuel oil stocks fell m-o-m by 0.2 mb, ending April at 22.7 mb. This is 3.0 mb, or 15.0%, higher than April 2022, but 0.1 mb, or 0.3%, less than the latest five-year average.

ARA

Total product stocks in ARA fell m-o-m by 1.2 mb in **April**. At 45.3 mb, they were 6.6 mb, or 17.0%, higher than the same month in 2022 and 2.2 mb, or 5.1%, higher than the latest five-year average.

Gasoline stocks in April fell by 1.4 mb m-o-m to stand at 11.0 mb. This is 0.6 mb, or 4.9%, lower than the same month of 2022 and 0.6 mb, or 4.9%, less than the latest five-year average.

Gasoil stocks also fell by 0.9 mb m-o-m, ending April at 16.7 mb. This is 5.4 mb, or 48.4%, higher than April 2022 and 0.4 mb, or 2.7%, above the latest five-year average.

By contrast, jet oil stocks rose by 0.7 mb m-o-m to stand at 7.2 mb. This is 0.5 mb, or 8.0%, higher than levels of April 2022 and higher by 6.1 mb, or 1.1 %, when compared with the latest five-year average.

Meantime**, fuel oil stocks** also remained unchanged m-o-m in April to stand at 8.0 mb, which is 1.5 mb, or 24.0%, higher than in April 2022 and 0.1 mb, or 1.4%, higher than the latest five-year average.

Fujairah

During the week ending 5 June 2023, **total oil product stocks in Fujairah** rose w-o-w by 1.11 mb to stand at 24.32 mb, according to data from Fed Com and S&P Global Commodity Insights. At this level, total oil stocks were 4.13 mb higher than at the same time a year ago.

Light distillate stocks rose w-o-w by 0.59 mb to stand at 7.88 mb, which is 0.46 mb higher than a year ago.

Middle distillate stocks also rose w-o-w by 0.43 mb to stand at 4.36 mb, which is 1.94 mb higher than the same time last year.

Heavy distillate stocks rose by 0.09 mb w-o-w to stand at 12.09 mb, which is 1.72 mb lower than the same period a year ago at the same time.

Balance of Supply and Demand

Demand for OPEC crude in 2022 remained unchanged from the previous MOMR at 28.4 mb/d. This is around 0.5 mb/d higher than in 2021.

According to secondary sources, OPEC crude production averaged 28.3 mb/d in 1Q22, which is 0.3 mb/d lower than the demand for OPEC crude. In 2Q22, OPEC crude production averaged 28.6 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude. In 3Q22, OPEC crude production averaged 29.4 mb/d, which is 1.1 mb/d higher than the demand for OPEC crude. In 4Q22, OPEC crude production averaged 29.1 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude. For the whole year 2022, OPEC crude oil production averaged 28.9 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude.

Demand for OPEC crude in 2023 remained unchanged from the previous assessment to stand at 29.3 mb/d. This is around 0.9 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.5 mb/d higher than the demand for OPEC crude.

Balance of supply and demand in 2022

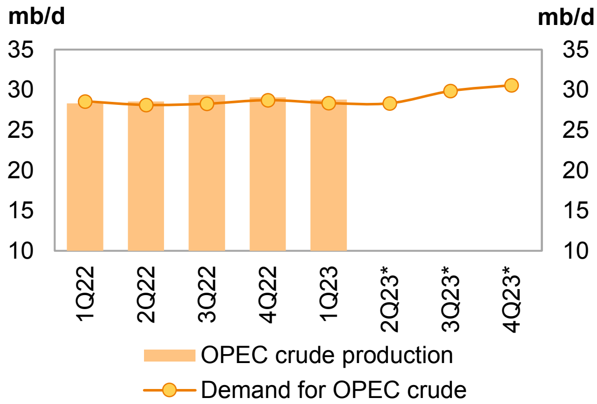
Demand for OPEC crude in 2022 remained unchanged from the previous MOMR at 28.4 mb/d. This is around 0.5 mb/d higher than in 2021.

Compared with the previous assessment, all the quarters remained unchanged.

Compared with the same quarters in 2021, demand for OPEC crude in 1Q22 and 2Q22 was estimated to be higher by 2.4 mb/d and 1.3 mb/d, respectively, while 3Q22 and 4Q22 are estimated to be lower by 0.3 mb/d and 1.3 mb/d, respectively.

According to secondary sources, OPEC crude production averaged 28.3 mb/d in 1Q22, which is 0.3 mb/d lower than the demand for OPEC crude.

Graph 10 - 1: Balance of supply and demand, 2022–2023*



*Note: * 2Q23-4Q23 = Forecast. Source: OPEC.*

In 2Q22, OPEC crude production averaged 28.6 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude. In 3Q22, OPEC crude production averaged 29.4 mb/d, which is 1.1 mb/d higher than the demand for OPEC crude. In 4Q22, OPEC crude oil production averaged 29.1 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude.

For the whole year 2022, OPEC crude oil production averaged 28.9 mb/d, which is 0.4 mb/d higher than the demand for OPEC crude.

Table 10 - 1: Supply/demand balance for 2022, mb/d

	2021	1Q22	2Q22	3Q22	4Q22	2022	*Change* 2022/21
(a) World oil demand	**97.08**	**99.45**	**98.29**	**99.51**	**101.00**	**99.57**	***2.49***
Non-OPEC liquids production	63.88	65.52	64.78	65.82	66.84	65.74	*1.86*
OPEC NGL and non-conventionals	5.28	5.35	5.38	5.41	5.43	5.39	*0.11*
(b) Total non-OPEC liquids production and OPEC NGLs	**69.17**	**70.87**	**70.16**	**71.23**	**72.27**	**71.14**	***1.97***
Difference (a-b)	**27.91**	**28.58**	**28.13**	**28.28**	**28.73**	**28.43**	***0.53***
OPEC crude oil production	**26.34**	**28.33**	**28.57**	**29.40**	**29.10**	**28.85**	***2.51***
Balance	**-1.56**	**-0.26**	**0.44**	**1.11**	**0.37**	**0.42**	***1.98***

Note: Totals may not add up due to independent rounding. Source: OPEC.

Balance of supply and demand in 2023

Demand for OPEC crude in 2023 remained unchanged from the previous assessment to stand at 29.3 mb/d. This is around 0.9 mb/d higher than in 2022.

Compared with the previous assessment, 1Q23 was revised down by 0.2 mb/d, while 3Q23 and 4Q23 were revised up by 0.1 mb/d and 0.2 mb/d, respectively. Meanwhile, demand for OPEC crude in 2Q23 remained unchanged.

Compared with the same quarters in 2022, demand for OPEC crude in 1Q23 is estimated to be 0.2 mb/d lower, while 2Q23, 3Q23 and 4Q23 are expected to be higher by 0.2 mb/d, 1.6 mb/d and 1.9 mb/d, respectively.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.5 mb/d higher than the demand for OPEC crude.

Table 10 - 2: Supply/demand balance for 2023*, mb/d

	2022	1Q23	2Q23	3Q23	4Q23	2023	*Change 2023/22*
(a) World oil demand	**99.57**	**101.55**	**100.80**	**102.03**	**103.25**	**101.91**	***2.35***
Non-OPEC liquids production	65.74	67.75	66.99	66.73	67.24	67.17	*1.43*
OPEC NGL and non-conventionals	5.39	5.44	5.47	5.43	5.43	5.44	*0.05*
(b) Total non-OPEC liquids production and OPEC NGLs	**71.14**	**73.19**	**72.47**	**72.15**	**72.66**	**72.61**	***1.48***
Difference (a-b)	**28.43**	**28.37**	**28.34**	**29.87**	**30.59**	**29.30**	***0.87***
OPEC crude oil production	**28.85**	**28.82**					
Balance	**0.42**	**0.45**					

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

Appendix

Table 11 - 1: World oil demand and supply balance, mb/d

World oil demand and supply balance	2019	2020	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
World demand													
Americas	25.40	22.45	24.32	24.77	24.98	25.33	24.95	25.01	24.61	25.14	25.51	25.09	25.09
of which US	*20.58*	*18.35*	*20.03*	*20.38*	*20.41*	*20.62*	*20.32*	*20.43*	*20.16*	*20.43*	*20.75*	*20.37*	*20.43*
Europe	14.31	12.41	13.13	13.19	13.43	14.07	13.34	13.51	12.93	13.33	14.10	13.37	13.43
Asia Pacific	7.95	7.17	7.38	7.85	6.99	7.22	7.68	7.43	7.89	7.05	7.27	7.70	7.47
Total OECD	**47.66**	**42.03**	**44.82**	**45.81**	**45.39**	**46.62**	**45.97**	**45.95**	**45.44**	**45.52**	**46.87**	**46.15**	**46.00**
China	13.81	13.94	15.00	14.77	14.45	14.67	15.51	14.85	15.63	15.56	15.43	16.16	15.70
India	4.99	4.51	4.77	5.18	5.16	4.95	5.26	5.14	5.40	5.41	5.21	5.50	5.38
Other Asia	9.06	8.13	8.67	9.13	9.31	8.77	8.89	9.02	9.40	9.65	9.14	9.24	9.35
Latin America	6.59	5.90	6.23	6.32	6.36	6.55	6.52	6.44	6.60	6.49	6.71	6.68	6.62
Middle East	8.20	7.45	7.79	8.06	8.15	8.53	8.44	8.29	8.63	8.47	8.86	8.73	8.67
Africa	4.44	4.08	4.22	4.51	4.15	4.25	4.69	4.40	4.69	4.34	4.43	4.88	4.59
Russia	3.57	3.39	3.61	3.67	3.42	3.45	3.71	3.56	3.68	3.45	3.59	3.87	3.65
Other Eurasia	1.19	1.07	1.21	1.22	1.16	1.00	1.21	1.15	1.24	1.16	1.02	1.22	1.16
Other Europe	0.76	0.70	0.75	0.79	0.75	0.73	0.80	0.77	0.84	0.76	0.75	0.83	0.80
Total Non-OECD	**52.62**	**49.16**	**52.25**	**53.65**	**52.90**	**52.89**	**55.03**	**53.62**	**56.12**	**55.29**	**55.16**	**57.10**	**55.92**
(a) Total world demand	**100.27**	**91.19**	**97.08**	**99.45**	**98.29**	**99.51**	**101.00**	**99.57**	**101.55**	**100.80**	**102.03**	**103.25**	**101.91**
Y-o-y change	***1.08***	***-9.09***	***5.89***	***5.17***	***2.58***	***1.78***	***0.50***	***2.49***	***2.10***	***2.51***	***2.52***	***2.25***	***2.35***
Non-OPEC liquids production													
Americas	25.88	24.87	25.45	26.09	26.50	27.26	27.50	26.84	27.87	27.90	28.21	28.44	28.11
of which US	*18.53*	*17.76*	*18.04*	*18.51*	*19.07*	*19.57*	*19.68*	*19.21*	*20.07*	*20.18*	*20.34*	*20.47*	*20.26*
Europe	3.74	3.92	3.79	3.72	3.46	3.51	3.59	3.57	3.66	3.69	3.80	3.94	3.77
Asia Pacific	0.52	0.52	0.51	0.49	0.51	0.43	0.49	0.48	0.46	0.48	0.49	0.48	0.48
Total OECD	**30.15**	**29.31**	**29.75**	**30.30**	**30.48**	**31.20**	**31.58**	**30.89**	**32.00**	**32.06**	**32.50**	**32.85**	**32.36**
China	4.05	4.16	4.32	4.54	4.54	4.42	4.42	4.48	4.63	4.59	4.50	4.50	4.56
India	0.83	0.78	0.78	0.79	0.78	0.76	0.76	0.77	0.76	0.78	0.78	0.78	0.78
Other Asia	2.75	2.53	2.42	2.37	2.32	2.24	2.31	2.31	2.33	2.35	2.34	2.37	2.35
Latin America	6.09	6.02	5.96	6.11	6.18	6.46	6.59	6.34	6.70	6.67	6.70	6.79	6.72
Middle East	3.16	3.15	3.19	3.23	3.28	3.32	3.30	3.29	3.27	3.29	3.30	3.30	3.29
Africa	1.51	1.41	1.34	1.31	1.30	1.31	1.28	1.30	1.26	1.32	1.32	1.31	1.31
Russia	11.51	10.54	10.80	11.33	10.63	11.01	11.17	11.03	11.23	10.38	9.76	9.78	10.28
Other Eurasia	3.07	2.91	2.93	3.04	2.76	2.59	2.92	2.83	2.99	2.98	2.94	2.98	2.97
Other Europe	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.11	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	**33.08**	**31.64**	**31.85**	**32.82**	**31.90**	**32.22**	**32.86**	**32.45**	**33.28**	**32.46**	**31.75**	**31.92**	**32.35**
Total Non-OPEC production	63.23	60.95	61.60	63.12	62.38	63.42	64.44	63.34	65.28	64.52	64.26	64.77	64.70
Processing gains	2.37	2.16	2.29	2.40	2.40	2.40	2.40	2.40	2.47	2.47	2.47	2.47	2.47
Total Non-OPEC liquids production	**65.60**	**63.11**	**63.88**	**65.52**	**64.78**	**65.82**	**66.84**	**65.74**	**67.75**	**66.99**	**66.73**	**67.24**	**67.17**
OPEC NGL + non-conventional oils	5.21	5.17	5.28	5.35	5.38	5.41	5.43	5.39	5.44	5.47	5.43	5.43	5.44
(b) Total non-OPEC liquids production and OPEC NGLs	**70.82**	**68.27**	**69.17**	**70.87**	**70.16**	**71.23**	**72.27**	**71.14**	**73.19**	**72.47**	**72.15**	**72.66**	**72.61**
Y-o-y change	***2.14***	***-2.55***	***0.90***	***2.73***	***1.29***	***2.07***	***1.78***	***1.97***	***2.32***	***2.31***	***0.93***	***0.39***	***1.48***
OPEC crude oil production (secondary sources)	29.36	25.72	26.34	28.33	28.57	29.40	29.10	28.85	28.82				
Total liquids production	100.18	93.99	95.51	99.20	98.73	100.62	101.37	99.99	102.01				
Balance (stock change and miscellaneous)	-0.09	2.80	-1.56	-0.26	0.44	1.11	0.37	0.42	0.45				
OECD closing stock levels, *mb*													
Commercial	2,894	3,037	2,651	2,613	2,665	2,746	2,776	2,776	2,778				
SPR	1,535	1,541	1,484	1,442	1,343	1,245	1,214	1,214	1,223				
Total	**4,429**	**4,578**	**4,134**	**4,055**	**4,009**	**3,991**	**3,990**	**3,990**	**4,001**				
Oil-on-water	1,033	1,148	1,202	1,231	1,304	1,407	1,399	1,399	1,413				
Days of forward consumption in OECD, *days*													
Commercial onland stocks	69	68	58	58	57	60	61	60	61				
SPR	37	34	32	32	29	27	27	26	27				
Total	**105**	**102**	**90**	**89**	**86**	**87**	**88**	**87**	**88**				
Memo items													
(a) - (b)	**29.46**	**22.92**	**27.91**	**28.58**	**28.13**	**28.28**	**28.73**	**28.43**	**28.37**	**28.34**	**29.87**	**30.59**	**29.30**

Note: Totals may not add up due to independent rounding.

Source: OPEC.

Table 11 - 2: World oil demand and supply balance: changes from last month's table*, mb/d

World oil demand and supply balance	2019	2020	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
World demand													
Americas	-	-	-	-	-	-	0.01	-	-	-	-	0.01	-
of which US	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-0.06	-0.03	-	-	-0.02
Asia Pacific	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	**-**	**-**	**-**	**-**	**-**	**-**	**0.01**	**-**	**-0.06**	**-0.03**	**-**	**0.01**	**-0.02**
China	-	-	-	-	-	-	-	-	-	0.16	-	-	0.04
India	-	-	-	-	-	-	-	-	-	-0.03	-	-	-0.01
Other Asia	-	-	-	-	-	-	-	-	-0.03	-	-	-	-0.01
Latin America	-	-	-	-	-	-	-	-	0.04	-	-	-	0.01
Middle East	-	-	-	-	-	-	-	-	0.04	-	-	-	0.01
Africa	-	-	-	-	-	-	-	-	-0.02	-	-	-	-
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Eurasia	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.03**	**0.13**	**-**	**-**	**0.04**
(a) Total world demand	**-**	**-**	**-**	**-**	**-**	**-**	**0.01**	**-**	**-0.03**	**0.10**	**-**	**0.01**	**0.02**
Y-o-y change	***-***	***-***	***-***	***-***	***-***	***-***	***0.01***	***-***	***-0.03***	***0.10***	***-***	***-***	***0.02***
Non-OPEC liquids production													
Americas	-	-	-	-	-	-	-	-	0.15	-	-0.01	-0.08	0.01
of which US	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*0.19*	*-*	*-0.02*	*-0.09*	*0.02*
Europe	-	-	-	-	-	-	-	-	-0.01	-0.05	0.01	0.02	-0.01
Asia Pacific	-	-	-	-	-	-	-	-	0.01	-0.01	-	-	-
Total OECD	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.15**	**-0.06**	**-**	**-0.06**	**0.01**
China	-	-	-	-	-	-	-	-	0.01	-0.01	0.01	0.01	0.01
India	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-0.01	-0.04	-	-	-0.01
Latin America	-	-	-	-	-	-	-	-	0.01	0.01	-	-	-
Middle East	-	-	-0.01	-0.02	-0.01	-	-	-	0.01	-	-0.01	-0.01	-
Africa	-	-	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.03	-0.01	-0.02	-0.02	-0.02
Russia	-	-	-	-	-	-	-	-	-	0.20	-0.08	-0.12	-
Other Eurasia	-	-	-	-	-	-	-	-	-	0.01	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	**-**	**-**	**-0.02**	**-0.03**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	**-0.03**	**0.15**	**-0.09**	**-0.14**	**-0.03**
Total Non-OPEC production	-	-	-0.02	-0.03	-0.02	-0.02	-0.01	-0.02	0.12	0.10	-0.10	-0.20	-0.02
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC liquids production	**-**	**-**	**-0.02**	**-0.03**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	**0.12**	**0.10**	**-0.10**	**-0.20**	**-0.02**
OPEC NGL + non-conventional oils	-	-	-	-	-	-	-	-	-	-	-	-	-
(b) Total non-OPEC liquids production and OPEC NGLs	**-**	**-**	**-0.02**	**-0.03**	**-0.02**	**-0.02**	**-0.01**	**-0.02**	**0.12**	**0.10**	**-0.10**	**-0.20**	**-0.02**
Y-o-y change	***-***	***-***	***-0.02***	***-0.01***	***-***	***-***	***0.01***	***-***	***0.15***	***0.12***	***-0.08***	***-0.19***	***-***
OPEC crude oil production (secondary sources)	-	-	-	-0.01	-	-	-	-	-				
Total liquids production	-	-	-0.02	-0.04	-0.03	-0.02	-0.01	-0.02	0.12				
Balance (stock change and miscellaneous)	-	-	-0.02	-0.04	-0.03	-0.02	-0.02	-0.02	0.15				
mb													
Commercial	-	-	-	-	-	-	-	-	-30				
SPR	-	-	-	-	-	-	-3	-3	3				
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-4**	**-4**	**-28**				
Oil-on-water	-	-	-	-	-	-	-	-	-24				
Days of forward consumption in OECD, *days*													
Commercial onland stocks	-	-	-	-	-	-	-	-	-1				
SPR	-	-	-	-	-	-	-	-	-				
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-1**				
Memo items													
(a) - (b)	**-**	**0.00**	**0.02**	**0.03**	**0.02**	**0.02**	**0.02**	**0.02**	**-0.15**	**0.00**	**0.10**	**0.21**	**0.04**

*Note: * This compares Table 11 - 1 in this issue of the MOMR with Table 11 - 1 in the May 2023 issue.*
This table shows only where changes have occurred.
Source: OPEC.

Table 11 - 3: OECD oil stocks and oil on water at the end of period

OECD oil stocks and oil on water	2020	2021	2022	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23
Closing stock levels, mb											
OECD onland commercial	**3,037**	**2,651**	**2,776**	**2,884**	**2,770**	**2,651**	**2,613**	**2,665**	**2,746**	**2,776**	**2,778**
Americas	1,613	1,470	1,487	1,553	1,523	1,470	1,407	1,436	1,469	1,487	1,485
Europe	1,043	857	936	973	891	857	890	911	919	936	938
Asia Pacific	380	324	353	357	355	324	316	318	358	353	355
OECD SPR	**1,541**	**1,484**	**1,214**	**1,524**	**1,513**	**1,484**	**1,442**	**1,343**	**1,245**	**1,214**	**1,223**
Americas	640	596	374	623	620	596	568	495	418	374	373
Europe	487	479	461	487	485	479	468	452	447	461	467
Asia Pacific	414	409	378	413	408	409	406	395	380	378	383
OECD total	**4,578**	**4,134**	**3,990**	**4,407**	**4,282**	**4,134**	**4,055**	**4,009**	**3,991**	**3,990**	**4,001**
Oil-on-water	**1,148**	**1,202**	**1,399**	**1,131**	**1,169**	**1,202**	**1,231**	**1,304**	**1,407**	**1,399**	**1,413**
Days of forward consumption in OECD, days											
OECD onland commercial	**68**	**58**	**60**	**63**	**59**	**58**	**58**	**57**	**60**	**61**	**61**
Americas	66	59	59	63	61	59	56	57	59	60	59
Europe	79	63	70	70	64	65	66	65	69	72	70
Asia Pacific	51	44	47	51	46	41	45	44	47	45	50
OECD SPR	**35**	**34**	**34**	**33**	**32**	**32**	**32**	**29**	**27**	**27**	**27**
Americas	26	24	24	25	25	24	23	20	17	15	15
Europe	37	35	35	35	35	36	35	32	34	36	35
Asia Pacific	56	55	55	58	52	52	58	55	49	48	54
OECD total	**103**	**92**	**95**	**96**	**91**	**90**	**89**	**86**	**87**	**88**	**88**

Sources: Argus, EIA, Euroilstock, IEA, JODI, METI and OPEC.

Table 11 - 4: Non-OPEC liquids production and OPEC natural gas liquids, mb/d*

Non-OPEC liquids production and OPEC NGLs	2019	2020	2021	3Q22	4Q22	2022	*Change* 22/21	1Q23	2Q23	3Q23	4Q23	2023	*Change* 23/22
US	18.5	17.8	18.0	19.6	19.7	19.2	1.2	20.1	20.2	20.3	20.5	20.3	1.1
Canada	5.4	5.2	5.4	5.7	5.8	5.6	0.2	5.7	5.6	5.8	5.9	5.8	0.2
Mexico	1.9	1.9	2.0	2.0	2.0	2.0	0.1	2.1	2.1	2.1	2.0	2.1	0.1
Chile	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
OECD Americas	**25.9**	**24.9**	**25.4**	**27.3**	**27.5**	**26.8**	**1.4**	**27.9**	**27.9**	**28.2**	**28.4**	**28.1**	**1.3**
Norway	1.7	2.0	2.0	1.9	2.0	1.9	-0.1	2.0	2.0	2.1	2.2	2.1	0.2
UK	1.1	1.1	0.9	0.8	0.8	0.9	-0.1	0.8	0.9	0.9	0.9	0.9	0.0
Denmark	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Other OECD	0.8	0.8	0.8	0.8	0.7	0.8	0.0	0.8	0.8	0.8	0.8	0.8	0.0
OECD Europe	**3.7**	**3.9**	**3.8**	**3.5**	**3.6**	**3.6**	**-0.2**	**3.7**	**3.7**	**3.8**	**3.9**	**3.8**	**0.2**
Australia	0.5	0.5	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.0
Other Asia Pacific	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
OECD Asia Pacific	**0.5**	**0.5**	**0.5**	**0.4**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Total OECD	**30.1**	**29.3**	**29.7**	**31.2**	**31.6**	**30.9**	**1.1**	**32.0**	**32.1**	**32.5**	**32.9**	**32.4**	**1.5**
China	**4.1**	**4.2**	**4.3**	**4.4**	**4.4**	**4.5**	**0.2**	**4.6**	**4.6**	**4.5**	**4.5**	**4.6**	**0.1**
India	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.0**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.0**
Brunei	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Indonesia	0.9	0.9	0.8	0.8	0.8	0.8	0.0	0.9	0.8	0.8	0.8	0.8	0.0
Malaysia	0.7	0.6	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6	0.6	0.0
Thailand	0.5	0.5	0.4	0.4	0.4	0.4	-0.1	0.4	0.4	0.4	0.4	0.4	0.0
Vietnam	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Asia others	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Other Asia	**2.7**	**2.5**	**2.4**	**2.2**	**2.3**	**2.3**	**-0.1**	**2.3**	**2.3**	**2.3**	**2.4**	**2.3**	**0.0**
Argentina	0.7	0.6	0.7	0.8	0.8	0.8	0.1	0.8	0.8	0.8	0.8	0.8	0.1
Brazil	3.6	3.7	3.6	3.8	3.8	3.7	0.1	3.9	3.9	4.0	4.0	4.0	0.2
Colombia	0.9	0.8	0.8	0.8	0.8	0.8	0.0	0.8	0.8	0.7	0.8	0.8	0.0
Ecuador	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.0
Guyana	0.0	0.1	0.1	0.4	0.4	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.1
Latin America	0.4	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Latin America	**6.1**	**6.0**	**6.0**	**6.5**	**6.6**	**6.3**	**0.4**	**6.7**	**6.7**	**6.7**	**6.8**	**6.7**	**0.4**
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Oman	1.0	1.0	1.0	1.1	1.1	1.1	0.1	1.1	1.0	1.0	1.0	1.0	0.0
Qatar	1.9	1.9	1.9	1.9	1.9	1.9	0.0	1.9	1.9	1.9	1.9	1.9	0.0
Syria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Yemen	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Middle East	**3.2**	**3.2**	**3.2**	**3.3**	**3.3**	**3.3**	**0.1**	**3.3**	**3.3**	**3.3**	**3.3**	**3.3**	**0.0**
Cameroon	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Chad	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Egypt	0.7	0.6	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6	0.6	0.0
Ghana	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.1	0.1	0.2	0.2	0.0
South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Sudans	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Africa other	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Africa	**1.5**	**1.4**	**1.3**	**1.3**	**1.3**	**1.3**	**0.0**	**1.3**	**1.3**	**1.3**	**1.3**	**1.3**	**0.0**
Russia	**11.5**	**10.5**	**10.8**	**11.0**	**11.2**	**11.0**	**0.2**	**11.2**	**10.4**	**9.8**	**9.8**	**10.3**	**-0.8**
Kazakhstan	1.9	1.8	1.8	1.6	1.9	1.8	0.0	2.0	1.9	1.9	1.9	1.9	0.1
Azerbaijan	0.8	0.7	0.7	0.7	0.7	0.7	0.0	0.7	0.7	0.8	0.8	0.7	0.0
Eurasia others	0.4	0.4	0.4	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Other Eurasia	**3.1**	**2.9**	**2.9**	**2.6**	**2.9**	**2.8**	**-0.1**	**3.0**	**3.0**	**2.9**	**3.0**	**3.0**	**0.1**
Other Europe	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**
Total Non-OECD	**33.1**	**31.6**	**31.8**	**32.2**	**32.9**	**32.5**	**0.6**	**33.3**	**32.5**	**31.8**	**31.9**	**32.3**	**-0.1**
Non-OPEC	63.2	61.0	61.6	63.4	64.4	63.3	1.7	65.3	64.5	64.3	64.8	64.7	1.4
Processing gains	2.4	2.2	2.3	2.4	2.4	2.4	0.1	2.5	2.5	2.5	2.5	2.5	0.1
Non-OPEC liquids production	**65.6**	**63.1**	**63.9**	**65.8**	**66.8**	**65.7**	**1.9**	**67.7**	**67.0**	**66.7**	**67.2**	**67.2**	**1.4**
OPEC NGL	5.1	5.1	5.2	5.3	5.3	5.3	0.1	5.3	5.4	5.3	5.3	5.3	0.0
OPEC Non-conventional	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
OPEC (NGL+NCF)	**5.2**	**5.2**	**5.3**	**5.4**	**5.4**	**5.4**	**0.1**	**5.4**	**5.5**	**5.4**	**5.4**	**5.4**	**0.0**
Non-OPEC & OPEC (NGL+NCF)	**70.8**	**68.3**	**69.2**	**71.2**	**72.3**	**71.1**	**2.0**	**73.2**	**72.5**	**72.2**	**72.7**	**72.6**	**1.5**

Note: Totals may not add up due to independent rounding. Source: OPEC.

Table 11 - 5: World rig count, units

World rig count	2020	2021	2022	*Change* 2022/21	3Q22	4Q22	1Q23	Apr 23	May 23	*Change* May/Apr
US	436	475	722	247	761	775	761	752	721	-31
Canada	90	133	174	41	202	186	221	108	90	-18
Mexico	41	45	47	2	48	50	48	48	64	16
OECD Americas	**567**	**654**	**945**	**291**	**1,013**	**1,014**	**1,033**	**910**	**877**	**-33**
Norway	16	17	17	0	18	17	16	16	9	-7
UK	6	8	10	2	13	10	11	14	12	-2
OECD Europe	**59**	**58**	**65**	**7**	**70**	**67**	**67**	**72**	**62**	**-10**
OECD Asia Pacific	**22**	**23**	**24**	**1**	**26**	**25**	**23**	**26**	**27**	**1**
Total OECD	**648**	**735**	**1,034**	**299**	**1,109**	**1,106**	**1,123**	**1,008**	**966**	**-42**
Other Asia*	187	174	186	12	185	188	193	203	218	15
Latin America	58	91	119	28	122	130	127	127	122	-5
Middle East	57	57	62	5	61	65	62	63	61	-2
Africa	43	42	57	15	58	60	60	57	55	-2
Other Europe	12	9	10	1	10	13	11	11	11	0
Total Non-OECD	**357**	**373**	**434**	**61**	**436**	**456**	**453**	**461**	**467**	**6**
Non-OPEC rig count	**1,005**	**1,108**	**1,468**	**360**	**1,545**	**1,562**	**1,576**	**1,469**	**1,433**	**-36**
Algeria	31	26	32	6	33	33	32	31	32	1
Angola	3	4	7	3	6	9	9	9	9	0
Congo	1	0	1	1	1	1	1	2	2	0
Equatorial Guinea**	0	0	0	0	0	0	0	0	0	0
Gabon	3	2	3	1	2	3	3	3	3	0
Iran**	117	117	117	0	117	117	117	117	117	0
Iraq	47	39	51	12	54	55	60	62	62	0
Kuwait	45	25	27	2	27	28	24	25	27	2
Libya	12	13	7	-6	3	8	11	14	14	0
Nigeria	11	7	10	3	9	10	14	13	13	0
Saudi Arabia	93	62	73	11	71	80	78	84	84	0
UAE	54	42	47	5	49	52	53	57	58	1
Venezuela	15	6	3	-3	3	3	3	3	3	0
OPEC rig count	**432**	**343**	**377**	**34**	**376**	**398**	**405**	**420**	**424**	**4**
World rig count***	**1,437**	**1,451**	**1,845**	**394**	**1,921**	**1,959**	**1,980**	**1,889**	**1,857**	**-32**
of which:										
Oil	1,116	1,143	1,462	319	1,522	1,552	1,567	1,474	1,472	-2
Gas	275	275	352	77	365	374	376	371	342	-29
Others	46	33	31	-2	33	33	37	44	43	-1

*Note: * Other Asia includes India and offshore rigs for China.*
*** Estimated data when Baker Hughes Incorporated did not reported the data.*
**** Data excludes onshore China as well as Russia and other Eurasia.*
Totals may not add up due to independent rounding.
Sources: Baker Hughes and OPEC.

Glossary of Terms

Abbreviations

b	barrels
b/d	barrels per day
bp	basis points
bb	billion barrels
bcf	billion cubic feet
cu m	cubic metres
mb	million barrels
mb/d	million barrels per day
mmbtu	million British thermal units
mn	million
m-o-m	month-on-month
mt	metric tonnes
q-o-q	quarter-on-quarter
pp	percentage points
tb/d	thousand barrels per day
tcf	trillion cubic feet
y-o-y	year-on-year
y-t-d	year-to-date

Acronyms

ARA	Amsterdam-Rotterdam-Antwerp
BoE	Bank of England
BoJ	Bank of Japan
BOP	Balance of payments
BRIC	Brazil, Russia, India and China
CAPEX	capital expenditures
CCI	Consumer Confidence Index
CFTC	Commodity Futures Trading Commission
CIF	cost, insurance and freight
CPI	consumer price index
DoC	Declaration of Cooperation
DCs	developing countries
DUC	drilled, but uncompleted (oil well)
ECB	European Central Bank
EIA	US Energy Information Administration
Emirates NBD	Emirates National Bank of Dubai
EMs	emerging markets
EV	electric vehicle

FAI	fixed asset investment
FCC	fluid catalytic cracking
FDI	foreign direct investment
Fed	US Federal Reserve
FID	final investment decision
FOB	free on board
FPSO	floating production storage and offloading
FSU	Former Soviet Union
FX	Foreign Exchange
FY	fiscal year
GDP	gross domestic product
GFCF	gross fixed capital formation
GoM	Gulf of Mexico
GTLs	gas-to-liquids
HH	Henry Hub
HSFO	high-sulphur fuel oil
ICE	Intercontinental Exchange
IEA	International Energy Agency
IMF	International Monetary Fund
IOCs	international oil companies
IP	industrial production
ISM	Institute of Supply Management
JODI	Joint Organisations Data Initiative
LIBOR	London inter-bank offered rate
LLS	Light Louisiana Sweet
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LR	long-range (vessel)
LSFO	low-sulphur fuel oil
MCs	(OPEC) Member Countries
MED	Mediterranean
MENA	Middle East/North Africa
MOMR	(OPEC) Monthly Oil Market Report
MPV	multi-purpose vehicle
MR	medium-range or mid-range (vessel)
NBS	National Bureau of Statistics
NGLs	natural gas liquids
NPC	National People’s Congress (China)
NWE	Northwest Europe
NYMEX	New York Mercantile Exchange
OECD	Organisation for Economic Co-operation and Development
OPEX	operational expenditures
OIV	total open interest volume
ORB	OPEC Reference Basket
OSP	Official Selling Price
PADD	Petroleum Administration for Defense Districts
PBoC	People’s Bank of China
PMI	purchasing managers’ index
PPI	producer price index

RBI	Reserve Bank of India
REER	real effective exchange rate
ROI	return on investment
SAAR	seasonally-adjusted annualized rate
SIAM	Society of Indian Automobile Manufacturers
SRFO	straight-run fuel oil
SUV	sports utility vehicle
ULCC	ultra-large crude carrier
ULSD	ultra-low sulphur diesel
USEC	US East Coast
USGC	US Gulf Coast
USWC	US West Coast
VGO	vacuum gasoil
VLCC	very large crude carriers
WPI	wholesale price index
WS	Worldscale
WTI	West Texas Intermediate
WTS	West Texas Sour

OPEC Basket average price *US$/b*

down 8.31 in May	May 2023	75.82
	April 2023	84.13
	Year-to-date	**80.17**

May OPEC crude production *mb/d, according to secondary sources*

down 0.46 in May	May 2023	28.06
	April 2023	28.53

Economic growth rate *per cent*

	World	OECD	US	Euro–zone	Japan	China	India
2022	3.3	2.9	2.1	3.5	1.0	3.0	6.7
2023	2.6	1.1	1.3	0.8	1.0	5.2	5.6

Supply and demand *mb/d*

2022		**22/21**	**2023**		**23/22**
World demand	99.6	2.5	World demand	101.9	2.3
Non-OPEC liquids production	65.7	1.9	Non-OPEC liquids production	67.2	1.4
OPEC NGLs	5.4	0.1	OPEC NGLs	5.4	0.0
Difference	**28.4**	**0.5**	**Difference**	**29.3**	**0.9**

OECD commercial stocks *mb*

	Feb 23	Mar 23	Apr 23	Apr 23/Mar 23
Crude oil	1,377	1,384	1,384	–0.5
Products	1,433	1,393	1,424	30.6
Total	**2,809**	**2,778**	**2,808**	**30.2**
Days of forward cover	61.7	61.0	60.9	–0.1

Next report to be issued on 13 July 2023.