Organization of the Petroleum Exporting Countries

OPEC Monthly Oil Market Report

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Feature article:
Winter oil market outlook

Organization of the Petroleum Exporting Countries

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Oil Market Highlights

Crude Oil Price Movements

In September, the OPEC Reference Basket (ORB) rose by $7.27, or 8.3%, m-o-m to average $94.60/b. The ICE Brent front-month contract increased by $7.48, or 8.8%, m-o-m to $92.59/b, and the NYMEX WTI front-month contract rose by $8.11, or 10.0%, m-o-m to average $89.43/b. The DME Oman front-month contract rose by $6.90, or 8.0%, m-o-m to settle at $93.37/b. The front-month ICE Brent/NYMEX WTI spread narrowed in September by 63¢ to average $3.16/b. The market structure strengthened and the front end of the futures forward curves for ICE Brent, NYMEX WTI and DME Oman steepened amid improving sentiment about the short-term market outlook. Hedge funds and other money managers raised their total net long positions in ICE Brent and NYMEX WTI last month anticipating a rally in oil futures.

World Economy

The forecast for world economic growth in 2023 is revised up slightly to 2.8% but remains unchanged for 2024 at 2.6%. US economic growth in 2023 is revised up to 2%, but remains at 0.7% for 2024. Eurozone economic growth is revised down in both 2023 and 2024 to stand at 0.5% and 0.7%, respectively. Japan's economic growth forecast for 2023 is revised up to 1.7%, while growth in 2024 remains at 1.0%. The forecast for China remains unchanged at 5.2% and 4.8% for 2023 and 2024, respectively. India's growth forecast for 2023 is revised up to 6.2%, while growth for 2024 remains at 5.9%. Brazil's forecast is revised up to 2.5% in 2023, while growth for 2024 remains at 1.2%. Russia's economic growth forecast for 2023 is revised up to 1.5%, while the growth forecast for 2024 remains at 1.0%.

World Oil Demand

The world oil demand growth forecast for 2023 remains unchanged at 2.4 mb/d. Downward revisions in the OECD are due to actual data for the first three quarters, while upward revisions in non-OECD in the 2Q23 and 3Q23 are due to higher-than-expected growth, mainly from China. In the OECD, oil demand in 2023 is expected to rise by around 0.1 mb/d, while oil demand in non-OECD is expected to increase slightly to above 2.3 mb/d. For 2024, world oil demand is expected to grow by a healthy 2.2 mb/d, unchanged from the previous month's assessment. The OECD is expected to grow by about 0.3 mb/d in 2024, with OECD Americas contributing the largest increase. The non-OECD is set to drive next year's growth, increasing by about 2.0 mb/d, with China, India, the Middle East, and Other Asia contributing the most.

World Oil Supply

Non-OPEC liquids supply growth forecast for 2023 is revised up to 1.7 mb/d. Main drivers of liquids supply growth for 2023 include the US, Brazil, Norway, Kazakhstan, Guyana and China. For 2024, non-OPEC liquids supply is expected to grow by 1.4 mb/d, unchanged from the previous month's assessment. Main drivers for liquids supply growth next year are set to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan. The largest declines are anticipated in Mexico and Malaysia. OPEC NGLs and non-conventional liquids are forecast to grow by around 50 tb/d in 2023 to average 5.4 mb/d and by another 65 tb/d to average 5.5 mb/d in 2024. OPEC-13 crude oil production in September increased by 273 tb/d m-o-m to an average 27.75 mb/d, according to available secondary sources.

Product Markets and Refining Operations

In September, refinery margins came under pressure and showed a counter-seasonal drop following multi-month highs seen in the previous month. Stronger crude prices weighed on product crack spreads nearly all across the barrel despite lower product output due to the start of a heavy turnaround season. Over the month, the seasonal decline in gasoline demand – and subsequent gasoline stock builds – led to a drop in prices for that product in the US Gulf Coast and Rotterdam, while all other product prices showed a rise. In Singapore, fuel oil was the only product to show a price decline affected by ample supplies in the region. Global refinery intake fell by 1.4 mb/d m-o-m in September to average 81.1 mb/d.

Tanker Market

Dirty freight rates showed mixed movement in September. Despite some strength in the second half of the month, VLCCs spot freight rates continued the decline in September, down from peaks seen earlier in June. Rates on the Middle East-to-West route led losses, falling 13%. Suezmax and Aframax spot freight rates showed a mixed performance. Suezmax rates on the US Gulf Coast-to-Europe route declined 15%, while rates on the West Africa-to-US Gulf Coast route rose 5% amid a pickup in tanker demand. In the Aframax market, rates on the Caribbean-to-US East Coast route experienced a strong seasonal decline of 22%, while rates on the Mediterranean-to-Northwest Europe route rose 8%, supported by temporary tightness in the market mid-month. In contrast, clean spot freight rates on average saw an improvement. Rates rose around the Mediterranean, as available tonnage remained tight, as well as in the Far East amid a pickup in activity in the regional product market.

Crude and Refined Products Trade

Preliminary data shows US crude imports remained at strong levels in September, averaging 6.9 mb/d, the highest since August 2019. US crude exports also increased slightly to average 4.3 mb/d, representing a six-month high. China's crude imports surged in August, averaging 12.5 mb/d, the third highest on record. Product exports from China rose further to reach a five-month high, supported by a new round of product export quotas. India's crude imports continued to decline to a 10-month low of 4.4 mb/d in August, as the monsoon season weighed on domestic demand. India's product exports reached a five-month high, driven by outflows of fuel oil, jet fuel and other products. Japan's crude imports recovered further in August, averaging 2.5 mb/d, an increase of almost 7% m-o-m. Japan's product exports rose with gains driven by gasoline and kerosene. Preliminary estimates show OECD Europe crude imports reaching a peak in July before slipping seasonally over the subsequent two months.

Commercial Stock Movements

Preliminary August 2023 data sees total OECD commercial oil stocks down by 11.0 mb m-o-m. At 2,803 mb, they were 182 mb lower than the 2015–2019 average. Within the components, crude stocks fell by 26.0 mb m-o-m, while products stocks rose by 15.0 mb m-o-m. OECD commercial crude stocks stood at 1,348 mb in August, which is 99 mb lower than the 2015–2019 average. By contrast, total product inventories rose by 15.0 mb in August to 1,455 mb, which is 83 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 61.1 days, which is 2.0 days below the 2015–2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2023 is revised down by 0.1 mb/d from the previous month's assessment to stand at 29.1 mb/d, which is 0.7 mb/d higher than in 2022. Demand for OPEC crude in 2024 is also revised down by 0.1 mb/d from the previous month's assessment to stand at 29.9 mb/d, 0.8 mb/d higher than the estimated level in 2023.

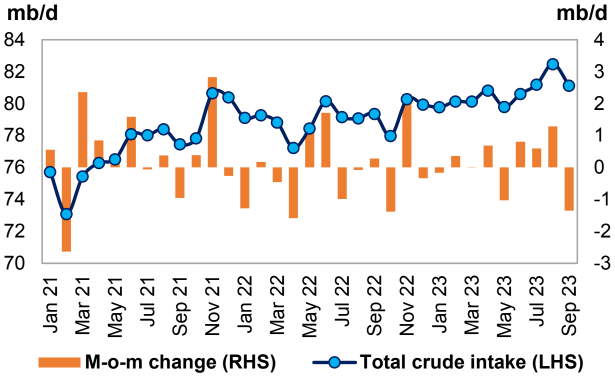
Feature Article

Winter oil market outlook

The global refinery intake level declined from the post-pandemic record high of 82.5 mb/d registered in August 2023 to average 81.1 mb/d in September 2023 (***Graph 1***). Despite the monthly decline, global crude intake increased by 1.8 mb/d y-o-y, in September 2023 owing to strong product demand, particularly in jet/kerosene markets, driven by increased air and road travel activities.

Until September, global refinery processing rates had remained elevated as strong refinery margins and robust transport fuel consumption strengthened product requirements and markets. However, in September, global refinery intake declined due to an increase in offline capacity, driven by intensified maintenance work, especially in the Atlantic Basin. Offline capacity reached 7.8 mb/d, up from 6.0 mb/d in the previous month. Additional downside risks are linked to weakening gasoline requirements as the summer driving season comes to an end. This counter-seasonal decline in global refining margins in September has likely added to the pressure on refinery intakes. Moreover, the reduction in product output mentioned earlier could potentially result in higher product prices in the short term.

Graph 1: Global refinery intake



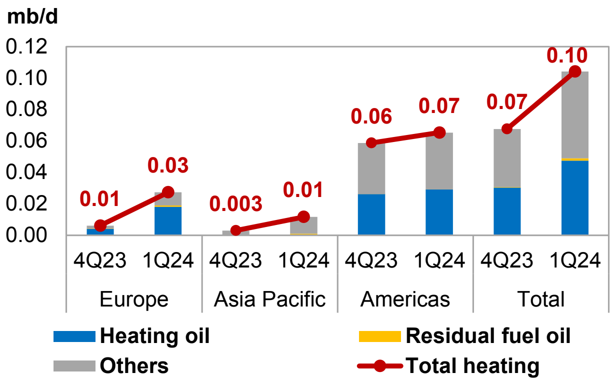
Source: OPEC.

In the US, diesel inventories currently stand below those typical for this time of the year. This divergence from previous patterns suggests that diesel availability in the US is likely to continue diminishing ahead of the winter season. In Europe, a diesel and gasoline export ban was imposed by Russia on 21 September, which was later amended to partially lift the diesel export ban, in order to avert domestic shortages and stabilize domestic fuel prices. This restriction weighed on diesel availability in the region. Meanwhile, Asian refiners are expected to keep refinery runs elevated and increase product exports in the coming month, amid potential improvements in East-West product pricing signals. This presents a favourable opportunity for Chinese refiners to exhaust their product export quotas on stronger refining margins ahead of the release of the next batch of quotas.

In 4Q23, global transportation fuel demand is expected to see some decline, consistent with seasonality and historical trends. The commencement of extensive refinery maintenance is likely to constrain refinery throughputs, consequently exerting pressure on oil markets until refinery operations begin to recover, typically around November. However, the net effect of impending product supply dislocations and tightening product availability might support for crude markets toward the end of the year.

Looking ahead to the coming winter season, the seasonal increase in heating oil demand is expected, driven by rising requirements in the Northern Hemisphere. Overall, OECD Europe, OECD Americas, and OECD Asia Pacific, are poised to experience growth in demand for fuel oil and distillates required for heating in 4Q23 (***Graph 2***). Accordingly, total heating fuel demand is forecast to grow by 70 tb/d y-o-y in 4Q23. In OECD Europe and the US, heating oil will drive demand, while in OECD Asia Pacific, “other fuels” – primarily consisting of diesel and LPG – will drive demand in 4Q23. OECD Americas will see the largest increase in demand by 60 tb/d, OECD Europe by around 10 tb/d y-o-y, and Asia Pacific will remain almost unchanged y-o-y. In 1Q24, heating fuel demand in the OECD region is expected to see 100 tb/d y-o-y growth, mostly from the Americas and Europe, with a marginal increase in the Asia Pacific.

Graph 2: Heating fuel demand in OECD, y-o-y change



Note: 4Q23-1Q24 = Forecast. Source: OPEC.

Looking ahead and despite the usual seasonal rise in heating oil demand, ongoing uncertainty and economic developments in OECD Europe and other areas are expected to impact oil demand in the remainder of 2023 and in 2024. Consequently, OPEC and non-OPEC nations participating in the Declaration of Cooperation (DoC) will continue to closely monitor market developments and address challenges in a proactive, pre-emptive and precautious manner, in order to secure a sustainable and stable market.

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Crude Oil Price Movements

In September, spot crude prices extended their previous monthly gains, boosted by the rally in futures prices and higher financial flows in futures markets. Spot prices were also buoyed by further improvements in the physical market and strong crude buying from refiners in Europe and the Asia Pacific. In September, the OPEC Reference Basket (ORB) value increased, rising by $7.27, or 8.3%, m-o-m to average $94.60/b. All ORB components, official selling prices, and crude differentials for all crude qualities rose.

Crude oil futures prices extended their rally in September with the ICE Brent front-month contract averaging nearly 9% higher compared to the previous month. Oil futures remained predominantly buoyed by bullish investor sentiment fuelled by signs of robust oil market outlooks. This optimism was further supported by resilient economic growth in both OECD and non-OECD regions, and positive 3Q23 output trends. Simultaneously, hedge funds and other money managers substantially increased their net long positions to levels not observed since March 2022, a move spurred by short covering, which contributed to pushing oil futures prices higher.

The ICE Brent front-month averaged $7.48, or 8.8%, higher in September to stand at $92.59/b, and the NYMEX WTI rose by $8.11, or 10.0%, to average $89.43/b. DME Oman crude oil futures prices increased in September by $6.90, or 8.0%, to settle at $93.37/b.

Hedge funds and other money managers boosted bullish wagers and continued to close out more bearish positions last month, with combined futures and options net long positions in ICE Brent and NYMEX WTI rising to their highest levels since January 2022. Speculators' bets on higher oil prices increased significantly on expectations of stronger global oil market fundamentals for the remainder of this year. Between late August and the week of 26 September, hedge funds and other money managers purchased an equivalent of a substantial 168 million barrels.

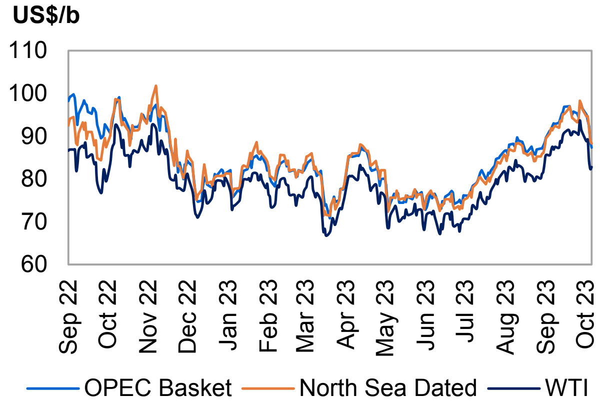
The forward curves of ICE Brent and NYMEX WTI steepened further, with the nearest-month time spread moving into stronger backwardation. Financial flows in the front-month contracts and optimism about the short-term market outlook pushed the value of front-month futures contracts higher than forward contracts. Data showed a drop in OECD commercial oil stocks in August and a continued decline in US crude stocks for several weeks in September, which also contributed to steepening the futures forward curve.

The value of light sweet crude continued to strengthen against the value of medium and heavy sour crude in the USGC and Asia Pacific markets in September, but the monthly sweet-sour crude spreads remained narrow compared to historical levels. In Europe, the spread narrowed. Overall, weaker heavy sulphur fuel oil margins against strong diesel margins and firm demand for light sweet crude contributed to widening the sweet-sour crude differentials.

Crude spot prices

Spot crude prices extended their previous monthly gains in September, boosted by the rally in futures prices and higher financial flows in futures markets. Spot prices were also buoyed by further improvements in physical market fundamentals and strong crude buying from refiners in Europe and the Asia Pacific during the October and November trading cycles. Strong middle distillate margins, a tight diesel/gasoil market, specifically in the Atlantic Basin, and lower loading programs in some regions supported the value of the medium and light sweet crude.

Graph 1 - 1: Crude oil price movements



Sources: Argus, OPEC and Platts.

All **physical crude oil benchmarks** rose m-o-m in September despite lower global refinery intake amid seasonal refinery maintenance. The WTI front-month rose the most among the other main spot benchmarks, increasing by $7.97, or 9.8%, to average $89.38/b. North Sea Dated and Dubai first month rose respectively by $7.82 and $6.47, or 9.1% and 7.5%, to settle at $93.96/b and $92.93/b.

Spot crude prices remained above futures prices in September. North Sea Dated stayed at a premium to ICE Brent's first-month contract in August and September on a monthly basis, after pricing at a discount since

June. On a monthly average, the North Sea Dated-ICE Brent spread stood at a premium of $1.37/b in September, compared with a premium of $1.04/b in August. The spread was at a discount of 25¢/b in June and 7¢/b in July.

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

			Change		*Year-to-date*	
OPEC Reference Basket (ORB)	**Aug 23**	**Sep 23**	**Sep 23/Aug 23**	**%**	**2022**	**2023**
ORB	**87.33**	**94.60**	***7.27***	***8.3***	**104.16**	**82.12**
Arab Light	89.55	96.51	*6.96*	*7.8*	105.45	84.09
Basrah Medium	85.38	93.14	*7.76*	*9.1*	101.81	79.56
Bonny Light	86.52	95.53	*9.01*	*10.4*	108.27	82.32
Djeno	78.69	86.51	*7.82*	*9.9*	97.90	74.56
Es Sider	86.39	94.31	*7.92*	*9.2*	105.78	81.41
Girassol	89.05	97.46	*8.41*	*9.4*	108.47	83.82
Iran Heavy	87.58	94.63	*7.05*	*8.0*	104.16	82.37
Kuwait Export	88.77	95.70	*6.93*	*7.8*	105.39	83.48
Merey	68.48	75.51	*7.03*	*10.3*	80.71	62.62
Murban	87.24	93.86	*6.62*	*7.6*	102.41	82.40
Rabi Light	85.68	93.50	*7.82*	*9.1*	104.89	81.55
Sahara Blend	86.69	95.21	*8.52*	*9.8*	108.68	82.91
Zafiro	87.54	95.36	*7.82*	*8.9*	107.55	82.68
Other Crudes						
North Sea Dated	86.14	93.96	*7.82*	*9.1*	105.35	82.01
Dubai	86.46	92.93	*6.47*	*7.5*	100.13	81.47
Isthmus	79.56	87.24	*7.68*	*9.7*	96.81	71.74
LLS	84.00	91.37	*7.37*	*8.8*	100.55	79.72
Mars	82.05	88.80	*6.75*	*8.2*	96.03	76.71
Minas	84.97	91.12	*6.15*	*7.2*	100.38	80.05
Urals	74.54	84.23	*9.69*	*13.0*	83.36	61.06
WTI	81.41	89.38	*7.97*	*9.8*	98.47	77.26
Differentials						
North Sea Dated/WTI	4.73	4.58	*-0.15*	-	6.87	4.75
North Sea Dated/LLS	2.14	2.59	*0.45*	-	4.80	2.29
North Sea Dated/Dubai	-0.32	1.03	*1.35*	-	5.22	0.54

Sources: Argus, Direct Communication, OPEC and Platts.

North Sea crude differentials strengthened on firm buying interest from European refiners and strong refining margins. Demand for sour crude and lower availability of similar crude quality in Europe pushed Johan Sverdrup crude differentials to a three-month high. The Forties crude differential – the largest stream in the Brent basket – saw its value rise by 13¢ on average in September to settle at a premium of $1.04/b against the Brent benchmark, compared to a premium of 90¢/b in August. The values of the Ekofisk and Johan Sverdrup crude differentials rose respectively by 62¢ and $1.13, to average at premiums of $2.88/b and $1.82/b in September.

West African crude also rose firmly last month on strong buying interest from European and Asia Pacific refiners for October loading volumes. Strong sour crude values also prompted buyers to take more sweet crude volumes. Crude differentials of Bonny Light, Forcados and Qua Iboe rose on a monthly average in September by 34¢, $1.61 and 16¢, respectively, to stand at premiums of $2.76/b, $4.11/b and $3.52/b.

Similarly, in the **Mediterranean and Caspian regions**, crude differentials strengthened on higher demand. Strong middle distillate margins in Europe pushed the value of Azeri Light to its highest since January 2023. Azeri Light crude differentials rose by $1.46 m-o-m to average at a premium of $5.92/b to North Sea Dated. Saharan Blend and CPC Blend differentials rose 66¢ and 26¢ respectively m-o-m, to average at a premium of $1.17/b and a discount of 95¢/b to North Sea Dated.

In the **USGC**, crude differentials weakened on a monthly average last month due to stronger WTI futures prices against the values of other benchmarks like North Sea Dated and Dubai, which weighed on the value of US coastal crude. Lower demand from US refiners also weighed on crude differentials. Light Louisiana Sweet (LLS) declined by 62¢ last month on a monthly basis to stand at a premium of $1.98/b to the WTI benchmark, and Mars sour crude differentials decreased by $1.29 on average, flipping to a discount of 65¢/b against the WTI benchmark.

The value of **Dubai-related crudes in the Middle East** rose in September, supported by firm demand from Asia Pacific refiners, including China, South Korea and India. In the Middle East spot market, the value of crude differentials of Oman rose by 21¢ to a premium of $2.25/b.

OPEC Reference Basket (ORB)

The **ORB** value increased in September, rising by $7.27, or 8.3%, m-o-m to average $94.60/b. This is as all ORB components, official selling prices and crude differentials for all crude qualities rose. Light, medium sweet and Brent-related components rose the most amid higher light distillate margins and strengthening market fundamentals in the Atlantic Basin market. Compared with the previous year, the ORB was lower by $22.04, or 21.2%, m-o-m from $104.16/b in 2022, to an average of $82.12/b so far this year.

All **ORB component values** rose in September. West and North African Basket components – Bonny Light, Djeno, Es Sider, Girassol, Rabi Light, Sahara Blend and Zafiro – increased by $8.19, or 9.5% m-o-m on average to $93.98/b. Multiple region destination grades – Arab Light, Basrah Light, Iran Heavy and Kuwait Export – rose by $7.18, or 8.2% m-o-m to average $95.00/b. Murban crude rose by $6.62, or 7.6% m-o-m to average $93.86/b. The Merey component increased by $7.03, or 10.3% m-o-m to average $75.51/b.

The oil futures market

Crude oil futures prices extended their rally in September with the ICE Brent front contract averaging nearly 9% higher compared to the previous month. Oil futures remained predominantly buoyed by bullish investor sentiment fuelled by signs of firm physical oil market fundamentals. This optimism was further supported by resilient economic growth in both the OECD and non-OECD regions, and positive 3Q23 output trends, including in the US, the Eurozone and India, along with China's efforts to revitalize its economy. Better-than-expected August industrial output and retail sales data in China buoyed investor sentiment and alleviated prevailing concerns about China's economic outlook. Simultaneously, hedge funds and other money managers substantially increased their net long positions to levels not observed since March 2022, a move spurred by short covering, which contributed to pushing oil futures prices higher.

Oil futures were further buoyed by a tight middle distillate market that boosted refining margins and diesel crack spreads. This was further consolidated by official data from the National Bureau of Statistics (NBS), showing substantial growth in China's refinery throughput, driven by strong refining margins and domestic demand. Demand from US refiners along with sustained crude demand for exports and a large draw in US crude stocks in August and September boosted the value of NYMEX WTI front-month price.

From the supply side, market participants weighed in on potential supply disruptions following powerful storms in eastern Libya that led to the closure of four oil export terminals, and reported on prospects that US oil output from top shale-producing regions could fall for a third month in a row in October. Investors also factored in the news about Russia's temporary diesel and gasoline export ban, which lent support to the oil complex.

Oil futures prices retreated slightly in late September, coming under pressure from a surge in the US dollar index to a multi-month high, which diminished the appeal of commodities priced in the currency, and investors focused on concerns that a hawkish US Federal Reserve policy would weigh on the economic outlook. Oil prices continued to retreat in early October due to profit-taking from investors following a price surge in the prior weeks amid concerns about the macroeconomic outlook and as data showed weaker-than-anticipated US consumer spending in August. Nonetheless, the drop in oil prices was moderated due to a surge in European diesel futures prices, a decrease in US crude oil inventories, and signs of solid physical market fundamentals.

The **ICE Brent front-month** averaged $7.49, or 8.8%, m-o-m higher in September to stand at $92.59/b, and the NYMEX WTI rose by $8.11, or 10.0%, m-o-m to average $89.43/b. Y-t-d, ICE Brent was $20.54, or 20.0%, lower at $81.94/b, while **NYMEX WTI** was lower by $20.97, or 21.3%, at $77.28/b, compared with the same period a year earlier. **DME Oman** crude oil futures prices increased in September by $6.90, or 8.0%, m-o-m to settle at $93.37/b. Y-t-d, DME Oman was lower by $18.60, or 18.6%, at $81.60/b.

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

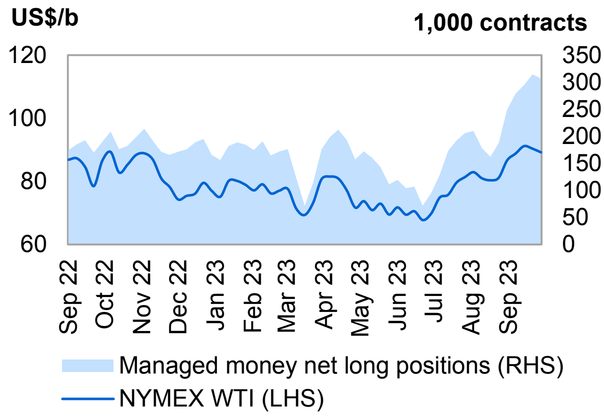
Crude oil futures	Aug 23	Sep 23	*Change* Sep 23/Aug 23	%	*Year-to-date* 2022	2023
NYMEX WTI	81.32	89.43	8.11	10.0	98.25	77.28
ICE Brent	85.10	92.59	7.48	8.8	102.48	81.94
DME Oman	86.46	93.37	6.90	8.0	100.20	81.60
Spread						
ICE Brent-NYMEX WTI	*3.78*	*3.16*	*-0.63*	*-16.6*	*4.23*	*4.66*

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

The **ICE Brent–NYMEX WTI first-month spread** continued to narrow m-o-m in September, falling to its lowest since June 2022, as the value of the NYMEX WTI contract continued to rise more than ICE Brent. The WTI futures benchmark was supported last month by a sharp rise in related speculative net long positions that were higher compared to ICE Brent, and strong US oil market fundamentals. Short covering in WTI futures and options contributed to pushing prices higher. The NYMEX WTI contract was buoyed by the continued decline in US commercial crude oil stocks, including at the Cushing trading hub, the delivery point of the NYMEX WTI contract. Crude stocks at Cushing dropped to 22 mb at the end of September, the lowest since June 2022, close to the minimum operational capacity. Between the weeks of 29 August and 26 September, NYMEX WTI net long positions in futures and options jumped 67.6%, while ICE Brent net long positions rose only 20.4% during the same period. The ICE Brent–NYMEX WTI first month spread contracted by 62¢ in September compared to the August average to stand at $3.16/b. The spread between North Sea Dated and WTI Houston was little changed last month, narrowing 5¢ to a premium of $3.12/b.

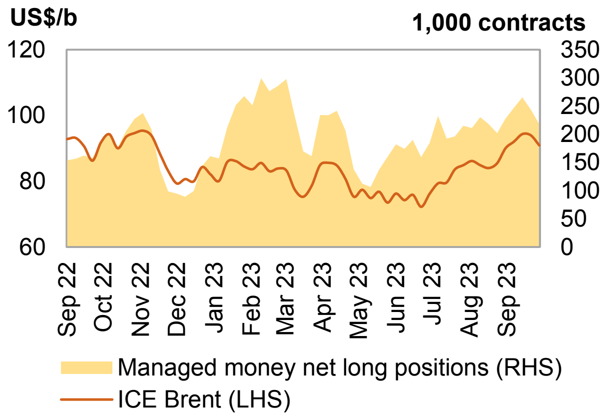
Hedge funds and other money managers boosted bullish wagers and continued to close out more bearish positions in September, with combined futures and options net long positions in ICE Brent and NYMEX WTI rising to their highest levels since November 2021, providing additional momentum to the steady gains in crude oil prices. Speculators' bets on higher oil prices increased significantly on expectations for a stronger global oil market outlook for the remainder of this year. Between late August and the week of 26 September, hedge funds and other money managers purchased an equivalent of a substantial 168 million barrels of oil equivalent. Notably, the most significant rise in net long positions occurred in the NYMEX WTI contract compared to ICE Brent. This trend coincided with a substantial drop in US crude oil stocks, including those at Cushing, Oklahoma. Additionally, both Brent and WTI open interest have experienced strong increases since September, rising by 7.8% and 9.1% respectively, indicating a growing interest in investing in oil futures markets.

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 sharply raised bullish **NYMEX WTI** positions, with net long positions in the week of 26 September at their highest point since November 2021. Between the weeks of 29 August and 26 September, NYMEX WTI futures and options net long positions increased by 126,870 lots, or 67.6%, to stand at 314,519 contracts, according to the US Commodity Futures Trading Commission (CFTC). During the same period, gross short positions dropped by 27,102 lots, or 55.9%, to 21,407 contracts, while gross long positions rose by 99,768 lots, or 42.2%, to 335,926 contracts.

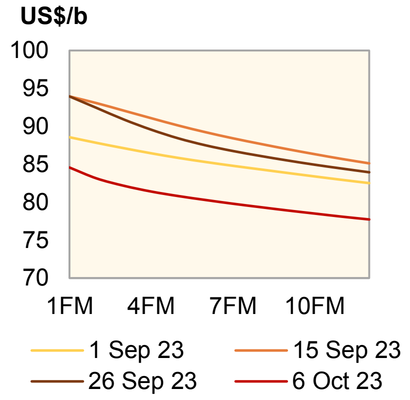
Money managers also raised **ICE Brent** futures and options net long positions but at a slower rate. They were buyers of a net equivalent of about 41 mb. Combined futures and options net long positions rose by 41,315 contracts, or 20.4%, to stand at 243,542 lots in the week of 26 September, according to the ICE Exchange. This was due to a combination of an increase in long positions and a cut in short positions. Gross short positions declined by 12,496 lots, or 23.8%, to stand at 39,950 contracts, while gross long positions rose by 28,819 lots, or 11.3%, to 283,492 contracts.

The **long-to-short ratio of speculative positions** in ICE Brent contracts jumped to 12:1 in the week of 19 September, compared with 5:1 in late August, but the ratio declined to 7:1 in the week of 26 September. The NYMEX WTI long-to-short ratio rose to about 16:1 in the week of 26 September, compared with a ratio of 5:1 in late August. Total futures and options open interest volumes on the two exchanges rose last month, increasing by 8.4%, or 406,206 contracts, to stand at 5.3 million contracts in the week ending 26 September.

The futures market structure

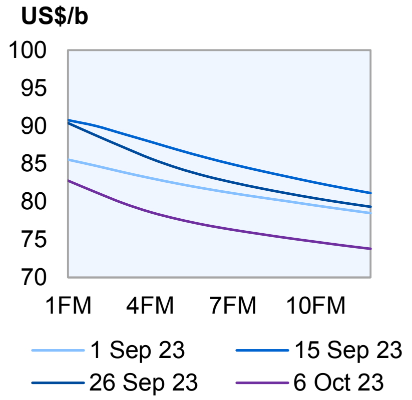
The **forward curves** of ICE Brent and NYMEX WTI steepened further in September, with the nearest-month time spread moving into stronger backwardation. Financial flows in the front-month contracts and optimism about the short-term market outlook pushed the value of front-month futures contracts more than forward contracts. Data showing a drop in OECD commercial oil stocks in August and a continued decline in US crude stocks for several weeks in September also contributed to steepening the futures forward curve. A tight diesel market in the Atlantic Basin also supported the values of prompt monthly prices. Signs of firm demand in the crude spot market and a reduction in prompt loading volumes added support to prompt month contracts and contributed to strengthening the futures forward curve of major crude futures contracts.

Graph 1 - 4: ICE Brent forward curves



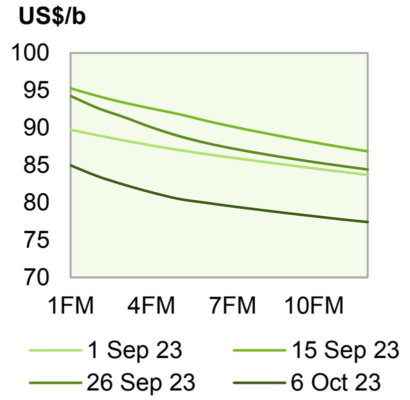
Sources: ICE and OPEC.

Graph 1 - 5: NYMEX WTI forward curves



Sources: CME and OPEC.

Graph 1 - 6: DME Oman forward curves



Sources: DME and OPEC.

The backwardation structure of **Brent futures** further strengthened last month on a stronger short-term supply/demand outlook in the Atlantic Basin, providing more support to the value of prompt-month prices compared to forward contracts. Prompt prices were also buoyed by firm demand in the spot market and lower availability of prompt loading volumes. The ICE Brent first-month premium to the third month widened by $1.36 m-o-m to a backwardation of $2.28/b. Similarly, ICE Brent's M1/M6 backwardation strengthened last month by $2.83 to settle at $5.02 on average, compared with a backwardation of $2.19 in August.

In the US, the backwardation structure of **NYMEX WTI** also strengthened over the last month, and the forward curve steepened in the front due to the prospect of a robust supply/demand outlook in the US oil market. Furthermore, lower crude stocks in the US in September, including in Cushing, Oklahoma, a trading hub, added support to the front-month NYMEX WTI contract compared to forward-month contracts. The NYMEX WTI first-to-third month spread widened by $1.31 to a backwardation of $2.28/b on average in September, compared to a backwardation of 97¢/b one month earlier.

The market structure of **DME Oman** in September steepened on firm buying interest from Asia Pacific refiners and lower west-to-east arbitrage economics that buoyed the value of prompt contracts. On a monthly average, the DME Oman M1-M3 spread widened by 68¢ to a backwardation of $1.98/b in September, from a backwardation of $1.30/b in August.

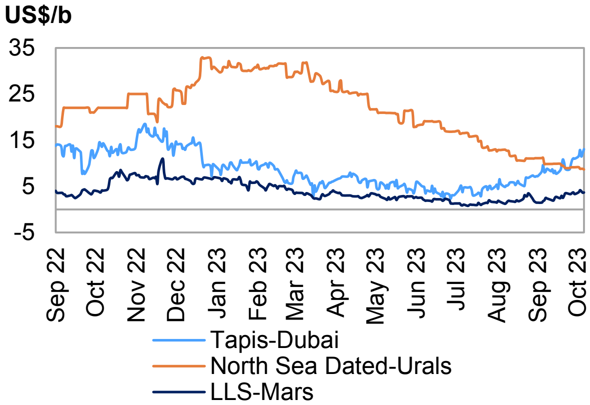
Regarding the **M1/M3 structure**, the **North Sea Brent** M1/M3 spread widened on a monthly average by 91¢ to a backwardation of $2.11/b, compared to $1.20/b in the month before. In the US, the **WTI** M1/M3 backwardation also widened by $1.17 to $2.18/b, compared to a backwardation of $1.01/b in August. The **Dubai** M1/M3 backwardation widened on average in September by 45¢ to a backwardation of $2.42/b.

Crude spreads

The value of light sweet crude continued to strengthen against the value of medium and heavy sour crude in the USGC and Asia Pacific markets in September, but the monthly sweet-sour crude spreads remained narrow compared to historical levels, while in Europe, the spread narrowed. Weaker heavy sulphur fuel margins against strong diesel margins and firm demand for light sweet crude contributed to widening sweet-sour crude differentials.

In **Europe**, sweet-sour crude differentials contracted as the value of sour crude found support from lower supply availability and strong demand from European refiners. On the other side, lower naphtha and gasoline crack spreads in Europe weighed on the values of light and medium sweet crudes. The Ekofisk-Johan Sverdrup differential fell by 45¢ m-o-m to stand at a premium of $1.06/b in September. The North Sea Dated-Urals crude spread also narrowed last month as the assessment of Urals value against North Sea Dated was seen higher last month from reporting agencies, amid sustained demand from Asian refiners and a lower supply of sour crude. The North Sea Dated-Urals crude differential narrowed by $1.87 m-o-m to average $9.73/b in September.

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



Sources: Argus, OPEC and Platts.

In **Asia**, the Tapis premium over Dubai widened last month on the higher value of light sweet crude against sour crude, with Brent-Dubai differentials also rising and flipping again to a premium. This made west-to-east arbitrage less favourable and limited the flow of light sweet crude from the Atlantic Basin to the Asia Pacific region, consequently boosting demand for local crude of a similar quality in the East of Suez market. The Brent-Dubai differential rose by $1.35 on a monthly average in September to stand at a premium of $1.03/b, compared with a discount of 32¢/b in August. The Brent-Dubai exchange of futures for swaps contract (EFS) also widened last month by $1.04 m-o-m to stand at a $1.64/b premium. A sharp drop in HSFO margins by nearly $8/b, and strong gasoil margins in Singapore contributed to a widening spread between sweet and sour crude. The Tapis-Dubai spread widened by $3.09 m-o-m in September to an average of $8.99/b.

Similarly, in the **USGC**, the LLS premium over medium sour Mars also widened by 62¢ m-o-m to $2.57/b. Light sweet crudes, such as LLS, were buoyed by lower stocks and firm demand from refiners. The spread also narrowed, as diesel margins in the USGC were strong, while the HSFO crack spread weakened and flipped to a discount of about $3/b.

Commodity Markets

Commodity price indices displayed mixed performance for the second-consecutive month in September. The energy price index continued its upward trajectory for the third consecutive month, while the base metal index saw a slight rebound during the same period. In contrast, the precious metals index recorded a consecutive monthly decline over the same period.

In the futures market, money managers saw a m-o-m rebound in both total net long positions and open interest. However, sentiment was mixed during this period, as the increases were primarily driven by crude oil, while other selected commodities experienced across-the-board declines.

China's government stimulus began filtering through the economy, lending support to most commodity prices. However, weaker global industrial activity – as seen by the m-o-m decline in the global manufacturing Purchasing Manager Index and a stronger US dollar – remained a drag on prices.

Trends in selected commodity markets

The **energy price index** continued its upward trend in September, rising by 8.3% m-o-m. All of the index components advanced for a second-consecutive month, led by average crude oil and coal prices. While natural gas prices in both the EU and the US also advanced, natural gas prices in the EU did not perform as strongly as the previous month. Y-o-y, the index was down by 23.4%.

Table 2 - 1: Commodity prices

Commodity	Unit	*Monthly averages*			*% Change*	*Year-to-date*	
		Jul 23	Aug 23	Sep 23	Sep 23/Aug 23	2022	2023
Energy*	Index	**100.9**	**108.7**	**117.8**	**8.3**	**157.2**	**106.9**
Coal, Australia	US$/mt	140.6	152.6	162.5	6.5	336.4	184.7
Crude oil, average	US$/b	79.0	84.7	92.2	8.8	101.0	80.3
Natural gas, US	US$/mbtu	2.6	2.6	2.6	2.1	6.7	2.5
Natural gas, Europe	US$/mbtu	9.5	11.2	11.5	3.2	41.5	13.0
Non-energy*	Index	**110.8**	**109.1**	**110.7**	**1.5**	**127.7**	**113.1**
Base metal*	Index	**107.0**	**105.2**	**105.4**	**0.1**	**126.8**	**110.8**
Precious metals*	Index	**148.6**	**145.8**	**145.3**	**-0.3**	**138.5**	**146.7**

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

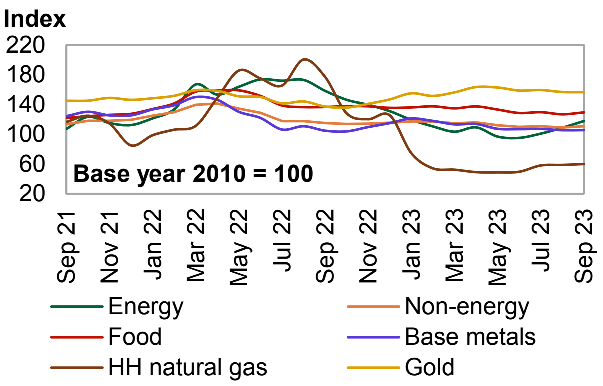
Average crude oil prices rose for a third-consecutive month in September, reaching their highest level since August 2022. Prices increased by 8.6% m-o-m, buoyed by strong market fundamentals and improved sentiment in the futures market. Prices were also up by 4.2% y-o-y, a shift in the trend compared with the previous month.

Henry Hub's natural gas prices increased for a fourth-consecutive month, rising by 2.1% m-o-m in September. Prices remained pressured by the combination of strong production and healthy inventories. According to data from the US Energy Information Administration, for the week-ending September 22, working natural gas stocks were 6% above the five-year average and 13% higher compared with the previous year. Nonetheless, increased exports, amid lower Henry Hub prices compared with other benchmarks, lifted prices. Y-o-y, prices were down by 58.3%.

Natural gas prices in Europe experienced a consecutive-monthly increase against a backdrop of robust inventories. According to data from Gas Infrastructure Europe, EU storage was above 95% as of the end of September. However, the **average Title Transfer Facility (TTF) price** went from $11.2/mmbtu in August to $11.5/mmbtu in September, a 3.2% increase m-o-m. Prices advanced at a much lower rate compared with the previous month as concerns of supply disruptions ebbed following a halt of labour strikes at Australian LNG facilities. However, the extension of ongoing maintenance activities at key Norwegian facilities continued to sustain upward pressure on prices. Y-o-y, prices were down by 67.9%.

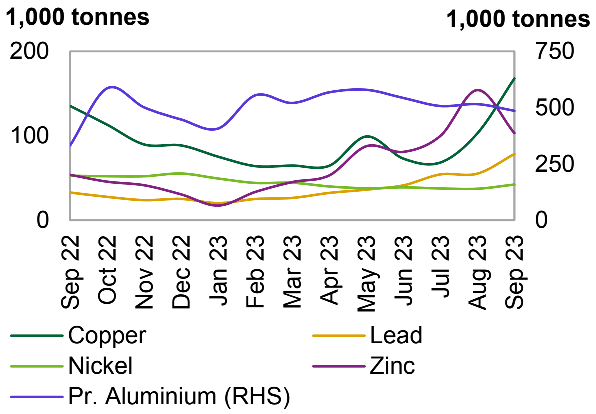
Australian thermal coal prices advanced for a third-consecutive month in September, increasing by 6.5% m-o-m. Prices rose on the back of increased imports from China ahead of the seasonal demand increase, as some domestic coal mines remained closed amid China's ongoing safety inspections policy. Prices were down by 65.9% y-o-y.

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 **non-energy price index** recovered from the previous month's decline, increasing by 1.5% m-o-m in September. Agricultural commodity prices rose as weather conditions associated with El Niño raised concerns about the supply outlook of agricultural commodities. The index was down by 3.5% y-o-y.

The **base metal index** experienced a slight increase in September, rising by 0.1% m-o-m. Most components of the index advanced, led by a recovery in aluminium and iron ore prices, but were offset by a decline in copper and nickel prices. Y-o-y, the index was up by 0.7%, a trend reversal compared with the previous month.

Aluminium prices rebounded in September following four-consecutive months of losses, increasing by 2.3% m-o-m. Prices rose on signs of rising demand in China as local governments stepped up support for the property and construction sectors. Outside of China, the London Metal Exchange (LME) warehouses reported a 5.6% m-o-m decrease in inventories, which added support to prices. Prices were up by 21.2% y-o-y.

Average monthly copper prices declined for a second-consecutive month, falling by 0.9% m-o-m in September. Copper prices received very limited support from China's fiscal stimulus amid China's strong production capacity of the metal. Outside of China, rising inventories continued to weigh on prices as the LME reported a 63.1% increase in inventories m-o-m, the highest in two years. Prices were up by 4.6% y-o-y.

Lead prices advanced for a second consecutive month in September, increasing by 4.6% m-o-m. The ongoing rise in electrical vehicle sales during September, particularly in China, continued to provide upside support to prices but remained capped by bearish signals from LME inventories. According to the LME, inventories rose by 42.2% m-o-m. Prices were up by 20.4% y-o-y.

Nickel prices fell for a fifth-consecutive month, declining by 3.9% m-o-m in September, while **zinc prices** advanced for a third consecutive month, increasing by 3.7% over the same period. Nickel prices declined under pressure from higher inventories at LME, which are up by 13.5% m-o-m. Meanwhile, zinc inventories declined by 33.1% m-o-m, thus lending support to prices. Y-o-y, **nickel prices** were down by 13.7%, while those for **zinc** were down by 20.1%.

Iron ore prices recovered from the previous months' decline, increasing by 9.8% m-o-m in September. Prices rose on the back of China's fiscal stimulus as well as the country increased imports ahead of the seasonal demand increase. Prices were up by 21.1% y-o-y.

The precious metals index experienced a consecutive monthly decline in September, falling by 0.3% m-o-m. All of the index components also receded for a second-consecutive month, although at a lower rate compared with the previous month. **Gold, silver and platinum** fell by 0.1%, 1.4% and 0.4%, respectively, m-o-m. The strong performance of the US dollar amid elevated interest rates remained a drag on precious metals, exacerbated by weaker global industrial activity. Y-o-y, the index was up by 14.3%, gold was also up by 14.0%, silver by 21.9% and platinum by 4.5% over the same period.

Investment flows into commodities

Total money managers' net length rebounded in September, increasing by 24.8% m-o-m. Crude oil led the increase in net long positions but was partially offset by a decline across the rest of the selected commodities.

Total open interest (OI) also advanced in September, increasing by 1.9% m-o-m. However, as with net long positions, crude oil led the increase in open interest but was partially offset by a decline across the remaining selected commodities.

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

Selected commodity	*Open interest*		*Net length*			
	Aug 23	Sep 23	Aug 23	% OI	Sep 23	% OI
Crude oil	2,189	2,318	189	9	284	12
Natural gas	1,193	1,174	-9	-1	-37	-3
Gold	594	586	61	10	55	9
Copper	237	218	-4	-2	-7	-3

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

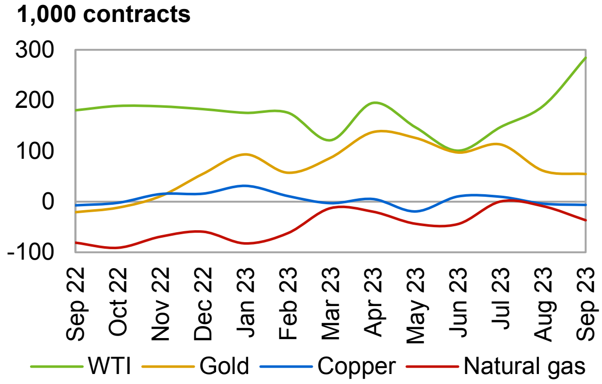
Total crude oil (WTI) OI increased in September after three consecutive months of decline, rising by 5.9% m-o-m. Meanwhile, money managers' net length rose sharply for a third-consecutive month over the same period, increasing by 50.5% m-o-m. Money managers turned bullish amid strong market fundamentals.

Total Henry Hub natural gas OI fell for a fourth-consecutive month, decreasing by 1.6% m-o-m in September. Money managers continued to cut net long positions by reducing both long and short positions over the same period. The combination of elevated gas storage levels and strong production weighed on money managers' sentiment despite another m-o-m increase in prices.

Gold's OI experienced a consecutive monthly decline in September, falling by 1.4% m-o-m. Money managers also cut net length over the same period by 10.6%. Elevated US interest rate levels drove money managers away from gold.

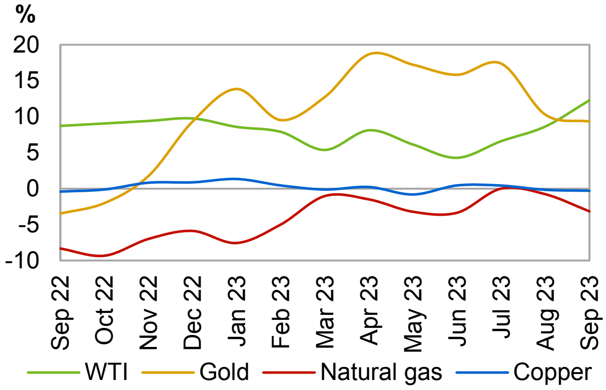
Copper's OI fell by 8.1% m-o-m in September, erasing gains from the previous month. At the same time, money managers reduced their net length sharply by 57.0% m-o-m. Rising inventories at LME amid weaker global industrial activity weighed on money managers' sentiment.

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

Considering the resilience of global economic growth in 1H23 and its potential extension into 3Q23, the 2023 global economic growth forecast has been revised up to 2.8%. Within the OECD economies, the robust growth observed in the US during 1H23 is expected to be sustained in 3Q23, followed by a gradual moderation in 4Q23. The Eurozone experienced lower-than-expected growth in the 1H23, primarily due to an industrial sector decline, with growth expected to pick up slightly in 3Q23, driven by the services sector and consumer resilience, but moderate again in 4Q23 due to ongoing macro challenges. Japan's economic growth exceeded its growth potential in 1H23. In the non-OECD group of countries 1H23 economic growth in India, Brazil, and Russia was sound as well. Moreover, in China, government counterbalancing measures effectively supported the economy in achieving its growth target for this year. Global economic growth in 2024 is forecast to stand at 2.6%, unchanged from last month.

Potential challenges to these forecasts encompass ongoing elevated inflation rates, sustained restrictive monetary policies, labour market constraints in advanced economies, and geopolitical developments. However, positive support could arise from a less pronounced inflationary environment, allowing key central banks to adopt accommodative monetary policies toward the end of this year and in 2024. Emerging economies in Asia, notably India, as well as Brazil and Russia may outperform expectations with improvements in domestic demand and external trade. Additionally, an even more robust growth trajectory in China, backed by further fiscal and monetary stimulus measures, has the potential to bolster global economic growth this and next year. Additionally, if the US sustains its recent momentum, economic growth could surpass initial expectations.

Table 3 - 1: Economic growth rate and revision, 2023–2024*, %

	World	OECD	US	Eurozone	UK	Japan	China	India	Brazil	Russia
2023	**2.8**	**1.4**	**2.0**	**0.5**	**0.2**	**1.7**	**5.2**	**6.2**	**2.5**	**1.5**
Change from previous month	0.1	0.1	0.2	-0.1	0.2	0.2	0.0	0.2	0.4	0.5
2024	**2.6**	**0.9**	**0.7**	**0.7**	**0.6**	**1.0**	**4.8**	**5.9**	**1.2**	**1.0**
Change from previous month	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0

*Note: * 2023 and 2024 = Forecast. The GDP numbers have been adjusted to reflect 2017 ppp.*

Source: OPEC.

Update on the latest global developments

Global economic growth has kept its resilient trend in most major economies in 1H23, but the global growth dynamic and level have remained diverse among economies. Economic indicators from 3Q23 in the US and China indicated further improvements in certain key areas, like domestic demand and industrial output. A continuation of positive 1H23 trend seems to have continued in India, Brazil and Russia as well. The European economies are in a more challenging situation. A decline in Germany during 1Q23, stagnant growth in 2Q23, and a challenging situation in the industrial sector, including in France and Italy, kept growth at a very low level in 1H23 and seemingly in 3Q23.

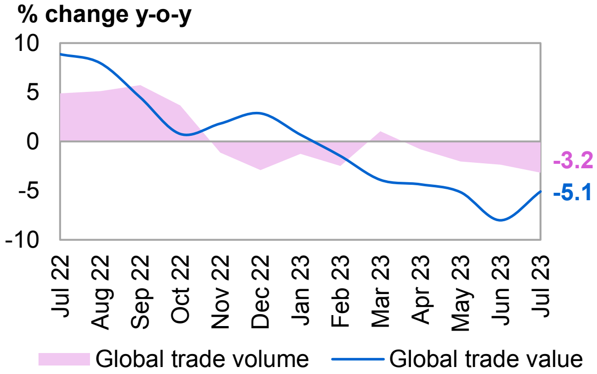
Core inflation continued to abate in most advanced economies according to the latest data available. However, despite this improving price trend inflation remains a concern for the US Federal Reserve (Fed), the European Central Bank (ECB) and the BoE, which may lead these central banks to continue their tight monetary policies. Bond yields in these three important economies have risen considerably in the past weeks, indicating the market’s expectation of continued rising interest rates. With these developments and the indication of ongoing high-interest rates in the US, the US dollar continued strengthening with consequent carry-over effects in global trade, given the importance of the US dollar in global trade transactions.

Global trade continued its slowing annual trend in volume and value terms, while global trade in value terms recovered on a monthly base in July, the latest available month.

Trade in value terms declined by 5.1% y-o-y in July, following a decline of 8% y-o-y in June, based on the CPB World Trade Monitor Index provided by the CPB Netherlands Bureau for Economic Policy Analysis. This yearly decline translates to a rise of 1.1% on a monthly base, also supported by the recovery in commodity prices. After a period of decline, commodity prices started to recover in July, rising by 4.5% m-o-m.

Trade in volume terms fell by 3.2% y-o-y in July, after declining by 2.3% y-o-y in June, extending the deceleration.

Graph 3 - 1: Global trade



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

Near-term global expectations

The path of **global economic growth** hinges on a multitude of factors. Beyond country-specific influences, important global determinants include the near-term trajectory of inflation, particularly in key economies, and the corresponding monetary policies by key central banks. Recent increases in benchmark bond yields within advanced economies align with the prevailing market sentiment favoring the continuity of tight monetary policies and the continuation of elevated interest rates. Robust economic output data in the United States, coupled with a healthy labour market, have served as key drivers for the upward momentum in bond yields. These developments have coincided with the expectation of a notable upswing in the US budget deficit and the need to issue more sovereign debt. Simultaneously, there are indications that major holders of US dollar reserves may diversify into alternative reserve assets. The confluence of these factors has collectively pushed US yields higher, with similar dynamics in bond markets in the Eurozone and the United Kingdom. The prevailing consensus now anticipates that elevated interest rates and their resulting dampening effect will endure throughout much of 2024, with key policy rates projected to reach their peak by year-end. While G4 central bank balance sheets are expected to gradually contract through 2024, the transition toward a more accommodative monetary stance may only materialize in the latter half of next year. It is anticipated that headline inflation will continue to recede in 2H23 and into 2024. However, core inflation in major economies is expected to remain relatively persistent, with a gradual moderation projected for 2024. With the gradual reduction in global integration, considering the ongoing geopolitical developments and rising trade restrictions, and the resulting disintegration of supply chains, there could be a potential for inflationary fluctuations in the near term, which may require central banks to remain vigilant

Despite the ongoing challenges, global growth has held up better than expected so far in **2023**. After resilient 1H23 global economic growth, a steady growth trend is forecast to be maintained in 3Q23. Global growth rates in 1Q23 and 2Q23 are estimated to have stood at 2.7% y-o-y and a more considerable 3.5% y-o-y, respectively. While 3Q23 global economic growth is estimated to stand at 2.6% y-o-y, global economic growth in 4Q23 is forecast to ease to a level of 2.4% y-o-y. This slower growth in 4Q23 is anticipated to be the outcome of tighter monetary policies, particularly in the US and Europe, which are expected to gradually ease the momentum of growth in private household consumption, investments and consequently, global trade. Also, consumption will be impacted by the discontinuation of financial aid to households, particularly in advanced economies, a core support factor during the pandemic. Additionally, ultra-low interest rates that supported investments of companies and governments, and therefore lifted GDP growth, are no longer available. Finally, the substantial contribution from the services sector is projected to gradually decelerate towards the end of the year and in 2024. While the industrial sector's impact on the global economy is expected to strengthen in relative terms by year-end, this trend is yet to fully materialize.

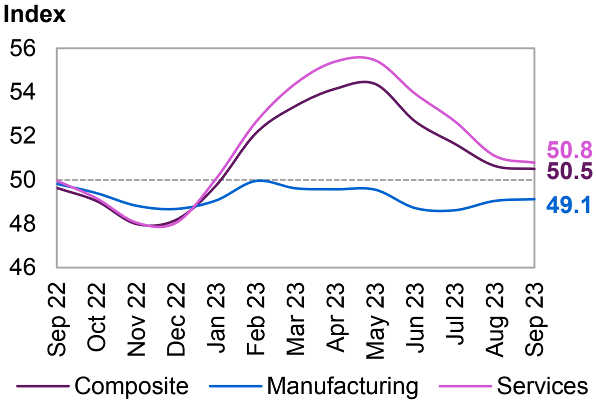
Lower average quarterly growth rates are expected in **2024.** However, a more accommodative monetary policy in the US and Europe during 2H24 is expected to drive some acceleration towards the end of the year. Growth for 1H24 is projected to be approximately 2.4% y-o-y, with expectations of an increase to 2.6% y-o-y in 3Q24 and a further acceleration to 3.1% y-o-y in 4Q23.

Global purchasing managers' indices (PMIs) in September reflect some decelerating trends in the services sector and an ongoing challenging situation in manufacturing.

The global **manufacturing PMI** improved slightly to stand at 49.1 in September, after a level of 49.0 in August, and compared with 48.6 in July; however, it has remained in contractionary territory since September of last year.

The global **services sector PMI** fell to 50.8 in September, after 51.1 in August, and compared with 52.7 in July.

Graph 3 - 2: Global PMI



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

The **global growth forecast for 2023** was revised up to stand at 2.8%. This takes into consideration the sound growth in 1H23, and an extension of solid underlying dynamics in 3Q23.

Global economic growth for **2024** remains at 2.6%, unchanged from the previous month.

Table 3 - 2: World economic growth rate and revision, 2023–2024*, %

	World
2023	**2.8**
Change from previous month	0.1
2024	**2.6**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

OECD

OECD Americas

US

Update on the latest developments

The **US economy** was confirmed to have continued expanding at a steady growth rate – based on the major revisions that were released at the end of September by the Bureau of Economic Analysis (BEA) – putting the GDP measurement on a 2017 US-dollar base. **Economic growth in 2Q23 and 1Q23** was reported at 2.2% q-o-q SAAR and 2.1% q-o-q SAAR, respectively, with minor changes to the previous releases. Private household consumption was reported as having held up well in 1Q23 at 3.8% q-o-q SAAR, while it decelerated to 0.8% q-o-q SAAR in 2Q23, potentially already reflecting that pandemic-related savings have shrunk and that debt-financed consumption in the US may become more challenging going forward. However, the latest estimates of the Atlanta branch of the Fed put 3Q23 growth at almost 5% q-o-q SAAR.

Domestically, political challenges remain after a **government shutdown** was temporarily averted. The US Congress voted to avoid a government shutdown after lawmakers agreed on a temporary measure that keeps the government funded until 17 November 2023. However, it remains to be seen how the situation will be managed by then, given that the majority in the House of Representatives voted to remove the Speaker from his post. An additional challenge may come from the ongoing strike of the United Auto Workers (UAW), a labour union. So far the strike has not materially impacted the US economy, but it could have the potential to significantly impact the economy via reduced output and rising prices if the strike expands.

In the meantime, the **consumer confidence index,** as reported by the Conference Board, retracted again, reflecting some of the ongoing challenges that private household consumers need to deal with. The index stood at 103 index points in September, retracting from an August level of 108.7 and a level of 114 in July.

An important development was the rise in particularly longer-dated **US bond yields**. The 10-year treasury bond rose by 0.5 percentage points in just two weeks at the turn of the month and the yield on the benchmark US 10-year bond has reached around 4.8% and seemingly shifted the interest rate structure to a higher level. The cost of a 30-year mortgage is gradually approaching 8%. The consequences remain to be seen, but the expectation of high rates already stoked stress in the US banking system in March, with consequent spillovers on the global level.

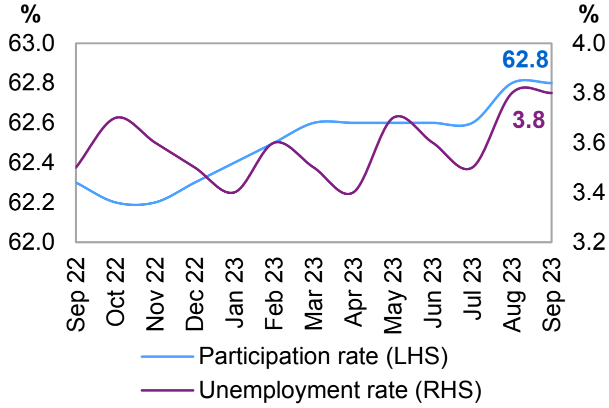
Headline **inflation** has increased slightly, while core inflation has retracted again. The general price index increased to a level of 3.7% y-o-y in August, followed by 3.2% y-o-y in July and 3% in June. Core inflation slowed down to a level of 4.3% y-o-y in August, after 4.7% in July and 4.8% y-o-y in June, but surpassing general inflation. It is, however, the lowest core inflation level in almost two years. The Fed is also being steered by its guideline, the core index of personal consumption expenditures (PCE). This inflation index stood at 3.8% y-o-y in August, followed by 4.2% y-o-y in July and 4.3% y-o-y in June.

The labour market maintained its healthy state in September. The **unemployment rate** remained at 3.8%, the same level as in August.

The **participation rate** was also unchanged, as it stood at 62.8% in September.

The earnings level remained sound as well, albeit retracting slightly. **Hourly earnings** rose by 4.2% y-o-y in September, almost the same level as in August, when earnings rose by 4.3%.

Graph 3 - 3: US monthly labour market



Sources: Bureau of Labor Statistics and Haver Analytics.

Near-term expectations

After strong growth in both 1Q23 and 2Q23, the US economy is expected to remain in relatively sound shape in 3Q23. However, the 4Q23 growth is forecast to decelerate, a dynamic that is forecast to carry over into 2024. The challenges for the near-term growth momentum are manifold. The impact of the UAW strike remains to be seen, but the UAW said recently that it would not expand strikes amid progress in the talks. A more serious issue may materialize in the form of potential gridlock on the US budget, leading to a government shutdown. Given the current lack of leadership in the House of Representatives, the outcome of political negotiations on this issue remains uncertain.

Although it is unclear whether there will be a government shutdown before the end of the year, US GDP growth in 4Q23 will very likely slow down considering, inter alia, the rise in bond yields and tightening in financial conditions, in combination with the end of the student loan moratorium. Moreover, rising interest rates will have implications for companies' borrowing costs, and will increase the burden for households to repay consumer loans, including car loans, and certainly mortgages. High yields generally create a potential tax on the economy with the consequence of headwinds to economic growth in the near term.

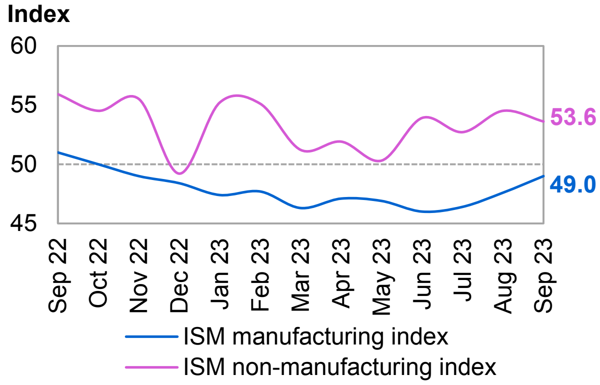
The growth trajectory in 2024 remains unclear. However, given the current trend of deceleration, it is highly likely that growth levels in 2024 will fall below the quarterly growth pattern observed this year on average. An acceleration of the economic growth dynamic is forecast to materialize in 2H24, with economic growth rates of around 1% q-o-q SAAR in 3Q24 and 4Q24. This positive momentum towards 2H24 is considered to be driven especially by a more accommodative monetary policy, among other factors. Interest rates are forecast to peak at the end of 2023. Following core inflation of 6.1% in 2022, the inflation forecast for 2023 remains at around 4.5% and around 3% in 2024. This trajectory is likely to prompt the Fed to maintain its existing monetary policies, with the key policy rate potentially reaching 5.75% by year-end. Key policy rates are projected to peak at that point and transition to a more accommodative policy stance by the second half of 2024.

September **PMI** levels, as provided by the Institute for Supply Management (ISM), reflect an improving trend, but ongoing contraction in the manufacturing sector and a gradual slowdown in the services sector.

The September **manufacturing PMI** rose to 49, following 47.6 in August and a level of 46.4 in July, providing an improving trend, but remaining below the growth-indicating level of 50.

The index level for the **services sector**, representing around 70% of the US economy, retracted slightly to stand at 53.6, after 54.5 in August and 52.7 in July.

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



Sources: Institute for Supply Management and Haver Analytics.

Considering the sound momentum in 1H23 and indications for ongoing growth in 3Q23, the **2023 economic growth forecast** was revised up to stand at 2%, following 1.8% in the previous month.

Considering the dampening effect from high-interest rate levels and slowing yet still elevated inflation levels, the US economic growth estimate for **2024** is anticipated to stand at 0.7%, unchanged from the previous month.

Table 3 - 3: US economic growth rate and revision, 2023–2024*, %

	US
2023	**2.0**
Change from previous month	0.2
2024	**0.7**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

OECD Europe

Eurozone

Update on the latest developments

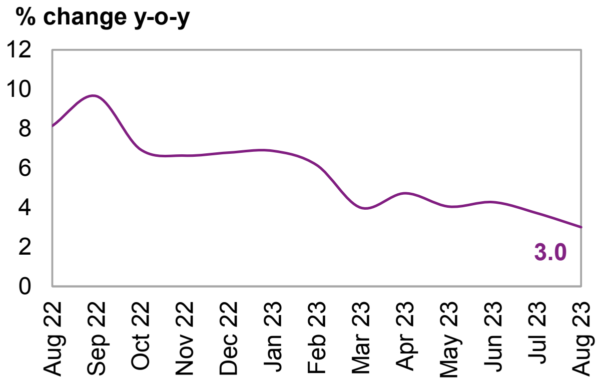
The Eurozone's economy continues to experience slow growth. The economic region continues to grapple with persistently high core inflation, although general inflation has receded due to lower energy prices this year. However, the effects of the ECB's subsequent monetary policy actions and the recent decline in industrial activity are still being absorbed. While the services sector, especially in tourism and leisure, appeared to provide some support to activity in 3Q23, overall indicators suggest ongoing subdued economic performance during this period. Bank lending has weakened further amid the strong rise in interest rates too. Ultimately, confidence across the Eurozone's member countries, and the activity in retail sales and industrial production (IP) data for 3Q23, all point to ongoing low growth.

Inflation slowed down considerably in September to stand at 4.3% y-o-y, after it stood at 5.2% y-o-y in August and at 5.3% y-o-y in July. Core inflation retraced as well, but remained high, standing at 5.5% y-o-y in September, following 6.2% y-o-y in August and 6.6% y-o-y in July.

The **labour market** maintained its positive trajectory. According to the latest numbers from Eurostat, the unemployment rate stood at 6.4% in August, following 6.5% in July.

Growth in **retail sales** in value terms maintained good momentum, but continued decelerating, rising by 3% in August, following 3.7% y-o-y in July and 4.3% y-o-y growth observed in June.

Graph 3 - 5: Eurozone retail sales



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

Near-term expectations

After low growth of 0.3% q-o-q SAAR in 1Q23 and 0.5% q-o-q SAAR in 2Q23 economic growth is forecast to pick up slightly in 3Q23, accelerating to 1.6% q-o-q SAAR and very much supported by services-sector related consumer spending during the summer months. However, given the considerable slowdown in bank lending, the expected deceleration of the services sector towards the end of the year and the only gradually improving industrial sector 4Q23 growth is forecast to decelerate to a level of 1.2% q-o-q SAAR. Among the additional challenges necessitating close monitoring is the soft Euro-US-dollar relationship, which may continue impacting – imported – inflation, as the appreciation of the US dollar is possibly leading to higher imported goods prices. Quarterly growth in 2024 will likely stand within a very close range of between 0.4–0.8% annualised quarterly averages. The forecast for 2024 anticipates gradual progress in the industrial sector, driven by both domestic and external demand.

Among the Eurozone economies, it remains to be seen if and to what extent the expected recovery in IP will materialize. If forthcoming, this would represent an important support factor for German GDP growth. Elsewhere, the situation in Italy will warrant attention as sovereign debt challenges are resurfacing. Although spreads over German Bunds have only risen modestly so far, the 10-year Italian sovereign bond yield now stands at the highest level in more than 10 years. If this interest rate level continues, yields at this level imply that the debt service burden will likely grow substantially in the future. This would contribute to an already significantly larger deficit, compared to the pre-pandemic period.

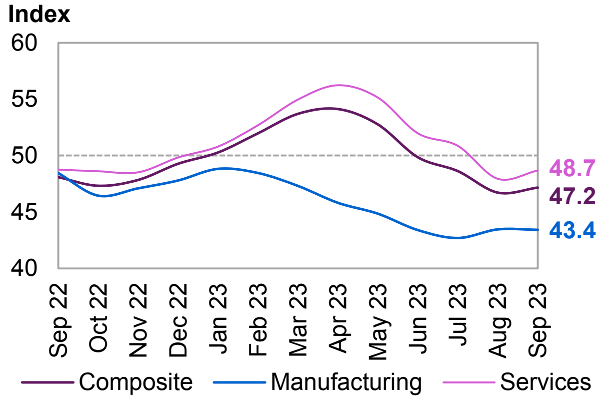
Core inflation is forecast to exceed 5% y-o-y in 2023, compared to 3.9% y-o-y in 2022, and is anticipated to retreat to slightly over 2% in 2024. With these assumptions and inflationary trends, rate cuts will likely materialize only in 2H24. The ECB is forecast to continue tightening its monetary policy towards the end of the year, with the main key policy rate to be maintained at least at the current 4.5%. The projected slowdown in lending activities is anticipated to have varying effects, potentially impacting sectors like real estate and broader business-related investments to some extent.

The **Eurozone's September PMIs** pointed to continuing challenges in both the manufacturing sector – which remained in contractionary territory – and downward momentum in the services sector.

The **PMI for services**, the largest sector in the Eurozone, remained below the growth indicating level of 50, to stand at 48.7 in September. This constitutes an improvement from the level of 47.9 in August.

The **manufacturing PMI** was almost unchanged and remained deep in contractionary territory, standing at 43.4 in September, following 43.5 in August and 42.7 in July.

Graph 3 - 6: Eurozone PMIs



Sources: S&P Global and Haver Analytics.

Economic growth for 2023 was revised down slightly to stand at 0.5%, from 0.6% in the previous month. This is taking into consideration the low growth in 1H23 and the further impact of a variety of dampening factors, including inflation and ongoing monetary tightening. The forecast also anticipates some rebound in 2H23, amid rising services sector activity in the summer months and improving industrial activity in 2H23.

With some carry-over of this lower activity, **2024 economic growth** was also revised down to stand at 0.7%, compared to 0.8% in the previous month.

Table 3 - 4: Eurozone economic growth rate and revision, 2023–2024*, %

	Eurozone
2023	**0.5**
Change from previous month	-0.1
2024	**0.7**
Change from previous month	-0.1

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

OECD Asia Pacific

Japan

Update on latest developments

After Japan's economic growth from 1H23 was revised up, and even after some downward revision of the 2Q23 growth level 1H23 growth turned out at much higher-than-expected levels. Economic growth in 1Q23 was reported at 3.2% q-o-q SAAR, compared with the initial estimate that stood at 2.7%, as reported by the Ministry of Economy, Trade and Industry (METI). Economic growth in 2Q23 is reported at 4.8% q-o-q SAAR. The high 2Q23 economic growth rate was very much impacted by ongoing, pent-up demand within Japan, and was also supported by the reopening of Japan's tourism sector for visitors within Japan and by the country again welcoming foreign tourists. Thus, the high 2Q23 performance represents a late consequence of the pandemic. Growth in 3Q23 seems to be much lower than in 1H23, judging from the most recent output indicators.

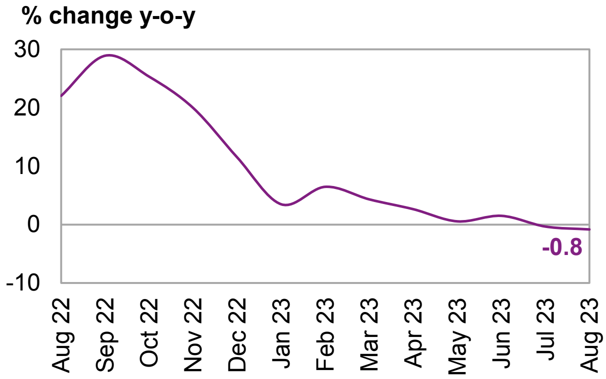
The **industrial sector** continued weakening in August, with industrial output declining by 3.4% y-o-y, after a decline of 2.5% y-o-y in July and following a slight decline of 0.2% y-o-y in June. Inflation remains historically high, though relatively unchanged over recent months at 3.2% y-o-y in August, compared with 3.3% y-o-y in July and June. Compared with the general inflationary trend, core inflation – excluding food and energy – a main guideline for central bank policies, was also steady at 2.7% y-o-y in August, the same level as in July.

The **Bank of Japan** (BoJ) has already started to change its ultra-accommodative monetary policies, while so far it has kept its negative key-policy rate. In the meantime, it has adapted its yield curve control approach. However, it remains to be seen how the BoJ will attempt an exit from its current loose monetary policy. A disorderly exit may have unwanted consequences and may cause a jump in Japanese government bond yields, with effects on Japanese asset markets and its economy. However, when considering the relative 1H23 strength of the Japanese economy, ongoing high inflation – particularly services producer prices – and the weakening of the Japanese yen, there will be ongoing pressure on the BoJ to tighten monetary policy at a faster pace in the near term.

Goods **exports** remained sluggish and continued a slowing trend. After exports expanded by 4.8% in 1Q23, external trading slowed to 1.6% y-o-y in 2Q23. In 3Q23, exports even declined by 0.3% in July and 0.8% y-o-y in August, all on a non-seasonally adjusted basis. This relates to the challenging conditions witnessed in the global goods sector over the past few months.

Retail sales continued their expansionary trend, with robust domestic demand seen in 2Q23. Retail sales grew by 7% y-o-y in August, after 6.9% y-o-y in July, and 5.6% y-o-y in June, in value terms and on a non-seasonally adjusted basis.

Graph 3 - 7: Japan's exports



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

Consumer confidence remained sound but retracted slightly. The consumer confidence index stood at 35.2 in September, after 35.5 in August, and 36.4 in July and June, which at the time marked the highest index point since February 2022.

Near-term expectations

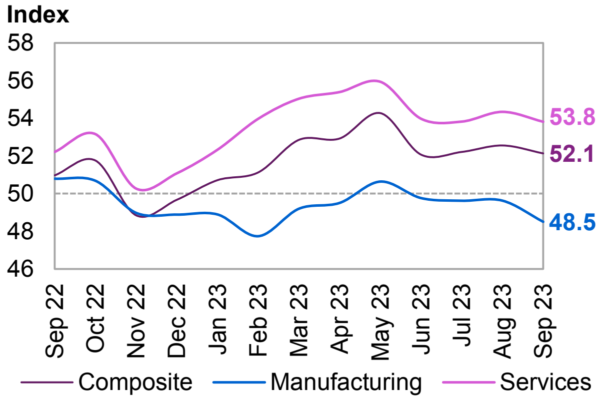
After strong growth in 1Q23 of 3.2% q-o-q SAAR and 4.8% q-o-q SAAR in 2Q23, this 1H23 surge in economic expansion might not be sustained in 2H23. Japan's growth is forecast to mean revert to its low-growth pattern in 2H23 and also in 2024. While 2H23 growth is forecast to be very low, growth rates are forecast at around 1% in 1H24. This is forecast to be followed by a slight pickup in activity in 2H24, when growth is forecast at around 2%, in line with the global growth expectations. The expansion of the services sector is expected to slow down in 2H23, as much of the growth had been primarily fueled by pent-up demand in contact-intensive segments of the economy, such as tourism. However, as IP and exports are forecast to gradually pick up towards the end of the year, there is potential for Japan's growth trajectory to stabilize in 2H23 and continue expanding in 2024. With the sound growth pattern and by considering, among other factors, the weakening of the yen, and rising inflation, the BoJ is forecast to continue pursuing gradual tightening, with a focus on yield curve control, and to maintain a relatively accommodative monetary policy in 2023. However, it may turn more decisive in the near term given the continued relative strength of the economy, sticky inflation and the most recent weakening of the yen. Inflation is estimated to have averaged 3.6% y-o-y in total in 1H23 but is forecast to trend downwards towards the end of the year.

September's PMI numbers reflect an ongoing contraction in the manufacturing sector, but a supportive trend in the services sector. Importantly, the manufacturing sector remained in contractionary territory, below the index level of 50.

The **services sector PMI**, which constitutes around two-thirds of the Japanese economy, retracted only very slightly to stand at 53.8 in September, after 54.3 in August and 53.8 in July.

The **manufacturing PMI** retracted to stand at an index level of 48.5, after a level of 49.6 in August.

Graph 3 - 8: Japan's PMIs



Sources: S&P Global and Haver Analytics.

After strong growth in 1H23, the **2023 economic growth forecast** was revised up to 1.7%, compared with 1.5% in the previous month. Growth is forecast to be supported by domestic demand, mainly from the services sector, and by a gradual improvement in exports.

The projection for **2024** sees a slight deceleration to 1.0%, unchanged from the previous month.

Table 3 - 5: Japan's economic growth rate and revision, 2023–2024*, %

	Japan
2023	**1.7**
Change from previous month	0.2
2024	**1.0**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

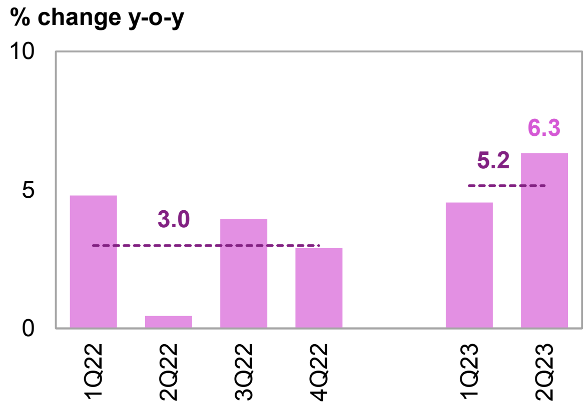
Non-OECD

China

Update on the latest developments

The economy has encountered several challenges in recent times, and in response, the government has introduced a series of counterbalancing and supportive measures to stimulate growth in 3Q23 and beyond. There are early signs of improvements resulting from these measures, demonstrated by an enhancement in domestic demand and industrial output. Retail trade growth recovered, picking up by 4.6% y-o-y in August, following a rise of 2.5% y-o-y in July and 3.1% y-o-y in June. Similarly positive, IP rose by 4.5% y-o-y in August, after 3.7% y-o-y in July.

Graph 3 - 9: China's economic growth



Sources: National Bureau of Statistics and Haver Analytics.

An important driver for the 1H23 dynamic was pent-up demand in the services sector, particularly the contact-intensive sector, including leisure, tourism and transportation, which has enjoyed strong support. While the property sector remains in a challenging situation, activity outside of the property sector picked up most recently, providing a base for the expected cyclical rebound in 2H23.

The latest holiday period in China, China's Golden Week, provided some support to the current 4Q23 growth as well. According to the Ministry of Culture and Tourism, the number of domestic travellers during the break was 4.1% above 2019 levels. Domestic tourism revenue was higher as well, rising by 1.5%. Per capita tourism revenue was still 2% below 2019 levels. The Golden Week typically holds significant importance for China's property market. However, home sales in 35 cities have witnessed a 20% decline compared to 2022, as per data from Securities Times, and have also fallen below the figures from 2019. In the meantime, support measures for the real-estate sector were introduced to ease mortgage conditions for first-time buyers. In addition to a reduction in minimum mortgage down payments, and cuts to existing mortgage rates, further financial support measures by the government were undertaken. Adjustments were made to increase personal income tax allowances for expenses related to children's education and the care of infants and the elderly. Policymakers also implemented measures like reducing trading fees. The slowdown in the property sector, which accounts for around a quarter of the economy, is being counterbalanced by the “new economy” area, based on data from the National Bureau of Statistics (NBS). At the August NBS press conference, NBS officials highlighted strong double-digit growth in solar batteries, commercial airplanes, and semiconductors, among other growth areas.

External trade challenges persist. After **export volumes** declined in 2022, falling by 2.3%, sluggish momentum rebounded at the beginning of the year, following the reopening of the economy. Export volumes recovered particularly strongly in March and April, rising y-o-y by 15.3% and 10.9%, respectively. However, export volumes declined in the three consecutive months, but recovered again in the latest available month of July, rising by 5.9% y-o-y, as reported by China’s General Administration of Customs.

After the headline **inflation rate** retracted again and fell into deflationary territory, declining by 0.3% y-o-y in July, it turned positive in August, rising by 0.1% y-o-y. The widely watched inflation rate for urban areas rose in August by 0.2% y-o-y, after it declined by 0.2% y-o-y in July. Hence, the price development is still muted and this development has raised concerns about potential deflationary trends in China. That said, this situation provides the government with increased flexibility for additional fiscal or monetary policy actions, if necessary. Given the near-zero inflation rate, there is a strong potential that the government may introduce more proactive stimulus measures. Notably, the central bank could embark on additional and more forceful stimulus measures, after the 1-year loan prime rate, the key policy rate, has been lowered already in August by 10 bp to stand at 3.45%.

Near-term expectations

Based on the latest data, a gradual pickup in economic activity is anticipated to materialize in 2H23. It is expected that the manufacturing sector will experience a modest improvement, whereas the service sector is expected to continue its gradual slowdown. The housing sector has witnessed ongoing contraction in both the primary and secondary markets, and its stabilization is expected to be a gradual process. This stabilization is further supported, in part, by the consistent implementation of support measures by policymakers. These latest stimulus measures underline the government’s determination to achieve the growth target of around 5% for this year and support weakening areas of the economy, especially the real-estate sector. Current projections for **economic growth** suggest a relatively even distribution throughout the year. After 1Q23 growth was reported at 4.5% y-o-y, 2Q23 economic growth stood at 6.3%. This will be followed by around 5% in 2H23. This will lead the Chinese economy to expand by 5.2% y-o-y in 2023. In 2024, growth is forecast to slightly decelerate and be relatively evenly distributed on a quarterly basis.

In addition, it is expected that further monetary policy and financial support measures will be undertaken. A further round of key policy rate cuts, of around 10bps, across the key policy rates is likely. This may be accompanied by another 25bp cut of the reserve ratio requirement (RRR) of around 25 bp in December. The RRR for financial institutions stood at around 7.4% after the most recent cut of 25 bp in September. Maintaining accommodative liquidity conditions will be important to provide liquidity support for property developers, thus enabling the successful completion of projects and contributing to the vital real estate sector.

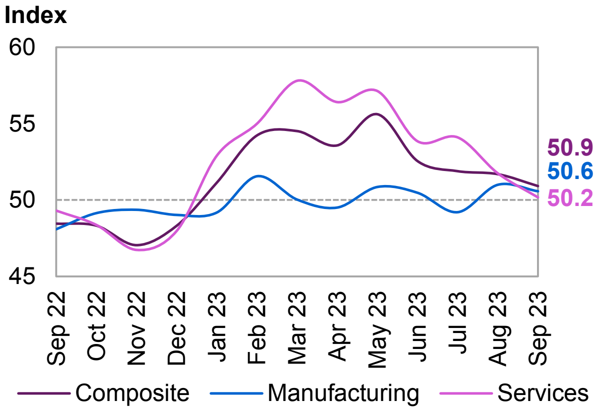
Projected inflation is expected to maintain a low growth dynamic throughout 2023, which provides a degree of flexibility for implementing additional economic support measures through both monetary and fiscal channels. The need for further support is also underscored by the weakening of selective areas in the labour market and the possibility of deflationary pressures that could constrain short-term consumer spending. Thus far this year, there has been robust consumer expenditure within the services sector, while domestic demand for goods has shown limited dynamism. That has contributed to subdued activity in the manufacturing sector The decline in industrial activity can be attributed in part to a slowdown in exports. Additionally, it is influenced by the ongoing process of reducing inventories that were accumulated during the pandemic, which is expected to serve as a foundation for a cyclical recovery in 2H23.

September PMI readings, as provided by S&P Global, show that the services sector's activity continued its expansion but activity slowed down recently. Activity in the manufacturing sector remained above the expansionary territory of 50.

The **manufacturing PMI** stood at 50.6 in September, following 51 in August and after reaching 49.2 in July.

The **services sector index** retracted to stand at 50.2 in September, following an index level of 51.8 in August and 54.1 in July.

Graph 3 - 10: China's PMI



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

The **2023 economic growth forecast** remains at 5.2%. This anticipates sustained, pent-up demand in 2H23, and a steadily improving economy. This is also due to a cyclical recovery, along with additional measures implemented by authorities to bolster economic growth.

Economic growth in **2024** remains unchanged at 4.8%, a slight deceleration from this year's level. However, China will account for the largest single share of global economic growth next year at this growth level.

Table 3 - 6: China's economic growth rate and revision, 2023–2024*, %

	China
2023	**5.2**
Change from previous month	0.0
2024	**4.8**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

Other Asia

India

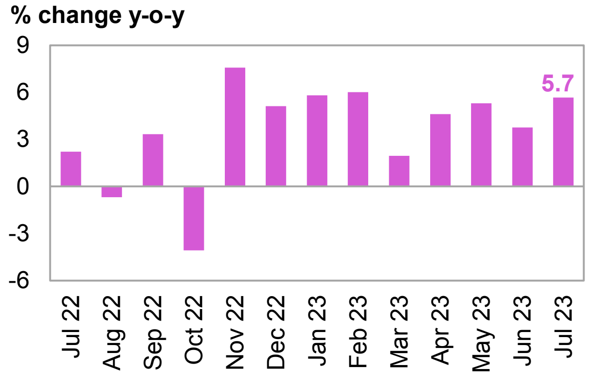
Update on the latest developments

The latest output and activity indicators for the Indian economy point to well-supported growth dynamics in 2H23. Some concern arose from a recent pickup in inflation, but it seems that this monsoon-related development may be a temporary episode. Consequently, it could influence the central bank to refrain from adopting a more accommodative monetary policy stance at this time. After India's economic growth in 1Q23 was reported to have stood at 6.1% y-o-y, economic growth accelerated further in 2Q23, standing at 7.8% y-o-y. This was a sound rebound from 2H22 growth levels, when growth rates of 3.3% in 3Q22 and 4.4% in 4Q22 were recorded. Moreover, 1H23 economic growth for the Indian economy was supported by a broad-based expansion across all sub-sectors. While the services sector continued to post robust growth across the various sub-sectors, the manufacturing side of the economy has continued to expand as well. A major impulse for 1H23 growth seems to have come from investment in the economy, supported by government-led stimulus efforts and robust export performance as well. Private consumer spending was strong too, with growth in consumption accelerating by 6% y-o-y in 2Q23, following growth of 2.8% y-o-y in 1H23.

Leading indicators and output metrics indicate an ongoing favourable trend in 3Q23 and towards the end of the year. The services sector is expected to remain the primary growth driver for the economy, but India has also benefited substantially from improvements in its manufacturing sector, with the latest PMI indicator from September and August indicating a continued expansion.

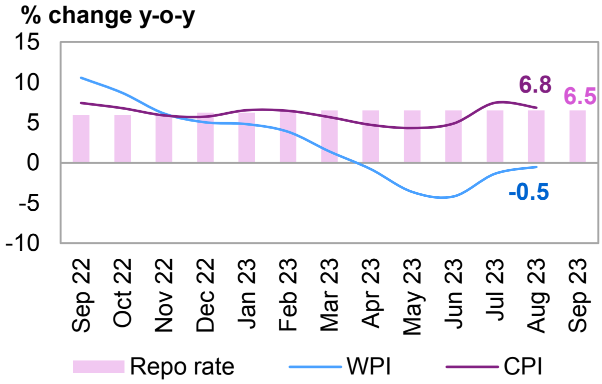
IP advanced by 5.7% y-o-y in July, following an already strong 3.8% y-o-y in June, and a similarly strong rise of 5.3% y-o-y in May. This July trend is in continuation of 2Q23 IP at 4.6% y-o-y and 4.5% y-o-y in 1Q23.

Graph 3 - 11: India's industrial production



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

Graph 3 - 12: Repo rate and inflation in India



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

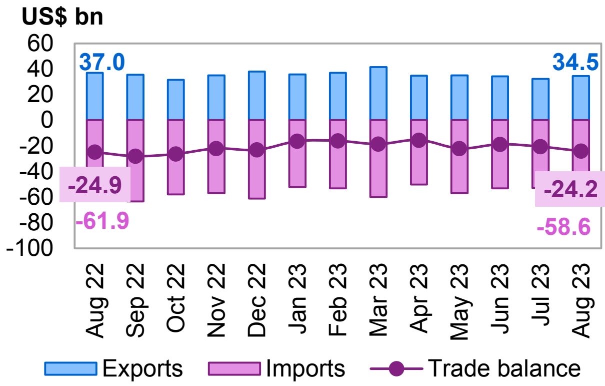
While India's **inflation** increased recently, it retracted again in the latest available month of August. The **general CPI index** rose by 6.8% y-o-y in August, following a rise to 7.4% y-o-y in July, which marked a monthly increase of 2.5 percentage points, fuelled by a surge in vegetable prices. Severe supply disruptions during the current monsoon season caused a steep increase, especially in vegetable prices, mainly led by tomatoes, among other important vegetable prices. Food and beverage inflation retracted in August, rising by 9.2% y-o-y, after it had risen sharply to 10.6% y-o-y in July, after a level of only 4.6% y-o-y was recorded in June. Core inflation excluding fuel, food and light declined to stand at 4.8% y-o-y in August, after 4.9% in July and 5.2% y-o-y in June. It remains to be seen how the crop will develop further in the wintertime, given that India recorded the driest August on record. A resumption of monsoon rains in September has brought some relief, with September ending 13% above normal averages.

India's **trade balance** posted a deficit of about $24.2 billion in August, compared with $24.9 billion in August of last year.

Monthly **exports** stood at $34.5 billion in August, compared with $37 billion in August of last year.

Monthly **imports** stood at $58.6 billion in August, after $61.9 billion was seen in August of last year.

Graph 3 - 13: India's trade balance



Sources: Ministry of Commerce and Industry and Haver Analytics.

Near-term expectations

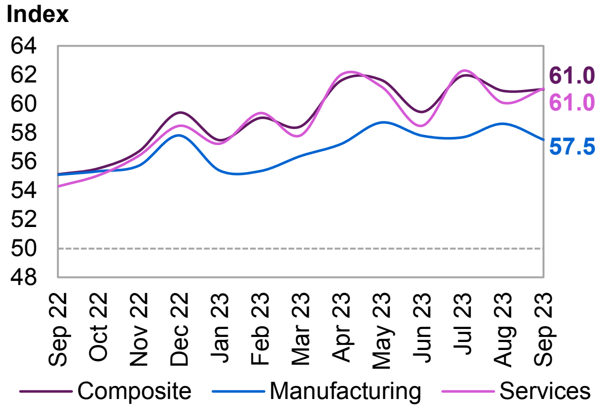
Following reported strong growth of 6.1% y-o-y in 1Q23 and 7.8% y-o-y in 2Q23, growth is forecast to remain strong but to decelerate somewhat in 2H23, standing at 5.6% y-o-y in 3Q23 and at 5.4% y-o-y in 4Q23. Among other factors, the strong rise in food-related inflation is forecast to dampen households' disposable income in 2H23. Government spending should provide continued support and investment is also expected to continue growing, albeit indicators for private investment demand have varied. A further positive factor to consider is the most recent rise in consumer sentiment and the ongoing high level of forward-looking business indicators. However, some negative economic impact on income and property loss due to continuous recent rains and floods in the northern states of India is likely to keep consumption subdued. Indeed, private consumption is expected to soften during 2H23, as rural incomes have been hit by the erratic rainfall, resulting in reduced crops. Moreover, the government's implementation of export restrictions to reduce food prices in the face of high inflation also impacted negatively on farmers' earnings. It remains to be seen how this will impact growth in 4Q23, but an extension of the relative slowdown is likely. Growth in 2024 is forecast to see some acceleration from 4Q23, with all quarterly growth levels to stand slightly above 6%, except in 1Q24. The services sector is projected to be the primary driver of economic growth in 2023, maintaining its leading role, supported by robust export performance.

The most recent rise in inflation is likely to spill over into core inflation in the near future, possibly leading the Reserve Bank of India (RBI) to keep its interest rates at the current level. The RBI's Monetary Policy Committee (MPC) voted to hold policy rates at 6.5% at its most recent meeting in October. The tone of the statement implied no near-term changes in monetary policy, highlighting that high inflation is a major risk. Although there is an expectation that inflation will adjust to considerably lower levels, primarily due to the reversal in vegetable prices, the RBI is expected to maintain careful oversight of price levels before considering a shift toward a more accommodative monetary policy.

The **S&P Global manufacturing PMI** continued to point to solid expansion. The index level stood at 57.5 in September, compared with 58.6 in August and the already-high level of 57.7 in July.

The **services PMI** indicates ongoing steady dynamics, and indeed further acceleration. It rose to 61 in September, compared with a level of 60.1 in August and 62.3 in July.

Graph 3 - 14: India's PMIs



Sources: S&P Global and Haver Analytics.

Taking into consideration the strong 1H23 economic growth level, the **economic growth forecast for 2023** was revised up to stand at 6.2%, following last month's forecast of 6%. The primary driving forces behind growth this year are the services sector, fiscal stimulus initiatives, and some – albeit decelerating – support in consumption during 2H23.

With these dynamics expected to carry over into **2024**, the growth forecast for the next year stands at 5.9%, unchanged from the previous month's assessment.

Table 3 - 7: India's economic growth rate and revision, 2023–2024*, %

	India
2023	**6.2**
Change from previous month	0.2
2024	**5.9**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

Latin America

Brazil

Update on latest developments

Brazil's economy experienced very sound growth above 3% on average in 1H23 and, despite somewhat decelerating, growth in 3Q23 has been well supported as well. Brazil's economy was reported to have grown by 3.3% y-o-y in 2Q23 on a seasonally adjusted base. Growth in 1Q23 stood at 3.4% y-o-y. After strong support from the agricultural sector in 1Q23, 2Q23 growth was bolstered by both private and public consumption, as well as sound inventory accumulation. Investment remained soft. From a sectoral perspective, 2Q23 dynamics were mainly driven by the services sector, while industrial output improved as well.

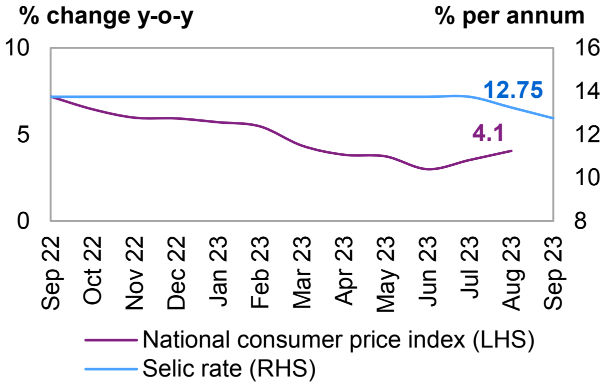
In a positive carryover into 3Q23, consumer confidence has further improved. The **consumer confidence** index, as measured by the Fundação Getúlio Vargas Institute, rose to 96.4 in September, marking the highest level since the beginning of 2019 and following a level of 95.3 index points in August.

After the Banco Central do Brazil (BCN) lowered the **SELIC key policy rate** by half a percentage point in August, the key policy rate was lowered further in September, again by 50 bp, so that the rate now stands at 12.75%. These rate moves were possible given the considerable decline in the inflation rate in previous months, which in turn was the outcome of the forceful monetary tightening that started in 2021. However, most recently, inflation slightly accelerated in July and August again.

Inflation rose to 4.1% y-o-y in August, after it reached 3.5% y-o-y in July and 3% y-o-y in June. On a monthly basis, this was a rise of 0.2% in August. This most recent push in inflation came after the reintroduction of gasoline taxes, which resulted in a rise in fuel prices. However, the important core inflation subsided to reach 6.1% y-o-y in August, following 6.2% y-o-y in July and 6.6% y-o-y in June. The central bank's inflation target stands at 3.25% for 2023.

Encouraging developments in the Brazilian economy had a positive effect on the labour market as well. Based on the usual three-month moving average, Brazil's **unemployment rate** declined to stand at 7.8% in August, after 7.9% in July and 8% in June. This may point to a further expansionary trend in private household consumption.

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



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

Near-term expectations

Considering the impact of further sustained high-interest rate levels in Brazil, as well as the transitory nature of dynamics in 1H23, some slowdown of economic growth is forecast for 2H23. 3Q23 growth is forecast to stand at 2.2% y-o-y and 4Q23 economic growth is estimated to stand at 1.2% y-o-y. This follows a growth of 3.4% y-o-y in 1Q23, which was greatly supported by agricultural activity, the largest contributory factor to economic growth in the first three months of the year. Brazil's economy continued to expand well into 2Q23, with growth of 3.3% y-o-y supported by both industrial activity and the services sector.

External trade in 1H23 was supported by China's ongoing recovery, which is foreseen to provide additional support going forward. The latest progress in fiscal reform, the anticipation of further monetary easing towards 2024 and improving prospects for Brazil's investment environment are all factors supporting sound growth in 2023 and 2024. Particularly high consumer confidence points to ongoing sound private household consumption, while the PMI indices highlight a deceleration in both manufacturing and the services sector

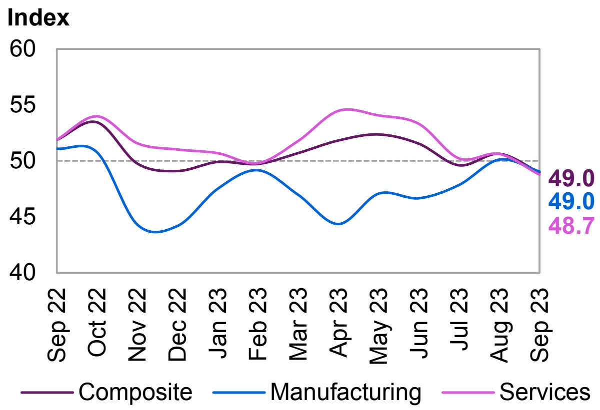
Inflation is expected to decelerate and stand at around 5% on average in 2023, which contrasts with the central bank's current inflation target of 3.25%. Looking ahead to 2024, inflation is expected to settle at approximately 4%. Given the notable deceleration in the inflation trend, especially in core inflation, there is a possibility that an accommodative monetary policy approach may continue in 2H23. The SELIC rate is anticipated to likely reach 12.25% by the end of the year before subsequently declining to approximately 8% by the end of 2024.

September PMI indices indicate ongoing support from the services sector. The manufacturing sector's index level retracted slightly, and – more importantly – exceeded the growth indicating level of 50 for the first time since October 2022.

The **manufacturing PMI** fell below the growth indicating a level of 50 to stand at 49 in September, following 50.1 in August and 47.8 in July.

The **services PMI** fell below 50 to stand at 48.7 in September, following a level of 50.6 in August.

Graph 3 - 16: Brazil's PMIs



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

Taking into consideration the sustained, improved dynamics in 3Q23, and the sound base from 1H23, the forecast for **economic growth in 2023** was revised up to 2.5%, compared with a forecast of 2.1% last month. However, a slowdown in 2H23 is anticipated. Positively, the possibility of more accommodative monetary policies in 4Q23, coupled with expanding export opportunities, could lift growth beyond current expectations.

Table 3 - 8: Brazil's economic growth rate and revision, 2023–2024*, %

	Brazil
2023	**2.5**
Change from previous month	0.4
2024	**1.2**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

The steady growth momentum from 2H23 is forecast to be carried over into **2024**, leading to economic growth of 1.2%, unchanged from the previous month. The 2024 growth forecast anticipates some acceleration from 4Q23, especially considering the expected lower interest rate regime.

Africa

South Africa

Update on the latest developments

According to the latest GDP statistics of 2Q23, **South Africa's economy** demonstrated resilience as private sector investment in electricity generation capacity supported the demand side. However, consumers are experiencing challenges due to high price levels overall. 2Q23 economic growth was better than expected, standing at 1.6% y-o-y, rebounding sharply from 1Q23, when economic growth stood at 0.2% y-o-y. On the demand side, fixed investment growth accelerated significantly, expanding by 7.7% y-o-y from 4% y-o-y in 1Q23, on a non-seasonally adjusted base. Private household consumption grew by only 0.7% y-o-y, the same level as in 1Q23. Rising investments in renewable energy and the declining severity of power outages were supportive factors; in particular, the notable decrease in power outages since the beginning of June supported the growth momentum.

South Africa's annual inflation rate stood at 4.8% y-o-y in August, thus remaining within the South African Reserve Bank's target range of 3% to 6%. Core inflation rose slightly to stand at 4.8% y-o-y in August, up from a ten-month low of 4.7% in July. On a monthly basis, consumer prices increased by 0.3% in August, after a 0.9% rise in July.

On the monetary policy front, the South African Reserve Bank (SARB) kept the benchmark interest rate on hold at 8.25% during its September meeting. This came after ten consecutive increases, which the SARB started in November 2021, amounting to 475 basis points in total. The decision to hold indicates that interest rates are at a peak in the current tightening cycle, barring new domestic or external shocks.

Near-term expectations

According to Eskom, the private sector's increased interest in rooftop solar installations significantly contributed to the reduction in electricity demand towards mid-year. That said, power outages have recently intensified, and their future likelihood remains uncertain due to the nature of unplanned breakdowns.

It is anticipated that household spending might expand faster, as inflation is easing and currently high-interest rates will likely start to ebb in 2024, boosting household consumption and credit uptake. Nevertheless, the economy may remain vulnerable to power shortages, transport bottlenecks, higher interest rates, and faltering commodity prices.

This uncertainty is reflected by the S&P Global South Africa PMI, which dropped slightly to stand at 49.9 in September 2023, down from August's 51, indicating a slight deceleration in the country's private sector. However, businesses remain optimistic about future activity for the second straight month in September, albeit the degree of confidence has eased.

Given the significant 2Q23 improvements, an ongoing, improving situation in 3Q23 and the anticipation of a gradual slowdown in inflation in 2H23, the **2023 economic growth forecast** was revised up to stand at 0.6%, compared with 0.2% in the previous month.

Growth in **2024** remains at 0.8%. Improvements in both the domestic situation and external demand, driven by improvements in domestic demand and gradually rising commodity exports, are anticipated.

Table 3 - 9: South Africa's economic growth rate and revision, 2023–2024*, %

	South Africa
2023	**0.6**
Change from previous month	0.4
2024	**0.8**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

Russia and Central Asia

Russia

Update on the latest developments

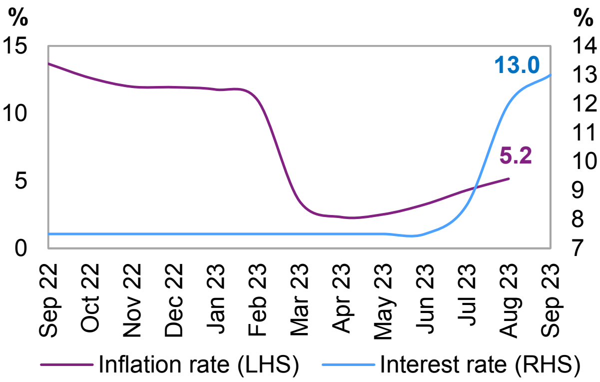
Russia's economy experienced better-than-anticipated performance in 1H23, despite persistent external challenges, amid an improving domestic situation that saw sound underlying growth from private households and particularly the government. Growth in industrial production rose by 5.4% y-o-y in August, accelerating from a 4.9% y-o-y increase in the prior month. This was mainly boosted by manufacturing, which rose by 10.3% y-o-y in August, after 9.5% y-o-y in July. On a monthly basis, industrial output rose by 2% in August, the most in five months, after a 1% rise in the prior month. Considering the period from January to August, industrial activity advanced 3% compared to the same period a year ago.

On the monetary policy front, the Bank of Russia raised its key interest rate by another 1pp to 13% at its September 2023 meeting. This was an extension of the monetary tightening efforts of the central bank, following the 3.5 pp rate hike in the middle of August. Simultaneously, the central bank has indicated that it may assess the potential for additional rate hikes based on incoming economic data. The central bank highlighted that inflationary pressures in the Russian economy continue to be elevated. This is primarily attributed to the growth in domestic demand surpassing the limited capacity, exacerbated by the labour force constraints, along with the depreciation of the rouble.

Consumer inflation rose to stand at 5.2% y-o-y in August, coming from 4.3% in July and marking the highest level in six months. Prices saw accelerated increases for food (3.6% y-o-y versus 2.2% y-o-y in July) and non-food products (3.6% y-o-y versus 2.3% y-o-y in July). Conversely, services inflation slowed to 9.5% from 10%. Meanwhile, core consumer prices accelerated (3.9% y-o-y versus 3.2% y-o-y in July). On a monthly basis, consumer prices increased by 0.3% in August, following a 0.6% rise in July.

Moreover, Russia's **jobless rate** continued to stand at a historically low level of 3.1% in August, after reaching 3% in July.

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

Russia's economic **growth** forecasts suggest a gradual improvement in the country's growth momentum over the course of the year, leading to steady growth in 2024. This positive trend is expected to be driven by the continued export of hydrocarbons and the favourable impact of an improving domestic situation. However, it's important to note that inflation is likely to persistently rise throughout the year. A macroeconomic survey of the Central Bank of Russia foresees inflation for the year of more than 6% y-o-y in December. The ongoing weakening of the Russian rouble, a risk that was highlighted by the Russian central bank, poses a further risk for inflation. The combination of high growth, strong consumer demand and the once again rising inflation seen recently, raises the likelihood of future increases in the key policy rate.

Considering ongoing supportive trends in key indicators like industrial production, the job market and consumer demand, the potential risks to Russia's growth in 2023 currently lean towards the upside. With income levels demonstrating resilience, and steady momentum in consumer spending remaining on course in the near term, the drive in private household expenditures is expected to continue.

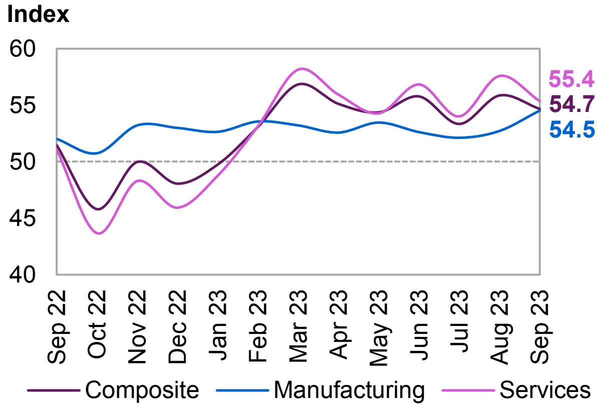
Furthermore, government-driven initiatives are projected to continue mitigating ongoing economic challenges. While the central bank possesses the flexibility to potentially implement a more accommodating monetary policy in 2024, assuming that inflation moves down to the current 2024 projection of 4% y-o-y, it is anticipated to continue with its tight monetary policy for some time. Unless the rouble's weakness abates, the central bank could implement additional interest rate hikes in 2023.

The **PMI index** for manufacturing and the services sector exhibited mixed signals in September. The manufacturing sector continued to trend upwards, but services activities slowed down slightly.

In September, the S&P global **manufacturing PMI** improved slightly to stand at 54.5, compared with 52.7 in August.

The **services PMI** dropped to stand at 55.4 in September, after reaching 57.6 in August, amid a softer rise in new orders. However, the index reflected an eighth month of consecutive expansion in the services sector.

Graph 3 - 18: Russia's PMI



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

Considering the ongoing improving trend, Russia's **economic growth in 2023** was revised up to stand at 1.5%, compared with last month's projection of 1.0%. The risk to the forecast is tilted towards the upside, but remains subject to high levels of uncertainty amid ongoing challenges for the Russian economy.

Economic growth of 1% is forecast in **2024**, the same projection as in the previous month.

Table 3 - 10: Russia's economic growth rate and revision, 2023–2024*, %

	Russia
2023	**1.5**
Change from previous month	0.5
2024	**1.0**
Change from previous month	0.0

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

OPEC Member Countries

Saudi Arabia

Economic activity in **Saudi Arabia** remains steady. Recently revised official GDP data indicated that Saudi Arabia's economy expanded by 0.8% y-o-y in 2Q23 y-o-y, with a 5.1% y-o-y increase in non-oil activities, and a 3.1% y-o-y expansion in government activities. The tourist sector recorded a significant jump in the number of tourists visiting Saudi Arabia in 1Q23, with visitor numbers reaching 7.8mn. Accordingly, tourism revenues surged by 225% versus the same period in the previous year. Non-oil business activity slowed in August as output growth and confidence eased. The latest Riyad Bank Saudi Arabia PMI surged to 57.2 in September 2023, up from 56.6 in August, pointing at a further acceleration in the non-oil sector. The short-term outlook for Saudi Arabia's economy remains strongly positive, supported by a strong increase in capital spending, as well as ambitious government plans to diversify the economy.

Nigeria

Nigeria's trade balance improved markedly in 2Q23 amid increasing non-oil exports and declining imports. A weaker exchange rate suppressed imports, but encouraged non-oil exports. With the naira losing nearly 40% of its value since May, Nigeria posted a trade surplus of NGN 1,741.1 billion in June 2023, compared to a deficit of NGN 116.5 billion in June 2022. Inflationary pressures increased, as the annual inflation rate climbed to 25.8% y-o-y in August, coming from 24.1% in July. This represents the highest rate since September 2005 and can be attributed to structural reforms, including the removal of fuel subsidies, the devaluation of the official exchange rate, and challenges in food-producing regions. Core inflation increased by 21.5% y-o-y in August. Meanwhile, the Central Bank of Nigeria lifted its benchmark interest rate by 25 bps to 18.75% in a decision announced on 25 July 2023.

A modest improvement in the economy is reflected by the Stanbic IBTC Bank Nigeria PMI, which rose to 51.1 in September from a five-month low of 50.2 in the prior month. Although improvements may materialize in the near term, Nigeria's economic outlook may have to deal with several challenges, including rising inflation, a decline in real consumer spending abilities, and exchange rate pressures. However, ongoing reforms should attract foreign investments, bolster macroeconomic stability, and improve domestic industries, increasing growth.

The United Arab Emirates (UAE)

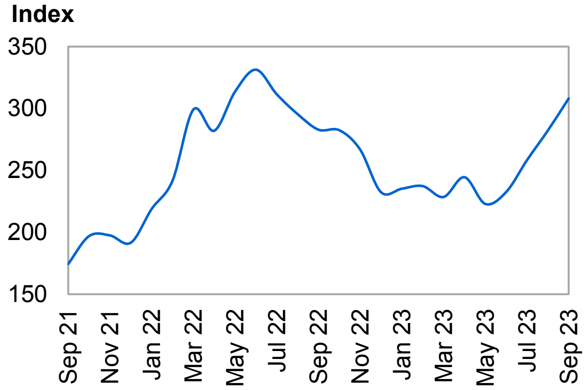
The **UAE**'s tourism sector, which accounts for more than 16% of the country's GDP, continued to rebound and even exceeded the pre-pandemic level in terms of the number of visitors. Indeed, the number of visitors to Dubai rose by 19% y-o-y in 1H23. The government also launched reforms to attract further investments into the economy, such as allowing 100% foreign ownership of onshore companies and lowering costs to establish businesses. Moreover, the authorities have been implementing fiscal policies to encourage the development of new sectors that are part of the country's "We the UAE 2031" vision. September's S&P Global United Arab Emirates PMI reflects this optimism, as it rose to 56.7 from 55 in the previous month. This marked the strongest growth in the country's non-oil private sector since June, as new orders increased to their highest level since June 2019. Looking ahead, growth prospects in the UAE's non-oil GDP may continue to build momentum, supported by increased business confidence, government reforms and expansion in household spending.

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

The **US dollar (USD) index** experienced a consecutive monthly increase in September, rising by 2.1% m-o-m. Although the Fed did not raise interest rates in its last meeting, it highlighted that it would keep interest rates at elevated levels amid persistent inflationary pressures and a resilient labour market. This policy of "higher for longer" kept the upward pressure on the USD. Y-o-y, the index was down by 4.9%.

On **developed market currencies**, the USD declined for a second consecutive month against the euro in September, falling by 2.1% m-o-m. At the same time, it advanced for a second consecutive month against the yen and the pound by 21% and 2.6% respectively. Y-o-y, the USD was up by 7.8% and 3.1% against the euro and yen respectively; however, it was down by 8.7% against the pound over the same period.

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



Sources: IMF and OPEC.

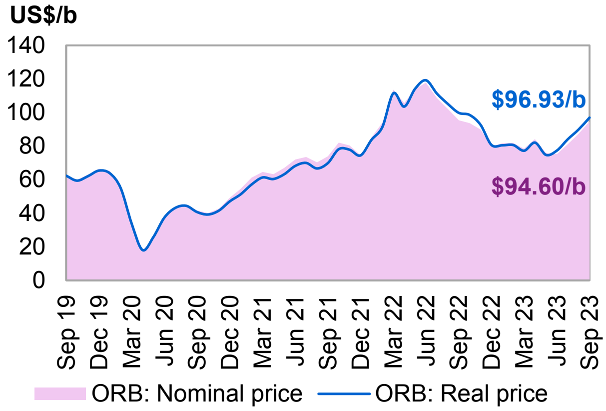
In terms of **emerging market currencies**, the USD advanced for a second consecutive month against all major emerging market currencies in September. M-o-m, the USD rose by 0.3%, 0.6% and 0.8% against the rupee, yuan and real respectively. Y-o-y, the USD was up by 3.5% and 3.8% against the rupee and yuan respectively; however, it was down by 5.7% against the real over the same period.

The differential between nominal and real **ORB** prices narrowed m-o-m. **Inflation** (nominal price minus real price) went from a negative $2.53/b in August to a negative $2.33/b in September, an 8.3% decrease m-o-m.

In **nominal terms**, accounting for inflation, the ORB price went from $87.33/b in August to $94.60/b in September, an 8.3% increase m-o-m. Y-o-y, the ORB was essentially flat in nominal terms.

In **real terms** (excluding inflation), the ORB went from $89.87/b in August to $96.93/b in September, a 7.9% increase m-o-m.

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



Source: OPEC.

World Oil Demand

For 2023, world oil demand growth remains at 2.4 mb/d, unchanged from last month's assessment, to average 102.1 mb/d. Some downward adjustments were made to the estimates for OECD Americas, Other Asia and Africa in 1Q23 based on actual August data. This was offset by some upward revisions to 3Q23 data, mainly in China.

In the OECD region, oil demand in 2023 is expected to rise by 89 tb/d to average 45.8 mb/d. Demand in OECD Americas is expected to witness the largest regional rise, led by the US, on the back of growing jet fuel demand and expanding gasoline requirements. Light distillates are also projected to support demand growth this year.

In the non-OECD region, total oil demand is expected to rise by about 2.3 mb/d to average 56.3 mb/d in 2023. A steady increase in transportation and industrial fuel demand, supported by a recovery in China's activity as well as other non-OECD regions, is projected to boost demand in the region in 2023.

In 2024, solid global economic growth, amid continued improvements in China, is expected to further boost oil consumption. World oil demand is expected to rise by 2.2 mb/d y-o-y, with total world oil demand projected to average 104.3 mb/d.

In the OECD, oil demand is expected to rise by 0.26 mb/d to average 46.1 mb/d. US oil demand is forecast to exceed pre-pandemic levels at 20.4 mb/d, mainly due to the recovery in jet fuel and improvements in gasoline and light distillate demand. OECD Europe and the OECD Asia Pacific are expected to remain below pre-pandemic levels at 13.5 mb/d and 7.4 mb/d, respectively. This is due to expectations for slower economic activity in the two regions and ongoing supply chain bottlenecks that would weigh on industrial activity, particularly in OECD Europe.

In the non-OECD, oil demand in 2024 is forecast to increase by almost 2.0 mb/d y-o-y to average 58.2 mb/d. China and the Middle East are expected to see the largest growth. Other regions, particularly Other Asia and India, are also set to see considerable gains, supported by a positive economic outlook. In terms of fuels, jet kerosene, gasoline and diesel are assumed to lead non-OECD oil demand growth in 2024.

Table 4 - 1: World oil demand in 2023*, mb/d

							Change 2023/22	
World oil demand	**2022**	**1Q23**	**2Q23**	**3Q23**	**4Q23**	**2023**	**Growth**	**%**
Americas	24.84	24.52	25.15	25.32	24.87	24.97	0.13	0.52
of which US	*20.16*	*19.92*	*20.45*	*20.47*	*20.05*	*20.22*	*0.06*	*0.31*
Europe	13.51	13.11	13.48	13.85	13.37	13.45	-0.05	-0.40
Asia Pacific	7.38	7.81	6.96	7.16	7.65	7.39	0.01	0.18
Total OECD	**45.72**	**45.44**	**45.59**	**46.33**	**45.89**	**45.81**	**0.09**	**0.20**
China	14.95	15.73	16.06	16.07	16.21	16.02	1.07	7.14
India	5.14	5.40	5.40	5.21	5.50	5.38	0.24	4.69
Other Asia	9.06	9.34	9.48	9.03	9.18	9.26	0.19	2.13
Latin America	6.44	6.60	6.70	6.73	6.68	6.68	0.24	3.75
Middle East	8.30	8.63	8.32	8.86	8.73	8.64	0.34	4.09
Africa	4.40	4.59	4.24	4.43	4.88	4.54	0.13	3.06
Russia	3.70	3.83	3.59	3.74	4.01	3.79	0.09	2.40
Other Eurasia	1.15	1.24	1.21	1.02	1.23	1.17	0.02	2.03
Other Europe	0.77	0.79	0.77	0.75	0.83	0.79	0.02	2.29
Total Non-OECD	**53.90**	**56.15**	**55.76**	**55.85**	**57.24**	**56.25**	**2.35**	**4.35**
Total World	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	**2.44**	**2.45**
Previous Estimate	99.62	101.74	101.26	102.06	103.18	102.06	2.44	2.45
Revision	0.00	-0.15	0.09	0.12	-0.05	0.00	0.00	0.00

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

Source: OPEC.

Table 4 - 2: World oil demand in 2024*, mb/d

World oil demand	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	%
Americas	24.97	24.71	25.33	25.52	25.03	25.15	0.18	0.72
of which US	*20.22*	*20.06*	*20.59*	*20.62*	*20.19*	*20.37*	*0.14*	*0.70*
Europe	13.45	13.17	13.53	13.92	13.41	13.51	0.06	0.41
Asia Pacific	7.39	7.84	6.98	7.19	7.65	7.41	0.02	0.29
Total OECD	**45.81**	**45.71**	**45.84**	**46.64**	**46.09**	**46.07**	**0.26**	**0.56**
China	16.02	16.30	16.52	16.69	16.88	16.60	0.58	3.62
India	5.38	5.63	5.64	5.44	5.69	5.60	0.22	4.09
Other Asia	9.26	9.60	9.73	9.39	9.54	9.57	0.31	3.35
Latin America	6.68	6.79	6.88	6.95	6.84	6.87	0.19	2.84
Middle East	8.64	8.91	8.76	9.41	8.98	9.02	0.38	4.40
Africa	4.54	4.70	4.42	4.60	5.01	4.69	0.15	3.31
Russia	3.79	3.89	3.70	3.89	4.08	3.89	0.10	2.65
Other Eurasia	1.17	1.27	1.24	1.08	1.28	1.22	0.04	3.77
Other Europe	0.79	0.81	0.78	0.77	0.84	0.80	0.01	1.75
Total Non-OECD	**56.25**	**57.90**	**57.68**	**58.22**	**59.14**	**58.24**	**1.99**	**3.53**
Total World	**102.06**	**103.62**	**103.51**	**104.85**	**105.23**	**104.31**	**2.25**	**2.20**
Previous Estimate	102.06	103.76	103.43	104.74	105.28	104.31	2.25	2.20
Revision	0.00	-0.15	0.09	0.12	-0.05	0.00	0.00	0.00

*Note: * 2024 = Forecast. Totals may not add up due to independent rounding.*
Source: OPEC.

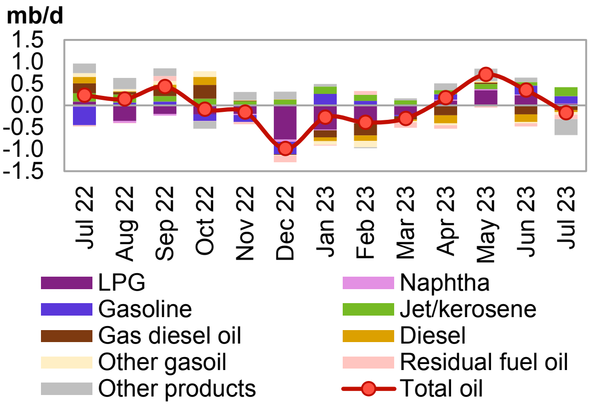
OECD

OECD Americas

Update on the latest developments

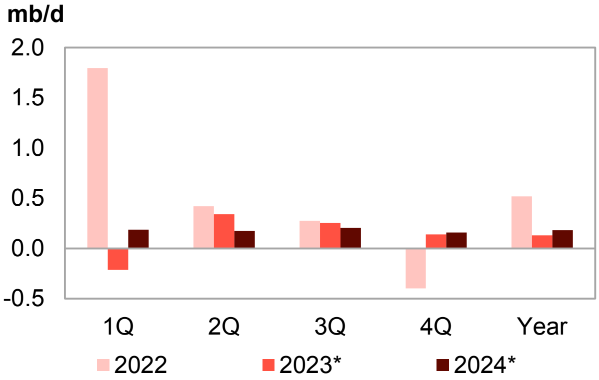
Oil demand in OECD Americas in **July** declined by 170 tb/d y-o-y, down from the y-o-y growth of 352 tb/d seen the previous month. Details of the contribution of various products are discussed in the sub-section on US oil products demand.

Graph 4 - 1: OECD Americas oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, OPEC and national sources.

Graph 4 - 2: OECD Americas oil demand, y-o-y change



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

Oil demand in the US declined by 93 tb/d y-o-y in July, down from the 283 tb/d y-o-y growth seen the previous month. Despite this overall decrease, demand for transportation fuels, gasoline and jet/kerosene in the US showed robust growth.

General inflation has increased in the US, while core inflation has retracted slightly, but remained at an elevated level. The general price index increased to 3.2% y-o-y in July, after it had slowed to 3% in June. Core inflation remained at a relatively high level of 4.7% in July, following 4.8% in June. The services PMI continued in expansion territory for the 14th month to stand at 52.7 in July, slightly down from the 53.0 points recorded in June. However, the July manufacturing PMI stood at 46.4 points, almost the same as what was seen in June, remaining below the growth-indicating level of 50 for the eleventh-consecutive month.

Data from the Federal Highway Administration shows that miles travelled on all roads increased by 2.9% (8.0 billion vehicle miles) in July 2023, y-o-y. Vehicle miles travelled (VMT) for the month are estimated at 287.3 billion.

Demand for diesel declined by 74 tb/d y-o-y in July, recording a slight improvement from the 91 tb/d y-o-y decline in June. Residual fuels saw a y-o-y decline of 51 tb/d, y-o-y, broadly the same y-o-y decline as seen in June. Naphtha was almost flat for the second consecutive month. Finally, demand for ´other products´ declined by 380 tb/d y-o-y.

On the positive side, supported by steady summer driving activity and robust US road traffic, gasoline demand grew by 201 tb/d y-o-y. Buoyed by sustained air travel activity jet/kerosene grew by 177 tb/d y-o-y, up from 53 tb/d y-o-y recorded in June. Finally, LPG saw a slight 38 tb/d y-o-y growth.

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

By product	Jul 22	Jul 23	*Change Jul 23/Jul 22* Growth	%
LPG	3.35	3.39	0.04	1.1
Naphtha	0.14	0.14	0.00	-3.5
Gasoline	8.81	9.01	0.20	2.3
Jet/kerosene	1.61	1.78	0.18	11.0
Diesel	3.72	3.65	-0.07	-2.0
Fuel oil	0.31	0.26	-0.05	-16.3
Other products	2.27	1.89	-0.38	-16.7
Total	**20.22**	**20.12**	**-0.09**	**-0.5**

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

Near-term expectations

In the near term, economic activity in the US is anticipated to remain healthy and the US economy is expected to experience ongoing strong support from private household consumption due to continuous labour market tightness and the consequences of sustained robust disposable income levels. In **4Q23** air travel activity is expected to remain healthy and support oil demand. However, driving activity is anticipated to slow down during the winter season. Furthermore, the continued weakening of manufacturing activity is likely to impact the demand for industrial fuels, particularly diesel. In 4Q23, oil demand is anticipated to grow by 51 tb/d y-o-y. On the back of continued robust air travel activity, jet kerosene is anticipated to continue to drive oil demand.

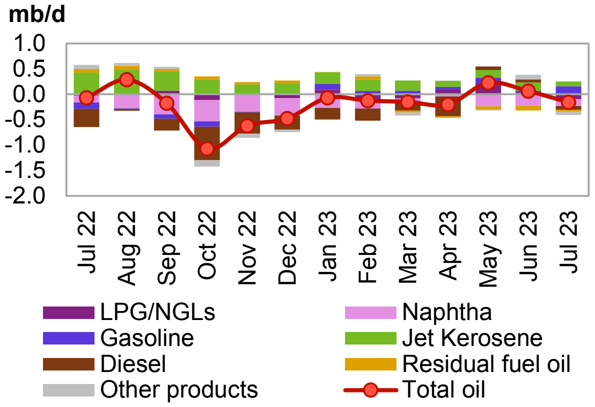
In **1Q24,** economic activity is expected to remain healthy and support the petrochemical sector and mobility, which will help oil demand grow by 135 tb/d. Jet/ kerosene and LPG are expected to be the main drivers of products demand growth. In **2024**, the US is expected to see y-o-y demand growth of around 140 tb/d.

OECD Europe

Update on the latest developments

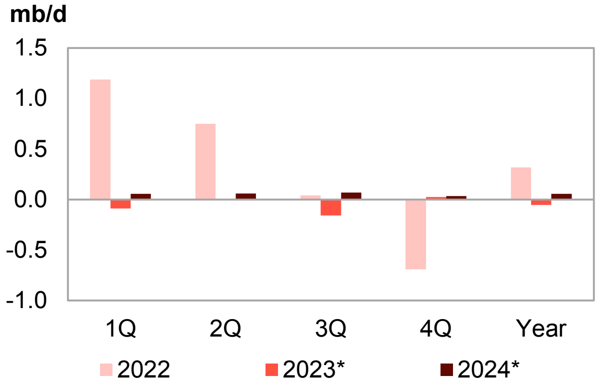
Oil demand in OECD Europe softened by 157 tb/d y-o-y in July, down from the 63 tb/d y-o-y growth seen in June. Oil products demand in OECD Europe has remained subdued for over a year, largely due to the struggles experienced by the European manufacturing and petrochemical sectors, particularly in Germany, the region's largest economy and centre for manufacturing and petrochemical activity. In addition, persistently high core inflation and supply chain bottlenecks compounded the problem. Eurozone annual inflation was 5.2% in July 2023, down from 5.5% in June. The apparent weakness in industrial and petrochemical sector activity is impacting diesel and feedstock demand, whereas resilience in the services sector and personal consumption are supporting gasoline and jet /kerosene demand.

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



Sources: IEA, JODI, OPEC and national sources.

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



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

The Eurozone services PMI retracted further to 50.9 points in July. The manufacturing PMI fell further and remained in contractionary territory, standing at 42.7 points in July, down from 43.4 in June. On a positive note, the IATA's Air Passenger Market Analysis reported that the international revenue passenger-kilometres (RPKs) performed by European carriers in July grew 17.7% y-o-y and were 8.3% short of 2019 figures.

Naphtha demand recorded the largest contraction with a 140 tb/d decrease y-o-y, demonstrating an improvement compared to the 227 tb/d y-o-y decline seen in the previous month. European ethylene and derivatives have been under pressure due to low margins weighing on demand for petrochemical feedstock. Diesel saw a 72 tb/d y-o-y decline in July as diesel-intensive industries in OECD Europe remained extremely subdued amid ongoing weak manufacturing activity and rising interest rates in the region. Residual fuels and LPG also saw y-o-y declines of 42 tb/d and 93 tb/d, respectively. Finally, demand for ´other products´ softened by 60 tb/d y-o-y, down from the 95 tb/d y-o-y growth seen in the previous month.

On the positive side, healthy driving activity and continued improvements in airline travel supported transportation fuels. Gasoline saw 160 tb/d y-o-y growth, up from the 39 tb/d y-o-y growth in the previous month. Jet/kerosene grew by 90 tb/d y-o-y, down from 166 tb/d recorded in June. The slightly softer demand growth for jet/kerosene was impacted by airline worker strikes and heavy rains that caused traffic disruptions in the region.

Near-term expectations

In the near term, economic activity in the region is projected to remain positive, albeit below 1Q23 growth rates. However, supply chain bottlenecks combined with weakening manufacturing activity are anticipated to continue into **4Q23**. Nevertheless, oil demand is anticipated to see a slight uptick of 26 tb/d in 4Q23, compared to the 158 tb/d y-o-y decline recorded in 3Q23. The demand recovery will mainly be supported by jet fuel and gasoline, while diesel and petrochemical feedstock are expected to remain weak.

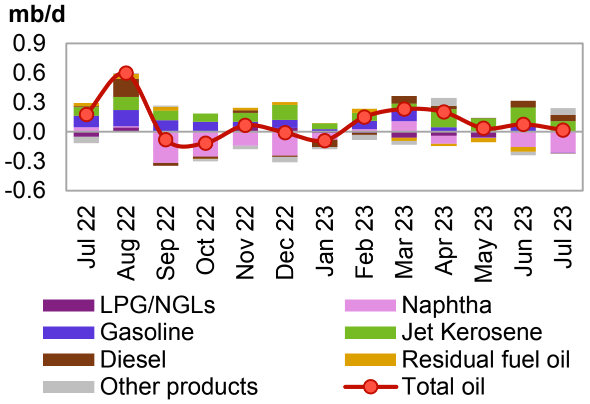
In **2024**, regional economic growth is projected to improve, with activity in the services sector anticipated to remain healthy while the manufacturing sector is expected to see some recovery. Oil demand is projected to see 57 tb/d y-o-y growth in 1Q24, mainly supported by regional jet/kerosene and gasoline consumption buoyed by stable demand for air travel and driving mobility. However, ongoing supply chain bottlenecks are likely to continue weighing on industrial fuels and petrochemical feedstock. Overall, the region is expected to see y-o-y growth of 55 tb/d in 2024.

OECD Asia Pacific

Update on the latest developments

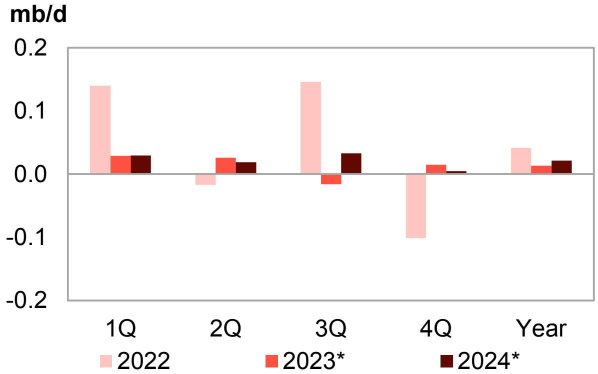
Oil demand in OECD Asia Pacific saw a slight increase of 17 tb/d y-o-y in July, following 75 tb/d y-o-y growth in June. All the growth came from Australia, as oil demand in Japan and South Korea remained subdued.

Graph 4 - 5: OECD Asia Pacific's oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, METI and OPEC.

Graph 4 - 6: OECD Asia Pacific's oil demand, y-o-y change



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

The Japanese services PMI, which constitutes around two-thirds of the Japanese economy, retracted slightly to 53.8 points in July from 54 in June. The manufacturing PMI also fell to 49.6 in July from 49.8 in June.

The Australian PMI entered into contraction with 48 points in July, decreasing from 50.6 points in June. The manufacturing PMI also remains in the contraction zone, albeit with a slight improvement from 48.6 points in June to 49.6 in July. According to the latest data from the Australian Bureau of Statistics (ABS), the monthly CPI rose by 4.9% in July, down from the 5.4% growth recorded in June.

The South Korean manufacturing PMI stood at 49.4 points in July, unchanged from the previous month. The consumer price index in South Korea increased by 2.3% y-o-y in July 2023, easing for the sixth consecutive month to its lowest level in more than two years, supporting the central bank's move to pause its tightening cycle through most of this year.

On the back of continued air traffic recovery, jet/kerosene led oil demand growth with a y-o-y increase of 99 tb/d in July, albeit below the 193 tb/d recorded in the previous month. Diesel and ´other products´ saw 67 tb/d and 68 tb/d y-o-y growth, respectively.

Weakening petrochemical sector requirements in the region subdued demand for naphtha, which declined further by 213 tb/d y-o-y, compared to the y-o-y decline of 153 tb/d seen a month earlier. LPG remained broadly flat for the second consecutive month.

Near-term expectations

In the near term, economic activity in the region is anticipated to remain positive, albeit with variations among the region's countries. The services PMI in Japan, the largest economy in the region, has been in the expansion zone for over a year. In August and September, Japan's services PMI stood at 54.3 and 53.3 points, respectively. On the other hand, South Korea's manufacturing PMI has been in the contraction zone for more than a year. Steady air traffic recovery amid healthy driving activity and petrochemical industry operations are anticipated to support oil demand to grow by 15 tb/d y-o-y in **4Q23**.

In **1Q24**, sustained healthy regional economic activity is anticipated to support the services sector. In addition, healthy air travel dynamics and recovering petrochemical sector requirements in the region are projected to support 1Q24 y-o-y oil demand growth at a level of 30 tb/d. Overall, in **2024**, the region is anticipated to see y-o-y growth of 22 tb/d.

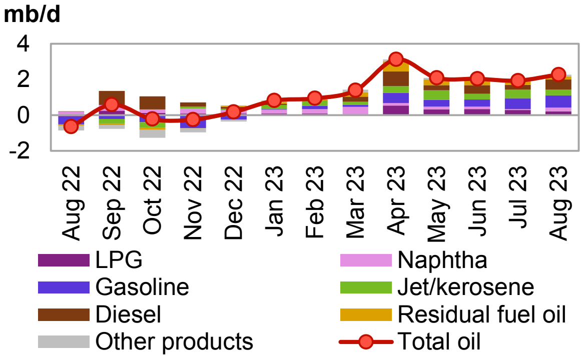
Non-OECD

China

Update on the latest developments

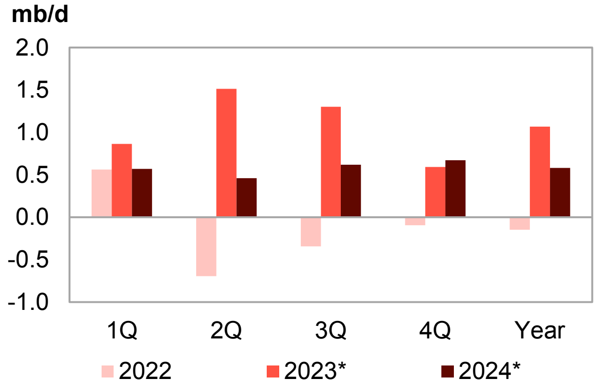
Oil demand in China expanded further in August by 2.3 mb/d y-o-y, up from y-o-y growth of nearly 2.0 mb/d reported in a month earlier. August oil demand growth was mostly driven by transportation fuels as seasonal summer travel and trucking supported the consumption of gasoline, diesel, and jet fuel amid robust petrochemical feedstock requirements.

Graph 4 - 7: China's oil demand by main petroleum product category, y-o-y change



Sources: Chinese Petroleum Data Monthly, Chinese National Bureau of Statistics, JODI, Non-OECD Energy Statistics, Argus Global Markets, Argus China, and OPEC.

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



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

The forward-looking indicators remained healthy with China's services PMI standing at 51.8 in August. The manufacturing PMI was also at 51 points, following 49.2 in July. Driving mobility in China continued to increase with China's National Bureau of Statistics/Haver Analytics reporting 39.6% y-o-y growth in passenger turnover in terms of 100 million person-kilometres, compared with the 31.3%, y-o-y increase recorded in July. Similarly, air travel activity remained healthy. A report from IATA's Air Passenger Monthly Analysis indicates that domestic RPKs in China grew by 22.5% in July 2023, compared with July 2019, and by 71.9% y-o-y. However, seat capacity in July 2023 outpaced passenger demand and was 31.3% higher than July 2019 levels. The average passenger load factor in the country was 5.7% below pre-pandemic levels, reaching 79.2%.

August oil product demand was driven by requirements for transportation fuels, gasoline, diesel, and jet kerosene. Gasoline saw 670 tb/d y-o-y growth, up from 606 tb/d reported in July. Diesel grew by 554 tb/d y-o-y, up from the 259 tb/d seen in July. On the back of steady air travel recovery, jet kerosene grew by 339 tb/d y-o-y. Healthy petrochemical feedstock requirements supported LPG to post 206 tb/d y-o-y growth, and naphtha increased by 221 tb/d y-o-y, up from just 46 tb/d in July. Finally, residual fuels saw 186 tb/d y-o-y growth, while the 'other products' category increased by 97 tb/d y-o-y.

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

			Change Aug 23/Aug 22	
By product	**Aug 22**	**Aug 23**	**Growth**	**%**
LPG	2.26	2.46	0.21	9.1
Naphtha	1.64	1.86	0.22	13.5
Gasoline	2.86	3.53	0.67	23.5
Jet/kerosene	0.61	0.95	0.34	55.4
Diesel	3.37	3.92	0.55	16.4
Fuel oil	0.66	0.84	0.19	28.3
Other products	2.41	2.51	0.10	4.0
Total	**13.80**	**16.08**	**2.27**	**16.5**

*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

Looking ahead, despite the current healthy economic and services sector activity, recent Chinese economic indicators have highlighted a slowing trend in industrial production. Accordingly, the momentum of oil demand is anticipated to slow down compared to the strong growth experienced in 1H23. With this, oil demand in **4Q23** is anticipated to grow by 591 tb/d y-o-y. Overall, in 2023, oil demand in China is expected to grow by 1.1 mb/d y-o-y.

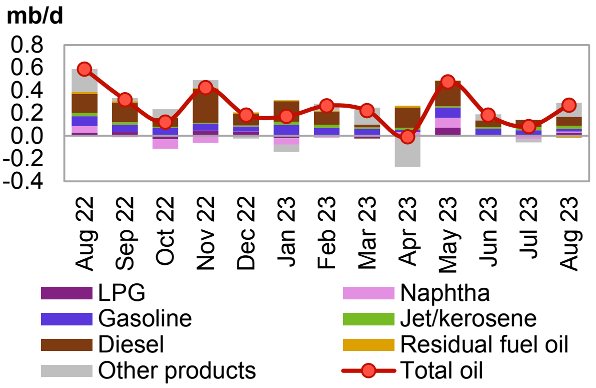
In **2024**, despite an expected easing in the momentum of China's GDP growth compared to 2023, oil demand is expected to be supported by sustained healthy services sector activity (including leisure, travel, and tourism), the recovery in manufacturing activity, as well as petrochemical sector requirements. Thereby, oil demand is forecast to see 571 tb/d y-o-y growth in **1Q24**. Jet fuel will again drive oil demand growth in this quarter, with millions of air passengers expected to support air travel activity during the annual festive season. Light distillates are also expected to continue rising on the back of a sustained expansion of the petrochemical industry. Increased mobility is expected to boost demand for gasoline and diesel. For the year, China's average y-o-y growth is anticipated to stand at 580 tb/d.

India

Update on the latest developments

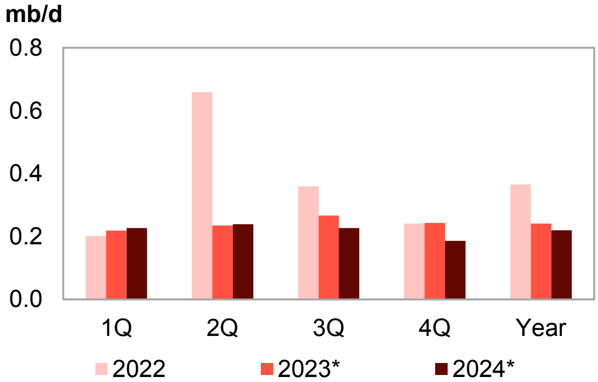
Oil demand in India in August surged by 272 tb/d y-o-y, up from a y-o-y increase of 83 tb/d in July. This remarkable increase in oil products demand was attributed to an uptick in factory activity and increased mobility. The main drivers of oil demand growth were the ´other products´ category, consisting mostly of bitumen and lube oil, along with diesel.

Graph 4 - 9: India's oil demand by main petroleum product category, y-o-y change



Sources: PPAC, JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 - 10: India's oil demand, y-o-y change



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

India's services PMI stood at 60.1 points in August. Similarly, the manufacturing PMI increased to 58.6 points in August from a level of 57.7 in July. India's inflation rate eased to 6.8% in August from a 15-month high of 7.4% in July. According to the FADA and Haver Analytics, India's vehicle sales increased by 8.6% m-o-m from July to August. Similarly, according to the Directorate General of Civil Aviation (DGCA), India's domestic air traffic saw a growth of 22.8% in August 2023 compared to the same month a year earlier.

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

By product	Aug 22	Aug 23	Change Aug 23/Aug 22 Growth	%
LPG	0.92	0.95	0.03	3.0
Naphtha	0.33	0.34	0.01	3.2
Gasoline	0.84	0.87	0.02	2.9
Jet/kerosene	0.18	0.21	0.03	15.4
Diesel	1.56	1.64	0.08	5.0
Fuel oil	0.17	0.15	-0.02	-11.2
Other products	0.96	1.09	0.12	12.8
Total	**4.96**	**5.24**	**0.27**	**5.5**

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

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

In terms of oil products in August, ´other products´, which includes bitumen and lube oil, led oil demand growth by 123 tb/d, y-o-y, higher than the 83 tb/d y-o-y increase recorded in July. Diesel grew by 78 tb/d y-o-y, slightly higher than the 61 tb/d seen in the previous month. Gasoline saw 24 tb/d y-o-y growth, down from the 49 tb/d recorded in July. On the back of steady air travel recovery, y-o-y jet/kerosene demand growth remained at 28 tb/d in August. In terms of petrochemical feedstock, LPG expanded by 27 tb/d y-o-y, up from zero growth in the previous month, while naphtha saw a 10 tb/d y-o-y increase, up from a 23 tb/d y-o-y decline a month earlier. Residual fuel demand softened by 19 tb/d y-o-y, down from zero growth in July.

Near-term expectations

Looking forward to **4Q23**, current healthy economic activity, combined with steady mobility in India, is expected to be sustained. In addition, the government's proposed increase in capital spending on construction and manufacturing is expected to boost economic activity. In 4Q23 oil demand is expected to see an increase of 243 tb/d y-o-y, with transportation fuels, notably gasoline, diesel and jet/kerosene expected to drive oil demand growth.

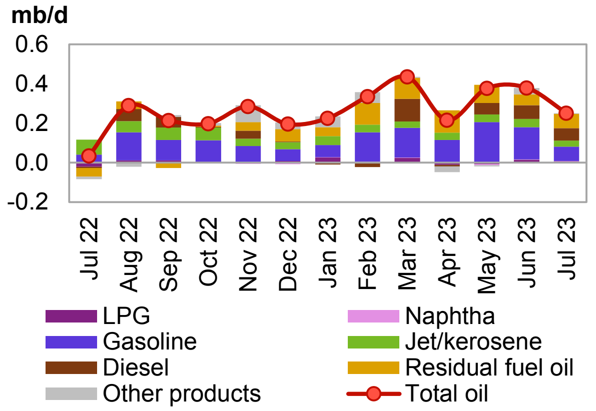
Healthy annual 5.9% GDP growth supporting mobility and sustained demand for distillates in the manufacturing sector is expected to see **1Q24** oil demand increasing by 230 tb/d, y-o-y. In **2024**, India's average oil demand growth is projected at 220 tb/d y-o-y.

Latin America

Update on the latest developments

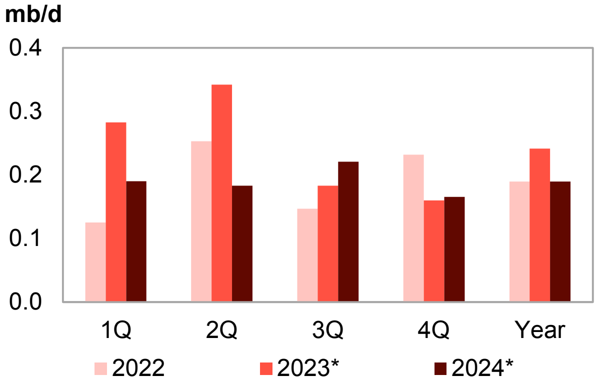
Oil demand in Latin America saw 252 tb/d y-o-y growth in July, down from 379 tb/d reported in June. The transportation sector's requirements in Brazil and Venezuela continue to be the main drivers of regional oil demand growth.

Graph 4 - 11: Latin America's oil demand by main petroleum product category, y-o-y change



Sources: JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 - 12: Latin America's oil demand, y-o-y change



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

The annual inflation rate in Brazil stood at 3.5% in July, broadly in line with market forecasts. The Brazilian services PMI retracted to 50.2 in July from 53.3 points in June. At the same time, the Brazilian manufacturing PMI remained below the growth-indicating level at 47.8 points, albeit registering an improvement from the 46.6 points reported in June.

According to IATA, airlines in Latin America have taken another significant step towards complete international traffic recovery in July, with international RPKs only 1.9% lower than 2019 levels. In terms of domestic RPKs, Brazil's domestic RPKs surpassed pre-pandemic levels for a third consecutive month, to stand 4.5% above July 2019 levels.

For the seventh consecutive month, gasoline remained the main driver of oil demand in the region, supported by steady mobility. Gasoline grew by 74 tb/d y-o-y, down from the 163 tb/d y-o-y growth recorded in June. Diesel saw 63 tb/d y-o-y growth in July, down from 70 tb/d in the previous month, while residual fuels expanded by 73 tb/d y-o-y. On the back of steady air travel recovery, jet/kerosene saw growth of 30 tb/d y-o-y, slightly below the 42 tb/d recorded a month earlier. In terms of petrochemical feedstock, the demand for both LPG and naphtha remained broadly flat in July. Finally, demand for ´other products´ was also broadly unchanged, y-o-y.

Near-term expectations

Looking ahead, oil demand in the region is expected to remain relatively strong in **2H23** amid projected healthy economic growth and steady air travel recovery. Improving services PMI in the region's big consuming countries combined with rising consumer and business confidence are anticipated to support regional oil demand. Oil demand in Latin America is projected to grow by 160 tb/d y-o-y in **4Q23**.

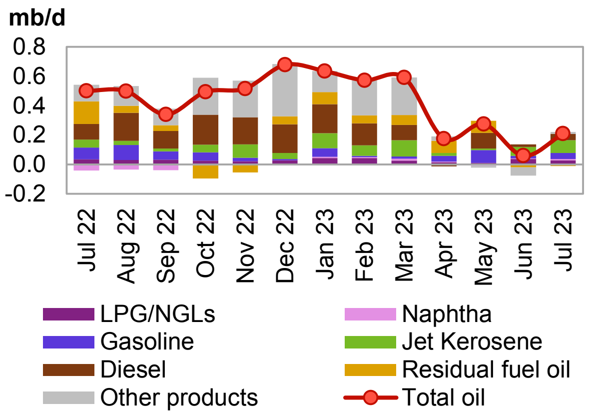
Amid healthy GDP growth combined with expected improvements in air travel, oil demand growth is forecast at 190 tb/d y-o-y in 1Q24. For the year, the region's average growth is anticipated to stand at 190 tb/d y-o-y. The outlook for oil demand growth sees transportation fuel demand expanding the most, followed by diesel and petrochemical feedstock.

Middle East

Update on the latest developments

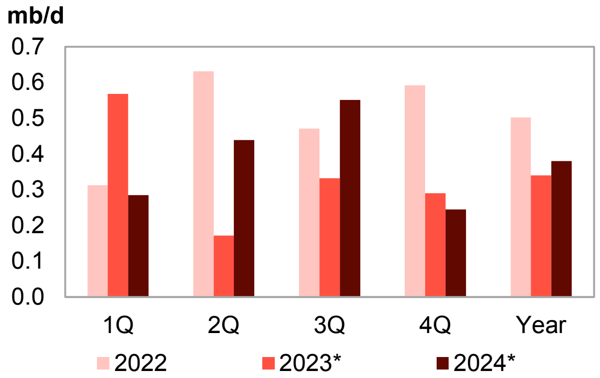
Oil demand in the Middle East expanded by 209 tb/d y-o-y in July, up from the 60 tb/d y-o-y growth reported in June. The demand growth was mostly supported by requirements from Iraq and the UAE.

Graph 4 - 13: Middle East's oil demand by main petroleum product category, y-o-y change



Sources: JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 - 14: Middle East's oil demand, y-o-y change



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

The economic activity in the two region's largest economies, Saudia Arabia and the UAE, has been healthy and supportive of oil demand. The Saudi Arabian economy is expected to expand by 2.8% y-o-y in 2023, with a healthy contribution by non-oil activities. Similarly, the Saudi Arabian Composite Purchasing Managers Index (PMI) for July stood at 57.7 points. The annual inflation rate in Saudi Arabia decreased for the second consecutive month to 2.3% in July, down from 2.7% a month earlier.

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

			Change Aug 23/Aug 22	
By product	**Aug 22**	**Aug 23**	**Growth**	**%**
LPG	0.04	0.05	0.01	17.0
Gasoline	0.50	0.50	0.00	-0.4
Jet/kerosene	0.04	0.10	0.05	124.6
Diesel	0.67	0.64	-0.03	-5.1
Fuel oil	0.69	0.67	-0.02	-3.0
Other products	0.75	0.82	0.07	8.9
Total	**2.70**	**2.77**	**0.07**	**2.6**

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

Sources: JODI and OPEC.

The UAE's economy remains robust, with constant contributions from the non-oil sector, especially from tourism, leisure, and real estate. The country's composite PMI for July stood at 55 points.

In terms of air travel, IATA reported that Middle East carriers have made remarkable progress in recovering from the pandemic. Middle Eastern carriers experienced a significant surge in international traffic growth in July with international passenger traffic up 22.6% y-o-y, and international RPKs remained just 4.2% below pre-pandemic levels.

The contributions of oil products to Middle East demand in July show that, for the second consecutive month, jet/kerosene was the main driver, up by 87 tb/d y-o-y, which was higher than the 61 tb/d seen the previous month. Gasoline and diesel posted 43 tb/d and 42 tb/d y-o-y growth, respectively. LPG saw 28 tb/d y-o-y growth, down from 36 tb/d in June. ´Other fuels´ recorded y-o-y growth of 13 tb/d, up from a decline of 56 tb/d y-o-y in June. Residual fuels softened further by 12 tb/d y-o-y compared to the 20 tb/d annual decline recorded the previous month.

Near-term expectations

Steady economic activity in the region is expected to be sustained. In addition, the continued strong recovery in international air traffic should boost jet/kerosene demand and support oil demand growth in the region which is expected to expand by an average of 290 tb/d y-o-y in **4Q23**.

Regional economic activity is expected to remain healthy in **1Q24** with 2024 GDP growth rates forecast to surpass those of 2023. In addition, air travel is expected to fully recover and surpass pre-pandemic levels. Gasoline, transportation diesel and jet kerosene are expected to lead oil demand growth which is expected to stand at 285 tb/d y-o-y in 1Q24. Overall, **in 2024**, the Middle East is expected to see y-o-y growth of nearly 380 tb/d. The bulk of demand growth is expected to come from Iraq, Saudi Arabia and the UAE.

World Oil Supply

Non-OPEC liquids production in 2023 is expected to grow by 1.7 mb/d y-o-y, reaching 67.5 mb/d. Upward revisions to the forecasts for Russia, the US and Latin America were more than offset downward revisions to OECD Europe and Other Eurasia.

US crude and condensate production reached the second-highest level ever in July, just under the record of 13 mb/d set in November 2019; however, slightly lower output is expected in 4Q23. Accordingly, US liquids supply growth for 2023 is forecast at 1.2 mb/d. In addition to the US, the other main growth drivers for 2023 are anticipated to be Brazil, Norway, Kazakhstan, Guyana and China. Nonetheless, there are uncertainties related to US shale oil output potential and offshore unplanned maintenance for the rest of the year.

Non-OPEC liquids production in 2024 is forecast to grow by 1.4 mb/d to average 68.9 mb/d (including 50 tb/d in processing gains). OECD liquids supply is forecast to increase by 0.9 mb/d to average 33.3 mb/d, while non-OECD liquids supply is seen growing by 0.4 mb/d to average at 33.0 mb/d. The main drivers for the expected growth are the US, Canada, Guyana, Brazil, Norway and Kazakhstan. Along with the shale basins, projected ramp-ups, especially in the offshore fields, are expected to be the main sources of growth. At the same time, production is forecast to see the largest declines in Mexico and Malaysia.

OPEC NGLs and non-conventional liquids production in 2023 is forecast to grow by around 50 tb/d to average 5.4 mb/d and to increase by 65 tb/d to average 5.5 mb/d in 2024. OPEC-13 crude oil production in September increased by 273 tb/d m-o-m to average 27.75 mb/d, according to available secondary sources.

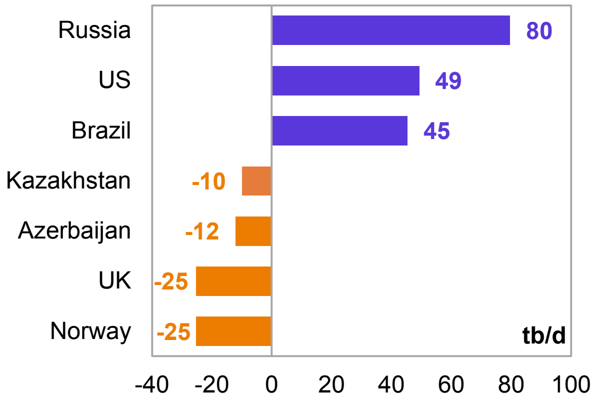
Non-OPEC liquids production in September, including OPEC NGLs, is estimated to have dropped by 0.3 mb/d m-o-m to average 72.9 mb/d. This is an increase of 1.4 mb/d y-o-y. As a result, preliminary data indicated that September's global oil supply is largely unchanged m-o-m to average at 100.6 mb/d, down by 0.5 mb/d y-o-y.

Non-OPEC liquids production in 2023 is forecast to expand by 1.7 mb/d. This is up by 0.1 mb/d from the previous month's growth assessment, mainly due to upward revisions to Russia and the US. It is worth noting that this takes into account all announced production adjustments of the countries in the DoC to the end of 2023.

Overall **OECD supply growth** for 2023 was revised up. While OECD Europe saw a downward revision due to Norway and the UK, OECD Americas was revised up owing to the US. OECD Asia Pacific's output growth was expected to remain unchanged.

The **non-OECD supply growth** projection for 2023 was revised up by around 100 tb/d and is now expected to grow by 0.2 mb/d y-o-y.

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

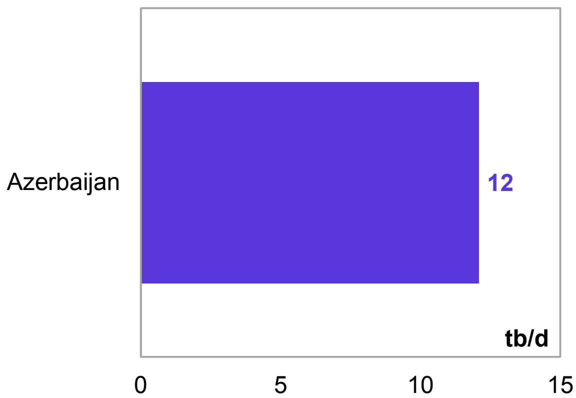


Note: * 2023 = Forecast. Source: OPEC.

Non-OPEC liquids production growth forecast in **2024** remained unchanged compared with the previous month's assessment at average 1.4 mb/d.

The upward revision to the supply forecast of Azerbaijan offset downward revisions to a few other countries.

Graph 5 - 2: Major revisions to annual supply change forecast in 2024*, MOMR Oct 23/Sep 23

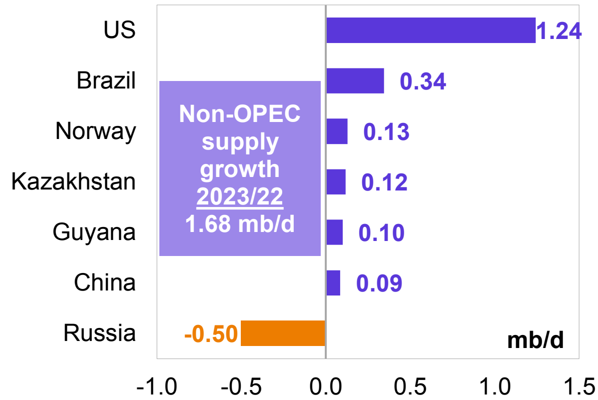


Note: * 2024 = Forecast. Source: OPEC.

Key drivers of growth and decline

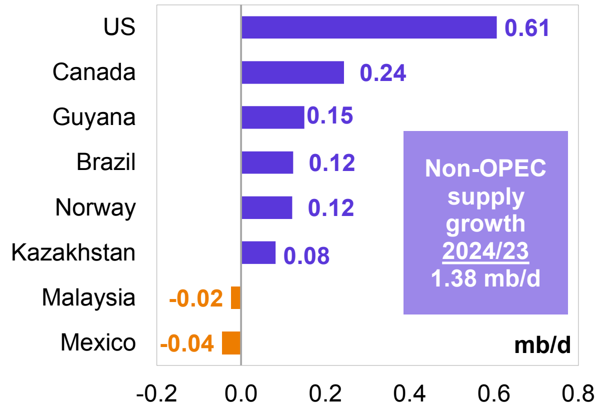
The **key drivers of non-OPEC liquids supply growth in 2023** are projected to be the US, Brazil, Norway, Kazakhstan, Guyana and China, while oil production is projected to see the largest decline in Russia.

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



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

Graph 5 - 4: Annual liquids production changes y-o-y for selected countries in 2024*



*Note: * 2024 = Forecast. Source: OPEC.*

For **2024**, the key drivers of non-OPEC supply growth are forecast to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan, while oil production is projected to see the largest declines in Mexico and Malaysia.

Non-OPEC liquids production in 2023 and 2024

Table 5 - 1: Non-OPEC liquids production in 2023*, mb/d

Non-OPEC liquids production	2022	1Q23	2Q23	3Q23	4Q23	2023	Change 2023/22 Growth	%
Americas	26.92	27.90	28.15	28.59	28.52	28.29	1.38	5.11
of which US	*19.28*	*20.10*	*20.70*	*20.79*	*20.50*	*20.53*	*1.24*	*6.45*
Europe	3.58	3.69	3.65	3.59	3.74	3.67	0.09	2.40
Asia Pacific	0.48	0.45	0.45	0.46	0.47	0.46	-0.02	-4.10
Total OECD	**30.97**	**32.04**	**32.24**	**32.64**	**32.74**	**32.42**	**1.44**	**4.66**
China	4.48	4.63	4.63	4.50	4.50	4.56	0.09	1.91
India	0.77	0.76	0.78	0.78	0.78	0.78	0.00	0.32
Other Asia	2.30	2.31	2.27	2.29	2.37	2.31	0.01	0.30
Latin America	6.34	6.69	6.77	6.99	6.88	6.83	0.50	7.84
Middle East	3.29	3.27	3.29	3.27	3.30	3.28	-0.01	-0.16
Africa	1.29	1.24	1.27	1.27	1.30	1.27	-0.02	-1.81
Russia	11.03	11.19	10.86	10.62	9.47	10.53	-0.50	-4.55
Other Eurasia	2.83	2.99	2.93	2.85	2.97	2.94	0.11	3.83
Other Europe	0.11	0.11	0.10	0.10	0.10	0.10	0.00	-2.73
Total Non-OECD	**32.44**	**33.21**	**32.90**	**32.66**	**31.68**	**32.61**	**0.17**	**0.51**
Total Non-OPEC production	63.42	65.25	65.14	65.30	64.41	65.02	1.61	2.54
Processing gains	2.40	2.47	2.47	2.47	2.47	2.47	0.07	2.96
Total Non-OPEC liquids production	**65.81**	**67.72**	**67.61**	**67.77**	**66.88**	**67.49**	**1.68**	**2.55**
Previous estimate	65.81	67.72	67.43	67.39	67.04	67.39	1.58	2.40
Revision	0.00	0.00	0.18	0.38	-0.15	0.10	0.10	0.15

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

Source: OPEC.

Table 5 - 2: Non-OPEC liquids production in 2024*, mb/d

Non-OPEC liquids production	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	%
Americas	28.29	28.76	28.79	29.26	29.57	29.10	0.81	2.85
of which US	*20.53*	*20.79*	*21.01*	*21.28*	*21.44*	*21.13*	*0.61*	*2.96*
Europe	3.67	3.87	3.76	3.70	3.85	3.79	0.13	3.44
Asia Pacific	0.46	0.47	0.44	0.45	0.43	0.44	-0.01	-2.90
Total OECD	**32.42**	**33.09**	**32.99**	**33.41**	**33.85**	**33.34**	**0.92**	**2.83**
China	4.56	4.58	4.57	4.54	4.54	4.56	-0.01	-0.11
India	0.78	0.79	0.79	0.79	0.78	0.79	0.01	1.70
Other Asia	2.31	2.29	2.27	2.24	2.24	2.26	-0.05	-2.14
Latin America	6.83	7.00	7.07	7.20	7.28	7.14	0.31	4.46
Middle East	3.28	3.33	3.32	3.31	3.32	3.32	0.04	1.20
Africa	1.27	1.26	1.27	1.33	1.38	1.31	0.04	3.15
Russia	10.53	10.35	10.47	10.59	10.70	10.53	0.00	-0.02
Other Eurasia	2.94	3.01	3.01	2.99	3.03	3.01	0.07	2.53
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	-1.15
Total Non-OECD	**32.61**	**32.73**	**32.87**	**33.11**	**33.38**	**33.02**	**0.41**	**1.27**
Total Non-OPEC production	65.02	65.82	65.85	66.51	67.23	66.36	1.33	2.05
Processing gains	2.47	2.52	2.52	2.52	2.52	2.52	0.05	2.03
Total Non-OPEC liquids production	**67.49**	**68.34**	**68.37**	**69.03**	**69.75**	**68.88**	**1.38**	**2.05**
Previous estimate	67.39	68.25	68.31	68.93	69.61	68.78	1.38	2.05
Revision	0.10	0.09	0.06	0.10	0.14	0.10	0.00	0.00

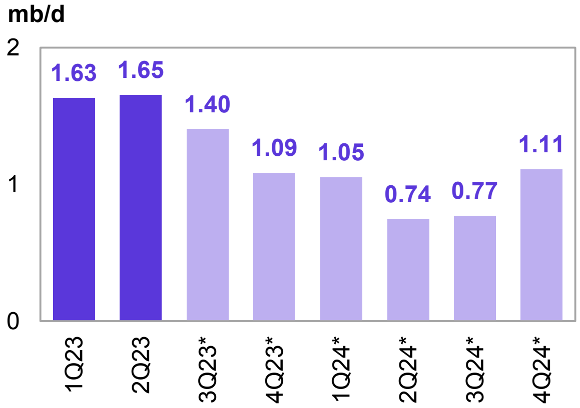
*Note: * 2024 = Forecast. Totals may not add up due to independent rounding.*
Source: OPEC.

OECD

OECD liquids production in 2023 is forecast to expand by 1.4 mb/d to average 32.4 mb/d. An upward adjustment was applied m-o-m following higher expectations for growth in OECD Americas.

Growth is set to be led by OECD Americas, which is forecast to expand by 1.4 mb/d to average 28.3 mb/d. This was revised up by around 50 tb/d compared with last month's assessment. Yearly liquids production in OECD Europe is anticipated to grow by 0.1 mb/d to average 3.7 mb/d. This is down by around 50 tb/d compared with the previous month. OECD Asia Pacific is expected to decline by around 20 tb/d to an average of 0.5 mb/d.

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



*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

For **2024**, OECD oil production is likely to grow by 0.9 mb/d for an average of 33.3 mb/d. Growth will once again be led by OECD Americas, with an expected increase of 0.8 mb/d for an average of 29.1 mb/d. Yearly oil production in OECD Europe is anticipated to grow by 0.1 mb/d for an average of 3.8 mb/d, while OECD Asia Pacific is expected to decline by 13 tb/d y-o-y for an average of 0.4 mb/d.

OECD Americas

US

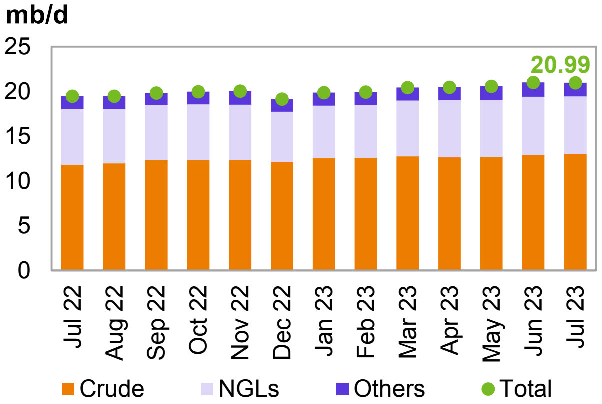
US liquids production in **July** fell by 23 tb/d m-o-m for an average of 21.0 mb/d, the second-highest level on record which was just set last month. This was up by 1.5 mb/d compared with July 2022.

Crude oil and condensate production rose by 91 tb/d m-o-m to average 13.0 mb/d in **July**. This was up by 1.2 mb/d y-o-y.

In terms of **crude and condensate production breakdowns by region (PADDs)**, production increased mainly on the US Gulf Coast (USGC), where it rose by 154 tb/d to average 9.5 mb/d. Production in the Rocky Mountain and West Coast regions dropped by around 20 tb/d and 30 tb/d, respectively. Output on the Midwest and East Coast remained broadly unchanged m-o-m.

Production growth in the main regions was primarily driven by robust output in Texas and the Gulf of Mexico (GoM) producing fields, while output in Alaska mainly declined.

Graph 5 - 6: US monthly liquids output by key component



Sources: EIA and OPEC.

NGL production was down by 82 tb/d m-o-m to average 6.4 mb/d in July. This was higher y-o-y by 0.3 mb/d. According to the US Department of Energy (DoE), the production of **non-conventional liquids** (mainly ethanol) fell by 32 tb/d to average 1.6 mb/d. Preliminary estimates see non-conventional liquids averaging around 1.5 mb/d in August, down by 25 tb/d m-o-m.

GoM production rose by 73 tb/d m-o-m to average 1.9 mb/d in July, following new project ramp-ups. Normal production was seen in most Gulf Coast offshore platforms following recent planned maintenance. In the **onshore Lower 48**, crude and condensate production increased by 44 tb/d m-o-m to average 10.7 mb/d in July.

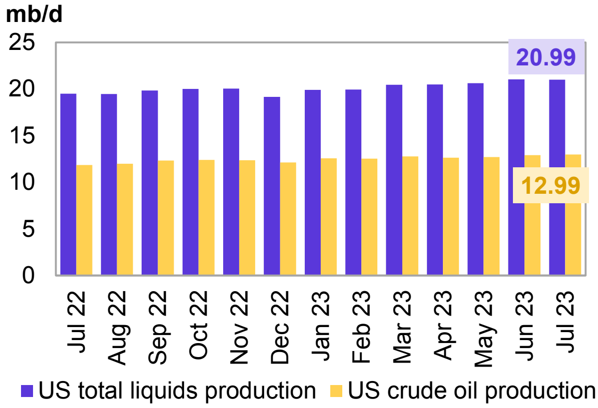
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Jul 22	Jun 23	Jul 23	*Change* m-o-m	y-o-y
Texas	4,979	5,556	5,628	*72*	*649*
Gulf of Mexico (GOM)	1,727	1,856	1,929	*73*	*202*
New Mexico	1,590	1,770	1,781	*11*	*191*
North Dakota	1,061	1,160	1,174	*14*	*113*
Colorado	433	461	452	*-9*	*19*
Oklahoma	407	440	438	*-2*	*31*
Alaska	432	423	397	*-26*	*-35*
Total	**11,834**	**12,900**	**12,991**	***91***	***1,157***

Sources: EIA and OPEC.

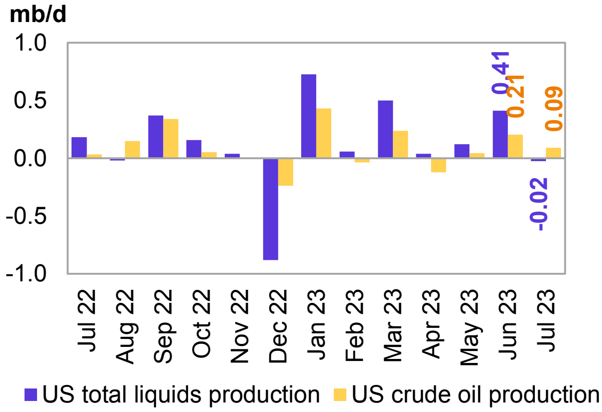
Looking at **individual US states**, New Mexico's oil production rose by 11 tb/d to average 1.8 mb/d, which is 191 tb/d higher than a year ago. Production from Texas was up by 72 tb/d to average 5.6 mb/d, which is 649 tb/d higher than a year ago. In the Midwest, North Dakota's production rose by 14 tb/d m-o-m to an average of 1.2 mb/d, up by 113 tb/d y-o-y. While Oklahoma's production remained broadly unchanged m-o-m at an average of 0.4 mb/d. Production in Alaska and Colorado fell by 26 tb/d and 9 tb/d, respectively.

Graph 5 - 7: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 8: US monthly crude oil and total liquids supply, m-o-m changes



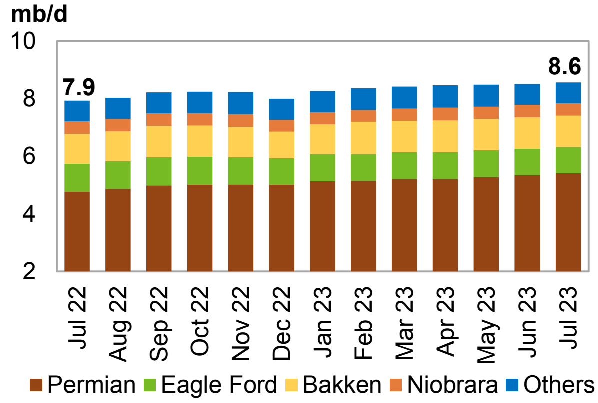
Sources: EIA and OPEC.

US tight crude output in **July** is estimated to have risen by 57 tb/d m-o-m to average 8.6 mb/d, according to the latest estimates from the US Energy Information Administration (EIA). This was 0.6 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 65 tb/d for an average of 5.4 mb/d. This was up y-o-y by 625 tb/d.

In North Dakota, Bakken shale oil output remained largely unchanged m-o-m to average 1.1 mb/d, up by 56 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, down 42 tb/d y-o-y. Production in Niobrara-Codell in Colorado and Wyoming was unchanged at an average of 426 tb/d.

Graph 5 - 9: US tight crude output breakdown

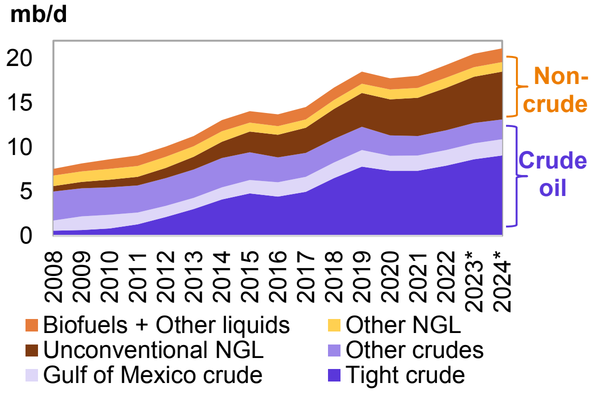


Sources: EIA and OPEC.

US liquids production in 2023, excluding processing gains, is forecast to expand y-o-y by 1.2 mb/d to average 20.5 mb/d. This is up by around 50 tb/d compared with the previous assessment, due to higher-than-expected output in previous months. Despite declining drilling activity since the start of this year, well productivity and operational efficiency have proved to be enhanced. In addition, it is assumed there will be fewer supply chain/logistical issues in major prolific shale sites for the remainder of 2023.

Given a sound level of oil field drilling and well completions, **crude oil and condensate** output is anticipated to increase y-o-y by 0.8 mb/d to average 12.7 mb/d. Average tight crude output in 2023 is forecast at 8.6 mb/d, up y-o-y by 0.7 mb/d. At the same time, NGL production and non-conventional liquids, particularly ethanol, are forecast to increase y-o-y by 0.4 mb/d and 55 tb/d, to average 6.3 mb/d and 1.5 mb/d, respectively.

Graph 5 - 10: US liquids supply developments by component



*Note: * 2023 and 2024 = Forecast.*
Source: OPEC.

US liquids production in 2024, excluding processing gains, is expected to grow y-o-y by 0.6 mb/d to average 21.1 mb/d, assuming a modest level of drilling activity and less supply chain issues at the prolific Permian, Bakken and Eagle Ford shale sites. Crude oil output is anticipated to jump by 0.4 mb/d y-o-y to average 13.1 mb/d. At the same time, NGL production and that of non-conventional liquids, particularly ethanol, are projected to increase by 0.2 mb/d and 30 tb/d y-o-y to average 6.5 mb/d and 1.5 mb/d, respectively.

Average tight crude output in 2024 is expected to reach 9.1 mb/d, up by 0.4 mb/d. The 2024 forecast assumes ongoing capital discipline and less inflationary pressure, as well as moderating supply chain issues and oil field service constraints (labour and equipment).

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

US liquids	2022	Change 2022/21	2023*	Change 2023/22	2024*	Change 2024/23
Tight crude	7.93	0.58	8.63	0.70	9.07	0.44
Gulf of Mexico crude	1.73	0.02	1.82	0.09	1.84	0.02
Conventional crude oil	2.25	0.04	2.30	0.05	2.20	-0.10
Total crude	**11.91**	**0.64**	**12.75**	**0.83**	**13.11**	**0.36**
Unconventional NGLs	4.78	0.47	5.19	0.41	5.42	0.24
Conventional NGLs	1.15	0.04	1.10	-0.05	1.07	-0.03
Total NGLs	**5.93**	**0.51**	**6.29**	**0.35**	**6.50**	**0.21**
Biofuels + Other liquids	1.44	0.08	1.49	0.05	1.53	0.03
US total supply	**19.28**	**1.23**	**20.53**	**1.24**	**21.13**	**0.61**

*Note: * 2023 and 2024 = Forecast.*

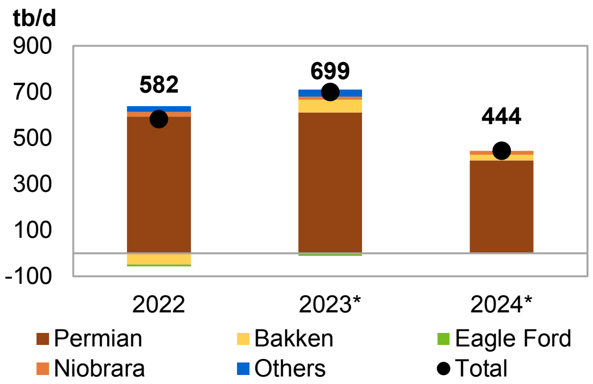
Sources: EIA, OPEC and Rystad Energy.

US tight crude production in the **Permian** during 2023 is expected to increase y-o-y by 0.6 mb/d to 5.4 mb/d, while in 2024, it is forecast to grow y-o-y by 0.4 mb/d to average 5.8 mb/d.

In **North Dakota**, **Bakken** shale production is still expected to remain below the pre-pandemic average of 1.4 mb/d. In 2023, growth is forecast at 55 tb/d for an average of 1.1 mb/d. Growth of just 25 tb/d is anticipated for 2024 for an average of 1.1 mb/d, demonstrating signs of maturity in the basin.

The **Eagle Ford** in Texas saw an output of 1.2 mb/d in 2019, followed by declines from 2020 to 2022. With an expected decline of around 10 tb/d for 2023, output rests at an average of 0.94 mb/d. At the same time, no growth is expected for 2024.

Graph 5 - 11: US tight crude output by shale play, y-o-y changes



*Note: * 2023 and 2024 = Forecast.*
Sources: EIA and OPEC.

Niobrara's production is expected to have grown y-o-y by 14 tb/d in 2023 to average 447 tb/d. It is forecast to increase by 17 tb/d in 2024 to average 464 tb/d. With a moderate pace of drilling and completion activities, production in other tight plays is expected to show an increase of 30 tb/d in 2023, then remain steady in 2024.

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

US tight oil	2022	Change 2021/20	2023*	Change 2023/22	2024*	Change 2024/23
Permian tight	4.79	0.59	5.40	0.61	5.80	0.40
Bakken shale	1.03	-0.05	1.09	0.06	1.11	0.02
Eagle Ford shale	0.95	-0.01	0.94	-0.01	0.94	0.00
Niobrara shale	0.43	0.02	0.45	0.01	0.46	0.02
Other tight plays	0.73	0.03	0.76	0.03	0.76	0.00
Total	**7.93**	**0.58**	**8.63**	**0.70**	**9.07**	**0.44**

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

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

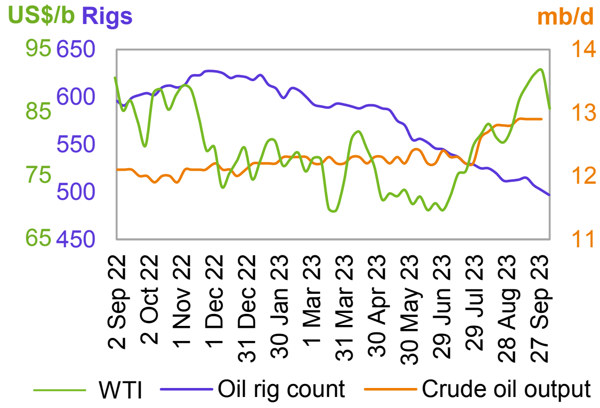
Total **active US drilling rigs** in the week ending 6 October 2023 fell by 4 to 619, according to Baker Hughes. This was down by 143 rigs compared with a year ago. The number of active offshore rigs remained unchanged w-o-w at 20. This was higher by seven compared with the same month a year earlier. Onshore oil and gas rigs were lower w-o-w by 4 to stand at 596, with three rigs in inland waters. This is down by 150 rigs y-o-y.

The **US horizontal rig count** remained unchanged w-o-w at 553, compared with 698 horizontal rigs a year ago. The number of drilling rigs for oil dropped by five w-o-w to 497, while gas-drilling rigs rose w-o-w by two to 118.

The Permian's rig count fell by three w-o-w to 309. Rig counts fell by one in Williston to 32 and rose by 1 in Eagle Ford to 50. The rig count remained unchanged w-o-w in Cana Woodford at 16 and in DJ-Niobrara at 14.

No operating oil or gas rigs have been reported in the Barnett Basin since 21 July.

Graph 5 - 12: US weekly rig count vs. US crude oil output and WTI price



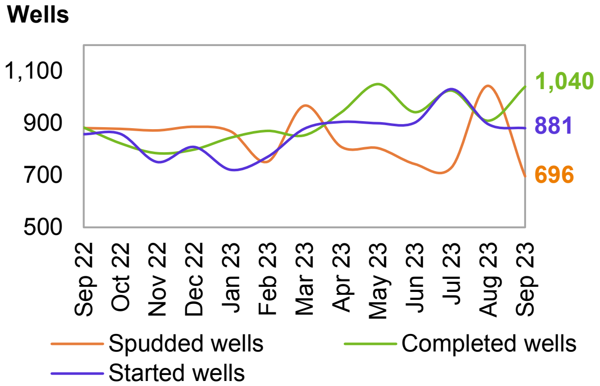
Sources: Baker Hughes, EIA and OPEC.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays included 1,043 horizontal wells spudded in August (as per preliminary data), based on EIA-DPR regions. This is up by 313 m-o-m, and 15% higher than in August 2022.

Preliminary data for August indicates a lower number of completed wells at 909, up y-o-y by 5%. The number of started wells is estimated at 896, which is 8% higher than a year earlier.

Preliminary data for September 2023 saw 696 spudded, 1,040 completed and 881 started wells, according to Rystad Energy.

Graph 5 - 13: Spudded, completed and started wells in US shale plays

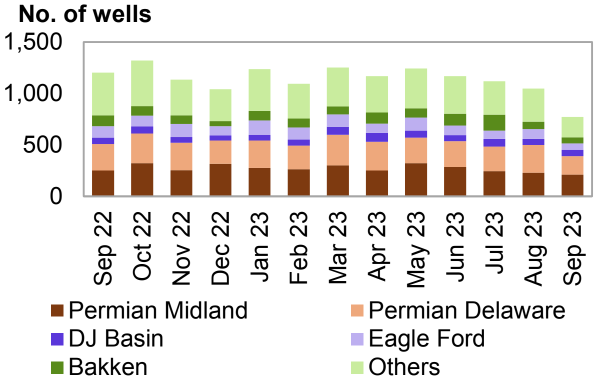


Note: Aug 23-Sep 23 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations by region**, Rystad Energy reported that 1,117 wells were fracked in July. In August and September, it stated that 1,047 and 771 wells began fracking, respectively, according to preliminary numbers are based on the analysis of high-frequency satellite data.

In regional terms, preliminary August data show that 229 and 270 wells were fracked in Permian Midland and Permian Delaware, respectively. Compared with July, there was a decline of 15 wells in the Midland region and a drop of 8 in Delaware. Data also indicate that 59 wells were fracked in the DJ Basin, 96 in Eagle Ford and 70 in Bakken in August.

Graph 5 - 14: Fracked wells count per month



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

Canada

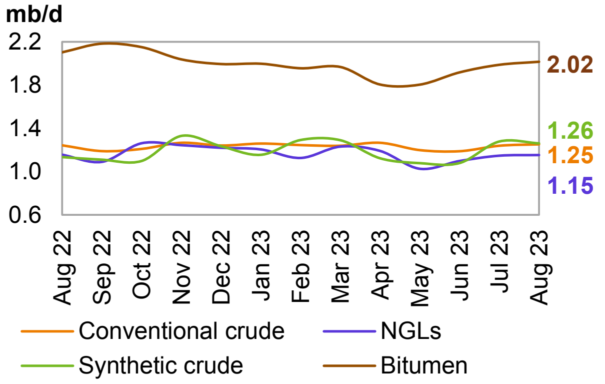
Canada's liquids production in **August** is estimated to have risen by 30 tb/d m-o-m for an average of 5.7 mb/d, continuing to recover from recent maintenance and disruptions.

Conventional crude production rose by 13 tb/d m-o-m in August to average 1.3 mb/d, while NGL output increased by a minor 6 tb/d to average 1.2 mb/d.

Crude bitumen production output rose by 28 tb/d m-o-m, while synthetic crude decreased by 17 tb/d m-o-m. Taken together, crude bitumen and synthetic crude production rose by 11 tb/d to 3.3 mb/d.

Growth in August was related to recovery after maintenance was completed at oil sand mines and upgraders, as well as production recovery in areas affected by wildfires.

Graph 5 - 15: Canada's monthly liquids production development by type



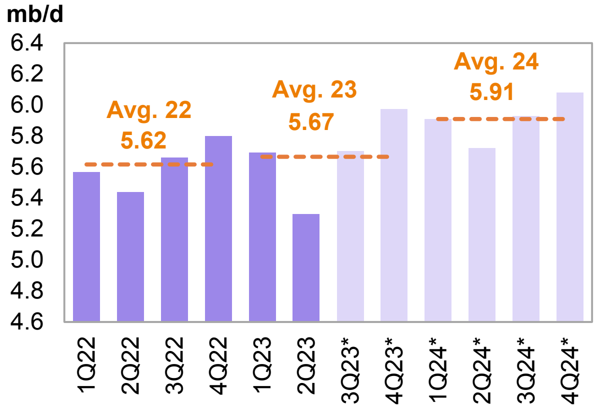
Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

For **2023**, Canada's liquids production is forecast to increase by around 50 tb/d to average 5.7 mb/d. This is unchanged compared with the previous assessment, as downward revisions in 3Q23 output offset the growth in 2Q23.

Full maintenance recovery is expected for 4Q23 and the Terra Nova Floating Production Storage and Offloading unit (FPSO) is also expected to restart production in the following months after prolonged and delayed repairs.

For **2024**, Canada's liquids production is forecast to gradually increase at a faster pace compared with 2023, rising by 0.2 mb/d to average 5.9 mb/d. Incremental production is expected to come through oil sands project ramp-ups and debottlenecks, in areas like Montney, Kearl and Fort Hills, together with some conventional field growth.

Graph 5 - 16: Canada's quarterly liquids production and forecast



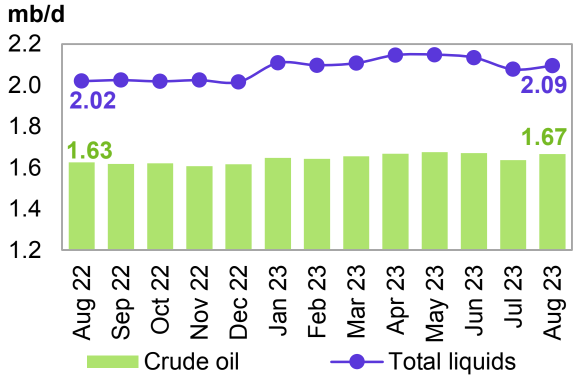
*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

Mexico

Mexico's crude output increased by 29 tb/d m-o-m in **August** to average 1.7 mb/d, while NGL output fell by 12 tb/d. Mexico's total August liquids output rose by 17 tb/d m-o-m to an average of 2.1 mb/d, according to the Comisión Nacional de Hidrocarburos (CNH). This was in line with previous expectations, as the ramp-up of new fields was more than offset outages in some mature fields.

For **2023**, liquids production is forecast to rise by around 85 tb/d to an average of 2.1 mb/d. This is unchanged from the previous assessment. In addition to minor offline capacity due to a recent explosion, declines from other fields could start offsetting monthly gains from new fields once again in 4Q23.

Graph 5 - 17: Mexico's monthly liquids and crude production development



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

For **2024**, liquids production is forecast to decline by 45 tb/d to average 2.0 mb/d. In general, it is expected that declines from mature fields will offset gains from new fields. Pemex's total crude production decline in mature areas like Ku-Maloob-Zaap and Integral Yaxche-Xanab is forecast to outweigh production ramp-ups in Area-1 and El Golpe-Puerto Ceiba, and from a few start-ups, namely TM-01, Paki and AE-0150-Uchukil.

OECD Europe

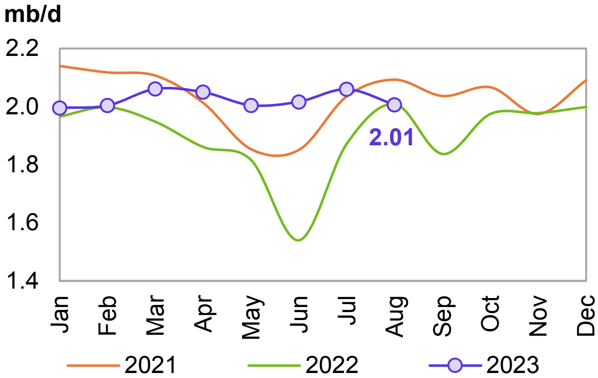
Norway

Norwegian liquids production in **August** fell by 53 tb/d m-o-m to average 2.0 mb/d. While the main oil fields were produced on schedule, there was some maintenance at several other fields.

Norway's crude production dropped by 47 tb/d m-o-m in August to average 1.8 mb/d, higher by a minor 6 tb/d y-o-y. Monthly oil production was 1% higher than the Norwegian Petroleum Directorate's (NPD) forecast.

Production of NGLs and condensate, meanwhile, fell by a minor 6 tb/d m-o-m to average 0.2 mb/d, according to NPD data.

Graph 5 - 18: Norway's monthly liquids production development



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

For **2023**, Norwegian liquids production is forecast to expand by 0.1 mb/d, revised down by around 25 tb/d compared with last month's forecast, for an average of 2.0 mb/d. Technical challenges, operational irregularities and periodical shut-downs have been the main sources of output decline in Norwegian production. Due to planned maintenance, a m-o-m decline is expected for Norway liquids production in September.

For **2024**, Norwegian liquids production is forecast to grow by 120 tb/d to average 2.1 mb/d. Some small-to-large projects are scheduled to ramp up in 2024. At the same time, project start-ups are expected at offshore projects like Balder/Ringhorne, Eldfisk, Kristin, Alvheim FPSO, Hanz, Aasgard FPSO and PL636. Norway's Equinor and its partners stated that they had raised the project cost estimate for their joint Johan Castberg oilfield in the Arctic Barents Sea due to a larger-than-expected scope of work and cost increases in the industry. Johan Castberg is projected to be the main source of output increases next year, with the first oil planned for 4Q24.

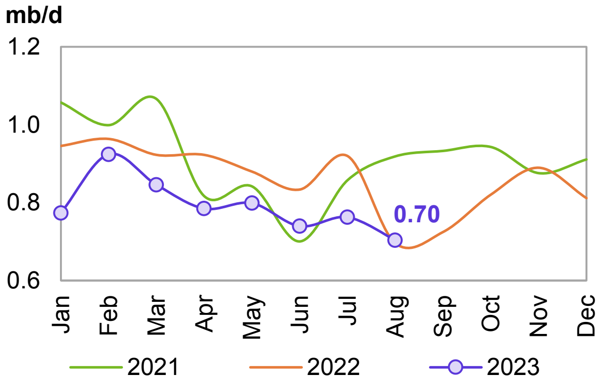
UK

In **August**, **UK liquids production** fell by 59 tb/d m-o-m to average 0.7 mb/d. Crude oil output decreased by 49 tb/d m-o-m to average 0.6 mb/d, higher by 20 tb/d y-o-y, according to official data. NGL output was down by 10 tb/d and averaged at 63 tb/d. UK liquids output in August was down by 1% compared with August 2022, mainly due to natural declines and planned maintenance.

For **2023**, UK liquids production is forecast to average 0.8 mb/d, down by around 25 tb/d from the previous assessment due to lower-than-expected August output.

For **2024**, UK liquids production is forecast to stay steady at an average of 0.8 mb/d. Production ramp-ups will be seen at the ETAP and Clair, as well as the Anasuria and Captain enhanced oil recovery (EOR) start-up projects. The start-up for Penguins redevelopment is now planned for 1Q24. However, liquids production in the UK is expected to continue to face challenges given the insufficient number of new projects and low investments.

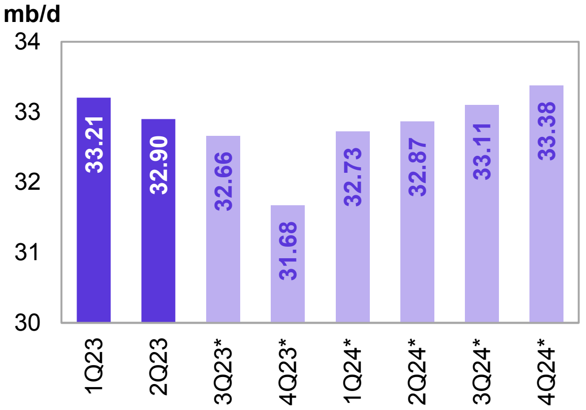
Graph 5 - 19: UK monthly liquids production development



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

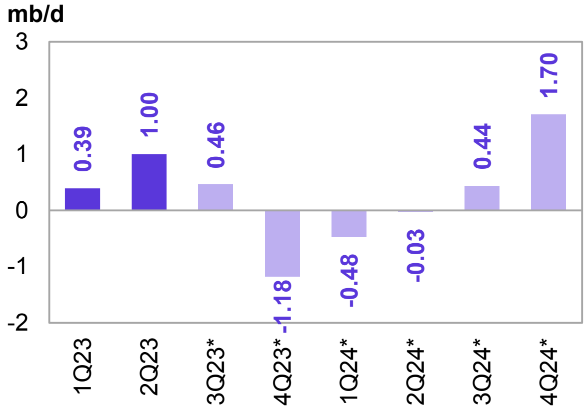
Non-OECD

Graph 5 - 20: Non-OECD quarterly liquids production and forecast



*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

Graph 5 - 21: Non-OECD quarterly liquids supply, y-o-y changes



*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

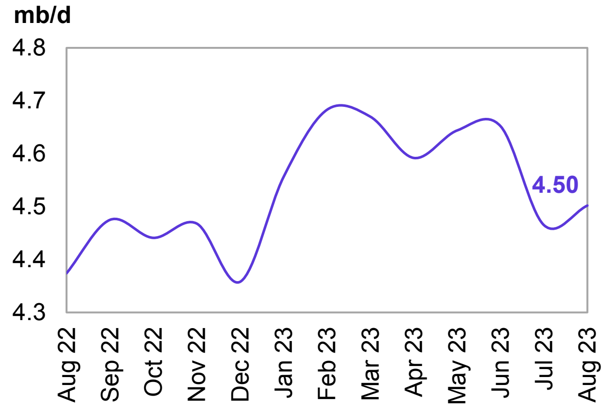
China

China's liquids production rose by 37 tb/d m-o-m to average 4.5 mb/d in **August**. This is up by 128 tb/d y-o-y, according to official data. Crude oil output in August averaged 4.1 mb/d, up by 37 tb/d compared with the previous month, and higher by 125 tb/d y-o-y. NGL and condensate production was largely stable m-o-m, averaging 48 tb/d.

For **2023**, y-o-y growth of 85 tb/d is forecast for an average of 4.6 m/d. This is unchanged from last month's assessment. Natural decline rates are expected to be offset by additional growth through more infill wells and EOR projects amid efforts by state-owned oil companies to safeguard energy supplies. Chinese average crude production increased by around 2% y-o-y over January–August 2023, largely driven by growth from Chinese National Offshore Oil Company (CNOOC) offshore projects. CNOOC's Kenli 6-1 oilfield in the Bohai Sea commenced production in 4Q22 and became a key driver of Chinese supply.

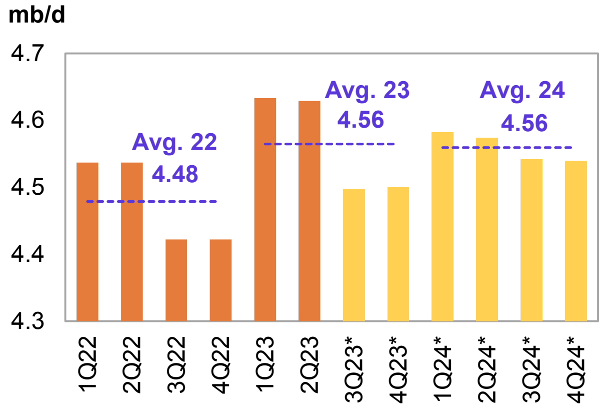
For **2024**, Chinese liquids production is expected to remain steady y-o-y and is forecast to average 4.6 m/d. For next year, Liuhua 11-1, Shayan and Liuhua 4-1 (redevelopment) are planned to come on stream under CNOOC and PetroChina. At the same time, main ramp-ups are expected from the Changqing, Kenli 10-2, Wushi 17-2 and Kenli 6-4.

Graph 5 - 22: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 23: China's quarterly liquids production and forecast



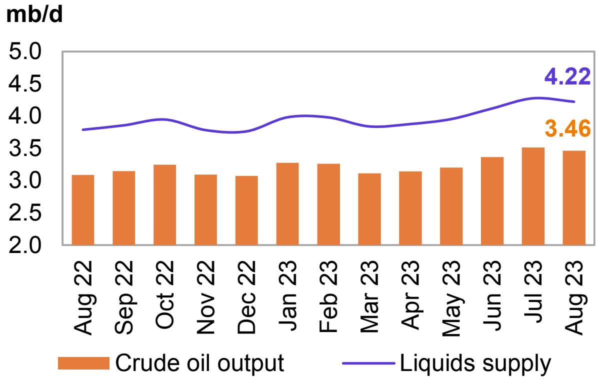
*Note: * 3Q23-4Q24 = Forecast. Sources: CNPC and OPEC.*

Latin America

Brazil

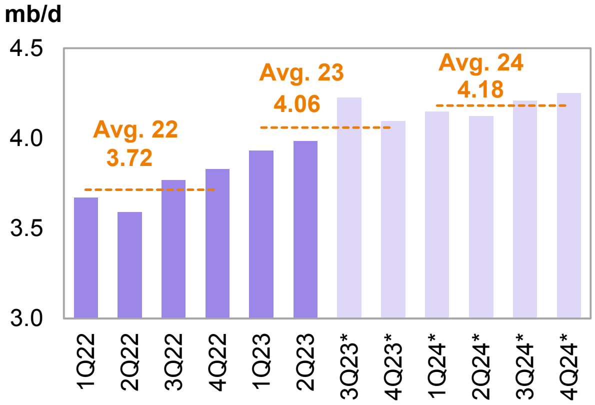
Brazil's crude output in **August** fell by 51 tb/d m-o-m for an average of 3.5 mb/d, mainly due to maintenance in the pre-salt fields. NGL production, however, was broadly unchanged at an average of 80 tb/d and was expected to remain flat in September. Biofuel output (mainly ethanol) remained mostly unchanged at an average of 678 tb/d, with preliminary data showing a stable trend in September. The country's total liquids production decreased by 53 tb/d in August to average 4.2 mb/d. This is slightly lower than the highest liquids production rate on record of 4.3 mb/d set in July 2023.

Graph 5 - 24: Brazil's monthly liquids production development by type



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

Graph 5 - 25: Brazil's quarterly liquids production



*Note: * 3Q23-4Q24 = Forecast. Sources: ANP and OPEC.*

For **2023**, Brazil's liquids supply, including biofuels, is forecast to rise by 0.3 mb/d y-o-y to an average of 4.1 mb/d, revised up by 45 tb/d from the previous forecast due to stronger-than-expected output in August and higher expected production in 4Q23.

The FPSO Sepetiba, the second platform for the Mero field development in the pre-salt Santos basin, has already been delivered to Petrobras, according to Offshore Magazine. It is designed to produce up to 180 tb/d of oil and 12 MMcm/d of gas. It is expected to begin production in the fourth quarter of this year. Crude oil output in Brazil is expected to be supported by the offshore start-ups announced at the beginning of the year.

For **2024**, Brazil's liquids supply forecast, including biofuels, is forecast to increase by around 120 tb/d y-o-y to an average of 4.2 mb/d. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula), Peregrino and Itapu (Florim) fields. Oil project start-ups are anticipated at Atlanta, Pampo-Enchova Cluster and Vida.

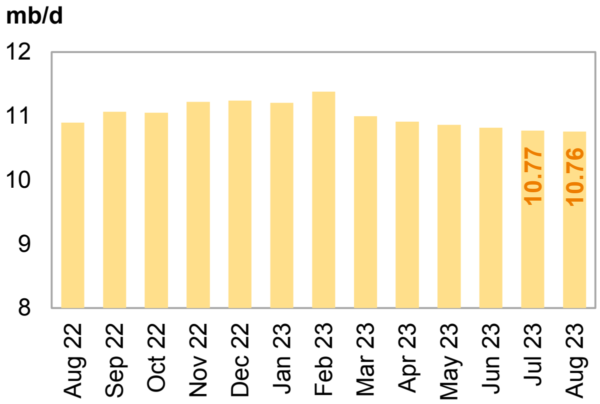
Russia

Russia's liquids production in August fell slightly by around 14 tb/d m-o-m to average 10.8 mb/d. This includes 9.5 mb/d of crude oil and 1.3 mb/d of NGLs and condensate.

For **2023**, Russian liquids production is forecast to drop by 0.5 mb/d to an average of 10.5 mb/d, revised up by around 80 tb/d from the previous month's assessment. It is worth noting that the expected contraction takes into account announced voluntary production adjustments to the end of 2023.

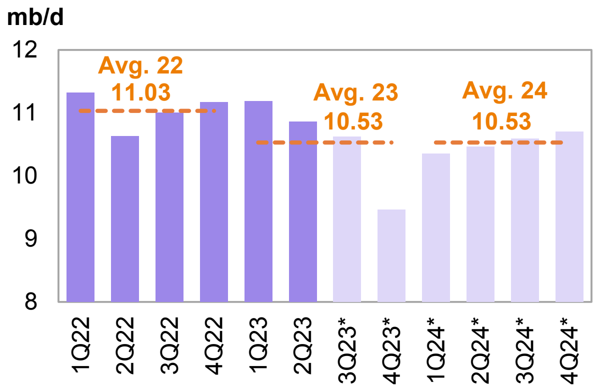
For **2024**, Russian liquids production is forecast to remain unchanged y-o-y to average 10.5 mb/d. In addition to project ramp-ups from several oil fields, there will be start-ups by Rosneft, Russneft, Lukoil, Gazprom, Neftisa and TenderResurs. However, overall additional liquids production is expected to be offset by declines at mature fields. It should be noted that the Russian oil forecast is subject to uncertainty.

Graph 5 - 26: Russia's monthly liquids production



Sources: Nefte Compass and OPEC.

Graph 5 - 27: Russia's quarterly liquids production



Note: * 3Q23-4Q24 = Forecast.
Sources: Nefte Compass and OPEC.

Caspian

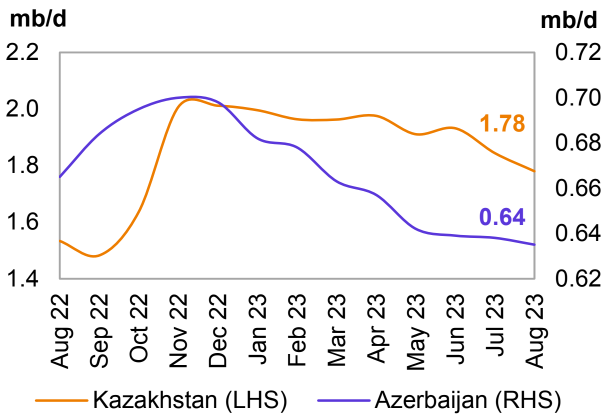
Kazakhstan & Azerbaijan

Liquids output in Kazakhstan fell by 64 tb/d m-o-m to an average of 1.8 mb/d in **August**. Crude production was down by 30 tb/d m-o-m to average 1.5 mb/d. At the same time, NGL and condensate output dropped by 34 tb/d m-o-m to average 0.3 mb/d.

For **2023**, the liquids supply is forecast to increase by 0.1 mb/d to average 1.9 mb/d, revised down by 10 tb/d from the previous forecast.

Oil production in August was disrupted mainly due to scheduled maintenance at the Tengiz field. Additional maintenance is also estimated in September at the Karachaganak gas condensate field.

Graph 5 - 28: Caspian monthly liquids production development by selected country



Sources: Nefte Compass, JODI and OPEC.

For **2024**, the liquids supply is forecast to increase by around 80 tb/d to average 2.0 mb/d, mainly due to production ramp-ups in the Tengiz oil field through an expansion at the Tengizchevroil Future Growth Project (FGP) and wellhead pressure management project. Oil production in the Kashagan field and gas condensate output in the Karachaganak field are also expected to rise marginally.

Azerbaijan's liquids production in **August** remained broadly stable m-o-m, averaging 0.6 mb/d, which is a drop of 30 tb/d y-o-y. Crude production averaged 497 tb/d, with NGL output at 138 tb/d, according to official sources.

Azerbaijan's liquids supply for **2023** is forecast to drop by around 10 tb/d to average 0.7 mb/d. This is a downward revision of around 10 tb/d, due to lower-than-expected major oil field production in August. Declines in legacy reservoirs, like the Azeri-Chirag-Guneshli (ACG) oil fields, are expected to be primarily offset by ramp-ups in other fields this year.

Azerbaijan's liquids supply for **2024** is forecast to decline by around 10 tb/d to average 0.7 mb/d. Growth is forecast to come partly from the Shah Deniz, Absheron and Umid-Babek gas condensate projects. Production in Azerbaijan's ACG oil fields should also get a boost next year, with a seventh ACG platform. However, the overall decline rate is expected to be higher than the planned ramp-ups.

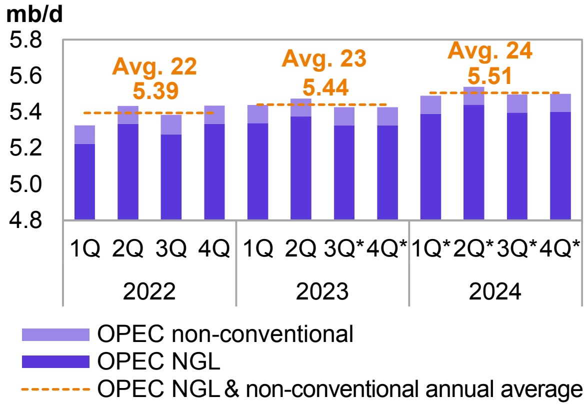
OPEC NGLs and non-conventional oils

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

Preliminary data shows NGL output in 3Q23 is expected to average 5.33 mb/d, while non-conventional output is forecast to remain steady at 0.1 mb/d. Taken together, 5.42 mb/d is expected for August, according to preliminary data.

The preliminary **2024** forecast indicates growth of 65 tb/d for an average of 5.5 mb/d. NGL production is projected to grow by 65 tb/d to average 5.4 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

Graph 5 - 29: OPEC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

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

OPEC NGL and non-coventional oils	2022	Change 22/21	2023	Change 23/22	1Q24	2Q24	3Q24	4Q24	2024	Change 24/23
OPEC NGL	**5.29**	*0.11*	**5.34**	*0.05*	5.39	5.44	5.40	5.40	**5.41**	*0.07*
OPEC non-conventional	**0.10**	*0.00*	**0.10**	*0.00*	0.10	0.10	0.10	0.10	**0.10**	*0.00*
Total	**5.39**	***0.11***	**5.44**	***0.05***	**5.49**	**5.54**	**5.50**	**5.50**	**5.51**	***0.07***

Note: 2023 and 2024 = Forecast.

Source: OPEC.

OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 27.75 mb/d in September 2023, higher by 273 tb/d m-o-m. Crude oil output increased mainly in Nigeria, Saudi Arabia and Kuwait, while production in Venezuela and Equatorial Guinea decreased.

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

Secondary sources	2021	2022	1Q23	2Q23	3Q23	Jul 23	Aug 23	Sep 23	*Change Sep/Aug*
Algeria	913	1,017	1,013	979	952	959	940	957	*17*
Angola	1,122	1,140	1,061	1,106	1,137	1,170	1,123	1,119	*-4*
Congo	263	261	269	265	262	270	259	259	*0*
Equatorial Guinea	98	84	53	59	62	61	69	55	*-14*
Gabon	182	197	194	206	208	204	211	208	*-3*
IR Iran	2,392	2,554	2,572	2,698	2,990	2,872	3,043	3,058	*15*
Iraq	4,046	4,439	4,393	4,147	4,290	4,271	4,292	4,307	*15*
Kuwait	2,419	2,704	2,684	2,585	2,559	2,552	2,551	2,576	*25*
Libya	1,138	981	1,157	1,164	1,148	1,126	1,154	1,164	*10*
Nigeria	1,373	1,205	1,347	1,233	1,266	1,163	1,249	1,390	*141*
Saudi Arabia	9,114	10,531	10,358	10,149	8,993	9,050	8,924	9,006	*82*
UAE	2,727	3,066	3,045	2,941	2,910	2,896	2,911	2,924	*14*
Venezuela	554	683	696	734	752	765	758	733	*-25*
Total OPEC	**26,340**	**28,863**	**28,844**	**28,267**	**27,529**	**27,358**	**27,482**	**27,755**	**273**

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	1Q23	2Q23	3Q23	Jul 23	Aug 23	Sep 23	*Change Sep/Aug*
Algeria	911	1,020	1,011	971	951	955	939	960	*21*
Angola	1,124	1,137	1,046	1,098	1,131	1,149	1,129	1,113	*-16*
Congo	267	262	278	280	269	282	272	252	*-21*
Equatorial Guinea	93	81	51	59	58	62	56	55	*-1*
Gabon	181	191	201	203	..	193	..	..	*..*
IR Iran	..	..	..	..	..	..	..	..	*..*
Iraq	3,971	4,453	4,288	3,959	4,101	4,094	4,073	4,138	*65*
Kuwait	2,415	2,707	2,676	2,590	2,548	2,548	2,548	2,548	*0*
Libya	1,207	..	1,195	1,181	1,187	1,173	1,192	1,196	*4*
Nigeria	1,323	1,138	1,277	1,144	1,201	1,081	1,181	1,347	*165*
Saudi Arabia	9,125	10,591	10,456	10,124	8,969	9,013	8,918	8,975	*57*
UAE	2,718	3,064	3,041	2,941	2,904	2,894	2,896	2,924	*28*
Venezuela	636	716	731	808	797	810	820	762	*-58*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**

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

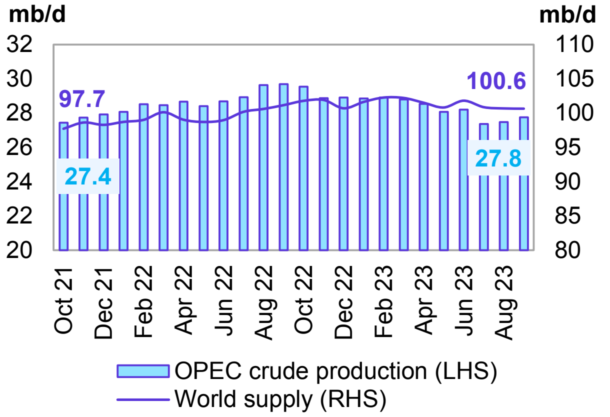
World oil supply

Preliminary data indicates that **global liquids production in September** is largely unchanged to average at 100.6 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have decreased by 0.3 mb/d m-o-m in September 2023 to average 72.9 mb/d. This was higher by 1.4 mb/d y-o-y. Preliminary estimated production increases in September were mainly driven by Other Eurasia and the UK, and were more than offset by drops in Russia and the US.

The **share of OPEC crude oil in total global production** in September, increased by 0.3 pp to stand at 27.6% 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 - 30: OPEC crude production and world oil supply development



Source: OPEC.

Product Markets and Refinery Operations

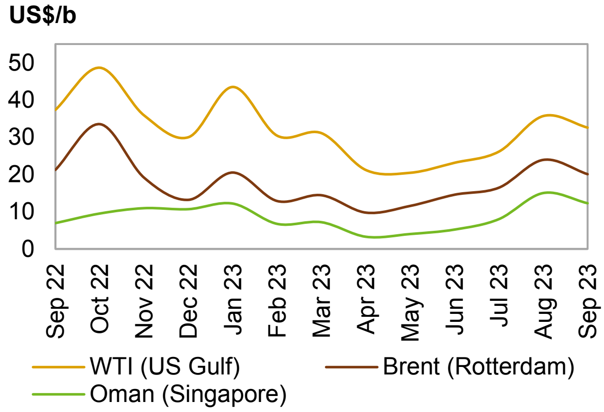
In September, refinery margins came under pressure and showed a counter-seasonal decline following the multi-month highs seen in the previous month, as higher crude prices weighed on product crack spreads nearly all across the barrel, despite lower product output due to the start of a heavy turnaround season. Over the month, weakening gasoline markets as the summer season came to an end – and subsequent gasoline stock builds – led to a price decline for the fuel in the USGC and Rotterdam, while all other product prices showed a rise. In Singapore, fuel oil was the only product to show a price decline, affected by ample supplies in the region.

Global refinery intake decreased to show a 1.3 mb/d decline in September and averaged 81.1 mb/d vs. 82.5 mb/d in the previous month. Y-o-Y, intakes were 1.8 mb/d higher. In the coming months, refinery intakes are expected to drop further with rising offline capacities amid the onset of heavy maintenance season.

Refinery margins

USGC refining margins against WTI retracted following three consecutive months of solid growth but still managed to stay at healthy levels. The counter-seasonal downturn in US refining economics was contrary to previous expectations, given the start of heavy maintenance works and rising offline capacities in the region. A sharp rise in crude prices registered in September led to a narrower product-to-crude premium m-o-m, as the monthly product price rise was outpaced by the price increase seen on the crude side. In addition, weakening gasoline crack spreads due to slower consumption requirements attributed to both stronger pricing signals and the end of the summer season added to the downside. Consequently, unlike all other products that showed a price rise m-o-m due to lower refinery output, gasoline was the only one in the USGC to show a solid decline in line with the observed stock builds.

Graph 6 - 1: Refining margins



Sources: Argus and OPEC.

In terms of operations, US refinery intake decreased with the start of heavy maintenance works and lost 550 tb/d m-o-m to an average of 16.61 mb/d in September. USGC margins against WTI averaged $32.57/b, down by $3.10 m-o-m, but this was down $4.75 y-o-y.

Refinery margins in Rotterdam against Brent stepped down from the y-t-d high recorded in the previous month and following four consecutive months of gains. The weakness derived from all across the barrel, except diesel, with gasoline in the region representing the most pronounced source of loss, followed by fuel oil. Declining gasoline requirements in the Atlantic Basin likely exacerbated the lingering demand side pressures linked to subdued exports to West Africa after the subsidy removal and the subsequent hike in Nigerian retail prices early in 2H23. On the other hand, the diesel export ban implemented in Russia on September 21 to avert domestic shortage and stabilize domestic prices has likely affected the market sentiment regarding limited diesel availability within the region, which may have contributed to upward pressure on prices and consequently on crack spreads regionally.

Refinery throughput in Europe reversed course and trended downwards. According to preliminary data, it was 260 tb/d lower, at an average of 9.14 mb/d. Refinery margins against Brent in Europe averaged $20.06/b in September, $3.84 lower compared with a month earlier and $1.16 lower y-o-y.

Singapore's refining margins against Oman eased as losses stemming from all across the barrel weighed on product markets and refining economics. In the region, high sulphur fuel oil presented the strongest downturn as slower power generation demand led to more availability in the region. In addition, a jump in Chinese gasoline exports led to higher gasoline stocks in the region and contributed to positioning the product as the second-worst performer in the region.

Going forward, Asian refiners are expected to keep refinery runs elevated and boost product exports in the coming month as export economics further improve amid potential improvements in East-West product pricing signals. This will provide a good window of opportunity for Asian refiners to exhaust their product export quotas on stronger refining margins ahead of the release of the next batch of quotas.

In September, refinery intakes for Japan, China, India, Singapore and South Korea combined had a drop of 280 tb/d relative to the previous month, averaging 27.67 mb/d according to preliminary data. Refinery margins against Oman in Asia lost $2.74 m-o-m to average $12.30/b, which was $5.34 higher y-o-y.

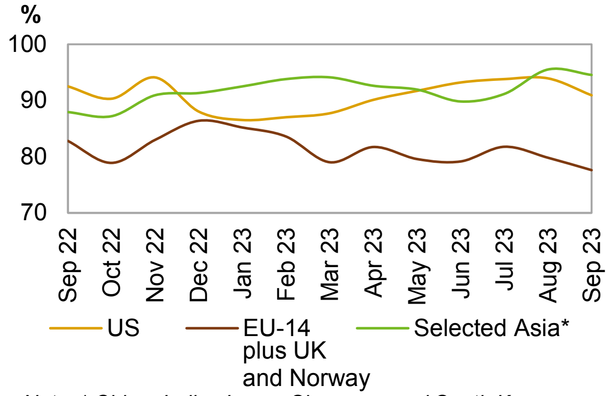
Refinery operations

US refinery utilization rates declined in September to an average of 90.91%, which corresponds to a throughput of 16.61 mb/d. This represented a drop of 3.0 pp and 550 tb/d compared with August. Y-o-y, the September refinery utilization rate was down by 1.6 pp, with throughput showing a 254 tb/d rise.

European refinery utilization averaged 77.59% in September, corresponding to a throughput of 9.14 mb/d. This is a m-o-m drop of 2.2 pp or 260 tb/d. On a y-o-y basis, the utilization rate was down by 5.2 pp, while throughput was lower by 362 tb/d.

In **Selected Asia** – comprising Japan, China, India, Singapore and South Korea – refinery utilization rates increased to an average of 94.55% in September, corresponding to a throughput of 27.67 mb/d. Compared with the previous month, utilization rates were down by 1.0 pp, and throughput was lower by 280 tb/d. However, y-o-y utilization rates were higher by 6.6 pp, and throughput was up by 3.3 mb/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, %			
	Jul 23	Aug 23	Sep 23	Change Sep/Aug	Jul 23	Aug 23	Sep 23	Change Sep/Aug
US	**17.14**	**17.16**	**16.61**	**-0.55**	**93.80**	**93.93**	**90.91**	**-3.0 pp**
Euro-14, plus UK and Norway	**9.63**	**9.40**	**9.14**	**-0.26**	**81.75**	**79.80**	**77.59**	**-2.2 pp**
France	1.04	0.99	0.93	-0.06	90.54	85.93	81.09	-4.8 pp
Germany	1.72	1.70	1.66	-0.04	83.70	82.62	80.82	-1.8 pp
Italy	1.16	1.20	1.17	-0.03	61.16	63.21	61.71	-1.5 pp
UK	1.00	0.99	0.95	-0.04	85.51	84.14	80.89	-3.3 pp
Selected Asia*	**26.67**	**27.95**	**27.67**	**-0.28**	**91.15**	**95.52**	**94.55**	**-1.0 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	3Q22	4Q22	1Q23	2Q23	3Q23
OECD Americas	**16.60**	**17.79**	**18.68**	**19.00**	**18.53**	**18.04**	**19.05**	**19.37**
of which US	*14.73*	*15.66*	*16.48*	*16.82*	*16.35*	*15.78*	*16.75*	*16.97*
OECD Europe	**10.65**	**10.92**	**11.43**	**11.79**	**11.38**	**11.28**	**11.11**	**11.46**
of which:								
France	*0.67*	*0.69*	*0.84*	*0.96*	*0.78*	*0.83*	*0.87*	*0.99*
Germany	*1.72*	*1.72*	*1.83*	*1.83*	*1.87*	*1.64*	*1.59*	*1.69*
Italy	*1.11*	*1.23*	*1.32*	*1.41*	*1.29*	*1.28*	*1.26*	*1.18*
UK	*0.92*	*0.92*	*1.04*	*1.02*	*1.03*	*1.03*	*1.01*	*0.98*
OECD Asia Pacific	**5.87**	**5.77**	**6.08**	**6.21**	**6.01**	**6.13**	**5.60**	**5.54**
of which Japan	*2.48*	*2.49*	*2.71*	*2.73*	*2.73*	*2.77*	*2.38*	*2.78*
Total OECD	**33.13**	**34.47**	**36.19**	**36.99**	**35.92**	**35.45**	**35.77**	**36.38**
Latin America	**3.20**	**3.50**	**3.36**	**3.38**	**3.32**	**3.41**	**3.53**	**3.56**
Middle East	**6.10**	**6.80**	**7.28**	**7.34**	**7.40**	**7.31**	**7.44**	**7.75**
Africa	**1.79**	**1.77**	**1.76**	**1.76**	**1.73**	**1.72**	**1.73**	**1.79**
India	**4.42**	**4.73**	**5.00**	**4.69**	**4.89**	**5.35**	**5.22**	**5.13**
China	**13.48**	**14.07**	**13.49**	**13.00**	**14.14**	**14.57**	**14.78**	**15.09**
Other Asia	**4.72**	**4.72**	**4.89**	**4.87**	**4.77**	**4.86**	**5.02**	**4.76**
Russia	**5.39**	**5.61**	**5.46**	**5.50**	**5.59**	**5.67**	**5.40**	**5.51**
Other Eurasia	**1.10**	**1.23**	**1.15**	**1.13**	**1.15**	**1.23**	**1.07**	**1.06**
Other Europe	**0.43**	**0.41**	**0.48**	**0.54**	**0.49**	**0.44**	**0.43**	**0.55**
Total Non-OECD	**40.63**	**42.85**	**42.87**	**42.21**	**43.48**	**44.56**	**44.63**	**45.21**
Total world	**73.76**	**77.32**	**79.07**	**79.20**	**79.40**	**80.01**	**80.40**	**81.59**

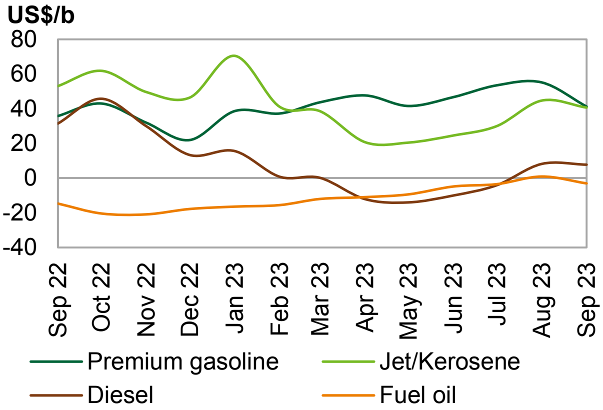
Note: Totals may not add up due to independent rounding.
Sources: AFREC, APEC, EIA, IEA, Euroilstock, PAJ, Ministry data, including Ministry of Energy of the Russian Federation, Ministry of Petroleum and Natural Gas of India, OPEC and JODI.

Product markets

US market

The **USGC gasoline crack spread** fell following three consecutive months of gains and showed the largest loss across the barrel in the USGC, pressured by a sharp rise in the total level of US gasoline stocks. This considerable rise in availability exerted pressure on gasoline values, which was the only product across the barrel in the US to show a price decline in September, amid all others showing a rise. The switch to winter-grade gasoline and the inherent directives for greater lower-priced naphtha-derived octane boosters in the final gasoline pool likely contributed to the price decline. USGC wholesale gasoline 93 prices dropped by $5.97/b m-o-m to an average of $130.56/b in September. The USGC gasoline crack spread lost $13.94 m-o-m to average $41.18/b in September. This was $5.43 higher y-o-y.

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



Sources: Argus and OPEC.

The USGC **jet/kerosene** crack spread declined and showed the largest monthly loss across the barrel in the USGC. Jet/kero inventories showed a strong rising trend in September and reached nearly 43 mb in the week ended September 22. This was the highest level registered since August 2021. Wholesale prices increased by $3.93/b over the month to an average of $129.96/b. The US jet/kerosene crack spread against WTI averaged $40.58/b, down by $4.04 m-o-m and $12.40 y-o-y.

The USGC **gasoil** crack weakened slightly but managed to retain most of the gains attained in the previous month. Over the month, gasoil availability in the country showed some improvement relative to the level registered at the end of the previous month, which likely contributed to pressure on prices. However, despite the slight monthly rise in gasoil inventories, the level remains low relative to historical patterns, indicating persistent market tightness. Going forward, gasoil markets are likely to benefit from partial support from rising heating demand as colder temperatures arrive. Gasoil prices averaged $97.05/b in September, up $7.54 relative to August. The US gasoil crack spread against WTI averaged $7.67/b, down by 43¢ m-o-m and $23.71 y-o-y.

The USGC **fuel oil** crack spread against WTI receded from the breakthrough witnessed in the previous month as it declined and reverted to negative territory. This is attributed to weakening high sulphur fuel oil requirements from all main regions and exports for power generation demand starting to wane with the end of the summer season. In addition, weaker gasoline markets are likely weighing on residual fuel-to-gasoline conversion, which possibly exerts further pressure on residual fuel markets. In September, the US fuel oil crack spread against WTI averaged a minus of $3.00/b, lower by $3.96/b m-o-m, but higher than $11.61 y-o-y.

European market

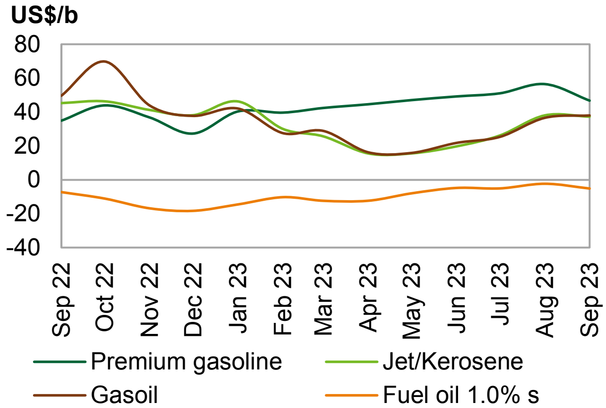
Gasoline crack spreads in Rotterdam decreased, affected by subdued demand from the US and West Africa, as gasoline exports to West Africa were reported to have declined by around 28% following the fuel subsidy removal in Nigeria. Although gasoline refinery output levels declined with the start of heavy turnarounds, this supportive factor was outpaced by the decline in demand, which resulted in strong gasoline stock builds in the Atlantic Basin. Going forward, gasoline crack spreads are set to remain under pressure with the onset of the colder season. However, this downside risk will be challenged by the ongoing refinery maintenance season and the subsequent decline in gasoline production levels, which could partially offset some of the aforementioned weaknesses. The gasoline crack spread against Brent averaged $46.73/b in September, which was $9.73/b lower m-o-m but higher by $11.81 y-o-y.

In September, **jet/kerosene** crack spreads eased but managed to retain most of the previous months' gains and showed the most limited downturn in performance compared to all of the other main products in NWE. This was a reflection of still supportive air travel activities, as well as regional demand, as European aviation fuel consumption was reported to have improved significantly in the previous month, approaching pre-pandemic levels. This demand-side support protected jet/kerosene markets in the region and likely overshadowed feedstock pricing pressures. In the coming months, jet/kerosene markets are expected to remain strong but slowly start to subside with the end of the peak travelling season. The Rotterdam jet/kerosene crack spread against Brent averaged $37.25/b, down by 73¢ m-o-m and $7.96 y-o-y.

Gasoil 10 ppm crack spreads were the only positive performer across the barrel in the NWE region. The diesel export ban implemented in Russia on 21 September to avert domestic shortage and stabilize domestic prices likely raised concerns over limited diesel supplies within the region at a time when the product's market was already tight. While the measure may have improved diesel distribution in the domestic market as intended, it also added upward pressure on prices and subsequently affected crack spreads at the regional level.

The gasoil crack spread against Brent averaged $37.95/b, up by $1.41 m-o-m but down $11.66 y-o-y.

Graph 6 - 4: Rotterdam crack spreads vs. Brent



Sources: Argus and OPEC.

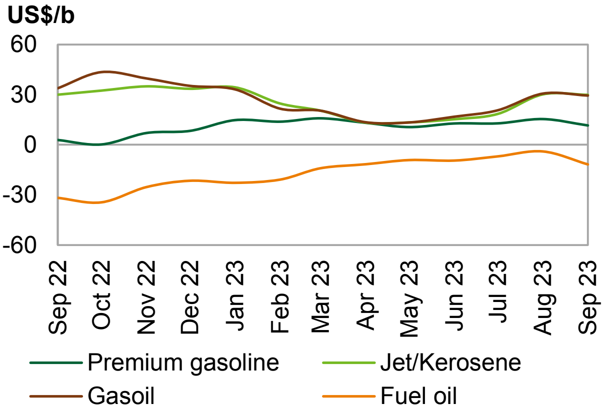
At the bottom of the barrel, **fuel oil 1.0%** crack spreads weakened pressured by a slowdown in overall demand amid limited volume pull of the residual fuel for power generation in the Middle East. In terms of prices, fuel oil 1.0% increased in value m-o-m to an average of $88.83/b, which was $5.02 higher relative to the previous month. In NWE, 1% fuel oil cracks against Brent averaged minus $5.13/b in September, having lost $2.80 m-o-m but gained $2.10 y-o-y.

Asian market

The **Asian gasoline 92 crack** declined but fared better compared to the products' performance in the USGC and NWE. Similarly to what was observed in the aforementioned trading hubs, the combination of stronger crude prices and the conclusion of the summer season contributed to increased gasoline availability in Asia.

The release of Chinese product export quotas towards the end of the previous month likely added to the already bearish market sentiment, as the action signalled continued supplies from China. The Singapore gasoline crack spread against Dubai in September averaged $11.54/b. This was down $3.84 m-o-m but $2.58 higher y-o-y.

Graph 6 - 5: Singapore crack spreads vs. Dubai



Sources: Argus and OPEC.

Asian naphtha crack spreads experienced a significant decline m-o-m and moved further into negative territory. This was the outcome of ample availability, with firm flows from within the region and the Middle East coming amid relatively weak demand from the petrochemical industry, while high crude prices further added to the downside by weighing on petrochemical margins. The Singapore naphtha crack spread against Oman averaged minus $18.20/b, $2.44 lower m-o-m but $2.14 higher y-o-y.

In the middle of the barrel, **jet/kerosene** crack spreads experienced a mild loss but still managed to remain at healthy levels and became the strongest margin contributor in September. Slower requirements from the West exerted pressure on product markets despite the continuation of healthy demand from the global aviation sector. Expectations of a decline in international air travel activity in the coming month and possibly stronger export requirements to OECD Europe and Americas will most likely prevent a sharp downturn in jet/kerosene markets in the near term. The Singapore jet/kerosene crack spread against Oman averaged $29.84/b, down by 29¢ m-o-m but up by $11.61 y-o-y.

The Singapore **gasoil** crack spread weakened and was outperformed by jet/kerosene but retained most of its strength. The heavy refinery maintenance season will most likely incentivize exports to OECD Europe and Americas and provide support to the regional market. The Singapore gasoil crack spread against Oman averaged $29.51/b, down by $1.18 m-o-m but up by $10.00 y-o-y.

The Singapore **fuel oil 3.5%** crack spread suffered a considerable downturn and led to losses relative to the other key products in the region. Modest demand from the bunker sector, amid lower demand for power generation and weakening FCC margins due to lower economic incentives to convert residual fuel into gasoline, affected the products' performance. Going forward, high sulphur fuel oil requirements for power generation – particularly in the Middle East – are expected to subside further. This is likely to free up higher volumes for residual conversion to gasoil that could help replenish the products' inventories, particularly in the Atlantic Basin. Singapore's high sulphur fuel oil crack spreads against Oman averaged minus $11.75/b, which was down by $7.77 m-o-m but up by $2.96 y-o-y.

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

Event	Time frame	Observations	Asia	Europe	US
Heavy maintenance season	Oct 23	Lower product availability will likely lead to upward pressure on product prices and crack spreads.	↑ Upward pressure on product crack spreads	↑ Upward pressure on product crack spreads	↑ Upward pressure on product crack spreads
Hurricane Season	Oct 23	The risk of product supply disruptions could weigh on product availability and push up fuel values, particularly in the US.	↑ Upward pressure on product crack spreads	↑ Upward pressure on product crack spreads	↑ Upward pressure on product crack spreads
End of summer	Oct 23	US gasoline demand is expected to slowly subside going forward. However, this weakness could be partly offset by a reduction in supplies in the immediate near term.	↓ Pressure on gasoline markets	↓ Pressure on gasoline markets	↓ Pressure on gasoline markets

Source: OPEC.

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

		Aug 23	Sep 23	Change Sep/Aug	Annual avg. 2022	Year-to-date 2023
US Gulf (Cargoes FOB)						
Naphtha*		68.86	75.93	7.07	89.24	73.76
Premium gasoline	(unleaded 93)	136.53	130.56	-5.97	134.59	122.37
Regular gasoline	(unleaded 87)	121.51	118.28	-3.23	123.34	109.47
Jet/Kerosene		126.03	129.96	3.93	140.17	114.13
Gasoil	(0.2% S)	89.51	97.05	7.54	122.10	76.44
Fuel oil	(3.0% S)	79.81	82.93	3.12	76.84	66.58
Rotterdam (Barges FoB)						
Naphtha		70.90	77.27	6.37	85.08	71.32
Premium gasoline	(unleaded 98)	142.60	140.69	-1.91	136.26	128.52
Jet/Kerosene		124.12	131.21	7.09	139.86	110.40
Gasoil/Diesel	(10 ppm)	122.68	131.91	9.23	142.32	110.14
Fuel oil	(1.0% S)	83.81	88.83	5.02	88.77	73.85
Fuel oil	(3.5% S)	86.18	90.41	4.23	78.86	72.03
Mediterranean (Cargoes FOB)						
Naphtha		68.74	74.24	5.50	82.26	68.81
Premium gasoline**		115.46	117.33	1.87	120.04	104.26
Jet/Kerosene		120.75	126.91	6.16	135.36	106.43
Diesel		120.94	128.88	7.94	135.91	108.48
Fuel oil	(1.0% S)	87.46	92.29	4.83	94.51	78.25
Fuel oil	(3.5% S)	80.86	85.03	4.17	72.30	66.68
Singapore (Cargoes FOB)						
Naphtha		70.70	74.73	4.03	83.91	69.04
Premium gasoline	(unleaded 95)	107.23	109.92	2.69	115.05	99.47
Regular gasoline	(unleaded 92)	101.84	104.47	2.63	111.02	94.96
Jet/Kerosene		116.59	122.77	6.18	126.76	103.82
Gasoil/Diesel	(50 ppm)	118.88	124.92	6.04	134.94	105.48
Fuel oil	(180 cst)	116.01	121.42	5.41	129.75	101.67
Fuel oil	(380 cst 3.5% S)	82.48	81.18	-1.30	76.63	69.29

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

Sources: Argus and OPEC.

Tanker Market

Dirty freight rates showed mixed movement in September. Despite some strength seen in the second half of the month, VLCCs spot freight rates continued the decline from the peak seen in June. Rates on the Middle East to West route led to declines, falling 13%.

Suezmax and Aframax spot freight rates also showed a mixed performance. Suezmax rates on the US Gulf Coast to Europe route declined 15%, while rates on West Africa to US Gulf Coast route rose 5% amid a pickup in tanker demand. In the Aframax market, rates on the Caribbean to US East Coast route experienced a strong seasonal decline of 22%, while rates on the Mediterranean-to-Northwest Europe route rose 8% on temporary tightness in the market mid-month.

Clean spot freight rates saw strength around the Mediterranean as non-Russian tonnage remained tight. Rates also strengthened in the Far East as activity in the regional product market began to pick up. In contrast, rates on the Northwest Europe to US route dipped with the end of the driving season.

Spot fixtures

Global spot fixtures continued to build on the previous month's gains, averaging 13.6 mb/d in September, a gain of 0.6 mb/d, or 4%, m-o-m. However, compared with the same month last year, spot fixtures were down 1.6 mb/d, or over 10%.

OPEC spot fixtures partly recovered the previous month's decline, up 1.5 mb/d, or about 17%, to average 10.1 mb/d in September. Gains were attributed to higher flows out of West Africa. Compared with the same month in 2022, fixtures were 0.7 mb/d, or 6% lower.

Middle East-to-East fixtures increased from the low levels seen the month before, up 1.3 mb/d, or almost 30%, to average 5.8 mb/d. However, compared with the same month in 2022, eastward flows from the Middle East were still 0.8 mb/d, or 12% lower.

Spot fixtures on the **Middle East-to-West** route declined m-o-m by 0.4 mb/d, or about 26%, to an average of 1.1 mb/d. Y-o-y, fixtures saw a similar increase, up 0.4 mb/d, or almost 27%.

Fixtures on routes **outside the Middle East** picked up after last month's losses, to average 3.2 mb/d. Fixtures were up 0.6 mb/d, or about 22%, m-o-m, and around 0.6 mb/d, or 21% higher, y-o-y.

Table 7 - 1: Spot fixtures, mb/d

Spot fixtures	Jul 23	Aug 23	Sep 23	*Change* Sep 23/Aug 23
All areas	14.6	13.0	13.6	0.6
OPEC	10.3	8.6	10.1	1.5
Middle East/East	5.7	4.5	5.8	1.3
Middle East/West	1.5	1.5	1.1	-0.4
Outside Middle East	3.1	2.6	3.2	0.6

Sources: Oil Movements and OPEC.

Sailings and arrivals

OPEC sailings edged slightly higher, averaging 22.1 mb/d. This represents a m-o-m increase of 0.1 mb/d, or less than 1%. However, compared to the same month last year, OPEC sailings were down by 2.4 mb/d or almost 10%. **Middle East sailings** averaged 14.6 mb/d in September, representing a decline of 2.4 mb/d, or over 14%. Y-o-y, sailings from the region were 4.5 mb/d, or almost 24% lower.

Crude arrivals in September rose in all regions except Europe. **Arrivals in Europe** fell 0.5 mb/d, or about 4%, to average 12.1 mb/d. Compared to the same month last year, arrivals to Europe declined 0.9 mb/d, or over 7%. In contrast, **North American arrivals** saw a gain of 0.2 mb/d, or about 2%, to average 9.8 mb/d. Y-o-y, arrivals in North America were 0.8 mb/d, or 9%, higher.

Far East arrivals were broadly flat m-o-m at 17.0 mb/d. This was around 0.1 mb/d, or less than 1% higher, y-o-y. **Arrivals** in **West Asia** rose 0.4 mb/d, or around 5%, to an average of 8.4 mb/d. Y-o-y, arrivals in the region were 0.2 mb/d, or about 3% lower.

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

Sailings	Jul 23	Aug 23	Sep 23	*Change* Sep 23/Aug 23
OPEC	22.4	22.0	22.1	0.1
Middle East	16.7	17.0	14.6	-2.4
Arrivals				
North America	9.3	9.6	9.8	0.2
Europe	12.9	12.6	12.1	-0.5
Far East	16.8	17.0	17.0	0.1
West Asia	9.3	8.0	8.4	0.4

Sources: Oil Movements and OPEC.

Dirty tanker freight rates

Very large crude carriers

VLCC spot rates fell on all monitored routes, down 10% m-o-m on average, as easing tanker demand weighed on rates in September. VLCC rates were 49% lower compared to the same month last year.

On the **Middle East-to-East** route, rates declined m-o-m by 9% to average WS42 points. This represented a y-o-y decline of 51%. Rates on the **Middle East-to-West** route declined 13% m-o-m to average WS27 points. Compared to the same month last year, rates on the route fell 46%.

West Africa-to-East spot rates dropped 10% m-o-m to average WS47 points in September. Compared with the same month of 2022, rates were down 45%.

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

VLCC	Size *1,000 DWT*	Jul 23	Aug 23	Sep 23	*Change* Sep 23/Aug 23
Middle East/East	230-280	52	46	42	-4
Middle East/West	270-285	37	31	27	-4
West Africa/East	260	53	52	47	-5

Sources: Argus and OPEC.

Suezmax

Suezmax rates were lower on average amid mixed performance in September. Spot rates fell 5% m-o-m and were down 52% y-o-y.

On the **West Africa-to-US Gulf Coast** (USGC) route, spot freight rates rose 5% m-o-m in September to average WS67 points. However, rates were still 47% lower y-o-y.

In contrast, rates on the **USGC-to-Europe** route dropped 15% m-o-m to average WS50 points. Compared with the same month of 2022, they were 56% lower.

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

Suezmax	Size *1,000 DWT*	Jul 23	Aug 23	Sep 23	*Change* Sep 23/Aug 23
West Africa/US Gulf Coast	130-135	81	64	67	3
US Gulf Coast/ Europe	150	74	59	50	-9

Sources: Argus and OPEC.

Aframax

Aframax spot freight rates also experienced a decelerating decline in September. On average, Aframax rates were down 2% in September. Compared with the same month of 2022, rates were 50% lower.

Rates on the **Indonesia-to-East** route increased 7% m-o-m to average WS126 points in September. However, compared with the same month last year, rates were 44% lower.

Spot rates on the **Caribbean-to-US East Coast (USEC)** route saw the strongest m-o-m decline in the monitored Aframax class, down by 22% m-o-m to average WS85 points in September. Y-o-y rates were down by around 65%.

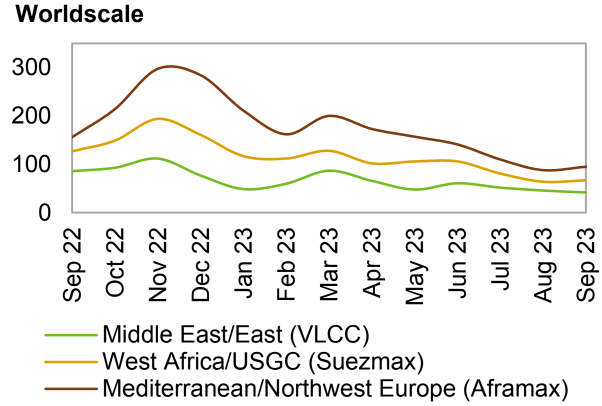
Table 7 - 5: Dirty Aframax spot tanker freight rates, WS

Aframax	Size 1,000 DWT	Jul 23	Aug 23	Sep 23	Change Sep 23/Aug 23
Indonesia/East	80-85	125	118	126	8
Caribbean/US East Coast	80-85	133	109	85	-24
Mediterranean/Mediterranean	80-85	120	100	98	-2
Mediterranean/Northwest Europe	80-85	110	88	95	7

Sources: Argus and OPEC.

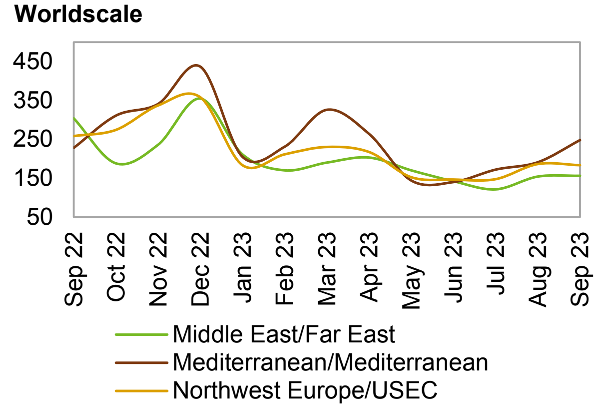
Cross-Med spot freight rates declined 2% m-o-m to average WS98 points. This represented a 44% decline y-o-y. In contrast, rates on the **Mediterranean-to-Northwest Europe (NWE)** route rose 8% m-o-m to average WS95 points. Compared with the same month of 2022, rates were down by around 39%.

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 rates saw gains on almost all monitored routes. On average, clean spot freight rates on East of Suez routes were 16% higher m-o-m, while rates in the West of Suez market rose 19% over the same period. As a result, rates averaged 18% higher overall.

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

East of Suez	Size 1,000 DWT	Jul 23	Aug 23	Sep 23	Change Sep 23/Aug 23
Middle East/East	30-35	121	154	156	2
Singapore/East	30-35	171	177	229	52
West of Suez					
Northwest Europe/US East Coast	33-37	147	186	183	-3
Mediterranean/Mediterranean	30-35	172	191	248	57
Mediterranean/Northwest Europe	30-35	182	201	258	57

Sources: Argus and OPEC.

Rates on the **Middle East-to-East** route edged up 1% m-o-m to average WS156 points. Y-o-y rates were 49% lower. Clean spot freight rates on the **Singapore-to-East** route jumped 29% m-o-m to average WS229 points. This was 45% lower when compared with the same month of 2022.

The only decline was seen on the **NWE-to-USEC** route, which slipped 2% m-o-m to average WS183 points. This represented a 29% decline compared to September 2022.

Rates for the **Cross-Med** route rose 30% m-o-m to average WS248 points, while rates on the **Med-to-NWE** route increased 28% m-o-m to average WS258 points. Compared with the same month of 2022, rates increased by around 9% on both routes.

Crude and Refined Products Trade

Preliminary data shows US crude imports remained at strong levels in September, averaging 6.9 mb/d, the highest since August 2019. US crude exports also increased slightly to average 4.3 mb/d, representing a six-month high.

China's crude imports surged in August, averaging 12.5 mb/d, the third highest on record. Product exports marked a five-month high of 1.5 mb/d, supported by a new round of product export quotas. Gains were driven by gasoil, gasoline and jet fuel.

India's crude imports continued to decline, falling to a 10-month low of 4.4 mb/d in August with the monsoon season weighing on domestic demand. Product exports rose 7% m-o-m to a five-month high of 1.4 mb/d. Gains were seen in fuel oil, jet fuel and other products.

Japan's crude imports continued to recover in August, averaging 2.5 mb/d, an increase of almost 7% m-o-m. Japan's product exports picked up supported by gasoline and kerosene outflows.

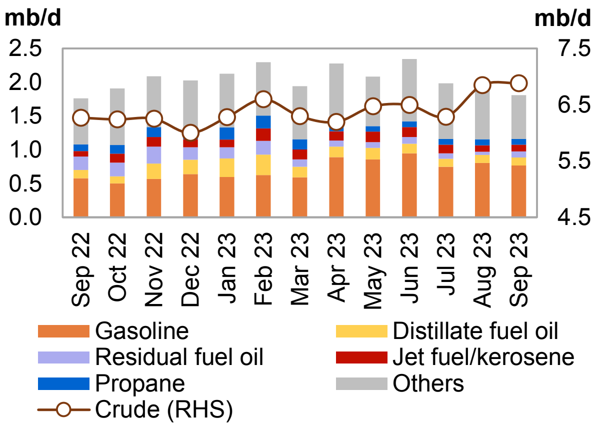
Preliminary estimates show OECD Europe crude imports hitting a peak in July before slipping lower over the following two months. Product imports are expected to follow a similar, broadly seasonal pattern.

US

Preliminary data shows **US crude imports** remained at robust levels in September, averaging 6.9 mb/d, the highest since August 2019. Kpler data showed the strong inflows were supported by elevated volumes coming from Latin America. Crude imports edged up by less than 1% m-o-m, while y-o-y crude imports were 0.6 mb/d, or almost 10%, higher.

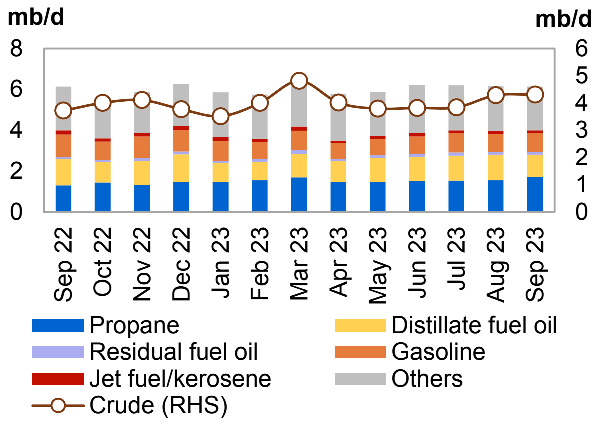
According to the latest monthly data from the US Energy Information Administration (EIA), Canada remained the **top supplier** of crude in July with a share of 58%. Mexico was second with about 12% and Saudi Arabia was third with 6%.

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 averaged 4.3 mb/d in September, building on the strong showing seen in the previous month. Gains came amid higher flows to the Netherlands, China and South Korea. Crude outflows were marginally higher m-o-m but showed a 0.6 mb/d increase y-o-y.

In terms of **destination**, the latest EIA monthly data shows Europe receiving a 43% share of US crude exports in July. South Korea took 9%, while Canada received 8%.

Based on preliminary weekly data, US **net crude imports** were broadly unchanged compared to the previous month, averaging 2.6 mb/d in September. This compares with a marginally lower 2.6 mb/d in the same month last year.

On the **products** side, **imports** fell 6%, or 0.1 mb/d, m-o-m to average around 1.8 mb/d in September. The declines were driven by lower outflows from the other products category. Compared with the same month last year, product inflows decreased by around 50 tb/d, or about 3%.

Product exports remained broadly steady m-o-m, averaging 6.1 mb/d in September. Compared with the same month last year, exports were also broadly unchanged.

As a result, preliminary data showed **US net product exports** averaging 4.3 mb/d in September compared with 4.2 mb/d the month before and 4.4 mb/d in the same month last year.

Preliminary data indicates that US **net crude and product imports** averaged 1.7 mb/d in September. This compares with a marginally lower 1.7 mb/d the month before and about 1.8 mb/d in the same month last year.

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

US	Jul 23	Aug 23	Sep 23	Change Sep 23/Aug 23
Crude oil	2.45	2.57	2.58	0.01
Total products	-4.21	-4.22	-4.32	-0.09
Total crude and products	**-1.76**	**-1.66**	**-1.74**	**-0.08**

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

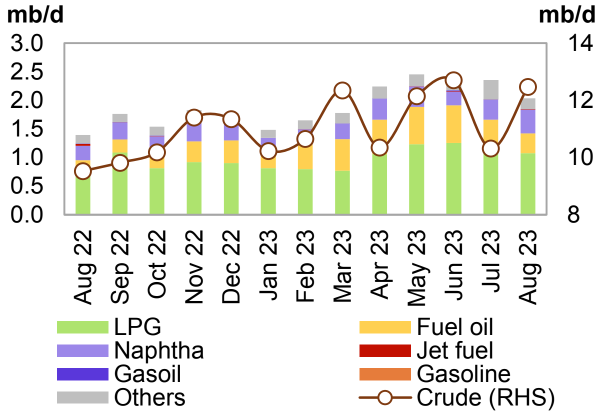
Sources: EIA and OPEC.

Looking ahead, US crude imports are likely to remain elevated, supported by demand for US product exports, although weak US gasoline demand adds some uncertainty. US crude exports are expected to remain supported by demand from Europe and Asia. US product exports are likely to be supported by healthy demand from Europe, Asia and Latin America amid uncertainty regarding Russian flows.

China

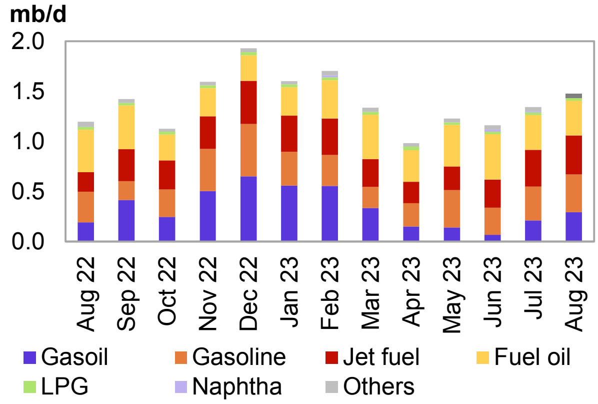
China's crude imports surged in August, averaging 12.5 mb/d, the third highest on record. This represented a m-o-m increase of almost 2.5 mb/d, or over 20%. Y-o-y, China's crude imports were just under 3 mb/d, or 31%, higher.

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 retained the top spot in August with 20%. Saudi Arabia was second with 15%, while Malaysia was third with about 11%.

Product imports declined by almost 14%, or 0.3 mb/d, to average 2.0 mb/d in August. Declines were seen across LPG, fuel oil and refinery feedstocks. Compared to the same period last year, product imports were 0.6 mb/d, or around 45%, higher.

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

China	Jun 23	Jul 23	Aug 23	Change Aug 23/Jul 23
Crude oil	12.67	10.26	12.41	2.16
Total products	1.25	1.01	0.55	-0.46
Total crude and products	**13.92**	**11.27**	**12.97**	**1.70**

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

Sources: China OGP and OPEC.

Product exports continued to increase, supported by a new round of product export quotas, to average 1.5 mb/d. This represented a five-month high. Compared to the previous month, product outflows were 0.1 mb/d, or about 10%, higher. Gains were driven by gasoil, gasoline and jet fuel. Compared to the same period last year, product exports were almost 0.5 mb/d higher, or 58%.

Net product exports averaged 555 tb/d in August, down sharply from the previous month's 1.0 mb/d. However, they outpaced the same month last year, when net product exports averaged 200 tb/d.

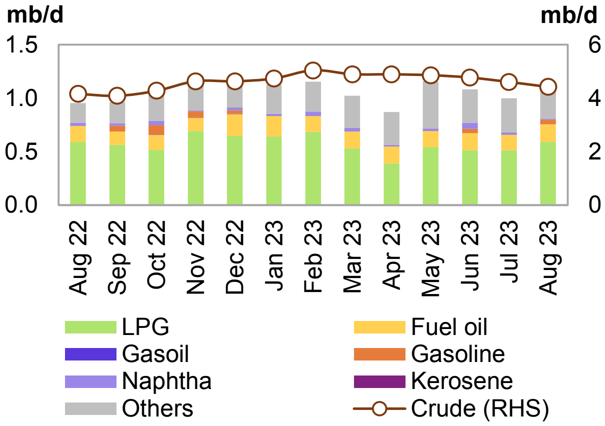
Looking ahead, China's crude imports are expected to remain above 11 mb/d in the coming months, supported by the new round of crude and product export quotas. Product exports are expected to have picked up further in September, driven by increased diesel outflows. However, reports that the government will not issue any further crude import or product export quotas for this year could weigh on any increase in flows.

India

India's crude imports continued to decline, falling to a 10-month low of 4.4 mb/d in August, with the monsoon season weighing on domestic demand. Compared to the previous month, crude inflows were down 185 tb/d, or 4%. Y-o-y, crude imports were lower by 0.3 mb/d, or around 6%.

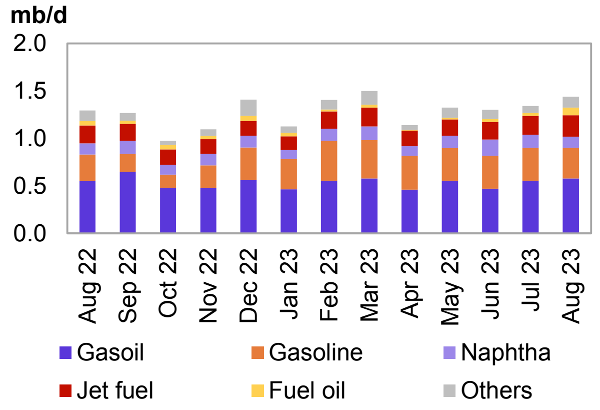
In terms of **crude imports by source**, Kpler data shows Russia was the top supplier of crude to India in August, with a share of 32%, after holding a share of 44% in July. Iraq was second with 20%, followed by Saudi Arabia with 9%.

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** rose 14% m-o-m, or 140 tb/d, to average 1.1 mb/d. Gains were driven by LPG, gasoline and fuel oil. The increase in LPG inflows was driven by stock building of the cooking fuel ahead of the festive season in November. Compared with the same month last year, India's product imports increased 187 tb/d, or almost 20%, mainly driven by gasoline, bitumen and other products.

Product exports rose 7% m-o-m, or 99 tb/d, to average 1.4 mb/d, a five-month high. Gains were seen in fuel oil, jet fuel and other products. The increase in outflows comes amid lower domestic demand during the monsoon season and higher demand for jet fuel on the international market. Compared to the same month last year, product outflows from India were up by 144 tb/d, or 11%.

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

India	Jun 23	Jul 23	Aug 23	*Change* Aug 23/Jul 23
Crude oil	4.77	4.61	4.42	-0.18
Total products	-0.22	-0.34	-0.30	0.04
Total crude and products	**4.55**	**4.27**	**4.13**	**-0.14**

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.

As a result, India's **net product exports** averaged 297 tb/d in August, compared to 338 tb/d the month before. In August 2022, India's net product exports averaged 340 tb/d.

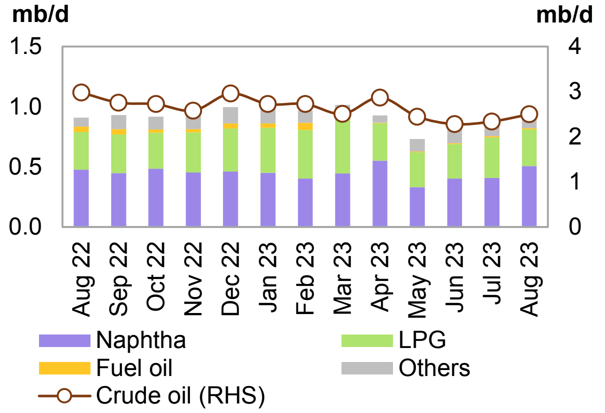
Looking ahead, India's crude imports are expected to be lower in September, as the monsoon season curbs domestic needs, before picking up in October as the start of the festival season improves domestic demand. Product exports are expected to slip in September due to reduced outflows of diesel and gasoline driven by planned maintenance at export-oriented refiners.

Japan

Japan's crude imports continued to rebound in August, averaging 2.5 mb/d, an increase of about 0.2 mb/d m-o-m, or almost 7%. Compared with the strong levels seen in the same month last year, crude inflows were 0.5 mb/d, or 16%, lower y-o-y.

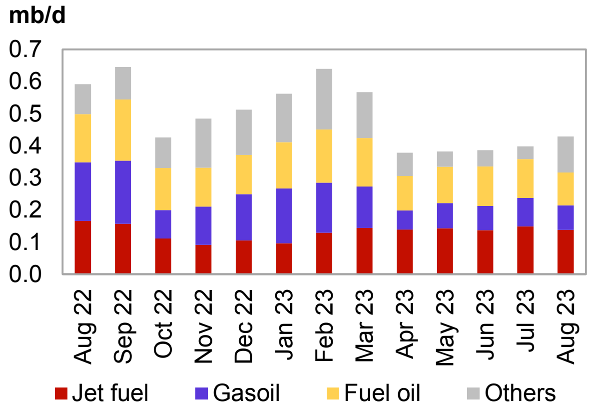
In terms of **crude imports by source**, the United Arab Emirates remained in the top spot in August with a share of 46%. Saudi Arabia was second with 36%, followed by Kuwait with 6%.

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, rose 7% to average 921 tb/d. Gains were seen across most major products, with naphtha showing particular strength. Gasoline imports – which reached an all-time high in June – continued to be supported by refinery outages and healthy demand. Crude inflows were broadly in line with the same month last year, up by a little over 1%.

Product exports in August, including LPG, increased by 163 tb/d or close to 8% m-o-mto average 429 tb/d. Gains were driven by gasoline and kerosene outflows. Compared with the same month last year, product exports fell by 163 tb/d, or almost 28%.

Consequently, Japan's **net product imports**, including LPG, averaged 492 tb/d in August. This compares with 460 tb/d the month before and 316 tb/d in August 2022.

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

Japan	Jun 23	Jul 23	Aug 23	*Change* Aug 23/Jul 23
Crude oil	2.28	2.34	2.50	0.16
Total products	0.51	0.46	0.49	0.03
Total crude and products	**2.79**	**2.80**	**2.99**	**0.19**

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

Looking ahead, Japan's crude imports in September are expected to drop back following two months of gains. On the other hand, product exports are expected to move higher driven by increased outflows of diesel, gasoline and fuel oil.

OECD Europe

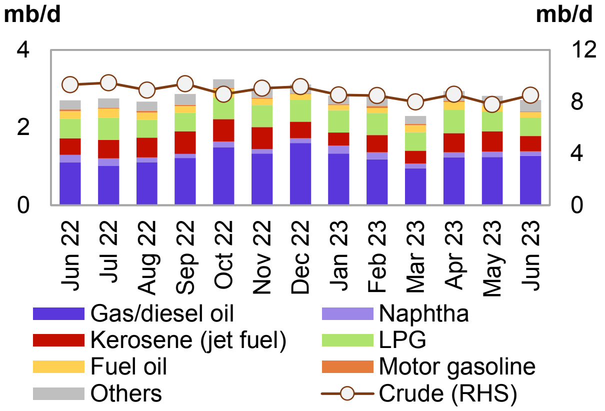
The latest regional data shows **OECD Europe imports** jumped 9% or 0.7 mb/d m-o-m in **June,** to average 8.5 mb/d. Compared with the same month last year, crude imports were down 0.8 mb/d, or almost 9%.

In terms of **import sources** from outside the region, the US was the top supplier in June, with close to 1.5 mb/d. Kazakhstan was second, followed by Iraq, with both averaging close to 1.0 mb/d.

Crude exports picked up m-o-m in June, reaching a 7-month high of 192 tb/d. This represented a gain of about 100 tb/d m-o-m and a y-o-y increase of 112 tb/d. China was the top destination for June crude exports outside the region, at 131 tb/d, followed by the US with around 34 tb/d.

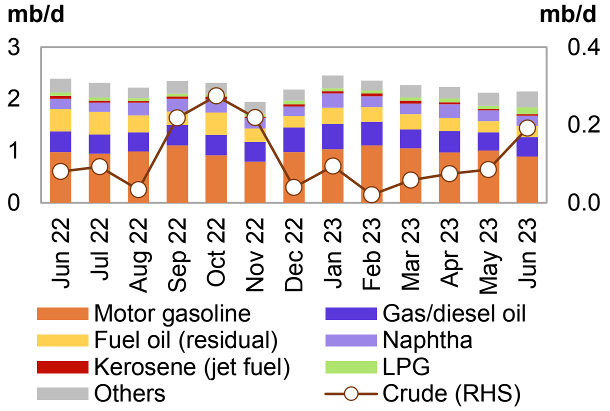
Net crude imports averaged 8.3 mb/d in June, compared with 7.7 mb/d the month before and 9.2 mb/d in June 2022, when imports were elevated due to trade dislocations.

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** declined for the second month in a row to average 2.7 mb/d, down 113 tb/d, or 4%. Jet/kerosene inflows led the losses, falling 25%, with the drop offset by gains in diesel, ethane and gasoline. Compared with June 2022, product inflows were broadly unchanged.

Product exports edged up 1% m-o-m to average 2.2 mb/d. LPG and diesel outflows led gains, offsetting a drop in gasoline outflows. Compared to the same month last year, product outflows were 245 tb/d, or 10%, higher.

Net product imports averaged 558 tb/d in June, compared with net imports of 695 tb/d the month before and 307 tb/d in June 2022.

Combined, **net crude and product imports** averaged almost 8.9 mb/d in June. This compares with 8.4 mb/d the month before and 9.5 mb/d in June 2022.

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

OECD Europe	Apr 23	May 23	Jun 23	*Change* Jun 23/May 23
Crude oil	8.49	7.69	8.30	0.61
Total products	0.71	0.69	0.56	-0.14
Total crude and products	**9.19**	**8.39**	**8.86**	**0.47**

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

Sources: IEA and OPEC.

Looking ahead, preliminary estimates show OECD Europe crude imports hitting a peak in July before slipping lower over the following two months. Product imports are expected to follow a similar, broadly seasonal pattern.

Eurasia

Total crude oil exports from Russia and Central Asia averaged just under 6.1 mb/d in August, broadly unchanged compared to the previous month. In terms of the same month last year, outflows were still about 3% lower.

Crude exports through the **Transneft system** increased in August, with gains on Western outlets offsetting declines in the East. Outflows averaged almost 3.6 mb/d, representing a m-o-m decline of 72 tb/d, or 2%. However, exports were sharply lower than in the same month last year, down 716 tb/d, or 17%. Exports from the **Baltic Sea** showed the largest increase, up 57 tb/d, or almost 5%, to average 1.3 mb/d. Flows from Primorsk were up 113 tb/d, or almost 18%, to average 0.7 mb/d. In contrast, exports from Ust-Luga slipped 55 tb/d, or about 9%, to average 537 tb/d. Shipments from the **Black Sea** port of Novorossiysk were broadly unchanged at 504 tb/d.

Shipments via the **Druzhba** pipeline rose 41 tb/d, or 14%, to average 340 tb/d in August. Compared to the same month last year, exports on the pipeline were 0.4 mb/d, or 55% lower. Exports to mainland China via the **ESPO pipeline** were largely unchanged m-o-m, averaging 619 tb/d in August. This was 22 tb/d, or 4%, higher than the same month last year. Flows to the Pacific port of **Kozmino** averaged 0.8 mb/d, representing a decline of 24 tb/d, or about 3%, to average 840 tb/d. This was about 5% lower than the same month last year.

In the **Lukoil system**, exports via the Varandey offshore platform in the Barents Sea rose m-o-m by 8% to average 97 tb/d in August. There were no exports from the Kaliningrad terminal for the ninth month in a row.

On other routes, the combined **Russia's Far East** exports from the De Kastri and Aniva ports fell by about 4% to average 247 tb/d in August. This was 200 tb/d higher than the volumes shipped in the same month last year, during a period when De Kastri flows were at zero.

Central Asian exports averaged 227 tb/d in August, a decline of 16 tb/d, or almost 7%, from the month before, albeit a marginal increase of less than 1% y-o-y.

Black Sea total exports from the **CPC terminal** dropped by over 5%, or 75 tb/d, to average 1.3 mb/d in August. This was an increase of 283 tb/d, or 28%, compared with the same month last year. Flows on the Supsa pipeline remained at zero in August. Exports via the **Baku-Tbilisi-Ceyhan (BTC) pipeline** declined by 2% in August, or 13 tb/d, to average 599 tb/d.

Total product exports from Russia and Central Asia fell by just over 1%, m-o-m, to average 2.4 mb/d in August. M-o-m gains were driven primarily by naphtha and jet fuel. This was partially offset by a 7% decline in gasoil. Y-o-y, total product exports declined by 8%, or 202 tb/d, with a sharp decline in fuel oil outpacing gains in gasoline.

Commercial Stock Movements

Preliminary August 2023 data sees total OECD commercial oil stocks down m-o-m by 11 mb. At 2,803 mb, they were 82 mb higher than the same time one year ago, but 117 mb lower than the latest five-year average and 182 mb below the 2015–2019 average. Within the components, crude stocks fell m-o-m by 26 mb, while products stocks rose by 15 mb.

OECD commercial crude stocks stood at 1,348 mb in August. This was 30 mb higher than the same time a year ago, but 43 mb below the latest five-year average and 99 mb lower than the 2015–2019 average. By contrast, total product inventories rose in August to stand at 1,455 mb. This is 51 mb above the same time a year ago, but 74 mb lower than the latest five-year average and 83 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 61.6 days. This is 1.6 days above the August 2022 level, but 2.5 days lower than the latest five-year average and 2.0 days less than the 2015–2019 average.

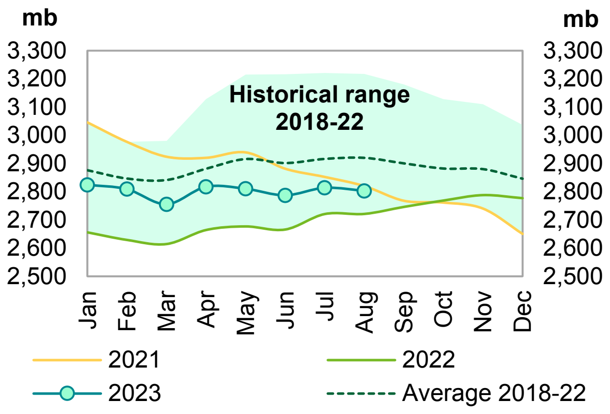
Preliminary data for September 2023 showed that total US commercial oil stocks rose m-o-m by 16.5 mb to stand at 1,272 mb. This is 56.1 mb, or 4.6%, higher than the same month in 2022, but 20.2 mb, or 1.6%, below the latest five-year average. Crude stocks fell by 2.6 mb, while product stocks rose by 19.1 mb m-o-m.

OECD

Preliminary **August 2023** data sees **total OECD commercial oil stocks** down m-o-m by 11 mb. At 2,803 mb, they were 82 mb higher than the same time one year ago, but 117 mb lower than the latest five-year average and 182 mb below the 2015–2019 average.

Within the components, crude stocks fell by 26 mb, m-o-m, while products stocks rose by 15 mb. Within OECD regions, total commercial oil stocks in August fell in OECD America, while they increased in OECD Europe and OECD Asia Pacific.

Graph 9 - 1: OECD commercial oil stocks



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

OECD commercial **crude stocks** stood at 1,348 mb in August. This was 30 mb higher than the same time a year ago, but 43 mb below the latest five-year average and 99 mb lower than the 2015–2019 average. M-o-m, OECD Americas and OECD Asia Pacific saw a crude stock draw of 23.1 mb and 7.7 mb, respectively, while stocks in OECD Europe rose by 4.9 mb.

By contrast**, total product inventories** rose by 15 mb in August to stand at 1,455 mb. This is 51 mb above the same time a year ago, but 74 mb lower than the latest five-year average and 83 mb below the 2015–2019 average. M-o-m, product stocks in OECD Americas and OECD Asia Pacific witnessed stock builds of 4.0 mb and 8.9 mb respectively, and OECD Europe product stocks also rose by 2.1 mb.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	Aug 22	Jun 23	Jul 23	Aug 23	*Change Aug 23/Jul 23*
Crude oil	1,318	1,373	1,374	1,348	*-26.0*
Products	1,404	1,414	1,440	1,455	*15.0*
Total	**2,722**	**2,788**	**2,814**	**2,803**	***-11.0***
Days of forward cover	**59.0**	**59.5**	**60.3**	**60.6**	***0.2***

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 rose by 0.2 days m-o-m in August to stand at 61.1 days. This is 1.6 days above the August 2022 level, but 2.5 days lower than the latest five-year average and 2.0 days less than the 2015–2019 average.

Within OECD regions, OECD Americas stood 2.9 days and OECD Europe 1.2 days below the latest five-year average, at 60.1 days and 69.4 days, respectively. OECD Asia-Pacific was 3.5 days below the latest five-year average, standing at 49.1 days.

OECD Americas

OECD Americas' total commercial stocks fell m-o-m by 19.2 mb in August to settle at 1,500 mb. This is 30 mb higher than the same month in 2022, but 53 mb below the latest five-year average.

Commercial **crude oil stocks** in OECD Americas dropped m-o-m by 23.1 mb in August to stand at 729 mb, which is 6.4 mb lower than in August 2022 and 30.3 mb below the latest five-year average.

By contrast**, total product stocks** in OECD Americas increased m-o-m by 4.0 mb in August to stand at 772 mb. This is 37 mb higher than the same month in 2022, but 23 mb below the latest five-year average. Lower overall consumption in the region was behind the product stock build.

OECD Europe

OECD Europe's total commercial stocks rose m-o-m by 7.0 mb in August to settle at 945 mb. This is 39 mb higher than the same month in 2022, but 32 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** rose m-o-m by 4.9 mb to end August at 435 mb. This is 31 mb higher than one year ago and 10 mb above the latest five-year average. The build in crude oil inventories in August came on the back of lower crude runs in the EU-14, as well as the UK and Norway, which fell by around 230 tb/d m-o-m to stand at 9.4 mb/d.

Europe's **product stocks** rose m-o-m by 2.1 mb to end August at 511 mb. This is 8.0 mb above the same time a year ago, but 42 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks rose m-o-m by 1.2 mb in August to stand at 358 mb. This is 12 mb higher than the same time a year ago, but 32 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** fell m-o-m by 7.7 mb to end August at 185 mb. This is 5 mb higher than one year ago, but 23 mb below the latest five-year average.

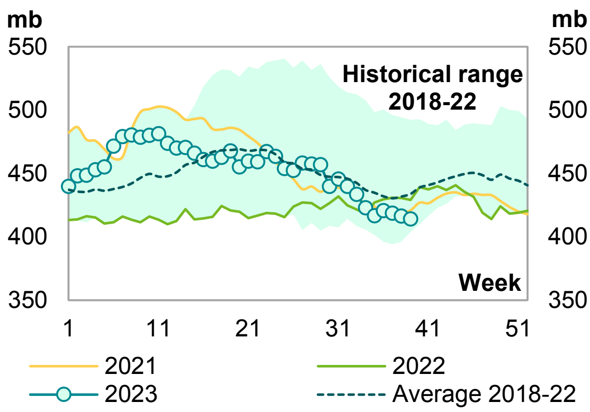
By contrast, OECD Asia Pacific's **product inventories** rose m-o-m by 8.9 mb to end August at 173 mb. This is 6 mb higher than one year ago, but 10 mb below the latest five-year average.

US

Preliminary data for **September 2023** showed that **total US commercial oil stocks** rose m-o-m by 16.5 mb to stand at 1,272 mb. This is 56.1 mb, or 4.6%, higher than the same month in 2022, but 20.2 mb, or 1.6%, below the latest five-year average. Crude stocks fell by 2.6 mb, while product stocks rose m-o-m by 19.1 mb.

US commercial **crude stocks** in September stood at 414.1 mb. This is 14.9 mb, or 3.5%, lower than the same month of 2022 and 23.8 mb, or 5.4%, less than the latest five-year average. The monthly drop in crude oil stocks came despite the 546 tb/d m-o-m decline in crude runs to a level of 16.61 mb/d.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

By contrast, **total product stocks** rose in September to stand at 857.6 mb. This is 71.1 mb, or 9.0%, higher than September 2022 levels and 3.6 mb, or 0.4%, higher than the latest five-year average. The product stock build can be attributed to lower product consumption.

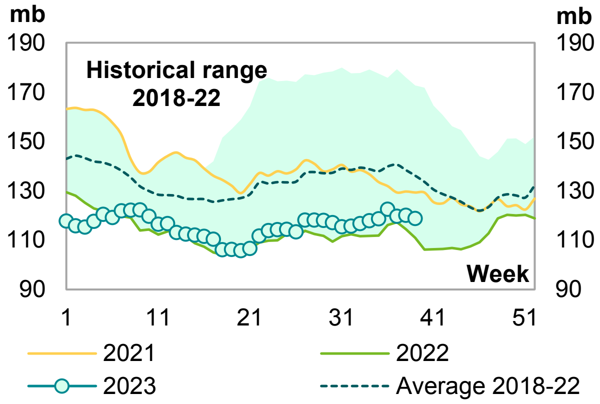
Gasoline stocks rose m-o-m by 12.2 mb in September to settle at 227 mb. This is 17.5 mb, or 8.3%, higher than the same month of 2022, but 0.2 mb, or 0.1%, below the latest five-year average.

Distillate stocks rose m-o-m by 0.2 mb in September to stand at 118.8 mb. This is 8.3 mb, or 7.5%, higher than the same month of 2022, but 18.0 mb, or 13.2%, below the latest five-year average.

Residual fuel oil stocks rose m-o-m by 1.2 mb in September. At 27.5 mb, this was 0.1 mb, or 0.4%, higher than a year earlier, but 1.7 mb, or 5.8%, below the latest five-year average.

Jet fuel stocks increased by 0.7 mb m-o-m, ending September at 42.7 mb. This is 6.1 mb, or 16.8%, higher than the same month in 2022 and 0.7 mb, or 1.7%, higher than the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Sep 22	Jul 23	Aug 23	Sep 23	Change Sep 23/Aug 23
Crude oil	**429.0**	**439.8**	**416.6**	**414.1**	***-2.6***
Gasoline	209.5	222.1	214.7	227.0	*12.2*
Distillate fuel	110.5	120.2	118.6	118.8	*0.2*
Residual fuel oil	27.4	28.5	26.3	27.5	*1.2*
Jet fuel	36.5	42.7	42.0	42.7	*0.7*
Total products	**786.6**	**831.6**	**838.5**	**857.6**	***19.1***
Total	**1,215.6**	**1,271.4**	**1,255.2**	**1,271.7**	***16.5***
SPR	**416.4**	**347.5**	**350.3**	**351.3**	***0.9***

Sources: EIA and OPEC.

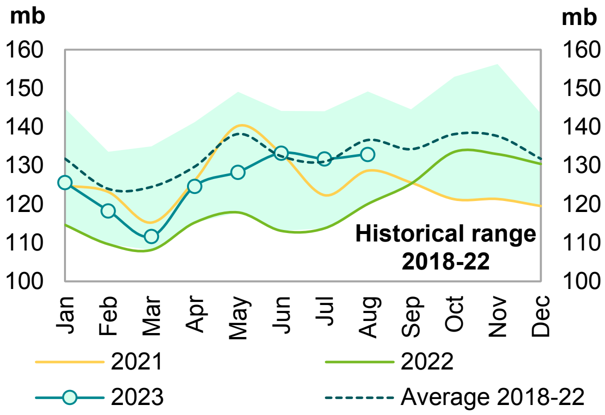
Japan

In **Japan**, **total commercial oil stocks** in **August** rose m-o-m by 1.2 mb to settle at 132.9 mb. This is 12.9 mb, or 10.7%, higher than the same month in 2022, but 3.7 mb, or 2.7%, below the latest five-year average. Crude stocks fell by 7.7 mb m-o-m, while product stocks rose by 8.9 mb.

Japanese **commercial crude oil stocks** fell m-o-m by 7.7 mb in August to stand at 69.7 mb. This is 5.5 mb, or 8.6%, higher than the same month of 2022, but 5.2 mb, or 6.9%, below the latest five-year average. The crude stock draw came on the back of higher crude runs, which increased m-o-m by 738 tb/d, or 30.9%, to stand at 3.13 mb/d in August.

Gasoline stocks rose m-o-m by 0.8 mb to stand at 9.7 mb in August. This is in line with a year earlier, but 0.7 mb, or 6.6%, lower than the latest five-year average. The build came on the back of higher domestic gasoline production, which increased m-o-m by 17.4%.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Distillate stocks rose m-o-m by 4.8 mb to end August at 28.7 mb. This is 2.1 mb, or 7.8%, above the same month of 2022, but 1.3 mb, or 4.3%, below the latest five-year average. Within distillate components, jet fuel, kerosene and gasoil stocks rose by 9.2%, 26.3% and 18.5%, respectively.

Total residual fuel oil stocks increased m-o-m by 1.7 mb to end August at 14.1 mb. This is 2.6 mb, or 22.8%, higher than the same month of 2022 and 1.8 mb, or 14.5%, above the latest five-year average. Within the components, fuel oil A and fuel oil BC stocks rose m-o-m by 10.7% and 15.5%, respectively.

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

Japan's stocks	Aug 22	Jun 23	Jul 23	Aug 23	*Change Aug 23/Jul 23*
Crude oil	**64.2**	**77.8**	**77.5**	**69.7**	***-7.7***
Gasoline	9.7	10.2	8.9	9.7	*0.8*
Naphtha	8.1	9.4	9.2	10.8	*1.6*
Middle distillates	26.6	23.2	23.8	28.7	*4.8*
Residual fuel oil	11.4	12.7	12.4	14.1	*1.7*
Total products	**55.8**	**55.5**	**54.3**	**63.2**	***8.9***
Total**	**120.0**	**133.2**	**131.8**	**132.9**	***1.2***

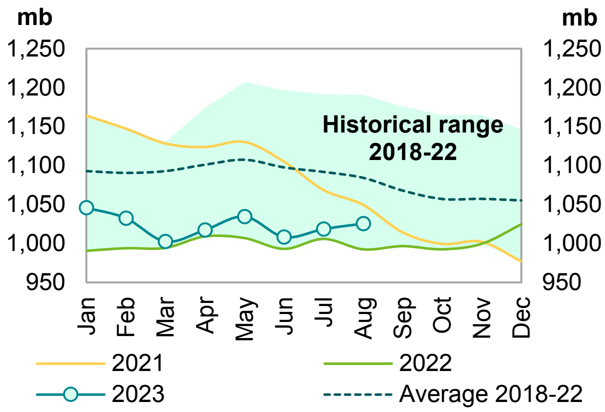
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for **August** showed that **total European commercial oil stocks** rose m-o-m by 7.0 mb to stand at 1,025 mb. At this level, they were 33.0 mb, or 3.3%, above the same month of 2022, but 58.8 mb, or 5.4%, lower than the latest five-year average. Crude and products stocks rose by 4.9 mb and 2.1 mb, respectively.

European **crude inventories** stood at 443.6 mb in August. This is 11.0 mb, or 2.5%, higher than the same month in 2022, but 21.1 mb, or 4.5%, below the latest five-year average. The August build in crude oil inventories can be attributed to lower refinery throughput in the EU-14, as well as the UK and Norway, which fell m-o-m by around 230 tb/d to stand at 9.4 mb/d.

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



Sources: Argus, Euroilstock and OPEC.

Total European product stocks rose m-o-m by 2.1 mb to end August at 581.8 mb. This is 22.0 mb, or 3.9%, higher than the same month of 2022, but 37.7 mb, or 6.1%, below the latest five-year average.

Gasoline stocks rose m-o-m by 0.9 mb in August to stand at 105.7 mb. At this level, they were 2.1 mb, or 2.0%, lower than the same time in 2022, and 1.5 mb, or 1.4%, below the latest five-year average.

Middle distillate stocks rose m-o-m by 2.7 mb in August to stand at 389.1 mb. This is 23.4 mb, or 6.4%, higher than the same month in 2022, but 32.5 mb, or 7.7%, lower than the latest five-year average.

By contrast, **residual fuel stocks** fell m-o-m by 1.0 mb in August to stand at 59.0 mb. This is 3.3 mb, or 5.9%, higher than the same month in 2022, but 4.1 mb, or 6.6%, below the latest five-year average.

Naphtha stocks fell by 0.5 mb in August, ending the month at 28.0 mb. This is 2.6 mb, or 8.4%, lower than the August 2022 level, but 0.4 mb, or 1.5%, higher than the latest five-year average.

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

EU stocks	Aug 22	Jun 23	Jul 23	Aug 23	*Change Aug 23/Jul 23*
Crude oil	**432.6**	**437.8**	**438.7**	**443.6**	***4.9***
Gasoline	107.9	101.9	104.8	105.7	*0.9*
Naphtha	30.5	27.7	28.5	28.0	*-0.5*
Middle distillates	365.7	382.2	386.4	389.1	*2.7*
Fuel oils	55.7	58.4	60.0	59.0	*-1.0*
Total products	**559.8**	**570.3**	**579.7**	**581.8**	***2.1***
Total	**992.4**	**1,008.1**	**1,018.4**	**1,025.4**	***7.0***

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In **August**, **total product stocks in Singapore** fell m-o-m by 2.2 mb to stand at 41.0 mb. This is 5.7 mb, or 12.2%, lower than the same month in 2022 and 4.6 mb, or 10.0%, below the latest five-year average.

Light distillate stocks fell m-o-m by 0.6 mb in August to stand at 13.1 mb. This is 3.2 mb, or 19.6%, lower than the same month of 2022 and 0.5 mb, or 3.4%, less than the latest five-year average.

Residual fuel oil stocks fell m-o-m by 2.6 mb, ending August at 19.8 mb. This is 2.9 mb, or 12.8%, lower than August 2022, and 0.9 mb, or 4.5%, less than the latest five-year average.

By contrast, **middle distillate stocks** rose m-o-m by 1.0 mb in August to stand at 8.1 mb. This 0.4 mb, or 5.2%, higher than in August 2022, but 3.2 mb, or 28.2%, lower than the latest five-year average.

ARA

Total product stocks in ARA in August fell m-o-m by 3.3 mb. At 39.9 mb, they were 1.2 mb, or 2.9%, below the same month in 2022 and 2.9 mb, or 6.8%, lower than the latest five-year average.

Gasoline stocks in August rose m-o-m by 0.3 mb to stand at 11.5 mb. This is in line with the same month of 2022, but 2.6 mb, or 29.3%, higher than the latest five-year average.

By contrast, **gasoil stocks** fell m-o-m by 1.7 mb, ending August at 13.9 mb. This is 1.2 mb, or 9.5%, higher than in August 2022, but 3.4 mb, or 19.6%, less than the latest five-year average.

Fuel oil stocks dropped by 1.3 mb m-o-m in August to stand at 6.9 mb, which is 0.6 mb, or 7.8%, lower than in August 2022 and 0.5 mb, or 6.3%, below the latest five-year average.

Jet oil stocks fell m-o-m by 0.8 mb to stand at 5.1 mb. This is 0.7 mb, or 12.3%, lower than in August 2022, and 1.3 mb, or 20.5%, less than the latest five-year average.

Fujairah

During the week ending 2 October 2023, **total oil product stocks in Fujairah** rose w-o-w by 2.15 mb to stand at 18.57 mb, according to data from FEDCom and S&P Global Commodity Insights. At this level, total oil stocks were 6.3 mb lower than at the same time a year ago.

Light distillate stocks rose w-o-w by 0.57 mb to stand at 4.59 mb, which is 3.22 mb lower than a year ago.

Middle distillate stocks rose w-o-w by 0.12 mb to stand at 2.33 mb, which is 2.09 mb lower than the same time last year.

Heavy distillate stocks increased w-o-w by 1.47 mb to stand at 11.65 mb, which is 0.99 mb below the same period a year ago.

Balance of Supply and Demand

Demand for OPEC crude in 2023 was revised down by 0.1 mb/d from the previous assessment to stand at 29.1 mb/d. This is around 0.7 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.4 mb/d higher than demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is in line with the demand for OPEC crude. In 3Q23, OPEC crude production averaged 27.5 mb/d, which is 1.4 mb/d lower than demand for OPEC crude.

Demand for OPEC crude in 2024 was also revised down by 0.1 mb/d from the previous assessment to stand at 29.9 mb/d, 0.8 mb/d higher than the estimated level in 2023.

Balance of supply and demand in 2023

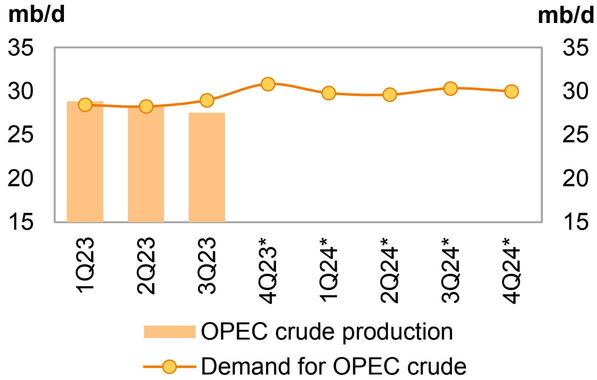
Demand for OPEC crude in 2023 was revised down by 0.1 mb/d from the previous assessment to stand at 29.1 mb/d. This is around 0.7 mb/d higher than in 2022.

Compared with the previous assessment, 1Q23 and 2Q23 were each revised down by 0.1 mb/d. The 3Q23 was revised down by 0.3 mb/d, while the 4Q23 revised up 0.1 mb/d.

Compared with the same quarters in 2022, demand for OPEC crude in 2Q23, 3Q23 and 4Q23 is estimated to be higher by 0.2 mb/d, 0.8 mb/d and 2.1 mb/d, respectively. Demand for OPEC crude in 1Q23 is estimated to be down by 0.3 mb/d.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.4 mb/d higher than demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is in line with demand for OPEC crude. In 3Q23, OPEC crude production averaged 27.5 mb/d, which is 1.4 mb/d lower than demand for OPEC crude.

Graph 10 - 1: Balance of supply and demand, 2023–2024*



*Note: * 4Q23-4Q24 = Forecast.*
Source: OPEC.

Table 10 - 1: Supply/demand balance for 2023*, mb/d

	2022	1Q23	2Q23	3Q23	4Q23	2023	*Change 2023/22*
(a) World oil demand	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	***2.44***
Non-OPEC liquids production	65.81	67.72	67.61	67.77	66.88	67.49	*1.68*
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	**71.21**	**73.15**	**73.09**	**73.20**	**72.31**	**72.93**	***1.73***
Difference (a-b)	**28.42**	**28.44**	**28.26**	**28.98**	**30.82**	**29.13**	***0.71***
OPEC crude oil production	**28.86**	**28.84**	**28.27**	**27.53**			
Balance	**0.44**	**0.41**	**0.01**	**-1.45**			

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

Balance of supply and demand in 2024

Demand for OPEC crude in 2024 was also revised down by 0.1 mb/d from the previous assessment to stand at 29.9 mb/d, 0.8 mb/d higher than the estimated level in 2023.

Compared with the previous assessment, demand for OPEC crude for 1Q24 and 4Q24 were each revised down by 0.2 mb/d, while demand for OPEC crude for 2Q24 and 3Q24 remained unchanged.

Compared with the same quarters in 2023, demand for OPEC crude in 1Q24, 2Q24 and 3Q24 were each forecast to be 1.3 mb/d higher, while 4Q24 is expected to be lower by 0.8 mb/d.

Table 10 - 2: Supply/demand balance for 2024*, mb/d

	2023	1Q24	2Q24	3Q24	4Q24	2024	*Change 2024/23*
(a) World oil demand	**102.06**	**103.62**	**103.51**	**104.85**	**105.23**	**104.31**	***2.25***
Non-OPEC liquids production	67.49	68.34	68.37	69.03	69.75	68.88	*1.38*
OPEC NGL and non-conventionals	5.44	5.49	5.54	5.50	5.50	5.51	*0.07*
(b) Total non-OPEC liquids production and OPEC NGLs	**72.93**	**73.83**	**73.91**	**74.53**	**75.25**	**74.38**	***1.45***
Difference (a-b)	**29.13**	**29.78**	**29.60**	**30.33**	**29.99**	**29.93**	***0.80***

*Note: * 2024 = 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	2020	2021	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24	2Q24	3Q24	4Q24	2024
World demand													
Americas	22.45	24.32	24.84	24.52	25.15	25.32	24.87	24.97	24.71	25.33	25.52	25.03	25.15
of which US	*18.35*	*20.03*	*20.16*	*19.92*	*20.45*	*20.47*	*20.05*	*20.22*	*20.06*	*20.59*	*20.62*	*20.19*	*20.37*
Europe	12.41	13.19	13.51	13.11	13.48	13.85	13.37	13.45	13.17	13.53	13.92	13.41	13.51
Asia Pacific	7.16	7.34	7.38	7.81	6.96	7.16	7.65	7.39	7.84	6.98	7.19	7.65	7.41
Total OECD	**42.03**	**44.85**	**45.72**	**45.44**	**45.59**	**46.33**	**45.89**	**45.81**	**45.71**	**45.84**	**46.64**	**46.09**	**46.07**
China	13.94	15.10	14.95	15.73	16.06	16.07	16.21	16.02	16.30	16.52	16.69	16.88	16.60
India	4.51	4.77	5.14	5.40	5.40	5.21	5.50	5.38	5.63	5.64	5.44	5.69	5.60
Other Asia	8.13	8.67	9.06	9.34	9.48	9.03	9.18	9.26	9.60	9.73	9.39	9.54	9.57
Latin America	5.90	6.25	6.44	6.60	6.70	6.73	6.68	6.68	6.79	6.88	6.95	6.84	6.87
Middle East	7.45	7.79	8.30	8.63	8.32	8.86	8.73	8.64	8.91	8.76	9.41	8.98	9.02
Africa	4.08	4.22	4.40	4.59	4.24	4.43	4.88	4.54	4.70	4.42	4.60	5.01	4.69
Russia	3.39	3.62	3.70	3.83	3.59	3.74	4.01	3.79	3.89	3.70	3.89	4.08	3.89
Other Eurasia	1.07	1.21	1.15	1.24	1.21	1.02	1.23	1.17	1.27	1.24	1.08	1.28	1.22
Other Europe	0.70	0.75	0.77	0.79	0.77	0.75	0.83	0.79	0.81	0.78	0.77	0.84	0.80
Total Non-OECD	**49.16**	**52.38**	**53.90**	**56.15**	**55.76**	**55.85**	**57.24**	**56.25**	**57.90**	**57.68**	**58.22**	**59.14**	**58.24**
(a) Total world demand	**91.19**	**97.23**	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	**103.62**	**103.51**	**104.85**	**105.23**	**104.31**
Y-o-y change	***-9.15***	***6.04***	***2.40***	***1.94***	***2.94***	***2.75***	***2.10***	***2.44***	***2.03***	***2.17***	***2.68***	***2.10***	***2.25***
Non-OPEC liquids production													
Americas	24.87	25.46	26.92	27.90	28.15	28.59	28.52	28.29	28.76	28.79	29.26	29.57	29.10
of which US	*17.76*	*18.06*	*19.28*	*20.10*	*20.70*	*20.79*	*20.50*	*20.53*	*20.79*	*21.01*	*21.28*	*21.44*	*21.13*
Europe	3.92	3.79	3.58	3.69	3.65	3.59	3.74	3.67	3.87	3.76	3.70	3.85	3.79
Asia Pacific	0.52	0.51	0.48	0.45	0.45	0.46	0.47	0.46	0.47	0.44	0.45	0.43	0.44
Total OECD	**29.31**	**29.77**	**30.97**	**32.04**	**32.24**	**32.64**	**32.74**	**32.42**	**33.09**	**32.99**	**33.41**	**33.85**	**33.34**
China	4.16	4.32	4.48	4.63	4.63	4.50	4.50	4.56	4.58	4.57	4.54	4.54	4.56
India	0.78	0.78	0.77	0.76	0.78	0.78	0.78	0.78	0.79	0.79	0.79	0.78	0.79
Other Asia	2.53	2.42	2.30	2.31	2.27	2.29	2.37	2.31	2.29	2.27	2.24	2.24	2.26
Latin America	6.02	5.96	6.34	6.69	6.77	6.99	6.88	6.83	7.00	7.07	7.20	7.28	7.14
Middle East	3.15	3.19	3.29	3.27	3.29	3.27	3.30	3.28	3.33	3.32	3.31	3.32	3.32
Africa	1.41	1.34	1.29	1.24	1.27	1.27	1.30	1.27	1.26	1.27	1.33	1.38	1.31
Russia	10.54	10.80	11.03	11.19	10.86	10.62	9.47	10.53	10.35	10.47	10.59	10.70	10.53
Other Eurasia	2.91	2.93	2.83	2.99	2.93	2.85	2.97	2.94	3.01	3.01	2.99	3.03	3.01
Other Europe	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	**31.64**	**31.85**	**32.44**	**33.21**	**32.90**	**32.66**	**31.68**	**32.61**	**32.73**	**32.87**	**33.11**	**33.38**	**33.02**
Total Non-OPEC production	60.95	61.61	63.42	65.25	65.14	65.30	64.41	65.02	65.82	65.85	66.51	67.23	66.36
Processing gains	2.16	2.29	2.40	2.47	2.47	2.47	2.47	2.47	2.52	2.52	2.52	2.52	2.52
Total Non-OPEC liquids production	**63.11**	**63.90**	**65.81**	**67.72**	**67.61**	**67.77**	**66.88**	**67.49**	**68.34**	**68.37**	**69.03**	**69.75**	**68.88**
OPEC NGL + non-conventional oils	5.17	5.28	5.39	5.44	5.47	5.43	5.43	5.44	5.49	5.54	5.50	5.50	5.51
(b) Total non-OPEC liquids production and OPEC NGLs	**68.27**	**69.18**	**71.21**	**73.15**	**73.09**	**73.20**	**72.31**	**72.93**	**73.83**	**73.91**	**74.53**	**75.25**	**74.38**
Y-o-y change	***-2.54***	***0.91***	***2.03***	***2.21***	***2.77***	***1.98***	***-0.03***	***1.73***	***0.68***	***0.83***	***1.33***	***2.94***	***1.45***
OPEC crude oil production (secondary sources)	25.72	26.34	28.86	28.84	28.27	27.53							
Total liquids production	94.00	95.52	100.07	102.00	101.35	100.73							
Balance (stock change and miscellaneous)	2.81	-1.71	0.44	0.41	0.01	-1.45							
OECD closing stock levels, *mb*													
Commercial	3,037	2,651	2,778	2,756	2,788								
SPR	1,541	1,484	1,214	1,217	1,206								
Total	**4,578**	**4,135**	**3,992**	**3,972**	**3,993**								
Oil-on-water	1,148	1,202	1,399	1,413	1,302								
Days of forward consumption in OECD, *days*													
Commercial onland stocks	68	58	61	60	60								
SPR	34	32	26	27	26								
Total	**102**	**90**	**87**	**87**	**86**								
Memo items													
(a) - (b)	**22.91**	**28.05**	**28.42**	**28.44**	**28.26**	**28.98**	**30.82**	**29.13**	**29.78**	**29.60**	**30.33**	**29.99**	**29.93**

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	2020	2021	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24	2Q24	3Q24	4Q24	2024
World demand													
Americas	-	-	-0.27	-0.19	-0.27	-0.36	-0.32	-0.28	-0.19	-0.27	-0.36	-0.32	-0.28
of which US	*-*	*-*	*-0.27*	*-0.19*	*-0.27*	*-0.37*	*-0.32*	*-0.29*	*-0.19*	*-0.27*	*-0.37*	*-0.32*	*-0.29*
Europe	-	-	-0.01	0.02	0.08	-0.14	-0.01	-0.01	0.02	0.08	-0.14	-0.01	-0.01
Asia Pacific	-	-	-	-	0.02	-0.06	-	-0.01	-	0.02	-0.06	-	-0.01
Total OECD	**-**	**-**	**-0.28**	**-0.17**	**-0.16**	**-0.56**	**-0.33**	**-0.31**	**-0.17**	**-0.16**	**-0.56**	**-0.33**	**-0.31**
China	-	0.10	0.10	0.10	0.10	0.50	0.10	0.20	0.10	0.10	0.50	0.10	0.20
India	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	0.04	-0.06	0.04	0.04	0.04	0.02	-0.06	0.04	0.04	0.04	0.02
Latin America	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-0.10	-0.03	-	-	-0.03	-0.10	-0.03	-	-	-0.03
Russia	-	-	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Other Eurasia	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-0.05	-	-	-	-0.01	-0.05	-	-	-	-0.01
Total Non-OECD	**-**	**0.10**	**0.28**	**0.03**	**0.25**	**0.68**	**0.28**	**0.31**	**0.03**	**0.25**	**0.68**	**0.28**	**0.31**
(a) Total world demand	**-**	**0.10**	**-**	**-0.15**	**0.09**	**0.12**	**-0.05**	**-**	**-0.15**	**0.09**	**0.12**	**-0.05**	**-**
Y-o-y change	***-***	***0.10***	***-0.10***	***-0.29***	***0.04***	***0.24***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
Non-OPEC liquids production													
Americas	-	-	-	-	0.14	0.05	-	0.05	0.05	0.05	0.05	0.05	0.05
of which US	*-*	*-*	*-*	*-*	*0.04*	*0.16*	*-*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*
Europe	-	-	-	-	0.01	-0.06	-0.13	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Asia Pacific	-	-	-	-	-	-0.02	-	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Total OECD	**-**	**-**	**-**	**-**	**0.15**	**-0.03**	**-0.13**	**-**	**-**	**-**	**-**	**-**	**-**
China	-	-	-	-	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-0.01	-	-	-	-	-	-	-
Other Asia	-	-	-	-	0.01	-0.02	-	-	-	-	-	-	-
Latin America	-	-	-	-	0.01	0.11	0.08	0.05	0.05	0.05	0.05	0.05	0.05
Middle East	-	-	-	-	-	0.02	-	0.01	-	-	-	-	-
Africa	-	-	-	-	-	-0.01	-	-	-0.02	-0.05	-0.01	0.03	-0.01
Russia	-	-	-	-	0.01	0.41	-0.10	0.08	0.08	0.08	0.08	0.08	0.08
Other Eurasia	-	-	-	-	-	-0.09	-	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	**-**	**-**	**-**	**-**	**0.03**	**0.41**	**-0.02**	**0.10**	**0.10**	**0.07**	**0.10**	**0.14**	**0.10**
Total Non-OPEC production	-	-	-	-	0.18	0.38	-0.15	0.10	0.09	0.06	0.10	0.14	0.10
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC liquids production	**-**	**-**	**-**	**-**	**0.18**	**0.38**	**-0.15**	**0.10**	**0.09**	**0.06**	**0.10**	**0.14**	**0.10**
OPEC NGL + non-conventional oils	-	-	-	-	-	-	-	-	-	-	-	-	-
(b) Total non-OPEC liquids production and OPEC NGLs	**-**	**-**	**-**	**-**	**0.18**	**0.38**	**-0.15**	**0.10**	**0.09**	**0.06**	**0.10**	**0.14**	**0.10**
Y-o-y change	***-***	***-***	***-***	***-***	***0.18***	***0.38***	***-0.16***	***0.10***	***0.10***	***-0.11***	***-0.28***	***0.29***	***-***
OPEC crude oil production (secondary sources)	-	-0.01	-	-0.01	-0.01								
Total liquids production	-	-0.01	-	-0.01	0.17								
Balance (stock change and miscellaneous)	-	-0.11	-	0.14	0.08								
mb													
Commercial	-	-	1	-3	1								
SPR	-	-	-	-	-								
Total	**-**	**-**	**1**	**-3**	**1**								
Oil-on-water	-	-	-	-	-								
Days of forward consumption in OECD, *days*													
Commercial onland stocks	-	-	-	-	1								
SPR	-	-	-	-	-								
Total	**-**	**1**	**1**	**-**	**1**								
Memo items													
(a) - (b)	**-**	**0.10**	**0.00**	**-0.15**	**-0.09**	**-0.26**	**0.10**	**-0.10**	**-0.24**	**0.02**	**0.02**	**-0.19**	**-0.10**

*Note: * This compares Table 11 - 1 in this issue of the MOMR with Table 11 - 1 in the September 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	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23
Closing stock levels, mb											
OECD onland commercial	**3,037**	**2,651**	**2,778**	**2,768**	**2,651**	**2,615**	**2,666**	**2,747**	**2,778**	**2,756**	**2,788**
Americas	1,613	1,470	1,488	1,523	1,470	1,408	1,437	1,469	1,488	1,485	1,509
Europe	1,043	857	936	890	857	890	911	918	936	919	920
Asia Pacific	380	324	353	355	324	317	318	359	353	351	359
OECD SPR	**1,541**	**1,484**	**1,214**	**1,513**	**1,484**	**1,442**	**1,343**	**1,246**	**1,214**	**1,217**	**1,206**
Americas	640	596	374	620	596	568	495	418	374	373	349
Europe	487	479	461	485	479	468	452	448	461	460	470
Asia Pacific	414	409	378	408	409	406	395	380	378	383	387
OECD total	**4,578**	**4,135**	**3,992**	**4,281**	**4,135**	**4,057**	**4,009**	**3,992**	**3,992**	**3,972**	**3,993**
Oil-on-water	**1,148**	**1,202**	**1,399**	**1,169**	**1,202**	**1,231**	**1,304**	**1,407**	**1,399**	**1,413**	**1,302**
Days of forward consumption in OECD, days											
OECD onland commercial	**68**	**58**	**61**	**59**	**58**	**58**	**58**	**60**	**61**	**60**	**60**
Americas	66	59	60	61	59	57	57	59	61	59	60
Europe	79	63	69	63	65	66	65	69	71	68	66
Asia Pacific	52	44	48	46	42	46	44	47	45	50	50
OECD SPR	**35**	**35**	**34**	**32**	**32**	**32**	**29**	**27**	**27**	**27**	**26**
Americas	26	24	24	25	24	23	20	17	15	15	14
Europe	37	35	35	35	36	35	32	34	35	34	34
Asia Pacific	56	55	55	53	53	59	55	50	48	55	54
OECD total	**103**	**93**	**95**	**91**	**90**	**90**	**87**	**87**	**88**	**87**	**86**

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	2022	*Change 2022/21*	1Q23	2Q23	3Q23	4Q23	2023	*Change 2023/22*	1Q24	2Q24	3Q24	4Q24	2024	*Change 2024/23*
US	19.3	*1.2*	20.1	20.7	20.8	20.5	20.5	*1.2*	20.8	21.0	21.3	21.4	21.1	*0.6*
Canada	5.6	*0.2*	5.7	5.3	5.7	6.0	5.7	*0.1*	5.9	5.7	5.9	6.1	5.9	*0.2*
Mexico	2.0	*0.1*	2.1	2.1	2.1	2.0	2.1	*0.1*	2.1	2.1	2.0	2.0	2.0	*0.0*
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	*0.0*
OECD Americas	**26.9**	***1.5***	**27.9**	**28.1**	**28.6**	**28.5**	**28.3**	***1.4***	**28.8**	**28.8**	**29.3**	**29.6**	**29.1**	***0.8***
Norway	1.9	*-0.1*	2.0	2.0	2.0	2.1	2.0	*0.1*	2.2	2.1	2.1	2.2	2.1	*0.1*
UK	0.9	*0.0*	0.8	0.8	0.7	0.9	0.8	*-0.1*	0.9	0.8	0.8	0.8	0.8	*0.0*
Denmark	0.1	*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*
Other OECD	0.8	*0.0*	0.8	0.8	0.8	0.8	0.8	*0.0*	0.8	0.8	0.8	0.8	0.8	*0.0*
OECD Europe	**3.6**	***-0.2***	**3.7**	**3.6**	**3.6**	**3.7**	**3.7**	***0.1***	**3.9**	**3.8**	**3.7**	**3.8**	**3.8**	***0.1***
Australia	0.4	*0.0*	0.4	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	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*
OECD Asia Pacific	**0.5**	***0.0***	**0.5**	**0.4**	**0.5**	**0.5**	**0.5**	***0.0***	**0.5**	**0.4**	**0.4**	**0.4**	**0.4**	***0.0***
Total OECD	**31.0**	***1.2***	**32.0**	**32.2**	**32.6**	**32.7**	**32.4**	***1.4***	**33.1**	**33.0**	**33.4**	**33.8**	**33.3**	***0.9***
China	**4.5**	***0.2***	**4.6**	**4.6**	**4.5**	**4.5**	**4.6**	***0.1***	**4.6**	**4.6**	**4.5**	**4.5**	**4.6**	***0.0***
India	**0.8**	***0.0***	**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	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*
Indonesia	0.8	*0.0*	0.9	0.9	0.8	0.8	0.8	*0.0*	0.8	0.8	0.8	0.8	0.8	*0.0*
Malaysia	0.6	*0.0*	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	0.4	*-0.1*	0.4	0.3	0.4	0.4	0.4	*0.0*	0.4	0.4	0.3	0.3	0.4	*0.0*
Vietnam	0.2	*0.0*	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	*0.0*	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	**2.3**	***-0.1***	**2.3**	**2.3**	**2.3**	**2.4**	**2.3**	***0.0***	**2.3**	**2.3**	**2.2**	**2.2**	**2.3**	***0.0***
Argentina	0.8	*0.1*	0.8	0.8	0.8	0.8	0.8	*0.1*	0.8	0.9	0.9	0.9	0.9	*0.0*
Brazil	3.7	*0.1*	3.9	4.0	4.2	4.1	4.1	*0.3*	4.1	4.1	4.2	4.2	4.2	*0.1*
Colombia	0.8	*0.0*	0.8	0.8	0.8	0.8	0.8	*0.0*	0.8	0.8	0.8	0.8	0.8	*0.0*
Ecuador	0.5	*0.0*	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	0.3	*0.2*	0.4	0.4	0.4	0.4	0.4	*0.1*	0.4	0.5	0.5	0.6	0.5	*0.1*
Latin America	0.3	*0.0*	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	**6.3**	***0.4***	**6.7**	**6.8**	**7.0**	**6.9**	**6.8**	***0.5***	**7.0**	**7.1**	**7.2**	**7.3**	**7.1**	***0.3***
Bahrain	0.2	*0.0*	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	1.1	*0.1*	1.1	1.1	1.0	1.0	1.0	*0.0*	1.1	1.1	1.1	1.1	1.1	*0.0*
Qatar	1.9	*0.0*	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	0.1	0.0	*0.0*	0.1	0.0	0.0	0.0	0.0	*0.0*
Yemen	0.1	*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	**3.3**	***0.1***	**3.3**	**3.3**	**3.3**	**3.3**	**3.3**	***0.0***	**3.3**	**3.3**	**3.3**	**3.3**	**3.3**	***0.0***
Cameroon	0.1	*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*
Chad	0.1	*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*
Egypt	0.6	*0.0*	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	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*
South Africa	0.1	*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*
Sudans	0.2	*0.0*	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	*0.0*	0.1	0.1	0.1	0.1	0.1	*0.0*	0.1	0.1	0.2	0.2	0.2	*0.0*
Africa	**1.3**	***0.0***	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	***0.0***	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	***0.0***
Russia	**11.0**	***0.2***	**11.2**	**10.9**	**10.6**	**9.5**	**10.5**	***-0.5***	**10.3**	**10.5**	**10.6**	**10.7**	**10.5**	***0.0***
Kazakhstan	1.8	*0.0*	2.0	1.9	1.8	1.9	1.9	*0.1*	2.0	2.0	2.0	2.0	2.0	*0.1*
Azerbaijan	0.7	*0.0*	0.7	0.6	0.7	0.7	0.7	*0.0*	0.7	0.7	0.7	0.7	0.7	*0.0*
Eurasia others	0.3	*0.0*	0.3	0.3	0.3	0.3	0.3	*0.0*	0.3	0.3	0.3	0.3	0.3	*0.0*
Other Eurasia	**2.8**	***-0.1***	**3.0**	**2.9**	**2.8**	**3.0**	**2.9**	***0.1***	**3.0**	**3.0**	**3.0**	**3.0**	**3.0**	***0.1***
Other Europe	**0.1**	***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***
Total Non-OECD	**32.4**	***0.6***	**33.2**	**32.9**	**32.7**	**31.7**	**32.6**	***0.2***	**32.7**	**32.9**	**33.1**	**33.4**	**33.0**	***0.4***
Non-OPEC	63.4	*1.8*	65.2	65.1	65.3	64.4	65.0	*1.6*	65.8	65.9	66.5	67.2	66.4	*1.3*
Processing gains	2.4	*0.1*	2.5	2.5	2.5	2.5	2.5	*0.1*	2.5	2.5	2.5	2.5	2.5	*0.1*
Non-OPEC liquids production	**65.8**	***1.9***	**67.7**	**67.6**	**67.8**	**66.9**	**67.5**	***1.7***	**68.3**	**68.4**	**69.0**	**69.7**	**68.9**	***1.4***
OPEC NGL	5.3	*0.1*	5.3	5.4	5.3	5.3	5.3	*0.0*	5.4	5.4	5.4	5.4	5.4	*0.1*
OPEC Non-conventional	0.1	*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*
OPEC (NGL+NCF)	**5.4**	***0.1***	**5.4**	**5.5**	**5.4**	**5.4**	**5.4**	***0.0***	**5.5**	**5.5**	**5.5**	**5.5**	**5.5**	***0.1***
Non-OPEC & OPEC (NGL+NCF)	**71.2**	***2.0***	**73.2**	**73.1**	**73.2**	**72.3**	**72.9**	***1.7***	**73.8**	**73.9**	**74.5**	**75.2**	**74.4**	***1.4***

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*	1Q23	2Q23	3Q23	Aug 23	Sep 23	Change *Sep/Aug*
US	436	475	722	*247*	761	719	648	643	631	*-12*
Canada	90	133	174	*41*	221	119	188	189	188	*-1*
Mexico	41	45	47	*2*	48	60	54	51	56	*5*
OECD Americas	**567**	**654**	**945**	***291***	**1,033**	**900**	**892**	**884**	**876**	***-8***
Norway	16	17	17	*0*	16	13	19	22	17	*-5*
UK	6	8	10	*2*	11	13	10	10	10	*0*
OECD Europe	**59**	**58**	**65**	***7***	**67**	**67**	**64**	**65**	**60**	***-5***
OECD Asia Pacific	**22**	**23**	**24**	***1***	**23**	**27**	**25**	**23**	**24**	***1***
Total OECD	**648**	**735**	**1,034**	***299***	**1,123**	**994**	**981**	**972**	**960**	***-12***
Other Asia*	187	174	186	*12*	193	210	206	207	205	-2
Latin America	58	91	119	*28*	127	122	118	119	117	-2
Middle East	57	57	62	*5*	62	61	59	59	57	-2
Africa	43	42	57	*15*	60	56	56	56	54	-2
Other Europe	12	9	10	*1*	11	11	10	11	9	-2
Total Non-OECD	**357**	**373**	**434**	***61***	**453**	**460**	**449**	**452**	**442**	***-10***
Non-OPEC rig count	**1,005**	**1,108**	**1,468**	***360***	**1,576**	**1,454**	**1,430**	**1,424**	**1,402**	***-22***
Algeria	31	26	32	*6*	32	33	37	37	40	*3*
Angola	3	4	7	*3*	9	9	10	10	10	*0*
Congo	1	0	1	*1*	1	2	2	2	1	*-1*
Equatorial Guinea**	0	0	0	*0*	0	0	0	0	0	*0*
Gabon	3	2	3	*1*	3	3	3	4	3	*-1*
Iran**	117	117	117	*0*	117	117	117	117	117	*0*
Iraq	47	39	51	*12*	60	62	62	62	62	*0*
Kuwait	45	25	27	*2*	24	25	24	22	23	*1*
Libya	12	13	7	*-6*	11	15	14	14	14	*0*
Nigeria	11	7	10	*3*	14	13	16	18	15	*-3*
Saudi Arabia	93	62	73	*11*	78	83	85	86	83	*-3*
UAE	54	42	47	*5*	53	57	56	57	59	*2*
Venezuela	15	6	3	*-3*	3	3	5	7	1	*-6*
OPEC rig count	**432**	**343**	**377**	***34***	**405**	**422**	**431**	**436**	**428**	***-8***
World rig count***	**1,437**	**1,451**	**1,845**	***394***	**1,980**	**1,877**	**1,861**	**1,860**	**1,830**	***-30***
of which:										
Oil	1,116	1,143	1,462	*319*	1,567	1,484	1,480	1,486	1,462	*-24*
Gas	275	275	352	*77*	376	347	338	332	330	*-2*
Others	46	33	31	*-2*	37	46	43	42	38	*-4*

*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*

up 7.27 in September

September 2023	94.60
August 2023	87.33
Year-to-date	**82.12**

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

up 0.27 in September

September 2023	27.75
August 2023	27.48

Economic growth rate *per cent*

	World	OECD	US	Eurozone	Japan	China	India
2023	2.8	1.4	2.0	0.5	1.7	5.2	6.2
2024	2.6	0.9	0.7	0.7	1.0	4.8	5.9

Supply and demand *mb/d*

2023		**23/22**	**2024**		**24/23**
World demand	102.1	2.4	World demand	104.3	2.2
Non-OPEC liquids production	67.5	1.7	Non-OPEC liquids production	68.9	1.4
OPEC NGLs	5.4	0.0	OPEC NGLs	5.5	0.1
Difference	**29.1**	**0.7**	**Difference**	**29.9**	**0.8**

OECD commercial stocks *mb*

	Jun 23	Jul 23	Aug 23	Aug 23/Jul 23
Crude oil	1,373	1,374	1,348	–26.0
Products	1,414	1,440	1,455	15.0
Total	**2,788**	**2,814**	**2,803**	**–11.0**
Days of forward cover	60.2	61.0	61.1	0.2

Next report to be issued on 13 November 2023.