NEW CHALLENGES
NEW SOLUTIONS

RUSSIA AND CIS OIL AND GAS QUARTERLY REVIEW

Moscow Energy Center

February 2023

Contents

Global economy

The Global Composite PMI posted 48.2 in December, up a few ticks from November's 29-month low of 48.0, but remaining below the 50-point threshold.[1]

The contraction of global economic activity is a result of malaise in the manufacturing sector, with output there dropping for the fifth successive month and new order intakes falling at the fastest rate in the last 2.5 years. India and Ireland were the only nations to register growth in economic activity, while the US, China, the euro area, the UK, Brazil, Russia and Australia all saw an economic downturn.

One of the few glimmers of hope in today's gloom has been recent news of inflation easing in the US, with the annual rate of consumer price inflation falling from 7.1% in November to 6.5% in December.[2]

China's softening of its zero-COVID policy has also brought some optimism. However, a fairly good start of the year was somewhat marred after it emerged that China's annual GDP, albeit reaching $17.9 trillion, had posted a mere 3% rise over the previous year, below the 5.5% target.[3]

According to a flash estimate from Eurostat, the euro area's annual inflation was 9.2% in December, down from 10.1% in November.[4] Growth in energy prices, which remain the major contributor to inflation, decelerated to an annual rate of 25.7% in December, while food, alcohol and tobacco prices rose 13.8%.

The World Bank claims that a number of factors, such as elevated inflation, higher interest rates, reduced investment and supply chain disruptions, continue to weigh heavily on the global economy.[5]

The World Bank has therefore trimmed its global GDP growth forecast from 3% to 1.7% in 2023 and 2.7% in 2024. Growth in the US is projected to slow to 0.5% in 2023 (-1.9 p.p.) and 1.6% in 2024 (-0.4 p.p.). The same trend will be observed in China, with growth there anticipated at 4.3% in 2023 (-0.9 p.p.) and 5% in 2024 (-0.1 p.p.). In the euro area, zero-percent growth is expected in 2023 and 1.6% in 2024, which is 1.9 p.p. and 0.3 p.p. below the previous forecast, respectively.

According to the IMF, the cost to global output from trade fragmentation could range from 0.2% to 7.0% of GDP, while the loss in output in some countries could reach between 8% and 12%.[6]

Two-thirds of chief economists surveyed by the WEF expect a global recession this year, with some 18% considering it extremely likely.[7]

Composite PMI (manufacturing and services)

	08-22	09-22	10-22	11-22	12-22
World	**49.3**	**49.7**	**49.0**	**48.0**	**48.2**
US	44.6	49.5	48.2	46.4	45.0
China (NBS)	51.7	50.9	49.0	47.1	42.6
Eurozone	48,.	48.1	47.3	47.8	49.3
Germany	46.9	45.7	45.1	46.3	49.0
France	50.4	51.2	50.2	48.7	49.1
Italy	49.6	47.6	45.8	48.9	49.6
UK	49.6	49.1	48.2	48.2	49.0
UAE	56.7	56.1	56.6	54.4	54.2
Saudi Arabia	57.7	56.6	57,2	58,5	56.9
Russia	50.4	51.5	45.8	50.0	48.0

Sources: National Bureau of Statistics of China , open sources, Moscow Energy Center

Russia's economy

According to the Federal State Statistics Service (Rosstat), the Russian economy contracted 3.7% YoY in Q3 2022, while final consumption expenditure fell 2.9% from a year earlier.[8] This downturn was cushioned by high export prices, with the share of net exports growing from 10.2% to 10.4% of GDP.

The pace of economic decline in November slowed to 4.0% YoY from 4.5% a month earlier, estimates by the Ministry of Economic Development suggest.[9] Russia's GDP lost 2.1% YoY in the period from January to November, while President Vladimir Putin said that the Russian economy was likely to shrink 2.5% in 2022.[10]

In the first eleven months of 2022, industrial output in Russia fell 0.01% YoY,[11] with motor vehicles, trailers and semitrailers showing the most pronounced decline of 44.4%. By contrast, crude oil and natural gas production increased 0.9%, while mining services posted an impressive rise of 8.1%.

Annual inflation in 2022 was estimated by Rosstat at 11.94%,[12] driven mostly by the cost of services (13.19%) as well as non-food and food prices, which rose 12.7% and 10.29%, respectively.

The Central Bank of Russia (CBR) expects inflation pressure to ease to 5%-7% in 2023 and 4% in the following year.[13]

According to preliminary estimates for 2022, the budget deficit reached RUB 3.3 trillion, or 2.3% of the size of the Russian economy, which is slightly above the 2% expected by the Finance Ministry.[14]

As of 1 December 2022, Russia's national wealth fund was worth RUB 11.39 trillion, or 8.5% of GDP, showing growth for the second month in a row.[15]

Russia's public domestic debt, as estimated by the Finance Ministry, was RUB 18.8 trillion at the year-end (up RUB 2.3 trillion, or 13.9%, from a year earlier), having risen from 12.2% to 12.9% of GDP.[16]

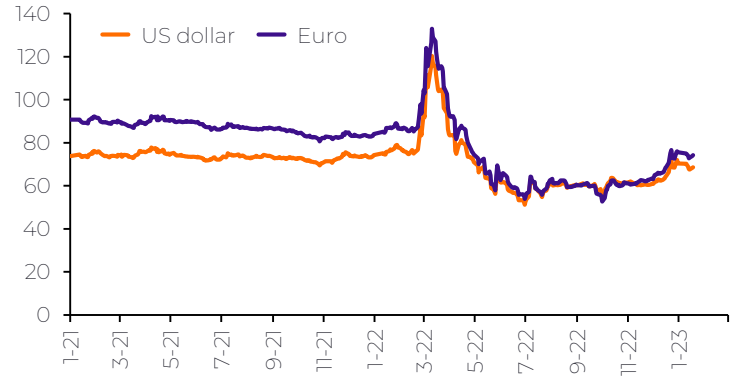
According to the CBR, both the US dollar and euro lost value against the Russian ruble in 2022, with average annual exchange rates of RUB 68.4 per dollar (-7.2% YoY) and RUB 72.2 per euro (-17.1%).

The Composite PMI reading came in at 48 in December, down from November's 50,[17] as deal-making activity in the private sector declined, while manufacturers put up prices in a bid to offset margin pressures amid weaker demand.

The World Bank has trimmed its outlook for the Russian economy and now expects a drop of 3.3% in 2023 instead of the 2% anticipated in June. Growth is projected to resume in 2024, at a rate of 1.6%, which is 0.6. p.p. below the previous forecast.

GDP change, YoY

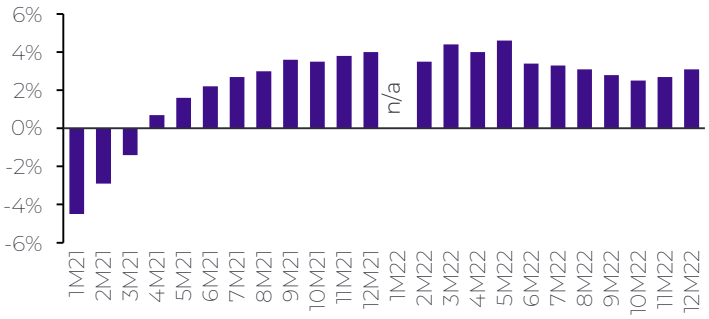
Ruble exchange rate



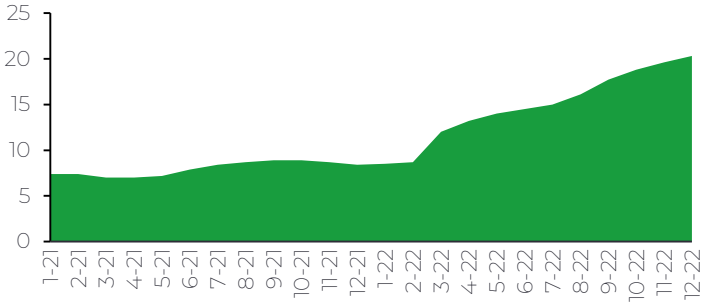
Sources: IHS Markit, Ministry of Economic Development of the Russian Federation, Rosstat, Central Bank of Russia, Moscow Energy Center

Kazakhstan's economy

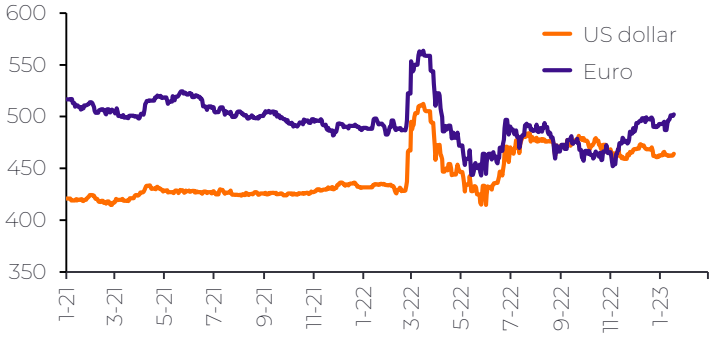
GDP change, YoY



Consumer price index, YoY



Tenge exchange rate



Sources: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, National Bank of Kazakhstan, Moscow Energy Center

According to the Bureau of National Statistics of Kazakhstan, the country's economy expanded to KZT 65.5 trillion in the first nine months, up 3% compared with the same period last year.[18] Final consumption expenditure dropped 1.5% from a year earlier, while gross capital formation and exports of goods and services rose 1% and 18%, respectively.

As reported by the Minister of National Economy, GDP increased 3.1% YoY in 2022,[19] with growth observed in both the services sector (+2.5%) and the real sector (+3.2%).

Kazakhstan's industrial output was worth KZT 48 trillion in 2022, up 1.1% over the previous year,[20] with the main contributor being processing industries (+3.4%), while the mining sector shrank by 1%.

The annual inflation rate in Kazakhstan accelerated to 20.3% in December 2022,[21] driven largely by a 25.3% rise in food prices. Non-food prices went up 19.4%, while services appreciated by 14.1%.

The National Bank raised the base rate from 16.00% to 16.75% in early December in a bid to contain inflation, citing geopolitical uncertainty and high food prices globally. The rate was left unchanged at the beginning of 2023.[22]

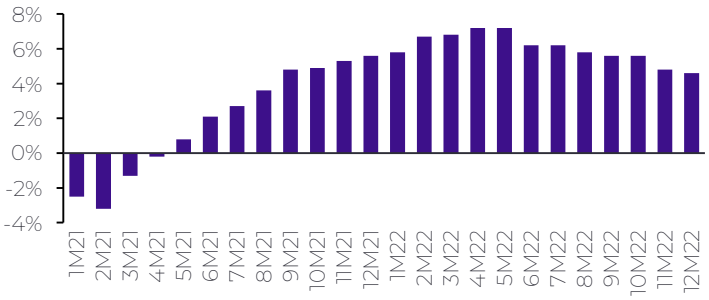
Kazakhstan's gross international reserves were up 2.0% YoY to $35.0 billion, while the assets of the National Fund reached $55.5 billion (+0.7%).[23]

Between 2021 and 2022, the tenge lost 8.2% against the US dollar and gained 3.7% against the euro, with the average exchange rate, as reported by the National Bank of Kazakhstan, standing at KZT 460.85/USD and KZT 485.28/EUR.

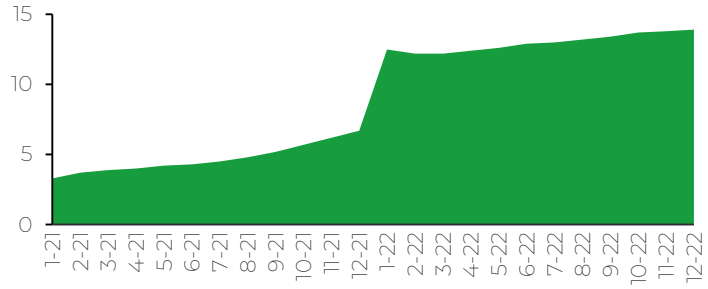
According to the World Bank's forecast, GDP growth is expected to accelerate from 3.5% in 2023 to 4.0% in 2024.

Azerbaijan's economy

GDP change, YoY



Consumer price index, YoY (cumulative)



Manat exchange rate

Sources: State Statistical Committee of the Republic of Azerbaijan, Oxford Economics

According to the State Statistics Committee, Azerbaijan's economy was worth AZN 133.83 billion in 2022, 4.6% more than in the previous year, with the non-oil sector growing 9.1% YoY to AZN 69.83 billion, or 52.2% of the economy.[24]

GDP per capita was AZN 13,292.2, up 4.1% from 2021.

While gross industrial production declined 1.1% YoY to AZN 86 billion, weighed by a 2.5% slowdown in the oil and gas sector, other sectors showed a cumulative increase of 7.1%.

The mining sector contributed 75.4% to total industrial output.[25]

Marketable oil production decreased 5.6%, while marketable gas production rose 7.3% over the previous year.

The average annual inflation rate reached 13.9% in 2022 versus 6.7% a year earlier.

Azerbaijan's Central Bank remains aggressive in its monetary tightening, having raised the key interest rate by 25 b.p. for the second time in a row, from 8% in late October to 8.25% in mid-December. It also set a new interest rate floor of 6.25%, while the ceiling remained unchanged at 9.25%.[26]

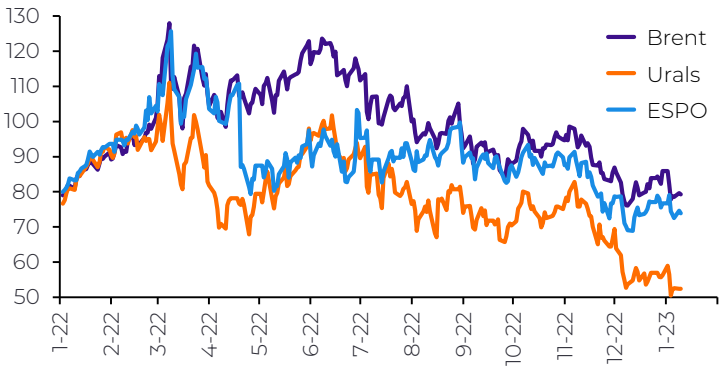
According to the Central Bank, the euro's average exchange rate was down 10.7% YoY in the last quarter of 2022 (AZN 1.74/EUR vs. AZN 1.94/EUR), while for the whole year of 2022 it dropped 11% YoY to AZN 1.79/EUR.

In its growth outlook for Azerbaijan, the World Bank projects GDP growth at a pace of 2.8% in 2023, which will slow to 2.6% in the following year.

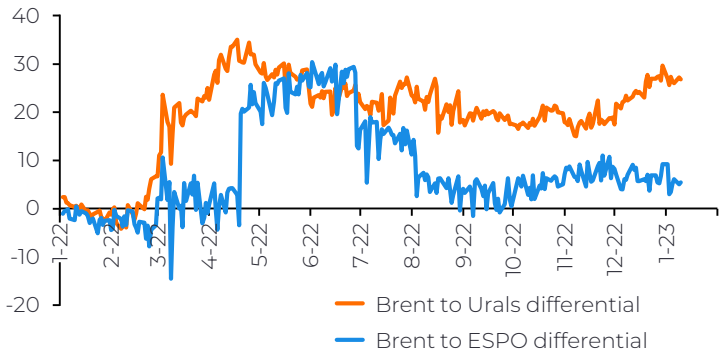
Global oil market

Brent crude surged 40% from a year earlier to an average of $99 per barrel in 2022, while Russia's two main export blends – Urals and ESPO – were trading at $80 and $91 per barrel, respectively (up only 16% and 26%), with their discount to the international benchmark growing amid geopolitical pressure. In January 2023, the discount was 33% for Urals and 6% for ESPO, with a barrel of Brent costing an average of $84.

Brent, Urals and ESPO price, $/bbl



Urals and ESPO discount to Brent, $/bbl



Sources: Bloomberg, IEA, Reuters, OPEC, open sources, investing.com, Moscow Energy Center

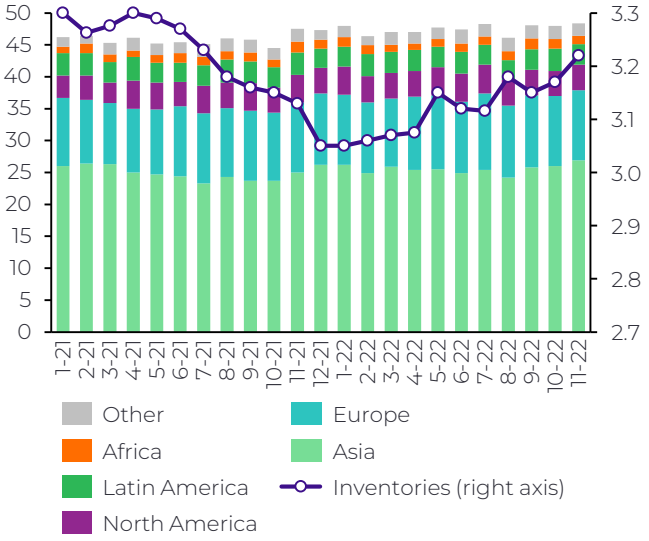
Battered by geopolitical storms in 2022, well-established market mechanisms started to gradually give way to intergovernmental regulation.

The year's end was marked by the coming into force of EU restrictions on seaborne imports of Russian crude as well as the $60 price cap agreed earlier by the G7 economies (the US, the UK, Germany, France, Canada, Italy and Japan), the European Union and Australia. The cap is intended to be flexible, i.e., it may be reviewed to ensure it is at least five percent below the market price, taking into account the discount.

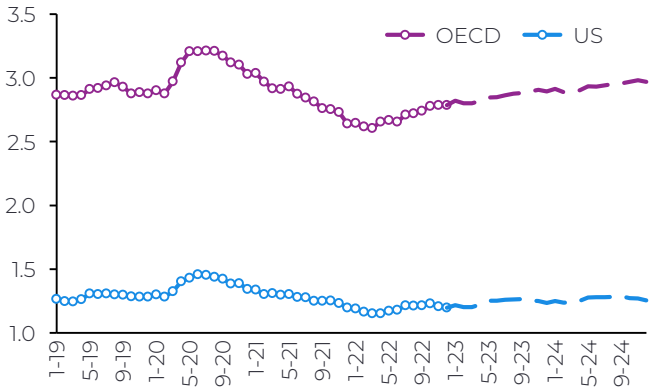
So market players are now holding their breath to see what comes out of these moves and how they will affect oil supplies from Russia.

The top oil exporters have been generally apprehensive about this restriction, claiming that it may (i) put downside pressure on oil prices globally, leading to reduced investments in the industry, and (ii) set a precedent for non-market interference, thus affecting other exporters. In this context, mention should be made of the No Oil Producing and Exporting Cartels Act (NOPEC), a bill approved by the US Senate Judiciary Committee in May 2022 to allow the US government to bring lawsuits against OPEC members for alleged antitrust violations.

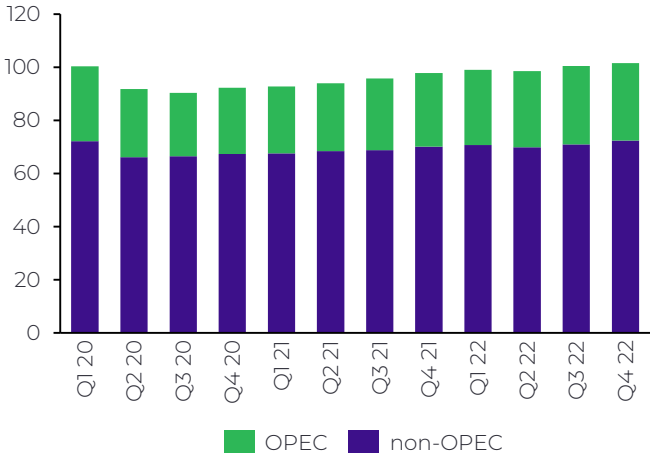
Global crude supply (million b/d) **vs. global onshore commercial inventories** (billion barrels)



OECD vs. US commercial inventories, billion barrels



Global crude production, million b/d



Sources: EIA, Vortexa, OPEC, Enverus, Moscow Energy Center

According WoodMackenzie, global oil demand in 2022 grew over 2 million b/d since 2021, but remained just under 2 million b/d below pre-pandemic levels. Global oil supply growth outpaced demand growth by almost 2.5 million b/d YoY.[27]

Commercial oil inventories globally recovered to the level registered in Q1 2021, with OECD inventories rising 5% between January and December 2022.[28]

While many experts, including the IEA, Goldman Sachs, Morgan Stanley, ING Group NV, UBS Group AG and others, are generally positive about the outlook for oil prices in 2023, they differ somewhat in their estimates. Goldman Sachs, for example, sees global oil demand growth of 2.7 million b/d in 2023,[29] while OPEC expects demand to grow 2.2 million b/d to 101.77 million b/d amid the recovery of economic activity in China and stronger demand in India.[30]

In its recent report, Morgan Stanley points out that Brent prices will depend directly on China's total imports. China-focused consultants surveyed by Bloomberg agree that demand may climb by 800,000 b/d to an all-time high of 16 million b/d if China "leaves the straitjacket of COVID Zero behind."[31] Wood Mackenzie expects demand recovery to accelerate from Q2 2023 onward as traffic rebounds and the number of flights, especially international flights, gradually recovers.

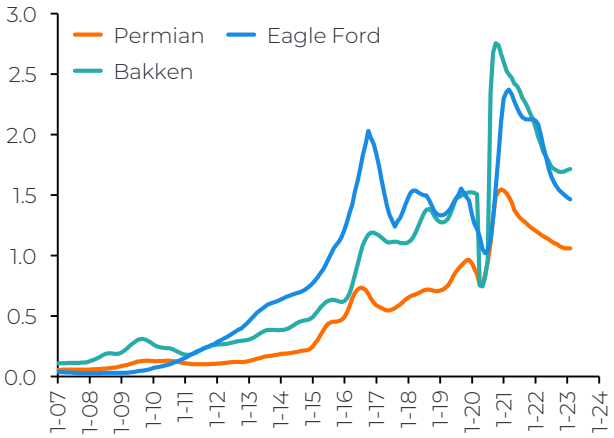
On the supply side, the key risk remains with Russia. However, early indications are that the EU crude ban is having minimal direct impact on Russian crude export volumes.[32] Russian crude oil exports in 2022 were mostly diverted away from Europe to India, China and Turkey.

After the US failed to persuade OPEC+ to increase output to replace Russian supplies in October, the Office of Foreign Assets Control (OFAC) of the US Department of the Treasury eased the sanctions imposed on Venezuela in 2019. Oil giant Chevron has been granted a license to recommence oil production in Venezuela, while Halliburton, Schlumberger, Baker Hughes and Weatherford will be allowed to conduct certain transactions with PDVSA, the Venezuelan state-owned oil company.

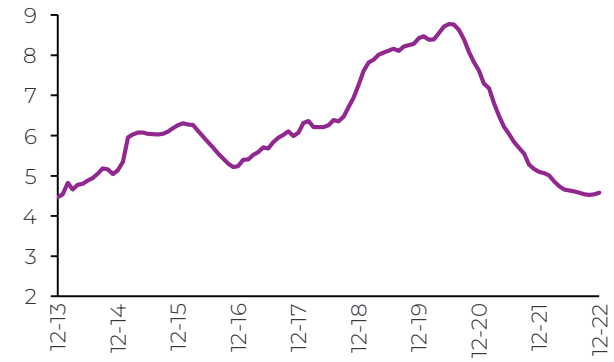
The future of the nuclear deal with Iran remains uncertain. However, Iranian oil exports in 2022 hit new highs despite US sanctions, ranging from 1.1 million to 1.2 million b/d by various estimates, while in the last month of the year China's imports of Iranian oil surged 130% YoY.[33]

Many experts agree that the US shale revolution is coming to an end[34] as the industry faces severe labor shortages, with the jobs-to-workers gap running at about 20,000 people in recent months, while new wells have very short production lives. This makes shale production more expensive (wells cost 30% more to drill in 2022 than a year before) and, hence, less attractive to investors.

Oil production per rig from the US shale formations, thousand barrels per rig



US drilled but uncompleted (DUC) wells, thousand units



Even with crude prices at $80 a barrel, a price far above the long-term average, shale producers are still wary of investing capital.

Productivity is yet another issue. For example, average production per rig in the most prolific US shale play, the Permian Basin, dropped from 1,220 barrels in December 2021 to 1,060 barrels in December 2022.

The number of drilled but uncompleted (DUC) wells continues to decline, with their total count in the Bakken, Eagle Ford and Permian Basin regions shrinking 25% YoY to 2,100 in November 2022.

The end of the aggressive growth phase of US oil production may add to instability, with oil demand globally still being strong despite the push for decarbonization by many governments.

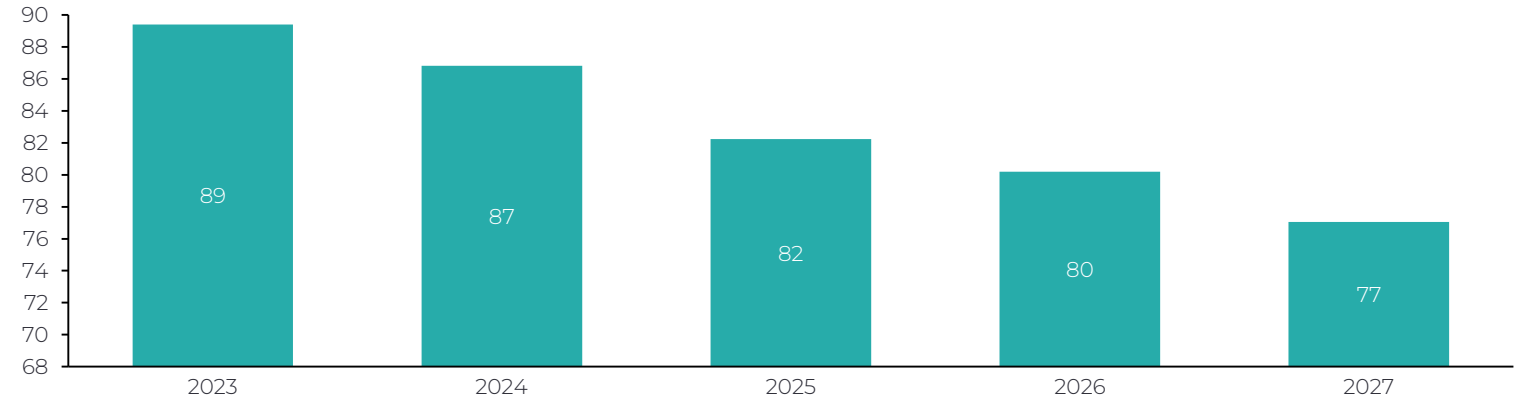
In the 2010s, US shale oil became readily available spare capacity that could compete with OPEC. But now things are drifting back to the "old oil order" of OPEC dominance.

In its January short-term energy outlook, the US Energy Information Administration forecasts that the Brent crude oil price will average $83/bbl in 2023 (vs. $92/bbl in the previous forecast), down 18% from 2022, and will continue to fall to $78/bbl in 2024 as global oil inventories build.

Goldman Sachs expects Brent prices to climb to $105 per barrel by Q4 2023 should Asian countries scrap all anti-COVID restrictions.[35]

Analysts' median forecast for Brent is $89/bbl in 2023 and $87/bbl in 2024, which may be changed depending on the pace of China's reopening and demand recovery.

Median Brent forecast in mid-January 2023, $/bbl*

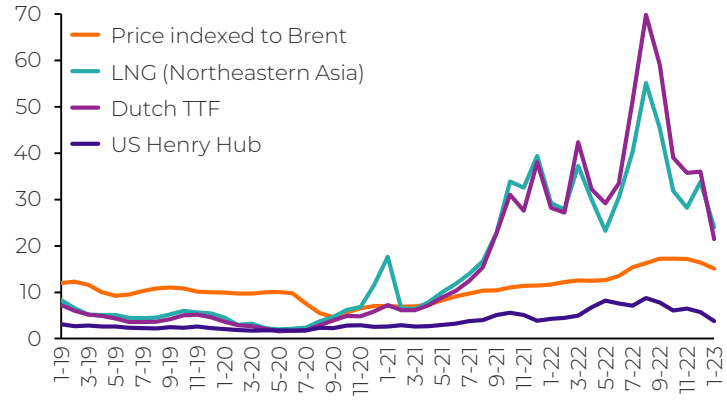


* Nominal prices
Sources: open sources, investment banks, Moscow Energy Center

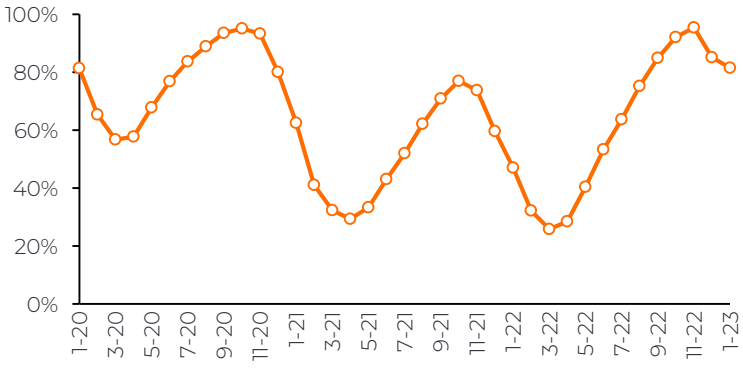
Global gas market

In early 2023, world gas prices were 23%-28% lower than last year and 60%-70% below the August peak (depending on the region). In January 2023 the average price stood at $20.4 per million BTU in Europe and $22.4 per million BTU in Asia, which could re-emerge as a premium market for traders and steal the show from Europe, causing severe gas shortages there.

Gas prices, $/million BTU



European gas storage level, mid-month



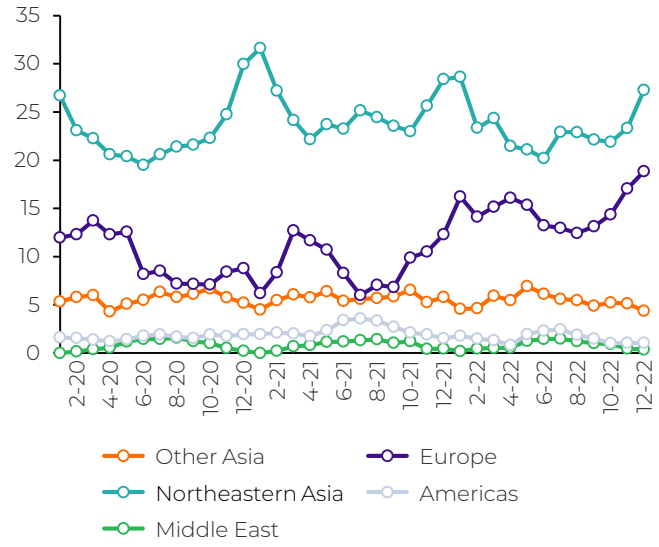
Sources: open sources, AGSI, Moscow Energy Center

After hitting an all-time high of $70/million BTU in August 2022 on fears of the imminent EU ban on Russian imports, prices went downhill. While still volatile, they landed at an average of $36/million BTU in December 2022 and $20/million BTU in January 2023, down 5% and 28% from a year earlier, respectively.

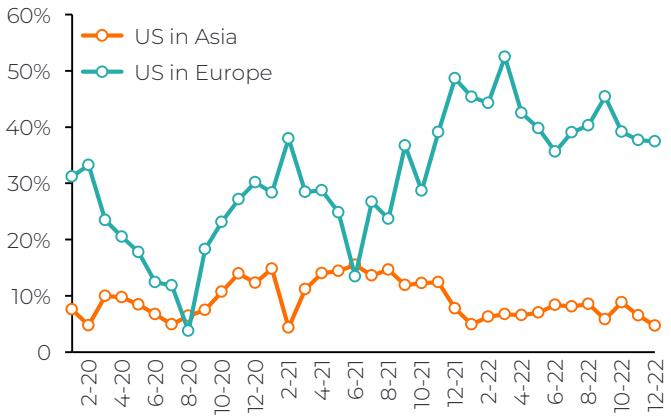
Comparing Europe and Asia, the former was the premium market throughout all of last year, as China's zero-COVID policy, combined with sensitivity to high LNG prices in some countries, kept a lid on prices in Asia. However, in January 2023 Asia regained its status as an attractive destination for suppliers, with the average gap between prices in Europe and Asia widening to $2 per million BTU for the first time since February 2022.

Amid the mild winter, coupled with a number of market factors, gas prices declined after the EU agreed on a price cap of €180 ($191.11) per MWh on 22 December 2022, to be triggered on 15 February 2023.[36] The proposed mechanism calls into question the viability of the Netherlands-based TTF and may provoke its relocation to a non-EU country. It's yet to be seen whether Turkey will assume this role, considering its current ambitions to establish an international gas hub.

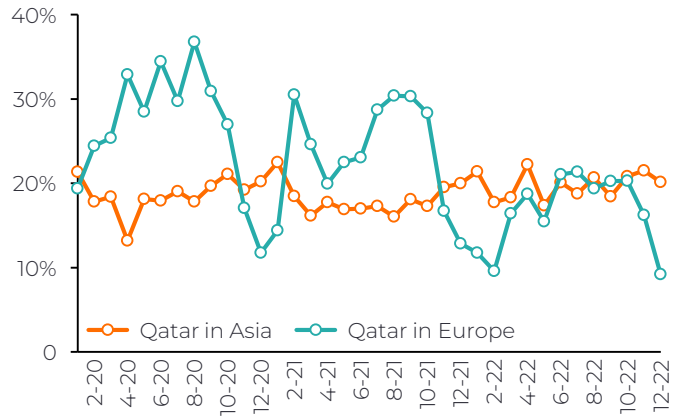
LNG imports by region, billion cubic meters



US share of European* and Asian LNG imports



Qatar's share of European* and Asian LNG imports



* Including Turkey and the UK
Sources: open sources, investment banks, Moscow Energy Center

EU members have come up with REPowerEU, an energy package designed to end dependence on Russian gas by 2027. Along with wider use of renewables and improved energy efficiency, the bloc intends to increase imports of LNG and alternative pipeline gas by 50 billion and 10 billion cubic meters, respectively, to replace Russian imports.[37]

To prevent an escalation of the energy crisis during the winter season of 2022-23, EU member states set a storage target of 80% to be achieved by early November 2022.[38]

This target was reached ahead of schedule, while the filling level of EU storage sites hit 95.5% in mid-November as more LNG flowed in.[39]

Wide temperature swings continue to test the mettle of consumers in Europe, affecting the pace of inventory withdrawals, with the filling level declining to 77% in late January.

The EU collectively was by far the world's top LNG importer in 2022. While in 2021, the bloc imported 75.1 million tonnes [40], compared with China's 79.3 million tonnes and Japan's 74.3 million tonnes[41], last year its imports surged to an impressive 95 million tonnes, or 130 billion cubic meters of regasified gas. With pipeline deliveries to the EU dropping 20% YoY, LNG imports rose to 39% of the bloc's gas imports, compared with 23% in 2021.[42]

Though the EU bought less pipeline gas from Russia, Russian LNG supplies grew throughout all of last year, with the bloc's top three LNG suppliers in 2022 remaining unchanged: the US, Qatar and Russia (25% of the total). The UK and Baltic states halted LNG imports from Russia, while Spain, by contrast, increased them by 45% compared with a year earlier.

While regasified LNG volumes in the EU declined in January 2023, with regasification facilities running at a 63% utilization rate, down from 67% a month earlier, the bloc's members are investing heavily in expanding those facilities. For example, at the end of 2022, Germany opened its first floating LNG terminal in the North Sea port of Wilhelmshaven with an annual regasification capacity of up to 7.5 billion cubic meters of LNG, or 8.5% of domestic demand.[43] Another LNG terminal was launched in Lubmin in January 2023 with an annual regasification capacity of 5 billion cubic meters, enough to cover about 5% of German demand.[44] By the end of this year, Germany plans to ramp up its LNG import capacity to 30 billion cubic meters,[45] equivalent to more than half of the entire volume of pipeline gas that flowed to Germany from Russia last year.

With 72 million tonnes imported in 2022, down 3.1% YoY, Japan was the world's second-largest LNG importer in 2022,[46] while China slipped from first to third place, having imported 63.4 million tonnes, down 19.5% YoY, largely due to tough anti-COVID restrictions and high sensitivity to energy prices.[47]

Amid lackluster supply growth, next winter could be extremely difficult for Europe as it scales back its imports of Russian energy supplies, while China regains its spot as a key importer.

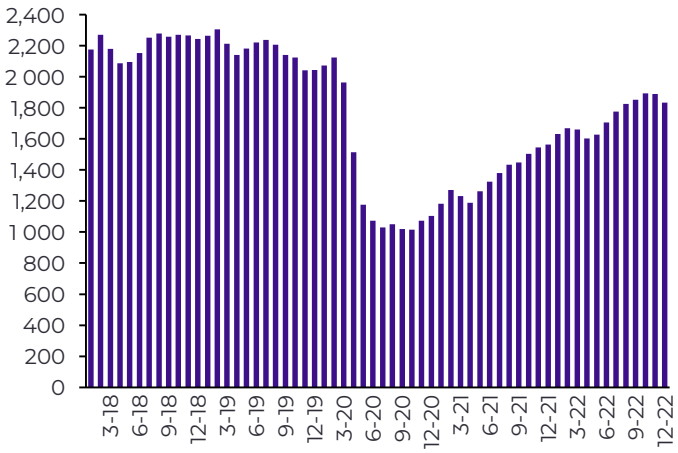
Global drilling activity

The global active rig count, a leading indicator of oil and gas production, drifted off the growth path in November 2022, dropping to 1,834 in December from 1,853 in September (for reference, 1,632 in January 2021 and 779 in December 2021), while the average count in 2022 grew by 386 units to 1,747 from a year earlier.[48]

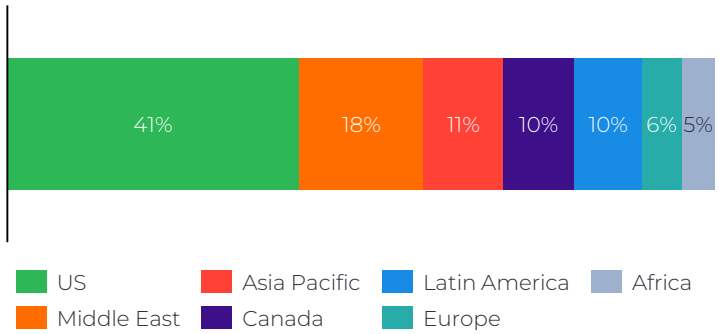
Growth was the highest in North America, with the average number of rigs rising 246 units to 721 in the US and 45 units to 176 in Canada. In December 2022, however, the region's performance was not as good: the rig count in the US remained unchanged since the previous month at 779, while in Canada it declined 46 units to 155.

Between early September and late January 2023, the US rig count grew by a slender 0.1% a week, compared with 1.1% in the first half of 2022.

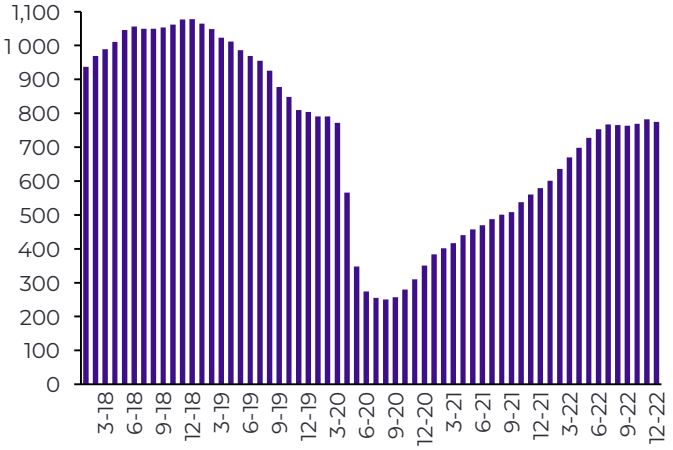
Global rig count



Baker Hughes rig count by region, September 2022

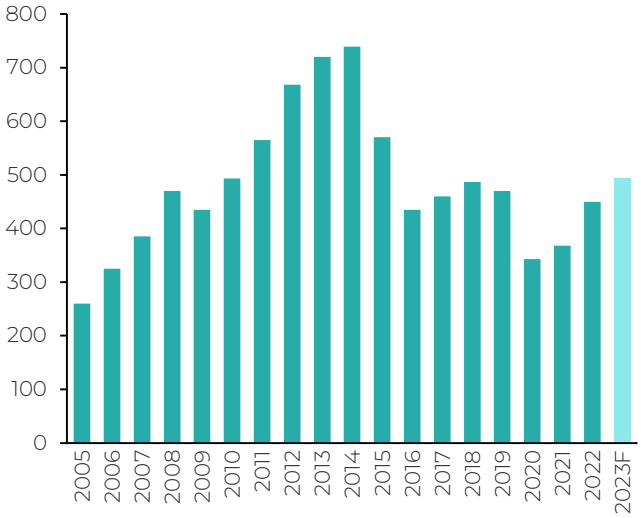


US rig count, month-end

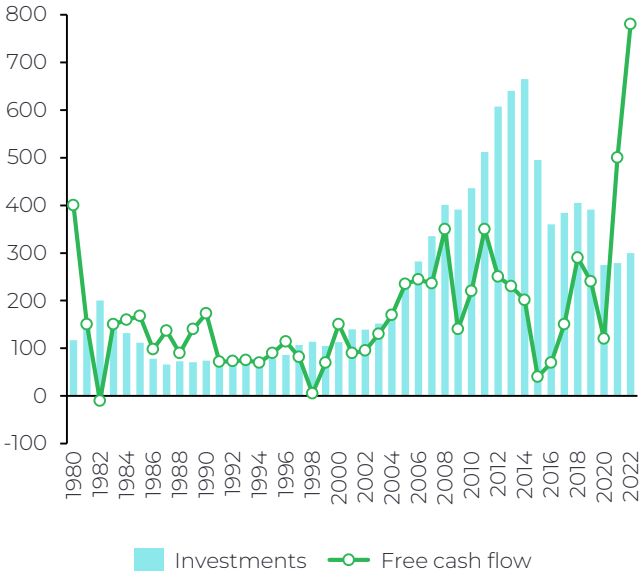


Source: Baker Hughes

Global oil and gas investments, $ billion



Public companies' upstream investments and free cash flow, $ billion (in real terms)



According to Rystad Energy,[49] the revenues of public exploration and production companies increased almost 55% YoY, reaching $2.4 trillion in 2022, while their combined profits soared 76% YoY to $800 billion. Most of this cash, however, was earmarked for dividends and share buybacks, with the investment ratio (defined as total investments divided by cash from operations) falling to an all-time low of around 27% from 37% in 2021, while previously it ranged between 50% and 70%.

Global oil and gas investments, as estimated by Rystad Energy, were $450 billion in 2022. While in nominal terms this is a marked rise from the previous year's $368 billion, real-term investment remained at the level of 2005-08.[50] Capex in real terms per unit of oil and gas consumed fell 40% below the level observed in 2014 and 15%-20% below the four-year average between 2005 and 2008. In nominal terms, development capex was back to the level of 2008.

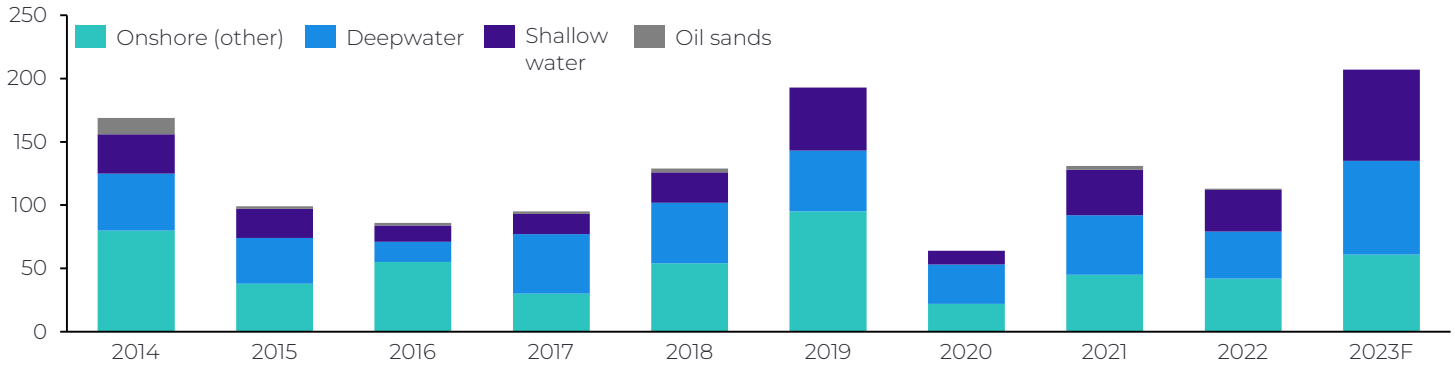
According to preliminary estimates, the cost of developing upstream oil and gas assets, as tracked by the IHS Markit Upstream Capital Costs Index, increased 11.7% in 2022,[51] indicating that more than half of last year's rise in capex was offset by cost inflation.

Analysts at Evercore ISI expect overall investment to come in at near $500 billion in 2023, increasing by 14% and decelerating from 20% growth in 2022,[52] with most of this increase attributed to inflation.

However, when comparing investment numbers for periods widely separated in time, it is necessary to take into account the overall size of the market, not just inflation. For example, global demand for crude oil was 86 million b/d in 2008,[53] compared with 100 million b/d in 2022.

Final investment decision (FID) activity is set to become stronger and expected to reach pre-COVID levels (around $190 billion in 2019). Estimates by Rystad Energy suggest that more than $200 billion of greenfield investments will be approved in 2023.[54] The growth will mainly be driven by LNG projects in the US, Mexico and Qatar, the major Hail & Ghasha sour gas development in the UAE, and some other major field developments in Norway and Brazil.

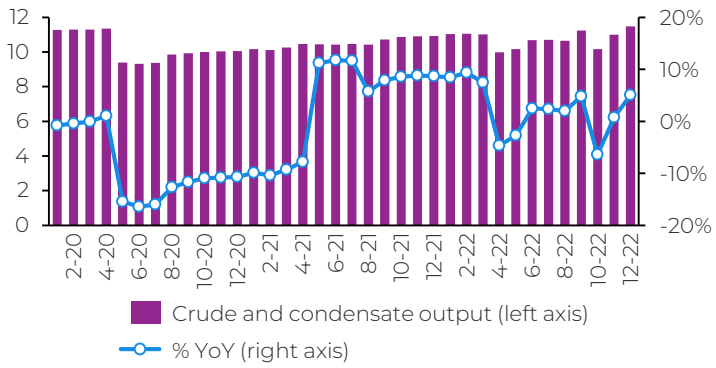
Global greenfield CAPEX by supply segment, $ billion



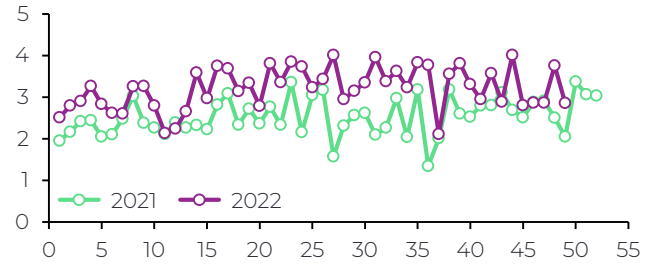
Sources: Rystad Energy, Morgan Stanley, Moscow Energy Center

Russia's oil and gas sector
Upstream

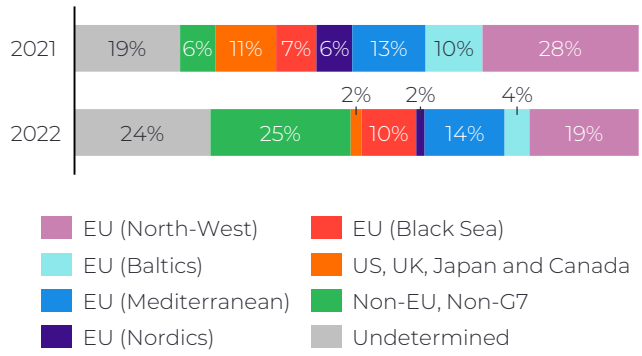
Average daily output – Crude and condensate, million b/day



Weekly crude oil leaving Russian ports chart, million b/d



Landings of Russian crude oil by region



Sources: InfoTEK, Rosstat, Vortexa, Bloomberg, CREA, Bruegel, Moscow Energy Center

Russia produced 535 million tonnes of liquid hydrocarbons (10.74 million b/d converted at a rate of 7.33 barrels per tonne), up 2% YoY despite unprecedented pressure.

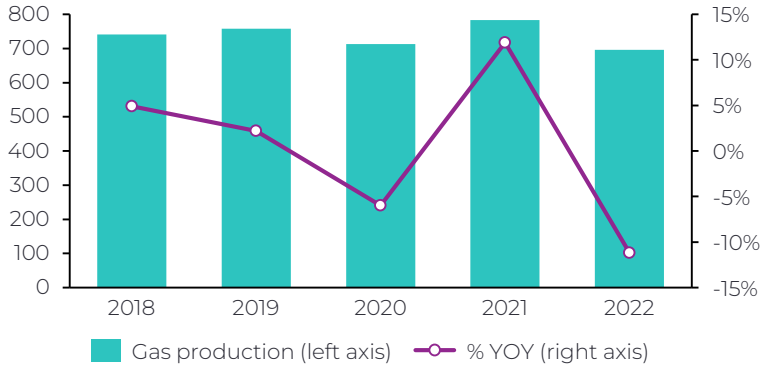
While Russia's crude exports in 2022 rose 7% from a year earlier,[55] its seaborne exports dropped by a staggering 22% in December from the average for the first 11 months of 2022 to 2.5 million b/d,[56] not so much because of restrictions, as one might think, but because of weak demand in China and harsh weather. In the first half of January, average daily seaborne exports to India and China rose 8% and some 15% over the previous month, respectively.[57]

Towards the end of 2022, Russia's seaborne crude flows to the EU came to a complete stop, with the exception of a small volume delivered to Bulgaria. The ban has led to much longer voyages for shipments, with journeys now taking an average of 31 days from Baltic ports to India, compared with just seven days from the same terminals to Rotterdam, which may put pressure on the dwindling fleet of ships.[58] More tankers carrying Russian crude now tend not to show their final destination.

The decree banning crude supplies to foreign nationals under contracts containing a price cap clause, whether express or implied, is due to come into force on 1 February 2023.

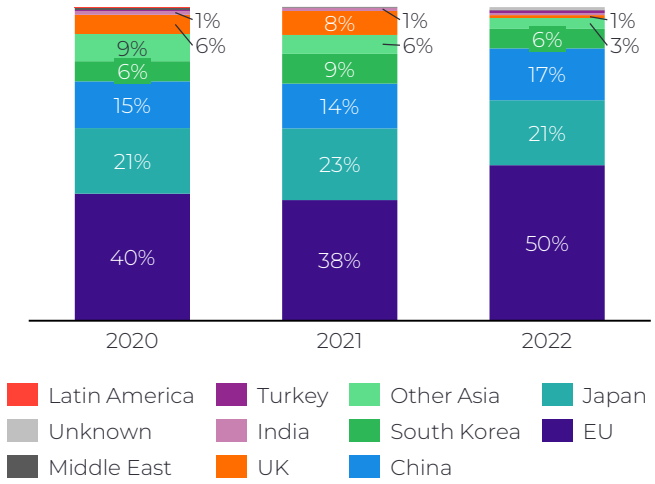
It is anticipated that Russia will produce less crude in 2023, squeezed by sanctions and faced with the imminent EU ban on seaborne imports of oil products, to be accompanied by a price cap. According to official statements, output is expected to drop by 500,000-700,000 b/d, or 5%-6% of the total, in early 2023.[59] In its monthly oil market report for January, OPEC estimates a production decline in Russia of 10% YoY and 8% QoQ in Q1 2023. Crude output will continue to fall in Q2 2023 and will then recover, albeit not to the 2022 level. Overall, production in 2023 is projected to drop 8% and 3% from the level observed in 2022 and 2020, respectively.[60]

Average daily output – Gas, billion cubic meters



Russia's LNG exports, billion cubic meters

Russia's LNG exports by destination



Sources: InfoTEK, open sources, Moscow Energy Center

Russia's natural gas output in 2022 dropped 11.2% YoY to 695.4 billion cubic meters.[61]

Gazprom's production in 2022 stood at 412.6 billion cubic meters in 2022, down 20% YoY,[62] with 100.9 billion cubic meters exported to non-FSU countries (45.5% less than in 2021). NOVATEK, by contrast, ramped up its output by almost 3% YoY to over 82 billion cubic meters.[63]

After Russia discontinued gas supplies via both Nord Stream (principal route) and Yamal-Europe (backup route), pipeline gas was delivered to the EU via either Ukraine (one of the two entry points into Ukraine's gas transport system) or Turkey. Supplies to China via the Power of Siberia pipeline soared 48% to an all-time high of 15.5 billion cubic meters.[64]

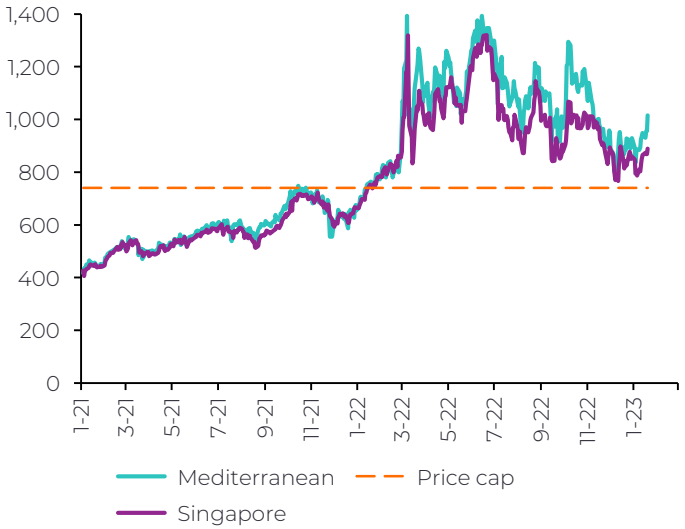
Russia's LNG exports were on the rise in 2022, up 8% YoY (e.g., NOVATEK boosted its overseas sales by 6.3%). Unlike pipeline gas, combined LNG supplies to the UK and the EU grew 19% from a year earlier as Belgium, France and Spain increased their imports, while other EU members brought them down. Exports to Asia dropped 3% YoY, although the falling trade volumes with South Korea and India were partly offset by growing supplies to China and Singapore.

Russia maintained continuous gas supply to domestic consumers at 484 billion cubic meters in 2022, driven, among other factors, by an improved natural gas penetration rate (73% at the year-end,[65] compared with 70.1% in 2019).

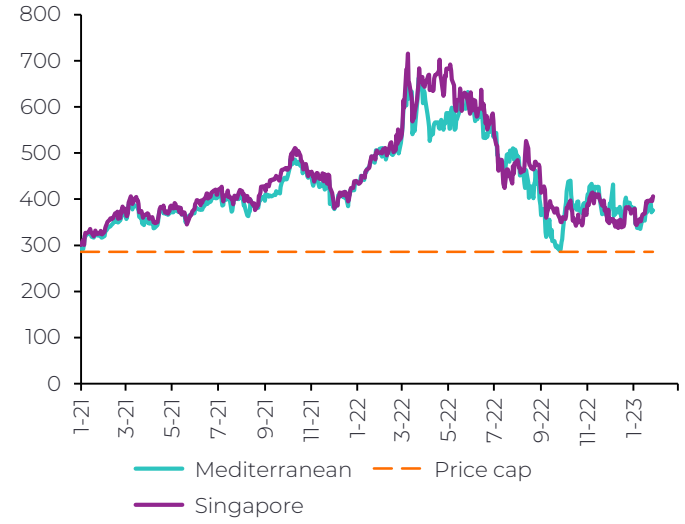
Russia intends to expand cooperation with Kazakhstan and Uzbekistan, including on the export front, but not at the expense of domestic customers, whose demand is trending up, or its commitments to China. Gas supplies to Uzbekistan are scheduled to start on 1 March 2023. This may require upgrades to existing infrastructure and the construction of new gas pipelines, including in Russia.[66]

Russia's oil and gas sector
Downstream

Diesel price in Singapore and the Mediterranean vs. price cap, $/t*



Fuel oil price in Singapore and the Mediterranean vs. price cap, $/t*



* FOB basis
Sources: InfoTEK, Reuters, Vortexa, open sources, Moscow Energy Center

Based on preliminary estimates, primary processing in 2022 declined 3.2% YoY to 272 million tonnes,[67] while gasoline and diesel output rose 4.4% and 6.0%, respectively, and fuel oil output dropped 6.9% from the previous year.

Compared with a year earlier, more oil products were sold on the domestic market in 2022, with gasoline, diesel and fuel oil sales growing 3.6%, 26.3% and 1.6%, respectively.

According to the Association of Commercial Sea Ports, the volume of oil products shipped from Russian ports fell 6.0% YoY in 2022.

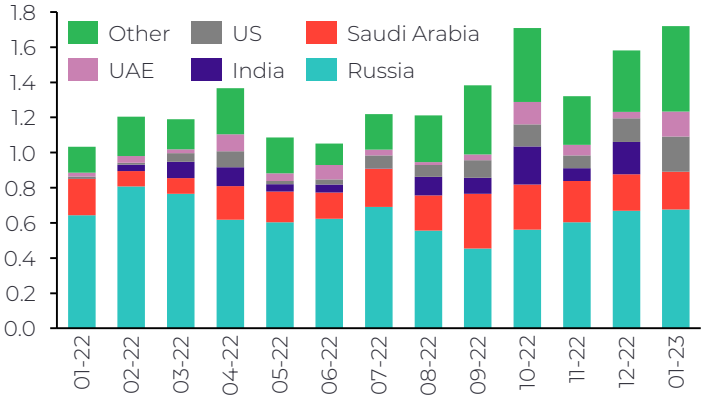
Local oil companies received RUB 2.16 trillion in compensation payments under the damping mechanism in 2022,[68] which is triple the RUB 674.5 billion paid from the state budget in 2021 (for reference, RUB 356.6 billion in 2020 and RUB 282.2 billion in 2019).

The EU embargo on oil product imports from Russia, accompanied by a price cap, will kick in on 5 February 2023. The coalition plans to set two caps, $100 per barrel on products trading at a premium to crude, such as diesel, and $45 per barrel on products trading at a discount to crude, such as fuel oil.[69] For comparison, in January diesel traded at an average of $126 in Northwestern Europe and $117 in Singapore, while fuel oil cost around $60 in both locations.*

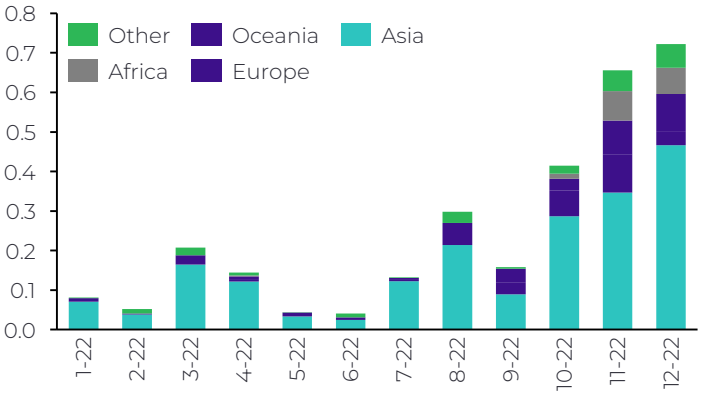
As stated in the Preliminary Guidance on Implementation of the Price Cap Policy for Petroleum Products of Russian Federation Origin, released by the Office of Foreign Assets Control (OFAC) of the US Department of the Treasury,[70] "once Russian petroleum products or Russian oil are substantially transformed [...] in a jurisdiction other than the Russian Federation, they are no longer considered to be of Russian Federation origin, and thus the price cap no longer applies."

The OFAC also clarified that the price cap will not apply to products purchased before the petroleum product determination takes effect and unloaded at the port of destination prior to 1 April 2023.

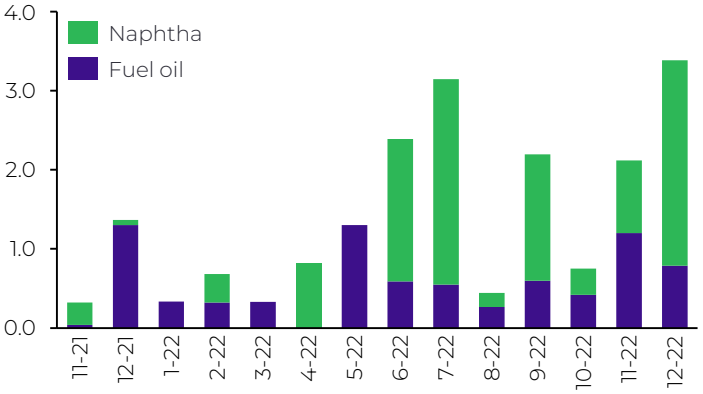
EU diesel seaborne imports by supplier, million b/d



Diesel seaborne exports from China by direction, thousand b/day



Russian fuels in Singapore's commercial tanks, million b/d



Sources: Vortexa, Bloomberg

According to the median forecast, Russia's primary processing could drop 15% YoY to 230 million tonnes[71] as oil product sanctions take their toll.

Europe is critically dependent on Russian diesel fuel. In December, for example, 42% of all seaborne shipments to the EU came from Russia,[72] while a total of 230 million barrels, or 630,000 b/d of Russian diesel, were delivered to that region in 2022.

Analysts at WoodMackenzie believe that exports of diesel-type fuel from China will fill the void after the EU ban comes into effect, replacing 400,000 to 600,000 b/d through the first half of this year,[73] with a total "re-jigging" in terms of diesel trade flows expected from the start of February.

Note also that Kuwait is planning to raise diesel shipments to Europe fivefold to 2.5 million tons, or roughly 50,000 b/d, and double its sales of jet fuel to almost 5 million tons, or 100,000 b/d, in 2023.[74]

Diverting Russia's oil product flows is a different matter. While crude flows have been largely diverted eastwards to Asia, this region will not be as good a destination for Russian oil products, as demand there is likely to be low because of well-developed local refining facilities.

Nevertheless, Russia is ramping up supplies to alternative markets, such as Turkey, with diesel supplies there growing from 3.99 million tonnes in 2021 to 5.05 million tonnes in 2022,[75] and Singapore, which took in more than double the previous year's volume of Russian naphtha and fuel oil in December 2022 with a view to re-exporting them to other parts of the globe.[76]

In the current circumstances, the following scenarios are possible: (i) China and India will boost oil imports from Russia while developing their own refining infrastructure with a view to covering Europe's demand for diesel fuel, (ii) Russia will send its products to Europe via alternative ports, such as Singapore, (iii) importers will buy Russian oil products to meet their domestic needs and will sell their own refining output elsewhere at a real market price.

Hot topics for Russia's oil and gas market

Geopolitical challenges

- Restrictions on inbound capital flows
- Domestic substitution of foreign technologies
- Foreign divestment from Russia and cutting ties with Russian ventures; reduced investment flows
- Restrictions affecting tanker charters, cargo insurance and payments
- Reconfiguring operations and building new production and supply chains
- Discount to market rates

Oil and gas industry regulation

- Revising the crude and petroleum product pricing methodology for taxpayers in the oil industry to mitigate a negative impact on federal revenues while taking into account the way indicative oil prices are formed amid sanctions (proposals to be submitted by 1 March 2023)
- Decree banning supplies to foreign nationals under contracts containing a price cap clause, adopted in response to price caps imposed by Western countries on Russian crude oil and petroleum products (in the case of crude supplies, the decree takes effect on 1 February and will remain in force until 1 July 2023; the effective date for petroleum products has yet to be determined by the government)
- Potential fuel damping correction in the wake of the EU ban on petroleum product imports

Upstream

- EU ban on Russian seaborne crude oil imports and the price cap from 5 December 2022
- Transformation of supply chains
- Logistics and cargo insurance
- Revisiting the idea of a strategic petroleum reserve
- Likely production cuts prompted by a drop in refining output

Downstream

- EU ban on Russian seaborne petroleum product imports, coupled with a price cap, from 5 February 2023
- Optimizing petroleum product exports amid sanctions
- Delaying capacity upgrades due to the EU ban on exports of oil refining equipment

Oilfield services

- Restricting the operations of international OFS players who were top providers of technologies, including multistage hydraulic fracturing

Natural gas

- Curtailing westbound exports by pipeline
- Building large LNG facilities despite the EU ban on equipment exports
- Selling Russian LNG at a discount to market prices
- Expanding gas transport links to Asia and Turkey (if the latter emerges as a gas hub)
- Forming a gas alliance with Kazakhstan and Uzbekistan

Kazakhstan’s oil and gas sector

Kazakhstan’s crude and condensate output in 2022 was 84.2 million tonnes, or 101.6% of the planned level, down from 85.7 million tonnes a year earlier.[77] Tengiz yielded 29.2 million tonnes of crude oil (100% of the 2022 plan), followed by Karachaganak with 11.3 million tonnes (103.8%) and Kashagan with 12.7 million tonnes (109.5%).

The Ministry of Energy proposed trimming production targets for the next two years, from 92.6 to 90.5 million tonnes in 2023 and from 98.1 to 95.4 million tonnes in 2024.[78]

Crude exports in 2022 totaled 64.3 million tonnes, which is 3% more than planned but almost 5% less than a year earlier.[80] Kazakhstan plans to expand its outbound trade volumes to 71 million tonnes in 2023 [79] and start exports to Germany, with a pilot batch of 20,000 tonnes of Karachaganak oil to be delivered in January, while total supplies in 2023 are set to reach 1.5 million tonnes.[81] Going forward, this volume could be ramped up to 6-7 million tonnes.

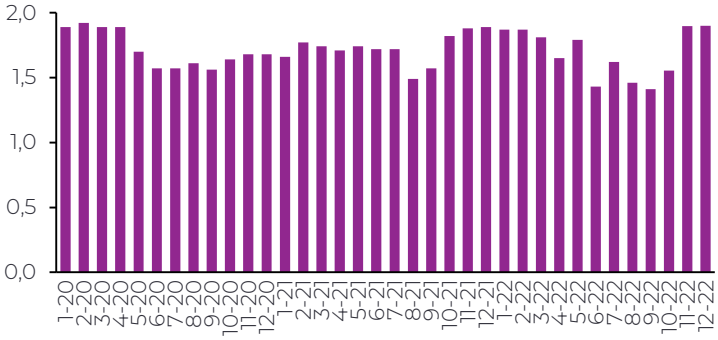
Oil flows from Tengiz, Kashagan and Karachaganak, the country’s three biggest oil fields, to the CPC pipeline (which handles around 80% of Kazakhstan’s oil exports) were 29.2, 12.7 and 11.3 million tonnes in 2022, respectively. The annual throughput capacity of the CPC pipeline is set to increase from 53.7 to 72.5 million tonnes in 2023, once the project to eliminate bottlenecks in the pipeline’s Kazakhstan section has been completed.[82]

Kazakhstan’s oil refining segment grew 4.6% YoY in 2022, with its output reaching 13.7 million tonnes. Basic design work to ramp up the Shymkent refinery’s annual capacity to 9 million tonnes is planned to commence in 2023.[83]

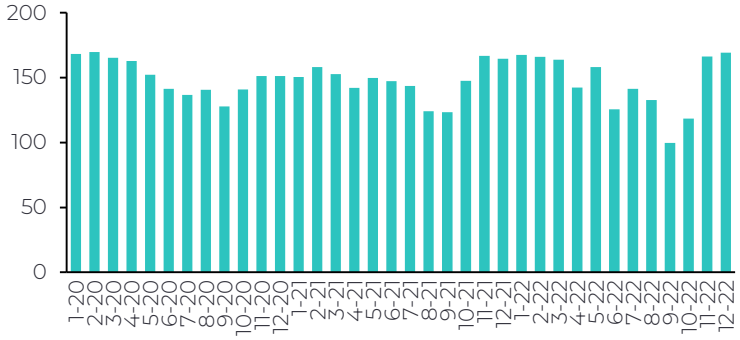
Kazakhstan produced 53.3 billion cubic meters of natural gas in 2022 (103.1% of the planned level). At 27.8 billion cubic meters, commercial gas production was 6% below the planned level because of restrictions on accepting Karachaganak gas at the Orenburg plant as well as unscheduled maintenance at Tengiz and Kashagan and at CNPC AktobeMunaiGas facilities. Without these constraints, gas output in 2023 could rise 3.5%.

Exports of natural gas stood at 4.6 million cubic meters, or 85% of the planned level, as the focus shifted towards the domestic market with its growing demand.

Average daily output – Crude and condensate
million barrels per day



Average daily output – Gas
million cubic meters per day



Source: InfoTEK

Azerbaijan's oil and gas sector

According to preliminary data, Azerbaijan produced 32.6 million tonnes of crude and condensate in 2022, down 2 million tonnes, or 5.8%, from a year earlier.[84] This includes 20.4 million tonnes from Azeri-Chirag-Gunashli and 4.4 million tonnes from Shah Deniz, with the remaining 7.8 million tonnes produced by SOCAR.

Daily output of liquid hydrocarbons was 668,000 barrels, with condensate accounting for 18% of this amount. On average, Azerbaijan made 124.1% of the cutbacks pledged under the OPEC+ deal in 2022[85].

Oil exports totaled 26.3 million tonnes in 2022, down 6.8% YoY, including 24.9 million tonnes exported by international consortia and 1.4 million tonnes by SOCAR.

Azerbaijan's natural gas output in 2022 rose 6.6% from a year earlier to 46.7 billion cubic meters, including around 35 billion cubic meters of commercial gas.[86]

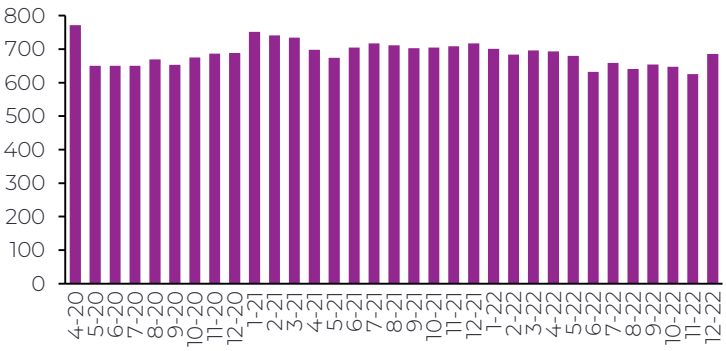
A total of 22.3 billion cubic meters of gas were exported in 2022, up 18% from the previous year.[87] Exports were destined for Europe (11.4 million cubic meters, +39% YoY), Turkey (8.4 million cubic meters, the same as in 2021) and Georgia (2.5 million cubic meters, +13.6% YoY).

The Trans Anatolian Pipeline (TANAP) was operating near capacity, having handled almost 17 billion cubic meters in 2022, with project participants now contemplating capacity additions to ramp up the pipeline's annual throughput from 16 to 24 billion cubic meters and then to 31 billion cubic meters.[88] In July 2022, Azerbaijan and the EU signed a memorandum of understanding, which includes a commitment to double the capacity of the Southern Gas Corridor and deliver at least 20 billion cubic meters to the EU annually by 2027.[89]

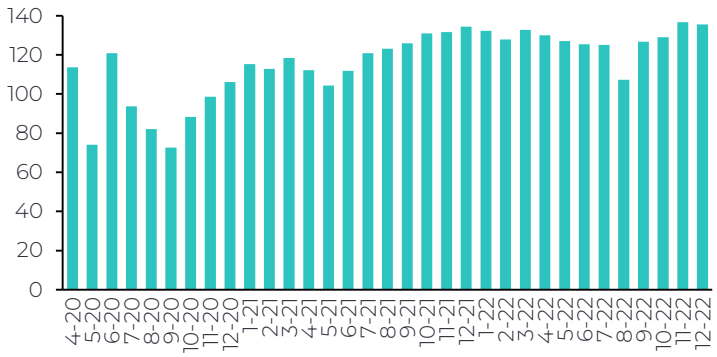
Natural gas exports in 2023 are set to reach 24 billion cubic meters,[90] including 12 billion cubic meters to Europe.

In 2022, investments in the oil and gas sector decreased 9.8% from a year earlier.

Average daily output – Crude and condensate
thousand barrels per day



Average daily output – Gas
million cubic meters per day



Sources: Ministry of Energy of Azerbaijan, InfoTEK, State Statistical Committee of the Republic of Azerbaijan

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