

Russia in 2024

Learning to live with sanctions

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Introduction

Two years into the Russia-Ukraine war and more than one year into the existence of the oil and product price caps, the resilience of Russia's economy following a sharp countercyclical slump in 2022 has surprised many, including the authorities in Moscow. According to Russia's Statistical Office, 2023 has seen its gross domestic product grow by 3.6% y/y and considering even the IMF revised its estimate of the year drastically upwards to 3%, the prospect of the Russian economy growing potentially quicker than the global economic output might not be that far-fetched. The oil and gas industry has been at the forefront of Moscow's economic resilience, providing hard currency to the Kremlin, expanding the scope of trade and commercial presence, and generally foreshadowing Russia's political pivot towards Asia.

Russia's idiosyncratic monetary policy has seen the key interest rate being hiked to 20% in the first months of the Russia-Ukraine war, only to be lowered to 7.5% in late Q3 2022. The key interest rate remained at 7.5% between September 2022 and June 2023, following which the Central Bank started to gradually hike it upwards. In recent months the key interest rate has been capped at 16%, with the February meeting of Russia's Central Bank effectively confirming that deflationary pressures would only kick in from H2 2024, suggesting that rate would remain in place throughout Q1 and Q2.

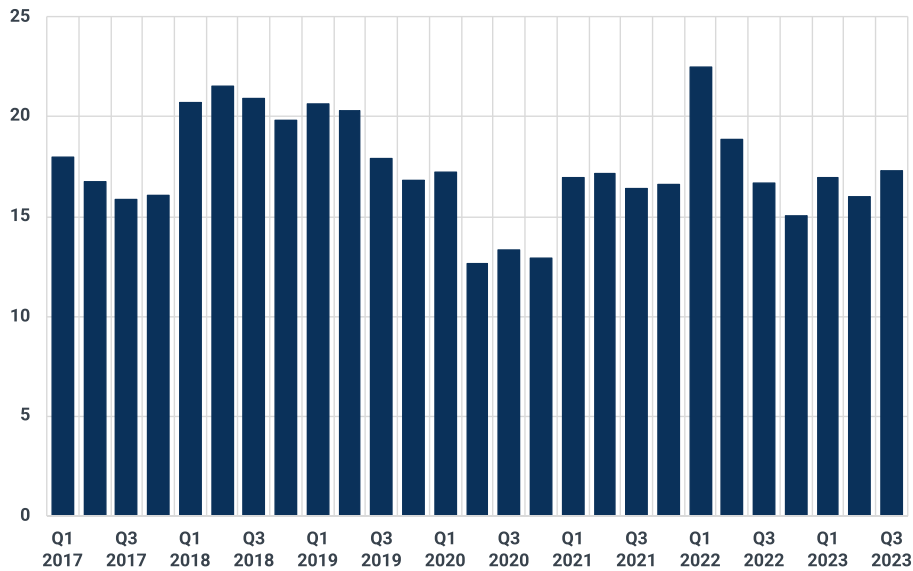
It is unlikely that the streak of continuous growth experienced over H2 2023 (since May 2023, every new month has seen manufacturing rise m/m, as of this writing) could be replicated across 2024. An overheated labor market will hinder Russia's longer term goals, as the country's total employment soared above the 74 million mark last year, adding some 2 million jobs over the course of 2023. As the military industrial sector's tangible ratcheting up of military-related manufacturing as well as the mobilization of more than 300,000 additional troops has been at the forefront of the country's red-hot wage numbers, the quest for easing inflation will top the agenda of the Central Bank.

The prohibitive 16% key interest rate will soon make itself felt, be that across the banking sector or in household consumption, and not even government-subsidized mortgage schemes or other means of indirect state aid would be enough to mitigate the cooling. Over Q4 2023 and the first month of 2024, inflation seems to be stuck in the 7-7.5% range, a far cry from the annual target stipulated by the Russian Central Bank at 4-4.5%. Progressing further into 2024, drivers of economic growth become thinner - a new wave of mobilization seems to be off the agenda for now and the y/y incremental effect of new military industrial production plants will gradually taper off.

2024 will be the year of high-impact elections. Russia held its presidential ballot on 15-17 March 2024, whilst the United States is set to vote for in its 60th presidential election on 5 November 2024. Whilst the victory of incumbent Russian President Vladimir Putin seemed to have been guaranteed before the actual ballot, the outcome of the US presidential vote could have a material impact on the future of Russian sanctions and the state of Russia's oil and gas sectors in general.

Following a tumultuous year of 2023 when Russia's oil exports found new export outlets across India and China and gas exports plunged to a historic trough, we believe that the present indicates where the future will be heading. We believe oil prices will remain rangebound in the \$80-90/bbl bandwidth for most of 2024, keeping the annual average price around \$83/bbl, only slightly higher than it was last year. This relative stability of revenues and operations will see Russia's oil industry stick to the current modus operandi, with living with sanctions becoming the new norm.

Share of oil and gas industry in Russia's GDP per quarter (%)

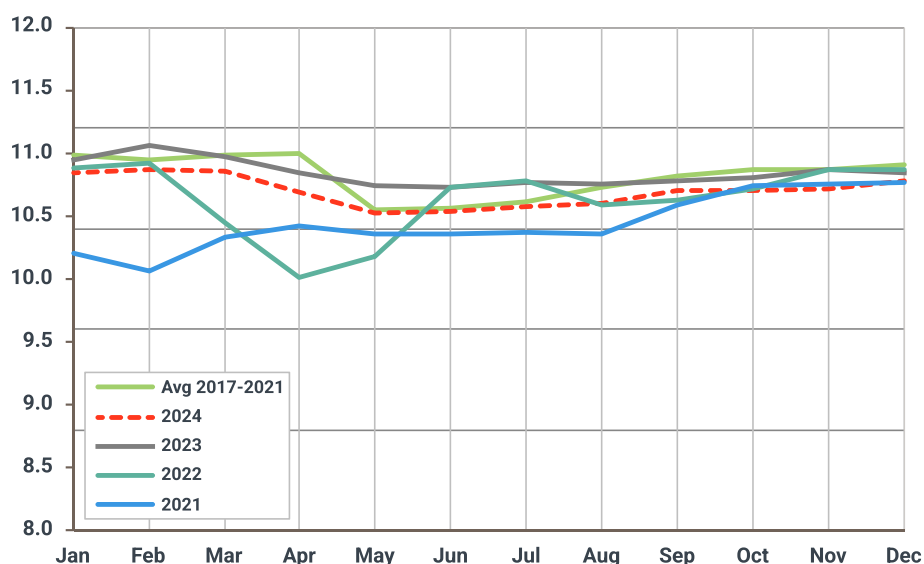


Source: Russian Statistical Office

Crude and condensate production

Russia's crude and condensate production posted its third consecutive y/y increase and averaged 10.839 Mbd across the year, up 2% compared to the 2022 annual average of 10.633 Mbd. Considering 2023 was also the first year to see the existence of price caps, with the oil cap introduced 5 December 2022 and followed up by the product cap kicking in 5 February 2023, the fact that Russian supply did not in fact decline must have come as a surprise for most industry watchers. The International Energy Agency was predicting a somewhat excessive 1.3 Mbd supply cut into 2023 (and that was already down from the 3 Mbd output halt they've expected in early 2022), similarly to the US Energy Information Administration, whilst OPEC was betting on a 0.9 Mbd y/y decline. Actual output surpassed even our conservative bet of a roughly 300 kbd y/y drop, back then placing our call at the absolute upper end of expectations.

Russia crude and condensate production (Mbd)



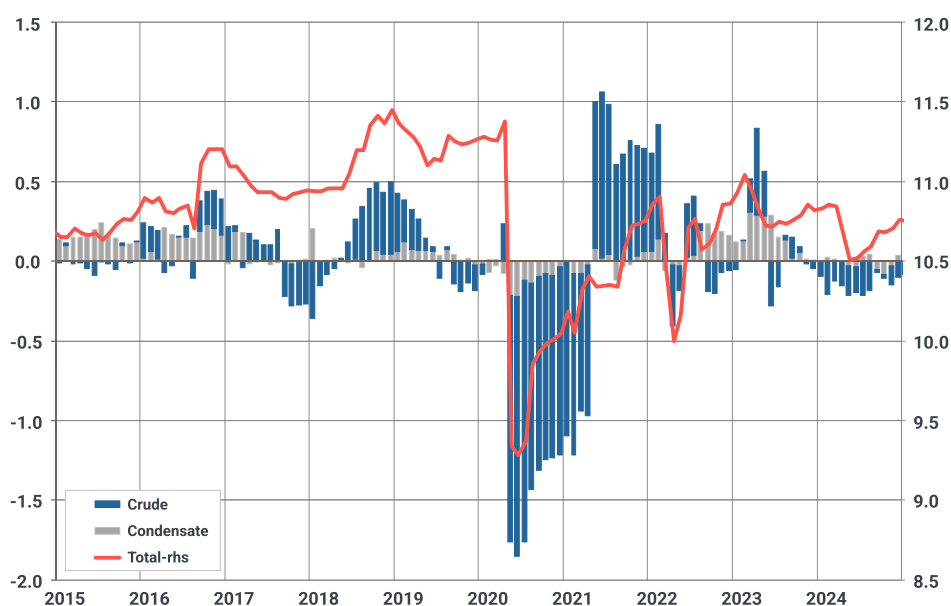
Following a tumultuous year of 2022 that saw production peak at 10.92 Mbd in February and bottom out at 10.01 Mbd in April, last year saw tangibly less volatility in overall production levels, despite plentiful OPEC+ pledges, be they voluntary or concerted. Buoyed by the viability of crude sales into Asia and a last hurrah in Russian refining before the product price cap came into effect in February, crude and condensate output trended around the 11 Mbd mark in January-February. At that point, Russia committed to its only major production cutting exercise of 2023, pledging to curtail output by 500,000 b/d from March onwards.

Presented as a unilateral voluntary cut, Russian producers did cut production, albeit with two caveats. First, the curtailments that should have happened by March already took some time to materialize (according to Deputy Energy Minister Pavel Sorokin freezing temperatures in Western Siberia were the main impediments), plunging from 11.05 Mbd in February to 10.73 Mbd in May. Second, as the sentence above suggests, the production cut did not amount to a full 500 kbd, rather to 320-330 kbd, according to our books.

Within the realm of OPEC+ countries, the second half of 2023 was dominated by voluntary production cuts of the oil group’s heavyweights, Saudi Arabia and Russia, first announced in June and physically implemented from July onwards. In contrast to Saudi Arabia’s production cut which brought the Middle Eastern kingdom’s output to 9.0–9.1 Mbd, Russia’s pledge was less evident in terms of its physical impact. First, the wording of communiqués issued by the Russian Energy Ministry might have been confusing, considering the Russian word “postavki” used in the press releases could mean both production and exports depending on the context, so initially it wasn’t even clear which one of those was being curtailed.

Once the market understood that it is actually exports that would be cut, another question arose – what exactly is the reference month against which the 500 kbd curbs would be taking place? With time, it has come to light that the comparison is to be taken against the average of May–June 2023, seaborne supplies specifically excluding pipeline and rail, a shrewd choice given that May 2023 witnessed the second highest seaborne exports on record at 3.92 Mbd, within touching distance of the all-time high recorded in May 2019.

Russia y/y change in crude and condensate production (Mbd)

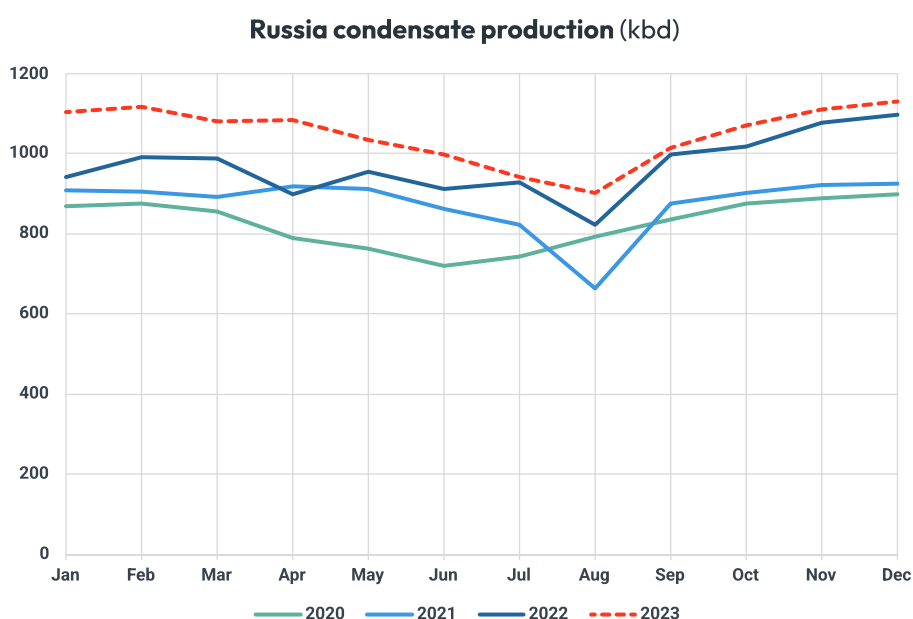


In our view, Russian crude and condensate production has been hovering within a narrow frame of 10.74–10.87 Mbd in 2023, with most oscillations stemming from seasonal declines in condensate supply. Historically, Russia’s condensate production has been intrinsically linked to gas as many of the country’s supergiant fields in the Nadym–Pur–Taz region of Western Siberia where Gazprom produced both natural gas and condensate simultaneously. However, Rosneft’s Rospan project has altered condensate production patterns. The fact that overall condensate supply came in at 1.16 Mbd in February 2023, the highest reading in post-pandemic history, has mostly stemmed from the sizable build-up in Rospan output. However, Rosneft’s condensate production seems to have peaked in the winter period of 2022/2023 and since then has been more or less stagnant around 170–180 kbd.

This is where Gazprom stepped in, becoming the largest incremental supplier of condensate into the markets lately. Bouncing back from a seasonal supply drop in July-August just as the gas company's Astrakhan condensate splitter was undergoing repair works, Gazprom ratcheted up condensate production to 495-500 kbd by end-2023. Accounting for a little less than half of Russia's condensate supply, Gazprom has helped to lift the national aggregate figures above the 1.1 Mbd threshold again in December, posting another all-time high.

When it comes to 2024, we expect Russian crude and condensate production to edge marginally lower y/y, averaging 10.7 Mbd. Incremental supply from crude fields will be capped by Russia's willingness to show compliance with its OPEC+ commitments, however condensate is exempted from the oil group's production-cutting exercise, setting the stage for further increases. We believe that most of Russia's production cuts will be centered around Q2, the period when Russian refiners will need to repair the damage done by Ukraine's repeated drone strikes with at several atmospheric columns impacted (Tuapse, Ryazan, Nizhny Novgorod, Syzran). Crude and condensate production will shed a little more than 300 kbd from February's 10.87 Mbd, however part of it will be lower condensate output that generally tapers off into the summer. Accounting for seasonally declining condensate output into the summer months, we see Russia's crude-only output dropping to 9.5 Mbd by June, marking the lowest production rate since May 2022. We expect May-June to be the low point of Russia's production-cutting spree, only to start gradually increasing in the second half of 2024 and averaging 10.68 Mbd over the course of July-December.

Gazprom has been revamping production in legacy gas-condensate regions such as Urengoy to accommodate more condensate production, whilst affiliated companies such as Gazprom Neft shifted their focus to condensate in complex fields such as Novy Port in the Arctic offshore. Moreover, the role of Novatek in Russia's condensate supply will be increasing with time. Yamal LNG already accounts for 6% of condensate output and now that Arctic LNG 2 started commercial operations (this was reflected in condensate production reaching 5 kbd of production in December 2023 after zero in November), the gradual increments would be coming from the Utrenneye field, too, as it wields condensate reserves of some 330 MMbbls.

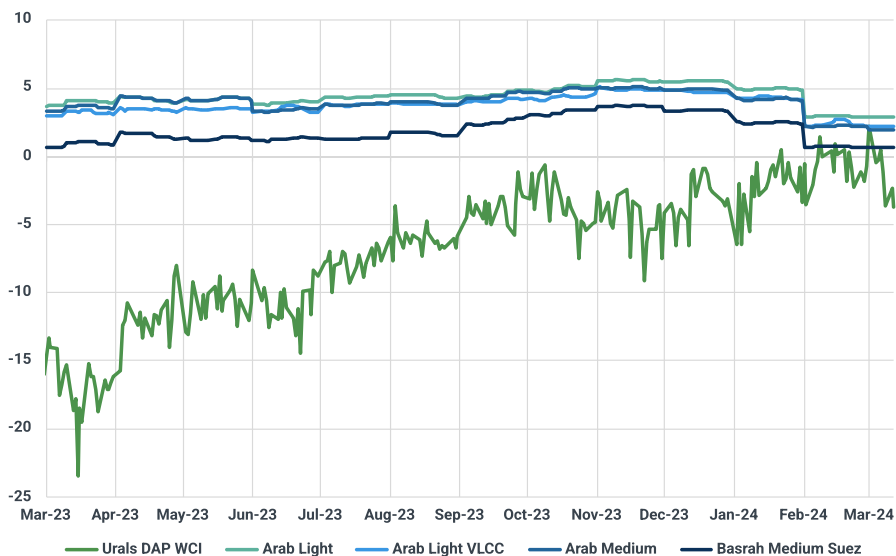


Whilst the lack of large-scale production downside largely stems from our expectation of there being no secondary sanctions on buyers of Russian crude in 2024, it is noteworthy to look into potential upside factors, over and above higher condensate supply. Russia's oft-anticipated Vostok Oil project is assumed to be starting commercial operations and if one is to believe project operator Rosneft, it would produce 115 mt/year (2.3 Mbd) at its peak. This, however, conceals the fact that mature producing fields such as Vankorskoye or recently launched ones such as Suzunskoye and Tagulskoye form the backbone of Vostok Oil.

Of all the greenfield projects that should start up over the next years within the framework of Vostok Oil, there's only two major fields – Payakha and Zapadno-Irkinskoye. Payakha, boasting oil reserves of approximately 1 billion tons, was discovered by Soviet geologists in 1989-1990 and the only reason why it hasn't been commissioned over the past 30 years is because there have been more convenient projects available. After all, the Taymir peninsula is as far-flung as field could get in Eastern Siberia and the convoluted logistics jeopardized development for decades. That said, we don't expect to see any incremental volumes to hit the market from Vostok Oil, even in 2025 most of the physical impact would be in Rosneft seeking to avoid the trunk pipeline system operated by Transneft.

Against the background of stagnating production and gradually faltering backwardation, the differentials of Russian grades faced an uphill battle in H2 2023, however exporters did their utmost to maximize the value of their barrels. Urals differentials delivered to India started the year around a -\$15/bbl discount to Dated and closed the year at -\$4/bbl to the same physical benchmark, mostly as a gradual but consistent upward trajectory when Russian exporters exploited the OPEC+ narrative of shrinking medium sour supply and availed themselves of the summer spike in backwardation.

Landed prices into West Coast India by main grades vs Dubai (\$/bbl)



For ESPO, Russia's Far Eastern flagship grade, at 35° API and 0.6% Sulphur both lighter and sweeter than Urals, the year started around -\$7 to -\$8/bbl below Dated on a delivered Shandong basis and by September it was trading at Dated parity, keeping that pricing level since. Sakhalin's Sokol has seen a very similar pricing trajectory and even the huge buildup in loaded but non-delivered cargoes (by mid-February, there was 12 laden tankers with Sokol idling in and around Singapore/Malaysia and the South China Sea carrying more than 10 MMbbls) didn't trigger a differential collapse. Arguably, the main reason undergirding such an evident lack of adequate price discovery boils down to the opacity of the Russian trading market.

Looking into 2024, we expect Russian differentials to see much more stability than they had previously. As Saudi Aramco, SOMO and other Middle Eastern NOCs committed to hefty price cuts in their formula pricing this year, altering their trading strategies from 2023 that maximized revenue over potential market share, February 2024 marked the first month since the introduction of the price cap when delivered Urals cargoes were roughly equivalent to Basrah Medium (and some \$2/bbl below Arab Light). This also stems partially from the widening of the Brent-Dubai spread as Urals' fixation to the Middle Eastern benchmark is still yet to be seen, meaning that in periods such as the current one when the physical squeeze on Brent makes it tangibly more expensive than Dubai, Saudi or Iraqi barrels will see a commercial advantage.

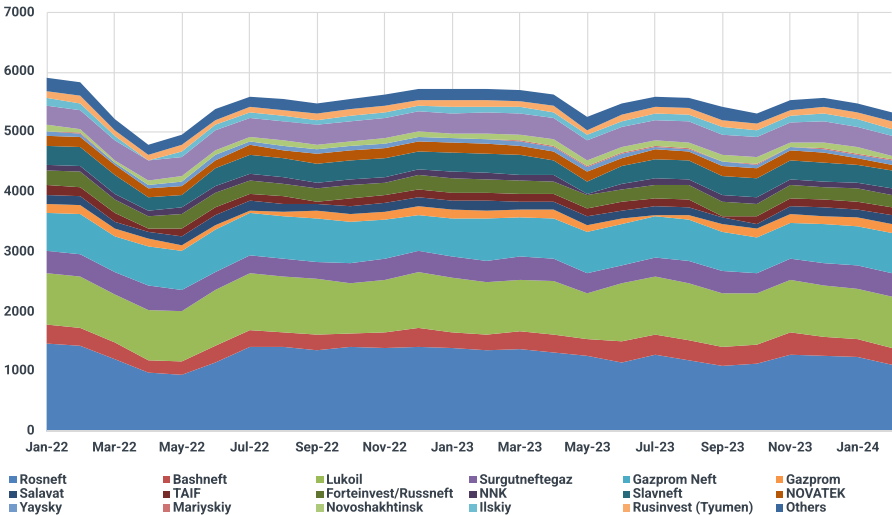
Logistically, a Saudi or Iraqi cargo delivered to the west coast of India takes only a fraction of a Primorsk-Jamnagar or Novorossiysk-Vadinar route, so the Middle East also enjoys a geographic edge over Russia. This might be pertinent should any of the Russian Urals tankers get under Houthi fire (up until now, there have been no incidents with Russian-origin crude), prompting the exporters to seek other delivery routes than the Suez Canal and the Bab-el-Mandeb Strait. That said, we believe Urals' upper pricing limit will remain around a \$4/bbl discount to Brent, anything sustainably above that would prompt Indian refiners to consider Middle Eastern substitution.

Refining

Refinery runs across Russia have remained relatively rangebound across the past year, with 5.72 Mbd marking the highest monthly reading of the year, recorded in February. The huge oscillations seen in the first months of the Russia-Ukraine war were not repeated, with monthly readings trending within a narrow bandwidth of 5.25 Mbd and 5.72 Mbd. Such rigidity in refinery throughputs runs athwart the fact that Russian refiners wield spare capacity that is not being utilized.

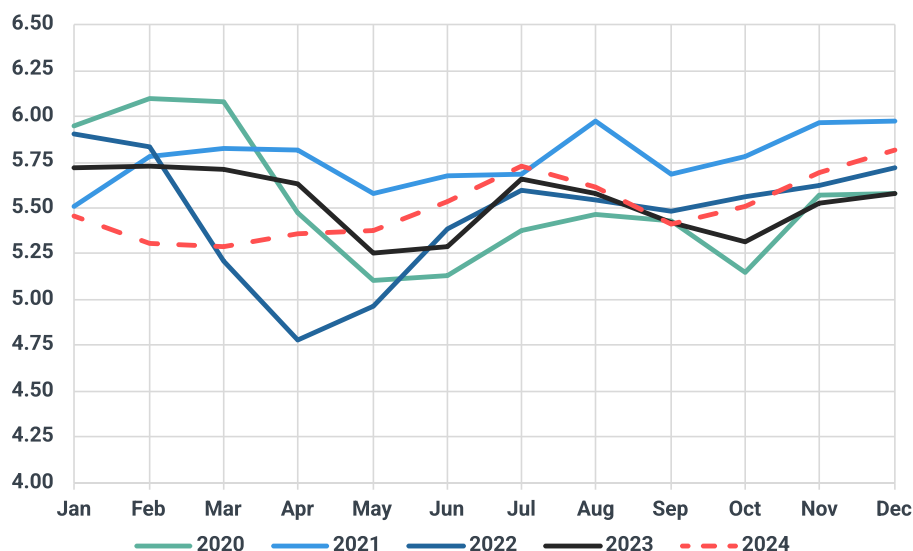
On a sustainable basis, the country could lift nationwide throughput rates as high as 6.3 Mbd, however refiners refrain from doing so. First, flooding the markets with refined products subject to price caps would deflate differentials of discounted barrels, and creating an illusion of shrinking supplies has been one of the most efficient negotiation tactics of Russia’s vertically integrated companies. Second, the idea of not boosting supply beyond a generally convenient level also works for the domestic market, especially after the damper mechanism has been reinstated in its fullest form.

Russia refinery runs split by company (kbd)



Russia’s refinery damper mechanism came to life in 2019, reacting to what was seen as a debilitating fuel crisis that impacted Russia’s Far Eastern regions. The system was erected to prevent fuel shortages as well as to cap soaring fuel prices from going over and above normal inflation levels, effectively by paying domestic refiners the delta between regional prices in Russia and the export market price. Seeing transportation fuels skyrocket over 2022-2023, oil refiners in Russia today don’t get the full external-internal difference, the government’s current regulations set the cross-subsidy at 68% for the delta in gasoline and 65% for diesel. As gasoline-fuelled vehicles account for 95% of Russia’s passenger car fleet, it should not come as a surprise that Moscow places a premium on gasoline.

Russia refinery runs (kbd)



Over the years, the dampening mechanism went through several changes, most notably after Russia’s Finance Ministry started toying with the indicative price of domestic fuels. The thing is that the domestic fuel price was not set by trades carried out at the SPIMEX exchange but was effectively capped by the Finance Ministry at ₺56,900/mt for gasoline (\$589/mt) and ₺55,200/mt for diesel (\$571/mt). Up until May 2023, prices of both gasoline and diesel trended below their respective reference prices.

Refinery margins have suffered somewhat from the recalibration of Urals prices (i.e. their detachment from PRA-assessed differentials), however the global constructive environment has helped to bring them back into double digits. This was especially true after domestic prices soared above reference prices. By the end of August, the last month before the refining damper got cut down, the average refinery margin for a refiner in Russia’s European part hovered around \$22-24/bbl, the highest in the entire post-sanctions period.

September has become the month when things started to fall apart for Russia’s Energy Ministry. Relieved that it would no longer need to pay out refiners the huge payouts that it did previously (according to most assumptions, the August damper amounted to more than \$2 billion going towards Russian refiners, as opposed to the usual \$300-500 million/month), the Ministry didn’t foresee that downstream players would be acting towards the immediate reinstatement of payouts.

Current regulations pertinent to the damper mechanism stipulate that if within a given month real SPIMEX-traded aggregated fuel prices surpass the indicative reference prices by more than 10% for gasoline and by more than 20% for diesel, there is no damping duty being paid out to refiners. And this is exactly what happened – every single day of trading brought new all-time highs for both diesel and gasoline prices, prompting the government to intervene late last week.

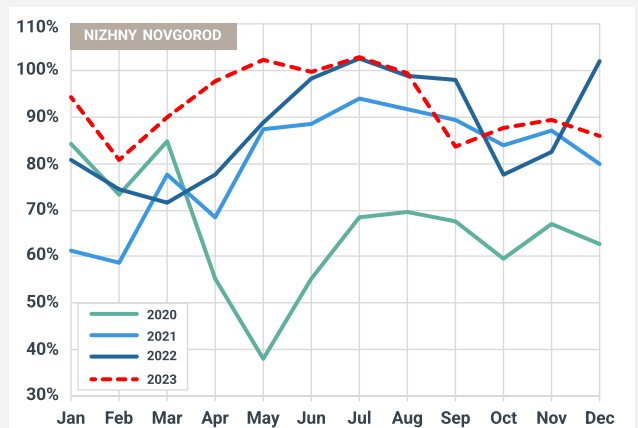
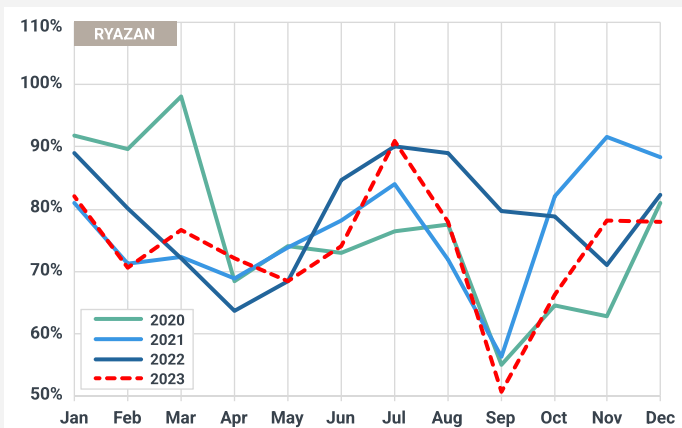
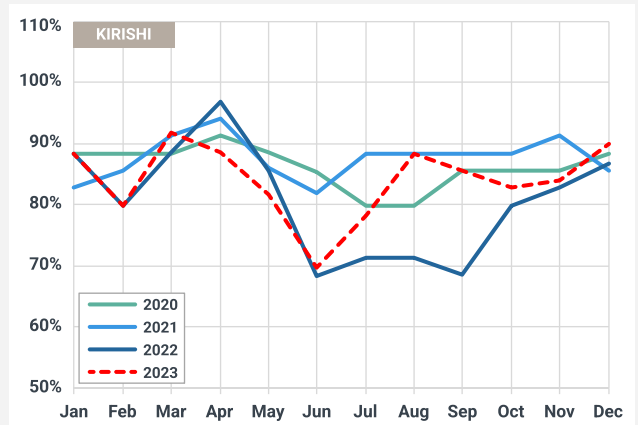
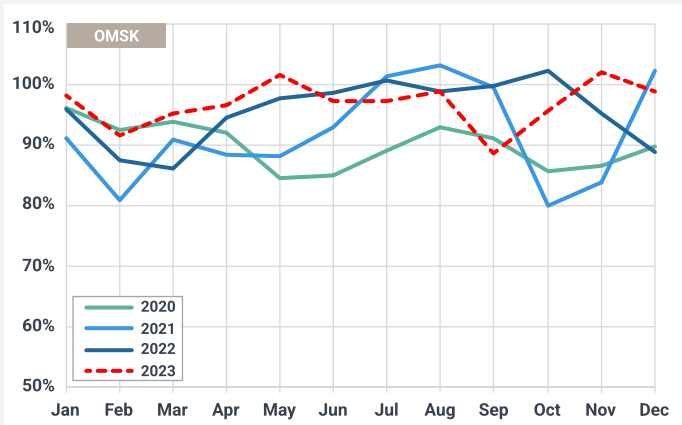
The reduction in damper mechanism payouts aggravated by the refiners' ineligibility for any subsidies whatsoever (due to prices rising more than 20% on the month) led to a situation when refiners no longer cared about taming down the price rally. Volumes of gasoline traded on SPIMEX, to name but one example, were well below the statistical average of roughly 35kt/day every single day in September, hinting at potential foul play from refiners. The rapid escalation of the standoff between government and corporations led to the Energy Ministry introducing a ban on transportation fuel exports on September 21, exempting only the four FSU countries of Armenia, Belarus, Kazakhstan and Kyrgyzstan. This has compelled Russia's refiners to change course amidst plunging prices and even when the government partially lifted the diesel export ban in early October (scrapping the ban for every gasoil/diesel category except for winter diesel two weeks after announcing it), there were no repeated instances of price spikes.

The government-provided reward for refiners' acquiescence came in the form of a reinstated and improved damper, with the Ministry of Finance pledging to reimburse them in full of the difference between domestic and international fuel prices. Traditionally, the decision came with a series of various caveats. First, oil companies now needed to market at least 12% of the diesel and 15% of the gasoline they produced on the St. Petersburg International Mercantile Exchange (SPIMEX), compared to a previous requirement of 9.5% and 13% respectively.

Second, the Ministry of Energy conditioned the reception of damper payments on refiners supplying at least 50% of their production to the domestic market, which adversely impacted refineries that heretofore were overwhelmingly focused on exports. This has had a tangible impact on the international presence of diesel produced by Surgutneftegaz, as its only refinery in Kirishi, the closest refinery to Russia's Baltic ports, has up until October exported 85% of its diesel production.

Whilst Moscow managed to clear up the regulatory confusion by November, it needs to be noted that the diesel export ban disrupted middle distillate supply into the winter months. At least five refineries (Nizhny Novgorod, Saratov, TAlF, Afipskiy, Orsk) carried out unplanned maintenance works on their visbreaker units and several more refineries on their hydrocrackers, evidently to minimize the risks of hitting tank tops in refinery storage. The physical result of the diesel disruption was a surge in fuel oil production across the country, soon to be felt across the global markets, too, with FO output to soar to 4.14 Mt in October, the highest monthly reading since December 2020.

Utilization rates by major refineries (%)



The 5.54 Mbd annual average in Russian refinery runs last year, up 1.3% year-on-year from the 2022 average of 5.47 Mbd, has been felt differently across the country’s downstream spectrum. The 100 kbd Novoshakhtinsk refinery saw the biggest y/y improvement, with its refinery runs up 20% y/y at 96 kbd. Even though the refinery was struck by Ukrainian drones in both 2022 and 2023, the impact last year was substantially lower than before, explaining the huge rebound.

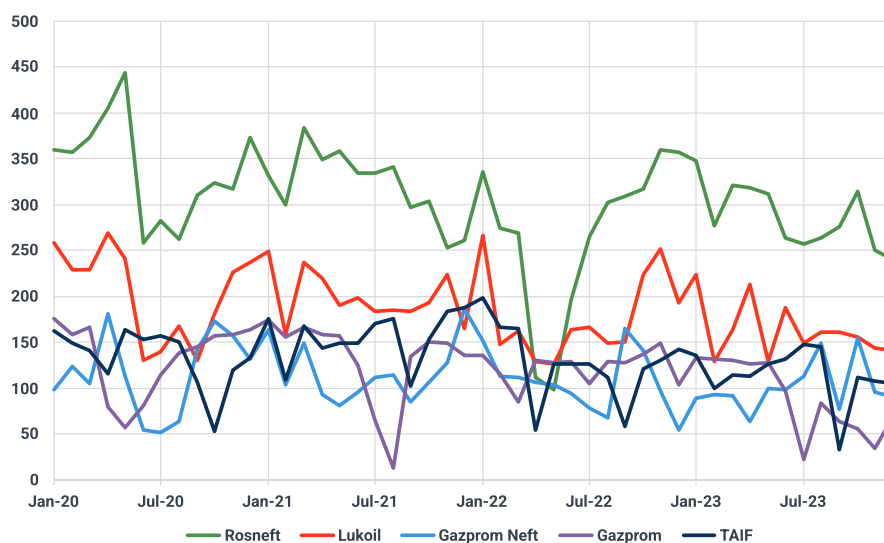
Similarly, Bashneft (technically, a subsidiary of Rosneft) witnessed a sizable recovery in throughput – being the first line of capacity shutoffs in early 2022 when sanctions were weighing heavily on runs – bouncing back by 17.5% compared to 2022, averaging 310 kbd for the whole year. Lukoil, Gazprom Neft and Slavneft saw very little changes overall, leaving Rosneft as the one big downside factor in total throughput. Marked by heavy turnarounds in the Volga-Urals region, Rosneft’s key refining assets in Syzran, Saratov and Kuybishev all saw 15-25% y/y declines, taking the company’s annual average to 1.25 Mbd, down 3% compared to 2022.

Naphtha

In the naphtha segment, Russian refineries posted the third consecutive y/y decline, with production hampered by weak cracks and heavier-than-usual seasonal maintenance. To a large degree, the product price cap might also be instrumental in lower production figures – when the price cap levels were allocated for high-value and low-value products, naphtha (somewhat awkwardly) ended up in the latter category. The sanctioning logic was straightforward, any product that averaged below the \$100/bbl threshold should end up with a \$45/bbl price cap, even naphtha which averaged \$87/bbl in 2022. Consequently, Russia's naphtha yield dropped to 8.3%, down more than 1 percentage point since the 2020 highs of 9.4%.

Looking ahead, the 2024 outlook for naphtha supply has been marred by Ukraine's drone attack on the Ust Luga condensate splitter facility operated by Novatek. Some 70% of Novatek's exports out of Ust Luga is naphtha and most of those naphtha volumes have been going towards Asian customers, Singapore and China specifically. In and of itself, Ust Luga accounted for 19% of Russia's aggregate naphtha supply so the fact that the splitter was out for almost a month would keep the supply upside in naphtha subdued, even if Gazprom and Salavat are set to see a much lighter year maintenance-wise (their respective 2023 supply figures were down 27% and 24% y/y).

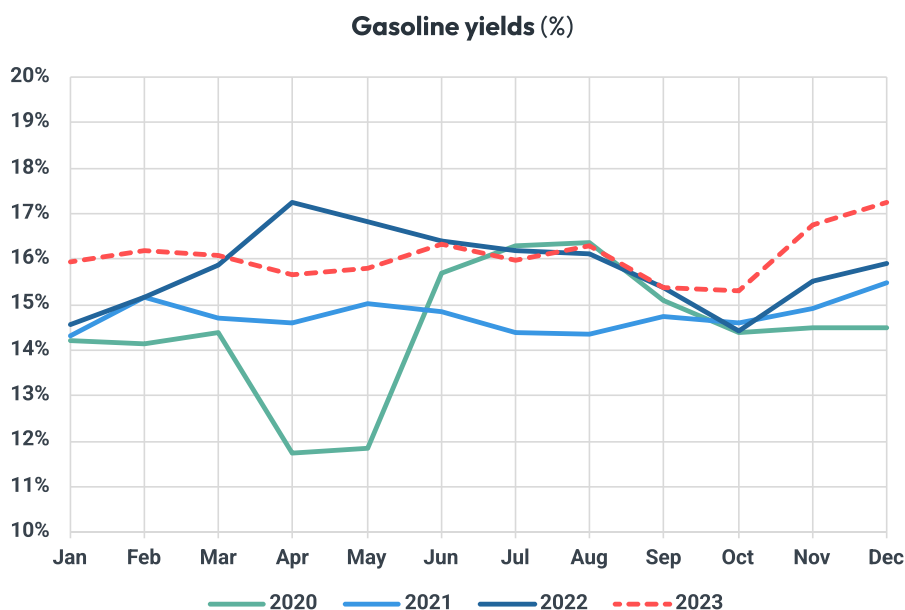
Naphtha supply by refiners (kt/month)



Gasoline

For gasoline, the year 2023 was a mixed bag of surprises. On the one hand, gasoline supply on an annualized level surpassed the 1 Mbd mark for the first time on record and the ramp up in gasoline production seen by December 2023 augured in the highest ever monthly reading of 1.09 Mbd. On the other hand, gasoline was in large part behind the fuel export ban introduced in September – as opposed to diesel, a product category in which it is almost impossible to imagine a Russian deficit due to a 800 kbd supply overhand, the country's gasoline balances are relatively fragile.

We believe that Russia's domestic gasoline demand has reached 890 kbd in 2023 and will be trading around those levels this year, too. This compares to the 1.011 Mbd of gasoline supply seen across 2023, a 3% increase y/y from the 980 kbd posted in 2022, mostly driven by the return of Bashneft refineries as discussed above and the ramp up of the isomerization unit at Lukoil's Nizhny Novgorod refinery.

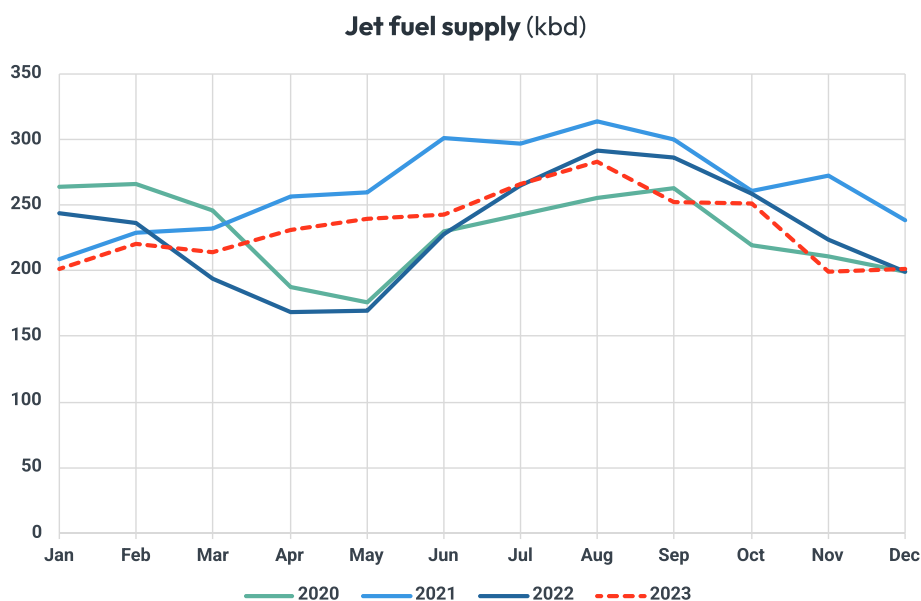


The largest gasoline supply increment of 2023 will most probably also become one of the largest downside factors of 2024 after a fire in early January debilitated both of the company's catalytic cracking units. Even though one of the crackers has been relaunched relatively quickly, the January-February period will see supply capped at 50 kbd, half of what the refinery would normally produce. Technological force majeure situations or drone attacks on gasoline-relevant units might trigger price spikes in 2024; one could argue the only reason why that didn't happen after the Nizhny Novgorod blaze is that the force majeure happened in the off-season for gasoline, usually peaking in July-August.

Jet fuel

When it comes to jet fuel, Russia's refinery supply has traditionally been geared towards the domestic market as exports remain relatively low at 35 kbd. Interestingly, the one supply route that defined Russia's jet exports in 2023 is Novatek's Ust Luga condensate splitter delivered kerosene to Istanbul's fuel supply port. In terms of jet supply, last year has seen a marginal improvement as the annual average moved up by 2.5% compared to 2022, producing 240 kbd. Should supply disruptions akin to the drone attack on the Ust Luga condensate splitter repeat themselves – the January attack jeopardized 10% of Russian jet fuel production – some of refiners that have been prioritizing diesel over jet might be compelled to ratchet up kerosene (specifically, this might apply to Gazprom Neft's Omsk refinery, Russia's single largest source of jet which cut jet production by 20% last year).

Russia's passenger throughput bottomed out in March-April 2022 and following the 15% y/y decline in 2022 flight activity has been picking up. According to the Ministry of Transport, total passenger throughput rose to 105 million people last year, a 10% y/y increase. This is corroborated by Aeroflot's flight statistics that indicate an even bigger increase in passenger kilometers, 123.4 billion in 2023 vs 98.4 billion in 2022, most probably driven by the recovery in international flights as two-thirds of incremental passengers last year came from flights out of the country. Looking into 2024, we expect marginal improvements in Russia's domestic jet demand, equivalent to a 1.6% y/y increase to 230 kbd, triggering an approximately equivalent hike in supply.



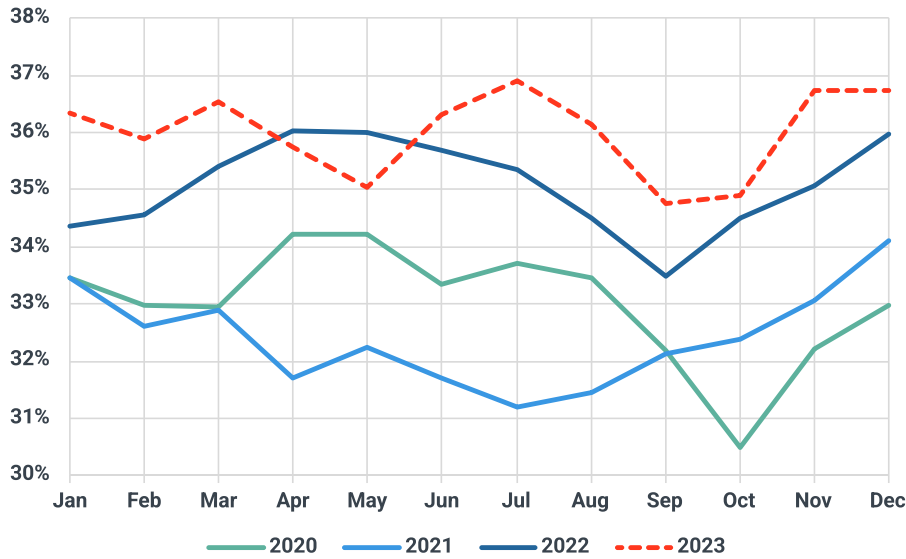
Diesel

The focal point of Russia's refining system, diesel, witnessed the coexistence of two completely contradictory trends last year – diesel cracks being by far the most lucrative part of the refining segment to go into and repeated disruptions to supply. The recalibration of diesel flows out of Russia and the finding of new buyers such as Turkey or Brazil went surprisingly smoothly for the Russian exporters, so the abovementioned disruptions were mostly of a physical nature.

Heavier-than-usual spring refinery maintenance impacted supply in May 2023 with total diesel production plunging to 1.86 Mbd, the lowest since May 2022, however the return of capacities into the summer months saw production rebounding strongly to 2.09 Mbd in July. Be that lagging deliveries of diesel into the southern regions just on the heels of the harvest season starting a couple weeks earlier than usual or the bureaucratic standoff between oil producers and federal authorities, the autumn disruption in supply had a much bigger impact.

The pricing impact was palpably immediate as domestic diesel prices soared to an all-time high of ₺75,700/mt (\$787/mt) the day before Russia's government introduced the export ban. The export ban lowered diesel exports in September to a mere 736 kbd, the lowest monthly pace since October 2020. The repeated drone attacks on Russian refineries have also adversely affected diesel supply that was gradually ramping up to reach 2.1 Mbd in January 2024.

Russia diesel yields (%)



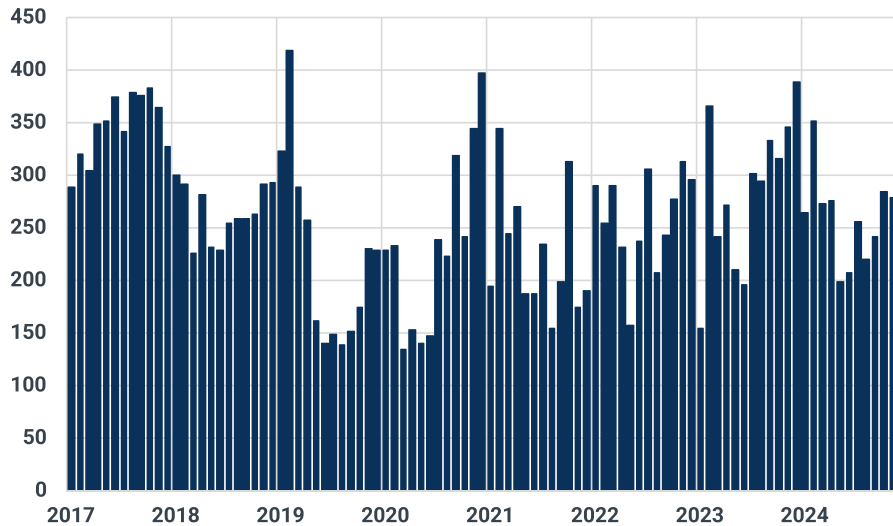
Looking specifically into the future of diesel supply, the all-time high reached in March 2023 at 2.12 Mbd will most probably be surpassed this year. However, diesel production over the first half of 2024 will be subdued given the impact of refinery drone strikes, remaining below the 2 Mbd mark until June. At the same time, the outlook is tilted towards the upside with diesel-focused refinery upgrades. Whilst some refinery upgrades have been marred with delays in the post-pandemic and post-sanctions period, the fact that the Afipsky refinery is bound to commission a 50 kbd hydrocracker over the summer months and Tuapse should start test running its 85 kbd hydrocracker later in the year, too, should boost diesel deliveries further.

Fuel oil

Looking specifically into product categories, Russia's fuel oil supply extended the post-pandemic seesawing of residue and rose by 1.4% y/y to slightly above 800 kbd. This comes after a 6% y/y post-pandemic recovery in 2021 and a subsequent 8.5% y/y slump in 2022, all the while domestic demand is relatively stagnant around the 250 kbd mark. The reasons for such a resilience in fuel oil are manifold – the diesel export-ban induced spike in fuel oil output which wouldn't have happened otherwise; the return of Bashneft's refineries without adequate resumption of secondary refining there; a heavy turnaround period at Russia's single largest fuel oil producer – Surgutneftegaz's Kirishi refinery that generally accounts for 15% of all FO supply and several concurrent minor factors as well. That said, the relative normalization of refinery runs and continuing refinery upgrades will exert a downward pressure on fuel oil supply over the upcoming months, with FO production dropping to 790 kbd across 2024.

The refinery modernization programme launched in 2018 and predominantly financed by the state has been drawing to a close. Of the notable downstream developments expected for 2024, southern regions of Russia should see Novoshakhtinsk launch its catalytic reformer, whilst the nearby Afipsky refinery see first commercial operations with its 50 kbd hydrocracker. There's only marginal improvements expected in Central Russia, whilst the Far East should witness the delayed start-up of a fluid catalytic cracker at Rosneft's Angarsk refinery and potentially even the launch of smaller 11 kbd delayed coker unit at the independent Yayskiy refinery at the turn of 2024/2025. That said, there are still gaps in refineries utilizing recently upgraded units.

Russia's domestic fuel oil demand (kbd)



Having just started to ramp up higher conversion at the Nizhny Novgorod refinery, LUKOIL was compelled to wind down operations at the delayed coker unit in February, less than two months after commissioning, due to a fire. Subsequently, the same refinery managed to pull off its best performance in recent history, totalling a 93% average utilization rate across the year, however the improved product yield was once again disrupted by a technological upset, this time around it was the catalytic cracking unit early January 2024, triggering lower output until at least end-February.

In general, the Ukrainian drone attacks seen across January-February 2024 have been capping Russian refinery runs around the 5.3 Mbd mark, seeing a series of attacks on the Tuapse, Volgograd and Ilsky refineries, as well as Novatek's Ust Luga condensate splitter. The second wave of Ukrainian drone strikes on Russian refineries in March – hitting the distillation columns of the Nizhny Novgorod, Ryazan and Syzran refineries – will cap the upside for Russian throughput rates at 5.2 Mbd until end-June. From then onwards, however, we expect refinery runs to recover to 5.7 Mbd by summer.

By 2025-2026, the Moscow, Yaroslavl and Novoshakhtinsk refineries will see overall fuel oil production come to a complete halt, lowering current output of some 780-800 kbd by a total of 150 kbd. The modernization of YANOS, the Yaroslavl refinery, is of significance as its roughly 100 kbd fuel oil output has been the second largest in the country.

In circumstances of almost complete radio silence on what private producers are doing, it remains to be seen whether the outright fuel oil champion of Russia, the 400 kbd Kirishi refinery (KINEF) operated by Surgutneftegaz, has managed to kickstart its modernization drive as planned. Surgutneftegaz intended to find contractors for its oft-mooted delayed coker unit, to be commissioned at the turn of 2025/2026, in early 2022, however, the escalation of the Russia-Ukraine conflict might have prevented it from doing so in a timely and orderly manner. Surgutneftegaz still produces some 130 kbd of fuel oil at the Kirishi refinery alone.

Flows

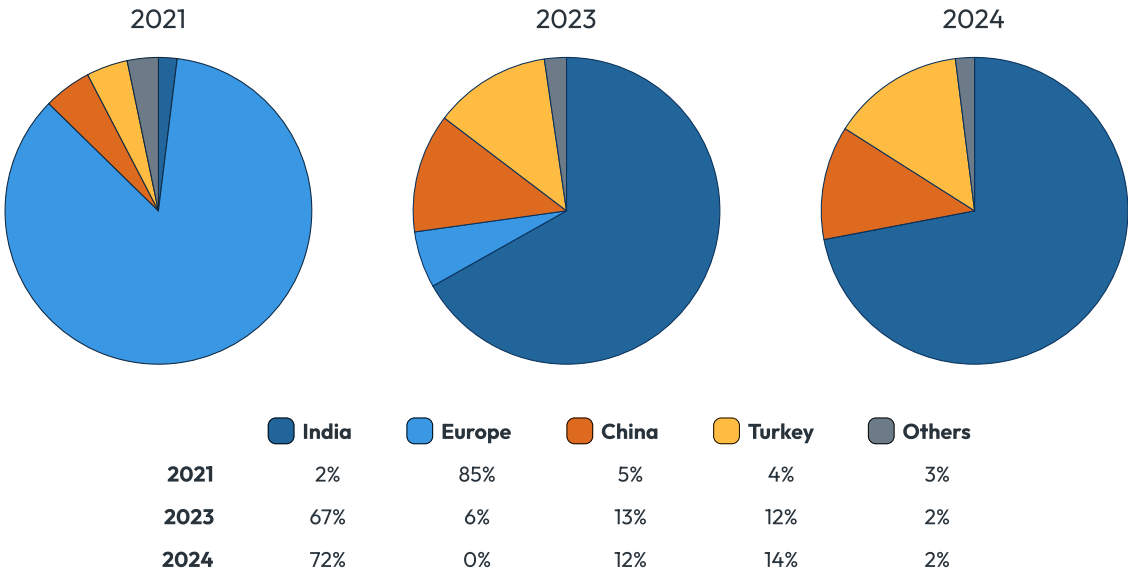
The introduction of the price cap has been a key trigger in rerouting Russian crude oil flows towards Asia. European countries have stopped buying Russian barrels one after another in anticipation of the December 5 deadline – Lithuania bought its last cargo of Urals in March, Finland in July, Romania in October, whilst Italy, South Korea and the Netherlands stopped in late November – paving the way for higher flows to Asia. As such, India’s ascent as a buyer of Urals par excellence has been gradual, starting off from a low point of just one single cargo back in January 2022 to 59 by December 2022.

Thanks to a higher production base overall (see Production above) and lesser pipeline volumes delivered to Europe, Russia’s seaborne flows rose by 4% y/y and averaged 3.504 Mbd in 2023. This marks the second highest annual pace of exports after the 2019 all-time high of 3.532 Mbd (which was in its turn mostly driven by the chloride contamination story that effectively halted deliveries via the Druzhba into Central Eastern Europe for several months).

In 2023, India consolidated its standing as the largest buyer of Russian seaborne crude. Whilst in 2022 the annual average it imported from Russia stood at 685 kbd, a twelvefold increase compared to the 2021 tally of a mere 50 kbd, last year the same metric soared to 1.751 Mbd. In total, Indian buyers bought eight different grades of Russian crude, with the list spearheaded by Urals (1.222 Mbd), followed by Sakhalin’s Sokol (139 kbd), Russian CPC from Lukoil’s Caspian assets (98 kbd) and ESPO (89 kbd).

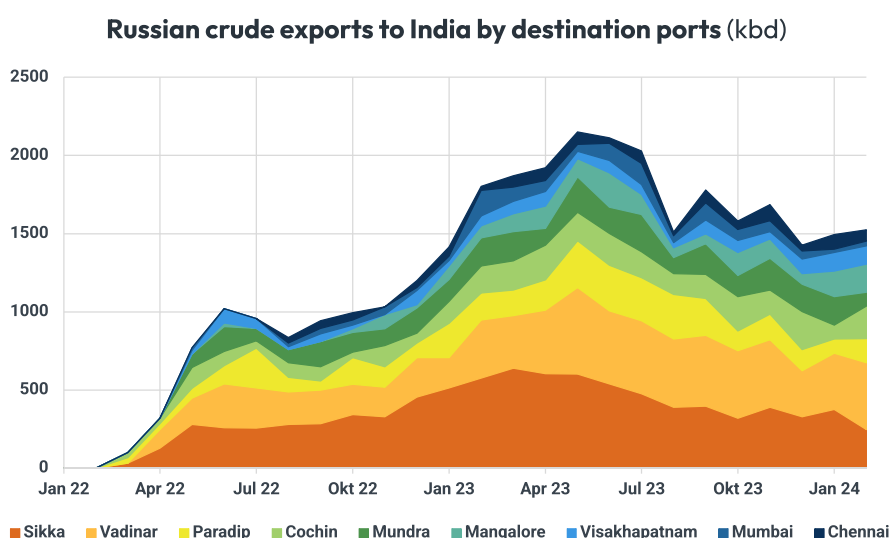
Buying of Russian crude was by no means the exclusive behaviour of a selected few; all of India’s commercial-scale refiners with access to coastal ports were buying across 12 installations. That said, IOC accounted for 27% of all purchases at 467 kbd, overtaking Reliance as the largest Indian buyer since April 2023 (India’s largest private refiner bought 406 kbd last year). As trading moved into 2024, the prevalence of IOC might be in doubt as other refiners such as BPCL have been ramping up their purchases.

Urals seaborne crude exports by destination country (%)



With an ascent into Russian purchases as steep as India's, there remain many headwinds to maintain such fast-paced imports. First, Russian sellers and Indian buyers are still yet to iron out their differences on the future currency of such oil flows – the Russian rouble is largely unusable for India's refiners and vice versa for the Indian rupee, whilst the Chinese yuan is a far cry from being politically palatable in Delhi. Second, sanctions from G7 have so far not been a game changer but they've recurrently put a spoke in Moscow's wheel by needing to revamp shadow shipping companies' insurance coverage or change the particulars of financing. Third, the pricing environment for Indian buyers in early 2024 differs greatly to the one seen a year ago when delivered Urals to India was trading at a -\$12 to -\$10/bbl discount to Brent.

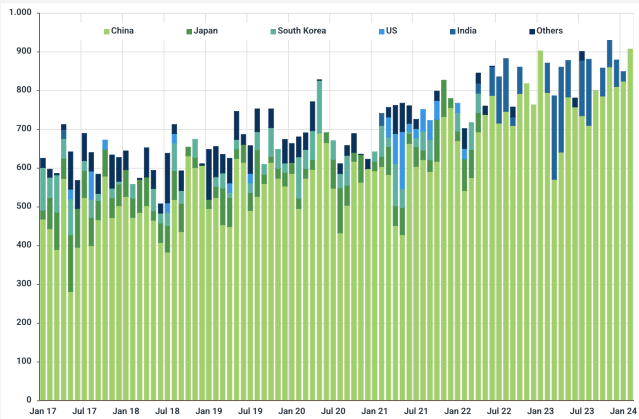
Higher differentials weaken the appeal of Russian crude, and the discrepancies between Rosneft and IOC over a potential extension of a supply deal that would send Sokol cargoes to India in 2024, too, attests to those pressures being real. That said, we consider it unlikely that India would fall below the 1.5 Mbd pace of Russian purchases over the course of 2024.



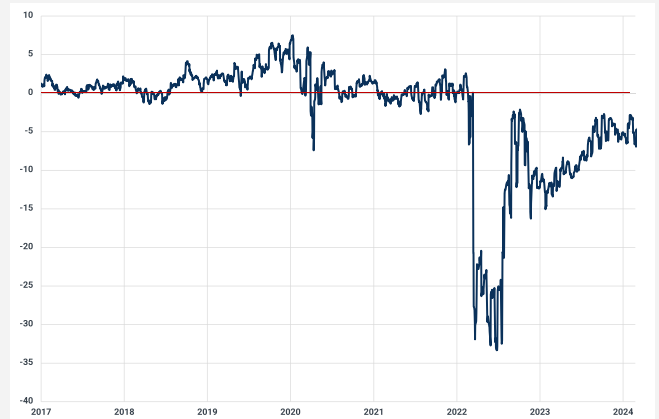
India has become the largest buyer of seaborne Russian crude, but China remains the largest buyer per se. This is thanks to two pipeline routes delivering Russian barrels to China, the ESPO-1 conduit that bifurcates in Skovorodino and ends in Heilongjiang's Mohe and the Kazakh transit via the Atasu-Alashankou pipeline. Onland deliveries of crude have been relatively stable in 2023 at 815 kbd, marginally up compared to 811 kbd in 2022. Whilst there has been no sizable change in pipeline flows, seaborne supplies have increased a whopping 35% y/y in 2023, tallying 1.3 Mbd. China's appetite for Russian crude has been as multi-pronged as India's. Most notably, Russia's Far Eastern medium sweet flagship grade ESPO has become intrinsically connected to the Chinese market, becoming even more a staple of Shandong refiners.

Thanks to additional volumes of Eastern Siberian barrels being delivered to Kozmino via rail, ESPO volumes soared to a record high of 862 kbd last year, an increase of 70 kbd compared to 2022. Of this, China bought 90% on an annual average, however even this figure hides the ratcheting up of Chinese interest in H2 2023 and beyond. After Russian sellers of ESPO flirted with the idea of diversifying away from China and have been supplying 200-230 kbd of the grade to India in H1 2023, the dominance of Chinese buying emerged in full swing in the first months of 2024 when Indian refiners were effectively squeezed out of the market. In January 2024, there was just one laden tanker sailing towards India, 97% of all exports going to Chinese buyers.

ESPO exports by destination



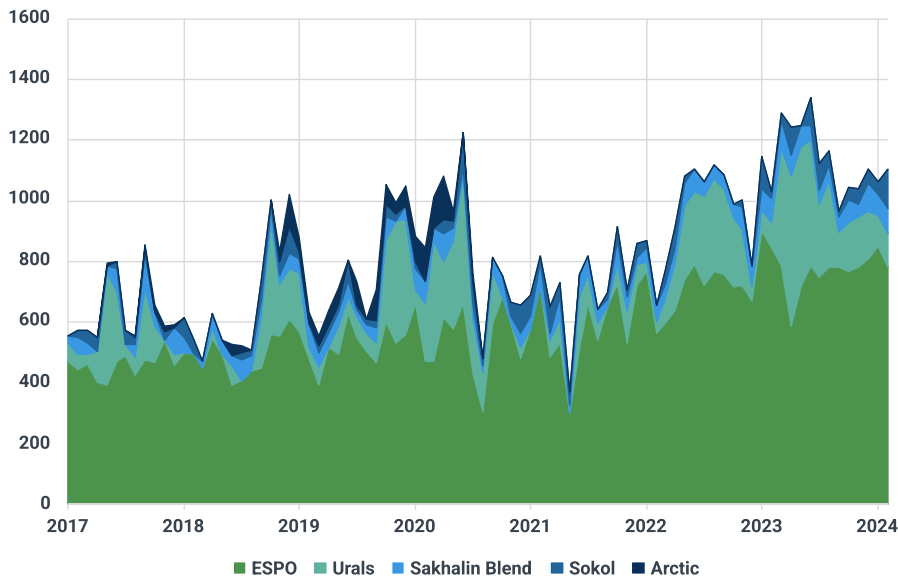
ESPO FOB Kozmino quotes vs Brent (\$/bbl)



China's imports of Urals did not increase as steeply as India's, the 178 kbd imported in 2022 compares to the 254 kbd taken in last year. Apart from a relatively unchanged pull from China's state-owned refiners, the uptick is also coming from private refining majors tapping into the Russian market – neither Hengli nor Shenghong were buying Russian barrels in 2022, but the two combined rose to almost 100 kbd in 2023.

Chinese refiners also started to buy more Arctic barrels and the opening up of the Northern Sea Route has been a great boon in sending more of these volumes across in the summer navigation period. Easily surpassing the heretofore record one cargo per year from 2022, last year saw 14 deliveries from Russia to China sailing through the Northern Sea route, starting in July and ending in early October. With increased navigation activity across the NSR, this number is guaranteed to rise higher over the upcoming years, especially in an environment when the Suez Canal and the Red Sea become the shipping industry's Gordian knot.

China's imports of Russian crude by grades (kbd)



Zooming back into Europe, Bulgaria might be one of the least evident reasons why Russian crude exports to India and China should increase further this year. The 110 kbd of Russian crude that were delivered to Bulgaria's sole Burgas refinery last year dried up as 2024 started, with the refinery operator Lukoil switching to non-Russian grades (mostly Iraqi Basrah, KEBCO and Libyan Es Sider) as it defied political pressure to sell the downstream asset.

The Bulgarian government has voluntarily ended its exemption from the European Union's ban on Russian crude imports on 1 March 2024, a move that was further prompted by Sofia banning exports of products refined from Russian-origin crude starting from January. In 2023, the Burgas refinery was overwhelmingly supplied by Lukoil's equity Urals volumes, accounting for 90% of all imports. As such, even in case total seaborne exports stay the same across 2024, the upside in Russian Asia-bound volumes exceeds 100 kbd.

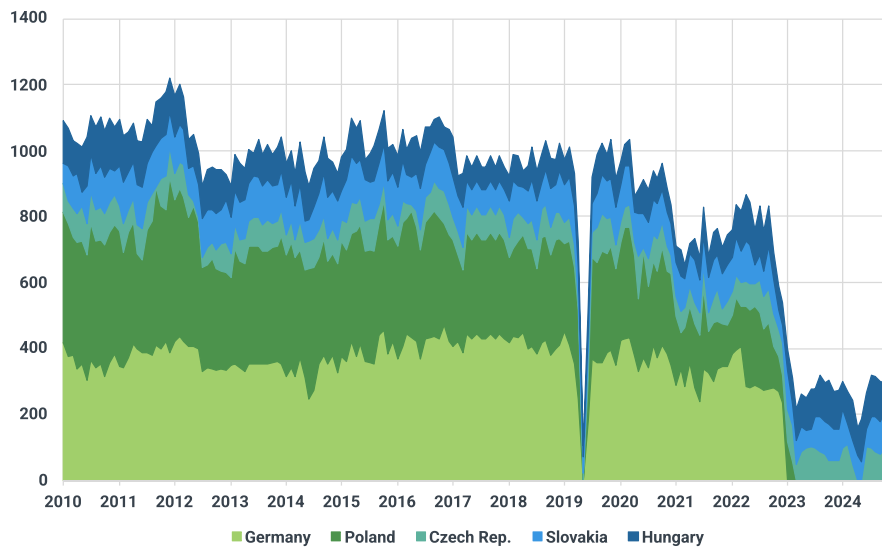
Back in September 2022, we have published an insight piece that sought to predict the incremental buyers of Russian crude, naming Indonesia, Pakistan, Brazil, South Africa and Sri Lanka as the most likely candidates. Indonesia saw its first post-2022 Urals delivery in June 2023, Brazil witnessed the arrival of three Varandey cargoes in September-October 2023, Pakistan bought four tankers delivered between June and December, whilst Sri Lanka imported two Aframax worth of Siberian Light back in March-April 2023.

Thus, South Africa seems to be the only country from that list that didn't start buying Russian crude, albeit the fact that Gazprom's banking subsidiary Gazprombank officially became a project partner for the revival of South Africa's Mossel Bay gas-to-liquids plant might see closer cooperation between the two countries. That said, Mossel Bay would require natural gas to restart, having been idled since 2020 on the back of faltering domestic gas production and slower-than-assumed drilling in South Africa's offshore zone, so any prospective Russian involvement would most probably not include crude or condensate.

The overall rise in Russian seaborne flows was offset by weakening pipeline supplies, with exports through the Transneft system declining by a whopping 30% y/y to 1.1 Mbd (excluding transit shipments such as Kazakh volumes moved to Germany's Schwedt refinery). There was not a single barrel of Urals delivered to Germany with the cut-off taking place strictly at the turn of 2022, whilst exports to Poland were halted in February 2023, marking the rather abrupt end of Urals deliveries via the Northern Druzhba pipeline.

Transneft did not fully halt the oil conduit, with Kazakhstan supplying 994kt (20 kbd) of transited volumes. There remain only three countries in Europe that still receive Russian barrels from the Druzhba pipeline – Hungary, Slovakia and the Czech Republic – with their 2023 nominations seeing relatively little change y/y despite limitations on refining Russian-origin barrels. Hungary is the largest pipeline buyer of Urals in Europe, taking in 104 kbd last year (vs 108 kbd in 2022), followed by Slovakia with 87 kbd (vs 91 kbd in 2022) and Czech Republic with 82 kbd (vs 84 kbd in 2022).

Druzhba pipeline flows by destination country (kbd)



The future of Kazakh transit in Germany seems to be dependent on Berlin's treatment of Rosneft's downstream assets in the country. Back in September 2022, Germany placed Rosneft's German subsidiaries under government trusteeship – encompassing a 54% stake in Schwedt, a 28.6% stake in Bayernoil and a 24% stake in the 300 kbd Karlsruhe refinery – as it sought to maintain the operations of the 230 kbd Schwedt refinery (crucial to the fuel supply of the capital city Berlin).

However wary of creating legal precedents that could allow Rosneft to sue the German government and win, Berlin has up until now shied away from expropriating those assets. That might change soon as speculation about a potential nationalization of Rosneft Deutschland sparked up again in February. Nonetheless the government trusteeship's third consecutive extension was still greenlighted in March as the Russian NOC promised to look for potential buyers. Should the nationalization occur, it is almost impossible to imagine Transneft agreeing to transited Kazakh volumes reaching Germany via Russian territory.

The continuation of Druzhba pipeline deliveries has also become a point of contention for EU's landlocked Central European countries. The sanction exemptions for Slovakia, Hungary and the Czech Republic don't run out until end-2024, however curbs on product exports expired on December 5, 2023, one year into the oil price cap regulations. Under this waiver, Slovakia's 115 kbd Bratislava refinery was able to export oil products refined from Russian crude into the Czech Republic where most of the eastern and southern regions in Moravia rely on Slovak product supply.

In case the Slovak and Czech governments failed to persuade the European Commission to extend the waiver, the Bratislava refinery might cut runs by 15–20% as it would have no outlets for its crude. That, however, didn't happen, as Brussels extended the sanctions waiver for another year. That said, the tumultuous months of 2023 provided no resolution to Central Europe's main problems – lack of sufficient tank farm capacity to store crude and high transportation tariffs from the Croatian port of Omisalj, also rife with logistical difficulties (Omisalj feeds Serbia, Hungary and Slovakia at the same time).

Reflecting the reactive nature of European policymaking recently, the future of crude supply into the Czech Republic looks significantly more vulnerable beyond 2025 than it was before. Up until now, the country has had an effective split between the 109 kbd Litvinov refinery running overwhelmingly on Urals, whilst the smaller capacity 68 kbd Kralupy nad Vltavou refinery has been refining seaborne grades delivered via TAL. The TAL-PLUS expansion project aims to increase the throughput capacity of the pipeline from 880 kbd currently up to 960 kbd by 2025, with all the incremental volumes allocated towards the Czech Republic.

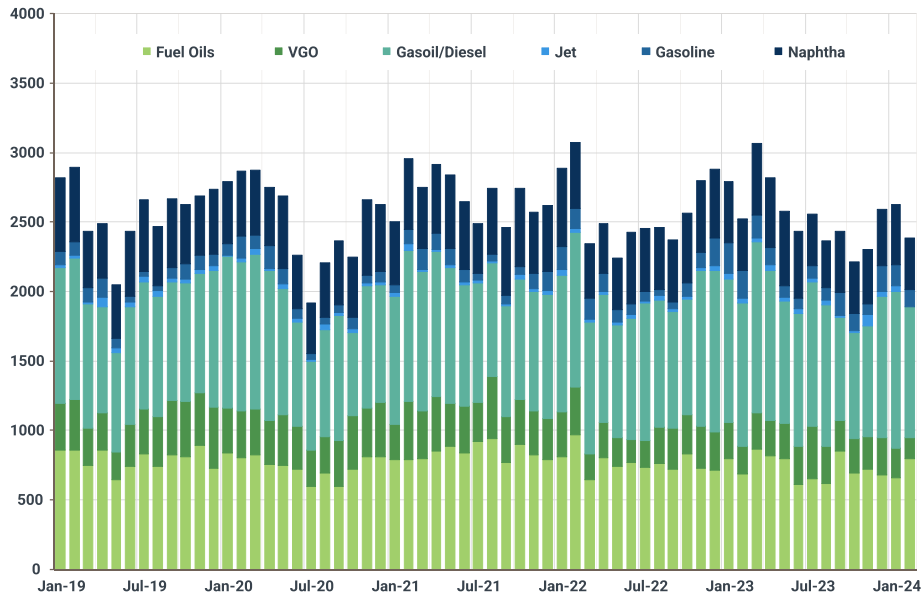
Despite repeated assurances that Prague would not extend the sanctions waiver beyond 2024, the timeline of construction works on the TAL-PLUS project seems to be somewhat uncertain – the addition of new valves and pumps will only start in July next year and is supposed to end in December. In brief, even the smallest delay in construction could prompt the Czech authorities to ask for another, albeit shorter, Druzhba waiver exemption come December 2024. Supply-wise, the Czech refineries can still nominate until mid-2025 under a term supply deal with Russia's state-controlled Rosneft.

Once the incremental capacity additions to the Transalpine Pipeline are completed, both refineries would rely on supply from the seas, presenting a potential double whammy for Czech refining. First, should the port of Trieste experience any disruption in discharging operations – the TAL pipeline has been renowned to operate at full capacity for years and any potential delay in cargo arrivals usually leads to missed laycans – the Czech refineries would immediately feel the pressure. Second, considering the TAL pipeline has been in continuous operation for almost 57 years (started in 1967), any pipeline halt would be equivalent to a forced reduction in Czech runs as well. With no domestic production of their own (the once-prolific oil fields of Moravia nowadays produce a meagre 1 kbd) and no pipeline interconnector from the north or west, geography will be squeezing Unipetrol's refineries into new infrastructure investments.

Concurrently to the decline of Druzhba flows, pipeline exports to Central Asian countries are becoming increasingly attractive for Russian exporters as domestic supply falters in mature producers such as Uzbekistan. 2024 is set to see a tripling of Russian flows to Uzbekistan, up from 155kt to 550kt, to be all transited via Kaztransoil's system in Kazakhstan. The resumption of pipeline transit to Uzbekistan has become one of the overlooked tenets of post-2022 oil flows changes, especially considering there were no exports whatsoever between 2018 and 2022.

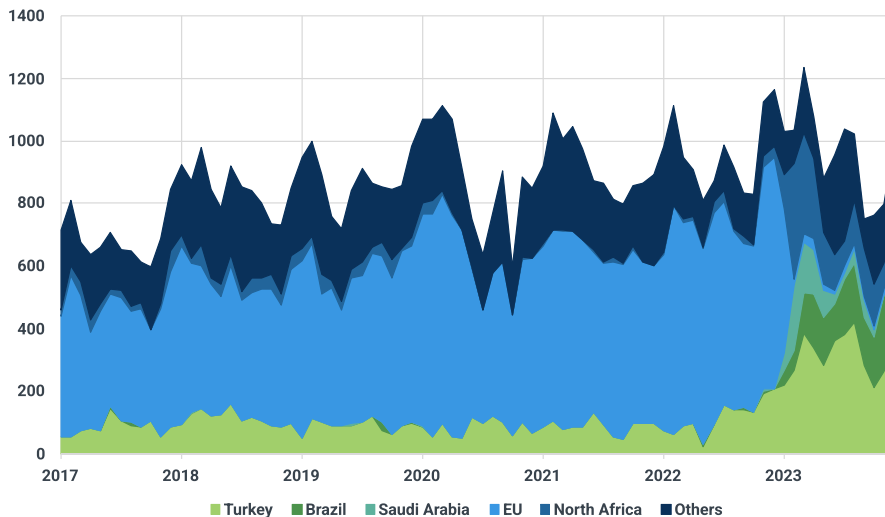
Uzbekistan's economic growth, with the IMF anticipating 5.6% in 2023 and a further 5% in 2024, necessitates more resources, however domestic crude production dropped another 2.5% last year to a mere 770kt (15 kbd). The same situation has been developing in Uzbekistan's gas segment, with Uzbekistan starting to import natural gas from Russia in October 2023, committing itself to a two-year 2.8 Bcm/year deal. That supply contract, too, included Kazakhstan, that has been building up its portfolio its transit deal, over and above the already existing commitments such as Atasu-Alashankou or the Central Asia Gas pipeline.

Russian product exports by product category (kbd)



Looking into product flows, diesel/gasoil remained Russia’s largest export stream accounting for 37% of all outflows, in line with past years’ trends, followed closely by fuel oil that took 28% of the tally. It would be erroneous to assume that all Russian oil product exports are by definition of Russian origin. Take, for instance, Belarus, a country that historically had an overhang of diesel producing on average 120-140 kbd and consuming only 60-70 kbd – now that the Ukrainian market is all but sealed off for Belarusian refiners, Russia remains the only viable market outlet and these volumes add up to the Russian barrels going into product export terminals in the Baltic Sea. In terms of middle distillate flows, Russia’s exports of jet fuel have been minimal and mostly boil down to jet deliveries from Novatek’s Ust-Luga condensate splitter to the Istanbul airport, with the annual average of kerosene outflows totalling a mere 29 kbd.

Russia's diesel exports by destination (kbd)



With the product cap starting two months after the oil price cap on 5 February 2023, diesel/gasoil flows to Europe remained relatively high until the very last weeks of the deadline. In January 2023, Germany was still the largest buyer of Russian diesel, surpassing Turkey, Greece, Poland and other traditional buyers. From February onwards, Turkey has become the largest market outlet for Russian diesel, almost tripling its intake of the Russian fuel from 115 kbd in 2022 to 306 kbd in 2023. Initially, Northern Africa seemed to be a likely candidate to see increased volumes of Russian diesel flowing in (in March 2023, a whopping 235 kbd was supplied to Morocco, Tunisia, Libya and Egypt), however buying activity there eventually edged lower and has been rangebound around 100-150 kbd in recent months.

Brazil came to the fore in terms of diesel purchases, a story that shares many similarities to India's crude buying. Most notably, there was not a single cargo of Russian diesel sailing to Brazil in 2021 and even in 2022 there were only three, with Brazil traditionally relying on USGC supply of middle distillates. Last year, Brazil imported 132 kbd last year, however considering the weak buying activity in H1 the annual numbers don't reflect how strong the Brazilian pull has become for Russian ULSD. Technically speaking, Brazil is the largest buyer of ultra-low-sulphur diesel from Russia as Turkish importers also take in sizable volumes of gasoil, creating a peculiar duality of diesel export outlets that we believe will remain in place in 2024, too.

Fuel oil exports out of Russia declined to 644 kbd last year, down 5% y/y, going counter to the slight increase seen in fuel oil production. Excluding VGO flows from the total fuel oil exports, China has become the largest importer of Russian heavy distillates, taking in 125 kbd (up 75 kbd y/y), followed closely by India's 122 kbd. The temporal effect in Chinese FO buying is paramount as the sizable y/y increase came mostly thanks to two seasonal buying sprees in March-May and September-October.

Whilst much more evenly spread across months with a one-off purchasing peak in September, India's imports of Russian fuel oil are also peculiar, most notably because there is only one company carrying out all the trades – Reliance. Reliance's Jamnagar refinery is sophisticated enough to use Russian FO as a secondary refining feedstock, effectively locking in some 150 kbd of FO buying in the market. Before the onset of the Russia-Ukraine war it was mostly Iraqi straight-run fuel oil that Reliance bought, that flow dropped to a mere 25 kbd in 2023. Meanwhile, rail deliveries of fuel oil have come down to a bare minimum, effectively limited to deliveries to Uzbekistan in the second half of 2023, on the heels of the country boosting its imports for power generation purposes.

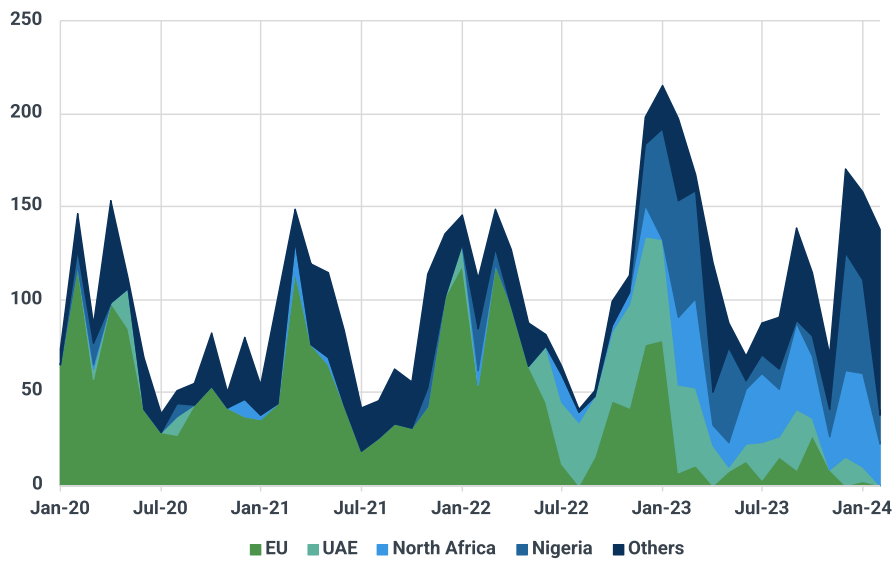
Exports of light distillates have been coming mostly through naphtha, with flows declining y/y again to 432 kbd last year (down 29 kbd compared to 2022). Alongside fuel oil, naphtha has pivoted the most towards Asian markets, with 76% of all exports sailing towards Asia last year. Historically, the top-3 buyers of Russian naphtha would have comprised South Korea, Belgium and the Netherlands; of these only South Korea continued imports post-price cap, albeit at a much weaker pace.

Thus, China moved to prominence as the main buyer of Russian naphtha, importing just south of 80 kbd last year, with Singapore and the UAE coming in a close second and third, respectively. Despite the narrowing of naphtha prices from initial \$150-200/mt discounts, weaker naphtha cracks prompt Asian refiners to wield any competitive advantage they can find, keeping the Asian continent's pull on Russian naphtha intact over the course of the upcoming months.

Gasoline exports came in at 128 kbd, marking the eighth consecutive year of increases, mostly stemming from Russia’s upgrading of secondary refining units and adding Belarusian gasoline volumes to its exports. Nigeria was the largest buyer of Russian gasoline in 2023, importing 30 kbd, however with the start-up of the 650 kbd Dangote refinery this is bound to change relatively soon.

The UAE and Libya come in a close second and third, and we would expect these two countries, potentially joined by Ghana, to see the majority of Russia’s gasoline flows in 2024. Interestingly, rail deliveries of gasoline from Russia came in at 67 kbd last year as Mongolia (largest market outlet with 16 kbd flows in 2023), Uzbekistan and Afghanistan stepped up their purchases.

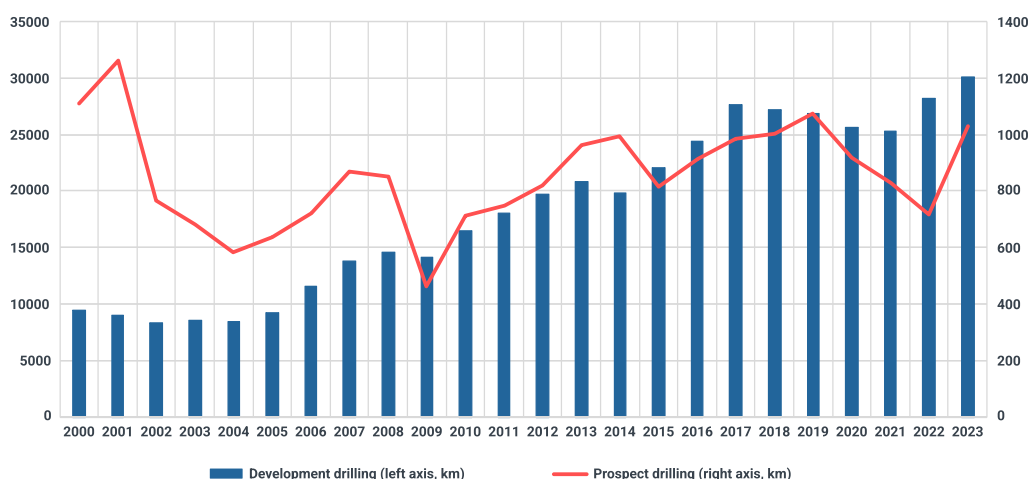
Russia gasoline exports by destination (kbd)



Drilling

Barred from bringing in new supply into the market by means of the OPEC+ agreement, Russia has been ramping up upstream activities both in development and exploration drilling. Building on the post-pandemic recovery seen in 2022, development drilling has soared to the highest level on record, reaching 30,094 km, up 7% from the 2022 total of 28,173 km. In doing so, state-controlled Rosneft and Gazprom Neft took the lead, with the former ramping up its drilling operations from 11,061 km in 2022 to 11,612 km in 2023, whilst the latter saw its spudded activity rise from 3,109 km to 3,636 km. Regional producer Tatneft, which mostly exploits the mature Volga-Urals basin in Tatarstan and Bashkortostan, has also witnessed a notable uptick in development drilling, up 65% y/y to 1,622 km spudded. Lukoil and Surgutneftegaz have been trending sideways as their future portfolio of project expansions isn't as wide as that of the state-controlled oil champions.

Exploration and development drilling annual aggregates (km)



Development drilling is seasonal in Russia as it tends to peak in the summer months and wanes towards the winter, so the current increase only highlights the fact that Russian producers don't expect any disruptions to their operations. Rosneft has never been drilling as actively as it is doing right now (drilling more than 1,000 km in one month for the first time on record in May 2023). Interestingly, from all Rosneft's subsidiaries most of the recent production cuts came from Yugansk, the traditional Western Siberian production base of Russia's NOC. This has become a routine phenomenon for Russia, mostly cutting brownfield mature fields in W-Siberia rather than delaying or postponing greenfield projects that are coming up.

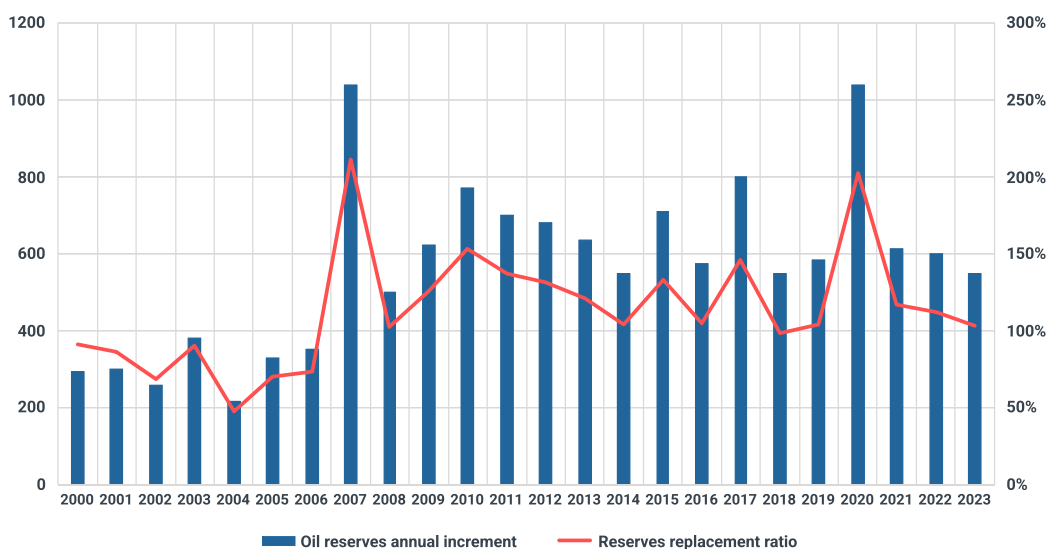
At the same time, there's a great deal of development drilling taking place within the Yugansk subsidiary, especially after Rosneft started to experiment with fishbone drilling there and reporting 50-60% increases in well productivity. This would seem to suggest that Rosneft does not want to keep its supply reduced in the longer term. By now, Russia's spare production capacity already topped 700,000 b/d and depending on how Vostok Oil will be commissioned (it seems increasingly unlikely that it will see its promised launch by the end of 2024), it might rise even further next year.

Exploration drilling has been much more affected by the shock impact of Western sanctions, with most Russian oil firms curbing their investments into projects that would only become relevant by the late 2020s. However, 2023 witnessed a steady recovery as Russia surpassed the exploratory threshold of 1,000 km drilled across the year, doing so for the first time in the post-pandemic period. In contrast to development drilling, the exploration activity was not the highest on record, back in 2019 Russian producers managed to spud a total of 1,076 km in prospect drilling. The 2002 result of 1,260 km remains the all-time annual high, harking back to the halcyon days of Russian upstream expansion.

Lukoil has been the biggest incremental factor in terms of exploratory drilling, effectively moving back to 2019 levels of activity with 190.5 km spudded between January and December 2023. Whilst Surgutneftegaz retained its No.1 as Russia's main explorer, its prospect drilling saw only minimal y/y change as the 2023 tally came in at 239 km. The erstwhile champion of frontier exploration and appraisal Rosneft still struggles to maintain the level of exploration investment it boasted before 2022, with its exploration drilling last year amounting to 133.5 km, a slight y/y increase.

One could argue that Rosneft's appetite for exploration drilling has shrunk after it sold some of its brownfield assets to NNK (a company owned by the former CEO of Rosneft, Eduard Khudaynatov) in exchange for Taimyrneftegaz, the legal entity operating the Payakha field that's believed to become the crown jewel of the Vostok Oil development. However, NNK did not increase its drilling activity in the same measure that Rosneft was declining. The national oil champion drilled 245.7 km in 2020, the last year before its asset reorganization, marking more than 110 km drop between 2020 and 2023 readings. NNK stood at a mere 5 km spudded in 2020 and moved up to 60 km last year, suggesting Rosneft is still roughly 50-55 km short of what its assumed performance should be (despite having the resources and bandwidth to do so).

Russia's annual reserves replacement (Mt, %)



Looking at the results of exploration drilling, Russia's oil companies have defied uninspired expectations and totalled 550 Mt, marking the fourth consecutive year to see the reserve replacement ratio above 100%. That said, the 43 new oil discoveries recorded last year failed to impress with most of them being small or medium-sized. The largest oil find of 2023 was Lukoil's Maganov field in the Caspian Sea's offshore (previously known as the Titonskaya prospect), with recoverable reserves of 65 Mbbls.

This pales in comparison with previous years; the largest oil discovery of 2022 was Rosneft's Madachagskoye field abutting Lukoil's Varandey project where recoverable reserves were assessed tenfold higher, at 650 MMbbls. Thus, despite solid drilling activity, the results thereof might take many years to materialize. The fact that oil companies have effectively stopped drilling high-impact Arctic or deepwater exploration wells also adds to the fragmentation of new discoveries as thoroughly appraised Western Siberian basins are unlikely to wield any new giant find.

Infrastructure

Inasmuch as Russia's new 4-year plan to develop the country's oil infrastructure remains veiled in secrecy, the country's deputy prime minister Alexander Novak has nevertheless hinted at the main factors for infrastructure development. Having expanded ESPO takeaway capacity along the ESPO pipeline to 860 kbd, the Russian authorities are now looking at additional means of boosting throughput towards the Asian markets. First, rail capacity to Kozmino could be boosted by a further 140 kbd, i.e. if everything goes well, the medium sweet grade could see its overall volumes increase to 1 Mbd if the Meget-Gruzovaya rail line becomes fully utilized by oil companies. Russia's pipeline transportation company Transneft spent almost a year on re-commissioning the Gruzovaya station and finished works by May 2023.

Incremental volumes going into the ESPO pool in Kozmino can already be seen in flows volumes (see above), with export hitting a record 934 kbd in November and the average pace of loadings has been trending around 890-900 kbd in the first months of 2024. That said, Transneft is still far away from utilizing the nameplate capacity of Kozmino, slightly above the 1 Mbd mark. The main pain point will be rail tank car availability as the Russian Railways continue to struggle under the burden of transporting coal and container cargoes along the same Trans-Siberian Railway route, with very limited upside for new takeaway capacity.

Whilst Primorsk is also set for capacity expansion, it seems that the Black Sea port of Novorossiysk is set to see the biggest capacity increase in the next couple of years, going from 800 kbd currently to 1.05 Mbd by 2025. Even the current capacity has only been utilized to approximately 75%, with 2022 loadings including KEBCO and Kazakh-origin Urals amounting to 600 kbd. The prioritization of Black Sea loading capacity (as opposed to Baltic ports) makes perfect sense, considering a usual delivery to India takes some 25-30 days, i.e. 5-10 days less than from Primorsk or Ust-Luga.

Moreover, Novorossiysk is geared much more towards Suezmax tankers than Russia's Baltic ports (due to the Danish Straits' 100 kt weight and 15 m draft limitations). Consequently, Novorossiysk loadings remain much more profitable for Russian exporters on a per-barrel basis, so expanding export capacities for terminals that can load larger vessels would be in the interest of sellers. At the same time, winter delays along the Bosphorus and Dardanelles are set to become even worse than they have been up until now.

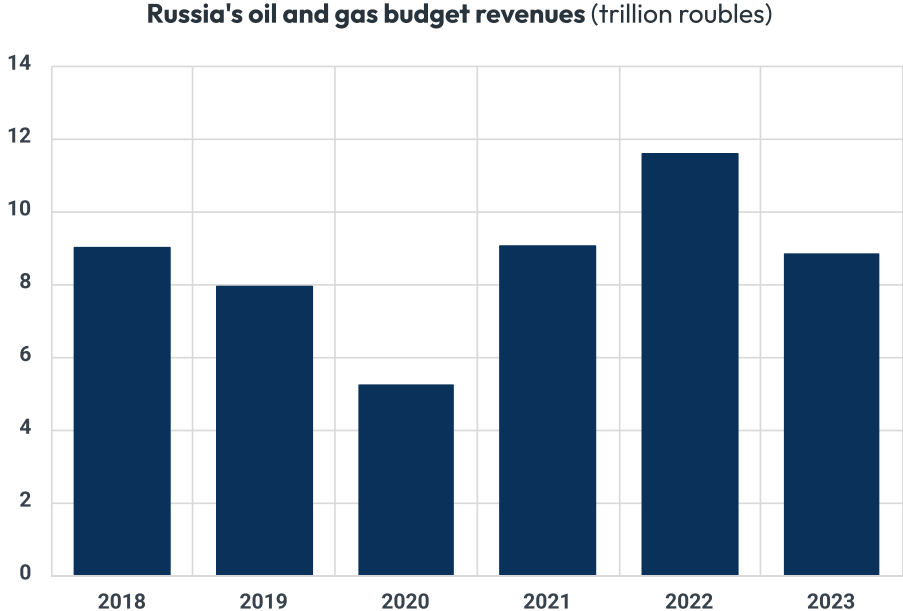
Limited oil and products storage remains a chink in the armor of Russia's oil industry. Operational storage in Russian refineries remains fairly limited, with a nationwide capacity of some 26 MMbbls, still a reflection of erstwhile Soviet planning when building out storage tank farms was considered less important than connecting downstream assets to trunk pipelines for non-stop supply. Whilst one could argue that the massive Transneft pipeline system is just as useful as a storage unit, however export loading terminals, too, have limited capacity to store. Overall, we believe Transneft has an operational storage capacity of some 160 MMbbls overall, paling in comparison to the likes of China or the United States.

First investment decisions on new crude storage are already in place – the ports of Primorsk and Ust-Luga will add a 50 MMcm (roughly 315 kb) storage tank each, to be completed by 2024-2025. Given the small volumes involved, this is unlikely to alter anything on a large scale, however, these storage tanks will most probably act as harbingers of further investment into new tank farms which might be located farther out from the shore. Additionally, Belarus has set to erect a new strategic reserve tank farm that would be able to accommodate 10 MMbbls of crude. Given the increasing confluence of Russian and Belarusian oil interests and the absolute lack of information when it comes to the latter's refinery operations, this storage might just as well be used as a temporary outpost for Russian barrels in force majeure situations.

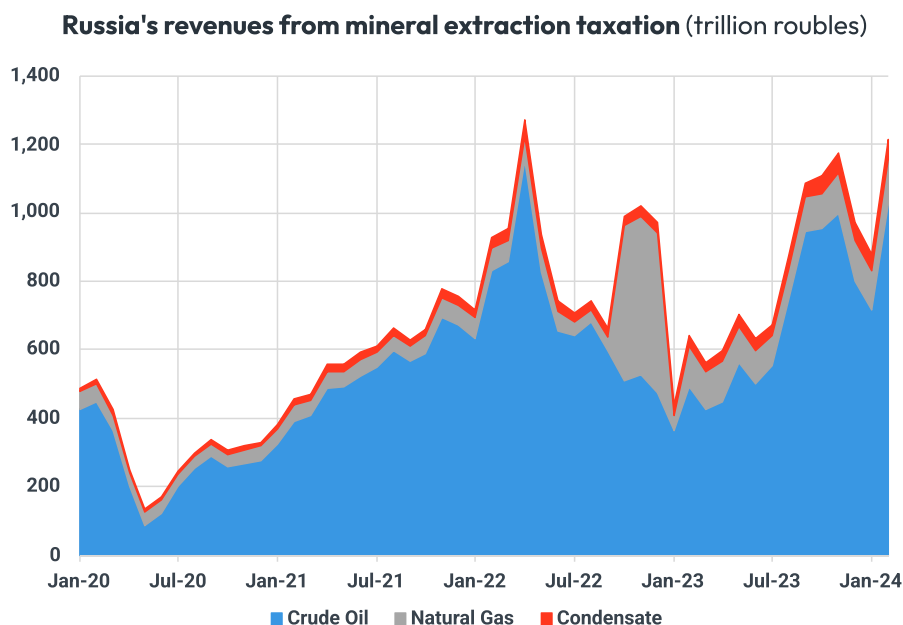
Revenues

The G7 price cap on crude and products did very little to stymie the flow of Russian hydrocarbons globally, however, as we have come to learn from the utterances of top US officials, that was never really the purpose of the sanctioning endeavour. The stipulated goal was to curb Russia’s government revenue, which it ultimately did. According to Russia’s Ministry of Finance, oil and gas revenues have come in at 8.82 trillion roubles, equivalent to \$103.2 billion. This is almost 24% lower y/y compared to the bumper 2022 revenues of 11.58 trillion roubles (\$165.75 billion with the 2022 average exchange rate) and 38% lower in dollarized terms, attesting to the concurrent devaluation of the Russian rouble as a means of mitigating the impact of sanctions. It is hardly surprising that government oil revenue fell, considering the price of Brent has also declined by 17% between 2022 and 2023, plunging to an annual average of \$82.17/bbl last year from \$99.04/bbl in 2022. Having ascertained that Russian government’s oil revenue fell more than oil prices did, let’s look into the details thereof.

First and foremost, one should note that world prices of crude have seen relatively little change between H1 and H2 2023. At the same time, Russia’s budget revenues shot up from 3.38 trillion roubles in H1 to 6.11 trillion in the second half of last year, almost doubling. What is pertinent about this is that there has been relatively little change in flat prices across 2023 – the H1 average of ICE Brent came in at \$79.91/bbl, whilst the H2 average added up to \$84.40/bbl. Price cap sanctions on crude were in place across the entire year, that was a constant feature of the Russian oil market. Which leads us to the nuanced issue of Russian pricing, namely that Moscow required some time to adapt to all the changes happening when trading Urals or ESPO, reacting much slower than oil exporters did.



The crux of the matter lies in the seemingly inextricable links between Russia's oil industry taxation and Urals assessments of leading price-reporting agencies. Almost immediately after the Russia-Ukraine war began, Urals differentials plunged into double-digit discounts. To take just one example, FOB Primorsk differentials trended around a -\$2/bbl discount to Dated in early February 2023 and fell as drastically as -\$35 or -\$40/bbl vs the European physical benchmark.

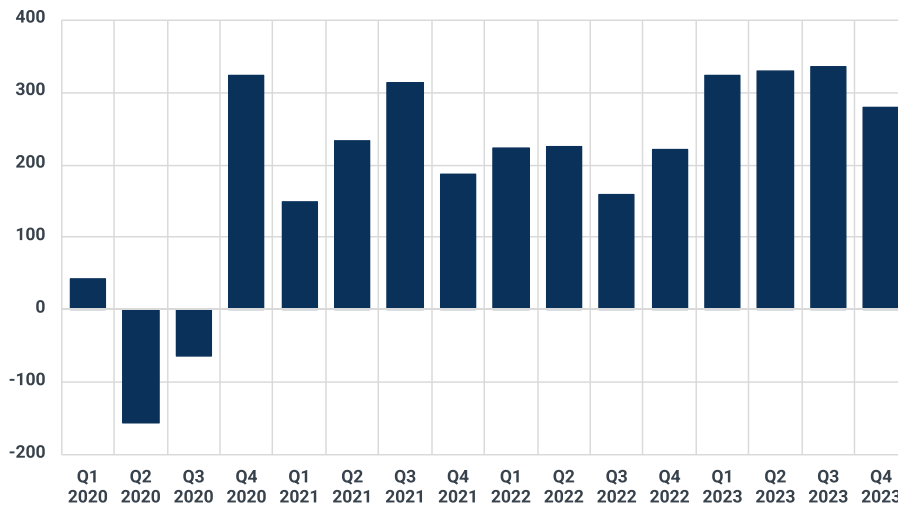


In 2022, there were no changes to Russia's taxation even though some segments of the government started to awaken to the fact that actual delivered prices to destinations differ from published quotes. The reason is fairly straightforward – market participants have stopped sharing any information regarding their Urals sales or purchases, cognizant of the blowback they could receive in case the transaction becomes public knowledge. Shell bought a Suezmax cargo of Urals at a -\$28.5/bbl discount to Dated and the public outcry effectively forced it to halt Russian trading altogether.

The erstwhile CIF Rotterdam and CIF Augusta benchmark differentials gave way to netbacked FOB prices in early 2023, purported to better reflect market conditions as Russia's Finance Ministry continued to use Argus quotes to establish its taxation base. However, even such a setup was fraught with disappointment for Moscow because it placed too much faith in the PRAs' capacity for timely price discovery in a market that went almost immediately underground, with only a selected few traders and buyers seeing where Urals differentials went.

When price reporting agencies started to publish their first DAP West coast India differentials, ultimately becoming the new benchmark for Russian pricing, the discrepancies between FOB and DAP prices were just too ample to be real (up until the summer months they were around \$15-20/bbl even though freight never really went beyond \$10/bbl). Even the first PRA-reported DAP India prices were undervalued, presumably because the markets at large didn't believe Urals would be trading around a \$10-12/bbl discount to Dated after a year of Urals differentials getting clobbered in Europe.

Rosneft quarterly net profit (trillion roubles)

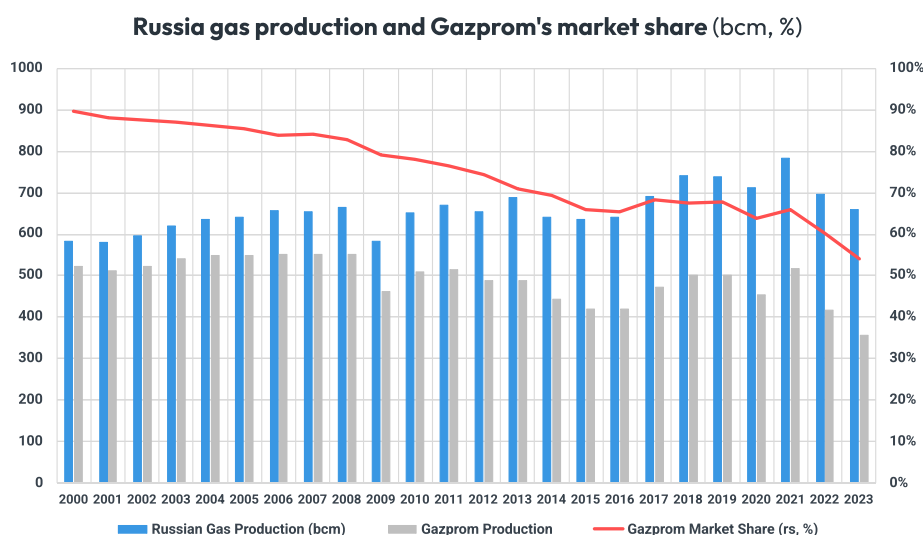


By the spring months of 2023, a new modus operandi was found, with the Finance Ministry effectively setting the taxable basis of Urals in order to squeeze more Mineral Extraction tax from the country's producers. In its first month of existence, April 2023, the synthetic Urals differential to Dated was set at a \$34/bbl discount, gradually tightened up to -\$31/bbl in May, -\$28/bbl in June, -\$25/bbl in July and -\$20/bbl from September onwards. Having realized that such a fixed discount finally started to close the gap between companies' actual earnings and the taxable income that the Russian authorities saw (creation of the shadow fleet notwithstanding), the synthetic discounts were extended into 2024-2026 as well, stipulated at -\$20/bbl in 2024, -\$15/bbl in 2025 and -\$10/bbl in 2026. Considering Urals delivered to India traded approximately at a -\$3/bbl discount to Dated at the time of writing in 2024, with Suezmax freight costs averaging \$7-7.5/bbl, Russian exporters would need to depress shipping costs substantially by 2026, should they want to avoid overpaying taxes compared to their actual revenues.

Natural gas

In stark contrast to oil markets which saw an increase in both production and refinery runs last year, production of natural gas marked another y/y decline. Falling by 5.5% compared to 2022, the 2023 tally came in at 636.7 bcm or 37.1 bcm lower y/y, which is even lower than the fairly conservative government assumption stipulated for the year (642 bcm). One might come across 2023 natural gas production aggregates that would be higher than this, a separate realm of statistic data would indicate 659.2 bcm being produced last year, with the difference stemming from the inclusion of flared gas output.

When it comes to flaring, Russian producers have been able to effectuate only marginal downward changes, shedding 1 bcm from the 2022 totals of 23.35 bcm. Rosneft remains the largest factor in Russian gas flaring, accounting for 60% of all volumes lost or 12.95 bcm in absolute terms. For Gazprom, traditionally the largest gas producer of the country, 2023 supply has become a historical low point as restricted export availabilities have prompted another y/y decline. The 358 bcm that Gazprom produced last year, down 14% compared to 2022, is the lowest in the company's 34-year history.

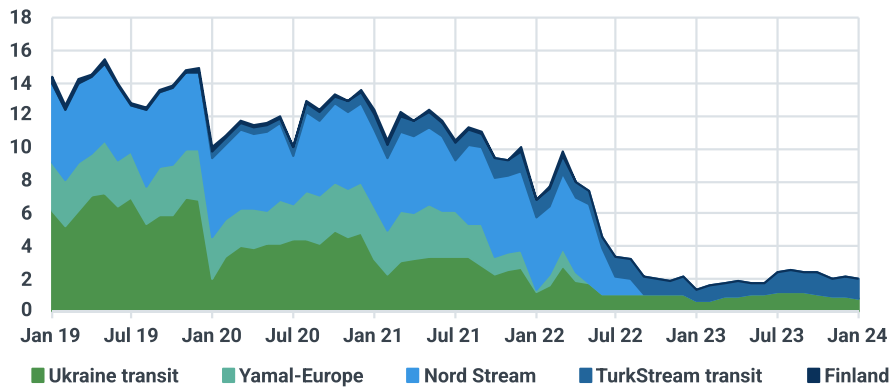


Comparing Russia's natural gas export infrastructure to its oil pipelines and export terminals, it stands out that Gazprom's long-term strategy of focusing on giant midstream projects all running into Europe has backfired and the main reason why its production plunged a whopping 110 bcm in just two years is down to a lack of export options. The only still operational direct pipeline from Russia to Europe, Brotherhood (ironically, also the oldest conduit of all, tacitly celebrating its 50th year of operation in 2023), saw Ukrainian transit volumes drop from 16.7 bcm in 2022 to 11.85 bcm last year.

The Yamal-Europe pipeline through Belarus remains shut since April 2022, whilst Nord Stream last witnessed any physical deliveries in August 2022 before three out of four subsea pipes were rendered inoperable by a series of explosions. Gas volumes transited through the TurkStream subsea pipes onward into the EU rose marginally last year, the only Europe-bound supply route to witness a y/y increase, however its upwards move from 11.66 bcm in 2022 to 12.23 bcm in 2023 is unlikely to wield any significant impact.

The TurkStream transit volumes might have crumbled relatively quickly after the Bulgarian government introduced a 10/MWh levy targeting specifically Russian gas passing through its territory, however Hungary threatened to veto the Balkan country’s accession to the EU’s Schengen area if Sofia didn’t abolish its freshly passed law. By December 2023, Bulgaria’s parliament revoked the initial bill, keeping the TurkStream transit to North Macedonia, Serbia and Hungary relatively safe, for the time being.

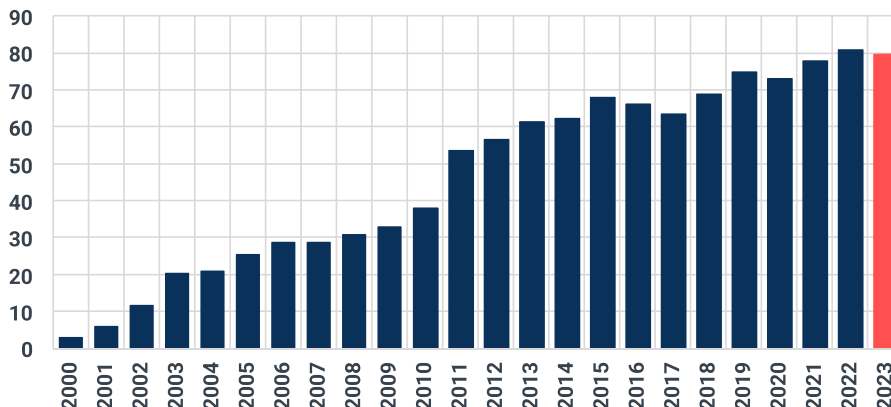
Russia's pipeline gas exports by route (bcm/month)



For Novatek, the second largest producer in Russia, output figures have been stagnant, with the 2023 aggregate of 79.56 bcm marginally lower than last year’s 80.54 bcm. The main reason for the y/y decline lies in a heavy summer seasonal downturn period that prompted Novatek to cut output at the Yuzhno-Tambeyskoye field that feeds Yamal LNG below 2 bcm/month in June–August. That said, Novatek has been ramping up production ahead of the impending launch of Arctic LNG 2. By December 2023, Novatek’s monthly production soared to record highs of 7.4 bcm/month as the LNG-focused gas producer ramped up output at the Utrenneye field, feeding Arctic LNG 2.

The project itself, potentially wielding Russia’s largest liquefaction capacity of 19.8 mtpa with three 6.6 mtpa trains, might be one of the most closely followed launches of 2024. Commercial quantities of natural gas production for the first train started back in early November, simultaneously to the US State Department’s listing of the Arctic LNG 2 project operator on its list of Specially Designated Nationals, prompting the exodus of shareholders. France’s TotalEnergies, China’s CNPC and CNOOC as well Japan’s Arctic LNG consortium all held a 10% stake in the project, with Novatek controlling the remaining 60%.

Novatek gas production (bcm/year)



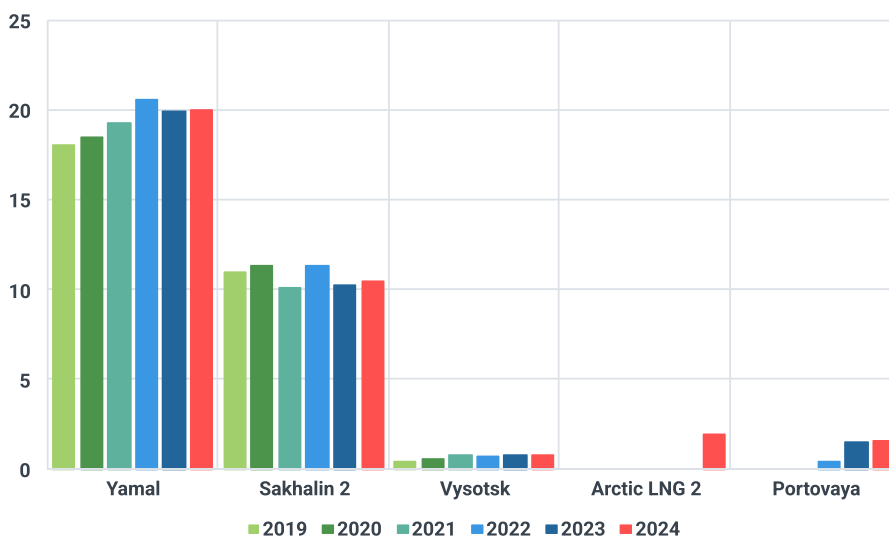
Both Chinese stakeholders have asked the Biden administration for exemptions from Arctic LNG 2 sanctions, potentially indicating they would return to the project in one form or another. Europe’s sole representative, TotalEnergies, has pointed towards the political difficulty of adding more Russian gas to its portfolio, all the more so as Brussels has granted respective EU member states the right to halt gas imports from Russia.

So, whilst Gazprom is bemoaning the “artificial destruction of natural gas demand in Europe”, saying that consumption has not been as weak as it is currently since 1996, the reality is that there’s very limited upside for Russian gas exports to the European continent. That also applies for LNG supplies. Current commitments notwithstanding - Yamal LNG remains a Europe-focused with the Old Continent accounting for 74% and 73% of all deliveries in 2022 and 2023, respectively – the force majeure called on TotalEnergies’ Arctic LNG 2 deliveries this year will most probably mean no significant flows of ALNG2 will be sailing towards Europe.

The confusion of early 2022 when both ExxonMobil and Shell, operators of Russia’s legacy production sharing agreements within the respective Sakhalin-I and Sakhalin-II projects Continental shelf production, quit Russia in the first weeks of the Russia-Ukraine war, have given way to an almost normal modus operandi seen across Russia’s Far East in 2023. Gas production in Russia’s continental shelf totalled 31 bcm in 2023, up almost 15% y/y compared to 27.1 bcm in 2022. In terms of output increments, production gains at Sakhalin-I stand out amongst all shelf projects last year, coming in at 9.68 bcm or 62% higher y/y, as Rosneft took over Exxon’s role as project operator.

The scope of the recovery is understandable, given that ownership disputes dragged Sakhalin-I production in June–October 2022 to an absolute minimum of 100–150 MMcm/month, only to recover to the usual pace of production at 1 bcm/month by Q4 2023. Gas production at Sakhalin-II, with Shell’s stake taken over by Novatek in early 2023 for a total of \$1.16 bn, has come in slightly lower y/y – 16.75 bcm last year vs 18.33 bcm in 2022 – however the root cause for such lower volumes was a prolonged maintenance routine at the Piltun–Astokhskoye and Lunskoye offshore fields.

Russia LNG exports by terminal (Mt LNG/year)

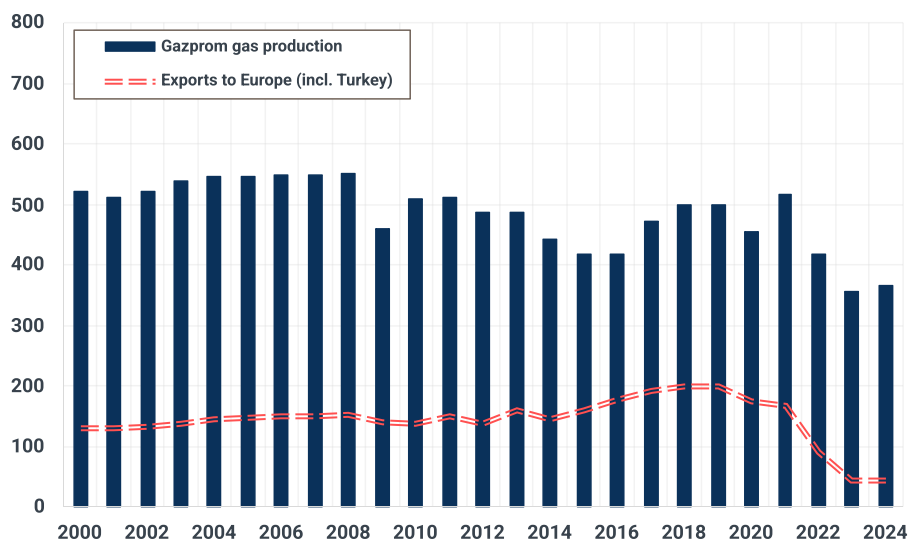


Russia's LNG exports came in slightly lower y/y in 2023, reaching 32.33 mt after the all-time high of 32.88 Mt attained the year before. Both Yamal LNG and Sakhalin 2 failed to keep up with the 2022 pace of exports, mostly due to extended maintenance works (the second train of Yamal LNG went down in June 2023 and the third train in August, whilst Sakhalin 2 saw turnarounds in July-August). There is no maintenance planned at Yamal LNG for 2024, so absent any force majeure events exports from the Sabetta terminal should come in closer to 21 Mt. The pace of launching Arctic LNG 2 commercial operations will be a key determinant in Russia's LNG export increment this year.

Expecting the first ALNG2 loading to take place in March 2024, we see the annual LNG export tally lifted some 2.5 mtpa above last year's readings and coming in at 34.8 Mt. With the second train of Arctic LNG 2 expected to be commissioned by mid-2025, the growth in LNG will continue further on in 2025. Gazprom's Ust Luga LNG project that it has been developing with JV partner RusKhimAlyans was tentatively postponed till the second half of 2026. Having received a \$10 billion investment boost from the Russian government's National Welfare Fund, the Ust Luga LNG project might seem further steps towards development, however the lack of easily scalable domestic liquefaction technology might sap the future Gazprom's proposed liquefied gas complex in the meantime.

Some additional pipeline upside might come from the restart of Russian pipeline gas supplies to Uzbekistan, with Gazprom signing a two-year supply deal for 2.8 bcm/year of gas deliveries as the Central Asian country's own gas output edges lower. Gazprom top officials have indicated that Gazprom would officially sign new 15-year sales agreements with Kazakhstan, Kyrgyzstan and Uzbekistan at the St. Petersburg International Economic Forum to be held in June 2024. It seems that Kazakhstan might be courted by Gazprom with the aim of ramping up China-bound swap mechanisms. Kyrgyzstan's import requirements are highly unlikely to provide any significant upside; the Central Asian republic is already buying small volumes of Russian gas, around 0.3 bcm/year.

Gazprom gas production and European exports (bcm)



The counterbalancing of shrinking Europe-bound flows and higher Asia-bound volumes will determine the medium-term future of Russia's gas sector. We expect Power of Siberia-1 deliveries to China to rise to the contracted level of 30 bcm in 2024, up from 22.7 bcm last year. The 50 bcm/year capacity Power of Siberia 2 pipeline (occasionally also labelled Soyuz Vostok) has seen the finalization of its front-end engineering design study by Q4 2023, however there is still no commercial agreement between Gazprom and CNPC. Moscow is lobbying for a deal, seeking to start gas deliveries via the PoS2 pipeline before 2030, however Beijing took 10 years to negotiate the PoS1 contract and is unlikely to make big concessions.

Looking into Russia's total gas production in 2024, we expect the country's producers to edge slightly higher. The full-year stable performance of Far Eastern LNG-focused projects, a lighter maintenance schedule, Gazprom ramping up the Chayandinskoye field (feeding Power of Siberia-1) to full capacity by year-end, Novatek boosting the Utrenneye field to fuel the first train of Arctic LNG 2; all this will add up to Russia's production hitting 680 bcm next year. In the longer term, the future of Ukrainian transit will shape Gazprom's sales potential towards European customers, with there being a 12 bcm/year downside after the current 5-year contract runs out in December 2024.

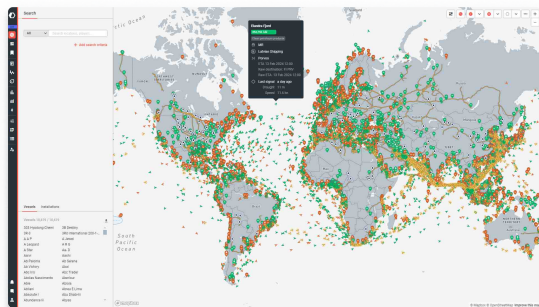
In Russia's Far East, the Yuzhno-Kirinskoye field is set for a commercial launch in 2025-2026, arguably the largest greenfield gas field to be launched through 2030, with its peak production expected to plateau around 21 bcm/year. Yuzhno-Kirinskoye is expected to be the feed for 10 bcm/year supply deal signed in February 2022, usually labelled "Sakhalin-3" or quite plainly "The Far Eastern route", seeing the concurrent launch of the field and the expansion of the already operational Sakhalin-Khabarovsk-Vladivostok pipeline. Attesting to the expedited development of Sakhalin-3, Gazprom brought back its two semi-submersible drilling rigs to the east of Sakhalin, drilling development wells on the Yuzhno-Kirinskoye field last year.

Meanwhile, Gazprom's Asia pivot might be simultaneously buoyed by an expanded gas-derived product offering. Thanks to the Q4 startup of the Amur gas processing plant, a long-anticipated element of the company's Power of Siberia project built on the Chinese border to separate chemical components from gas, Russia's helium production has effectively tripled to 1.3-1.4 MCM/month. In contrast to purer Western Siberian gas fields, Gazprom's key Eastern Siberian producing assets have a much higher helium content, especially Chayandinskoye boasting on average 0.5-0.6% (under Russian classification, any gas field with helium content higher than 0.3% is considered to be "very rich" in helium). Considering the cryogenic gas separation technology used at the Amur GPP was sourced from the industrial gas major Linde, this would seem to suggest Gazprom managed to launch helium production despite the latter's exit from the project in June 2022.

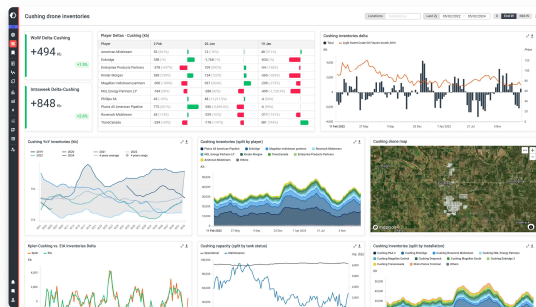
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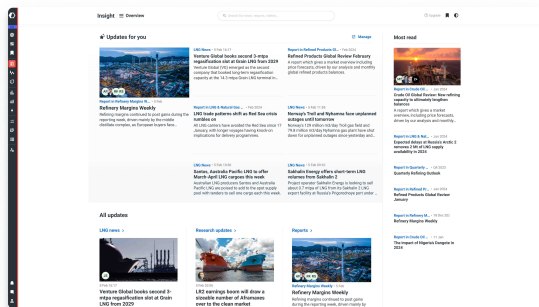
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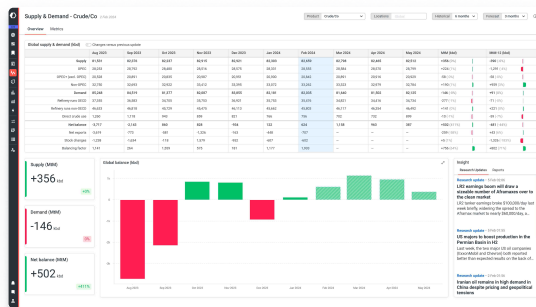
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