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Kazakhstan: questionable source of crude oil supply for Central European refineries

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The entry into force on December 5, 2022 of European Union sanctions against Russia, which prevent the import of crude oil from that country by sea, has forced refiners in Europe, including those in Central Europe, to seek alternative grades, including from Kazakhstan. On one hand refineries in Germany are counting on crude oil supplies from that country, but the direction of imports (the Druzhba pipeline) is problematic. On the other hand, refineries in Central European countries are already processing crude oil from Kazakhstan, but in limited quantities (mainly plants in the Czechia and Romania).

Kazakhstan's importance in the oil market. Kazakhstan is one of the largest crude oil producers in the world with an average production of 1.8 million barrels per day (the three fields of Tengiz, Kashagan and Karachaganak are the most important, accounting for 60% of domestic production)¹. The vast majority of production (about 80%) is directed for export. Kazakhstan has three refineries (Atyrau, Pavlodar, Shymkent) with a combined capacity of 400,000 barrels per day. These volumes are sufficient to meet the country's emerging fuel demand.

Export of produced crude oil in Kazakhstan is carried out through four main channels. First – the CPC pipeline, with a capacity of 1.3 million barrels per day, which allows the export of crude oil from Kazakhstan through Russian territory to the Yuzhnaya Ozereyevka oil terminal near Novorossiysk on the Black Sea. Second – the Atasu-Alashankou pipeline, which allows crude oil exports from Kazakhstan to China, with a capacity of 400,000 barrels per day. Third – the Baku-Supsa pipeline, which runs through the territory of Azerbaijan and Georgia (deliveries are made sporadically to Azerbaijan by ship). Fourth – the Atyrau-Samara pipeline, which connects the Kazakh and Russian pipeline systems and enables to transport crude oil to the port of Ust-Luga on the Baltic Sea. Deliveries via this route are possible, as through the Russian system the crude oil is delivered to the storage base in Uniezza near the Belarusian border, and then via the BTS-2 pipeline to the Ust-Luga oil terminal. Taking transport channels into account, the CPC pipeline has been the most important for Kazakhstan for many years – and through this pipeline KazMunayGas company is likely to maximize exports in the coming years, given the volume of crude oil sales.

Germany is counting on crude oil imports from Kazakhstan. For several weeks there have been signs that two refineries in Germany – in Schwedt (throughput is 226,000 barrels per day) and Leuna (236,000 barrels per day), which import crude oil via the Druzhba pipeline, as well as partially through the oil terminal in Gdansk and Rostock – are interested in crude oil supplies from Kazakhstan. Deliveries would thus be made precisely using the Druzhba pipeline. At the end of December 2022, an agreement was signed between KazTransOil (Kazakhstan's pipeline operator) and Gornetransneft-Druzhba (Belarus' pipeline operator) for the transit of Kazakh crude oil through Belarus. According to Kazakhstan's declarations, such test deliveries are to be made in January 2023. It is still unclear what position Poland and Russia will take on this issue. Importantly, such deliveries have not been made in the past. At the same time, sea imports to Germany from Kazakhstan (CPC Blend grade) are rare, as only two deliveries of this crude to these two refineries took place between 2016 and 2022, with the last one in March 2022. This situation is mainly influenced by the physical and chemical properties of the two grades – crude oil from Russia contains more sulphur (sulphur: 1.48%) and is lighter (API: 30.6), while crude oil from Kazakhstan contains less sulphur (sulphur: 0.55%) and is heavier (API: 46.6). Therefore, Kazakhstan crude oil cannot be considered an ideal substitute for Russian crude oil, but only as a supplement to supplies of grades comparable to Russian (e.g., from Saudi Arabia, Iraq or Iran).

Crude oil supplies to Central Europe. For years, Russia played a key role for most refineries in these countries. However, the Russian-Ukrainian war has meant that many refineries are now looking for substitutes for Russian grades. In the past, a few plants have also imported crude oil from Kazakhstan, with the country's share of supplies so far being small. In Central Europe, crude oil from Kazakhstan is imported primarily by refineries in the Czechia (Kralupy) and Romania (Năvodari). In Czechia, there are two small refineries – in Litvínov and Kralupy – which import crude oil through two independent channels (Litvínov – the Druzhba pipeline; Kralupy – the TAL and IKL pipelines). This causes other grades to be processed at the plants (Litvínov – crude oil from Russia; Kralupy – crude oil from various directions, including Kazakhstan). Supplies from this country account for about 10-12% of annual demand. On the other hand, three refineries operate in Romania – one in Năvodari and two in Ploeshti. Crude oil imports from Kazakhstan are primarily to the Petromidia refinery in Năvodari, which is owned by Rompetrol Rafinare. The plant is owned by the Romanian government (44.7%) and KMG International (54.63%), a subsidiary of the Kazakh company KazMunayGas. With respect to other refineries in Central Europe, Kazakhstan's crude oil does not play a major role, and supplies are primarily based on spot contracts (e.g., crude oil from the country was processed at refineries in Poland).

¹ Production in recent years has been limited through Kazakhstan's participation in the OPEC+ agreement, as well as a result of the COVID-19 pandemic and technical problems mainly at the Kashagan oil field.

Conclusion

- In Europe, including Central Europe, many refiners are making efforts to diversify their sources and directions of crude oil supply as a result of the entry into force of sanctions on Russia. At the moment, talks are most advanced on the permanent supply of crude oil from Kazakhstan via the Druzhba pipeline to Germany. However, despite the agreement reached between pipeline operators from Kazakhstan and Belarus, there is no certainty that such deliveries will actually take place. Russia will probably agree to transit through its territory, as it will still be able to use the pipeline for business (profit from pumping this commodity) and political purposes (the ability to decide on the volumes and timing of deliveries). In contrast, the position of the Polish side, including PERN S.A., remains to be seen.
- Taking into account the export channels (their size), Kazakhstan will maximize crude oil exports to international markets in the coming years mainly through the Black Sea oil terminal. While the transport of crude oil through Russia, Belarus and then to Poland and Germany (Druzhba pipeline, northern line) or through Ukraine to Central European countries (Druzhba pipeline, southern line) is technically possible (crude oil from Russia and Kazakhstan at the time of transport will not be mixed), there is a political doubt about such cooperation. For EU countries that impose sanctions on Russia and Belarus, the possibility of further cooperation with Russia in the energy field again raises concerns about Russia's use of commodities as political tools and making the volume and timing of crude oil pumping to Europe dependent on political decisions.
- If Kazakhstan's crude oil supplies to Germany were realized, there would be an opening of the possibility of transporting this commodity also to other countries in Central Europe via Belarus (the Druzhba pipeline system). If such deliveries to Germany were realized, it is possible that other plants would be interested in importing crude from Kazakhstan, including primarily the refinery in Kralupy in Czechia. However, even if such deliveries were to take place, they would be complementary to crude oil imports from other directions – due to the nature of Kazakhstan's crude.
- Kazakhstan is one of the largest oil producers in the world, but its market share compared to Russia is significantly smaller (Russia's market share in 2021, i.e. even before sanctions, was at 12%, while Kazakhstan's was at 2%). Thus, even if, according to government forecasts, Kazakhstan's production in 2023 is expected to increase by 6% compared to the 2022 level, the country still cannot be treated as a guarantor of energy security for Central European refineries, and supplies even to the German refineries themselves – if realized – will only supplement imports realized primarily through oil terminals in Gdansk and Rostock.