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Impact of Russian-Ukrainian war on crude oil supplies to Bulgaria and Romania

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The Russian-Ukrainian war has reoriented the refining sector in the Central European region, including Bulgaria and Romania. The crude oil processing plants operating in these countries had for years imported a large amount of crude oil from the Russian Federation. The change in international conditions has contributed to the activation of efforts to diversify crude oil supply sources. Nevertheless, the refineries in Bulgaria and Romania face numerous challenges due to the ownership aspect (Lukoil controls two of the four plants) and the availability of non-Russian crude oil in the region.

Specifics of the crude oil sector. A total of four refineries operate in Bulgaria and Romania, with a total refining capacity of about 374 thousand barrels per day (about 3% of the refining capacity of all refineries in Europe). Bulgaria operates the most modern and largest refinery in the region, in Burgas (140 thousand barrels per day), which imports crude oil through the Rosenec oil terminal on the Black Sea. The plant is owned by Russia's Lukoil through Lukoil Neftochim Burgas, which is subject to international sanctions imposed on the Russian Federation over its full-scale attack on Ukraine in February 2022. Nevertheless, the plant can, based on the derogation granted, import crude oil from Russia by sea until the end of 2024. In terms of technological sophistication, it is a semi-complex refinery of the fuel type with the highest Nelson complexity index in the Balkans, which determines the complexity of the crude oil processing (13 points)¹.

Romania, on the other hand, has three plants with a combined capacity of 234,000 barrels per day. One is located in Năvodari on the Black Sea (Petromidia – 100 thousand barrels per day), while two are in Ploiesti, in the central part of the country (Petrobrazi – 84 thousand barrels per day and Petrotel – 50 thousand barrels per day). They process different grades of crude oil, and deliveries are made through two oil terminals, one in Constanta (supplying crude to the Ploeshti refinery) and one in Midia (supplying the Năvodari refinery). In this case, the ownership is different: the Petromidia refinery is owned by Rompetrol Rafinare, which is owned by the Kazakh government-controlled KMG International (54.63% – a subsidiary of the Kazakh company KazMunayGas) and the Romanian government (44.7%), the Petrobrazi refinery – by OMV Petrom S.A. (a subsidiary of the Austrian government-controlled OMV AG), while Petrotel – by the Russian company Lukoil. Considering technological sophistication, these are semi-complex fuel plants with an average Nelson coefficient (Năvodari – 11.4 points, Petrobrazi – 8.8 points, and Petrotel – 10.0 points)²

Directions of crude oil supplies to Bulgaria. The war and the sanctions imposed on the Russian Federation have led to significant changes in crude oil imports to the refinery. In 2022, there was a significant reorganization of the directions of crude oil supplies to the Burgas refinery, which received a derogation for importing crude oil from Russia until the end of 2024 ([“IEŚ Commentaries”, no. 707](#)). Taking into account the indicated conditions, in 2022 the refinery increased crude oil imports from the Russian Federation by a total of 163%. There was also an increase in crude oil throughput at the plant during this period, as partial overhaul work took place in 2021,

¹ In comparison, refineries in Poland have a slightly lower ratio, namely Gdansk: 11.1 points; Plock: 9.5 points. The higher the ratio, the more high-margin products a refinery is able to produce from a barrel of crude oil as well as having more opportunity in selecting the grades it processes.

² On the crude oil sector in Central European countries, see M. Paszkowski, *Przemysł rafineryjny w państwach Europy Środkowej: uwarunkowania, wyzwania, perspektywy*, “Prace IES”, no. 4, Lublin 2022.



which contributed to a decline in fuel production. In 2022, crude oil supplies from Iraq also increased (by 52%), while there were no imports from Saudi Arabia (both directions are of minimal importance in crude oil supplies). As for the Burgas refinery, both in 2021 and 2022, the port of Kalamata in Greece, which is now one of the key transshipment points for Russian crude oil in the Mediterranean (in addition to ship-to-ship operations), was used for crude oil imports from the Russian Federation. In many cases, crude oil from Russia delivered to this port is then transshipped to other tankers. There is speculation that it then figures in the statistics as crude oil not originating from Russia³. So far in 2023, other grades account for only a small portion of the crude oil processed at the refinery (about 8%). Thus, the plant maximizes the processing of Russian crude oil, despite the Sofia government's efforts to reduce the existing dependence. For this reason, Lukoil Neftochim Burgas lost its concession for the exclusive use of the Rosenec terminal in 2023 (the company had been allowed to use it since 2011 for a period of 35 years).

Crude oil imports to Romania. Compared to Bulgaria, Romania's refining sector has different characteristics for three reasons; firstly, the operation of three independent plants in the market, secondly, their high diversity of ownership, and thirdly, two different supply channels: one through the crude oil terminal in Constanta, and another in Midia. These factors led to a decline in crude oil supplies from the Russian Federation in 2022, while crude oil from that country already accounted for only 43% of the grade processed at the facilities compared to 79% in 2021. Importantly, until September 2023, crude oil from Russia officially accounted for only 4% of total supplies. In contrast, crude oil deliveries to Romanian facilities from Kazakhstan (CPC Blend and KEBCO⁴ grades) increased during the period. However, the KEBCO grade is a problematic issue in these supplies. It was introduced by Kazakhstan in 2022 to differentiate the country's crude oil from Russian crude, as the loading of both Russian and Kazakh crude oil onto tankers takes place at the Novorossiysk terminal in Russia ("[IEŚ Commentaries](#)", no. 753). Importantly, there are currently no specifications available for the KEBCO grade (the so-called crude assay)⁵, so there are suspicions that it may be Russian crude oil sold under a different name (among other things, Kazakhstan does not produce Urals-like crude oil, its export policy is conducted within the framework of the OPEC+ agreement, and production remains at a level close to 2022). Under this assumption, assuming the volume of supplies of this grade of crude oil from Kazakhstan together with supplies from the Russian Federation, the share of these grades in the processing of crude oil in all refineries in Romania would be at the level of 66% in 2022 and 50% in 2023. Under such conditions, crude oil from Russia would continue to be the main source of supply. At the same time, it should be pointed out that the share of crude oil supplies from countries other than Russia and Kazakhstan in 2022 was 18%, and in 2023 this share rose to 32%.

Conclusions

- After the start of the full-scale attack by the Russian Federation on Ukraine in 2022, the directions of crude oil supplies to refineries in Bulgaria and Romania have changed, as a result of the sanctions imposed on the aggressor. However, the process of moving away from crude oil from this direction is complicated, despite declarations at the political level. Consequently, crude oil from Russia continues to be processed at refineries in both countries, which may be partly related to political instability, including, among other things, the many changes of government in Bulgaria ("[IEŚ Commentaries](#)", no. 865), the lack of adequate oversight of the oil sector, the limited availability of alternatives to Russian crude oil in the region, and the ownership aspect (Lukoil still owns two of the four refineries in these countries).

³ R. Perkins, *Tanker switching for Russian oil hits record high as sanctions kick in*, 8 March 2023, <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/030823-tanker-switching-for-russian-oil-hits-record-high-as-sanctions-kick-in> [20.10.2023].

⁴ KEBCO: Kazakh Export Blend Crude Oil.

⁵ T. Filiński, *Kazachska ropa z Rosji w Niemczech to pole do szantażu energetycznego Putina*, 23 February 2023, <https://biznesalert.pl/ropa-kazachstan-niemcy-ropociag-przyjazn-mieszanie-omijanie-sankcji/> [15.11.2023].

- With regard to Bulgaria, it can be anticipated that with the change of government and the steps being taken to revise trade agreements ([“IEŚ Commentaries”, no. 955](#)), the state’s position in the energy sector will be strengthened, which will also translate into efforts to reduce crude oil imports from the Russian Federation to the Burgas refinery. However, this process is likely to accelerate only from 2025, due to the facility’s approval to import crude oil from Russia by sea.
- The situation in the refining sector in Romania is more complicated, which, however, is not directly due to ownership issues (Lukoil owns the smallest refinery in the country). The problem is the aspect of crude oil supply from Kazakhstan, which has limited export capacity and must use the Novorossiysk oil terminal for this purpose. Under these circumstances, there is some speculation that the crude oil sold under the name KEBCO is of Russian origin. Consequently, taking into account mutual relations and Russian-Kazakh energy dependencies, the process of diversifying the sources and directions of crude oil supplies to the refineries in Romania will remain highly complicated.