

BULGARIA'S RELIANCE ON RUSSIAN OIL: THE DEROGATION AND BEYOND

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The Bulgarian government should lift the derogation in *EU Regulation (EU) No 833/2014*, which allows Bulgaria to continue importing Russian crude oil until the end of 2024. The Lukoil Neftohim Burgas AD (Neftohim) refinery, ultimately controlled by Lukoil, **can operate efficiently without processing any Russian oil**. The country can source supplies of crude oil and other feedstock from non-Russian sources as well as refined products if needed.¹

The derogation has not significantly lowered prices, as its backers have claimed, or brought higher corporate tax revenues. Instead, Lukoil generated at least \$2.4 billion in surplus profits in 2022/2023 on the back of the steep discount it gets on Russian crude (between \$20 per barrel in 2022 to around \$15 per barrel in 2023). While Ukrainian fuel supplies have dwindled since the start of the war, growing fuel profits continue to feed the Kremlin's war chest. Around **4% of Russia's total oil revenues to the state** going in the budget have been generated by Lukoil's activities in Bulgaria.

Market, consumption and current reserves

In the last five years, Russia has been the **main supplier** of crude oil to Neftohim. Between 2014 and 2022 (Table 1), Russian crude oil imports on average amounted to 73% of total crude oil imports to Neftohim, followed by Egypt at 13%.² However, the share of Russian oil imports was falling during the 2015-2021 period, to as low as 50% in November and December of 2021. Since the Russian invasion of Ukraine, however, Bulgaria became

KEY POINTS

- There are **no economic and technical justifications** to maintain Bulgaria's derogation on Russian crude oil imports to the EU .
- Removing the derogation **will not have a significant impact on final fuel prices** and will in fact remain the lowest in the EU.
- The derogation is the single largest obstacle in Bulgaria's **strategic decoupling** from Russian control over the country's oil market, a powerful tool of Russia's malign economic and political influence.
- Lukoil has generated at least **\$2.4 billion in additional profits** from the derogation in 2022/2023.
- Lukoil's monopoly over the Bulgarian oil market has been critical to Russia entrenching **state capture networks** in the country and subsequently threatening the integrity of the EU.
- If Lukoil does not abide by EU sanctions on Russian oil imports, Bulgaria should put the refinery under special government control.

one of the few European countries that witnessed an **increase in Russian crude oil imports**.

The annual consumption of petroleum products in Bulgaria has been relatively stable at around 4.5 million tonnes of oil equivalent per year (toe/y). The country produces only about 25,000 toe/y of crude oil and condensate, which is equivalent to less than 1%

¹ Center for the Study of Democracy. [Can Bulgaria Survive without Russian Oil?](#). Sofia, 2022.

² Imports from Egypt register oil produced in Saudi Arabia and transported to Egyptian ports via the Sumed oil pipeline.

of demand. Most of the oil consumed in the country is ultimately imported, either as crude oil or other feedstocks refined domestically and then sold in its markets, or as refined products imported from other countries.

Table 1. Imports of crude oil from 2014 to Q1 2023, share of total.

Country of origin	2023 Q1	2022	2021	2020	2019	2018	2017	2016	2015	2014	Average (2014-2022)
Libya		0%	2%	2%	0%	0%	0%	0%	4%	2%	1%
Iraq		2%	0%	0%	1%	3%	1%	0%	0%	0%	1%
Egypt		0%	8%	19%	24%	18%	21%	17%	3%	5%	13%
Israel		0%	8%	2%	0%	0%	0%	0%	0%	0%	1%
Türkiye		0%	0%	0%	1%	0%	1%	3%	3%	3%	1%
Georgia		0%	0%	2%	1%	1%	0%	1%	4%	3%	1%
Cyprus		0%	2%	2%	4%	4%	4%	0%	0%	0%	2%
Romania		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Russian Federation	100%	85%	61%	62%	65%	69%	68%	79%	84%	83%	73%
Other*		13%	19%	13%	3%	5%	4%	1%	3%	3%	7%

Source: CSD based on data from Eurostat/Comext³

Apart from being Bulgaria's largest crude oil importer, Russia also ranks second in origin of Bulgaria's petroleum product imports, finished or used as feedstock. Between 2014 and 2022, the share of oil products originating from Russia averaged at 36%, closely trailing Bulgaria's leading importer of such products, Romania at 37% (Table 2). Since the beginning of the war in Ukraine, there has been a large increase in Russian imports, which now make up roughly half of all petroleum product imports.

Table 2. Imports of petroleum products (CN: 2710), from 2014 to Q1 2023, share of total.

Country of origin	2023 Q1	2022	2021	2020	2019	2018	2017	2016	2015	2014	Average (2014-2022)
Russian Federation	49%	53%	42%	36%	39%	33%	36%	28%	25%	30%	36%
Romania	27%	30%	34%	41%	44%	43%	43%	45%	34%	22%	37%

³ Shipments from non-oil producing countries such as Greece, Georgia, Italy, Israel, etc. register resold quantities.

Greece	13%	7%	10%	12%	7%	9%	8%	15%	26%	20%	13%
Italy	0%	3%	5%	0%	1%	2%	0%	0%	1%	2%	2%
Serbia	6%	3%	3%	5%	5%	8%	6%	4%	4%	3%	5%
Germany	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Belgium	1%	1%	0%	0%	1%	1%	1%	0%	1%	1%	1%
Türkiye	1%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%
France	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Poland	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%
Other	2%	2%	3%	4%	3%	3%	6%	6%	10%	20%	6%

Source: CSD based on data from Eurostat/Comext.

13 different companies are engaged in the production of fuels and petroleum products in Bulgaria, of which only two are significant for the sector’s overall turnover and employment: LUKOIL Neftohim Burgas AD and

INSA OIL Ltd. In 2021, the Burgas oil refinery generated 54.8% of the sector’s total turnover, while INSA OIL Ltd. had a market share of 37.6%.

Fig 1. Imports of petroleum products (CN: 2710), from 2014 to Q1 2023, share of total.

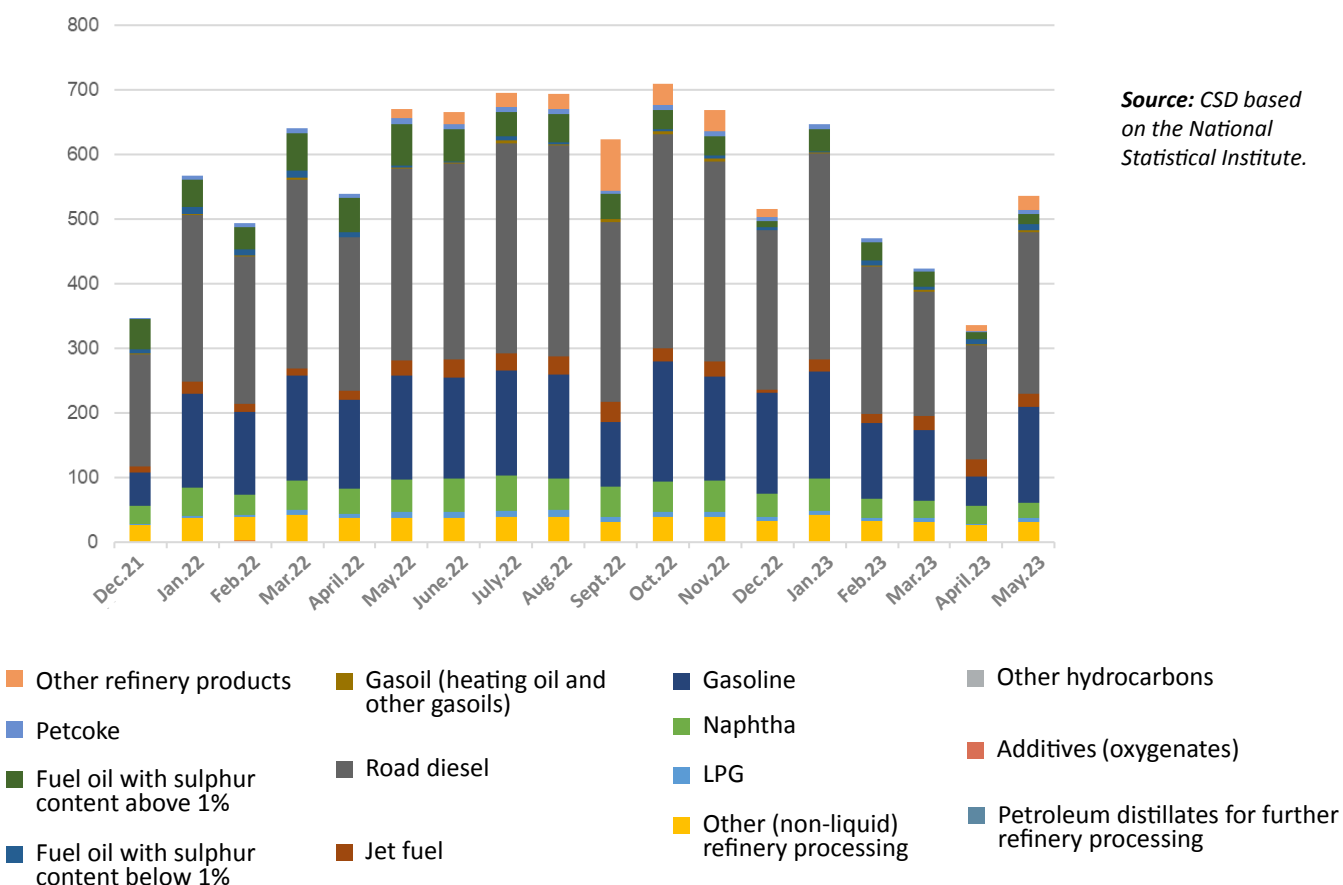


Table 3. Refined petroleum products and briquettes from coal and peat, % of turnover.

Name of Company	Share, %
LUKOIL Neftohim Burgas AD	54.8
INSA OIL LTD.	37.6
ПРИСТА OIL HOLDING S.A.	3.8
OIL AND GAS EXPLORATION AND PRODUCTION AD	1.1
METAL INS LTD.	1.0

Source: Cielia.

The Bulgarian oil market during the derogation

Since the derogation came into force (January - June, 2023), Bulgaria has imported close to **20 million barrels** (2.6 million tonnes) of Russian crude oil, **92%** of all crude oil supplies.⁴ A detailed analysis of the fuel markets in Bulgaria and other EU countries shows that the derogation has not contributed to a large reduction in wholesale prices on the Bulgarian market. The economic benefits of the derogation are primarily limited to **higher surplus profits** for Lukoil and the Russian company's subsidiary, Litasco, registered outside Bulgaria, which between 2021 and 2022 operated under a **transfer pricing** scheme, controlling the entire production chain from the wellhead to the sale of refined oil products.

The refinery in Burgas operated only as a service provider refining the crude oil at a fixed profit margin. At the beginning of 2023, Litasco took control of the refinery, reinstating the pre-COVID scheme in which Neftohim was the main seller of final products.

Pricing

The price at which fuels are sold on the Bulgarian market is not determined by the cost of their production at Neftohim (raw material cost and cost of processing into finished products).

Box 1

For Lukoil, the delivered cost of crude oil at the refinery gateway in Burgas consists of the cost of production of the oil at the field (a.k.a. as "lifting cost"), the cost of transportation from the field to the port of loading, the cost of any taxes and levies charged in

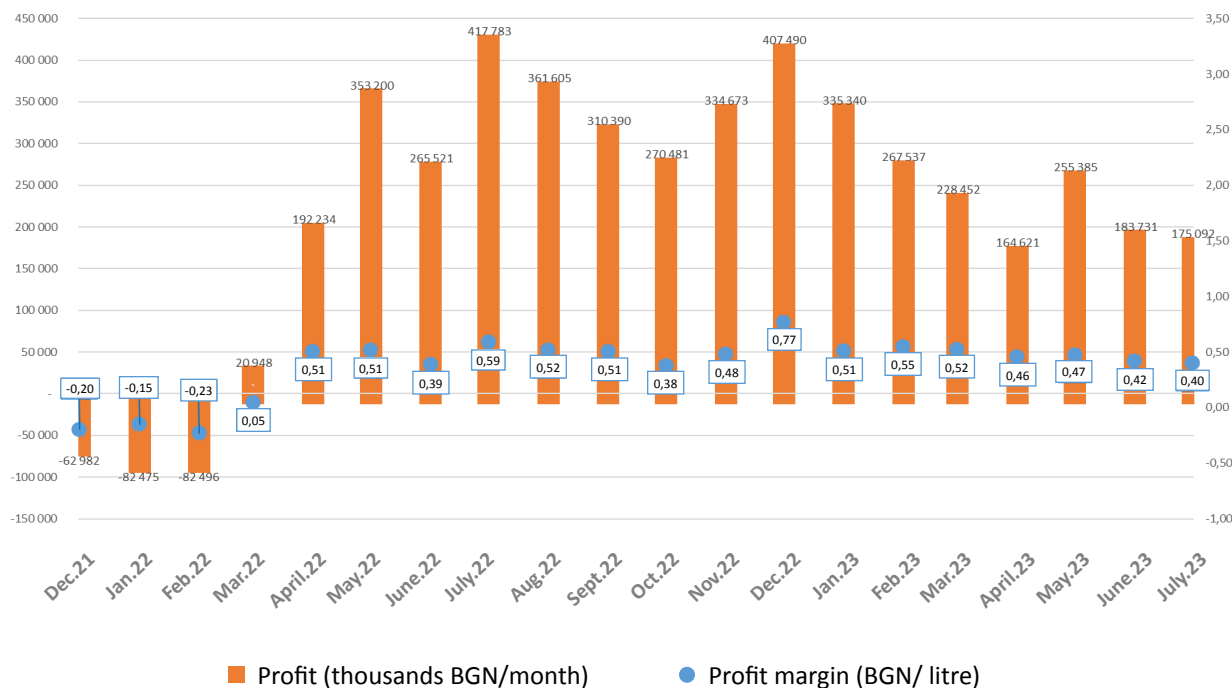
Russia on exports of crude oil, the cost of shipping to Burgas, duties in Bulgaria (not charged when the oil is for processing only) and port charges in Burgas. The sum of those costs is obviously very different from the market price of the crude oil, both in terms of substance (cost vs. price) and in value (costs tend to be much lower than quoted market prices). Lukoil may also use at the gateway in Burgas intra-company pricing on contracts between affiliates of Lukoil, i.e. not really market prices which are only revealed on deals done at arm's length and not between affiliates of the same company. Contracts which are not done at arm's length cannot be used for declaring customs values in most legislations. However, Bulgaria seems to lack such legal requirements and allows customs value to be declared as per intra-company contracts, i.e. a backdoor is left open for tax and duties avoidance, which appears to have been extensively used by Lukoil.

As Lukoil is a net exporter of fuels in the region, the price of fuels is set relative to prices on the Mediterranean market (e.g. FOB Genoa-Lavera), minus transport costs between Burgas and the Mediterranean. Therefore, it is these prices that are used when Lukoil allocates available refined products to Bulgaria and other markets in the region based on their demand profiles.⁵ The difference between the cost of production and the fees that the refinery charges for processing determines the profit margin. As both the cost and the fees are accounted for by various entities within a vertically integrated company (Lukoil), there is a lot of leeway to shift costs and margins between books kept by different legal entities in different countries and jurisdictions. Lukoil has taken profuse advantage of this leeway ever since it acquired control over Neftohim.

⁴ Data from the Customs Agency

⁵ By the same logic, in countries that are net importers, the cost of delivery from the nearest regional market to the national market (including transport costs) determines the wholesale price on the national market. This ensures that the national market will attract sufficient supply from outside.

Figure 2. Lukoil's total monthly profit from fuels produced at Neftohim Burgas and profit margin per litre above the EU-27 average.*



Source: CSD based on data for the pre- and after-tax fuel price (EU weekly oil bulletin), domestic fuel production and Urals crude oil price data for the period December 2021 - July, 2023.⁶

In the aftermath of the Russian invasion of Ukraine, **Lukoil sharply increased its profit margin** from BGN 0.23/liter in February to BGN 0.51/liter in April, 2022. Between March and December of 2022, the Russian company's average profit per litre of fuel produced for the domestic market (A-95 gasoline, diesel, kerosene) equals BGN 0.47/liter, with their total profit for 2022 amounting to just over BGN 2.76 billion (EUR 1.41 billion). The reason for this drastic jump compared to 2021, when during most of the year Lukoil was operating at an accounting loss, is the **drop in the price of Russian Urals crude oil**. The discount to the international benchmark Brent price widened from under US\$1 per barrel in December 2021 to US\$26 in March 2022 and to nearly US\$32 by the end of June 2022. Thus, Lukoil sources cheap crude oil for finished petroleum products sold at market prices inflated by Mediterranean pricing quotes which are not dependent on the price of Urals crude.

Therefore, the **significant difference between the price of crude oil** that Litasco⁷ pays for Urals, which is mainly processed at the Neftohim refinery, and the **price of finished petroleum products** on the

Bulgarian wholesales market means fuel prices are close to EU average. Following the derogation's entry into force in December of 2022, Litasco's (Lukoil) profit margin rose to BGN 0,51/liter and total profit for the period December 2022 - July 2023 reached BGN 1.51 billion. In other words, since the beginning of the Russian invasion of Ukraine, Lukoil has generated a profit of over BGN 4.27 billion. These profits would have been even higher, but the refinery's fuel production has shrunk from an average of 622.75 thousand tons per month in 2022 to 482.2 thousand tons in 2023, as from 05.02.2023 Litasco is not allowed to export the final products refined from Russian crude oil to EU countries. However, the derogation to Regulation (EU) No 833/2014 grants Bulgaria a special exception to sell finished oil products to Ukraine and non-EU countries under certain quotas.

A detailed breakdown of the wellhead netback margin of Lukoil in its annual reports confirms the above profit structure. For each barrel of Urals exported to Bulgaria, the Russian government received about \$50 in tax. Doubling of exports, results in a doubling of the tax revenue to the Russian state. For each barrel processed at Neftohim, Lukoil doubles its wellhead netback margin compared to the margin it would receive if that same barrel were sold unrefined. In order to calculate the netback, the cost of production and transportation to the refinery or export port must be considered.

⁶ Urals price data averaged annually through 2022 and for the period January-July, 2023 based on data from the Customs Agency.

⁷ "Litasco is a subsidiary of Lukoil, incorporated in 2022 in Switzerland and currently headquartered in the United Arab Emirates of (UAE).

Lukoil indicated that the production costs (the cost of producing a unit of oil, a.k.a. “lifting cost”) in Russia amounted to 245 rubles per barrel of oil equivalent (boe) in the third quarter of 2021 and 242 Roubles per boe in the fourth quarter of 2021. Using the implied exchange rate of the Rouble to the U.S. dollar, as stated in the same document, the cost of production amounts to US\$3.33 per barrel of oil equivalent in both the third and fourth quarters of 2021. Lukoil directly states this cost of production in the document. The average transportation costs are estimated at around US\$1.24 per barrel domestically and \$1.41 for refineries outside of Russia. Meanwhile, crude oil refining costs outside Russia reached \$9.77 in Q4 2021. These are averages for the four refineries that Lukoil operated at the end of 2021 and are likely higher than the refining costs at Neftohim Burgas.

Based on the preceding analysis and data for refined petroleum product prices on the Bulgarian market in 2022 and 2023, average exchange rates, excise tax rates, and value added tax, **Lukoil’s net margin increased from \$1 in December 2021 to \$54.19 the following year.** Hence, in 2022 Lukoil generated over \$3 billion in profits from refining a selling Russian crude derived fuel in Bulgaria and the region, processing it at Neftchim, and selling refined products, equivalent to about 7% of total Russian revenues from oil sales.

If the *Law on the Compensation of the Costs for Transport Consumers*, passed in the beginning of 2023, was properly implemented, it would have generated BGN 622 million of additional revenue for the Electricity System Security Fund (the beneficiary of the revenue) in 2023 (up until July). If the trend in the price difference between Urals and Brent is maintained until the end of the year, the additional budget revenues could exceed BGN 1 billion.

Abuse of the dominant market position of Lukoil

So far in 2023, the Commission on Protection of Competition (CPC) has sanctioned Lukoil twice for abusing its dominant position, levying a fine of nearly BGN 70 million ([Decision No. 184/ 16.02.2023](#)) and another of BGN 200 million ([Decision No. 332/ 04.04.2023](#)) respectively. The CPC established that Lukoil has hindered its competitors from importing oil products into Bulgaria by not granting them access to Lukoil-owned and controlled tax warehouses. For example, those at the Rosenets oil import terminal and the Petrol Varna Port Terminal. Moreover, Lukoil deny access to the company’s petroleum product pipelines for the transportation of fuels to other producers and

importers. The CPC found that Lukoil have squeezed profit margins artificially to restrict market entry by, making Lukoil a “supplier without alternative”. This evident market manipulation not only harms free market principles but also keeps Bulgarian fuel prices broadly equivalent to EU prices.

The impact on the oil market from the potential lifting of the derogation

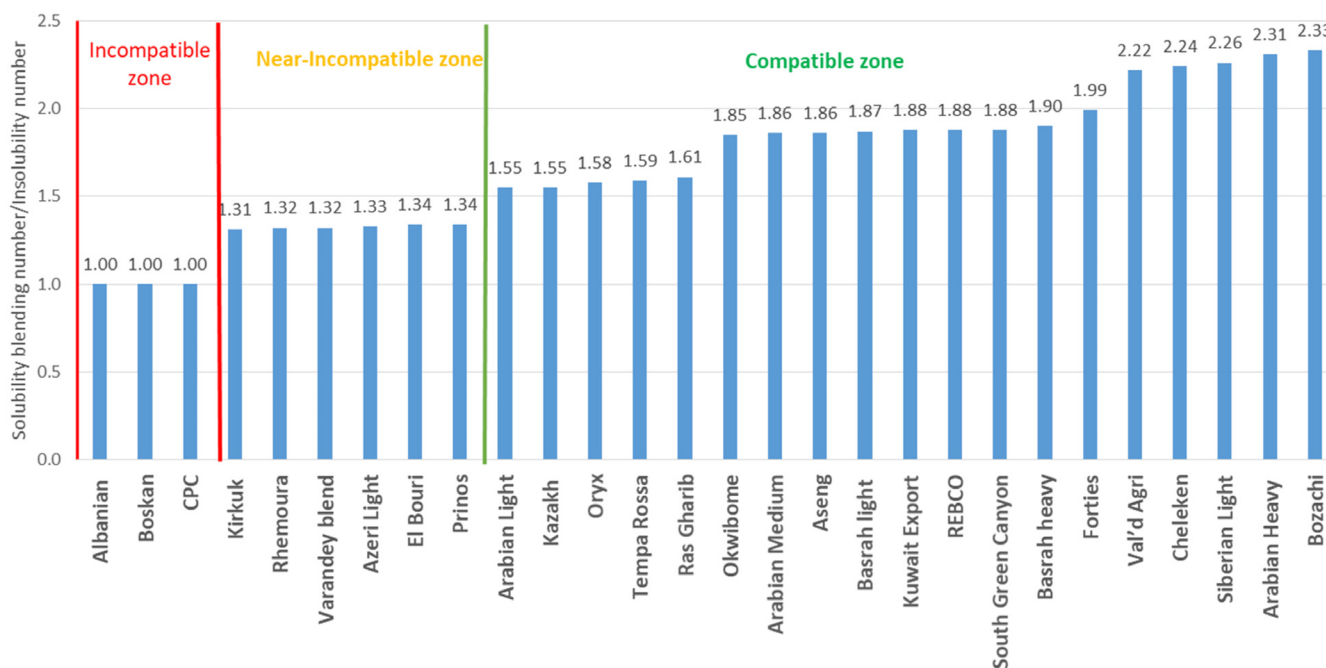
The public space has been flooded by unfounded claims that the Neftohim refinery in Burgas cannot operate without processing Russian crude oil. This argument has been used not only as a justification for the derogation in June 2022 but was also put forward by successive interim governments in Bulgaria as a rationale for additional sanction exemptions granted to Bulgaria in order to sell final products to EU markets. The Bulgarian government’s position has been that Lukoil cannot scale back the volumes refined at Neftohim, for output of refined products would fail to meet demand for such products on the Bulgarian market and for export.

In fact, **Neftohim Burgas can operate efficiently without processing any Russian oil.** The country can in fact source supplies of crude oil and other feedstock from strategically beneficial non-Russian sources, as well as refined products if necessary. The country would most likely be able to achieve this transfer at a negligible cost as crude oil and product costs would be dissimilar to current prices paid to Russia. Resulting in no ban or impediments to exports of petroleum products from Bulgaria to any destination, and no “surpluses” that cannot be stored to prevent the closure of the refinery.

An analysis of which specialists from the Neftohim⁸ were involved, found that on the compatibility of different crude oil grades with Urals based on key parameters such as sulphur content and asphaltenes, only three out of 28 grades - about 11% of the sample - are incompatible and blending should be avoided (Figure 3).

⁸ Shishkova et al, [Evaluation of different compatibility indices for modelling and predicting oil colloidal stability and its relation to crude oil desalination](#), Basel: MDPI, 2021.

Figure 3. Dependence of the solubility mixing number on the asphaltene (a) and sulfur (b) contents of the crude oils studied.



Source: Shishkova et al.

Technically, a refinery can reduce its operation rate to a minimum of 40% to 60% of nameplate capacity (its “turndown ratio”), depending on its complexity. Neftohim typically operates at about 75% of its nameplate capacity (7 million tons per annum). Hence, reducing output by half from typical levels implies reaching close to and even slightly below the 40% lower limit.⁹

Let’s assume that Neftohim sells on the Bulgarian market only a third of its output, i.e. about 2.1 million tons per year (tpy) out of the normally processed 7 million tpy. This simply means that Neftohim will have to procure 2.1 million tpy of Russian feedstock and about 5 million tpy of “compatible” non-Russian feedstock in order to continue operations at the refinery in the usual mode.¹⁰ Therefore, the risk (if any) of reaching the turndown ratio at Neftohim Burgas is only present if Lukoil continues to procure all the feedstock from Russia and sells all of its products on the Bulgarian market alone. Yet, the refinery can operate on a variety of crude oil streams from around the world, and in that instance, there are no limits on the export of refined products obtained.

Technical capability of the refinery to process alternative crude oil grades

The Neftohim refinery is a vital part of a large and sophisticated petrochemical complex. Its origins trace back to the early 1960s, and over the years, it underwent expansions to increase its capacity. By 1974, its capacity had grown to around 12 million tonnes per year. As the demand for petroleum products shifted from heavy fuel oil to lighter products, the refinery adapted by adding new facilities. This change significantly increased the complexity of the refinery’s operations. By the early 1990s, the main facilities of the Neftohim refinery included:

- atmospheric distillation - 3 plants with a capacity of 3 million tpy each and 2 plants with a capacity of 1.5 million tpy each;
- separation and processing of gas fractions (ethane, propane, butane);
- desulfurization (low-octane gasoline, kerosene, diesel fuel - 2 installations);
- vacuum distillation (2 installations);
- fluidised bed catalytic cracking (FCC) plant;
- thermal cracking plant (visbreaking2);
- MTBE production plant3; octane boosting gasoline additive
- Sulfuric acid alkylation plant4;

⁹ A detailed modeling of the refinery’s facilities could show the exact technical possibility to achieve this. Yet such modeling is beyond the scope of the paper and more importantly – it would have been relevant if the refinery could process only Russian crude oil.

¹⁰ Nitsov B., Rangelova K., [Strategic Decoupling from Russian Oil: Overcoming Dependencies in the Bulgarian Energy Sector](#), Center for the Study of Democracy, 2023.

In short, today's **Neftohim ranks among the top 10% of refineries in the world** in terms of the Nelson Complexity Index (NCI), with an NCI value estimated at 13 and a crude oil conversion ratio ("depth of refining") as high as 87%.¹¹ This means that **the refinery is capable of processing lower quality (heavier, higher sulphur) grades of crude oil as well as other heavy feedstock (refinery residues) into more highly refined, valuable products.** Therefore, the variety of crude oil grades and other feedstocks that the refinery can efficiently process encompasses most of the crude oil grades traded on the international market and residual products produced at other, less sophisticated refineries.

Possible sources of alternative oil varieties

There are various non-Russian crude oil types accessible from ports situated in both strategically advantageous Black Sea and Mediterranean regions (Table 5). These varieties are either akin to or lighter with lower sulphur content compared to Urals crude. It is also important to note that the crude oil options listed in Table 2 do not encompass the entirety of available non-Russian selections within Black Sea and Mediterranean regions

However, the quantities of these mentioned types alone add up to over 4 million barrels per day (bpd), which equates to roughly 200 million tons each year, a quantity nearly 30 times the annual volume processed by Neftohim in recent years. Hence, only 3% of alternative crude oil volumes in the region would be necessary to replace the Russian volumes processed in the Burgas refinery. Additionally, other more potentially strategically beneficial suppliers, like those in the Gulf (Kuwait, Iraq, Saudi Arabia, UAE, etc.) or along the western coast of Africa, have not even been factored into this analysis.

Table 5: Selected Black Sea and Mediterranean crude oil varieties

	Grade	Deg. API	Sulfur, % wt	Country	Port	Throughput '000 bpd
Black Sea	CPC	46.6	0.55	Kazakhstan	Ozereevka	1200
	Azeri Light	34.9	0.55	Azerbaijan	Supsa	145
Mediterranean	Saharan Blend	46.0	0.1	Algeria	Arzew, Bejaja, Skidka	1250
	Sarir	38.0	0.83	Libya	Marsa el-Hariga	120
	Suez Blend	30.4	1.65	Egypt	Ras Shukheir	300 (est.)
	BTC	36.6	0.16	Azerbaijan	Ceyhan	1000

Source: Center for the Study of Democracy.

¹¹ See for example here: <https://media.bain.com/oil-refineries/#>.

Bulgarian Fuels Market in Case of a Complete Shutdown of Neftohim

Opportunities for the diversification of fuel supply

Apart from Neftohim, refined products are produced in only two other plants in the country, with a total capacity of only about 160 000 tons per year.

- **INSA's facility** is for hydrotreating, in which middle distillates (rather than crude oil) are treated with hydrogen to produce diesel and gasoil. It has a capacity of about 115,000 tons per year.
- **The Bulgarian Oil Refinery's facility** is a small topping (atmospheric distillation) plant built in 1994 by the then state-owned company Exploration and Production of Oil and Gas AD, which is now part of the Chimimport group of companies controlled by the Varna-based holding company TIM. The refinery processes crude oil and condensate extracted from small fields located nearby and in other parts of the country, and produces solvents, gasoline and diesel fuel, as well as various brands of fuel oil. Due to the natural decline in production from these fields, the refinery operates below its rated capacity, at only 45 000 t/y.

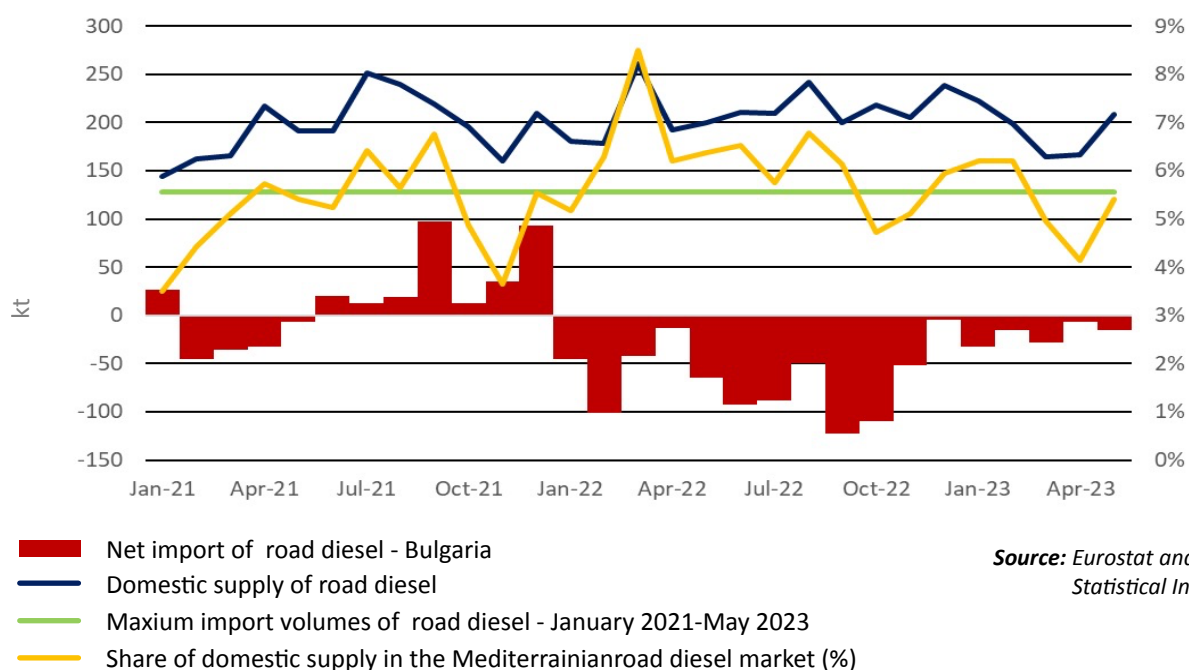
In the event of a complete shutdown at Neftohim, these two plants would struggle to meet even 5-10% of the

market's needs, especially considering that INSA requires already processed products as input for its operations. In the absence of such processing capacity, the demand for products could most likely be addressed by restarting Neftohim or importing products, or a combination of both.

Monthly data regarding diesel trade in the area demonstrates that **Bulgaria primarily acts as a net exporter of diesel** during most of the 2021-2023 period. However, the scenario of Bulgaria temporarily transitioning into a net importer isn't unprecedented: such a circumstance occurred for a 7-month duration in the recent past (June - December 2021). Under extremely pessimistic assumptions, if imports were to replace the bulk of domestic supply, a significant hike in fuel prices could occur, up to 10-15%. Nonetheless, due to Bulgaria's relatively modest share of the regional market (Bulgaria's entire diesel market supply ranges from 3% to 8% of Mediterranean diesel imports), there is a near-zero possibility of shortages or an inability to meet demand for required quantities.

Considering the increased production and export potential for diesel from the regional partners in the Middle East, due to the inauguration of new refining facilities in Saudi Arabia (the new Jizan refinery with a capacity of 400,000 b/d of crude and at least 150,000 b/d of diesel) and Kuwait (the new Al Zaur refinery with a capacity of 615,000 b/d of crude and at least 300,000 b/d of diesel), the **regional market** is well positioned to handle the situation and **could readily accommodate elevated import demand from Bulgaria**.

Figure 5. Net imports of diesel fuel in Bulgaria and market share in the Mediterranean¹²



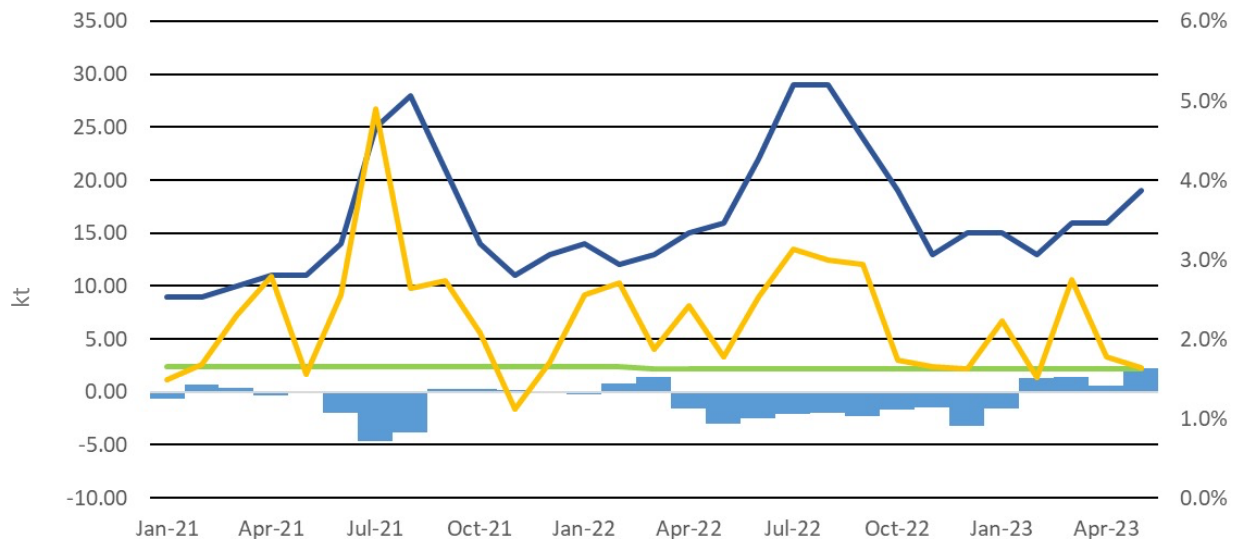
Source: Eurostat and National Statistical Institute.

¹² Greece, Turkey, Italy, France, Spain, Portugal, Croatia, Malta, Cyprus

Securing supplies of **aviation kerosene** entirely via imports is even easier than for diesel, as quantities are ten times smaller. Bulgaria's aviation kerosene demand varies between 10-15 thousand tonnes in the off-peak

period and around 30 thousand tonnes in the summer months (July-August). This is between 1% and 5% of the Mediterranean import market.

Figure 6: Net imports of aviation kerosene in Bulgaria and market share in the Mediterranean



- Net import of jet fuel (kerosene) - Bulgaria
- Domestic supply of road diesel
- Maximum import volumes of road diesel - January 2021-May 2023
- Share of domestic supply in the Mediterranean road diesel market (%)

Source: Eurostat and National Statistical Institute.

Logistical Barriers to the Crude Oil and Oil Products Supply

If Russian oil supplies are unavailable, alternative sources of crude oil are required to sustain Neftohim's operations. However, the potential to process specific non-Russian crude varieties alone doesn't provide a complete basis for excluding the use of Russian oil. Equally important is the practical feasibility of procuring, transporting, and delivering non-Russian crude to the refinery. In this regard, the primary factors to be considered are as follows:

- Port Rosenets can handle tankers that do not exceed certain dimensions (overall length, maximum draft, etc.) that limit the size of the cargo to about 70,000 tons. The freight rates for such tankers are quoted as "Long Range 1" (LR1) on the Average Freight Rate Assessment (AFRA) scale used in tanker shipping.
- By today's standards, these tankers are relatively small and can be loaded at almost all oil export terminals in the Black Sea and the Mediterranean. They can also pass through the Bosphorus, where the maximum tanker size is about 120,000 tonnes.
- If Neftohim Burgas uses only Russian Urals, it would take about 100 round trips on an LR1 tanker from/to Novorossiysk/Tuapse to deliver 7 million tons per year - the typical refinery throughput in recent years. That's just over 8 LR1 tankers per month arriving at Rosenets, approximately one every third or fourth day.
- The usual round-trip time for a tanker from Rosenets to Novorossiysk or Tuapse - the two main Russian Black Sea ports from which Urals is delivered to the refinery - is 10-12 days, including a 48-72 hour layover at each port (4-6 days total) and about 3 days sailing one way (about 6 days total round-trip). The distance between Rosenets and Novorossiysk is about 480 nautical miles.
- The distances from various oil loading terminals in the Black Sea and the Mediterranean Sea to Rosenets are approximately as follows (in nautical miles):
 - Ceyhan (Turkey, BTC): 1000
 - Marsa el-Hariga (Libya): 1000
 - Suez (Egypt): 1000

- Arzew (Algeria): 1500
- Ozerievka (CPC - Kazakh oil via Russia): 500
- Supsa (Azeri oil via Georgia): 620
- Ships coming from the Middle East are about 5,000 nautical miles away, which would increase the sailing one way from 3 to 20 days. The wait to pass through the Bosphorus can vary between 1-2 days in summer to 8-9 days in winter due to the local rule of only letting tankers through in daylight and the shorter daylight during this part of the year. Thus, the time required to deliver a tanker from Iraq would take between 25 days (20 sailing days, 1 day on the Bosphorus and 4 days in port) and 35 days (including 20 days sailing, 6 days in port and 9 days in the Bosphorus). For most refineries in the world, this is a standard delivery time and is easily managed with good supply planning and inventories to compensate for the five-day difference between average and maximum delivery times.

Considering the points mentioned above, it becomes evident that shifting to CPC (Kazakhstan) and/or Azeri (Supsa) **supplies within the Black Sea region would not result in changes to transportation costs.** In contrast, a transition to Mediterranean crude would cause transportation costs to rise by a factor of two to three per unit (barrel or tonne). Calculating the potential increase in cost per unit for supplying Neftohim under the worst-case scenario (a complete shift to the farthest supplier, Algeria) is straightforward.

Box 2. Tanker Rates in the Black Sea Region

For instance, as of the end of March 2022, the daily rates for AFRALR1 tankers hovered around US\$25,000. Consequently, a round trip to Novorossiysk would amount to approximately US\$300,000, whereas the same journey to Arzew would incur a cost three times higher, totalling US\$600,000. While this may seem substantial, the per-barrel increase would only equate to roughly one dollar (given that an LR1 tanker carries about 500,000 barrels of oil). In percentage terms, this constitutes a markup of around 1% over the going price of crude oil.

This signifies that even a slight change in the global oil price, whether up or down by just 1%, would surpass the difference in costs for oil delivery to Rosenets. It is important to note that there is also no immediate risk of delaying crude oil supplies through the Bosphorus, as currently around 3,000 tankers per year pass through the Straits from the Black Sea to the Mediterranean and around 2,800 back, or a total of 6,000 per year, i.e. around 16 per day. The time for a tanker to reach Rosenets from the Gulf would be approximately 22

days, and from the coast of North Africa (Libya, Egypt, Tunisia) between 7 and 10 days.

Regarding **imports of finished products**, sea transport via the ports of Rosenets and Varna presents a viable approach, with reduced transport costs per unit achievable through the Rosenets port, which accommodates larger tankers. The Rosenets terminal is specifically designed to manage petroleum, chemical raw materials, and commodity products. Incoming raw materials are offloaded from tankers at any of the three piers and are temporarily stored in tanks. The transfer of refinery feedstock and finished products transpires through trunk pipelines connected to the primary Neftohim site.¹³

Essential arrangements entail **ensuring access to the product pipeline** from Neftohim's storage facilities to oil depots in Southern Bulgaria, and an adequate number of rail tankers for deliveries to oil depots in Northern Bulgaria (except Varna, which has the option of direct delivery via small seagoing tankers). In terms of geographical sources, viable origins encompass all non-Russian refineries along the Black Sea, Sea of Marmara, and Mediterranean coasts, along with export terminals typically situated nearby such refineries.

Alternative methods for sea delivery of fuels involve three options.

- The first relates to the "Burgas West" port terminal, operated by the Domuschiev brothers, with 49% ownership belonging to the Three Seas Initiative Investment Fund
- The second pertains to the Base Oil Terminal at PMV Varna, facilitating direct transfer of cargo from ship to road or rail tankers.
- The third choice is the "Petrol - Varna" port terminal, managed by the State Enterprise "Port Infrastructure" and serving as a tax warehouse under "Varna Storage." However, while unloading here cannot occur directly into tanks, this terminal contributes significantly to fuel supplies for INSA's exports to Ukraine.

Smaller tonnage tankers are generally used for products, a fact that would entail relatively higher unit transport costs compared to larger crude oil tankers. The frequency of Strait crossings is minimized with the use of larger tankers. Bosphorus-crossing tankers can carry up to 120-150,000 tonnes, big tankers primarily

¹³ At the port of Rosenets, unloading of crude oil and petroleum products occurs on the first and third docks, capable of handling tankers of about 45,000 tons, while the second pier accommodates vessels of up to approximately 75,000 tons. Unloading is facilitated by the tanker's pumps, requiring a simple pipeline connection to the shore tank without the need for blocking check valves.

transporting crude oil. Conversely, product tankers typically range up to 45,000 tons for fuel oil or vacuum oils earmarked for further processing, and even smaller for gasoline, diesel, or kerosene. While exceptions exist, the general rule-of-thumb dictates that crude oil transportation usually achieves lower unit costs.

Another avenue for finished product imports involves **railway tankers**, typically with a capacity of around 55 cubic meters and a cargo of approximately 40 tonnes. However, restrictions on train length, loading/unloading at depots, and other parameters impose a limit on train size, usually around 1,200 tonnes of cargo. Relying solely on rail deliveries to meet demand would be challenging due to these constraints, resulting in higher unit costs compared to other methods. Thus, rail tanker imports are rather a supplementary than an all-encompassing solution.

Across all options, the **foremost priority remains the uninterrupted operation of Neftohim**, as it has the potential to offer the lowest unit cost and maximum benefit for Bulgaria's economic, social, and market perspectives, both domestically and in relation to the EU

and Western partners. Sea and rail imports of significant product quantities would serve as complementary options, warranting a thorough stand-by assessment in case Neftohim experiences the unlikely case of a shutdown.

Crude oil and fuel reserves

According to the *Excise and Tax Warehouses Act*, currently, the owners of tax warehouses for fuels are obliged to submit information at the end of every day about the free volumes in their storage facilities. Lukoil's crude oil storage depots in Rosenets have a capacity of nearly 1.39 million t, which is enough to supply the country's consumption for about 3 months. According to the *Law on Oil and Petroleum Products Stocks*, Lukoil is obliged to store oil stocks sufficient for 60 days of the country's consumption. Neftohim and Lukoil - Bulgaria also own 74% and 90% of the country's diesel and A-95 gasoline storage capacity, respectively, while remaining suppliers on the wholesale market own product storage facilities with a capacity of just 10-12% of the country's total capacity, with these storage

Table 6: Available storage capacity for crude oil and petroleum fuels: companies with the largest 60-day storage capacity

Owner	Gasoline A-95 (%)	Capacity (t)	Owner	Diesel (%)	Capacity (t)	Crude oil (%)	Capacity (t)
Lukoil Neftohim	34	257420	Lukoil Neftohim	46	1110131	100	1387525
Lukoil Bulgaria	56	427584	Lukoil Bulgaria	28	669552		
Saxa	7	54957	DMV	9	220920		
NIS Petrol	2	12946	Saxa	5	120341		
OMV	1	6116	Insa Oil	2	57005		
			Other	10	217795		
Total	100	759025		100	2395743	100	1387525

Source: The State Reserve's registers of oil and petroleum product storage depots.

facilities are also largely concentrated in the hands of only two companies, INSA Oil and Saxa.

The utilization of state reserve storage depots has long posed a significant challenge to fostering competition within Bulgaria's wholesale fuel market. As outlined in the *Petroleum and Petroleum Products Reserve Act*, each importer, be it from the EU or a third country, is **obligated to maintain a 60-day reserve supply** for emergency situations. The volume of this reserve is proportionate to their net imports relative to the total

for the preceding calendar year. Lukoil maintains an almost monopolistic hold on storage capacity, with no other storage facilities of sufficient size available for competitive imports. This situation compels potential importers and market competitors to rely on Lukoil's storage capacity. Unfortunately, Lukoil can selectively set rental prices for this capacity without adhering to a transparent market mechanism.

Consequently, if Lukoil denies a competitor access to store fuel, that competitor finds itself unable to

Table 7: Fuels in the largest excise warehouses in Bulgaria on 14.08.2023

All fuels	Storage (tonnes)
Lukoil	913815
Insa Gas/Insa Oil	53354
Saxa	1700
Storage Oil	33725
Varna Oil Terminal	32300
Oil Terminal West	78000
Total	1112894

Source: The Bulgarian Excise Centralised Information System (BACIS).

fulfil government-mandated requirements, which are applicable for the entire year and not open to trade or negotiation.

Currently, crude oil stocks at Rosenets terminal storage facilities are estimated at around 228,767 tonnes or less than 20% of the total storage capacity.¹⁴ As of August 14, 2023, according to the Bulgarian Excise Centralized Information System (BACIS) of the Customs Agency, Lukoil-owned depots are alone storing nearly 913 thousand tons of fuels in Bulgaria, worth 2 months of the country's consumption.

The second largest supplier on the wholesale market, INSA Oil, stores nearly 53 thousand tonnes. Other major competitors on the storage market, the Petroleum Terminal Varna company and the Petroleum

Terminal West and Storage Oil, are currently storing around 144 thousand tonnes, meaning that **Bulgaria currently has stocks for at least two and a half months**, which excludes the mandatory reserves to the State Reserve. Therefore, in the unlikely event of a complete shutdown of the Burgas refinery, there would be no fuel shortages on the Bulgarian market during a period until a sustainable deal is struck for alternative crude oil supplies or deliveries of final products via the four main Black Sea terminals.

Impact on the fuels market

The removal of Bulgaria's derogation is not expected to significantly impact final fuel prices in the country, which will most likely remain the most competitive within the entire European Union. This equitable outcome is dependent on two factors. Firstly, Bulgaria charges

¹⁴ Based on interviews with industry sources.

lower taxes and excise duties, averaging around one third less than those in the EU-27. Secondly, the modest rise in producer fuel prices plays a role. An analysis of other markets that had a crude oil import pattern similar to that of Bulgaria's prior to the introduction of the Russian oil and fuels embargo, such as Poland, Germany, the Czech Republic, Latvia, Slovakia, and Slovenia, highlights that in the absence of derogation or its non-utilization (as seen in the Czech Republic and Slovakia), net-of-tax fuel prices increased by 6 to 8%. Aligning with the margin reduction Lukoil applies in Bulgaria to maximize its wholesale market share.

The cost of crude oil, as seen above is not the primary determinant of the final pre-tax fuel prices. Rather, the fuel prices are shaped by the Mediterranean Exchange price plus the discount imposed by Lukoil. Any increase in the price that could be attributable to the change in the kind of oil being processed at the refinery should not surpass 10-12 cents per liter. The intricacies of more complex oil and fuel supply logistics, such as importing by using a larger number of smaller tankers, could potentially add an additional 1.5% to the pre-tax price increase.

However, eliminating the derogation would usher in a significant **restructuring of Bulgaria's wholesale market**, allowing for alternative companies importing strategically advantageous non-Russian fuels to vie for Lukoil's market share. If the Russian company continues to operate assets in Bulgaria, it would regain a potentially threatening the company's dominant position in the market due to its control over excise and state reserve depots, along with its capacity to process substantial oil quantities at a cost that remains the lowest in the region. On the other hand, heightened competition from alternative fuel imports would undermine Lukoil's capacity to enforce its pricing strategy, resulting in a more robust competitive landscape within the retail market and possibly unforeseen economic benefit. A continuation of the positive trend prior to 2020, where more dynamic regional markets had emerged, displacing the monopoly held by the major five retail gasoline station chains in Bulgaria.

What's next?

Successive Bulgarian governments have been falsely claiming that without the derogation the refinery would fail to operate and the country would be without adequate supplies of refined products. The same mantra was deployed by Kremlin's propagandists and local enablers during the privatization of the refinery more than 20 years ago to ensure vital assets ended up in Russian hands at a lower cost. The financial and political interests served by this derogation are not those of Bulgarian consumers, but rather those

of Lukoil and the Kremlin. For each barrel processed at Neftohim, Lukoil doubles its wellhead netback margin compared to the simple export of Urals, which translates into substantial direct financial assistance to the Russian government and to Lukoil.

Bulgaria's oil, refined products and services markets are monopolistic, ensuring decades of ample rents feeding increased corruption and state capture. These malign practices will never be addressed without the necessary **diversification of crude oil supplies** and a strict implementation of **open infrastructure access rules**, especially access to refined products storage and port services, for all parties engaged in the refined products trade.

The first critical step would be to end the **concession agreement** with Lukoil for the operation of the **Rosenets oil import terminal**. This would help Bulgaria ensure that the terminal is not used as commanding conduit for sanctions evasion via oil smuggling, guaranteeing the correct accounting of VAT and excise tax revenues vital for Bulgaria and Europe's fiscal security.

Secondly, the ending of the derogation from the oil embargo will be vital in stripping Lukoil, and by extension, the Kremlin from additional profits to finance its war in Ukraine. By supporting an external **audit by the Agency for State Financial Inspection** that assesses the structure of Lukoil's profit, the diversification of crude oil supply away from Russia and requesting specific timeline and investment commitments from Lukoil for addressing their supposed "technical obstacles" for implementing the EU oil embargo would be powerful leverage in bringing the derogation to an early end.

If the Russian company does not abide by the condition to fully diversify its crude oil supply, the GOB should put the refinery and all the other assets owned by Lukoil under state control. This can happen either by the passing of a new law that introduces a special state-mandated manager of the refinery (специален управител) or via the "golden share" the state owns in the refinery, allowing it to influence strategic decisions such as the structure of its oil supply. Both Germany and Italy have shown that they can force the Russian owners of their major refineries within less than 6 months to abide by EU sanctions by placing them under special control.

Finally, without the incentive to import discounted Russian oil in order to reap monopoly profits, Lukoil, similar to the case with its refinery in Sicily, would likely seek to dispose of its assets. Lukoil has been considering a sale of its companies in Romania, Moldova and Bulgaria for years but its lucrative market share in the region has justified its continued business operation.

Bulgaria has long been one of Europe's most vulnerable countries when it comes to Russia's malign economic and political influence. Lukoil has been a key weapon in the Russian states arsenal for entrenching powerful state capture networks, influencing strategic decisions such as the ban on shale gas exploration, the acceleration of the Belene nuclear power plant project, and the

financing of pro-Russian political parties and media outlets. With this political background there are **no economic or technical justifications** for Bulgaria to maintain its derogation of the EU oil embargo, as it is preventing the vital process of Europe's strategic decoupling from Russia's energy sector.