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News Analysis

The Impact on Oil Supply and Refining in Europe Following Sanctions on Russian Oil Exports



Introduction

In December 2022, G7 and EU countries agreed to set a price cap on Russian oil at \$60 per barrel that has come into force. The price cap applies to seaborne crude oil, petroleum oils and oils obtained from bituminous minerals which originate in or are exported from Russia. The cap comes on top of the EU import ban on Russian seaborne crude oil and petroleum products, and the corresponding bans of other G7 partners. (1)

This decision was taken in order to limit price surges driven by extraordinary market conditions and drastically reduce the revenues Russia has been earning from oil since it unleashed its war of aggression against Ukraine. The G7 wants to curtail the oil revenues Russia earns from oil exports and also try to stabilize global energy prices while mitigating adverse consequences on energy supply to third countries. The level of the cap was established in close cooperation with the Price Cap Coalition and applied from 5 December 2022. The cap is adjustable over time and the current value may be amended in future to reflect market conditions and technical changes.

In addition, the EU has prohibited EU vessels from transporting Russian crude oil (from 5 December 2022) and petroleum products (from 5 February 2023) to third countries. It has also prohibited the related provision of technical assistance, brokering services or financing or financial assistance. This ban does not apply if the crude oil or petroleum products are purchased at or below the oil price cap.

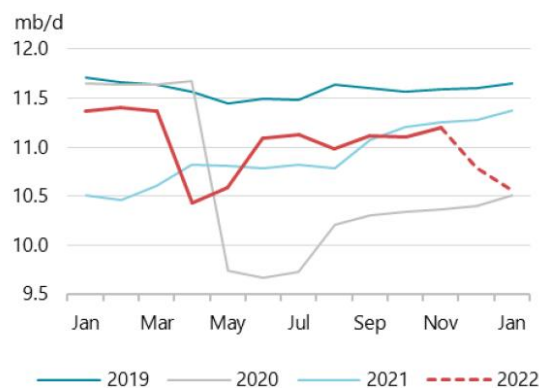
However, it remains to be seen what the impact of these sanctions will be on Europe and how they will affect oil imports and refining activities. This News Analysis attempts to shed light on these issues, unfolding the advantages and disadvantages of such European decisions.

Current European Status on Russian Oil Imports

Russian oil exports have so far proved resilient to sanctions, import embargoes and buyer boycotts. Based on IEA's latest data (2), total oil exports (in crude and products) were 7.7 mb/d in October, only 400 kb/d lower than pre-war levels. Russian crude oil exports in October were largely unchanged compared with pre-war levels, at 4.97 mb/d.

Since February 2022, crude oil exports to the EU member states have been reduced by 1 mb/d to 1.5 mb/d. The decline in shipments to the EU has been offset by increases to India, China and Turkey. Shipments to unknown or yet to be identified destinations have also risen, due to increased use of "dark" tankers and higher volumes of oil on water. While Russia has been able to redirect all its crude oil exports so far, it has not found new buyers for its product exports. Total product exports in October were 2.8 mb/d, down 360 kb/d since the start of the year.

Figure 1: Russia's Total Oil Supply



Source: IEA

Given Russia's outsized role in world oil markets, the impact from curtailing oil exports to Europe needs to be carefully assessed. It is the third largest producer of oil behind the United States and Saudi Arabia, and the world's second largest exporter of crude oil behind Saudi Arabia, and the largest overall exporter once products are included. In October Russia exported about 5 mb/d of crude, and around 2.8 mb/d of products to global markets.

In 2021, more than half of Russia's oil exports went to Europe, which received about one-third of its oil imports from Russia. Germany was the largest European buyer of Russian oil, followed by the Netherlands and Poland. China was the single largest buyer of Russian oil, taking 1.6 mb/d of crude on average in 2021, or about 20% of Russia's exports, equally divided between pipeline and seaborne routes. Japan and Korea combined imported a total of 420,000 kb/d from Russia last year, about 5% of their total imports, split between crude and products. The United States imported 710 kb/d, or 8% of its total imports, from Russia. But after the invasion, it banned imports of Russian oil, natural gas and coal. Russia was the third largest source of US oil imports prior to that. Canada, Australia and the United Kingdom also banned imports of Russian oil.

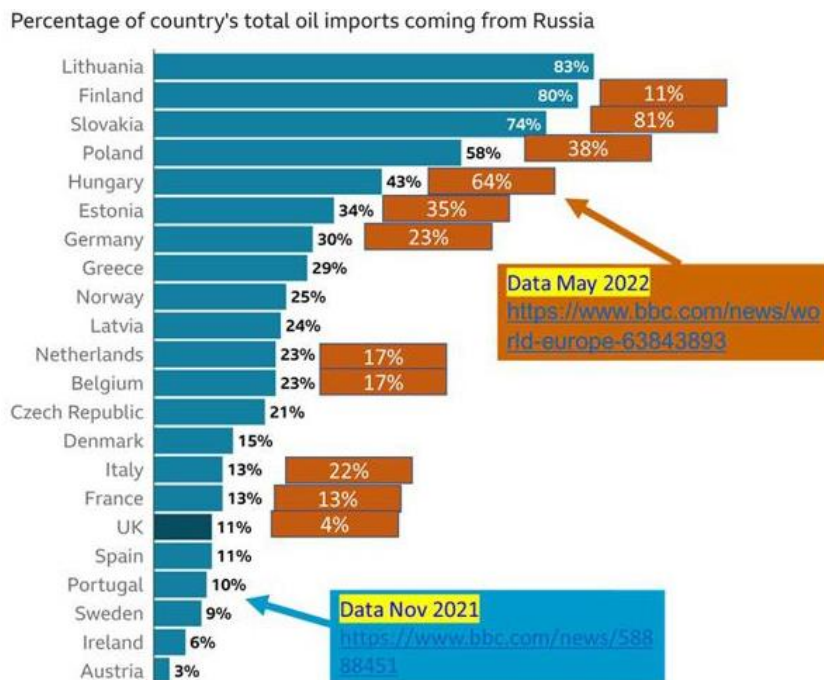
By October 2022, a major re-routing of trade had taken place. Exports to the EU had been reduced by 1.5 mb/d to 3.95 mb/d, of which 1.5 mb/d was transported through the Druzhba pipeline network, excepted from sanctions. Total Russian oil exports to China had increased by 225 kb/d to 1.9 mb/d, to India by 965 kb/d to 1.1 mb/d, and to Turkey by 320 kb/d to 540 kb/d.

EU embargoes on Russian crude oil and refined petroleum products that come into effect on 5 December and 5 February 2023, respectively, will lead to a further reallocation of trade. An additional 1.1 mb/d of crude oil and 1 mb/d of oil products currently going to EU countries will have to find new homes. As this will be accompanied by a ban on EU/UK maritime services (including ship insurance), export losses and production shut-ins are expected to increase. By early 2023, an additional 1.4 mb/d of Russian oil production is expected to be shut in, for a total of 1.9 mb/d compared with pre-war levels. **(3)**

Most of the world’s effective spare capacity is concentrated in Saudi Arabia and the United Arab Emirates. Together they hold roughly 2 mb/d of spare capacity, but that is not all immediately available. Outside of OPEC+, the United States looks set to add 1 mb/d this year and a further 1.1 mb/d in 2023, with smaller increases from Canada, Norway, Guyana and Brazil. The IEA expected robust growth from the US shale sector, as operators have increased their rig count and drilling rates in response to rising prices. However, a sharp draw down in drilled but uncompleted wells (DUCs) during 2021, labour shortages, supply chain issues and cost escalation could limit growth in the near term.

It is insightful to see how European countries have responded to the war Russia imposed on Ukraine, which began in February 2022. Figure 2 shows the results from November 2021, before the start of the Ukraine war, until May 2022. Slovakia and Hungary, two landlocked countries highly dependent on Russian oil, both increased their imports significantly. Conversely, Finland and Poland, also highly dependent, radically decreased their imports of Russian crude. The large economies of Germany and Netherlands reduced their imports significantly, as did Belgium. But other strong economies did not. France’s position remains unchanged while Italy nearly doubled its oil imports from Russia.

Figure 2: Changes in Imports of Russian Oil by European Countries (November 2021-May 2022)



Source: IEA

Apparently, there was no consensus in actions within these countries to reduce oil imports from Russia, in spite of what has been reported. Possibly this was motivation for EU leaders to gather last September to hammer out an agreement to reduce oil and its refined products

from Russia. Although it took a couple of difficult months to achieve consensus on an oil import ban, now we have in force three concurrent agreements central to Europe's future.

Oil Refining in (SE) Europe

As shown in Figure 2, countries, such as France and Italy, which have not been reducing their imports from Russia, would be affected more by the sea-going oil import ban. It is worth noting that Italy's largest refinery is owned by Lukoil, a Russian company, and it contributes a fifth of Italy's refining capacity. Lukoil is also the owner and operator of Bulgaria's sole refinery in Burgas port in the Black Sea. We should note that Lukoil is not affected by sanctions in Europe, but banks were still reluctant to deal with a Russia-related company as they feared being targeted by possible future fines in the United States, where the company has been subject to sectoral sanctions since 2014.

The Italian government recently adopted a scheme allowing Lukoil's refinery to be placed under trusteeship, while Lukoil continues talks on selling the asset. A similar move was taken by Germany when in September 2022 it took control of a refinery owned by Rosneft. On December 2, the Lukoil division that owns the refinery said that it could keep going despite the looming Russian oil embargo, relying on raw materials stored for the coming months and future deliveries of oil from countries other than Russia. (4)

The Case of SE Europe

As the EU embargo against maritime shipments of crude oil from Russia went into effect on December 5, 2022, **Greece** and Bulgaria are talking about reviving a long-defunct oil pipeline project that bypasses the Bosphorus Strait. The pipeline would run 280 km from the port of Alexandroupolis on the Aegean Sea to the port of Burgas on the Black Sea and might continue as far north as the port of Constanza in Romania, Bulgaria's Energy Minister Roman Hristov told Al Jazeera. "We have a two-year derogation to buy Russian oil, but after that, we will face problems because of the hike in transit fees through the Bosphorus," Roman Hristov said. "So, we have begun discussing the revival of the Burgas-Alexandroupolis pipeline, and its extension north to the ports of Varna and Constanza," he added. Hristov first broached the idea of a reverse flow Alexandroupolis-Burgas oil pipeline during his talk in this year's IENE conference in Athens on November 22.

The Burgas-Alexandroupolis pipeline was a proposed oil pipeline project for the transportation of Russian and Caspian oil from the Bulgarian Black Sea port of Burgas to the Greek Aegean port of Alexandroupolis. It was seen as an alternative route for Russian oil, bypassing the Bosphorus and the Dardanelles. In March 2007 Russia, Bulgaria and Greece signed an intergovernmental agreement to build and operate the Burgas-Alexandropoulis oil pipeline between Bulgaria and Greece. However, in December 2011 the project was

suspended by the Bulgarian government citing “environmental” concerns and following much pressure from the USA.

Furthermore, VARDAX SA, a subsidiary of the HELLENIQ ENERGY, the company that operates the oil pipeline that connects Thessaloniki to Skopje, submitted a request to the Energy Regulatory Authority of **North Macedonia**, in order to obtain a license for the re-starting of the pipeline, which has remained inactive since 2013. As the Skopje financial website “Faktor” reports, the request was submitted on November 23. The oil pipeline was built in 2002, in order to connect the refineries of Thessaloniki with the refinery of the OKTA company in Skopje, which was acquired by the Hellenic Petroleum (now HELLENIQ ENERGY) in 1998. (5)

However, its operation was interrupted in 2013, when Hellenic Petroleum suspended the operation of the refinery in the neighboring country as economically unprofitable. A “thorn” for the reopening of the 213 km long pipeline is the compensation claimed by HELPE from the state of North Macedonia, in the context of breach of its contractual obligations to buy at least 500,000 tons of oil on an annual basis. For the period 2008-2011, this amount totaled €32 million. At the same time, HELLENIQ ENERGY could make use of OKTA’s facilities as a fuel handling center in the wider region and mainly towards Kosovo and Serbia.

Bulgaria’s caretaker government and Lukoil Neftochim Bulgaria have agreed that it can continue operating and exporting oil products to the EU until the end of 2024, as long as it pays its taxes in full, despite European Commission warnings this would breach the bloc’s sanctions regime. Lukoil Neftochim Bulgaria, which joined the Lukoil group in 1999, is one of the largest oil refineries in the Balkans. Located in the Black Sea port of Burgas, the refinery was built so that it can only refine Russian oil and selected types of oil from the Middle East. (6)

According to the latest IENE reference study, the “SE Europe Energy Outlook 2021/2022” (7), there are several oil refineries currently operating in SE Europe, as shown in the following Table, and some of them are relying on Russian oil, such as those in Bulgaria and Romania.

In **Romania**, the three major refineries (i.e. Petromidia, Petrobrazi and Petrotel-Lukoil) have found alternative sources to oil imported from Russia, according to the Ministry of Energy. “The refineries in Romania will process non-Russian crude oil, alternative routes have been established, together with alternative sources of oil supply. In this respect, Romania has practically become independent from Russian oil. Romania has enough fuel in stock, we have no supply problems,” said Energy Minister Virgil Popescu. (8)

Table: Oil Refineries in SE Europe

Country		Refinery	Company	Current CDU cap. (kbpd)	Date of Capacity change
Albania	1	Ballsh Refinery	ARMO	20	
	2	Fier Refinery	ARMO	10	
Bosnia & Herzegovina	1	Bosanski Brod	Zarubezhneft	80	
Bulgaria	1	Burgas	Lukoil	175	
Croatia	1	Rijeka	INA	90	
	2	Sisak	INA	85	
North Macedonia	1	OKTA Skopje	HELLENiQ ENERGY	50	
Greece	1	Aspropyrgos	HELLENiQ ENERGY	148	
	2	Elefsis	HELLENiQ ENERGY	106	
	3	Thessaloniki	HELLENiQ ENERGY	90	
	4	Corinth	Motor Oil Hellas	180	
Hungary	1	Százhalombatta	MOL Group	165	
Israel	1	Haifa Bay area	Bazan Group	197	
	2	Ashdod	Paz Oil Company	91	
Romania	1	Ploiesti	Lukoil	50	
	2	Petrobrazi Ploiesti	OMV Petrom	84	
	3	Vega Ploiesti	Rompetrol	20	
	4	Petrobsub Suplacu de Barcau	OMV Petrom	15	
	5	Petromidia Constanța / Midia	Rompetrol	100	
Serbia	1	Pancevo	NIS	103	
	2	Novisad	NIS	0 (-63)	Closure, 1/3/2016
Turkey	1	Izmir	Tupras	221	
	2	Izmit	Tupras	221	
	3	Kirikkale	Tupras	100	
	4	Batman	Tupras	22	
	5	Star	Socar	214	Start up, May 2019

Sources: HELLENiQ ENERGY, IENE

Discussion

The record to date indicates that G7 oil sanctions are likely to have little or no actual impact on Russian oil exports and revenues. Prices at those levels are close to what Asian markets are currently paying Russia, which are at a “big discount,” said Wood Mackenzie’s vice president of gas and LNG research, Massimo Di Odoardo. Currently, Urals, the basic crude variety, exported to Asian markets, is trading near \$54 per barrel, well below the \$60 per barrel price cap. Five days ago, it traded near \$48 per barrel. “Those levels of discounts are certainly in line with what the discounts already are in the market ... It’s something that doesn’t seem, as it is placed, like it’s going to have any effect [on Moscow] whatsoever if the price is so high.” (9)

Russia is a primary global exporter of crude oil (about 5 million barrels a day) and refined oil products: gasoline and diesel (about 3 million barrels a day). These amount to roughly 40% of Russia's total export revenues.

The G7 oil price cap at \$60/bbl ideally avoids a global oil shortage, as it allows Russia to pump and export oil but curtails excessive gains from high oil prices. One cannot help but remember what happened in the OPEC oil embargo of 1973-1974 that led to a global shortage and oil prices quadrupled from \$3/bbl to nearly \$12/bbl. The EU has said the new agreements could reduce its Russian oil imports by 90%, which would make it a decidedly successful operation, although the sanctions are expected to take months to reach their full effect.

Though the measures will most certainly be felt by Russia next year, the hit will be softened by Russia's determination to sell its oil to other markets – but at a grossly reduced price - such as India and China, which are currently the largest single buyers of Russian crude oil. It is unclear what effect the proposed oil cap of \$60/bbl will have on these countries who are already buying Russian crude at a discount, but several energy analysts estimate that there will be little or no impact on Russian oil exports and revenues. Undoubtedly, there will be an impact on imported refined petroleum products, and the refineries in the wider SE European region are now planning to mitigate the potential risks.

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This analysis was contributed by IENE’s Research Team

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3, Alex. Soutsou st. 106 71 Athens, Greece, T: +30-210 3628457, 3640278, F: +30 210
3646144, marketing@iene.gr, www.iene.eu

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