

The Shattered Cooperation: The European Union – Russian Federation Energy Trade Under the Shadow Of Sanctions

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Abstract: The regional conflict from Ukraine that emerged a year ago, in February 2022, has quickly evolved into a widespread economic confrontation between the West and the Russian Federation, due to the enormous amount of sanctions imposed to the latest as a retaliation for the unprovoked military invasion into the territory of an independent and sovereign state. While the Western sanctions have targeted various economic field (from finance, to energy and trade), for the purpose of this paper we have chosen to analyse the impact of the trade sanctions in the energy field while highlighting how the European Union (EU)-Russia energy trade has shrunk under the sanctions blow. This paper provides an in depth quantitative analysis of the bilateral trade between the two parties, focusing on the evolution of energy trade after the imposition of sanctions. The methodological approach uses the latest Eurostat statistics but also a qualitative analysis of the studied literature in the field to underline the huge impact of sanctions on the bilateral cooperation between EU and Russian Federation. Our main finding shows that the sanctions have seriously affected the economic cooperation between EU and Russian Federation, causing a major decrease of the bilateral trade, but the energy trade still remains important, as the enforced bans have not completely stopped the unwanted energy link between the two parties.

Keywords: EU, Russia, sanctions, the war in Ukraine, energy trade

JEL Classification: F00, F1, F13, F5, F50, F51

1 Introduction and a short literature review

The war in Ukraine has emerged in a very complicated global outlook, still heavily affected by the economic turmoil that characterized the global markets in the post-pandemic international environment. There are many recent studies (Chowdhury et al., 2023; Guenette et al., 2022; Kammer et al., 2022; Khudaykulova et al., 2022; Vadén et al., 2023) pointing out that although it started as a regional conflict between two neighbouring countries, the war in Ukraine has quickly turned into a massive economic confrontation between the world's most powerful Western states and the Russian autarchic and dictatorial regime. While many states, Russian federation included, struggles to return to economic growth, the outburst of this regional conflict during the first month of 2022 has triggered massive shock waves to the global economy. The rapid imposition of sanctions against Russia has led to important consequences not only in the fields targeted by sanctions, but also on the global value chains (GVC) especially because the various restrictions have created bottlenecks for the regional trade flows with widespread consequences for the economies of the all Member States. As some analysts have shown since the ending of the WWII the sanctions against Russia are the harshest and most numerous imposed to a state (Khudaykulova et al., 2022), other studies (Siddi, a, 2022; Mbah, & Wasum, 2022; Žuk&Žuk, 2022) have highlighted the possible boomerang effect of those sanction on the EU's economy in general, and on EU's energetic security in particular.

The EU's sanctions have been enforced through many packages during 2022 and 2023 and have gradually increased in intensity.

It is not the purpose of this paper to discuss all the imposed sanctions as we mainly focus on the energy trade sector, but, it should be mentioned, that the sanctions have led to an important decrease on bilateral trade due to the numerous bans on technological imports of dual goods (that may also be used for military purposes), gold, gems, steel, coal but also because of the impact of financial sanctions on trade transactions (notably as the SWIFT exclusion for the most important Russian banks have significantly affected the flows of international transaction for the Russian economy).

The most important fields of sanctions were: energy, finance, trade and transport (see Box 1), while the energy sanctions were the most significant in terms of economic impact for both parties.

Box 1: A general overview of EU’s sanctions against Russia during 2022–2023

Field of sanctions	Most significant measures	Consequences
Energy	<i>Oil ban and oil price cap</i>	The oil ban prohibits the purchase, import or transfer of seaborne crude oil and certain petroleum products from Russia to the EU. The ban apply from 5 December 2022 for crude oil and from 5 February 2023 for other refined petroleum products. The oil price cap applies to seaborne crude oil, petroleum oils and oils obtained from bituminous minerals which originate in or are exported from Russia. The price cap is set at USD 60 per barrel for crude oil, at USD 45 per barrel for discounted petroleum products and at USD 100 per barrel for premium petroleum products.
Finance	<i>SWIFT exclusion and other targeted sanctions for important Russian banks</i>	The SWIFT ban prevents ten Russian and four Belarusian banks from making or receiving international payments using this service. Additional sanctions were imposed to the Bank of Russia.
Trade	<i>Various imports and exports bans</i>	There are various goods involved from steal, to coal and gold, but there are no sanctions on Russian exports of food to global markets. Anyone can operate, buy, transport, and ensure food and fertilisers coming out of Russian Federation.
Transport	<i>Road transport, maritime transport and aviation sector</i>	The road transport ban prohibited Russian and Belarusian road transport operators from entering the EU, including for goods in transit. The maritime transport ban closed EU’s ports to Russia’s entire merchant fleet of over 2 800 vessels (with some exceptions as for instance pharmaceutical and other essential goods). The aviation sector sanctions prohibit access to EU airports for Russian carriers of all kinds and banned them from overflying EU airspace.

Source: Author’s synthesis based on studied literature and on EU’s data about the sanctions, available at: <https://www.consilium.europa.eu/en/policies/sanctions/restrictive-measures-against-russia-over-ukraine/sanctions-against-russia-explained/>

Prior to the sanctions, the energy trade was considered (Siddi, b, 2022; Chen et al., 2023) the backbone of economic cooperation between EU and Russia and was also the main source for EU’s trade deficit with Russia. However, as we are about to show in the following section of this paper, the sanctions have become a massive game changer in the dynamic of the energy trade, hence leading to a gradual diminishing of the bilateral trade between the two parties. Although the frozen cooperation is now more clearly revealed than ever (Yıldız, 2023), the unwanted symbiosis still remains (Andrei, 2022), at least in the natural gas trade since a replacement with other partners is difficult for both EU and Russian Federation as we are about to highlight later in our analysis.

2 Methodology

Our research design is a mixed one focusing on a both quantitative and qualitative analysis. The quantitative analysis is based on the latest Eurostat data on bilateral trade (that stop on the first semester of 2023), while the qualitative analysis focuses on a synthetic overview of EU's many initiatives to reduce its the energy dependence from the Russian Federation. The limitations of the current research are linked mainly of two factors: on the one hand we do not have access on data from the second part of 2023 and, on the other hand, since there is an ongoing conflict, new sanctions could emerge, hence furthering affecting the energy trade. To overcome these limitations we propose a continuation of the current research, after more data will be available, to provide a more in depth and complex analysis of the evolution of the EU-Russian Federation energy trade under the shadow of sanctions.

3 The EU – Russia energy trade: the current status-quo and future perspectives

To better understand how the sanctions have affected the bilateral energy trade we aim to present a brief historical analysis focused on the EU's road to increased energy dependence from Russian Federation, while a second part of this section will highlight the current status-quo and possible perspectives. Hence, our quantitative analysis is divided in two frames: before and after 2022, to better understand how Russia's position has shifted on the European scene from a reliable partner to an unwanted, but still needed energy supplier.

3.1. From friends to enemies: A brief history of the EU - Russian Federation energy cooperation

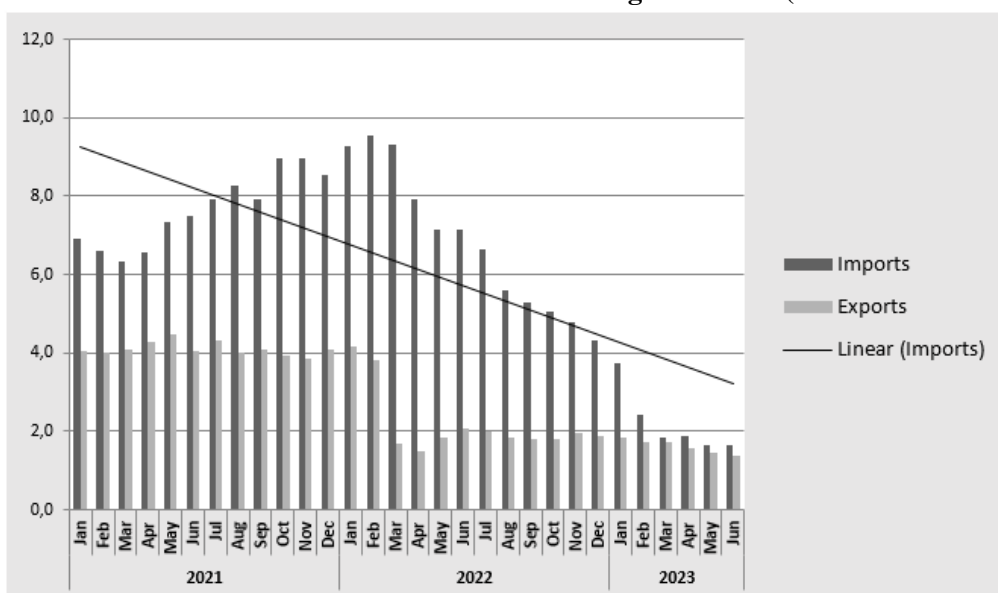
In the decades after the end of the Cold War, trade with the Russian Federation was a mainstay of the EU economy. Until the outbreak of the Crimean crisis (2014), the Russian Federation was of the most important partners for EU, while the cornerstone of this partnership was the European energy imports from Russia.

The EU-Russian cooperation after the soviet collapse started with a great optimism as many analyses viewed the opportunity for a mutual advantageous relation with the former communist country (Shleifer & Treisman, 2005; Lee & Connolly, 2016) hence mistakably confusing the pragmatic approach of Russian authorities with a genuine desire to reform and engage on the road to democracy.

It is important to state that although some sanctions were already enforced after the Crimean crisis, considered by some analyses as a major game changer for the global world order (Moagăr-Poladian & Drăgoi, 2015), the previous sanctions (prior 2022) have not targeted the energy sector, hence the cooperation in this field continued. Moreover, some countries, like for instance Germany even deepened their energy dependence from Russia (prior to the Ukrainian war Nord Stream 2 was build and was ready to de used, but after the new sanctions its launch was postponed).

After the pandemic, when the energy consume diminished because of the restrictions and lockdown, the EU Russia energy trade has picked up in the second half of 2021. However, trade with Russia eventually slowed down, under the shadow of sanctions, especially after the massive wave of sanctions imposed during 2022 (Graph 1).

Graph 1: The evolution of EU-Russian Federation trade during 2021-2023 (% share in extra-EU trade)



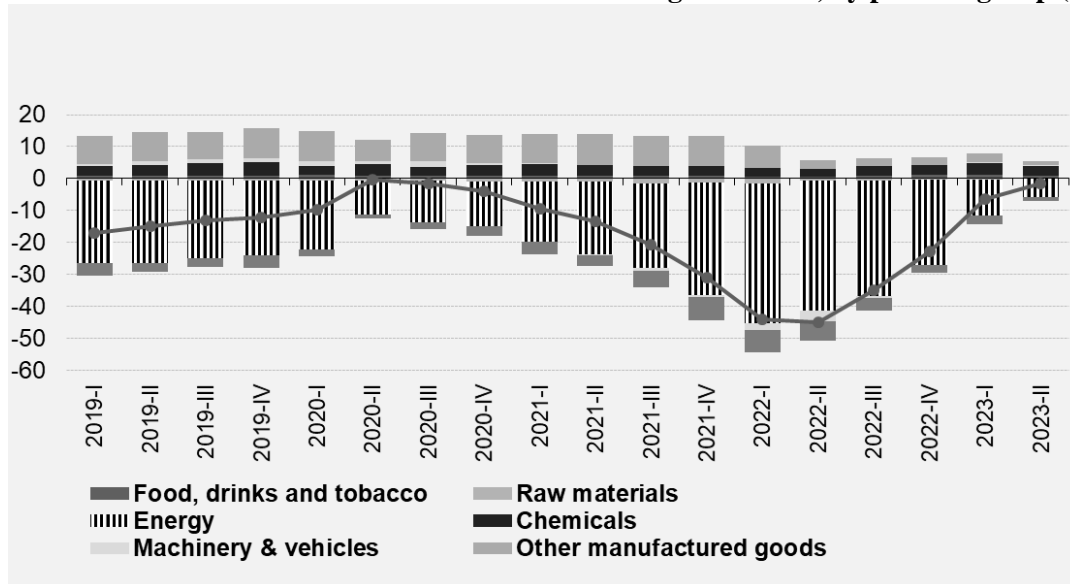
Source: Author representation, based on Eurostat data (2023).

As we may see in Graph 1, the linear trend of the EU's imports from Russia has sharply declined starting with the second half of 2022, mainly due to the numerous energy bans enforced by the sanction regime.

3.2. The current status-quo

As mentioned before in our analysis, the global energy trade between the two parties shrunken under the many sanctions imposed. If we analyse the evolution of EU – Russian Federation trade by product group, we may see that the energy is still dominant among the traded goods, although there is a visible a linear decrease after the sanctions imposition (in 2022).

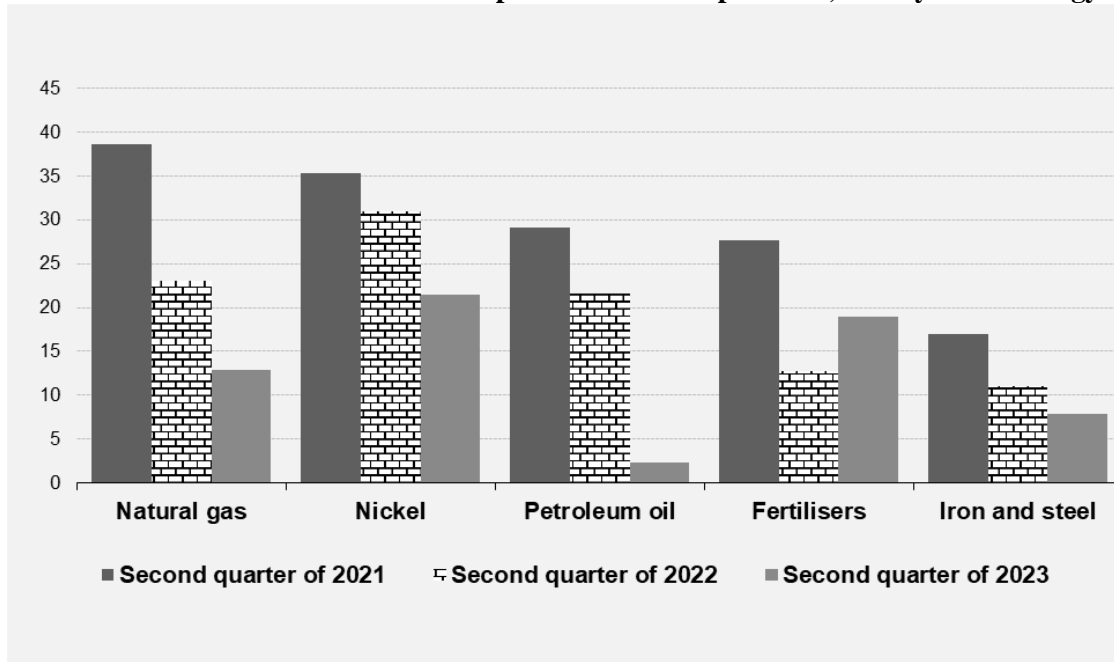
Graph 2: The evolution of EU-Russian Federation trade during 2019-2023, by product group (EUR bn.)



Source: Author representation, based on Eurostat data (2023).

Moreover when we look at the types of energy imports, one may see that Russian Federations still holds an important place as energy supplier, despite the sanctions, especially in the field of natural gas (Graph 3).

Graph 3: Russian Federation's share in EU imports for selected products, mainly in the energy field (%)

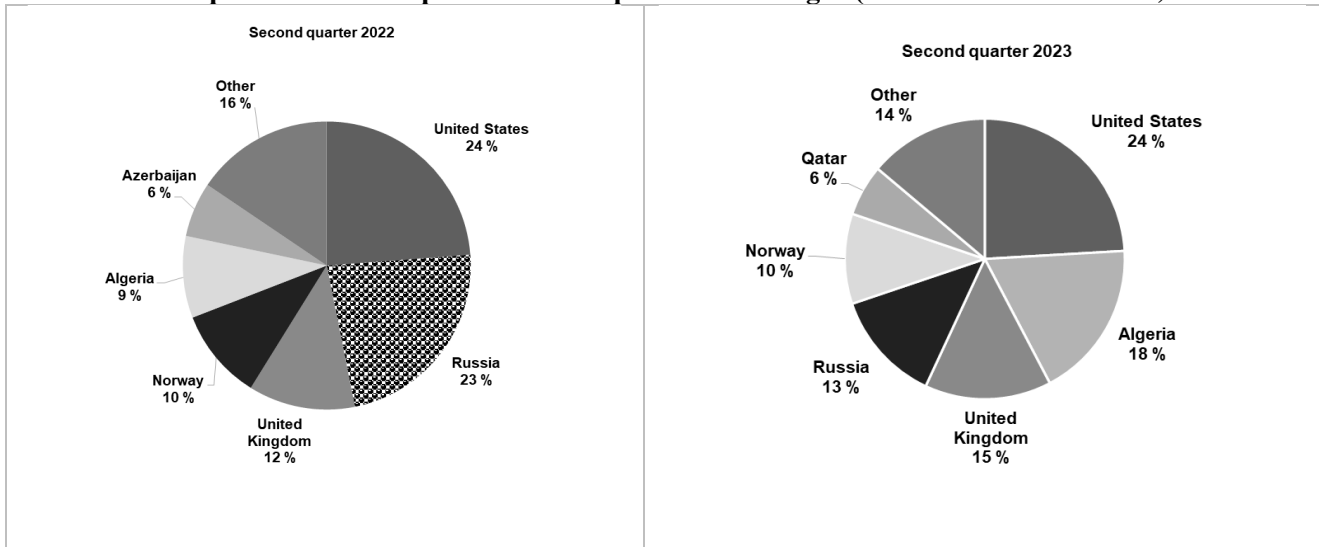


Source: Author representation, based on Eurostat data (2023).

As the Graph 3 is depicting the sharpest decrease registered in the second quarter of 2023 after all the entry bans were enforced, while for the fertilisers we may see an increase as those goods are not under the sanctions ban.

Even if the natural gas imports from Russian Federations decreased in the second quarter of 2023, compared with the second quarter of 2022 and the second quarter of 2021, even in the second quarter of 2023, Russia is still one of the EU’s main suppliers in the field (see Graph 4).

Graph 4: EU’s main partners for import of natural gas (% from extra EU trade)

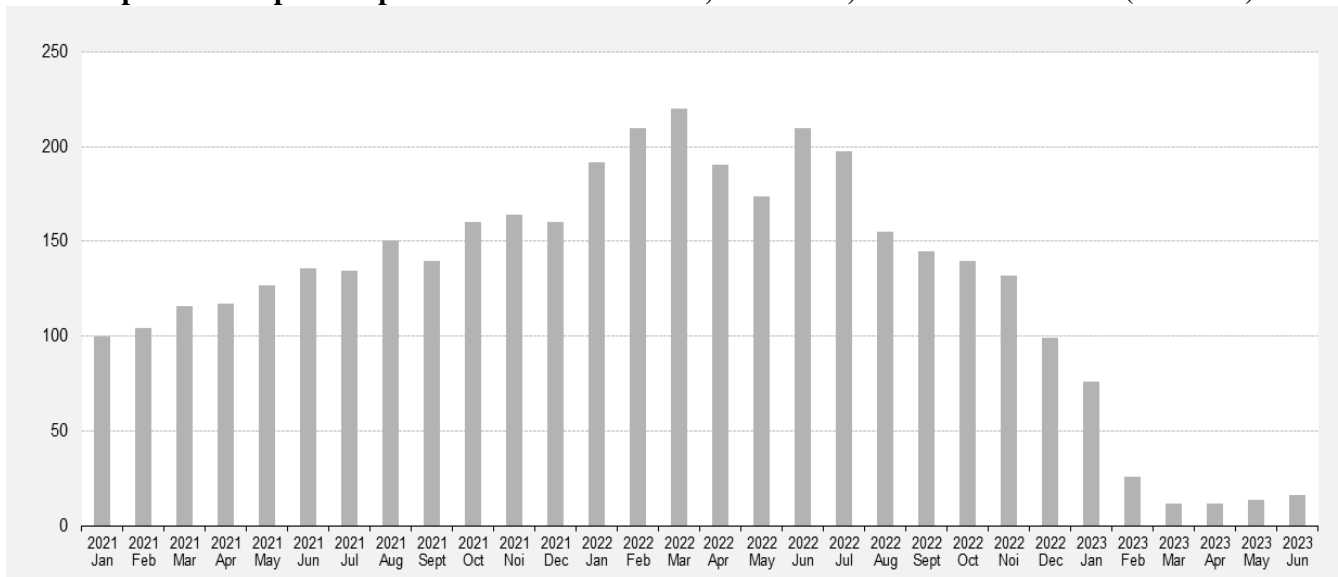


Source: Author representation, based on Eurostat data (2023).

As 13% of EU’s natural gas imports are still originated from Russia, even in 2023, the Graph 4 is clearly showing a massive decrease compared with 2022, while currently the main supplier for EU are US, Algeria and UK.

The most important effect of sanctions may be observed in the field of petroleum oil imports. After the imposition of sanctions, the petroleum oil imports from Russia are almost zero both in terms of value and of volume (See Graph 5 and Graph 6).

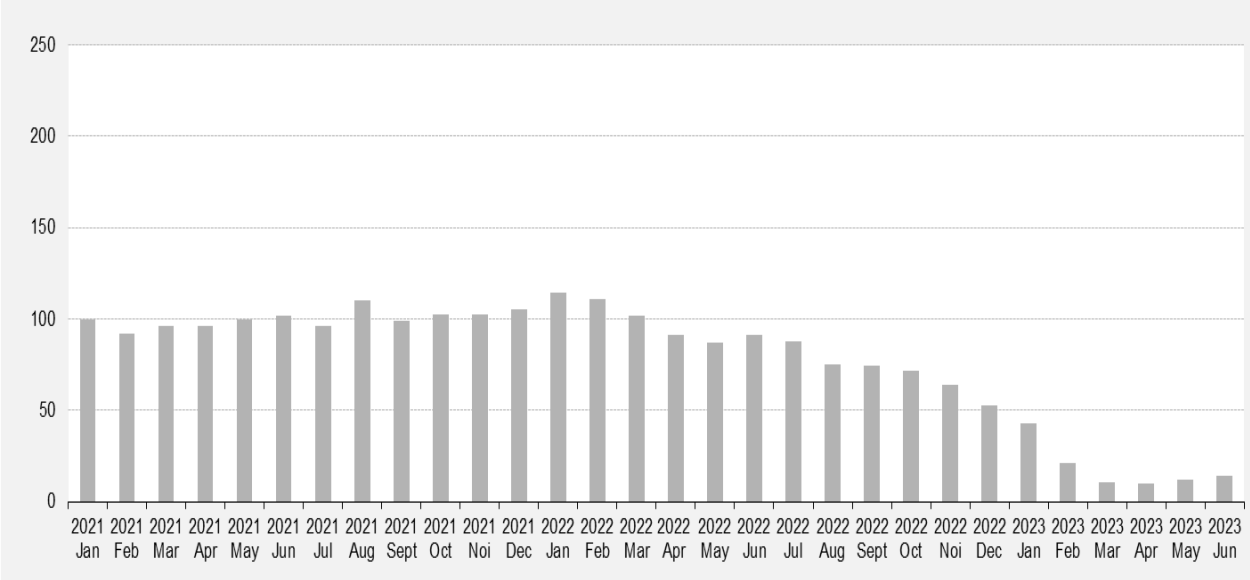
Graph 5: EU imports of petroleum oil from Russia, 2021-2023, value indexed at 100 (Jan 2021)



Source: Author representation, based on Eurostat data (2023).

As the Graph 6 is showing, the volume of imports of petroleum oil, decreased from 100 (indexed at Jan 2021), to only 14 in 2023, proving that the sanctions have fulfil their scope: to drastically reduce the EU dependence in the field from Russian Federation.

Graph 6: EU imports of petroleum oil from Russia, 2021-2023, volume indexed at 100 (Jan 2021)

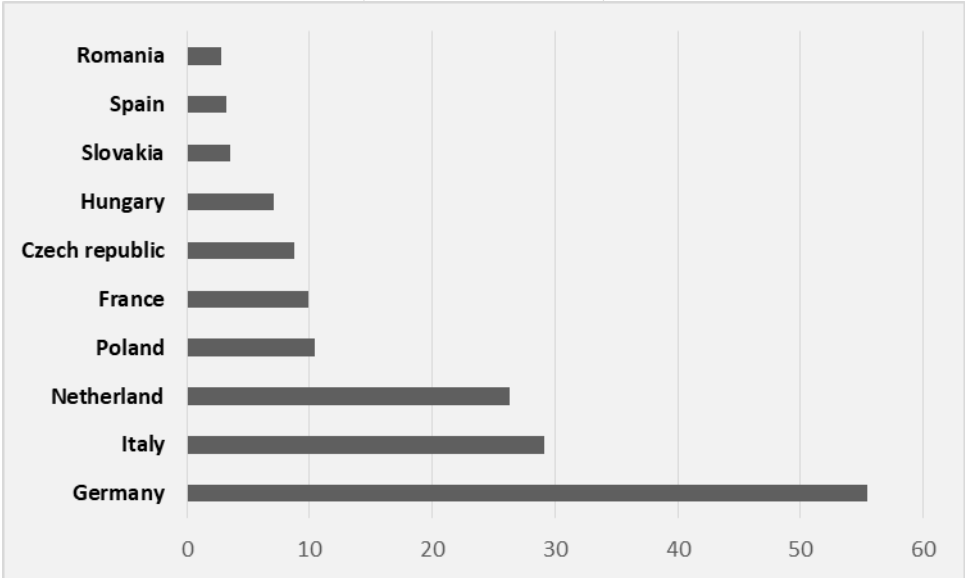


Source: Author representation, based on Eurostat data (2023).

As the EU managed to gradually reduce its energy dependence it is important to notice that are still Member States that have not totally reduced this unwanted symbiosis. From all the Member States, Germany had the greatest energetic link with the Russian Federation, but as stated by many analysis, that link has gradually faded as the geopolitical frozen path evolved between the two parties due to the multiple sanctions imposed (Gens, 2019; Lough, 2021).

The evolution of natural gas imports from the EU Member States shows that prior to the sanctions Germany held the first position in the EU’s hierarchy, followed by Italy, Poland and France (Graph 7). However, after the sanctions Germany has cut all its imports from Druzhba pipeline while the Nord Stream II project remains frozen.

Graph 7: Top 10 main importers of natural gas from Russian Federation in 2021, by country (Bn. Cubic meters)



Source: Author based on Statista (2023).

With regard to Russian crude oil shipments through the Druzhba pipeline, which were not sanctioned at the EU level, it should be remembered that, starting from December 2022, imports through the northern branch of this pipeline (to Germany and Poland) have registered a drastic decrease, as both states were already in the

process of ceasing purchases, while flows through the southern branch (to Slovakia, the Czech Republic and Austria) are expected to continue.

3.3. What are the future perspectives?

Some analysis (Pop, Drăgoi, 2019) have pointed out even before the outburst of the war in Ukraine the danger represented by the too great dependence of energy supply from Russia, while underlying the need to enforce a broader strategy to increase EU's security in the energy field. As stated by other studies (Drăgoi, Calanter, Neagu, 2023) the sanctions have created a massive cleavage between EU and Russian Federation, while the EU has deepened its engagement to the path of the green energy development.

The Green Deal is seen currently, along with the development of new partnerships, including in the LNG (liquefied natural gas) field, as the key for the EU's energetic independence. As for Russian Federation its strategy involves the deepening partnership with China seen as its main future partner in the energy trade.

However there are some difficulties for the both parties. While the green energies development has gain momentum, the largest share of EU's energy mix is still based on fossil fuels. Moreover, the development of most renewable energies depends heavily on imports of key technologies from China, so EU might replace the dependence of an autarchic regime with the dependence of another one, just as possible dangerous. For Russian Federation, the Asia pivot initiative might prove to be a bumpy road. Currently, the reorientation towards China, which is already a major economic partner for Russia, seems the ideal solution, but this approach involves a series of risks and challenges related to infrastructure.

There are several factors that make the redirection of Russian natural gas exports to China a practical impossibility in the short or medium term. The biggest challenges in this regard are related to infrastructure because natural gas simply cannot be transported as easily as oil, coal or other fossil fuels. There are currently two ways to transport large quantities of natural gas: through the gas pipeline network and by using a natural gas liquefaction plant to turn it into "liquefied natural gas" (LNG), which can then be transported by tankers special. However, both ways of transporting natural gas require the development of a specific infrastructure that is both complicated and expensive.

An assessment of Russia's ability to redirect gas flows to China requires consideration of the location of Russia's main gas fields. Currently, most of Russia's major gas fields are located in the West Siberian Basin, the largest hydrocarbon reservoir in the world. The two largest gas fields in Russia, the Urengoy and Yamburg fields, are located in the north of this area, in the Yamalo-Nenets Autonomous Region. These two natural gas fields are the world's second and third largest, respectively, surpassed only by the South Pars/North Dome gas condensate field in the Persian Gulf. In the far east of Russia is located another important gas field - Chayanda - located in the Republic of Sakha and which is part of the Vilyuy basin. The Chayanda gas field is estimated to contain a total of approximately 1.24 trillion cubic meters of gas.

The current pipeline infrastructure in Russia reflects the concentration of natural gas fields in the northwest of the country, given that they served a much larger export market, the European one, compared to the fields that could deliver gas for exports to the Far East. Currently, most of Russia's gas pipelines run from the Urengoy and Yamburg gas fields to the west to supply gas to the EU. The only export pipeline to the east that is operational is the Power of Siberia 1 gas pipeline (Sila Sibiri, Russian.), which carries gas from the Chayanda gas field to China. However, this pipeline does not have the capacity to take over the gas supplied to the EU so far, considering that, in 2021, only the Nord Stream 1 pipeline supplied 59.2 billion cubic meters of natural gas to European states. According to current estimates, the Power of Siberia 1 pipeline is planned to export 38 billion cubic meters of gas to China by 2030, but currently it exports only about 10 billion cubic meters per year.

Although volumes to China and India have increased, however, despite all these efforts, the impact of the sanctions on the energy trade of the Russian Federation cannot be neglected. If before the sanctions Russia had at its disposal a market that consumed more than 1.5 million barrels of crude oil per day through export terminals in the Baltic Sea, the Black Sea and the Arctic Sea, currently this market has been almost entirely lost and must be replaced by destinations over long distances to Asia, and these have the disadvantage of being much more expensive and also requiring much longer time intervals.

As a result of the sanctions, the preferred destinations of Russian crude oil exports have changed, with the latest statistics showing that, from January 2023 until April 2023, the EU states are no longer important for them, being replaced by China, India and Turkey. At the same time, a large part of the destination of Russian crude oil exports goes to non-G7 states, but also to "unknown" destinations. Regarding this last category, some analyses (Smityuk, 2023) show that they actually include ship to ship transports which is actually a way in which Russia manages to "circumvent" sanctions and export oil in the EU states through intermediaries.

4 Conclusion

Concluding on the effects of the energy embargoes imposed on the Russian Federation, we may say that the EU has successfully managed to significantly reduce its energy dependence from a partner that has proven volatile and unpredictable in the international arena. The success of EU's approach is due partly to its efforts to develop renewable energies, but also due to finding alternative import destinations (e.g. between January and November 2022, pipeline gas and liquefied natural gas (LNG) imports from Russia accounted for just under a quarter of all EU gas imports, while a substantial increase in LNG imports from Norway and Algeria was recorded).

The "sanctions energy war" seems to be affecting both sides quite a bit. Although the adjustment is also difficult for the EU states, which often import more expensive energy products as a result of the sanctions, the effects of the numerous EU embargoes are also felt for the Russian Federation, in particular by decreasing its income from energy exports (Russia's total income from the sale of crude oil and refined petroleum products in the first three months of 2023 amounted to only 27.3 USD billion, a very low level that is comparable only to the collapse during the pandemic period).

Our main finding is that while the sanctions have seriously affected the economic cooperation between EU and Russian Federation, causing a severe decrease of the bilateral trade, the energy trade still remains important for the two parties, as the enforced bans only affect only crude oil trade by sea and coal imports, while the natural gas trade is not targeted by the sanctions.

Our second finding shows that while the bilateral relations are stacked on a frozen path, neither EU or Russian Federation have been able to stop completely the energy trade since a complete replacement of the EU's natural gas imports from Russian Federation is still not possible, although Russian Federation's position as top source of EU's natural gas imports has been replaced with other countries.

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