

Russia's Future as an Energy Power

Russia's invasion of Ukraine has far-reaching consequences for the global energy system and for Russia itself. Sanctions and fewer Russian natural gas deliveries to Europe have disturbed the balance between supply and demand in the fossil energy market. Whereas Europe has alternatives to Russian energy, these developments are threatening Russia's status as a global commodities power.

By Jeronim Perović

Hardly any other country in the world has such a wealth of strategically important commodities as Russia. It is one of the most important producers and exporters of oil, natural gas, and coal. In addition, Russia supplies global markets with various other high-demand goods such as wheat, iron goods, metals, nitrogen fertilizers, and wood products. However, fossil fuels and other fuels are by far Russia's most important trade goods, constituting roughly 50 per cent of the country's overall export income. Since the Russian state earns approximately a third of its income via taxes from the oil and natural gas export business, the commodities sector is what is helping to finance Russia's war against Ukraine.

Against this background, it is clear that the sanctions that the US, the EU, the UK, and a series of other states enacted against Russia would only be effective if they also included the commodities sector. On 8 March 2022, Washington decided to cease the import of oil, gas, and coal from Russia. On the same day, the UK and the EU declared their intention to free themselves gradually from their dependency on Russian energy supplies. An EU embargo on the import of Russian coal already went into effect in August 2022. The EU plans to stop importing all Russian crude oil (unprocessed petroleum) as of 5 December 2022, and all Russian petroleum products transported by sea as of 5 February 2023. These include pro-



Workers are seen through a pipe at a construction site on the extension of Russia's TurkStream gas pipeline in Bulgaria in June 2020. *Stoyan Nenov / Reuters*

cessed mineral oil products such as diesel and gasoline. The EU embargo, which affects roughly 90 per cent of overall Russian oil deliveries, does not encompass the oil that Russia delivers via the Druzhba pipeline through a northern branch, which extends to Poland and Germany through Belarus, and a southern branch, which extends through Ukraine to Slovakia, the Czech Republic, and Hungary. Within a year, the EU also intends to reduce its gas imports

from Russia by two thirds and fully free itself from its dependency on Russian gas by the end of the decade.

An equally serious consequence for the Russian economy is the possibility that more than a thousand foreign companies may terminate their operations in Russia in the context of "self-sanctioning". In the energy sector, roughly more than 40 per cent of international companies have withdrawn

or temporarily suspended their activities, among them major corporations such as BP, Shell, and Exxon Mobile.

Russia's income from the export of raw materials has by no means taken a nosedive in the nine months since the war began. Over the medium to long term, however, sanctions and Russia's progressive isolation from Western markets may have drastic consequences for the Russian energy sector and the country's future as a fossil fuel energy power.

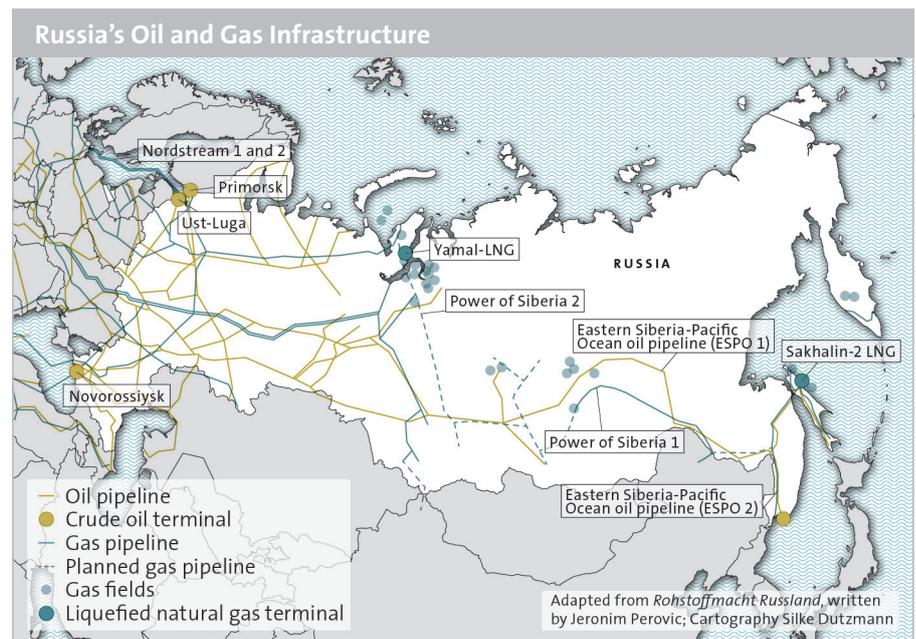
Income from Energy Exports

Intervening in the global energy market is a sensitive matter, since it can disrupt the delicate balance between supply and demand and cause prices to increase. Such a risk mainly exists in the heavily globalized oil market. Due to growing demand, prices in the oil market were already high before the war. The start of Russia's invasion of Ukraine and Western nations' announcement that they will no longer import Russian oil in the future raised additional doubts that caused oil prices to rise further. If a barrel of Brent crude oil was trading at roughly 90 US dollars shortly before the start of the war, the price temporarily skyrocketed to over 120 US dollars afterwards.

Since the EU – which imported roughly a quarter of its oil from Russia and was thus by far Russia's most important crude oil customer – did not impose the embargo immediately, Russia was consequently able to earn significantly more from exports due to the increased oil price. Furthermore, Russian energy companies set out to

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sell more oil to states that did not participate in the sanctions, which notably included China, India, and Turkey. To acquire large market shares as quickly as possible, Russia offered its oil to these states at prices far below that of the global market – and it did so successfully. The percentage of Indian oil imports from Russia soared from only 1 per cent in February 2022 to 18 per cent in June 2022. In June 2022, China imported 55 per cent more oil from Russia than within the same period in the previous year, and Turkey likewise significantly increased its oil imports from Russia. All in all, Russia's



petroleum export volume did not significantly decrease by the end of 2022. Rather, it only shifted geographically.

Unlike the oil market, the natural gas market is more heavily regionalized, since Russia transports the majority of its gas via pipelines to Europe and to Turkey. Yet, the natural gas market was also disrupted. The start of the war in Ukraine coincided with an energy price crisis in Europe. Before the war, the price for natural gas on the spot market in Europe had increased sixfold. Since gas is an important source for generating electricity, this resulted in a similarly sharp increase in electricity prices. High-energy prices were a significant reason for fueling inflation in Europe. Conversely, Russia benefited from the fact that it was responsible for roughly 40 per cent of

EU gas imports before the war by taking advantage of this high-price environment and achieving unprecedented profits from its gas exports. The decrease in Russian natural gas deliveries to Europe is not because of EU actions. Rather, Russian state-owned company Gazprom, in response to Western sanctions, gradually reduced its natural gas deliveries to Europe to roughly 20 per cent of the previous year's levels. While the lines through Poland (Yamal) and to Germany (Nord Stream 1 and 2) are closed or defective, deliveries via the pipeline connections through the Black Sea to Turkey have not been significantly curbed.

Despite the war, the transport system through Ukraine is currently the one through which Gazprom still delivers significant quantities of gas to its European customers.

If one objective of Western sanctions was to cut off Russia from its income from the commodities export business, then these measures have missed the target so far. For the time being, high global market prices for fossil resources and Russia's option to redirect part of its oil exports to Turkey and Asia have hindered restrictions on the income of Russian companies. On the contrary, according to estimates by the Center for Research on Energy and Clean Air (CREA), Russia earned a record-breaking 230 billion EUR from the sale of oil, natural gas, and coal in the nine months since the attack on Ukraine. EU states have been responsible for roughly half of Russia's commodities income. Since Russia had created a large financial cushion before the war to soften the effects of sanctions, the Kremlin will not run out of money anytime soon – even if earnings from raw materials should decrease in the future. The country is not facing an imminent national bankruptcy, although Russia will greatly feel the impact of the sanctions in the energy sector over the medium to long term.

Pipeline Gas and Liquefied Gas

Even if numerous European states are suffering due to interruptions in Russian gas deliveries, Europe as a whole is in a better

position to weather the loss of Russian fossil fuels than Russia is able to weather the energy cut-off from Europe and Western sanctions. Thanks to a series of alternative suppliers (Norway and Algeria as well as liquefied gas deliveries from Qatar, the US, and Nigeria), Europe was already far more heavily diversified in terms of gas imports than Russia, which delivered roughly three quarters of its gas to Europe in 2021. In 2021, by contrast, China absorbed only slightly more than 3 per cent of Russia's total gas exports. The gas exported to China originates from East Siberian fields and reaches China via a pipeline that was opened in 2019. In a few years, the EU may already be able to import significantly more gas via the planned increase of gas imports through pipelines from alternative destinations such as Azerbaijan and the construction of new liquefied gas terminals. Furthermore, Germany and other EU states have reduced their gas consumption in the meantime and European countries plan to provide greater funding for renewable energy sources.

Russia has also expanded its liquefied gas capacities over the past several years. With a roughly 10 per cent share in the liquid gas volume traded worldwide, Russia is among the most important liquefied gas exporters together with the US, Qatar, and Australia. Although Russia heavily reduced its gas deliveries to Europe via existing pipelines, it also increased its liquefied gas exports to the EU market by 50 per cent. Russia currently produces about 15 per cent of the liquefied gas supplied to Europe. While the EU has successfully managed to offset the loss of Russian pipeline gas with alternative importers, savings, and reallocations, the massive increase in Russian liquefied gas imports is in stark contrast to the announced intention to reduce Russian energy deliveries. If EU sanctions take effect against Russian liquefied natural gas imports, then Russia may still be able to sell this gas in Asia without any issues. Approximately 10 per cent of Russia's entire gas export volume is currently flowing to the Asia-Pacific region as liquefied gas.

However, the withdrawal of Western companies that were formerly the main suppliers of liquefaction and drilling technology and software may not be so easily offset – particularly in the production of liquid gas. Russia itself does not have the capacity to fully replace these technologies. Against this backdrop, private Russian energy firm Novatek – Russia's second-largest natural gas producer and most important liquid

gas manufacturer after Gazprom – announced its plans to delay the start of production of Arctic LNG 2, a major liquid gas project on the Yamal peninsula, from early 2023 by a year. Western companies that were involved in the project – among them Total (France), Linde and Siemens (Germany), and Mitsui (Japan) – which provided both the technical expertise and services and financial resources, suspended their collaboration. Furthermore, South Korean company Daewoo Heavy withdrew its order to build 15 LNG tankers.

Given these limits on the expansion of LNG production, Russia will export the vast majority of its gas via pipelines in the

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future as well. According to the International Energy Agency's (IEA) estimates, it will still take approximately ten years until the pipeline capacities are built to boost the export volume to China and other Asian countries to the level of export volumes to the EU in 2021 (155 billion cubic meters). However, this requires Russia to have the corresponding access to capital and technology and to have the ability to maintain its natural gas production at a high level, even though production experienced an almost 20-per cent decrease between January and October 2022 compared to the previous year.

Production and Export of Oil

Europe also seems to be in a better position when it comes to oil. Even if Russia exports the majority of its oil by sea and can therefore respond to changes in the global economic environment with greater flexibility, Russian companies are highly dependent on tankers owned by Western companies to ship their goods. Accordingly, the EU and the United Kingdom decided that these companies would no longer be insured if they transport Russian oil. Furthermore, the G7 and EU states agreed on a price regulation that prohibits tanker owners, insurance companies, and other maritime service providers under their jurisdiction from providing services to the Russian oil industry, unless the barrels are sold at defined prices with an upper limit currently set at 60 USD per barrel. Although one can assume that states such as India, China, and Turkey will consequently

import more Russian oil and petroleum products, non-Western countries will hardly be able to fully compensate for the loss of Russian oil on the European market. Therefore, Russia will probably have to sell its oil at lower prices in the future.

Furthermore, a majority of Russian oil comes from fields that were discovered in the Soviet era. Since these fields have already reached their production peak, Russian energy companies are forced to tap into more technically challenging reserves in remote Arctic areas and offshore. Even if Russia had already set out to produce certain technologies for the energy sector itself when first Western sanctions were imposed in 2014, the percentage of foreign equipment in technically sophisticated, unconventional projects before the start of the Russian-Ukrainian war in February 2022 was still at 50 to 60 per cent. The extent to which Russian companies can manage to import Western technology via third-party states is unclear. Moreover, the scope and price at which non-Western companies will be able to replace certain Western technologies is also uncertain.

Russia's Fossil Future

Regardless of the outcome of the Russian-Ukrainian war, one can expect major and long-term changes in the global energy system. Russia's economic decoupling from its traditional European markets, the redirection of energy flows towards Turkey and the Asia-Pacific region, and the growing importance of liquid gas on the world market are just three developments that will define the role and place of Russian fossil fuels in the future. While a swift adjustment can be expected in the globalized oil market, Russia's reorientation to Turkey and Asia will probably take far longer in the gas market, which is still heavily regionalized. If Russia wishes to significantly increase its natural gas deliveries to China, this entails a massive expansion of the existing transport infrastructure in Eastern Siberia and in Russia's Far East – which includes connecting the remote West Siberian production centers to the East Siberian pipeline system. However, the major investments that this entails are worthwhile only if a consistently high demand for fossil energy can be expected over the next 20 to 30 years.

That is precisely the greatest uncertainty factor for Russia at the moment. Geopolitical considerations are not the only reasons why European states strive to more heavily

diversify their energy imports and reduce their dependency on Russian energy. These shifts in the global energy market come at a time when many states are setting long-term decarbonization goals for their na-

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tional economies in order to achieve global climate goals. For instance, the UK, the US, and the EU want to stop using fossil fuels for electricity generation by no later than 2040. At the same time, they are advancing the expansion of renewable and regenerative energy sources. In the first half of 2022, Germany already produced nearly 50 per cent of its electricity from renewable energy sources (wind power, biogas, photovoltaics, hydropower, and others). If there is a global decrease in the demand for fossil fuels, this may also affect global market price levels and cause uncertainty regarding the long-term viability of new investments in oil and natural gas projects.

The Russian energy economy is highly unprepared for such a scenario. Although Russia also has other goods that are in demand on the world market, fossil fuels and combustibles are what make up the largest share of the export business. Renewable energies have also been increasingly promoted in Russia over the past several years. However, according to information from the BP Statistical Review of World Energy, they only represented around 0.1 per cent of primary energy consumption in 2020. The share of natural gas and coal in electricity generation has decreased in recent years, but in this case, Russia mainly uses hydropower and nuclear energy, which contribute roughly 20 per cent each to electricity generation, while the share of renewables (namely wind and solar energy) was negligible at roughly 0.3 per cent.

Russia has a lot of potential when it comes to producing alternative sources of energy. However, since oil and gas sales over the past several years have generated extremely high profits, the Russian state currently has little interest in actively funding the non-

fossil sector of the economy. Over the past two decades, Russia's fossil wealth has formed a central pillar of the power system created under Vladimir Putin, which is based on state control of major energy companies. This problematic link between energy and power is also what abets authoritarian tendencies and hinders economic reforms. However, if Russia's status as a global commodities power suffers long-term damage, it is bound to affect the functions of the Russian national economy and thus the country's political system.

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