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Reasons for changing the vector of Russian exports and the new role of the Arctic

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Reasons for changing the vector of Russian exports and the new role of the Arctic

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Abstract. The article provides an overview of projects for the construction of the export infrastructure of Russian resources, implemented in the recent decades. The factors influencing the decisions on the construction of the largest oil pipelines (Baltic pipeline system I and II, Eastern Siberia – Pacific Ocean) and gas pipelines (Nord Stream I and II, Turkish stream, Power of Siberia and others) are analysed. An approved program for the development of the Northern sea route until 2035, which involves major investments in the creation of a new eastern export route, is also being considered. The analysis shows that in addition to the political factor, the decisions on financing the new export infrastructure are influenced by the factors of competition and global warming. The latter acts both as a limiting factor due to environmental restrictions on fuel consumption in the European Union and as a stimulating factor due to the Russian government's hopes for more stable and cheaper navigation along the Northern Sea Route. The analysis illustrates that the export diversification policy in general is yielding results, which is demonstrated by an increase in the share of exports in the Asian direction. However, it remains unclear how rational financing new projects for the export of energy resources is in the context of a long-term trend towards a decrease in their cost in world markets.

1. Introduction

One of the main features of the Russian economy is its export orientation. Oil and refined products, natural gas, coal, wood, ores and metals have remained the main export products for many decades. Exports of other goods and services, except for grain and military-industrial complex products, do not generate significant foreign exchange earnings (see figure 1). The high importance of exports determines the status of transport infrastructure, the development of which directly affects the possibility of profitable sales of products on world markets. However, despite the direct border with the world's largest markets: the European Union and the people's Republic of China, as well as a long coastline, the weak development of transport infrastructure is still a limiting factor for Russian exports, as it has been almost throughout history.

Special difficulties for the Russian economy arose with the collapse of the USSR, which led to the formation of independent States located on the path of Russian export resources to the countries of the European Union [1]. At the same time, other factors also have an impact on the export of Russian resources. Among them is global warming, which in the near future will not only become a threat to the global climate system, but can also contribute to the development of the Northern sea route, which can radically change the transport situation for Russia. In recent years, the Russian government has



made many efforts to eliminate all limiting factors for country export, but global trends may make all these attempts futile in the near future.

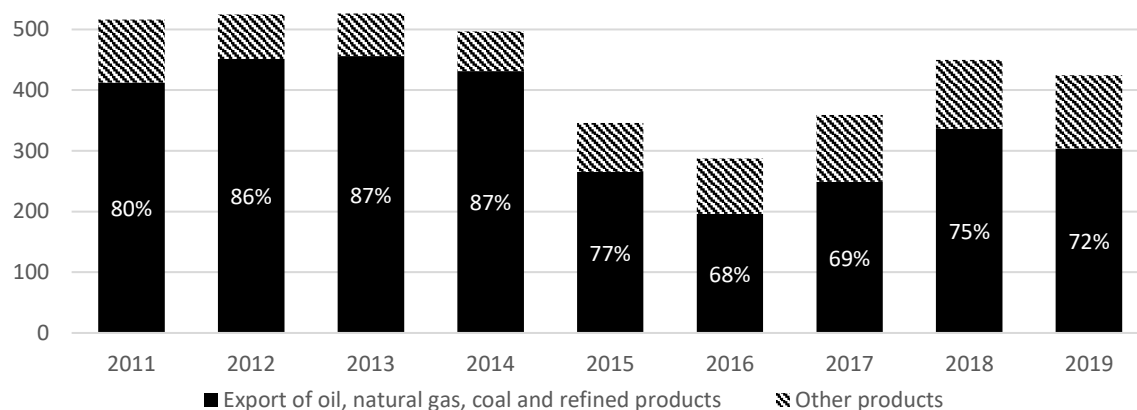


Figure 1. Share of core resources in Russia's exports in 2011-2019 (based on Federal customs service data¹).

2. Data

The projects considered in the study for the construction of infrastructure facilities are realized within the framework of corporate development programs, in many cases, as part of the implementation of interstate agreements. For this reason, detailed information about the cost of projects and the sources of their financing remains closed to the general public. In such circumstances, the source of project data was the speeches of government officials and high-level managers of the companies under study, expert assessments based on the published reports of these companies, and other materials available for public access on the Internet.

3. Political factor and competition

The political factor became one of the main obstacles to the growth of Russian exports after the collapse of the USSR. Seaports and transit oil and gas pipelines remained on the territory of the newly independent States, some of which immediately began to pursue policies unfriendly to the former metropolis (Estonia, Latvia and Lithuania), while relations with others deteriorated much later. Constant interstate disputes over cargo transit with newly independent States have led the Russian Government to actively investing in the development of seaports on its Baltic coast [2], as well as to creating a new export pipeline infrastructure to bypass some of the transit countries. Some of the implemented initiatives were completed and resulted in a significant increase in exports through Russian seaports (with a simultaneous decrease in exports through the ports of the Baltic States). However, the escalating political situation and constantly increasing economic sanctions related to the conflict between Russia and Ukraine resulted in the fact that projects such as the construction of the 'Nord stream-II' gas pipeline have not yet been completed.

In the field of oil and petroleum products export, the main construction projects are oil pipelines to Russian ports in the Baltic (Ust-Luga and Primorsk) – the 'Baltic pipeline system – I' (BPS-I) and the 'Baltic pipeline system – II' (BPS-II), as well as the 'North' and 'South' projects for the export of petroleum products (the second pipeline is directed to the Black Sea basin). The construction of these pipelines cost a lot of money: BPS-II cost more than \$2 billion, the 'North' and 'South' projects cost more than \$1 billion each. At the same time, the rationality of the decision to build at least some of the pipelines was questionable: while the refusal to export through the Latvian port of Ventspils allowed

¹Russia's export of the most important goods. Data of statistics. Federal customs service, 2020. (in Russian) Income accessed online on 20.04.2020 via <http://customs.gov.ru/statistic/Январь%20-%20май%202018>

to save more than \$200 million a year, the use of the BPS-II route leads to an increase in the distance of oil transportation by an additional 1000 km. The latter circumstance raised a lot of questions among opponents of using the funds of the state-owned company Transneft for the construction of the pipeline that increases the costs of exporters, nevertheless, the project was implemented.

However, the decision to build the 'Eastern Siberia – Pacific Ocean' (ESPO) oil pipeline, which was designed to reduce Russia's dependence on Western exports [3], cost significantly more [4]. The pipeline, which has a branch in China and the main direction to the Pacific port of Kozmino, was built for more than 10 years, and was fully operational by 2020. In addition to the construction of the ESPO pipeline in the virgin taiga, which cost at least \$25 billion, additional pipelines 'Kuyumba – Taishet' (more than \$2.2 billion) and 'Samotlor – Zapolyarye' (more than \$5.3 billion) were built, which should have ensured that the ESPO is filled with oil (the capacity of fields along the pipe itself is not large enough).

No less expenses were associated with the construction of gas pipelines. In this case, the government also strongly stimulated the development of infrastructure initially in the Western direction, where the 'Yamal – Europe' gas pipeline through Belarus was completed at the end of the 20th century. However, transit relations with Belarus were not constant either, which led to the refusal to expand this gas pipeline and the decision to build new ones along the bottom of the Baltic sea. The construction of the first stage of 'Nord stream' cost Gazprom at least \$10.9 billion, while the construction of the second stage – 'Nord stream – II' – has not yet been completed and has already cost about \$11.7 billion.

At the same time, the issue of bypassing Ukrainian transit from the South, where it had been planned to build a gas pipeline along the bottom of the Black sea to Bulgaria, was also negotiated. The plans had to be adjusted right during the construction [5], when it was decided that the pipe would go out to the coast of Turkey [6]. As a result, the recently completed 'Turkish stream' cost more than \$13 billion.

The geopolitical turn to the East was also reflected in the accelerated promotion of projects for the development of gas fields in Siberia and the far East, where the 'Sakhalin – Khabarovsk – Vladivostok' gas pipeline was built at a cost of more than \$14.6 billion. At the same time, the construction of the 'Power of Siberia' gas pipeline, which has only been partially completed so far, required much more investment (gas is supplied via the first section from the Chayandinskoye field to China). Currently, it is expected that the full construction will cost at least \$21 billion, and the development of the main fields (including Kovyktinskoye) will cost about \$50 billion more.

The huge construction costs will probably not be final, because, according to the latest order of the President of the Russian Federation, a feasibility study for the construction of a new gas pipeline 'Power of Siberia – II', which is expected to connect the main gas fields in Western Siberia with the gas pipeline 'Power of Siberia – I', has been initiated. One of the justifications for the construction of Power of Siberia II is the gasification of the Krasnoyarsk territory and the Irkutsk region, as well as the creation of an alternative route for gas supplies to China via Mongolia. However, there is an opinion that the construction of the second stage (presumably more expensive than \$25 billion) of the gas pipeline is necessary because the resources of the Kovykta and Chayandinsky fields to fill the export pipe are not enough.

Of course, these expenditures on infrastructure were largely justified by the need to avoid further political confrontations and increasing charges for the transit of resources. However, numerous accusations of irrational use of funds became more grounded after the new technology for transporting liquefied natural gas began to be actively used not only in foreign countries, but also in the very North of Siberia – on the Yamal Peninsula [7]. As a result, the long-term denial of new technologies in the extraction of oil and gas resources (in particular shale deposits) and transportation has led to the fact that Russian exporters face sharply increased competition from extremely flexible suppliers in terms of increasing production and delivery locations. All this has led to a catastrophic drop in energy prices (reinforced by restrictions due to the COVID-19 pandemic) and a significant delay in the payback period for all these infrastructure investments. Moreover, Gazprom's recognition of the wrongness of

its own policy resulted in new investments: forced competition, including with the export of LNG from Yamal, led to the need to build a large LNG terminal in the port of Ust-Luga on the Baltic sea (more than \$33.6 billion until 2023).

4. Global warming and economic prospects for the Russian Arctic

Nevertheless, perhaps an even greater threat to Russian exports is climate warming [8]. Reduced fuel demand due to warm winters in Europe, as well as the widespread adoption of higher environmental standards in the European Union, has led to a higher share of renewable energy in total production. In Europe, demand for Russian energy coal has also fallen sharply, making the previously most important export market less dependent on Russian supplies.

Russia expects to increase the supply of coal and other resources to Asian markets, for which it is actively investing in expanding the Trans-Siberian Railway's carrying capacity and building oil and gas pipelines in the East of the country. However, it was decided to accompany the expensive measures themselves (more than \$9 billion is planned to be spent on modernizing the Trans-Siberian and BAM railways) with a large-scale program for the development of the Russian Arctic [9]. The Russian government has been skeptical about global warming and its negative consequences for many years. One of the possible reasons for this is the hope for more free use of the Northern sea route, which, according to politicians, in the predicted warmer future may become one of the drivers of economic growth for Russia [10].

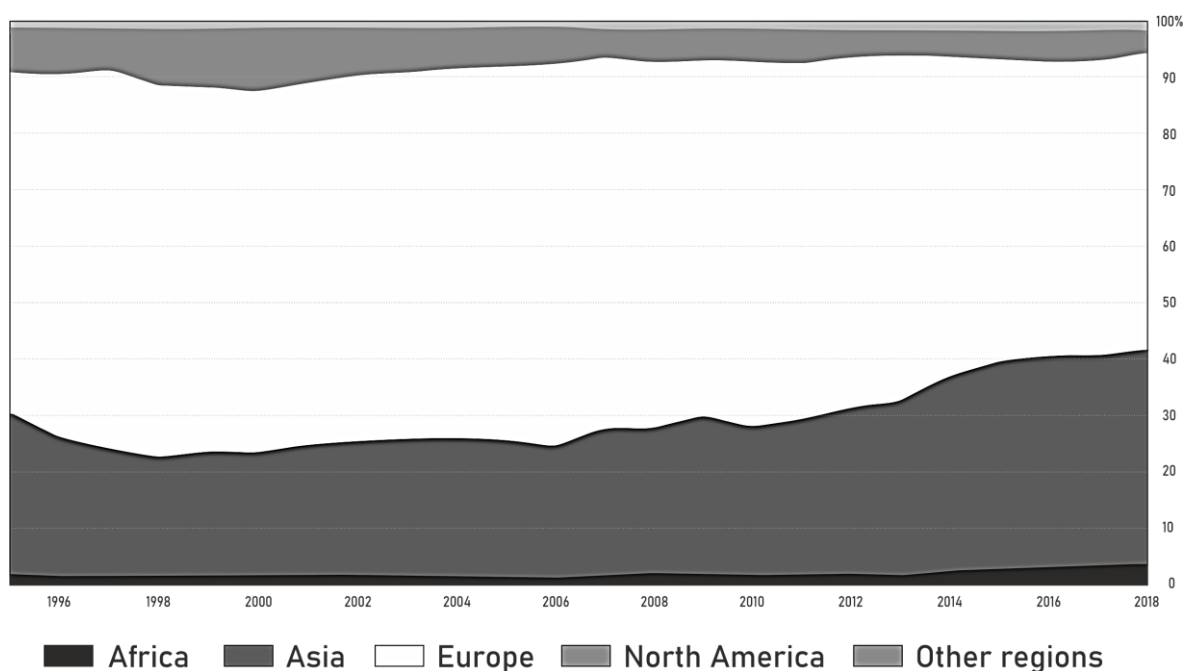


Figure 2. Share of world regions in Russia's exports (1995-2018), as a percentage (based on Observatory of Economic Complexity (OEC) data²).

The plan approved in 2020 for the development of the Northern sea route infrastructure until 2035 includes a number of measures: the construction of 16 rescue and 13 hydrographic vessels (2022-2024) and four nuclear icebreakers of the project 2220 "Arctic" (2022-2026). By 2028, it is planned to complete the construction of the lead icebreaker of the 'Leader' project with a capacity of 120 megawatts, which is able to pave the way in the ice up to four meters thick. From 2030 to 2032, it is planned to finance the construction of two more nuclear-powered vessels of this kind. To ensure high-

²Where does Russia export to? (1995-2018) OEC, 2020. Income accessed online on 30.08.2020 via <https://oec.world/en/visualize/stacked/hs92/export/rus/show/all/1995.2018/>

quality communication and hydrometeorological data, several satellites are planned to be launched by 2025, and other activities are also planned. As a result, the Government expects to increase cargo traffic along the Northern sea route to 80 million tons by 2024, and to 160 million tons by 2035. This will be ensured not only by existing shippers, but also by promising deposits of natural resources that are planned to be explored as part of the new program for geological study of subsurface areas of the Arctic zone.

If realized, optimistic plans worth tens of billions of dollars could significantly affect the economic landscape of Russia's Arctic territories. However, it remains unclear whether there will be enough financial resources in Russia for the simultaneous implementation of major infrastructure projects, which to some extent may be duplicative of each other. Is there a sufficient reason to build another gas pipeline thousands of kilometers from the Arctic via Mongolia to China, when it is supposed to make such significant investments in the Northern sea route? Given the inaccessibility of information on the main export contracts for oil and gas supplies to China to the general public, this question may remain unanswered.

So far, it is not clear whether huge investments in export infrastructure could change the geographical ratio of Russian exports, in which the role of the Asian direction has increased in recent years [11], but has not yet exceeded the European one (see figure 2). Other factors considered may have played an equally important role.

5. Conclusions

For many years Russian government has purposefully pursued a policy of reducing the transit of export resources. However, very soon the Russian export of raw materials faced not only political opposition to infrastructure projects, but also fierce competition in almost all major export directions. Global warming also contributes to the reduction of exports to Europe, namely, the European Union's desire to reduce the consumption of fossil fuels. As a result, the large-scale construction of export infrastructure to the East – to China and the Pacific Ocean – turned into another huge expense for Russia. The need to diversify export sales markets, which Russian government previously considered an unconditional priority, now does not seem so justified in the face of falling energy prices.

A separate issue is the Russian strategy for the development of the Arctic zone. Despite the fact that the state is already investing huge funds in the expansion of the Trans-Siberian and BAM railways, the construction and design of new gas pipelines across Siberia, the proposed investments in the infrastructure of the Northern Sea Route may turn out to be unnecessary spending on a largely duplicating export route. Such spending does not seem particularly rational also in the light of not having a comprehensive program to support the existing infrastructure in the Russian Arctic. The territory is becoming especially vulnerable to the effects of global warming, which was clearly demonstrated by the largest man-made disaster in 2020 in Norilsk.

Whether the state strategy of large investments in export infrastructure will be effective in the context of the stagnant economy in recent years, or it will only bring the end of Russia's reliance on energy exports closer, will become clear in the coming decades.

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