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## Foreign Economic Partners of Russia in the Arctic Zone \*

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**Abstract.** The study expresses the readiness of foreign investors to participate in Russia's Arctic innovation projects in difficult international economic and political conditions. Key high-tech projects of the Arctic zone of the Russian Federation (AZRF) with the participation of international economic partners are presented. The tendency of economic interaction in the field of high technologies is expressed, which has not been subjected to political pressure from outside. The key investor companies of the Asia-Pacific region (APR) and the European Union (EU), with which agreements on participation in projects have been signed, are presented. The intentions of the world powers for economic partnership in the Arctic projects of Russia are discussed, the most promising areas and areas of activity are outlined. It is determined that the dominant economic attention is shown by Asian countries. The leader is the People's Republic of China (PRC), interaction with which contributes to the acceleration of investment growth in these projects and has a wide range of industry areas. The implementation of AZRF projects with the participation of foreign partners has a positive multiplier effect on the development of the Northern Sea Route (NSR), the main economic highway of the Russian Arctic. The high value of Russian and international scientific research in the Arctic is determined, as well as the critical importance of the achievements of scientific and technological progress (STP), and as a result, a high-tech economy; the increased interest of the world powers in the work of the Arctic Council is indicated; the general attention to the thin ecological system of the Arctic is presented. The aim of the study is to assess the current economic agreements with the participation of international partners and to attract foreign investment in promising long-term Arctic projects in Russia.

**Keywords:** *economy, investment, Arctic zone of Russia, international partner, infrastructure project, Northern Sea Route, logistics, natural resource*

### Introduction

The Russian Arctic is a harsh, hard-to-reach region, rich in natural resources and greatly beloved by the inhabitants of the Far North. Improving the quality of life of the population of the Arctic zone of the Russian Federation (AZRF) is a priority issue of Russian national policy, which includes development of social, transport and digital infrastructure, ensuring a favourable environment, increasing wages and solvency of northerners, improving the availability and quality of medical services, life expectancy and much more. The issue of national security, the integrity of land and sea borders, the protection of the population, shipping routes is paramount to the implementation of the Fundamentals of Russian State Policy. Measures are being taken to strengthen the security of the northern territories of the country. Military bases of the Arctic coast with fascinating architecture are being modernized, the most high-tech equipment in the world is being put into service to control and protect the sovereignty of the Russian Federation.

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Scientific research conducted in the Arctic confirms the vast natural reserves and large territories belonging to the Russian Federation. Modern technologies and natural conditions, which are changing towards warming, openness of water areas from year-round ice fields, make the conditions for the extraction of natural resources more efficient. Russia's Arctic riches have attracted many countries, not only members of the Arctic Council <sup>1</sup> (Canada, the Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, the United States of America), but also non-Arctic states. The Arctic Council includes the following observers: France, Germany, Japan, Great Britain, India, China and others. The chairmanship of the Arctic Council, in accordance with the principle of rotation, was taken over by the Russian Federation for two years (2021–2023). The solemn ceremony was held in Reykjavik on May 20, 2021, in the framework of the meeting of the foreign ministers of the Arctic G8 [1, Krasnopolskiy B.Kh., pp. 148–162].

The theme of “Responsible Governance for Sustainable Arctic” <sup>2</sup> will be a priority for Russia's chairmanship in the Arctic Council. At present, the Russian Federation is a leader in a number of areas related to the development of the Arctic — science and high-tech economy, environmental protection, defense and security, development of Arctic deposits, the Northern Sea Route, etc. In these areas, in order to increase the economic potential of the ASRF, it is advisable to develop international cooperation, to use collective approaches in high latitudes to respond to modern challenges. In order to maintain the achieved competitive advantage and its comprehensive growth, the Strategy for the Development of the Arctic Zone of the Russian Federation (AZRF) and National Security for the Period up to 2035 was approved <sup>3</sup>.

The Northern Sea Route (NSR) in the modern concept of the Arctic development is considered as a basic potential that can connect and increase the economic power of the unified transport system of Russia with the prospect of creating an alternative to the Suez Canal and to become a safe and cost-effective international transport corridor in future [2]. Russia is building a new icebreaking fleet, creating new seaports and modernizing existing ones, and organizing a system of socio-economic development of the Russian Arctic zone, which confirms V.V. Putin's words that the Northern Sea Route will become “the key to the development of the Russian Arctic, the regions of the Far East” <sup>4</sup>.

### ***Main section***

<sup>1</sup> Arctic Council. URL: <https://будущее-арктики.рф/arkticheskij-sovet-arctic-council/> (accessed 16 June 2021).

<sup>2</sup> Predsedatel'stvo Rossii v Arkticheskom Sovete v 2021–2023 godakh [Russian Chairmanship of the Arctic Council in 2021–2023]. URL: <https://arctic-council.org/ru/about/russian-chairmanship-2/> (accessed 16 June 2021)

<sup>3</sup> Ukaz Prezidenta RF ot 26 oktyabrya 2020 g. № 645 «O Strategii razvitiya Arkticheskoy zony Rossiyskoy Federatsii i obespecheniya natsional'noy bezopasnosti na period do 2035 goda» [Decree of the President of the Russian Federation of October 26, 2020 No. 645 "On the Strategy for the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period up to 2035"]. URL: <https://www.garant.ru/products/ipo/prime/doc/74710556/> (accessed 15 June 2021).

<sup>4</sup> TASS. Severnyy morskoy put'. Dos'e [TASS. Northern Sea Route. Dossier]. URL: <https://nangs.org/news/economics/severnyj-morskoy-put-dose> (accessed 15 June 2021).

The Arctic natural resources and the Northern Sea Route, which are accessible under the prevailing climatic conditions, attract more and more world powers to cooperate with Russia on environmental, economic, political and other issues [3]. The international community is aware of the importance of maintaining environmental sustainability, common rules and improving the conditions for socio-economic development in high latitudes. The high-level intergovernmental forum — the Arctic Council — is a paradigm for international assistance in the development of the circumpolar region and cooperation between countries (participants and observers) to protect the environment.

Highlighting the economic component, one should consider international partners who make real investments in the AZRF development.

Due to the harsh natural conditions, the Arctic has long been restricted to human economic activity but, nevertheless, the attention from the Russian state was highly appreciated. Experts suggest that due to current conditions, such as warming, melting glaciers, etc., the Arctic ice cover will significantly decrease in size by 2030, opening up the possibility of “clean water” navigation in summer, considerably increasing the period of navigation in the NSR, and eventually achieving year-round navigation. Consequently, new international transport routes and the richest natural resources of the Arctic will open [4].

The Arctic zone of Russia is a geopolitical region, and China, as an observer in the Arctic Council, considers it very important to gain a foothold in this region and promote its interests there. The PRC enters into a competitive struggle for the Arctic region and, due to economic considerations, new transport routes are opened for the transportation of goods and, most importantly, access to natural resources [5, Bertelsen R.G., Gallucci V., pp. 240–245].

The geopolitical strategy of the PRC “One Belt, One Road” includes the “Ice Silk Road” project, the main goals of which are the following: strengthening positions in international organizations, expanding cooperation with the countries of the Arctic Council to gain advantages in the processes of coordinating national interests.

In the context of limited internal resources, Russia and China agreed to cooperation, which becomes beneficial for both partners.

Years of economic growth have turned China into the second largest economy in the world and the largest consumer of energy. China cannot provide its rapidly developing economy with its own hydrocarbon production; therefore, it began to import oil and gas, including liquefied natural gas (LNG). Russia is interested in diversifying its energy exports, especially since it borders on China, which brings the states closer. Over the past ten years, China has created a big backlog to provide Russia with a profit from oil exports, thereby supporting its economy. Between 2008 and 2019, China accounted for more than half of the growth in global oil demand. An interesting dynamics is shown by the turnover of Russia's foreign trade with ten main partners (Table 1).

*Table 1*

*Russia's foreign trade turnover (billion US dollars)<sup>5</sup>*

Country	2014	2019	Deviation
China	40	50.3	+ 10.3
Netherlands	37.7	25.9	- 11.8
Germany	35.3	25.2	- 10.1
Belarus	15.6	15.2	- 0.4
USA	14.9	13.2	- 1.7
South Korea	13	12.7	- 0.3
Italy	25.1	11.9	-13.2
Turkey	15.7	11.9	- 3.8
Japan	15.4	9.9	- 5.5
Kazakhstan	10	8.9	- 1.1

The structure of Russian exports to China in the first quarter of 2021 shows that the leading place is occupied by mineral fuels, oil and oil products, accounting for 65.6% of all Russian supplies, with non-ferrous metals remain in second place with a share of 6.5%.

Russian LNG exports to China doubled in 2020 to 5 million tonnes worth US\$1.72 billion, making it the fifth-largest LNG exporter to the China. In terms of LNG supplies to PRC, Australia is the leader — 29 million tons, Qatar — 8.1 million tons, Malaysia — 6.1 million tons, Indonesia — 5.1 million tons.

At the current stage, there are 19 LNG terminals operating in the PRC and 3 ones are at various stages of construction. Consequently, China plans to increase LNG imports, and by the end of 2020, it has accepted this energy carrier more than the pipeline one.

A significant contribution to the growth of LNG exports to China was made by the Yamal LNG infrastructure project of PJSC NOVATEK, which supplied two LNG consignments along the eastern part of the Northern Sea Route, leaving the port of Sabetta: 1) the LNG tanker Christophe de Margerie delivered LNG to the port of Jiangsu from May 19 to June 9, 2020; 2) the LNG tanker Vladimir Voronin delivered LNG to the port of Tianjin from May 24 to June 27, 2020.

The operator of the Yamal LNG project is OAO Yamal LNG, a joint venture of OAO NOVATEK<sup>6</sup>, which owns a 50.1 percent share of the project [6, Vopilovskiy S.S., pp. 19–31].

Foreign economic partners of the Yamal LNG project are:

- Total Energies (Total changed its name to Total Energies on May 28, 2021)<sup>7</sup> is a French oil company, the fourth largest producer in the world. Total has a 20% stake in the Yamal LNG project, which is one of the largest projects in Russia;
- China National Petroleum Corporation (CNPC)<sup>8</sup> is the largest Chinese oil and gas company, holds a leading position in the world, conducts global oil and gas investment operations, owns a 20% stake in the Yamal LNG project;

<sup>5</sup> Tovaroborot Rossii «Vse tovary» «2014–2019 gg» [Trade turnover of Russia "All goods" "2014–2019"]. URL: <https://ru-stat.com/date-Y2014-2019/RU/trade/world> (accessed 15 June 2021).

<sup>6</sup> PAO NOVATEK. URL: <https://www.novatek.ru> (accessed 23 June 2021).

<sup>7</sup> Odná iz krupneyshikh kompaniy mira smenila nazvanie [One of the largest companies in the world has changed its name]. URL: <https://www.rbc.ru/business/28/05/2021/60b0dc0f9a7947444d921831> (accessed 23 June 2021).

<sup>8</sup> CNPC. URL: <https://www.cnpc.com.cn/ru/> (accessed 23 June 2021).

- The Silk Road Fund<sup>9</sup> is a Chinese investment fund that invests in the world's largest infrastructure projects, aiming to facilitate the marketing of Chinese products, owns a 9.9 percent stake in the Yamal LNG project.

In June 2021, NOVATEK began navigation along the NSR in an easterly direction. Considering the current situation, the Platts JKM index, which reflects the cost of spot LNG supplies to Northeast Asia, exceeds \$10.313 per MBTU (\$370 per thousand cubic meters) against \$8.9 per MBTU at the main European TTF hub. On average, LNG delivery from Sabetta via the Northern Sea Route to Asia is 40% faster than via the Suez Canal. It is possible that most of the LNG from Yamal will be shipped to Asia-Pacific markets. According to experts, LNG supplies to Asia for NOVATEK will actually be equal to exports to Europe, taking into account the expected spot price differential in these markets of \$1.5–2 per MBTU by the end of 2021<sup>10</sup>.

The next Arctic LNG-2 project of NOVATEK, which owns a 60% share of the project, is scheduled to reach full capacity in 2025, and consists of three lines for liquefying natural gas (6.6 million tons each, cumulatively 19.8 million tons), which will significantly increase LNG exports from the Russian Arctic zone. As part of the AZRF Development Strategy, an icebreaker fleet and Arctic-class gas tankers are being built, including at Chinese shipyards.

The main customers of new vessels for Zvezda Shipbuilding Complex are Rosneft, Gazprom, Novatek, Nornickel, Lukoil, Sovcomflot. Zvezda Shipbuilding Complex<sup>11</sup> builds all types of sea vessels, in particular, nuclear-powered icebreakers Lider, Aframax (AFRA) and Yamalmax vessels, which are important for the development of the Northern Sea Route and Arctic infrastructure projects. For the Arctic LNG-2 project, the portfolio of orders of Zvezda SC includes 12 Aframax vessels with a dual-fuel power plant capable of operating on fuel oil and LNG (“green”) — 10 for Rosnefteflot and 2 for PJSC Sovcomflot. Three icebreakers of Project 10510 Lider are under construction for Atomflot. Rosneft has signed contracts for the construction of 28 vessels, bringing the total order portfolio of Zvezda Shipyard to over 50 vessels.

Foreign shareholders of the Arctic LNG-2 project are<sup>12</sup>:

- a) French oil company Total Energies — owns a 10 percent stake in the project. In March 2021, it closed a \$2.55 billion deal.
- b) China National Oil and Gas Exploration and Development Corporation (CNODC), a wholly owned subsidiary of China National Petroleum Corporation (CNPC), received a 10 percent stake in the project.

<sup>9</sup> Fond Shelkovogo puti [Silk Road Foundation]. URL: [https://ru.wikipedia.org/wiki/Фонд\\_Шёлкового\\_пути](https://ru.wikipedia.org/wiki/Фонд_Шёлкового_пути) (accessed 23 June 2021).

<sup>10</sup> Dyatel T.U. Yamal SPG vse puskonaladilos' [Yamal LNG started up everything]. *Kommersant*, no. 92 (7054), 2021. URL: <https://www.kommersant.ru/daily/132556> (accessed 23 June 2021).

<sup>11</sup> SSK «Zvezda» [Zvezda Shipbuilding Complex]. URL: <https://sskzvezda.ru/index.php/ru/> (accessed 23 June 2021).

<sup>12</sup> Proekt «Arktik SPG 2» [Arctic LNG 2 project]. URL: <https://www.novatek.ru/ru/business/arctic-lng/> (accessed 23 June 2021).

- c) China National Oil and Gas Exploration and Development Corporation (CNODC), China's third largest national oil company after CNPC and Sinopec, owns a 10 percent stake in the project.
- d) A Japanese consortium, which includes Mitsui&Co and Japan Oil, Gas and Metals National Corp (JOGMEC), owns a 10 percent stake in the project. Mitsui is a participant in the first Sakhalin-2 LNG project, it owns 12.5%, the project is controlled by PJSC Gazprom.

As a result of attracting four foreign investors, the Arctic LNG-2 project plans to receive 10.2 billion US dollars.

The natural liquefied gas market will grow steadily over the next decades: according to experts, in the next 15–20 years the LNG market will grow from 350 million tons to 800 million tons per year, therefore, Russia should be competitive in this type of energy resources in terms of technology, equipment, fleet, logistics, marketing, etc. With the successful implementation of NOVATEK's joint international projects and the development of the Northern Sea Route, Russia will become attractive to the European and Pacific markets.

Rosneft's Vostok Oil project has entered the implementation stage, within the framework of which a new Oil Terminal Port Bay Sever will be built on the Arctic coast of the Krasnoyarsk Krai, south of the port of Dikson. LLC Taimyrneftegaz-Port is the investor of a 6 hectare artificial land plot for the Port of Severn Bay on the eastern coast of the Yenisei Gulf in the Kara Sea to build the infrastructure facilities of the oil terminal. At this location, oil will be transhipped from pipeline transport to ice-class sea vessels, which will deliver it via the Northern Sea Route to the ports of Russia, the countries of the Asia-Pacific Region (APR), Europe, etc. It is planned that the initial cargo turnover will be up to 50 million tons with a further increase to 100 million tons. Technical, economic and administrative facilities of the terminal will be built for it. It is planned to produce 1 million barrels of oil per day by 2028, and more than 2 million barrels by 2035.

The unique oil and gas reserves in the Taimyr region of Russia will last for several decades, and the gradual reduction in the thickness of the ice cover in the Arctic in recent years, together with the intensive development of the icebreaker fleet, has made it possible to begin the development of onshore deposits, in the subsoil of Taimyr and on the continental shelf of the Kara Sea.

The Vostok Oil project is viewed by analysts as a very serious competitor to the largest oil projects: the Permian Basin in the US and the Ghawar oil field in Saudi Arabia.

According to the Goldman Sachs Group (one of the world's largest investment banks), Rosneft's Vostok Oil project can attract investments of over \$100 billion<sup>13</sup>.

The first foreign shareholder of the Vostok Oil project was the Singaporean company Trafigura, which bought a 10 percent stake<sup>14</sup> through its subsidiary CB ENTERPRISES PTE. LTD<sup>15</sup>.

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<sup>13</sup> Podlinova A. «Rosneft'» prodast treyderu Trafigura 10% v megaproekte «Vostok oyl» [Rosneft will sell 10% stake in Vostok Oil megaproject to Trafigura trader]. *Vedomosti*, 2020. URL: <https://www.vedomosti.ru/business/articles/2020/11/17/847340-rosneft-prodast> (accessed 23 June 2021).

Trafigura Pte Ltd is a Singaporean multinational stock exchange company specialising in metals, energy and hydrocarbons trading (including oil). It is the 2nd largest oil supplier in the world after Vitol and the 1st largest supplier of metals.

A stake in the Vostok Oil project will provide Trafigura with access to a new large world-class oil producing region in the Far North, with around 6 billion tonnes of high-quality oil resources, with further transportation along the Northern Sea Route to Europe and Asia.

Rosneft and a consortium of companies within Vitol S.A. (Netherlands) and Mercantile & Maritime Energy Pte. Ltd. (based in Singapore) signed an Agreement on the main terms of the transaction in June 2021. This Agreement confirms the intention of the Consortium to acquire a 5% stake in the Vostok Oil project <sup>16</sup>.

A consortium of four Indian companies: Oil and Natural Gas Corporation Limited (ONGC); Oil India Limited (Oil); Indian Oil Corp (OC); and Bharat Petroresources (BPCL) signed a Cooperation Agreement with Rosneft in this project.

Rosneft plans to attract investors from China and other interested foreign companies. The Russian authorities guarantee favourable tax conditions for project participants, which enhances the attractiveness of the project. Table 2 shows the shareholders of AZRF investment projects.

Table 2

*The shareholders of AZRF investment projects* <sup>17</sup>

Project shareholders, country	Project name, share in %		
	Yamal LNG	Arctic LNG-2	Vostok Oil
PAO NOVATEK Russia	50.1	60.0	-
Total Energies France	20.0	10.0	-
CNPC China	20.0	-	-
Silk Road Foundation China	9.9	-	-
CNODC China	-	10.0	-
CNOOC China	-	10.0	-
Mitsui&Co and JOGMEC Japan	-	10.0	-
PJSC Rosneft Russia	-	-	Over 51.0
Trafigura Pte Ltd Singapore	-	-	10.0
Vitol S.A. The Netherlands and Mercantile & Maritime Energy Pte. Ltd. Singapore	-	-	5.0

China's strategic intentions are multi-vectored:

- rapidly advancing to the role of a leading power in the Arctic region. China declared its interests in the Arctic in 2013, when it was included in the Arctic Council as an observer;

<sup>14</sup> CB ENTERPRISES PTE. LTD. URL: <https://singapore-corp.com/co/cb-enterprises-pte-ltd> (accessed 23 June 2021).

<sup>15</sup> «Rosneft» nashla pokupatelya na dolyu v proekte v Arktike [Rosneft has found a buyer for a stake in a project in the Arctic]. URL: <https://www.rbc.ru/business/06/01/2021/5ff4b4579a794767b17a6909> (accessed 23 June 2021).

<sup>16</sup> «Rosneft» dogovorilas' ob usloviyakh prodazhi doli proekta «Vostok Oyl» konsortsiumu kompaniy Vitol i Mercantile & Maritime [Rosneft has agreed on terms for the sale of a stake in the Vostok Oil project to a consortium of Vitol and Mercantile & Maritime]. URL: <https://www.rosneft.ru/press/releases/item/206645/> (accessed 12 August 2021).

<sup>17</sup> Source: official websites of OAO Yamal LNG URL: <http://yamallng.ru/> (accessed 12 August 2021), Arctic LNG-2 project URL: <https://arcticspg.ru/> (accessed 12 August 2021), Vostok Oil project URL: <https://www.rosneft.ru/> (accessed 12 August 2021).

- Chinese investors have stakes in a number of major infrastructure projects being implemented in Russia's Arctic zone;
- cooperates with the EU states; in particular, the EU plans to expand the transport hub in Kirkenes (Norway), aiming to deploy a major logistics hub in Kirkenes for Chinese cargo to be delivered to Europe as part of the Polar Silk Road project;
- opens scientific stations for Arctic research in Iceland and Svalbard;
- enterprisingly develops the Citronen lead-zinc ore mining (one of the world's largest zinc resources) in Greenland (Denmark). Ironbark's Citronen project<sup>18</sup> receives support from China Nonferrous Metal Industry, which has signed a memorandum of understanding and potential funding;
- develops Arctic management systems, etc develops Arctic management systems, etc.

Investments of China in the Arctic projects take place in the context of diversifying trade and transport routes, and economic corridors with the European Union. Recent developments in the global economy show that guaranteed, timely delivery of goods from producer to consumer is becoming a challenge due to various factors: Covid-19, international relations, ecology, etc.

As a result, the PRC is relying, with all formalities, on the potential of the Arctic transport corridor as one of the dominant sea trade routes between Asia and Europe.

The Arctic natural resources, the logistical advantages of the Northern Sea Route, and the development of shipbuilding are of great interest to Korean companies.

South Korean shipyard Daewoo Shipbuilding & Marine Engineering (DSME) has built a series of 15 Yamalmax-type Arc7 LNG carriers for the Yamal LNG project, whose owners are:

- a) the Russian company Sovcomflot owns 1 lead gas carrier Christophe de Margerie (sailing under the flag of Cyprus);
- b) the joint venture of Teekay LNG (Canada) and Cosco Cosco Dalian (a subsidiary of China LNG Shipping) owns 6 LNG carriers Eduard Toll, Rudolf Samoilovich, Nikolay Evgenov, Vladimir Voronin, Georgiy Ushakov, Yakov Gakkel;
- c) a consortium of Greek Dynagas and Chinese companies owns 5 gas tankers Boris Vilkitskiy, Fedor Litke, Georgiy Brusilov, Boris Davydov, Nikolay Zubov;
- d) Japanese Mitsui in partnership with Chinese China COSCO Shipping Corporation Limited owns 4 gas carriers Vladimir Rusanov, Vladimir Vize, Nikolay Urvantsev<sup>19</sup>.

A number of vessels are already successfully operating on the LNG liquefied natural gas exports from the port of Sabetta.

NOVATEK is setting up LNG transshipment facilities in Murmansk and Kamchatka to reduce vessel maintenance costs and increase LNG transportation speed. NOVATEK has placed an order

<sup>18</sup> Proekt tsinka v Grenlandii poluchaet podderzhku Kitaya [Zinc project in Greenland receives support from China]. URL: <https://metals-expert.com/news/mining/271.html> (accessed 23 June 2021).

<sup>19</sup> Komu prinadlezhat gazovozy «Yamal SPG» [Who owns the Yamal LNG gas carriers?]. URL: <https://zen.yandex.ru/media/id/5d9e1fc38d5b5f00b0d8dd8f/komu-prinadlejat-gazovozy-iamal-spg-600c8fa610f02c6bc2cd1db9> (accessed 23 June 2021).



with South Korea's Daewoo Shipbuilding & Marine Engineering (DSME) to build two LNG carriers with a capacity of 380 thousand cubic meters each, at an estimated cost of. France's Total Energies will participate in the projects, receiving a 10% stake in each, as well as Japan's Mitsui O.S.K. Lines and the Japan Bank for International Cooperation (JBIC), which have entered into an agreement to assist PJSC NOVATEK in building the terminals. The capacity of one terminal is estimated at 20 million tons per year. The LNG terminals are scheduled to be commissioned in Murmansk in 2022 and in Kamchatka in 2023.

South Korean shipbuilders are interested in Russian contracts, and Samsung Heavy Industries is a technological partner of LLC Zvezda in the construction of gas tankers. With their active participation (more than 90%), the first “green” “Aframax ‘Vladimir Monomakh’” was built, which is successfully operating in the Black Sea today.

Samsung Heavy Industries, within the framework of the largest commercial contract in its history, transfers technical specifications and documentation of the basic and detailed designs of vessels to LLC Zvezda, assists with the development of working design technical documentation, and delivers the most technologically advanced hull parts of gas tankers. It performs technical management, procurement of materials and equipment, training of Russian personnel, quality control of construction, installation and commissioning works.

For South Korea, with its export-oriented economy, the construction of Arctic tankers and dry cargo ships is a promising trend in strategic and commercial terms.

The Asia-Pacific market is becoming attractive for Russian companies, and with the development of the Northern Sea Route, it is a highly efficient destination for shipping hydrocarbons from Russia's Arctic zone. South Korea is an important trading partner of Russia; in 2020, the trade turnover between Russia and South Korea amounted to 19.6 billion US dollars, and the trade turnover between Russia and North Korea — 42.7 million US dollars. Table 3 shows Russia's trade figures with South and North Korea.

Table 3

*Russian exports to South Korea and North Korea in 2020*<sup>20</sup>

Export item	South Korea		North Korea	
	Export volume (USD)	Deviation to 2019 (%)	Export volume (USD)	Deviation to 2019 (%)
Oil and oil products	9 068 808 695	- 31.7	10 992 619	- 59.6
Fish and seafood	1 580 929 185	+ 6.5		
Aluminum and products from it	332 552 197	+ 18.2		
Inorganic chemicals	263 168 980	+ 35.1		
Black metals	259 429 552	- 24.4		
Precious metals and stones	257 696 123	+ 21.1		
Ships and boats	126 983 646	+ 2673.9		
Wood	112 515 020	+ 0.5		
Paper, cardboard	72 808 415	+ 3.9		
Cereals	66 389 266	+ 149.3	15 388 579	+ 305.9
Other	303 019 787			
Fats and oils			4 465 588	+5.5
Pharmaceutical products			3 904 040	+55.3
Sugar and confectionery			2 565 174	+ 3301.6
Flour, starch			2 121 422	- 38.1
Secret code			956 728	-
Nuclear reactors, boilers			801 411	- 38.3
Various food products			152 781	+ 147.5
Meat and meat by-products			151 781	+ 296.7
Other			518 193	

The analysis shows that the main share of South Korea's imports falls on natural resources, while North Korea's main imports are food, oil and oil products.

Japan's interest in the Arctic resources is obvious; it is a matter of economic well-being in the medium and even long term, as well as diversifying the supply of hydrocarbons and rare earth metals. As a result, Japanese companies are investing in Russian Arctic infrastructure projects:

- Consortium of Mitsui & Co, Ltd (Mitsui) and Japan Oil, Gas and Metals National Corp (JOGMEC) own a 10 percent stake in the Arctic LNG-2 project;
- Mitsui owns a 12.5 percent stake in the Sakhalin-2 project;
- Mitsui, in partnership with the Chinese China COSCO Shipping Corporation Limited, owns 4 gas carriers of the Yamalmax type of the Yamal LNG project;
- Japan Bank for International Cooperation (JBIC) and Mitsui O.S.K. Lines (MOL) entered into an agreement to provide assistance to PAO NOVATEK in the construction of transshipment terminals in Murmansk and Kamchatka;
- MOL signed charter agreements for three Arc7 LNG carriers to be built by Korean DSME for the Arctic LNG-2 project by 2023;

<sup>20</sup> Torgovlya mezhdru Rossiiy i Respublikoy Koreya (Yuzhnoy Koreey) v 2020 godu [Trade between Russia and the Republic of Korea (South Korea) in 2020]. URL: <https://russian-trade.com/reports-and-reviews/2021-02/torgovlya-mezhdru-rossiiy-i-respublikoy-koreya-yuzhnoy-koreey-v-2020-g/> (accessed 23 June 2021). Torgovlya mezhdru Rossiiy i KNDR Severnoy Koreey) v 2020 godu [Trade between Russia and the DPRK (North Korea) in 2020]. URL: <https://russian-trade.com/reports-and-reviews/2021-02/torgovlya-mezhdru-rossiiy-i-kndr-severnoy-koreey-v-2020-/> (accessed 23 June 2021).

- the Japan Agency for Marine Science and Technology (JAMSTEC) reports that Japan will build a new icebreaking vessel (ice class PC4) for meteorological observations in the Arctic and Atlantic regions. The scientific icebreaker will represent an international research platform equipped with modern radar and special equipment, such as deep water sampling device, a sampler, underwater and aerial drones, etc. The project participants are: The Australian Government; Alfred Wegener Institute for Polar and Marine Research (AWI, Germany, has research stations in the Arctic); British Atlantic Service (BAS).

The new concept proposed by Japan provides for dynamic cooperation in the AZRF in logistical, energy, agricultural and scientific areas [7]. According to their estimates, the NSR is 40% more efficient than traditional shipping routes.

The navigation period of 2021 opened with the shipment of liquefied natural gas from Yamal LNG along the eastern route of the NSR on the LNG carrier Nikolay Urvantsev to Japan, which indicates the prospects for joint work through economic cooperation. This is highly relevant at this stage: transportation costs are decreasing, and the demand for energy carriers in Asia is growing, therefore, the reduction in delivery time along the Northern Sea Route creates a significant competitive advantage for Russian LNG.

India is considering opportunities and proposals for investing in projects in the Arctic zone of Russia to provide itself with energy resources, rare earth metals and bioresources [8, Bhagwat D., pp. 73–90]. According to the forecast of the International Energy Agency (IEA), by 2040, India will become the main source of growth in energy demand, accounting for 25% of the increase in energy consumption. The most promising for Russian companies may be the supply of liquefied natural gas. India currently ranks 4th in LNG imports and the position of Russian companies is not the most promising for many factors, but PJSC Gazprom entered into long-term contracts with the Indian company for the processing and distribution of natural gas (GAIL) in order to multiply the supply of LNG by Indian market.

Contracts between Russian and Indian businesses in the field of oil supplies from Arctic projects may become promising. Rosneft, which owns a 49.13% stake in the Indian oil refining company Nayara Energy Limited, holds the reserve. At the current stage, participation of Indian companies in the Vostok Oil project is being considered.

There are discussions on exports of Russian coal. India, the world's second largest steel producer, has a constant need for coking coal. The possibility of joint development of Arctic energy deposits is being considered.

The French oil company Total Energies is investing in Arctic projects, with a combined share of 50%: Yamal LNG — 20%, Arctic LNG-2 — 10%, LNG terminals in Murmansk and Kamchatka — 20%.

The progressive and systematic development of the natural resources of the Arctic, in particular, the developed and approved long-term program for the development of the LNG production, will create decent conditions for Russia to become a major player in the gas industry. After

the launch of Arctic projects at full capacity, NOVATEK could offer the market about 100 million tons of LNG per year. According to experts, low production costs are expected, which will create worthy competitive advantages.

The main importers of Russian gas in Europe are France, Belgium, the Netherlands; moreover, PJSC NOVATEK supplies LNG to Spain and Portugal through Spanish Repsol. In particular, in February 2021, the gas carrier *Christophe de Margerie* delivered another shipment from the port of Sabetta to the Belgian port of Zeebrugge. The international consultancy McKinsey & Company reports that 3.9 million tonnes of LNG were transshipped at the Belgian terminal in 2020, representing 22% of Yamal LNG's actual capacity<sup>21</sup>. LNG was delivered to the UK in early 2021 from the port of Sabetta by LNG tankers *Nikolay Zubov*, *Georgiy Ushakov* and *Vladimir Voronin*. The Russian supply amounted to 173 thousand m<sup>3</sup> of LNG at each Yamalmax.

The interaction between NOVATEK and Total Energies involves decarbonisation processes. As a result of negotiations, the companies signed a memorandum providing for the development of technologies for converting gas turbine equipment to hydrogen fuel, the construction of wind farms to reduce the environmental footprint of LNG projects.

Switzerland implements its comprehensive Arctic policy focused on protecting the environment, monitoring climate change, developing international cooperation and sustainable use of Arctic resources [9, Łuszczuk M., Padrtova B., pp. 608–621].

Turkey is ready to build a new 18 MW diesel-electric icebreaker of the Arc7 ice class, as well as two floating docks for Russian nuclear-powered icebreakers.

The Finnish design bureau Aker Arctic, which specialises in ice technology, has presented a project for an Arctic container ship for the Northern Sea Route. The Arc7-class Arctic container ships are scheduled for pilot operation in 2024. Rusatom Cargo, which is implementing the Northern Sea Transport Corridor (NSTC) project, can become a customer for these vessels, especially since container traffic is growing and the need to create such vessels is becoming an actual trend [10].

As part of the infrastructure development, transport and logistics hubs will be located at the NSTC points, where containers will be transshipped from feeder ships to ice-class ships [11]. According to the Rosatom State Corporation, a feasibility study has been developed for the implementation of an infrastructure project with the participation of the Dutch Royal Haskoning DHV, the British Ernst & Young, the Russian PJSC Central Design Bureau Iceberg and the Central Research and Design Institute of the Marine Fleet. In turn, Atomflot is contracting Dutch company Damen to build five arctic-class harbor tugs Arc4 at a total cost of 43.74 million euros.

The interests of Russia and Sweden in the Arctic region are represented in scientific research, as well as in ensuring favourable living conditions for indigenous peoples of the Far North

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<sup>21</sup> Prishedshiy po Sevmorputi v fevrale iz Azii gazovoz uzhe idet v Evropu s SPG [The gas carrier that came from Asia along the Northern Sea Route in February is already on its way to Europe with LNG]. URL: [https://eodaily.com/ru/news/2021/02/26/prishedshiy-po-sevmorputi-v-fevrale-iz-azii-gazovoz-uzhe-idet-v-evropu-s-spg?utm\\_referrer=https%3A%2F%2Fzen.yandex.com](https://eodaily.com/ru/news/2021/02/26/prishedshiy-po-sevmorputi-v-fevrale-iz-azii-gazovoz-uzhe-idet-v-evropu-s-spg?utm_referrer=https%3A%2F%2Fzen.yandex.com) (accessed 23 June 2021).

[12, Sulyandziga L., pp. 68–74], [13, Tysiachniouk M., pp. 140–152]. The plans of the Swedish company Arctic Marine Solutions (AMS) as part of the international scientific expedition for ocean drilling ArcOP in the seas of the Arctic Ocean in 2022 will involve the diesel-electric icebreaker Viktor Chernomyrdin in ice support. The expedition is coordinated by the Swedish Polar Research Secretariat (SPRS) and the European Consortium for Oceanic Research Drilling (ECORD), the research is planned to be carried out in the high latitudes of the Arctic and on the Lomonosov Ridge.

In turn, Norway has already carried out pilot navigation along the NSR, has the opportunity to participate in the energy projects of the Russian Arctic, but the priority national direction of the strategic development of the Arctic zone is security and ways to improve it [14, Benz L., pp. 54–69], [15, Mileski J., pp. 131–137].

Taking into account the presence of commercial projects and international platforms, where cooperation between Russia and the Scandinavian countries can be carried out, it becomes obvious that there are prospects for economic cooperation, and in the foreseeable future they can become valuable partners in the areas that all parties are interested in expanding.

### **Conclusion**

The world economy is currently suffering a significant failure in terms of the key macro indicators, due to the imposition of restrictive measures on economic activity, transport flows of goods and services (Covid-19). According to the World Trade Organization, exports decreased by 6.4% in the first quarter of 2020, imports — by 5.2%<sup>22</sup>. Russia's external turnover in 2020 amounted to 567.8 billion US dollars, which is 15.1% lower than the previous year.

The trade war between the United States of America and China, reduced growth in many global economies and increased geopolitical tensions (including between the USA and Russia in the Arctic) have led to a decline in global trade: growth rates in 2019 fell to 0.9%<sup>23</sup>.

Nevertheless, unfavorable external conditions are helping to generate additional growth potential for the Russian economy. Awareness of the logic of renewal of world political and economic processes, trends in the economic development of Russia's partner countries in the Arctic zone allows formulating strategies for the foreign economic activity of our country. The relevant ministries have prepared and are implementing comprehensive programs for economic cooperation with key countries.

In accordance with the adopted strategic plans, measures are being taken to implement projects in the Arctic zone of the Russian Federation. The concept of chairmanship in the international Arctic Council and the procedures for the main areas of responsible management — social,

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<sup>22</sup> Byulleten' o tekushchikh tendentsiyakh rossiyskoy ekonomiki [Bulletin on current trends in the Russian economy]. URL: [https://ac.gov.ru/uploads/2-Publications/BRE/BRE\\_sept2020.pdf](https://ac.gov.ru/uploads/2-Publications/BRE/BRE_sept2020.pdf) (accessed 12 September 2021).

<sup>23</sup> Ministerstvo ekonomicheskogo razvitiya Rossiyskoy Federatsii. Itogi vneshneekonomicheskoy deyatel'nosti Rossiyskoy Federatsii v 2019 godu [Ministry of Economic Development of the Russian Federation. Results of the foreign economic activity of the Russian Federation in 2019]. URL: <https://www.economy.gov.ru/material/file/66eec1250c653fc9abd0419604f44bbd/VED.pdf> (accessed 12 September 2021).

economic, environmental, as well as in collective cooperation with interested regional structures based on strict adherence to international legal norms were approved.

The relevance of the economic interaction of stakeholders in the development and use of the natural resources of the Russian Arctic is due to the current climatic conditions and the achievements of scientific and technological progress. Many world powers want to take part in the implementation of innovative Arctic projects and the development of the Northern Sea Route.

The main economic partners of Russia in the Arctic are the countries of the Asia-Pacific region (APR). The PRC is the main partner in the economic development projects of the Russian Arctic with a high potential. Cooperation between the parties is carried out within the framework of participation in the construction of terminals and providing them with the necessary equipment, in the production and transportation of LNG. In the future, it is possible to implement new areas — the development of resources, the development of transport and logistics infrastructure, energy and the petrochemical industry.

It is noteworthy that the world's leading companies from China, South Korea, Japan, India, and others, as well as European countries with high investment potential, take part in the implementation of Russian Arctic projects. The prospects for economic cooperation in the Russian Arctic are enormous. Thus, more than 40 projects are focused on the creation of maritime transport in AZRF, including the development of natural resources of hydrocarbons and solid minerals with a wide geography — the Kola Peninsula — the Bering Sea. To increase investment attractiveness, a new commercial fleet of high ice class is being created; projects for the construction of a network of ports-hubs in the north-west and north-east of Russia with all related infrastructure are undergoing examination. Such transport and logistics hubs can be: in the European part — Le Havre, Hamburg, Copenhagen, Rotterdam, Southampton; in the east — Busan, Tianjin, Shanghai, Yokohama. In many countries, the necessary infrastructure has already been created for the acceptance of Russian LNG, and in the future, conditions may be created for the distribution of goods to the markets of Europe and Asia.

The successful implementation of the Strategy for the Development of the Russian Arctic Zone, the Fundamentals of the State Policy of the Russian Federation create the conditions for creating a new global economic area of prosperity and international partnership.

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