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## Infrastructure Projects — General Resource for Increasing the Economic Potential of the Arctic \*

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**Abstract.** The study examines modern challenges affecting the development of the Arctic marine transport system and the economic situation of the Arctic zone of the Russian Federation (AZRF). The basic normative legal acts that determine the activities of economic organizations in the Arctic are presented. It was determined that in the context of the world economy regression caused by geopolitical, economic, natural and other reasons, increasing the AZRF economic potential is a priority goal, and the implementation of tasks for the Arctic zone development and ensuring national security corresponds to the implementation of the Fundamentals of State Policy of Russia. The tendency of competitive struggle by the Arctic countries on the issues of economics and geopolitics is noted. The Northern Sea Route (NSR) is presented as the basis of the Arctic sea transport system, its economic potential, international importance, international integration with the People's Republic of China is shown. The main infrastructural projects of the Arctic for the development of the oil and gas complex, the construction of an icebreaker fleet, the construction of new and modernization of the existing ports of the NSR, etc. are presented to solve the problems of increasing cargo traffic along the Northern Sea Corridor. New projects for modernization of port infrastructure, transport development, etc. are considered. The purpose of the study is to assess the ongoing and planned infrastructure projects carried out by the state and business to increase the economic potential of the Arctic. Many of them are unique, which expresses firm confidence in the modern development of the Arctic zone, in ensuring the national security of the Russian Federation.

**Keywords:** *economy, Russian Arctic zone, infrastructure project, Northern Sea Route, icebreaker fleet, logistics, natural resources.*

### Introduction

The economy of the Arctic zone of the Russian Federation (AZRF) is currently undergoing a course aimed at

- preservation / retention of the outlined strategic goals of economic development;
- reboot of the processes contributing to the Arctic economic potential growth.

In the context of the global economic downturn caused by the COVID-19 coronavirus pandemic, these goals can be considered optimistic, ambitious or extreme. This is indicated by numerous factors, one of which is “long money”, that is, a situation in which all projects have a strategic level. They postpone the horizon for achieving goals, and most importantly, are subject to a high level of risks. At the current stage of the implementation of infrastructure projects in the Russian Arctic, this factor has a key feature, which provides for state participation to increase the country's economic potential and reduce the risks of innovative projects. It is incredibly difficult to support, create and increase all infrastructure facilities — social, transport, innovation, engineer-

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ing, production, information, national security — in the Far North without a high-tech economy. The implementation of unique projects in the Russian Arctic, which will be discussed below, is a powerful paradigm confirming the country's technological breakthrough, the rise of scientific and technological progress, strengthening of the community life, expansion of the human environment, etc.

The active development of the Arctic and the increasing of AZRF economic potential have become urgent topics for modern Russia. The Decree of the President of the Russian Federation of October 26, 2020 No. 645 approved the Strategy for the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period up to 2035<sup>1</sup>.

### *Main section*

The Arctic is commonly referred to as the zone around the North Pole, including the Arctic Ocean and some land areas. There are five basic theories that define the Arctic frontiers:

- astronomical;
- discomfort of living;
- climatic;
- CAFF (Conservation of Arctic Flora and Fauna)<sup>2</sup>;
- administrative — if the Arctic zone is legally defined.

The Arctic zone of the Russian Federation has been recognized as an emergency object of state policy and management<sup>3</sup>.

The Arctic zone of the Russian Federation includes all districts of the Murmansk region, the Nenets, Chukotka and Yamalo-Nenets Autonomous Okrugs, 6 municipalities of the Republic of Ka-

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<sup>1</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 28 October 2020).

<sup>2</sup> Vasilyev A. Zachem Rossii razvivat' Arktiku? Istoriya osvoeniya i sovremennye proekty na Severe [Why should Russia Develop the Arctic? The History of Development and Modern Projects in the North]. URL: <https://bankstoday.net/last-articles/zachem-rossii-razvivat-arktiku-istoriya-osvoeniya-i-sovremennye-proekty-na-severe> (accessed 18 October 2020).

<sup>3</sup> Ukaz Prezidenta Rossiyskoy Federatsii № 296 ot 02.05.2014 g. «O sukhoputnykh territoriyakh Arkticheskoy zony Rossiyskoy Federatsii» (v red. ukazov Prezidenta Rossiyskoy Federatsii ot 27.06.2017 № 287, ot 13.05.2019 № 220) [Decree of the President of the Russian Federation No. 296 of May 02, 2014 "On the Land Territories of the Arctic Zone of the Russian Federation" (as Amended by the Decrees of the President of the Russian Federation of June 27, 2017 No. 287, of May 13, 2019, No. 220)]. URL: <http://www.kremlin.ru/acts/bank/38377> (accessed 17 October 2020). Gosudarstvennaya Programma Rossiyskoy Federatsii «Sotsial'no-ekonomicheskoe razvitie Arkticheskoy zony Rossiyskoy Federatsii» (s izmeneniyami na 31 marta 2020 goda). Utverzhdena postanovleniem Pravitel'stva ot 21 aprelya 2014 goda № 366, ot 31 avgusta 2017 goda № 1064 [State Program of the Russian Federation "Socio-economic Development of the Arctic Zone of the Russian Federation" (as Amended on March 31, 2020). Approved by the Government Decree of April 21, 2014, No. 366, of August 31, 2017, No. 1064]. URL: <http://docs.cntd.ru/document/499091750> (accessed 17 October 2020).

relia, the municipality of the Komi Republic, 13 municipalities of the Republic of Sakha (Yakutia), 4 municipalities of the Krasnoyarsk Territory, 9 municipalities of the Arkhangelsk region <sup>4</sup>.

At the present stage, the Russian Federation, the United States and Norway claim part of the territory, or rather, part of the Arctic water area: these countries have access to the Arctic Ocean. Denmark and Canada also put forward their territorial claims. They can be joined by Iceland, which plans to expand its policy in the region. Ownership of the Arctic opens up exceptional prospects for countries.

Russia's interests in the Arctic are generally represented by natural resources, the Northern Sea Route, defense issues, geopolitics, etc. [1, Zaikov K.S., p. 10–12].

The main economic base of our country, including the Russian Arctic, is natural resources. In the foreseeable future, Arctic deposits will significantly strengthen the financial situation, ensure sustained economic growth, therefore, new jobs will be created, and the demographic and social situation will be improved.

It is estimated that the Arctic has nearly 90 billion barrels of oil reserves. Gas production on the Arctic shelf of three deposits — Shtokman, Rusanovskoe and Leningradskoe — is measured at 10 trillion cubic meters of gas <sup>5</sup>. Thus, the Arctic can be considered to contain 1/4 of oil reserves and 1/2 of gas reserves. Rare earth metals, gold, platinum, nickel, copper, cobalt, diamonds and many other minerals have been found on the Arctic mainland. The Arctic — 20% of the world's fresh water reserves — is one of the major factors in the global economic system life.

Northern Sea Route / Northern Sea Corridor / Chinese "Ice Silk Road" passes through the seas of the Arctic and Pacific Ocean [2, Silber G.K., p. 3]. It has a length of about 5600 km and is the shortest route between the European part of Russia and the Far East. The distance along it from St. Petersburg to Vladivostok is over 14 thousand km (through the Mediterranean Sea, the Suez Canal, the Indian Ocean — over 23 thousand km) [3, Verny J., p. 110].

Forty-three hydrocarbon deposits (61 in total) have been discovered on the Arctic shelf in Russian territorial waters; the development of maritime navigation will increase the extraction of minerals and their processing in the coastal regions, and therefore will lead to the development of the transport infrastructure of the northern territories of Russia.

At the first stage of plans for the NSR infrastructure development (until 2024), there is an urgent need to increase the volume of cargo transportation, which is the basis for receipt of funds and confirmation of the intended goals fulfillment <sup>6</sup>. In accordance with the May Decree of the

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<sup>4</sup> Federal'nyy zakon ot 13.07.2020 N 193-FZ "O gosudarstvennoy podderzhke predprinimatel'skoy deyatel'nosti v Arkticheskoy zone Rossiyskoy Federatsii" [Federal Law of 13.07.2020 N 193-FZ "On State Support for Entrepreneurial Activity in the Arctic Zone of the Russian Federation"]. URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_357078/](http://www.consultant.ru/document/cons_doc_LAW_357078/) (accessed 17 October 2020).

<sup>5</sup> Zachem Rossii razvivat' Arktiku? Istoriya osvoeniya i sovremennye proekty na Severe [Why does Russia Need to Develop the Arctic? The History of Development and Modern Projects in the North]. URL: <https://bankstoday.net/last-articles/zachem-rossii-razvivat-arktiku-istoriya-osvoeniya-i-sovremennye-proekty-na-severe> (accessed 17 October 2020).

<sup>6</sup> Ukaz Prezidenta Rossiyskoy Federatsii ot 7 maya 2018 g. № 204 «O natsional'nykh tselyakh i strategicheskikh zadachakh razvitiya Rossiyskoy Federatsii na period do 2024 goda» [Decree of the President of the Russian Federation

President of the Russian Federation, the plan provides the growth of cargo transportation up to 80 million tons by 2024.

To solve this problem, against the background of ongoing exploration and construction of the icebreaker fleet, several complex engineering projects have been implemented in the Far North, which have proven the ability of domestic business to effectively develop hard-to-reach regions. The most significant projects are the following:

- NOVATEK has put into operation a complex for the production, liquefaction and supply of natural gas: YAMAL LNG produces up to 17.4 million tons of liquefied gas per year;
- GAZPROM has launched the first offshore ice-resistant stationary platform Prirazlomnaya in the Arctic (a unique project);
- PJSC Lukoil has increased the capacity of the Varandey Terminal <sup>7</sup>.

According to experts, the share of liquefied natural gas (LNG) sales in the world market will amount to 52% by 2035, Russia will produce more than 68 million tons of LNG per year by 2025, and in the future, the country's share in the global LNG market may reach a quarter of the world total. Russian LNG producers have high potential in the world market due to the world's largest resource base (20% of world reserves), geographic proximity to both Europe and Asia, and also because of the prospects associated with the Northern Sea Route <sup>8</sup>.

In addition to mining, the projects also address on-site processing. This principle has been implemented within the framework of the Yamal LNG project, which converts natural gas from nearby deposits into LNG. Then it is poured into gas carriers at the Sabetta terminal and enters the international market.

The Arctic port of Sabetta <sup>9</sup> was built to transship hydrocarbons from the South Tambeykoe gas condensate deposit as part of the Yamal LNG project and to ensure year-round navigation of gas carriers and their passage along the Northern Sea Route. The port and airport were built with state funds, and the Yamal LNG plant was built by PJSC NOVATEK <sup>10</sup> and partners with private investment. The project includes the French company Total, the Chinese company CNPC and the Silk Road Fund.

Considering the issues of international integration, it should be noted that China is a key partner in the development of the Russian Arctic <sup>11</sup>.

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of May 7, 2018, No. 204 "On national Goals and Strategic Objectives for the Development of the Russian Federation for the Period up to 2024"]. URL: <https://www.garant.ru/products/ipo/prime/doc/71837200/> (accessed 17 October 2020).

<sup>7</sup> Varandey terminal. URL: <https://trans.lukoil.ru/ru/About/Structure/VarandeyTerminal> (accessed 17 October 2020).

<sup>8</sup> К 2025 году Россия будет производить более 68 млн тонн СПГ в год [By 2025, Russia will Produce over 68 Million Tons of LNG per Year]. URL: [https://tass.ru/ekonomika/9687375?utm\\_source=yxnews&utm\\_medium=desktop](https://tass.ru/ekonomika/9687375?utm_source=yxnews&utm_medium=desktop) (accessed 17 October 2020).

<sup>9</sup> Administratsiya morskikh portov Zapadnoy Arktiki [Administration of the Seaports of the Western Arctic]. URL: <http://www.mapm.ru/Port/Sabetta> (accessed 17 October 2020).

<sup>10</sup> PJSC NOVATEK. URL: <http://www.novatek.ru/ru/about/company/> (accessed 17 October 2020).

<sup>11</sup> People's Republic of China. URL: [https://wiki2.org/ru/Китайская\\_Народная\\_Республика](https://wiki2.org/ru/Китайская_Народная_Республика) (accessed 17 October 2020).

The People's Republic of China is a partner in financing a variety of projects. The country is actively involved in the improvement of technologies related to the expansion of the economic potential of the Arctic Sea Corridor and joined it to the Belt and Road Initiative (BRI) sea passage network [4, Zhang X., p. 371].

Chinese companies are actively exploring the Northern Sea Route, sending their dry cargo ships to Europe<sup>12</sup>. In September 2020, using the Russian route and realizing all its benefits, the “golden caravan” set off along it. Bulk carriers named “GOLDEN PERL”, “GOLDEN STRENGTH” and “GOLDEN SUEK” took a course to the Murmansk commercial seaport, arrival date — October 2020, after shipping in Murmansk, the “golden caravan” will go to the ports of Europe and Asia. In August 2020, these dry cargo vessels left Murmansk with 200 thousand tons of iron ore concentrate and, using the Northern Sea Route, delivered the cargo to China in a short time.

Climatic conditions, technical equipment, plans and tasks change over time, as well as the ship's schedule of the Northern Sea Route.

Based on the results of their studies, scientists from Russia, the USA, the United Kingdom and others came to the conclusion that the Arctic heats up twice as fast as the globe, as a result, the thickness of the Arctic Ocean ice becomes smaller [5, 6].

Global climate change will make it incomparably easier to extract natural resources and carry out logistics in the Russian Arctic [7].

The current year has become a time of important, successful experiments for the NSR — these are two unique “super early” voyages. The first gas carrier departed in mid-May, the second — with a weekly lag. May in the eastern sector of the Arctic is a harsh and cold month, it is considered to be too early for normal navigation.

Gas tankers “Christophe de Margerie” and “Vladimir Voronin”, accompanied by icebreakers “Yamal” and “50 Let Pobedy”, carried liquefied natural gas from the Sabetta port on Yamal to the Jiangsu port (China) along the most difficult part of the Northern Sea Route. “Christophe de Margerie” is a modern vessel built to meet the harsh Arctic conditions, has a high ice class Arc7, which means that it can navigate the NSR even alone along the entire route —it reached its destination on the 13th day. It passed 2563 nautical miles at an average speed of 8.5 knots. For most of this route (2123 nautical miles), the LNG carrier went in the Yamal icebreaker’s wake at an average speed of 7.9 knots. The use of vessels of this ice class will ensure the growth of cargo transportation along the NSR (Fig. 1).

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<sup>12</sup> «Zolotoy karavan» Kitaya predpochel Sevmorput' marshrutu cherez Suetskij kanal [China's "Golden Caravan" Preferred the Northern Sea Route to the Route through the Suez Canal]. URL: <https://politpuzzle.ru/172629-zolotoj-karavan-kitaya-predpochel-sevmorput-marshrutu-cherez-suetskij-kanal/> (accessed 17 October 2020).



Fig. 1. The route of “Christophe de Margerie” and “Yamal” along the NSR <sup>13</sup>.

In order to achieve the target (cargo turnover of 80 million tons per year by 2024), the fish component was included in cargo transportation along the Northern Sea Route. In September 2020, the world's only container ship with a nuclear power generating facility “Sevmorput” (Murmansk home port, FSUE “Atomflot”) left the port of Petropavlovsk-Kamchatsky in the direction of St. Petersburg with a cargo of Far Eastern fish, the total volume of which is 6.5 thousand tons and a total of 206 containers with refrigeration units <sup>14</sup>. The nuclear-powered container ship “Sevmorput” is an icebreaking transport vessel of project 10081 with a nuclear power generating facility of KLT-40 type, capable of independently navigating in ice up to 1 meter, transporting 74 units of SLS 506309 (LASH) lighters in the holds and on the upper deck with loading and unloading by ship lighter crane. There is a possibility of transportation of 1324 containers of the international ISO standard in the holds and on the upper deck <sup>15</sup>. Taking into account technical characteristics of the vessel, it can be operated (route: St. Petersburg — Petropavlovsk-Kamchatsky and back) on the Northern Sea Route four times a year.

In accordance with national goals and strategic objectives, the construction of ships for work on the NSR is being carried out. On October 21, 2020, the flag raising ceremony and the signing of the acceptance certificate of the universal nuclear icebreaker “Arktika” between OJSC “Baltic Shipyard” and FSUE “Atomflot” took place in Murmansk <sup>16</sup>. “Arktika” is the head universal nuclear icebreaker of project 22220. “Arktika” left St. Petersburg on September 22, reached the North Pole on October 3, having fulfilled the “maximum program” of ice tests, and on October 12

<sup>13</sup> Source: URL: [rosatomflot.ru](http://rosatomflot.ru) (accessed 17 October 2020).

<sup>14</sup> Atomnyy konteynerovoz «Sevmorput» vzyal kurs na morskoy port Sankt-Peterburg [The Nuclear-Powered Container Ship Sevmorput Headed for the Seaport of St. Petersburg]. URL: <http://www.rosatomflot.ru/press-centr/novosti-predpriyatiya/2020/09/08/11334-atomnyy-konteynerovoz-sevmorput-vzal-kurs-na-morskoy-port-sankt-peterburg/> (accessed 17 October 2020).

<sup>15</sup> Atomnyy konteynerovoz «Sevmorput» [Nuclear-powered Container Ship "Sevmorput"]. URL: <http://www.rosatomflot.ru/flot/atomnyy-lihterovoz-sevmorput/> (accessed 17 October 2020).

<sup>16</sup> Mikhail Mishustin prinyal uchastie v priemki golovnogo universal'nogo atomnogo ledokola «Arktika» [Mikhail Mishustin Took Part in the Acceptance of the Universal Nuclear-Powered Icebreaker "Arktika"]. URL: <http://government.ru/news/40659/> (accessed 22 October 2020).



arrived at the Murmansk home port. The Baltic Shipyard continues the construction of icebreakers of this project — “Sibir”, “Ural”, “Yakutiya”, “Chukotka”; the deadlines are 2021, 2022, 2024, 2026. The icebreakers of this project are equipped with a power generating system “RITM–200” — an innovative water-cooled nuclear reactor. This system is designed in accordance with the latest trends in the world atomic energy development, cost-effective, has no world analogues. Three icebreakers of Project 10510 “Lider” (LK-120Ya) are being built at the “Zvezda” Far East shipbuilding complex — high-tech, unsurpassed vessels.

In November 2020, a universal diesel-electric icebreaker “Viktor Chernomyrdin” (LK-25) of project 22600 was delivered to FSUE “Rosmorport”<sup>17</sup> — it was built and launched at the Baltic Shipyard, completed at the Admiralty Shipyards, its sea testing took place in 2019, the acceptance certificate was signed in September 2020.

Icebreaker “Viktor Chernomyrdin” is the most powerful diesel-electric icebreaker in the world (Fig. 2). Its main purpose is providing year-round navigation in the northern latitudes on the NSR, as well as being used as a research vessel and a cruise liner for excursions to the North Pole. The work of the new icebreaker fleet in the Northern Sea Corridor will help to increase the economic potential of the Arctic zone of Russia. After introduction of the new icebreaker fleet into service, it will be possible to use all the routes of the Northern Sea Route all year round.



Fig. 2. Icebreakers “Arktika” and “Viktor Chernomyrdin”<sup>18</sup>.

In the context of infrastructure development in the Arctic, a lot has been done to develop the Arctic ports: both by the state and by private investors. Many northern seaports are being modernized, equipped with new technologies and instruments, and their capacity is being improved [8]. Pevek Port is the northernmost port in Russia; in 2020, a unique project for the floating nuclear thermal power plant installation was implemented there [9]. Some other ports, such as

<sup>17</sup> Vveden v stroy ledokol «Viktor Chernomyrdin» [Icebreaker "Viktor Chernomyrdin" was Put into Operation]. URL: <https://cont.ws/@bmpd/1825728> (accessed 10 November 2020).

<sup>18</sup> Source: URL: [rosatomflot.ru](http://rosatomflot.ru) (c).

Indiga, Sabetta, Arkhangelsk and Murmansk, are developing, becoming the infrastructure base of the Arctic sea transport system of Russia.

An important indicator is the increase of container traffic in the Arctic basin ports in the first 9 months of 2020. Thus, the number of containers handled in the northern ports amounted to 114.35 thousand TEU, which exceeds the indicator of the same period last year by 2.71%.

For example, transshipment of coastal containers for the reporting period amounted to 111.89 thousand TEU (+ 2.3%). The basin ports handled 2.49 thousand TEU (+9.4%) of refrigerated containers. The port of Dudinka reduced container handling by 0.7% to 45.11 thousand TEU, Arkhangelsk increased it by 22.7% to 27.94 thousand TEU. Container turnover of the Murmansk port decreased by 9.9% to 32.88 thousand TEU. Other ports of the basin handled 8.42 thousand TEU (+ 26.5%)<sup>19</sup>. In general, there is a positive dynamics of container turnover in the Arctic ports.

In order to prolong measures aimed at increasing the cargo turnover, the decision to carry goods across Sevmorput in consignments was made. It is assumed that this will ensure the loading of transport corridor, the development of cargo base, the increase in freight traffic and improvement of target economic indicators. The project considers the consolidation of goods to form single consignments with their subsequent shipment along the NSR, as well as creation of favorable conditions for increasing import, export and transit cargo turnover with Europe and Asia. To implement the project, in October 2020, the multifunctional sea transshipment complex (MSTC) "Bronka" and the "Logistic Cluster of North-West Russia" signed an agreement on the implementation of the Northern Sea Route Freight Turnover Aggregator project.

Another proposal for solving the problem of increasing cargo traffic was the idea of expanding the Northern Sea Route in the water area to Murmansk and Kamchatka, i.e. to the ports and terminals of the Pechora, White and Barents Seas. The water area of the NSR now is limited by the Kara Strait in the west and the Providence Bay in the east. The corresponding boundaries were designated due to the peculiarities of international law related to the seas freezing. After working out the issues related to the possibility of expanding the NSR, this idea was abandoned, i.e. The Northern Sea Route will be kept within the same boundaries.

Unfortunately, the ambition to reach the limit of 80 million tons by 2024, in fact, is problematic<sup>20</sup>, since the volume of mineral raw materials shipments in 2024 will reach 58 million tons, another 5 million tons are estimated to be other cargoes to ensure production, "Northern delivery" and transit.

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<sup>19</sup> Moshchnost' morskikh portov Arktiki rastet [The Capacity of the Seaports in the Arctic is Growing]. URL: <https://zen.yandex.ru/media/korabel/moschnost-morskikh-portov-arktiki-rastet-5f86b18aae6a9712bf0a8bae> (accessed 17 October 2020).

<sup>20</sup> Kurs na Sevmorput': Rossiya zanyalas' infrastrukturoy v Arktike kompleksno [Heading to the Northern Sea Route: Russia has Taken up the Infrastructure in the Arctic in a Comprehensive Manner]. URL: <https://zen.yandex.ru/media/id/5dc69465c7891f51f5fb5143/kurs-na-sevmorput-rossiya-zanialas-infrastrukturoi-v-arktike-kompleksno-5e060bddcddb7100b0dde197> (accessed 17 October 2020).



After analyzing the real situation in modern conditions, the head of the Northern Sea Route Directorate sent a letter to the Ministry of Transport with a proposal to reduce the forecast for NSR cargo transportation by 25%, i.e. up to 60 million tons.

The reasons for the reduction may be the following:

- Difficult international traffic in the context of sanctions and prejudice against Russia: in this regard, many international companies refused to carry cargo along the Northern Sea Route, even if it would be extremely profitable;
- The COVID-19 pandemic has made certain adjustments, there are problems with shift work, transportation, etc;
- The Vostokugol' Company, which is developing a number of promising areas in Siberia, predicted an explosive growth in coal production. It announced the production increase to 19 million tons per year. These plans were taken into account when drawing up tasks for the development of the Northern Sea Route. But the "optimistic scenario" has not been realized. Now the company produces 1 million tons of coal per year. It is possible that the situation will not change in the coming years;
- According to the plans, the Vostok Oil project was supposed to use the NSR at the level of 25 million tons from 2024, but the documents sent by the oil company to the government contain a volume of 9.25 million tons. The reason is the delay in construction of oil transportation infrastructure to the planned oil terminal on Taimyr;
- PJSC NOVATEK in 2020 informed the government that by 2024 it will transport 35.5 million tons of LNG per year. According to the plans for 2019, the production of 46.7 million tons of cargo was expected, which would be possible only in case of timely implementation of investments in new gas liquefaction capacities — the Arctic LNG terminal and the Obskiy LNG. Several months ago, PJSC NOVATEK announced the postponement of the Obsk terminal commissioning by two years from 2022 to 2024.

As part of the Development Strategy of the AZRF implementation, the Prime Minister of the Russian Federation instructs the ministries to submit to the government of the Russian Federation a forecast of cargo traffic in the water area of the AZRF and the Northern Sea Route for the period up to 2030 and the prospect until 2035, including new obligations assumed by the companies to load the NSR by 2024: PJSC Novatek — 35.5 million tons; PJSC NK Rosneft — 30 million tons; PJSC Gazprom Neft — 6.7 million tons; PJSC MMC Norilsk Nickel — 1.7 million tons. Total: to transfer along the Northern Sea Route 73.9 million tons by 2024.

Despite the difficult economic and political situation, the development of the Northern Sea Route continues, which is reflected in the infrastructure projects of the Arctic, in some cases — unique, high-tech. Presidential Decree No. 645 defines their goals, objectives, key indicators and deadlines, in particular, Ch. IV defines the main directions of the implementation of this Strategy

in individual constituent entities of the Russian Federation and municipalities; Ch. V indicates the stages and expected results of the implementation of this Strategy<sup>21</sup>.

Nevertheless, it should be noted that the development of the NSR infrastructure presupposes:

1) during the modernization of port infrastructure:

- to increase the trafficability of the Murmansk port to 18 million tons;
- to construct a deep-water area in the Arkhangelsk seaport, which includes 2 specialized and 4 universal sea terminals with a total capacity of up to 40 million tons;
- to increase the power of the unique port of Sabetta;
- to build new terminals in the port of Dikson and to increase cargo traffic up to 10 million tons per year;
- to construct the port “Port of the Sever Bay” within the framework of the “Vostok Oil” project;
- to build an LNG transshipment complex in the Ura Bay, Murmansk region, etc.

2) development of transport:

- the key role in the development of the Arctic latitudes belongs to the icebreaker fleet — 41 icebreakers are in operation, 5 of which are nuclear-powered, icebreakers are being actively built;
- aviation plays an important role in cargo transportation to hard-to-reach regions of the Arctic — it is planned to reconstruct eight Arctic airports: Amderma, Murmansk, Arkhangelsk, Naryan-Mar, Dikson, Pevek, Tiksi and Chokurdakh — after modernization, most of them will become all-season and will be able to accept aircraft of all types;
- it is planned to build the Northern Latitudinal Railway.

The implementation of infrastructure projects will ensure the dynamic development of the Northern Sea Route and will become the backbone of Russia's strategic interests in the Arctic.

### **Conclusion**

The facade of Russia faces the Arctic Ocean — 53% of the entire Arctic coastline is the borders of the Russian Federation. Improving the economic development processes of the Arctic zone of Russia is one of the strategic goals, and the implementation of consistent and multi-stage tasks, unique infrastructure and technological solutions will create competitive advantages for the long term.

The efficient operation of the Northern Sea Route can seriously change the freight market, a stable northern corridor will shorten the delivery time for goods from Asia to Europe and vice

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<sup>21</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 28 October 2020).

versa. In the foreseeable future, it will become easier to use the NSR due to climatic changes, the construction of the icebreaker fleet of Russia, new vessels of an increased ice class, modernization of infrastructure, the implementation of unique projects, with the creation of conditions for a comfortable life of the population outside the production zones. According to forecasts, the NSR may become part of the maritime trade network, the cost of which will approach 8 trillion pounds.

As part of the implementation of the Development Strategy of the Russian Arctic up to 2035, cargo turnover has become one of the key indicators; it has a phased increase plan: 80 million tons — by 2024; 90 million tons — by 2030; 130 million tons — by 2035.

According to FSUE Atomflot (part of the state corporation Rosatom, an infrastructure operator of the Northern Sea Route), cargo turnover along the NSR amounted to: 31.5 million tons in 2019; 32 million tons in 2020. As of December 22, 2020, 479 vessels with a total gross tonnage of 32.41 million tons were convoyed by nuclear icebreakers<sup>22</sup>.

The realization of the Vostok Oil project, implemented by PJSC NK Rosneft, is of great importance. On the Eastern coast of the Yenisei Gulf of the Kara Sea in the Sever Bay, the infrastructure facilities of the Oil Terminal “Port of the Sever Bay” will be built. Oil will be transhipped from pipeline transport to ice-class sea vessels, which will deliver it to the ports of Russia, countries of the Asia-Pacific region (APR), Europe, etc. along the Northern Sea Route. It is planned that the initial turnover of cargo will be up to 50 million tons with further increase of up to 100 million tons.

In order to increase the economic potential of the Russian Arctic in the Murmansk region, four investment projects for the creation of infrastructure facilities will receive federal support: the construction of a plant for growing fry of salmon and trout in Retinskoe; the development of the platinoid deposit Fedorova Tundra; the construction of a sea bulk terminal in Min’kino; and the development of the Vitino port and oil depot in the Kandalaksha region. Investment projects for the development of new deposits of mineral raw materials of JSC Apatit and JSC Kovdorskiy MPP found support from the Fund for the Development of the Far East and the Arctic.

The Government of the Arkhangelsk Region and PJSC Promsvyazbank signed an agreement on the development of the regional economy and the special economic zone in October 2020. The parties agreed to jointly implement landmark investment programs within the framework of national projects, to provide support to backbone enterprises, as well as small and medium-sized businesses.

The implementation of strategic plans, unique, high-tech infrastructure projects creates conditions for the active economic development of the northern regions of Russia, rich in deposits.

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<sup>22</sup> V 2020 godu budet ustanovlen novyy rekord gruzoperevozok po Sevmorputi [A new record for cargo transportation along the Northern Sea Route will be set in 2020]. URL: <http://www.rosatomflot.ru/press-centr/novosti-predpriyatiya/2020/12/22/11352-v-2020-godu-budet-ustanovlen-novyy-rekord-gruzoperevozok-po-sevmorputi/> (accessed 28 December 2020).

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