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Cooperation between Russia and China in the Arctic Energy Sector: A Strategic Perspective

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Abstract. The imposed sectoral restrictions on the Russian Federation and the current macroeconomic situation create prerequisites for building a new model of cooperation with Asian countries, primarily with the People’s Republic of China. The People’s Republic of China demonstrates a strategic approach to joint implementation of energy projects in the Arctic, having shares in joint ventures with Russian energy companies (Yamal LNG, Arctic LNG-2). Yamal LNG, the most complex technological project in the Arctic for the production of liquefied natural gas (LNG), located on the Yamal Peninsula above the Arctic Circle on the basis of the South Tambeyskoe field, has become the flagship of Russian-Chinese cooperation in the Arctic. The joint implementation of this project has the most important geostrategic and industrial significance in the global energy industry, clearly demonstrating the capabilities of the two countries in creating high-tech solutions for gas liquefaction in difficult climatic conditions. It is important that such projects have powerful complex-forming and multiplicative effects, creating conditions for the maximum utilisation of the industries of both countries, as well as for the construction of infrastructure along the Northern Sea Route and the creation of a high-tech fleet for the transportation of liquefied natural gas. Despite the existing legal disagreements between Russia and China regarding economic activities in the Arctic, in light of the current macroeconomic situation, interaction with Asian partners is a promising area of cooperation in the implementation of joint technological projects. With significant financial resources and accumulated engineering and technical competences, the People’s Republic of China is one of Russia’s most reliable partners in the context of implementing energy projects. It is important that China is also a buyer of Russian energy resources, which ensures a stable market for hydrocarbons. The publication analyses the development of Russian-Chinese relations and considers the prospects for joint economic cooperation in the Arctic in the energy sector.

Keywords: *Arctic zone, international cooperation, Northern Sea Route, joint management, hydrocarbons*

Introduction

In May 2023, Russian Prime Minister Mikhail Mishustin made an official visit to China as part of a large-scale Russian-Chinese business forum in Shanghai. Speaking at the Plenary Session

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of the forum, Mikhail Mishustin emphasized that the PRC plays a special role for Russia in matters of foreign trade, and the trade turnover between the two countries tends to 200 billion USD ¹.

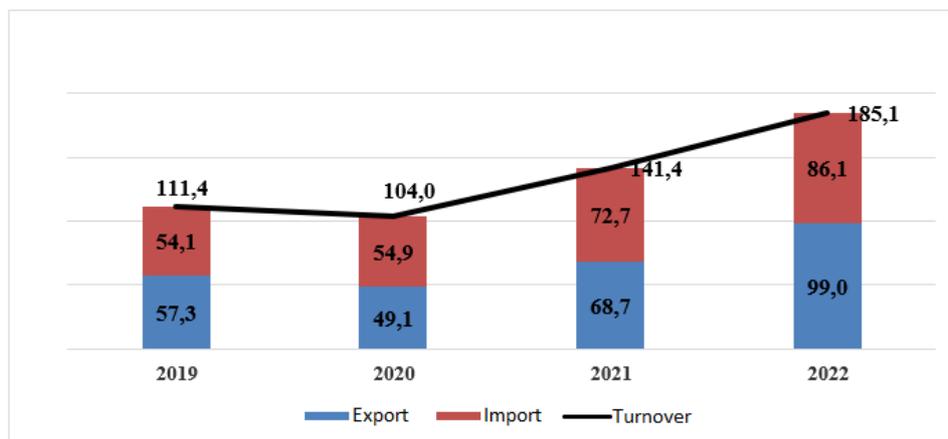


Fig. 1. Trade turnover between Russia and China in 2019–2022 (billion USD) ².

The leaders of the two countries have outlined the goal of further expanding interaction in the field of innovation, industrial and technological cooperation. Moscow has declared its readiness to support the joint Russian-Chinese projects: according to M. Mishustin, there are currently about 80 investment projects, the total investment volume of which exceeds 165 billion USD ³.

The Russian Prime Minister sees significant potential in the development of bilateral relations in the field of mechanical engineering for the fuel and energy complex, as well as the use of innovative solutions in the field of oil and gas chemistry and oil refining.

Cooperation in the energy sector is one of the key areas of Russian-Chinese partnership. Despite certain legal contradictions in approaches to regulating economic activity in the Arctic, Russia and China already have serious experience in implementing joint projects in the energy sector.

In recent history, Russian-Chinese relations have transformed from what is commonly referred to as a constructive partnership to the level of strategic interaction. Its most important area, defined at the level of state documents, was cooperation in matters of Arctic development. The parties emphasized that the joint development of the Arctic spaces can give impetus to the development of interaction in other interconnected areas, for example, in the transport sector — in the joint development of the Northern Sea Route [1, Sun S.].

Currently, the Northern Sea Route (NSR) is acquiring particular importance not only from the point of view of the export of natural resources from Russian territory, but also from the perspective of cargo transit from Asia to Europe and back [2, Veretennikov N.P., Bogachev V.F., Ulchenko M.V.].

¹ Mikhail Mishustin vystupil na ekonomicheskom forume v Shankhae [Mikhail Mishustin spoke at the economic forum in Shanghai]. URL: <https://rg.ru/2023/05/23/raschet-na-rubl-i-uan.html?ysclid=lksd2369xr855938629> (accessed 12 June 2023).

² O rossiysko-kitayskom torgovo-investitsionnom sotrudnichestve [On Russian-Chinese trade and investment cooperation]. URL: <https://interaffairs.ru/news/show/41219?ysclid=lks02e5o4j270127152> (accessed 10 August 2023).

³ Mikhail Mishustin vystupil na ekonomicheskom forume v Shankhae [Mikhail Mishustin spoke at the economic forum in Shanghai]. URL: <https://rg.ru/2023/05/23/raschet-na-rubl-i-uan.html?ysclid=lksd2369xr855938629> (accessed 12 June 2023).

Along with this, it is worth noting that a number of experts have differently assessed the prospects of China's presence in the Arctic as a strategic partner of Russia, speaking about the "Chinese threat" to the Arctic. Such positions of experts were based on differences in interpretation of international documents dedicated to the Arctic ("Svalbard Treaty" of 1920, UN Convention on the Law of the Sea of 1980), including the range of unresolved aspects of the Arctic agenda [1].

China views the Arctic as the "common heritage of mankind", which implies the internationalization of the NSR, and, as a consequence, the possibility of using this highway by all participants in the development of the Arctic. Obviously, such views are at odds with Moscow's official position on this issue [3, Zhuravel V.P.].

Russia takes an unambiguous position, declaring that the Northern Sea Route passes through the waters belonging to the Russian Federation, which means that passage in these waters should be regulated by the legislation of the Russian Federation.

Along with this, despite these disagreements, some experts have highest regard for the prospects for Russian-Chinese cooperation in the Arctic, including in the energy sector. Companies from the PRC can act as both partners and investors in energy projects implemented in the Russian Arctic, which can ensure the transfer of advanced technological experience. Another key factor of such cooperation may be the diversification of the financial burden within the framework of joint implementation of projects [4, Pestsov S.K., Tolstokulakov I.A., Labyuk A.I., Kolegova E.A.].

It is important that a number of Chinese experts consider the joint implementation of energy projects in the Arctic as a strategic basis for bilateral interaction between the two states. In particular, the Yamal LNG project has become the flagship of such cooperation, capable of bringing a significant multiplier effect and of great strategic importance for both states. It is important that this project is considered in close connection with the development of the Northern Sea Route [1].

Thus, the energy sector can become the sphere where Russian-Chinese cooperation can be very effective, and the joint implementation of energy projects in the Arctic will serve as a basis for the development of many related industries, forming multiplicative and complex-forming effects [5, Romasheva N.V., Babenko M.A., Nikolaichuk L.A.].

Materials and methods

The study is based on materials concerning the development of Russian-Chinese relations in the Arctic zone. Publications and scientific works of Russian and foreign scientists in the field of international relations, joint implementation of projects in the energy sector in the Arctic, experience in regulating socio-economic processes in the development of oil and gas fields, and state regulation of the development of hydrocarbon resources were used.

When preparing the paper, publications on the topic of the article, state intergovernmental documents and agreements, media publications, materials of international conferences dedicated

to the development of Russian-Chinese relations, information from project operators working on the Arctic shelf of the Russian Federation were analyzed.

Discussion of results

China demonstrates a truly balanced and strategic approach in pursuing both domestic and foreign policies. The leadership of the PRC strives to look several decades and even centuries ahead. This is evidenced by the adoption in the near future of a 200-year development strategy for the state. And the Arctic occupies a significant position on the economic agenda of China's state strategy.

It is worth noting that China, having no access to the Arctic Ocean, has managed to obtain the status of a "Near-Arctic" state (近北极国家), justifying its interest in participating in the study of the Arctic by the climate changes occurring in it, which is of great importance to the People's Republic of China⁴. Conducting environmental research in the Arctic is one of the key topics on the scientific agenda of the PRC, since climate change in the Arctic zone has a significant impact on the climatic conditions of a number of regions of China. Taking into account the relevance of reducing emissions of harmful substances into the environment, conducting environmental research that can directly or indirectly improve the situation in this area is truly urgent for China. Ultimately, it is about ensuring sustainable development of China [6, Dmitrieva D., Romasheva N.].

However, we should not forget that, according to experts, up to 25% of all hydrocarbon reserves on the planet are concentrated in the depths of the Arctic [7, Chater J.] (Fig. 2).

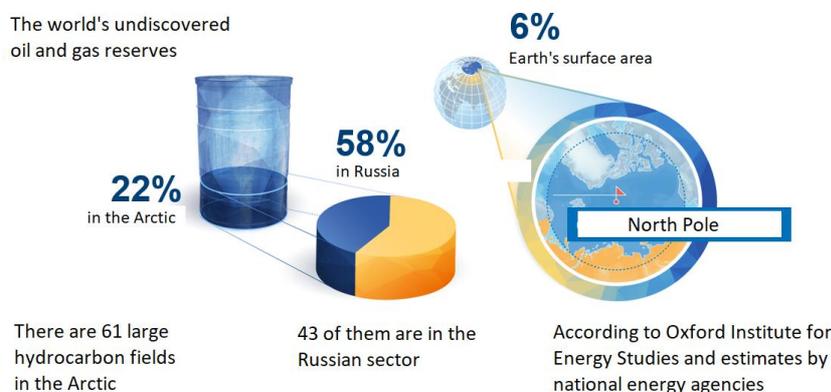


Fig. 2. The Arctic in figures⁵.

In addition to oil and gas, there are many promising deposits of rare-earth metals in the Arctic. It is obvious that China, being one of the leaders in instrument engineering, electronics and experiencing a growing demand for rare-earth metals on its own territory, is directly interested in the development of such resources, which are widely used, including in the creation of alternative energy sources [5].

⁴ China's Arctic Policy. The State Council the People's Republic of China. URL: https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm (accessed 12 June 2023).

⁵ PJSC Gazprom Neft. Official website of the company. URL: www.gazprom-neft.ru (accessed 15 June 2023).

It is worth noting that the PRC has historically sought to build long-term partnerships with almost all states that are members of the Arctic Council. It is noteworthy that, according to statistical data for 2017, the PRC acted as the most important trade partner for Alaska, which exports its products (natural resources and seafood) to the PRC in the amount of about 1.3 billion USD, as well as various services amounting to 135 million USD annually ⁶.

China has also been negotiating with Greenland on aviation infrastructure, offering to build airports in Greenland in exchange for potential rights to participate in the development of natural resources. Greenland has a huge territory — over 2 million km², where only 56 thousand inhabitants live. Greenland is a resource base for the development of deposits of rare-earth metals: uranium, cerium, yttrium, lanthanum and neodymium. The demand for these metals is growing; the production of smartphones, wind turbines and electric vehicles is impossible without them ⁷.

Two years ago, Chinese representatives negotiated the purchase or long-term lease of an airport and related aviation infrastructure in Finland. However, this deal was not approved at the governmental level for security reasons.

Taking into account the historically constructive relations between Russia and China, we can confidently say that China is a strategic partner for our country. This fact was also reflected in the documents signed during the visit of Chinese President Xi Jinping to Russia in 2013. In particular, the Joint Statement of the Russian Federation and the People's Republic of China was signed, which reflected the need to transform the achieved political decisions into practical solutions. At the same time, the Statement emphasized that such a task is of a strategic nature [1]. Along with this, interaction in the oil and gas sector was considered as one of the priority areas of cooperation between the two states ⁸.

Shortly before the signing of the above Statement, the Russia-China Energy Dialogue, a collegial body aimed at coordinating and strengthening cooperation between the two states, was officially launched. Later, in 2012, the Energy Dialogue was renamed the Intergovernmental Russian-Chinese Commission on Energy Cooperation.

In 2014, Russian President Vladimir Putin visited the PRC; during this visit another Statement was signed between the two countries, dedicated to a new stage in the development of cooperation. It is worth noting that this visit was marked by the signing of a contract for the supply of 38 billion m³ of natural gas to China via the Power of Siberia gas pipeline over 30 years.

In 2014, additional documents of strategic nature were signed within the framework of interaction between the two states. In particular, the two countries signed a memorandum on natural gas transit under the Power of Siberia-2 project and a framework agreement between China

⁶ Fadeev A. S pomoshch'yu Kitaya Rossiya mozhnet uskorit' osvoenie Arktiki [With the help of China, Russia can accelerate the development of the Arctic]. GoArctic. URL: <https://goarctic.ru/politics/aleksey-fadeev-s-pomoshchyu-kitaya-rossiya-mozhet-uskorit-osvoenie-arktiki/?ysclid=lktd68zjwt774932885> (accessed 12 June 2023).

⁷ Ibid.

⁸ V Moskve sostoyalas' vstrecha Si Tszin'pina i Vladimira Putina [Xi Jinping and Vladimir Putin met in Moscow]. www.russian.people.cn. 23.03.2013. URL: <http://russian.people.com.cn/31519/8179663.html> (accessed 21 June 2023).

National Petroleum Corporation PJSC Gazprom, ensuring the supply of natural gas to China from Russia. In addition, a memorandum of understanding was also signed between the China National Maritime Corporation and PJSC Gazprom⁹.

Bilateral relations in the energy sector were further developed in September 2013 at the G20 summit in St. Petersburg. During the summit, China's CNPC purchased a 20% stake in the Yamal LNG project. This circumstance marked the beginning of energy cooperation between Russia and China in the high Arctic latitudes (Fig. 3).

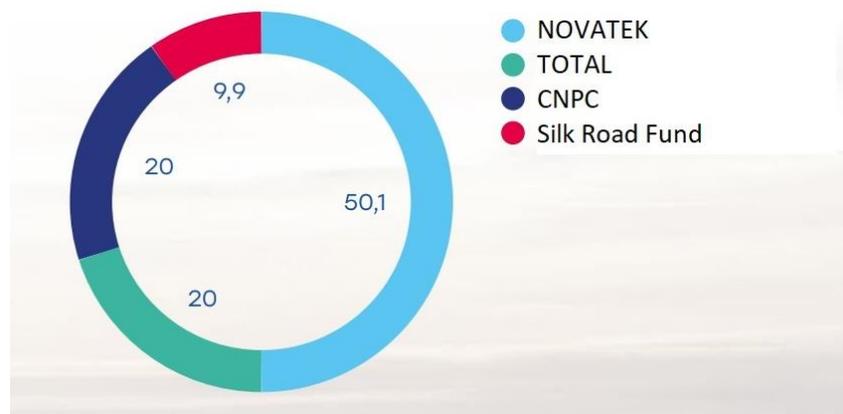


Fig. 3. Shareholders of Yamal LNG, %¹⁰.

Later, in 2015, the two countries signed further statements aimed at developing bilateral cooperation in a number of areas. Thus, over three dozen agreements and treaties were signed in the energy, space and aviation sectors for a total amount exceeding 30 billion USD. A special mention should be made of the signing of the most important document — the Joint Statement on Cooperation on the Construction of Joint Eurasian Economic Union (EAEU) and the Silk Road Economic Belt (SREB). The parties noted that special attention would be paid to Arctic development projects and cooperation in the oil and gas sector¹¹.

In recent years, cooperation between Russia and China in the energy sector has become one of the key topics of bilateral international interaction [8, Erokhin V., Tianming G., Xiuhua Zh.].

The colossal hydrocarbon resource base in the Arctic creates the basis for long-term international cooperation between Russia and China in this region. It is worth noting that interaction also has significant multiplicative and complex-forming effects [9, Fadeev A.M., Lipina S.A., Zaikov K.S.], since the joint implementation of energy projects stimulates the use of the Northern Sea Route (NSR) and the socio-economic development of coastal regions located along the NSR route.

In addition, the integration of the Eurasian Economic Union and the Silk Road Economic Belt opens up prospects for the creation of a Russian-Chinese Arctic Free Trade Area (AFTA). Ac-

⁹ RF i KNR podpisali memorandum o postavkakh gaza po «zapadnomu marshrutu» [The Russian Federation and China signed a memorandum on gas supplies via the “western route”]. URL: <https://ria.ru/east/20141109/1032414339.html> (accessed 02 June 2023).

¹⁰ Pokorenie Arktiki. Na chto sdelat' stavku investoru? [Conquest of the Arctic. What should an investor bet on?]. URL: <https://elitetrader.ru/index.php?newsid=581382&ysclid=iktdf393o7272483961> (accessed 27 June 2023).

¹¹ Rossiya i Kitay nachinayut desyatki sovместnykh proektov [Russia and China are starting dozens of joint projects]. URL: <https://vz.ru/politics/2015/5/8/574698.html?ysclid=iktdi9sp8l873136092> (accessed 10 June 2023).

According to the joint statement on the integration of the EAEU and the SREB, the parties intend to ensure sustainable economic regional growth, economic integration, and take synchronized mutual steps to connect the EAEU and SREB construction processes¹². The result of their effective integration may be the formation of a unique platform for cooperation between Moscow and Beijing.

The People's Republic of China has significant financial resources and investment plans, which ensures the stability of science- and capital-intensive joint energy projects in the Arctic.

The developing economy of China is able to provide a stable market for coal and hydrocarbons produced in the Russian Arctic [10, Zhao L.]. It is noteworthy that the basis of the explored hydrocarbon resources of the Arctic shelf are gas and gas condensate fields (about 85%). This fact is important in the light of China's attempts to reduce oil supplies from abroad for processing at its own refineries: the dominance of natural gas in the Arctic fields will exclude possible fluctuations in demand for this type of hydrocarbons.

The analysis of implemented offshore projects in the Arctic shows that one of the obstacles to their successful implementation is the limitations in the possibilities for long-term financing. Cooperation between Russia and China in this area can be realized through a number of financial institutions, such as, for example, the Silk Road Fund. The main task of this Fund is to finance joint projects within the framework of the global initiative "One Belt, One Road". Joint ventures and various investment funds can also be used to finance projects in the Arctic.

Russian-Chinese cooperation in the development of offshore hydrocarbon deposits in the Arctic acts as a driver of socio-economic growth in the Arctic regions, creating multiplier effects through the involvement of large industries in the implementation of projects: metallurgy, mechanical engineering, transport and construction complexes, scientific, consulting and financial organizations [11, Peshkova G., Antohina Y., Smirnova N.]. According to statistics, one job in the Arctic creates fourteen jobs in adjacent regions.

The implementation of joint energy projects will contribute to the creation of new jobs, growth of the tax base, the inflow of highly qualified specialists, and a positive change in the demographic situation in general [12, Tsyglyanu P.P., Romasheva N.V., Fadeeva M.L., Petrov I.V.].

The PRC's interest in cooperation with the Russian Federation is dictated by several circumstances: first of all, the solution of energy security issues, which is an integral part of China's overall national security.

The prospects of using the Northern Sea Route deserve special attention in the light of the emerging geopolitical situation in the Middle East. Israel's statements about the complete blockade of the Gaza Strip, the presence of the US Navy in the eastern part of the Mediterranean Sea, as well as the potential involvement of Egypt in the conflict (the Suez Canal, the world's main car-

¹² Sovmestnoe zayavlenie Rossiyskoy Federatsii i Kitayskoy Narodnoy Respubliki o sotrudnichestve po sopryazheniyu stroitel'stva Evraziyskogo ekonomicheskogo soyuza i Ekonomicheskogo poyasa Shelkovogo puti [Joint statement of the Russian Federation and the People's Republic of China on cooperation in linking the construction of the Eurasian Economic Union and the Silk Road Economic Belt]. URL: <http://www.kremlin.ru/supplement/4971> (accessed 05 July 2023).

go artery connecting the Mediterranean and Red Seas, passes through Egypt) — factors that create significant military and transport risks, leading to increased freight rates and insurance premiums, which will ultimately affect the cost of transported products and weaken their position in global commodity markets.

Considering these events, the use of the Northern Sea Route by China to supply liquefied natural gas to the country to solve energy security issues, as well as the transit of goods from China to Europe, is more than a promising solution that provides speed, economic benefits and security [13, Laverov N.P., Popovich V.V., Vedeshin L.A., Konovalov V.E.].

We should not forget about the environmental problems existing in the PRC, which are of a serious nature. In 2012, environmental issues were integrated into the state's national strategy. For this reason, China has its own views on clean energy in the form of natural gas from the Russian Arctic.

Joint implementation of energy projects in the Arctic opens up opportunities for China to explore Arctic waters, address environmental protection issues, develop polar research and scientific expeditions, and contribute to infrastructure creation.

Another important aspect of China's participation in joint projects may be the strengthening of the geopolitical influence of the state in this region, which is especially important from the perspective of considering the Arctic as a promising market for the sale of material and technical resources and technologies produced in the PRC. Currently, Chinese equipment and technologies are already being used in projects related to the extraction of natural resources on the shelf, including in the Arctic. Thus, the PRC has a unique fleet of drilling rigs that sometimes surpass Western analogues in terms of their characteristics, which allows them to actively integrate into energy projects implemented in the world, consistently gaining a reputation as reliable long-term partners.

The Yamal LNG project has become the flagship of Russian-Chinese interaction and created a precedent for the transition from interstate oil and gas trade to joint implementation of projects in the Arctic. China side received the opportunity to partially participate in the supply of construction materials, equipment and logistics for the project as a whole. The Yamal LNG project also provided Chinese companies with integration into the field of global technologies for the extraction and processing of hydrocarbons, as well as the opportunity to cooperate with international companies, such as, for example, the French concern TotalEnergies and Daewoo Shipbuilding & Marine Engineering. The result of this interaction was the signing of a document on strategic partnership between TotalEnergies and CNPC in March 2016 ¹³.

LNG exports from Russia to China increased by 23% in 2023. Volume of LNG exports is on an upward trend, which is reflected in the participation of Chinese partners in other Russian energy projects.

¹³ CNPC Annual Report 2016. URL: 4f1cfc8cb2b6492999eaeba0f5b08262.pdf (cnpc.com.cn) (accessed 10 September 2023).

Thus, another significant event of international cooperation with China is the implementation of the Arctic LNG-2 project, which provides for the construction of three LNG production lines with a capacity of 6.6 million tons per year each on gravity-type foundations on which LNG modules are installed.

The shareholder structure of this project is as follows: Russian NOVATEK — 60%, French TotalEnergies, Chinese CNPC and CNOOC, as well as a consortium of Japanese Mitsui and JOGMEC — 10% each.

The implementation of this project is also of great geopolitical significance: Russia is demonstrating the ability to implement complex technological and energy projects against the backdrop of unprecedented sanctions imposed against it. Technological sovereignty in the energy sector is now not just a slogan, but real practical steps.

At the beginning of November 2023, the sanctions were imposed on the Arctic LNG-2 project. What will be the future of the project? To what extent can the restrictions cease its realization? According to US Assistant Secretary of State Geoffrey Pyatt, the main goal of the sanctions is to stop the work of the Russian-Arctic LNG-2 project.

In order to answer these questions, it is important to analyze the recent history of the Russian oil and gas complex under conditions of sectoral restrictions, including in the Arctic.

Arctic LNG-2 is not the first Russian project to fall under sanctions. The first sectoral restrictions introduced back in 2014 included a ban on technology transfer for hydrocarbon exploration in the Arctic.

Logical questions arise: where can technology transfer be banned from? Which country in the world has the technology to develop deposits in the harsh conditions of the Arctic? Which state is currently conducting geological exploration, industrial production of hydrocarbons or LNG production in high Arctic latitudes? The answer is obvious: none, except Russia. The Russian Federation has unique competencies not only in matters of industrial oil production in the Arctic (Prirazlomnoe project, Novyy Port project), liquefaction of natural gas (Yamal LNG project), but also in matters of transportation of oil and liquefied natural gas in ice conditions. No other state in the world has such experience.

In addition, the macroeconomic challenges that arose during that period, caused by the introduction of sectoral restrictions on the supply of equipment for hydrocarbon production in the Arctic, marked the beginning of Russia's own technology policy, the formation and development of import substitution strategies aimed at rapid escape from import dependence.

Probably, the sanctions made the implementation of these projects a little less convenient: energy companies needed to reorient the supply of some oil and gas equipment and technologies from the West to the East, but most importantly, the sanctions created additional opportunities for the development of the Russian market of suppliers to the oil and gas industry.

The Russian Federation has completed a significant amount of work related to the development of the national service market of suppliers and contractors. Dozens of alternative substi-

tution strategies being implemented today by Russian energy companies, which are aimed at developing domestic import substitution programs and escaping from import dependence, are already producing results.

For example, the innovative technology for liquefying natural gas “Arctic Cascade” is one of the solutions in the field of ensuring technological independence, allowing for reduction in the cost of liquefying natural gas by up to 30%. A distinctive feature of this technology is a unique combination of various methods for improving the processes of cooling and liquefying natural gas.

China’s involvement as a partner also brings obvious advantages for the Russian Federation. First of all, it is a diversification of hydrocarbon supplies for the long term and an opportunity to strengthen Russia’s geopolitical position in the global energy market. It is necessary to take into account that the “shale revolution” continues to influence the global energy sector and the balance of power in it, which, of course, leads to a certain competition between shale gas and Arctic LNG. This circumstance requires operators of Arctic projects to develop a clearly defined strategy for working in the Arctic [14, Humrich C.].

Another important economic effect of implementing joint energy projects in the Arctic is an increase in the cargo base for transportation along the Northern Sea Route, the development of which is considered one of the priorities for Russia [15, Voronina E.P.]. Let us recall that investments in the NSR infrastructure should amount to 1.8 trillion rubles by 2035, and the planned cargo flow should exceed 200 million tons by this time¹⁴.

Ensuring such a level of cargo flow invariably entails the need for a large-scale reconstruction of the existing port infrastructure and the introduction of new capacities, laying fiber-optic communication lines, and carrying out dredging work in a number of water areas [16, Selin V.S., Kozmenko S.Yu.]. Special attention is required to create a fleet with a high ice class, the preliminary number of which is estimated at about 80 vessels for various purposes.

No less important is the investment potential of the PRC. In the first quarter of 2021, China increased its GDP by 18%. In 2020, when the pandemic happened and many countries were “in the minus column”, China brought the economy to the plus side by 2%. In 2022, China’s gross domestic product (GDP) was 121,020.7 trillion yuan (approximately 18 trillion USD), an increase of 3% in per year terms¹⁵. The country has a wide range of investment opportunities, and this is very important in the context of financing energy projects in the Arctic, which are traditionally capital-intensive.

One of the most important aspects of effective cooperation between China and Russia in the Arctic should be joint research and development on the most pressing issues of exploration,

¹⁴ Fadeev A. Schitayu kontseptsiyu po razvitiyu SMP dostatochno prorabotannoy i obosnovannoy [I consider the concept for the development of the Northern Sea Route to be quite well-developed and justified]. URL: <https://ngv.ru/articles/aleksey-fadeev-schitayu-kontseptsiyu-po-razvitiyu-smp-dostatochno-prorabotannoy-i-obosnovannoy/?ysclid=lktdzjox4d611841995> (accessed 12 June 2023).

¹⁵ Rost VVP Kitaya zamedlilsya do 3% [China’s GDP growth slows to 3%]. URL: <https://www.rbc.ru/rbcfreenews/63c6343f9a7947219774dc2b?ysclid=lkqzo7n6zpz487789784> (accessed 12 June 2023).

production and processing of hydrocarbons. One of the successful examples of cooperation in this area is the international center for Arctic studies created in 2016 on the initiative of Harbin Institute of Technology and the Far Eastern Federal University. The specialists of this center are involved in the design of production platforms on the shelf, managing ice conditions and ensuring the operation of marine equipment in difficult climatic conditions ¹⁶.

Russia needs to involve Chinese companies in the implementation of energy projects through the creation of joint ventures, investment funds, R&D, creation and supply of high-tech equipment for work in the Arctic. It is necessary to ensure a favorable investment climate by providing preferences and tax benefits, creating priority development areas, and creating institutional conditions that would guarantee transparency and stability to Chinese investors [12].

China is cooperating with Alaska, a state where about 5 thousand residents live in its northernmost city. In Russian Murmansk there are currently about 300 thousand people. And this is against the backdrop of negative demographic trends. It is necessary to take into account the created infrastructure, the existing engineering and personnel potential of the Russian regions, accumulated since Soviet times, unique enterprises, the activities of which can be diversified for the implementation of energy projects [17, Fadeev A.M., Vopilovskiy S.S., Fedoseev S.V., Kuprikov M.Y., Avdonina N.S.].

International cooperation will become an effective tool for the economic development of the two states, ensuring energy security for many decades.

Conclusion

Russian-Chinese cooperation in the energy sector has significant potential for development [18, Liu G., Xu Q., Chen Y.]. Despite different approaches in the legal field regarding the sovereignty of the Arctic, the parties managed not only to find a compromise on a number of controversial issues, but also to move partnership agreements from paper to practice.

The implementation of the Yamal LNG project marked the beginning of technological cooperation in the Arctic between the two countries. It is worth noting that no state in the world, except the Russian Federation, has the competence to transport liquefied natural gas and oil in ice, including along the Northern Sea Route. Cooperation between Russia and China in the energy sector can become a driver not only of technological development in the context of the implementation of joint energy projects, but also contribute to significant socio-economic development of the Arctic territories, creating multiplier and complex-forming effects, inducing domestic demand in related industries [11].

Such cooperation has important geopolitical significance: Russia and China are forming a new pole of gravity in the world in the energy sector, demonstrating truly effective cooperation and partnerships. As a result, Russia has the opportunity to develop an effective strategy for the development of the Arctic as a whole [19, Tsvetkova A.]. At the same time, it is extremely important that the devel-

¹⁶ Shatilova M. DVFU i Kharbinskiy universitet sozdali sovместnyy tseпtr po izucheniyu Arktiki [FEFU and Harbin University have created a joint center for the study of the Arctic]. URL: <http://tass.ru/nauka/3662445> (accessed 07 August 2023).

oped strategy should be based on the competitive advantages of the system under consideration with a mandatory assessment of resource constraints [20, Kvint V.L.].

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