



## SOCIO-ECONOMIC DEVELOPMENT

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### THE POSSIBILITIES OF RUSSIA-VIETNAM COOPERATION IN THE FUEL AND ENERGY SPHERE

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**Abstract:** The author has made an attempt to show a great potential of Russia-Vietnam cooperation in the fuel and energy sphere basing on the identification of the emerging trends and needs of Vietnamese economy and Russian possibilities.

In particular, the article shows the state and perspectives of hydrocarbon and energy sectors of the Vietnam national economy. It demonstrates that: the decline in oil production due to the exhaustion of existing oil fields in Vietnam and the inability to meet the growing demand for gas on its own show the necessity of the increase in hydrocarbon import; instability and high cost of energy production relied on renewable energy sources want to increase the capacity of traditional types of energy. The obstacles are such factors as a significant growth of the world prices, and increasing dependance on LNG suppliers, as well as the climate agenda.

To settle the problems, Russia being the leader at the world energy and fuels can contribute significantly to Vietnam's energy security. Besides, Moscow maintaining leading positions in construction and exploitation of advanced NPPs could make for Hanoi's return to the national nuclear program. Enhancing cooperation in the hydrocarbon supplies sphere, the implementation of large-scale projects in the nuclear sphere meets both Russia's and Vietnam's national interests.

**Keywords:** Russian-Vietnamese economic cooperation, oil and gas sector, energy sector, nuclear energy, low-capacity NPPs, floating nuclear thermal power plant.

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## **Introduction**

Russia, along with China and India, is the state which has established the relations of comprehensive strategic partnership with Vietnam. The two countries closely cooperate in the political and military-technical spheres. However, the economic cooperation is still a troubled moment. In the opinion of Russian experts, large-scale strategic projects can promote its rise [Mazyrin 2021: 153]. The experience of bilateral relations, the nature of economic needs and possibilities permit to argue that Moscow-Hanoi cooperation in the fuel and energy sector has the best perspectives in terms of implementation of new large-scale initiatives.

Russia-Vietnam cooperation in this sphere has been the theme both of monographs and chapters in publications on the bilateral relations by V.M. Mazyrin [2020], E.V. Nikulina [2020], A.G. Makukhin [2019], Ya.V. Mishchenko [2018], Nguyen Thi Lan and E.F. Chernenko [2018] and other authors. The main content of their works was either the survey of the relationship development in the hydrocarbon and energy spheres, or the analysis of their current condition, or the identification of existing problems and restrictions. Here, the author has made an attempt to show a great potential of Russia-Vietnam cooperation in the fuel and energy sphere emerging from the trends and needs of Vietnamese economy and Russian possibilities.

### **The state and perspectives of Vietnam's hydrocarbon sector development**

According to the data of the ASEAN Center for Energy, Vietnam is the first among the ten SEA countries in oil reserves and the fourth in oil production [ASEAN Center: 05.08.2022]. However, due to the exhaustion of the main oil fields, the decline of oil production has not been compensated with the development of the proper quantity of new ones; the problem of meeting demand for the natural oil owing to internal capabilities appears clearer.

In 2021 PetroVietnam produced nearly 10.97 mln t of crude oil (9.1 mln t in the country and 1.87 mln t abroad), i.e., 0.5 mln t less than in 2020. This shows the tendency of the decline of oil production on Vietnam's continental shelf; every year the production decreases by nearly 1 mln t. Thus, since 2016 the volume of oil production has been 6.26 mln t less, the internal production being 6.1 mln t less [Hoài Thu: 13.05.22]. Also, negative tendencies in the hydrocarbon sector are seen when comparing the last five-year period (2016–2020) with the prior one (2011–2015). Thus, the quantity of new oil fields has decreased from twenty-four to seven, while the number of the signed contracts in the sphere has been reduced from twenty-one to three. The average annual volume of investments into prospecting and exploring of fields has decreased by nearly USD 950 mln in 2011–2015 and by USD 280 mln in 2016–2019 [Lương Bằng: 21.03.2022].

The limited reserves of newly discovered fields need to pay attention to deep-water areas off the shore. The task needs great investments, qualified specialists and proper technologies. Besides, territorial disputes in the South China Sea are a negative factor. Thus, the oil import to Vietnam will grow to meet the internal needs.

Gas production is somewhat better, Vietnam being the third among the ASEAN countries with its proven gas reserves. But even planning nearly double growth of the gas production volumes cannot totally meet the growing needs of the national economy, which is confirmed with the plans to begin and consistently increase LNG import [Kumagai: 14.09.2021].

The average annual gas production from 2015 to 2019 (five years prior to Coronavirus pandemic) was about 10 billion cu. m [International Energy: 05.08.2022]. The greatest part of it is used for gas turbine power plants, their capacity now being up to 7,1 GW [Nguyễn Thái Sơn: 26.01.2022]. In the future, due to the development of new fields, the planning growth of annual gas

production volumes is up to 13–19 billion cu. m in 2021–2025 and up to 17–21 billion cu. m in 2026–2035, which means the increase of the total natural gas-based energy capacity by more as 7,5 GW [Quy hoạch tổng thể: 18.01.2017; Quy hoạch điện: 11.08.2022].

Nevertheless, this is not sufficient to meet energy needs of the country, while up to 2030 their growth has been predicted at the level of 10–12 % annually [International Trade: 15.09.2021]. Against this background, Vietnam is planning to develop imported-based LNG projects. However, lately Vietnamese experts have been concerned both with the increasing dependence of the country on external supplies and the rise of the world energy prices.

The possibilities of Russia-Vietnam cooperation in the hydrocarbon sphere

For a long time, our countries have efficiently cooperated in the hydrocarbon sphere. Within this framework, Russian “Zarubezhneft”, “Gazprom” and “Novatek” companies cooperate with the Vietnamese PetroVietnam. On the territories of the two countries there have been established such oil and gas joint ventures like “Vietsovpetro” (Fig. 1), “Rusvietpetro”. “Vietgazprom” and “Gazpromviet”.



**Fig. 1.** The joint venture “Vietsovpetro”. *Source:* <https://www.vietsov.com.vn>

Being one of the main directions of bilateral relations, energy issues were actively discussed both at the meeting of the Presidents of Russia and Vietnam in Moscow (30 November, 2021), and in the course of the session (held after the meeting) of the intergovernmental Commission on trade-economic and scientific-technical cooperation [Alifirova: 02.12.2021].

Owing to the decline of oil production due to the exhaustion of the existing fields and inability to meet growing gas needs Vietnam faces the necessity to increase the hydrocarbon import. Against the backdrop of rising world oil and gas prices it will have a negative impact on the country’s economic development.

In its turn, the Russian Federation is the world’s largest energy exporter. According to the data of the International Energy Agency, in 2020 the country was first in the world in terms of the exported natural gas volume and won second and third places in terms of oil and gas supplies [International Energy 2020]. The sanctions pressure, unprecedented in Russian history, which followed the conflict having been provoked in Ukraine by the West, increased the interest of the Russian energy suppliers to Asian markets.

The issues of Russian energy export to the SRV were addressed during the visit of President Nguyen Xuan Phuc to Moscow in 2021, as well as at the St. Petersburg international economic forum held in June, 2021. In the course of the visit, the Russian “Novatek” company and the Vietnamese PetroVietnam signed a cooperation agreement on the projects in the LNG sphere. In future Russia

will probably supply this energy to the Vietnamese market. During SPIEF-2022 the parties discussed the issue of oil and gas products export to Vietnam [Russia: 17.06.2022]. Currently, the Russian share of the total crude oil supplies into Vietnam is less than 1%.

Thus, in the sphere of hydrocarbon supplies there are possibilities for more intensive Russia-Vietnam cooperation, its perspectives mostly depend on Hanoi's maintaining of independent policy. This meets both "Russia's turn to the East", where Vietnam takes a historically special place, and Vietnam's foreign policy balancing in the relations with the world centers of power.

### **The state and perspectives of Vietnam's energy sphere development**

The main part in energy security of Vietnam is still performed with coal power and hydroelectricity sharing in 2021 32% and 28% of the total installed capacity of the national power system, as well as 46% and 30% of the total volume of produced electricity [Nguyễn Thái Sơn: 26.01.2022]. According to the assumed obligations to reduce the use of coal electric generation and the inability to significantly increase the use of hydroelectricity due to the exhaustion of the latter's potential, Vietnam faces the problem to meet growing energy needs.

Contradictions between growing energy needs and reductions connected with both the climate agenda and the rise of the world's energy prices create difficulties for planning the sector's development. Against this background one of the main subjects of debates at the expert and government levels is the return to the development of the national nuclear power. Particularly, at the Spring session 2022 of the National Assembly of the Socialist Republic of Vietnam, Nguyen Hong Dien, Minister of Industry and Trade, mentioned the inevitability of "once paying attention to nuclear energy" [Phan Trang: 30.05.2021].

### **The possibilities of Russia-Vietnam cooperation in the nuclear energy sector**

Currently, the SRV has seen the resurgence of interest in the development of nuclear energy. Beside the last discussion in the Parliament, the issues of returning to the national nuclear program were mentioned at lower levels, such as the Vietnam Business Forum 2022 (VBF-22) in February; the government discussions of the Eighth Energy Plan of the Republic; the second Vietnam Clean Energy Forum in April.

In particular, at VBF-22 the Deputy Chief of Office of the Ministry of Industry and Trade spoke on the government plans to consider a possibility to use nuclear energy after 2035 [Lê Chi: 23.02.2022]. Later, in mid-March, the Ministry of Industry and Trade presented the draft of the Eighth Energy Plan to the government; the draft plan provided for "developing of small-scale nuclear energy" after 2030 [Đức Dũng; 03.06.2022]. In the course of the second Vietnam Clean Energy Forum held in April, the former Chief of VINATOM expressed the opinion that if the country launches nuclear energy after 2030, it can reach the assumed obligations of carbon neutrality by 2050. Also, the current Head of VINATOM spoke in support of the speedy return to the national nuclear program, having mentioned that the implementation of NPP projects (from the design to energy supply) takes no less than 15–20 years. In his opinion, the basis of the Vietnam nuclear program development must be the technologies of advanced light water reactors, or, rather, of small modular reactors [Trần Chí Thành: 13.05.2022].

The latter ones attract still more attention in Vietnam. Vietnamese experts mention that small modular reactors can serve not only to supply energy to power-intensive industrial enterprises or small remote settlements, but also, can be used to generate hydrogen and thermal energy and to



desalinate sea water. It is supposed that such plants will operate in power systems with a great share of renewable power sources [Pham Nhu Viet Ha et al.: 01.09.2021].

The interaction in the sphere of peaceful use of nuclear energy could become a new pillar of Russia-Vietnam relations. The vision of developing relations of comprehensive strategic partnership between the RF and SRV for the period up to 2030, articulated by the leaders of the two countries at their meeting in Moscow at the end of 2021, mentions that in the case of Vietnam's return to the plans of establishing national nuclear power Russia will be considered a priority partner in this sphere. There are good reasons for this.

The countries have already had the experience of cooperation in the sphere of nuclear power. In 2010 Moscow and Hanoi agreed to construct "Ninh Thuan – 1" NPP in Vietnam (Fig. 2.). Despite a temporary interruption of the project, more than 400 Vietnamese nuclear sciences students were educated in Russia from 2010 to 2015, 150 Vietnamese engineers worked on probation at Rostov NPP [Nguyễn Dịu: 11.04.2016] Now, the spotlight is the project to create the Center for Nuclear Science and Technology in Vietnam which may become the starting point in the cooperation of the two countries in the nuclear sphere.



**Fig. 2.** "Ninh Thuan – 1" NPP Project. *Source:* <https://www.atomic-energy.ru>

It is obvious that the US and their allies, who used to actively sabotage the Russian "Ninh Thuan – 1" NPP Project in Vietnam, will hamper Russia-Vietnam cooperation in the nuclear sphere. However, the RF great experience in the sphere of nuclear energy, Russia's leadership in constructing NPPs abroad and a good foundation laid for the implementation of the NPP project in Vietnam could permit Hanoi to return to the national nuclear program in the shortest time, which means the opportunity to choose Moscow as a priority partner.

Russia sees the projects of low-power NPPs in Vietnam the most perspective ones. As Vietnam is interested in nuclear energy development based on small modular reactors, Russia can obtain additional benefits at Vietnam's market. In 2020 "Rosatom" put into operation the floating nuclear thermal power plant "Akademik Lomonosov" (the unique in the world), its capacity being 70 MW (Fig. 3.), in Chukotka Autonomous Okrug. The plant has unique advantages; it can supply electricity to inaccessible areas, can be relocated, shows minimum requirements for necessary ground infrastructure, etc.



**Fig. 3.** The floating nuclear thermal power plant “Akademik Lomonosov”.

*Source:* <https://www.rosatom.ru>

Currently, “Rosatom” is implementing the project of the land-based low-power NPP (the first in the world) in Yakutia; it is expected to be completed in 2028 (Fig. 4.).



**Fig. 4.** The project of the land-based low-power NPP.

*Source:* <https://www.rosatom.ru>

Russia shows itself to be the priority partner of Vietnam in the development of nuclear energy based on low-power NPPs; it has extensive experience in the development and exploitation of the reactors having been used in the Russia’s nuclear icebreaker fleet for more than sixty years.

### **Conclusion**

Summing up, let it be said that Moscow and Hanoi possess a great potential in the fuel and energy sphere. Russia, with its leading positions at the world energy market, can contribute significantly to energy security of Vietnam, when the country has difficulties in meeting the needs of its growing economy in the conditions of undertaken obligations in the sphere of climate changes and

the rise of the world hydrocarbon prices. In its turn, the re-orientation of oil and gas export to the Vietnamese and other Asian markets meets Russia's interests.

A new pillar of the two countries cooperation may be nuclear energy. Both the increasing interest of Vietnam's government and experts and the leading positions of Russia constructing and exploiting advanced NPPs, the low-power ones and floating NPPs among them, are in favor for this cooperation.

The above-said could greatly contribute to fill the bilateral relations with the economic content, necessary to increase their resistance to outside challenges. The joint implementation of strategic projects can make Russia-Vietnam cooperation more balanced and meet a higher level of the comprehensive strategic partnership.

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