Nuclear technologies as an instrument of geopolitical confrontation on the borderlands of the Heartland / Rimland

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Abstract

The Russian Federation continues to implement energy instruments in order to expand its sphere of influence at the intersection of geopolitical "Heartland" and "Rimland". In particular, energy networks and transnational corporations contribute to the access of the Continental Superpower to warm seas, straits and resources and to possibility of alliances. In coalition with China, Russian strategic initiatives are being implemented in the "One Road One Belt" project. On the other hand, in accordance with classical geopolitics the "Sea Power" seeks to control the Eastern Europe in order to prevent hegemony in Eurasia. However, given the rapid growth of the importance of the "peaceful atom" technologies, the construction of nuclear power plants as well as the export of nuclear technologies has become one of the decisive geopolitical levers of influence and shifting "balance of power" in Eurasia.

Key words: infrastructure projects, spheres of influence, nuclear technologies, sanitary borders, Northern Sea Route.

Introduction

The purpose of the study is to explore the growing role of the "peaceful atom" as a factor of influence/pressure at geopolitical confrontation between the "thalassocracy" (Sea) and the "tellurocracy" (Land) Powers. Given the fact that the energy instruments are currently the most effective in such a confrontation on the borderlands of the Heartland and the Rimland. And also, to characterize the strategy of gaining control over the Eastern Europe and around the Eurasian borders.

Results and discussion

Despite the growing influence of informational and cybertechnologies at global "balance of power", the classical geopolitical concepts of H. Mackinder and N. Spykman are still the main instrumental doctrines of gaining control over global processes. Nowadays classical geopolitics is being practically implemented in the strategy of Great Britain after Brexit (Global Britain, March 2021), Moscow's expansive tendencies as well as the "New Concert of Powers" (similar to the "Concert of Powers" in the XIX cent.) (Richard N.).

The "New Concert of Powers" is represented by tellurocratic Russia, thalassic USA and Japan as well as China, India known as countries of "geopolitical dualism" and the EU region with different identities. From now the abovementioned actors will set the "agenda" on the geopolitical chessboard, pushing Transnational Corporations and other regions to the background. Thus Africa, Middle East, Southeast Asia, and Latin America will be represented by "regional organizations"

which “would be listened to” (Richard N.). Therefore, global TNC will turn to be instruments used by countries in addressing relevant geopolitical challenges.

The “new balance of power” in multipolar world will be represented in the formula “5 + 1” (USA, Russia, China, Japan, India + EU) in geopolitical sense. And there will be several geocultural “centers of gravity”. Thus, several poles will ensure that no one Power or group of Powers dominates the World Island.

Nowadays importance of nuclear technologies is rapidly increasing being among the various geoeconomic instruments available in the cause of global influence. The factors which determine priority of nuclear technologies over oil, gas and “green” energy are the following: raised standarts of sustainable and eco-friendly international projects, reduced hydrocarbon reserves, unpredictable climate changes.

But still Russian State corporations like “Gazprom”, “Rosneft”, “Transneft” and “Rosatom” remain Russia's “energy weapons” in Eurasia as well as Chinese “One Road One Belt” facilitates China’s influence, the thalassic states continue searching the appropriate ways to counter this interference.

In accordance with the latest official documents of the European Commission the common level of nuclear impact at the eco-systems corresponds those of renewable energy sources, such as hydroelectric power plants, solar and wind energy, being eco-friendlier per unit of capacity therefore. Scientific researches presented in the Report of the European Commission prove that the new “3+” generation reactors are environmentally safer than solar panels in case of accident. Thus, the full cycle of nuclear energy operation has been explored – beginning with uranium mining and NPP construction till utilization (Technical assessment, 19.03.2021).

Therefore, aspects of the suspected environmental threat of nuclear technologies are no more realistic, what means “green light” for those companies which implement these technologies globally. Nevertheless, the eco-factor has been frequently used for inhibition thereof. Given the fact that Russia has significantly strengthened its presence at the global nuclear market. However nuclear technologies came down in the West. The 35 of the 50 world nuclear power plants under construction belong to “Rosatom” notwithstanding competitive position of China and the United States, which use to take advantage of their TNC (Schepers N.).

In 2019 “Rosatom” has won first place on number of nuclear power units of the foreign project portfolio (36 power units), first place on the global uranium enrichment market (38% of the market), second place on the world uranium mining market (14% of the market), third place on the world market of nuclear fuel (16% of the market) (Report).

In particular the president of the Center for Global Studies “Strategy 21” M. Gonchar notes, “both “Gazprom” and “Rosatom” are diverse instruments designed for different purposes. […] Rosatom's nuclear technology expansion is a mechanism of long-term dependence that works in several dimensions”.

We are talking about financial (lending on favorable terms), technological (supply of equipment), personnel (formation of a certain lobbying potential) and fuel dependence. Therefore, the nuclear reactor will be able to operate for at least half a century in the given place (Honchar M.).

On the one hand, the range of exports of Russian nuclear technologies practically coincides with the Heartland/Rimland border. In particular, construction of nuclear power plants is on the agenda in the key “border” countries, such as China, Bangladesh, India, Iran, Uzbekistan, Armenia, Turkey, Hungary, Bulgaria, Belarus, the Czech Republic, Finland.

On the other hand, “thalassic” countries resist in the Eastern Europe and some regions of the Central Asia and the Caucasus. Geopolitical chest is connected with the Belarusian nuclear power plant. Both Hungary and Finland are almost completely dependent on Russian energy resources. And “network of Iran’s allies” is limited by the sanction’s regime.

However, the "geopolitical spectrum" of Rosatom's activity is not limited by nuclear technologies, which include construction of nuclear icebreakers and floating power plants, development of nuclear medicine as well as launching a nuclear tug into space. The state company "constructs wind farms and is known as operator of a Northern Sea Route, that is enshrined in the Doctrine of energy security and energy strategy of Russia until 2025. Moreover, for the year 2021, Russia is building the world's strongest icebreaker fleet" (Martsinkevich B., 05.11.2020).

Therefore, the state-owned Company acts as an instrument of expansion on the northern border of the Heartland while strengthening its position along Eurasian borders and realizing a range of geopolitical and geoeconomic purposes for asserting hegemony. Thus, global geopolitical prospects are created by access to Arctic resources, in particular liquefied gas production and transportation from the Yamal Peninsula as well as active participation in creation of new trade routes together with China.

The Arctic region has always been strategically vital being a gold mine of natural resources as well as an important communication hub. "About 13% of potential unexplored world oil reserves, 30% of natural gas, 20% of gas condensate, large deposits of coal, iron, manganese, copper, lead, nickel, zinc ores and other minerals are concentrated herein. Moreover, large areas of the Arctic Ocean undress from the ice cover and become suitable for navigation due to global warming.

Thus, the Northern Sea Route becomes more attractive for commercial shipping, because the Arctic route from Europe to Japan for instance supposes 30 percent transit time reductions compared to the Suez route and the Indian Ocean" (Zadubinny A., 5.05.2020).

In addition, Russian military bases are located in the Arctic, therefore the region appears to be a "NATO-CSTO" confrontation border: "Norwegian officials are getting increasingly spooked by Russian long-range missiles, new underwater weaponry and naval exercises inching closer to the coastlines of NATO allies [...] Russia's continued military investments in the Arctic may spur NATO to accord the region a more prominent focus in the alliance's defense planning, according to Nordic officials and analysts" (Sprenger S., 12.04.2021).

Taking into account direct interblock confrontation and escalation of conflicts in the post-Soviet space of the last years, the military component in the Arctic strategies (2013-2020) has become less veiled. Russia's strategy of gaining full control of Arctic waters with straits and bays is currently being implemented. Therefore, legislative initiatives for traffic restrictions of foreign trade and military ships are being implemented too. Together with legislative restrictions of logistics at the Northern Sea route, NATO's military presence at the Norwegian coastlines is gradually being blocked (Zadubinny A., 5.05.2020).

In fact, since 2018 the Russian side has initiated legislative restrictions of logistics at the sea routes.

In particular, "the expressed objective of the new proposal was to limit the use of foreign tonnage on the NSR […]. The proposal passed through the Duma and became law in 2018 […] First, the law reserves cabotage for Russian-flagged vessels in the whole of Russia. Cabotage includes voyages between Russian ports, or points of departure and arrival within Russia's exclusive economic zone. Secondly, the flag requirement covers almost all kinds of other maritime activity within the exclusive zone or on the continental shelf (icebreaker escorts, exploration, salvage). Thirdly – and applicable solely to the Northern Sea Route – oil, liquefied natural gas and coal loaded from within the NSR area can be transported only on Russian-flagged ships to the first point of destination or transshipment" (Moe A., 2020).

Some aspects of military boost and shipbuilding industry boost has been also limited herein: "Given this framing of the Arctic and NSR, there are two groups of stakeholders that are likely to have the ear of federal authorities: companies directly involved in economic development on or along the sea route, and the military […] And importantly, the law stated that exemptions could be

granted by the Russian government […] Now the idea was that transport of hydrocarbons out of the NSR area would be reserved for vessels built in Russia. … to support the ailing Russian shipbuilding industry".

Volumes of gas production and transportation from the Yamal Peninsula will also increase. In particular, "the investment required is staggering, as are the expected LNG export volumes – some 70 mills. tons by the end of the 2020s. That would make the Yamal-Ob Bay area one of the main LNG-producing centres in the world, on a par with Qatar, and a key component in Russia's economic future" (Moe A., 2020).

And accordingly: "Export of raw commodities (primarily liquefied gas) currently makes the bulk of cargo traffic on the Northern Sea Route which is to continue in the foreseeable future. […] Pilot operation of the project is to commence in 2024 with annual turnover of 8-10 million tonnes per year" (Chernov V., 17.07.2020).

Qatari and Chinese investors are among the Russian priorities. It is well known that during the Saudi coalition blockade of the Suez Canal Russia "rescued" Qatar through swap agreements, redirecting routes of gas supplies from the "Arctic-LNG" field around Eurasia. The "Arctic LNG-2" field is currently being explored in Yamal with the participation of China and Qatar.

Concerning Chinese interests the Northern Sea Route is the most important part of the Ice Silk Road (within the framework of the One Road – One Belt project). Economic cooperation includes exploitation of Arctic oil and gas resources, investment, new technologies and equipment, creation of the shortest and the safest route from China to Europe.

For instance, "the route Rotterdam (Norway) – Yokohama (Japan) through the Suez Canal spans about 11,205 nautical miles (the Southern Sea Route). Nevertheless, the same route by the Northern Sea Route spans near 7,345 nautical miles" (Farré A. Buixadé, 2014).

Both countries have proclaimed mutual intention to cooperate in the nuclear field too. The broadest package of the Russian-Chinese nuclear strategic agreements for the coming decades was signed on June 8, 2018 in Beijing. We are talking about cooperation in high-tech projects with no precedents (Report, 8.06.2018).

China is also constructing a network of nuclear power plants in countries along the BRI.

According to the authoritative Defenseone, "now China is taking a page from Russia's handbook. The Chinese government sees nuclear power as a potentially powerful component of its Belt and Road Initiative (BRI), which aims to economically and politically integrate China with Europe, Africa, and the rest of Asia through major infrastructure projects – such as developing nuclear power in energy-dependent countries" (Freeman M., 13.07.2018).

Infrastructure projects are known to be geopolitical instruments for strengthening regional ties and creating networks of geostrategic allies. The similar tendency takes place in China's choice of countries, where the nuclear power plants and equipment should be constructed and invested.

"The chairman of the China National Nuclear Cooperation, a Chinese nuclear vendor, has identified 41 countries along the Belt and Road as potential sites for nuclear power projects". Pakistan and Iran are the priority countries in order to confront Indian hegemony in the region. Moreover, "U.S. nuclear companies find it nearly impossible to compete against government-backed competitors motivated by political goals more than profit" (Freeman M., 13.07.2018).

In order to prevent hegemony "thalassic" states use space control tools over the Eastern Europe. According to classical geopolitics this is the key Eurasian region.

Thus, in order to prevent Russian and Chinese expansion a possibility to create the so-called "sanitary borders" of the "peaceful atom" in Europe has recently appeared. China is known to be a state of "geopolitical dualism". Russia is rapidly gaining the same status too.

According to Bloomberg (Nov. 9, 2020) the United States continue activities at the eastern European nuclear markets in order to compete with China and Russia. In particular, the US

Department of Energy has presented the "Strategy of the Working Group on Nuclear Fuel", which provides for measures to return the United States to leadership at the global nuclear energy market.

Therefore, nuclear strategic agreements (construction of new reactors, technology transfer, fuel supply) are being concluded between the USA on the one hand and Romania, Poland, Bulgaria, the Czech Republic and Ukraine on the other hand. The above-mentioned countries prefer collaboration with the American Corp. "Westinghouse Electric" instead of Russia-Chinese interference herewith (Vilcu I., Okov S., Timu A.).

Therefore, a well-known "Intermarium" is composed of a range of infrastructure projects. The union of the "Three seas" is known to be a "sanitary border" cutting the following geopolitical axes "Moscow – Berlin", "Moscow – Ankara" etc. Thus, in addition to regulatory initiatives aimed to slow down financing and construction of the Nord Stream – 2, active steps are made to implement nuclear technologies in the leading "Intermarium" countries, such as Poland.

Along with other energy projects (completion of the GIPL gas pipeline), the country plans to build two nuclear power plants under the auspices of the American company Westinghouse due to the growth of electricity use. Moreover, "the launch of the Polish nuclear power plant is planned in 2033. The 6-9 GW plant should cover 20% of Poland's electricity needs, reducing its present 80% dependence on coal" (Veretennikov V., 06.11.2020).

This will reduce emissions of harmful substances into the atmosphere, what corresponds to environmental security and Poland's commitments as an EU member to regulate emissions.

As for Ukraine, the Head of the Asia-Pacific Section of the CACDS Y. Poyta has concluded our country had set a percentage ratio for 50X50 (Rosatom vs Westinghouse) in field of preservation and provision of nuclear fuel. But due to denunciation of a number of agreements with a Russian supplier, a kind of "environmental" discourse has appeared in the Russian information space. It is about transformation of Ukraine into a "nuclear warehouse at the behest of the West" and a "threat of the New Chernobyl" (Poita Y., 9.09. 2020).

Nevertheless, technical preconditions for nuclear cooperation between Ukraine and Kazakhstan remain. According to the ex-head of the state enterprise "Kazatomprom" M. Dzhakyshev, a joint venture "TVEL UkrTVS" existed in Soviet times in Kyiv at the basis of cooperation between the state enterprises "Energoatom" and "Kazatomprom". In particular fuel pellets for Ukrainian reactors, were to be manufactured at the Ulba Metallurgical Plant. Ukraine's cooperation with Kazakhstan with risk diversification was possible within the framework of the RF-Kazakhstan energy ring, which coexisted with the RF-CA energy ring (Djakishev M., 10.09.2020).

Additionally, a range of other common infrastructure projects should be realized for making alliances aimed to "cut" the axes formed by Moscow (Karpenko, N., & Tkach, I., 2020). Currently, the Kazakh state company Kazatomprom is trying to postpone the construction of nuclear power plants under the pretext of learning from the nuclear experience of other countries.

As for geopolitics of other Central Asian countries, according to Uzbek expert A. Ilkhamov, Uzbekistan currently has no urgent need to build a nuclear power plant, because the country's hydropower capabilities and prospects for solar energy development can meet the needs of oil equivalent. Therefore, the contract for construction of the NPP is postponed, as well as joining the EAEU (Ilchamov A., 10.09.2020).

Obviously, the Central Asian countries are trying to adhere to the multi-vector and independent policy.

Nuclear power plants are forcibly closed in the Caucasus. Especially in Armenia, which is energy-dependent on Russia. A message about the "environmental threat" is widely outlined throughout the information space (Shaffer B., 05.05.2021).

Concerning Ukraine, a question of connection to the unified European energy system ENTSO-E (the so-called "Energy Bridge" is currently being updated herein.

For many years we have been talking about the connection of 2 KhNPP power units to European grids (+ completion of 3 KhNPP power units) with the subsequent supply of electricity to Poland within the framework of the "Intermarium" projects.

In order to expand the sphere of influence and neutralize the "sanitary borders" created by the "countries from the Baltic to the Black sea" Russia strengthens nuclear cooperation with Belarus. The Ostrivets NPP is known to be the largest Russian-Belarus economic project, the reactors of the "3+" generation have been launched outside of Russia herein. Gaining control over the Baltic States and Poland was possible due to the expected export of surplus electricity from the Belarusian NPP hereto. After all, the Baltic countries are eager to separate from the BRELL energy ring by 2025 and to synchronize their energy systems with European ones (Pavloveets Y., 31.05.2018). But the domestic upheaval in Belarus was the reason to give up the whole plan becoming a threat to European unity.

Lack of electricity in the Baltics has appeared because of unsuccessful initiatives to start the Ingelinska and Visaginskaya NPPs in Lithuania for reasons related to environmental precautions both domestic (inter-party struggle) and foreign policy (confrontation of the EU governing structures).

However, any attempts of the Baltic States to influence the construction of the Belarusian NPP in Ostrivets using "environmental discourse" failed (under the pretext of "non-transparency of the project site selection procedure, violation of the international nuclear standards, proximity to the border" etc).

Therefore, "in June 2017 the Lithuanian Seimas passed the law, which acknowledged the NPP near Ostrivets had been a threat to the national security, the environment and the common health. But the International Atomic Energy Agency (IAEA) had no claims to the given facility after the comprehensive tests" (Zamaraeva D., 11.11.2020).

Almost completely dependent on Russian gas supplies, Hungary declares principles of introduction of hydrocarbon energy by 2030, when "the country would increase its solar energy capacity by 10 times […]. Coal fuel generation would stop and nuclear power plants production would increase". On the other hand, due to the proximity to the border, Austria has taken a legal action in the same way Lithuania had influenced Belarus (Zamaraeva D., 11.11.2020).

According to the experts opinion, "the relationship between Victor Orban's government and the Kremlin has warmed since Moscow stepped in to finance a nuclear plant expansion that will supply 40 percent of the country's electricity" (Freeman M., 13.07.2018).

Turkey is worth particular attention given the country's ambitions to revive the concept of neo-Ottomanism and the formation of the "army of Great Turan". Being Rosatoms property, the NPP Akkuy is one of the joint Turkish-Russian infrastructure projects, which would sell electricity to Turkey.

The policy of the Turkish government calls for the diversification of energy sources, therefore it is planned to construct 2 additional power plants and to share with other investors. For Turkey, it would mark a new chapter in creation of the national nuclear industry.

However, along with experience in construction and maintenance of facilities as well as expanding technology and scientific base in the nuclear field such a long-term project is undoubtedly aimed at forming a layer of technical and engineering personnel. Moreover, in the long term that scientific and technical intelligentsia will hold political posts and lobby Russian interests: "Although Rosatom's business model decreases customer costs, its hands Russia influence that extends well beyond the energy sector. In Turkey, Russia is working with the government to draft the nuclear regulations that will apply to its own projects, running the risk of regulatory capture" (Freeman M., 13.07.2018).

Construction of a nuclear power plant in Egypt can be also marked as a new chapter in exploration of African resources by the Eurasian wing, personified by Russia. It is aimed at

strengthening the “Moscow – Ankara – Tehran” axis, that would mark Middle Eastern borderlands of the Heartland/Rimland in the long term.

Completing the “belt of countries in the northwest of the Heartland / Rimland”, Finland, being also significantly dependent on Russian gas, has given permission for the “North Stream – 2”. Its dependence will probably strength ten because of construction of the new NPP by the Rosatom herein.

Conclusions

Russia and China are looking for available instruments in order to shift the balance of power on the borderlands of the Heartland/Rimland to their advantage. A network of nuclear power plants is constructed and nuclear technologies are introduced hereby in the countries along the Heartland/Rimland border and the Chinese “Belt and Road” in order to further expand and to escape the so called “Anaconda clutches”.

Moreover economic, military and raw materials expansion takes place on the northern border of the Heartland (the Arctic region) through legislative mechanisms. The Northern Sea Route competes with transport and communication networks connecting Europe and Southeast Asia. Volumes of the LNG supplies through Yamal-LNG steadily grow up outcompeting the Atlanticist alternative projects. That indicates Russia’s ambitions for the status of a country of “geopolitical dualism”.

On the other hand, the Atlanticist concept of the New concert of Powers provides for several poles in order to prevent hegemony. Therefore “thalassic” political actors introduce "peaceful atom" technologies in Eastern European countries in order to further strengthen the “sanitary borders”. Common position of the Central Asian countries in the framework of multi-vector policy is remaining neutral. In the context of geopolitical confrontation, the message of the “environmental threat” is widely outlined throughout the information space.

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