

The Renewable Energy in Baltic States versus Russian Federation Political Interests

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Abstract: The following article treats about the problem of renewable energy sources in Baltic states in the context of Russian Federation European interests. To be more precise, it raises the topic of energy domination policy, which is an integral part of Russian geostrategy. Author makes an attempt to take a look at the influence of renewable energy sources on the Russian-Baltic affairs, whereas Baltic states are importers of widely understood energy – electricity, natural gas, petroleum etc.

This article has its theoretical basis on the complex interdependence theory by Robert Keohane and Joseph Nye. Main hypothesis to verify states that the intensification of renewable energy exploitation brings a positive impact on the Baltic states position in negotiations with Russia. The interdependence model of those countries to Kremlin should move from “vulnerability” towards “sensitivity”, which is relative better.

Main point of this article is denying the geopolitical determinism and a simplified, static view on international affairs, which is actually popular in Polish public debate. Poles have great faith in the theses of classic realists, just like Hans Morgenthau or Kenneth Waltz, leading to the conclusion that the negotiating position of the state is given once for all, and is inseparably connected to geography. This point of view did not defend itself from criticism in modern times. In author’s opinion, today’s geopolitical reality should be studied from many perspectives, never excluding economy. Polish public debate needs revision of many popular theses and myths, especially about the absolute superpower of Russian empire in every single aspect, resulting from its military power.

Keywords: Russia, renewable energy sources, energy policy, the Baltic states

Renewable energy in Baltic states against Russian interests

Methodological basis and definitions

Keohane’s and Nye’s theory is based on conclusion that the modern state power is no longer estimated only by military strength. The consequent and spectacular growth of international trade brought decrease in relevancy of violent execution of decisions by superpowers, although the spectrum of sophisticated pressure methods actually has expanded. The new forms of control may cause even worse crisis in the weaker states than a military conflict.

Dependence on another economy and its resources may be divided into two kinds. The first is “*vulnerability*”. This kind of situations brings much risk to the weaker state because in case of any change (embargo, trade war, tariff increase) the state is forced to change its policy rapidly. The use of other state’s vulnerability may lead to uncontrolled consequences. For example, the American blockade of Japanese foreign trade was a strong hit in the most sensitive point of Japanese vulnerability and brought counter-reaction of Japan in Pearl Harbor. This kind of interdependence occurs now between Russia and Baltic states – any blockade would potentially affect every side of the conflict, however Baltic states are “*vulnerable*”, which means that they are in danger of overwhelming crisis or even collapse.

The second kind of interdependence is “*sensitivity*”. This kind of situation differs from vulnerability in the level of severity in case of trade war. When a state is “*sensitive*” to another one’s economy, any change in accessibility of its resources may cause negative impact, however it does not have to lead to painful economic crisis and risky counter-reaction such as war. During the fuel crisis in the early ‘70s, United States and other western countries were “*sensitive*”. They suffered a great cost of change in fuel supply but it did not lead to collapse and economic catastrophe (Keohane, Nye 1977: 13-17). In author’s opinion, this kind of interdependence should be possible to reach by the Baltic states with investing in the renewable energy.

“Baltic states” term usually differs from “Baltic region”. While the second one refers to any country with its coast line on Baltic sea (including Denmark, Germany, Russia etc.), the first one applies strictly to Lithuania, Latvia and Estonia, so is accepted in international nomenclature (Encyclopaedia Britannica). Polish tradition includes the term of “Inflanty” referring to historical Livonia, however it is not a synonymous term because Polish “Inflanty” excluded Lithuania, recognized as an integral part of Poland those times. Every usage of “Baltic states” term in this article refers strictly to republics of Lithuania, Latvia and Estonia.

Baltic energy markets

The Soviet Union collapse in 1991 caused big changes of the Lithuanian energy market. Until 2009, Lithuania was self-sufficient in the matter of energy and a large exporter of electricity, compared to its small territory. About 58% of annual production in Lithuania was exported.

That situation was bringing a big benefit for Lithuanian sovereignty, however it also generated a great risk. The Lithuanian electricity was mostly generated by the Ingalina nuclear plant, while it was an outdated Soviet construction identical to the one used until 1986 in Chernobyl. This situation caused an increasing pressure to close Ingalina, so it happened in 2009. Deprived of such an efficient energy source, Lithuania became dependent to electricity imports. In 2012, 63% of overall electricity imports in this country had its origin in Russia, 26% in Estonia, 7% in Latvia and 4% in Belarus (EIA 2013: Lithuania). Incidentally, absence of Poland in this enumeration is not a coincidence. Polish energy market is in extremely poor condition, moreover Poland becomes more and more dependent on electricity imports each year. Production of energy in Poland is so expensive that Polish state-owned enterprise created special limits for energy import from Lithuania because it was too cheap (CIRE 2016).

According to OECD data for 2016, 76% of whole Lithuanian energy market was generated by fossil fuels (excluding energy imports). Especially crude oil made 44% of it, natural gas 29%, coal 3%. The rest of energy came from the renewable sources – 22% from biofuels, 2% from sun/wind energy and the rest from water energy. Closing the Ingalina nuclear plant pushed Lithuania to import even 2/3 of its energy demand and now the main supplier is Russia. The worst level of vulnerability is actually occurring on the Lithuanian gas market – nearly 100% is provided by Russian Gazprom state company and it is claimed to be a monopolist. Lithuanian government has built LNG terminal in Klaipeda to escape from this extreme vulnerability level, however today’s situation is far from the satisfying level of energy security (OECD 2019: Lithuania).

Latvia is placed in slightly different situation. Country produces low amount of energy and it does not have significant mineral resources. In the matter of fossil fuels, it is completely

dependent on imports from Russia. The Latvian market is not substantially important for Kremlin, however Latvia plays an important role in natural gas transit to Europe and has built a big natural gas magazine to cover the higher demand on gas in winter (EIA 2014: Latvia).

Latvia today generates about 55% its energy needs. Comparing to Lithuanian 33%, Latvian result appears to be better. The reason lies in wide usage of renewable energy sources, together about 41% (33% from biofuels and 8% from hydroelectric power plants). The rest of the market is composed of crude oil and natural gas – coal does not play any important role (OECD 2019: Latvia). It is worth noticing that Latvia makes the positive energy trade balance. State-owned company Augstsprieguma tīkls declares that in March 2020 Latvia imported 239,8 MWh and exported 283,7 MWh, making it 45 MWh surplus. In comparison to March 2019 with 34,6 MWh surplus it may be found as a success (AST 2020).

Situation of Estonia is completely different. The country plays an essential role in transit of Russian petroleum to European Union with Muuga port (EIA 2015: Estonia). On the other hand, on the contrary to other Baltic states, Estonia has a noteworthy amount of natural resources. It is one of the few countries exploiting the oil shale as an energy source. Furthermore, tradition of oil shale exploitation reaches 80 years in this country and it is longer than anywhere else (Veiderma 2003).

Energy from oil shale and coal makes is 72% of the whole Estonian energy market and 76% of its electricity demand (IEA 2019). The other sources are mostly biofuels (17%), natural gas (7%), crude oil (4%) and other renewable sources just like wind and sun energy (1%). In fact, there are no hydroelectric plants in the country. This structure of national energy market makes Estonian government far more comfortable than Lithuanian or Latvian ones, even though the oil shale percentage decreased from 86% in 2013 (OECD 2019: Estonia).

Oil shale exploitation, including electricity and Diesel fuels productions, generates also big environmental costs. Estonia is the second European Union country by carbon dioxide emission per capita. It is remarkable that the first country in this ranking is Luxembourg – Poland, often accused of generating too much CO₂, makes it less than Netherlands or Germany (World Bank 2014). Calculating carbon dioxide units do GDP, Estonia appears as the most “polluted” economy in OECD. This situation causes harmful influence on people’s health – in the areas near oil shale mines average life expectancy is 4 years lower, moreover children there much more often face problems with respiratory system.

European Union, concerned about Estonians sensitivity to Russian political influence, has made an exception for Eesti Energia state enterprise in 2012 and given an extra 18 million tons of carbon dioxide as a free addition to national emission limits. However, this is only a temporary solution. Estonia does not have a clear strategy to decrease its usage of oil shale and coal. Fear of falling into vulnerability from Russian energy is so big in Estonia that most of local politicians do not even consider decreasing the usage of oil shale nor investing in renewable energy (Randma 2018).

Reassuring, interdependence between Russia and Baltic states appears to be asymmetrical. Their national security is linked with North Atlantic Treaty Organization, but their energy security is connected to Russian market. According to interdependence theory, the stronger state puts effort to manipulate interdependence in areas in which they have advantages, especially when there are some areas where the situation is different (Nye 2009: 214). Russian energy policy is subordinated to balance the military presence of NATO in Baltic states.

Russian energy exporters perspective

Putting attention only to numbers, Baltic energy markets do not play a key role in Russian exports. Massachusetts Institute of Technology and its Observatory of Economic Complexity provided following data for 2017 Russian fossil fuels exports (OEC 2017):

- Crude petroleum – mainly exported to China (21%), Netherlands (15%), Germany (10%) and Poland (6,6%); Baltic states are significantly lower (Lithuania: 3,6%), at the end of the table (Estonia: 0,012%) or not even included (Latvia).
- Refined petroleum – Netherlands (14%), USA (11%), Turkey (5,8%) and Singapore (5,3%); for Baltic states Estonia makes it 1,1% and Latvia 0,24% – Lithuania not included.
- Natural gas – Italy (28%), Belarus (14%), Japan (12%) and Czechia (4,4%); in Baltic states Latvia (2,7%), Lithuania (1,7%) and Estonia at the end (0,68%). However, presented statistics appear to be incomplete, as official Gazprom delivery statistics mention Germany, Turkey, Italy and United Kingdom as the biggest importers (Gazprom Export 2018)
- Coal briquettes – South Korea (13%), China (11%), Japan (10%) and Germany (8,9%); in Baltic states Lithuania (0,4%), Latvia (0,2%) and Estonia (0,075%).

In sum, Baltic states together make it 3,6% in Russian crude oil exports, 1,34% in refined oil exports, 5,08% in natural gas exports and 0,65% coal exports. In the matter of electricity, Russia is not even the top exporter in the world, placed 11th in the world, ahead of Germany (the leader), Austria or even Czechia (The Global Economy 2018). It is caused by the fact that Russia produces enormous amounts of electricity to cover demand of its heavy industry. Minor volume of electricity is sold to the Commonwealth of Independent States (including most of the former Soviet states but not the Baltic ones). Russia buys even some portion of energy from Lithuania (Sidorenko 2011).

Economic profits from Baltic-Russia energy exports are not momentous for Russia, while Baltic states are strongly dependent on energy imports from this country. Under the interdependence theory perspective, Lithuania may be called extremely “*vulnerable*” with 2/3 energy imported. Estonia appears as “*sensitive*” country which probably could persist the blockade of energy trade with Russia, even facing painful impact on national economy. Latvia with covering about half of its energy demand by itself is still closer to “*vulnerability*” than “*sensitivity*”, however its ambitious renewable energy programme may turn the country more towards the second, more comfortable position. On the other hand, Russia is not even close to the “*sensitivity*” level in relations with Baltic states, however their membership in European Union common market forces Russia to be much more cautious in its decisions.

Nevertheless, importance of Baltic states in Russian national strategy may be much more significant. Keohane and Nye in their theory pay attention to agenda setting which means that non-military issues in foreign affairs play more significant role than ever (Keohane, Nye 1977: 32). Russian view on Baltic affairs can be described in two different ways. The first is presented by Polish political scientist and publicist Przemysław Żurawski vel Grajewski states that Russians are no more counting on the Baltic states transit role in their trade with EU, so they are capable of making even unprofitable decisions just for the geopolitical goals. Germany plays essential role as the most important trade partner for Russia in European Union and Russia

may bear any cost to keep continuation of exchange with this country. Developing Primorsk port, building gas pipes directly to Germany (Nord Stream 1 and 2) are the most spectacular investments ancillary to this strategy. Latvia, which puts most effort to change their energy market structure, faced closing the Ventspils pipeline and blocking the railway od Narvik – it may lead to a reasonable conclusion that Latvian green energy investments concern Russians as a threat. However, Polish publicist claims that Baltic states transit role is not substantial (Żurawski vel Grajewski 2011).

Different point of view is presented by Dmitri Trenin, the Russian political scientist publishing in “Foreign Affairs”. In his opinion, Baltic states play indispensable role in Russian political thought. Firstly, they are in fact the eastern flank of NATO and American military presence brings the risk to Kaliningrad Oblast and entire Russian national security. Secondly, Baltic states are the place of living for significant Russian diaspora, facing many different form of discrimination (especially in Latvia they were not recognized as citizens for decades). Thirdly, United States constantly increase their activity in Baltic states (Trenin 2011).

Concluding the words of Trenin, it is reasonable to say that Baltic states are an important direction of Russian foreign affairs. It is also crucial to remember about the cultural context and Russian imperial tradition, leading the Kremlin elites to negotiate only with similar powers and treat smaller states in their traditional influence area as passive objects. Situation between Russia and Baltic states is an example of Nye’s statement that separation of domestic and foreign policy is blurred in the modern world (Nye 2009: 211). The situation of Russian minority in Baltic states is not only a problem between two sovereign states, but also an internal problem of Russian nation.

Transit and strategical position of Baltic states is found in Moscow as one of the biggest threats to global energy security (Porębska, Książkowski, 2016: 354). In author’s opinion it is existential need for Baltic states to limit their “*vulnerability*” from Russia because its authorities can be intent to use even drastic forms of pressure.

Renewable energy and possibilities of change

Arguments for utmost inequality in Baltic-Russia energy trade were mentioned by author in the previous sections. Estonia shows itself as an exception with average dose of energy sovereignty, however the country pays big price for it – high level of pollution and inevitable increase of pressure from the European Union to reduce it. There is also a noticeable cultural aspect of the case. Estonians find themselves more Nordic than Baltic, and have even created their own unofficial flag with Scandinavian cross (Simonson 2018). Scandinavians are actually strong in their pro-ecological attitudes and eventual rapprochement may be interrupted by air polluting by Estonians.

Most of the scenarios for Baltic response for Russian pressure include regional integration. Dr Frank Umbach states that the optimum plan (despite the existing LNG terminal and diversification of gas supplies) is integration of Polish, Nordic and Baltic electrical grid. Baltic states gained support from European Union in the Third Energy Package for this objective (Umbach 2015). Warsaw Institute states that this initiative is preceded on three links – Estonian-Finnish (EstLink 1 and 2, overall 1000 MW), Lithuanian-Swedish (NordBalt, 700 MW) and Polish-Lithuanian (Lit-Pol Link, 500 MW). However, energy independence from Russia appears as a distant goal (Warsaw Institute, 2018).

Lithuanian crucial need for investments in renewable energy is not ignored by country's authorities because it is mostly affected by dependence on Russian resources. The state-owned enterprise Lietuvos Energija is planning to invest amount of 6,2 billion Euro for production and distribution of national renewable energy. Green-field investments are planned in the country and abroad, especially in Poland and other Baltic states. LE sets an ambitious goal to gain full energy independence in 2050 with 80% of national energy coming from renewable sources. Lithuanian government appears to be aware of potential change in country's potential with renewable energy (Gram W Zielone, 2018).

Dynamic progress of renewable energy in Latvia does also appear to have possibilities for ongoing. Latvian government has an extremely ambitious objective to gain full climate neutrality until 2050, which means abandoning all the traditional energy sources. Polish Institute of International Affairs informs that overall cost is planned to reach about 8 billion Euro for infrastructural programs in industry, transport and agriculture (Raś 2020).

Estonia is not forced to change its energy policy rapidly, so that changes are coming slowly. However, "sensitive" dependence on trade with Russia does not mean that country is perfectly safe from pressure, moreover Estonian people are suffering health problems connected to fossil fuels exploitation. The local strategy begins from the household level – Eesti Energia offers its customers buying a "green package" with a guarantee that electricity in their home would be always powered from renewable sources (Biznes Alert, 2018). Estonia invests more in windmill generators than in hydroelectric plants.

In case of Russia, setting such goals as climate neutrality is hardly believable because of tremendously high level of energy demand created by the country's heavy industry. With its vast land area and many long rivers, Russia could potentially use natural advantages to provide great amount of energy created by renewable sources. However, this potential remains unused because of subordination of country's energy sector to its geopolitical strategy and its property structure. Most of the Russian natural resources are controlled by local political and business elite called "oligarchs". Having in mind the Jukos case and proceeding the right for state enterprises to overtake natural resources without call for bids, it is reasonable to stand that Vladimir Putin's administration constantly endeavoured to take control on the whole energy production in the country for the last 20 years (Molo 2008). Renewable energy always cuts across the interests of Russian national elites operating in fuel industry, no matter if on domestic market or abroad.

Conclusions

The main conclusion of this article is that Keohane's and Nye's complex interdependence theory applies to Baltic-Russia relations. Energy sources import from Russia is essential to Baltic markets, appropriately less for Estonia and most for Lithuania. In Russian geopolitical perspective, Baltic states are irrelevant in economic sense but significant because of their transit role, military presence of NATO and Russian diaspora living there.

Russia consequently lowers its level of interdependence and sensitivity by building ports (Primorsk) and gas pipelines (Nord Stream 1 and 2, Turkish Stream and the Power of Siberia). According to the national resources and huge land area, Russia is capable of gaining economic independence. On the other hand, Baltic states (except Estonia) are still very vulnerable for any change. Their small territory and the big scale of Russian investments in pipelines

are strong disadvantages for them. Building the LNG terminals may be kind of escape from this trap, however capabilities of this solution are limited. It also does not change the main problem – country energy market is still dependent on foreign sources, the only change is changing the supplier.

In author's opinion the only chance for Baltic states to improve their national energy markets and provide energy security is the renewable energy. Wind, biofuels, sun and water are resources that may be provided by national market, regardless of the external suppliers (Russia, Germany or any other). Their availability is also not sensitive for exhaustion. So that, if the positive trend in renewable energy in Baltic states continues, their risk of energetic blackout will decline. Investments in renewable energy are rational for them because of environmental benefits and also their reason of state.

Bibliography

1. Robert Keohane, Joseph Nye, *Power and interdependence: world politics in transition*, Little, Brown and Company, Boston 1977
2. Encyclopaedia Britannica, *Baltic states*, <https://www.britannica.com/place/Baltic-states> (dostęp: 13 maja 2020)
3. Encyklopedia PWN, *Inflanty*, <https://encyklopedia.pwn.pl/haslo/Inflanty;3914680.html> (dostęp: 13 maja 2020)
4. *Lithuania*, U.S. Energy Information and Administration, <https://www.eia.gov/international/analysis/country/LTU> (dostęp: 13 maja 2020)
5. *PSE wprowadza limity na import energii z Litwy*, <https://www.cire.pl/item,130228,1,0,0,0,0,pse-wprowadza-limity-na-import-energii-z-litwy.html> (dostęp: 13 maja 2020)
6. *Fossil fuel support country note – Lithuania*, OECD Report, 2019
7. *Latvia*, U.S. Energy Information and Administration, <https://www.eia.gov/international/analysis/country/LVA> (dostęp: 13 maja 2020)
8. *Fossil fuel support country note – Latvia*, OECD Report, 2019
9. *Latvian electricity market overview*, AST official data, <http://www.ast.lv/en/electricity-market-review> (dostęp: 13 maja 2020)
10. *Estonia*, U.S. Energy Information and Administration, <https://www.eia.gov/international/analysis/country/EST> (dostęp: 13 maja 2020)
11. M. Veiderma, *Estonian oil shale – resources and usage*, 2003 Estonian Academy Publishers, http://www.kirj.ee/public/oilshale/3_veiderma_3003_3s.pdf (dostęp: 13 maja 2020)
12. *Estonia*, International Energy Agency data, <https://www.iea.org/countries/estonia> [dostęp: 13 maja 2020]
13. *Fossil fuel support country note – Estonia*, OECD Report, 2019
14. *CO2 emissions – metric tonnes per capita*, World Bank, https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?most_recent_value_desc=true (dostęp: 13 maja 2020)
15. *Estonia's dirty secret*, <https://bankwatch.org/blog/estonia-s-dirty-secret-oil-shale> (dostęp: 13 maja 2020)
16. Russia, Observatory of Economic Complexity, <https://oec.world/en/profile/country/rus/> (dostęp: 13 maja 2020)

17. *Delivery statistics*, Gazprom Exports 2018, <http://www.gazpromexport.ru/en/statistics/> (dostęp: 14 lipca 2020)
18. *Electricity exports - Country rankings*, The Global Economy data, https://www.theglobaleconomy.com/rankings/electricity_exports/ (dostęp: 13 maja 2020)
19. Alexandra Sidorenko, *Electricity in Russia*, APEC Reports 2011, <http://publications.apec.org/-/media/APEC/Publications/2011/1/The-Impacts-and-Benefits-of-Structural-Reforms-in-Transport-Energy-and-Telecommunications-Sectors/TOC/Electricity-in-Russia.pdf> (dostęp: 13 maja 2020)
20. Przemysław Żurawski vel Grajewski, *Strategia Federacji Rosyjskiej wobec państw basenu Morza Bałtyckiego*, Analizy Natolińskie 4/2011
21. Dmitrij Trenin, *Russian Policies toward the Nordic-Baltic Region* [in:] *Nordic-Baltic Security in the 21st Century: The Regional Agenda and the Global Role*, Atlantic Council Report, 2011
22. Joseph Nye, *Understanding international conflicts: an introduction to theory and history*, Longman classics in political science, 2009
23. Kamila Porębska, Krzysztof Księżopolski, *Revolution in renewable energy technologies and international relations* [in:] Monika Szkarłat, Katarzyna Mojska, *New technologies as a factor of international relations*, Cambridge Scholar Publishing, Newcastle upon Tyne 2016
24. *The case for an Estonian Nordic flag*, <https://estonianworld.com/opinion/a-case-for-an-estonian-nordic-flag/> (dostęp: 13 maja 2020)
25. Dr Frank Umbach, *Baltic energy security – no longer a regional energy Island*, Geopolitical Intelligence Services, <https://www.gisreportsonline.com/baltic-energy-security-no-longer-a-regional-energy-island,energy,229.html> (dostęp: 13 maja 2020)
26. *The electrical synchronisation of Baltic states is getting closer*, <https://warsawinstitute.org/electrical-synchronisation-baltic-states-getting-closer/> (dostęp: 13 maja 2020)
27. *Litewski potentat stawia na OZE. Chce inwestować m.in. w Polsce*, <https://gramwzieslone.pl/trendy/31257/litewski-potentat-stawia-na-oze-chce-inwestowac-min-w-polsce> (dostęp: 13 maja 2020)
28. Kinga Raś, *Polityka klimatyczna Łotwy*, April 2020, Polski Instytut Spraw Międzynarodowych
29. *Estonia coraz chętniej sięga po OZE*, <https://biznesalert.pl/estonia-oze/> (dostęp: 13 maja 2020)
30. Beata Molo, *Polityka bezpieczeństwa energetycznego Federacji Rosyjskiej* [in:] Erhard Cziomer, *Międzynarodowe bezpieczeństwo energetyczne w XXI wieku*, Oficyna Wydawnicza AFM, Kraków 2008

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