

Geopolitics of the Nuclear Power Plant Projects in the Baltic Region

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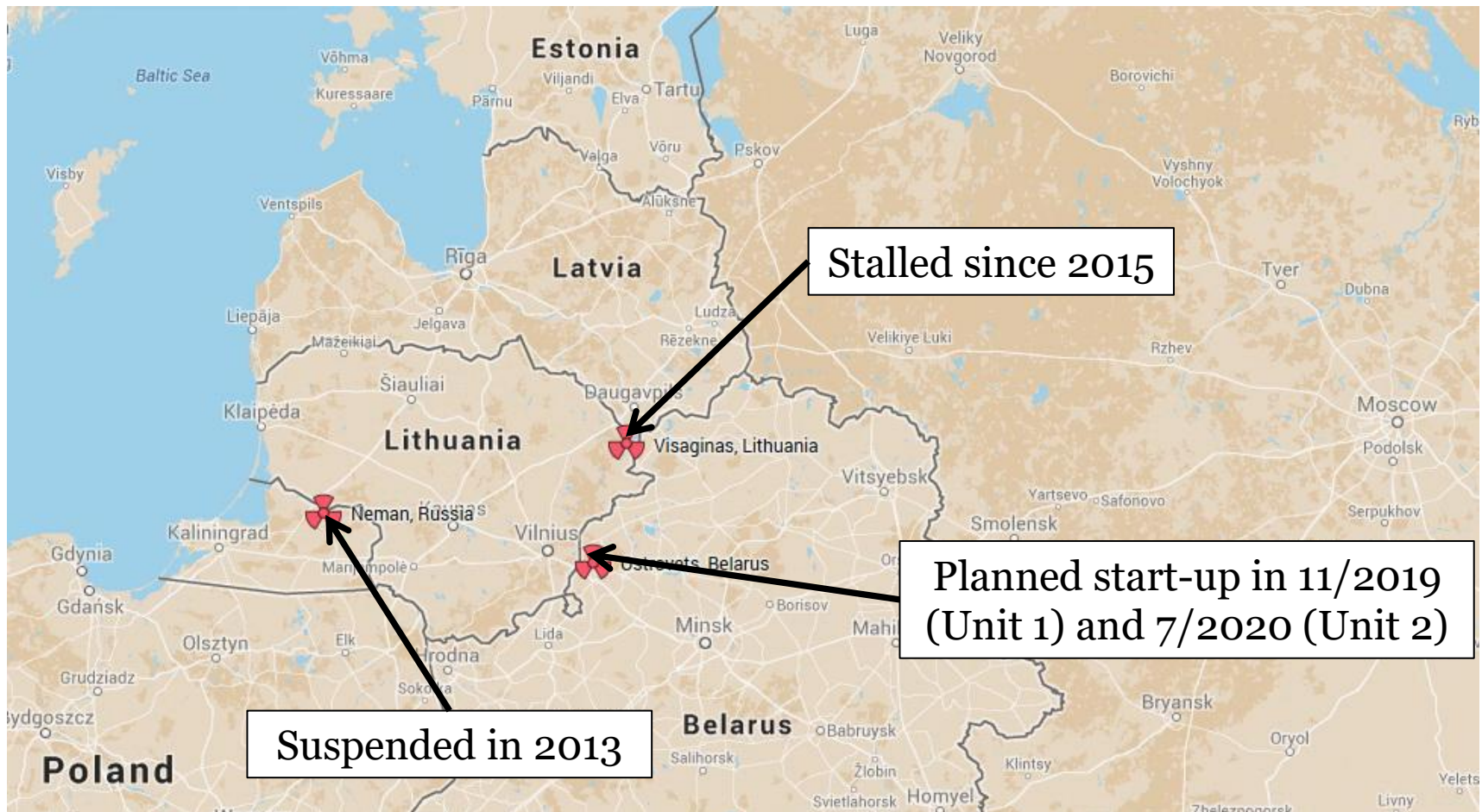
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Baltic Nuclear Projects



Source: Bellona

Potential Business Partners for Electricity Produced in Astravets NPP

- **A)** To sell certain amount of electricity abroad to the Baltic countries (**uncertain**)
- **B)** To consume electricity within the country at the expense of domestic gas fired power plants (**likely**)
- **C)** To restrict the output of the Astravets NPP (**unlikely**)
- **D)** To export the excess electricity to Russia (**likely**)

A) Export to Baltic Countries

- BRELL grid is a part of IPS/UPS 60 Hz system controlled by Moscow
- „To disconnect from the Russian energy system and to achieve synchronization with the European system is the strategic priority for Lithuania“ (PM of LIT Skvernelis)
- In May 2016 the Lithuanian parliament even accepted a resolution to “never accept electricity from the Astravets NPP.”
 - Against WTO rules, difficult to implement
- The three Baltic States together agreed to break up the BRELL and de-synchronize from the IPS/UPS system by 2020
 - Lithuanian plan, schedule unrealistic, it will not happen before 2025-30 for technical, legal and market reasons
 - The three Baltic countries are not unified in their relations towards Astravets NPP
 - BEL/LIT border is a market entry for all electricity flows from Belarus and Russia, as well as for NORDPOOL.
 - Should Lithuania unilaterally introduce any tariffs, the price of electricity will rise for all Baltic countries

A) Export to Baltic Countries

- (especially) Lithuanian statements about poor safety of the Astravets NPP, unsuitability of the site, project violations and the pressure to comply with Espoo and Aarhus conventions **is an official MFA's strategy to delay the construction** and the start up. (Compare with IAEA statements)
- Since the official de-synchronization target is 2020 and the expected start up of Astravets NPP Unit 1 is currently 11/2019, Lithuania is left with the only tool to delay it: **political pressure at all possible platforms.**
- This is done mainly by framing the Astravets project unsafe, dangerous and incompliant with international safety standards.
- **Two major setbacks:**
 - Reluctance of LAT and EST
 - Impossibility to de-synchronize before 2025-2030

B) Full Domestic Consumption

- Around 98% of electricity in Belarus is produced by combustion of natural gas supplied by Russia. There are 17 thermal power plants in Belarus, most of them operating on natural gas and in a very bad condition being constructed in 1960s and 1970s.
- The natural gas import dependency is expected to be reduced by 20-25% and based on the INPRO Methodology for Nuclear Energy System Assessment the levelized electricity price resulted at 5.81 cent/kWh (compared to 6.76 cent/kWh for natural gas).

C) Production Output Restriction

D) Export to Russia or Ukraine

- The export to Russia is a possibility given the Smolensk NPP close to the Russian border is expected to shut down two of its three RBMK-1000 units by 2028 and 2030 respectively.
- Since Ukraine is a net exporter of electricity (8.5 TWh in 2014) electricity exports to Ukraine is extremely unlikely.

Summary

- **Astravets NPP is not a tool to dominate Baltic electricity market**
- **The media image is needlessly hysterical and exorbitant** due to Lithuanian national strategy to delay the construction and start-up
- Unlike Visaginas and Neman NPPs, majority of **Astravets NPP capacity has always been planned to be consumed within Belarus**
- Currently the most likely development is the **consumption of majority of electricity produced in Astravets NPP within Belarus** at the expense of the old natural gas fired power plants complemented with limited exports to West or Russia, depending on the future of Baltic desynchronization plans
- Without exports to the Baltic countries and/or other EU countries, the construction of **Units 3 and 4 will not be realized.**

Thank you for your attention.

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