

Baltic de-risking: the Baltic states sever energy ties with Russia

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On 9 February, Lithuania, Latvia, and Estonia synchronised their electricity networks with those of continental Europe (CESA), using the overland interconnector LitPol Link between Ełk in Poland and Alytus in Lithuania. The three countries' power grids now operate at the same voltage frequency and under the same standard as those of other CESA countries. This synchronisation followed the disconnection of the Baltic states from the Russia-controlled BRELL synchronous system, which includes Russia and Belarus.

By taking this step, Lithuania, Latvia, and Estonia achieved energy independence from their eastern neighbours. Following Russia's invasion of Ukraine, they ceased importing Russian energy resources (oil and gas) and blocked the exchange of electricity with both Russia and Belarus. Thanks to this synchronisation, Moscow no longer has access to information on how the Baltic states manage their electricity networks. However, the Kremlin may still attempt to destabilise their energy sector by employing hostile measures such as sabotage and disinformation. One remaining risk factor is the proximity of the Kaliningrad Oblast, which has effectively become an energy island.

Stability and security in the Continental Europe Synchronous Area

The Continental Europe Synchronous Area (CESA, formerly known as UCTE) is the world's largest synchronous area in terms of connected electricity generation capacity, which totals approximately 1,000 GW. It serves over 400 million people across 35 European countries, in addition to Turkey and three North African nations, with new members continuing to join. In March 2022, following Russia's invasion, the transmission system operators from continental Europe, comprising ENTSO-E (the European Network of Transmission System Operators for Electricity), approved a request by Ukraine and Moldova for an accelerated emergency synchronisation of these two countries.¹ The aim was to reduce the risk associated with Russian cyberattacks on Ukraine's grid and to stabilise its power system by providing access to continental Europe's energy resources in the event of outages or Russian sabotage. Should a power plant in a CESA member state be damaged, another generating facility connected to the synchronous system, even if located far away, can replace its output within

¹ 'Continental Europe successful synchronisation with Ukraine and Moldova power systems', ENTSO-E, 16 March 2022, entsoe.eu.

seconds. The multi-system grid connections also enable more efficient use of renewable sources and high-capacity facilities, such as nuclear power plants, by allowing electricity to be transmitted to where demand is highest.

The BRELL loop and Baltic dependence on Russian gas

For technical reasons, connecting Lithuania, Latvia, and Estonia to continental Europe's system was impossible for many years. Following the collapse of the Soviet Union, these countries only retained connections with Russia and Belarus – the IPS/UPS synchronous area. Significant generation capacities located within the Baltic states, such as the Ignalina Nuclear Power Plant, hydroelectric facilities and oil shale-fired power plants in Estonia and Latvia, exceeded local energy demand. Surplus energy in the Baltic region was managed by a distribution centre in Moscow, which channelled it, for instance, to Belarus or the Kaliningrad Oblast. The BRELL agreement, signed in 2001 by Lithuania, Latvia, Estonia, Russia, and Belarus, committed the five countries to maintaining the technical parameters set by Moscow and coordinating the volume of transmitted energy. For the Baltic states, this provided a guarantee of the stability of their power systems. The agreement was equally important for Russia, as it ensured the supply of electricity to meet the growing energy needs of the Kaliningrad Oblast. Russia had been boosting its military presence in the exclave but had yet to invest in expanding the region's electricity generation capacity.

The construction of submarine direct current connections between Estonia and Finland (Estlink1, commissioned in 2006, and Estlink2,

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launched in 2014) and between Lithuania and Sweden (NordBalt, 2015), as well as the overland link between Lithuania and Poland (LitPol Link, 2016), enabled the three Baltic states to begin political discussions on disconnecting from the BRELL system. Synchronisation with continental Europe's networks was regarded primarily as a political decision aimed at enhancing energy independence and strengthening economic and energy ties with EU member states. Lithuania initiated the process after shutting down the Ignalina NPP on 31 December 2009,² a step that forced it to import electricity from Russia and increase generation in its power plants fuelled by Russian gas, which was sold at increasingly unfavourable prices under an agreement covering the years 2004–15.³

In 2014, Lithuania launched an LNG terminal in Klaipėda built around a floating storage and regasification vessel (FSRU) moored at the port. This terminal helped to create an alternative to Russian gas in the region, alongside Latvia's underground gas storage facility in Inčukalns, where regional reserves are stored, and the gas interconnectors between several EU member states: Estonia and Finland (Balticconnector, 2019), Lithuania and Latvia (through renovation and capacity expansion), and Poland and Lithuania (GIPL, 2022). As a result, the three Baltic states were in a position to cease imports of gas from Russia in April 2022. In October 2023, the Lithuanian parliament (the Seimas) banned the import, transshipment and distribution of Russian LNG.

Full energy independence

Latvia and Estonia, being less dependent than Lithuania on energy imports from Russia and Belarus, did not feel the same pressure to disconnect from the BRELL system. At the same time, they feared the risks associated with instability in their power systems and a potential surge in energy prices.

² V. Kalininkaitė-Matulaiskienė, '20 metų nuo pažado uždaryti Ignalinos AE: ekspertai primena – didelio pasirinkimo nebuvo, o turint elektrinę elektra nebūtinai kainuotų mažiau', Lietuvos nacionalinis radijas ir televizija, 11 May 2023, lrt.lt.

³ J. Hyndle-Hussein, 'Lithuania is suing Gazprom', OSW, 10 October 2012, osw.waw.pl.

The cost of synchronisation, stemming from the necessary investments in the Baltic states and Poland, was also high at €1.6 billion; however, the European Union covered 75% of this sum, amounting to €1.2 billion. The Baltic states' efforts to reach a joint decision were further complicated by Russia's actions, which claimed that the collapse of BRELL would have endangered the energy security of the Kaliningrad Oblast. It threatened to seek compensation from the EU for losses related to the need to adapt Kaliningrad's electricity system to operate without connections to Lithuania, in isolation from BRELL. As part of its efforts to counter the Baltic states' decision, Russia announced plans to build nuclear power plants in the Kaliningrad Oblast and in Astravyets, Belarus. The former project was ultimately abandoned as Poland and Lithuania showed no interest in imports; the latter was completed, but Lithuania successfully lobbied the Baltic states to block energy trade with Belarus.⁴

Russia's invasion of Ukraine changed the perspective of Latvia and Estonia, both of which agreed to accelerate the synchronisation process. In July 2024, the Baltic states' operators formally notified

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Russia and Belarus of their decision not to extend the BRELL agreement, which consequently expired on 8 February 2025. That day marked the beginning of the desynchronisation of the Baltic electricity networks from the post-Soviet IPS/UPS system, with Lithuania disconnecting first, followed by Latvia and Estonia. During this period, the Baltic states' electricity systems operated for the first time in isolated mode, with the three national operators – Lithuania's Litgrid, Latvia's AST, and Estonia's Elering – independently controlling the frequency of their systems and testing their resilience against various types of disturbances and forced operation outside continental Europe's networks. Nearly all of the region's existing power plants were brought online during the test. Although one unit at Lithuania's Elektrėnai power plant briefly disconnected, neither residents nor businesses in the Baltic states experienced any significant disruptions. The successful test enabled the Baltic power grids to join the CESA on 9 February 2025.

The desynchronisation from the Belarusian and Russian grids will also indirectly support Ukraine's electricity sector. Ukraine will receive redundant but operational components of energy infrastructure, compatible with its own systems, enabling it to repair the networks damaged by Russian attacks. In total, the Baltic states will dismantle 182 kilometres of transmission lines, including 544 pylons. The length of cables to be removed will exceed 231 kilometres. The dismantling process is scheduled for completion in the second half of 2026.

Further investments in energy independence and market development

The Baltic transmission system operators are currently learning to manage their networks independently. They will also conduct further system tests to assess their ability to respond to emergencies and to determine the extent to which gas-fired power plants will need to support the region's growing renewable energy generation. The smooth progress of synchronisation is supported by synchronous compensators: three each have been installed in Latvia and Estonia, while two are currently in place in Lithuania. A third compensator will be connected in the Vilnius region in May.

Further investment in interconnection infrastructure is necessary to achieve the level of electricity market integration between the Baltic states and Western Europe that the Baltic region aspires to. The high cost of such projects (estimates made before the COVID-19 pandemic have since soared

⁴ Eadem, K. Kłysiński, 'The second unit of the Belarusian Nuclear Power Plant goes online', OSW, 2 June 2023, osw.waw.pl.

by 50%) and the growing threat of sabotage have led the Polish and Lithuanian operators, PSE and Litgrid, to abandon plans for building a high-voltage direct current (HVDC) line under the Baltic Sea, a project known as Harmony Link. The connection will still be developed, but as an onshore double-circuit alternating current (AC) line with a transmission capacity of 700 MW. It is scheduled for commissioning in 2030, with the EU covering approximately half of the investment cost.

This connection is crucial for developing energy trade, as the existing LitPol Link will continue to be used primarily for ensuring the security of synchronised systems, with only

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part of its capacity allocated for commercial purposes. The Baltic states are seeking to expand their export capabilities. The ongoing energy transition in the region has led to the emergence of new producers of wind and solar power; there are also plans to develop hydrogen production. Therefore, further interconnections will be necessary. Lithuania’s operator Litgrid has the most advanced plans in this regard. The country aims to meet 100% of its domestic electricity needs from renewable sources as early as 2030. In subsequent years, it intends to export its energy surpluses and utilise them for the production of green hydrogen. Litgrid has reported that it is in discussions with the German operator 50Hertz regarding the construction of a high-capacity submarine cable (Estonia’s operator has also announced similar plans) and the expansion of interconnections with Latvia by 2025, which would double their transmission capacity. Lithuania is also lobbying for the construction of a new power plant in the region in cooperation with Latvia and Estonia. The facility’s location and technology (gas-fired, pumped storage, or nuclear) will be determined during negotiations with the partner countries.

The synchronisation has also enabled the development of a real-time balancing market to match energy supply and demand. Since the Baltic operators assumed management of their own systems, activity in the Frequency Containment Reserve (FCR) market has increased. FCR is a crucial element of network stability as it ensures that the desired frequency is restored within a few seconds of detecting a disturbance, such as a generation outage or a sudden surge in energy demand. Automatic Frequency Restoration Reserve (aFRR) balancing services have also seen increased demand. Transmission system operators automatically activate aFRR within 30 seconds of detecting a frequency deviation. The aFRR reserve helps maintain the balance between electricity production and consumption, supporting system stability. Each Baltic state is also developing energy storage facilities to mitigate price fluctuations and provide balancing services during periods of energy shortages. Such facilities were established in 2024 near a wind farm in Tārgale, Latvia, and in March 2025 in Auvere, Estonia. Another one is planned in Lithuania, between Vilnius and Trakai; the country already operates battery storage systems with a capacity of 200 MWh. Thanks to these facilities, surpluses from renewable energy plants will not require conventional power plants to shut down; instead, they will be accumulated and supplied to critical consumers, such as hospitals, waterworks, and government administration, which are essential for society and the economy. The storage systems can also be integrated with the Baltic section of the Nord Pool exchange, potentially contributing to lower costs on the balancing market.

The Kaliningrad ‘island’ and the gas transit challenge

The synchronisation of the Baltic networks has turned the Kaliningrad Oblast, described by Vladimir Putin as Russia’s western outpost, into an energy island. The two existing electricity interconnections between Lithuania and the Russian exclave have been permanently disconnected. Kaliningrad’s electricity networks are now operating in island mode and will continue to do so. This situation presents a challenge for the local system operator, which manages the networks independently without support from the central authorities in Moscow.

Putin rejected the Baltic states' proposal to synchronise the Kaliningrad Oblast with the CESA alongside the three countries. Instead, Russia has strengthened the exclave's electricity generation capacity by constructing four new gas-fired combined heat and power plants capable of meeting Kaliningrad's annual energy demand and by building underground gas storage facilities. Russia has also acquired a floating storage and regasification unit named Marshal Vasilevsky, which can deliver 3.1 billion cubic metres of gas, fully covering the exclave's needs. The unit is similar to the one moored at Lithuania's Klaipėda port, which now supplies gas to Lithuania and the other two Baltic states.

Since 2019, the Kaliningrad Oblast has conducted several stability tests of its electricity system under isolation conditions, most recently in September 2024. Therefore, it was well prepared to transition to

island mode. Nevertheless, following the synchronisation of the Baltic grids, the issue of the exclave's energy security and the supply of essential goods for its residents remains one of the main challenges in relations between Lithuania and Russia. Goods and passengers continue to transit between the Kaliningrad Oblast and mainland Russia through Lithuania, albeit with restrictions, as EU-agreed limits govern the transport of goods to the exclave (calculated based on its actual needs⁵) while travellers are not permitted to leave trains passing through Lithuanian territory.⁶ Soon, Russian trains transiting through Lithuania will also be monitored from the air, using helicopters and drones.

The transit of gas from Russia through Lithuania, using a pipeline crossing Belarus, remains strategically important for Kaliningrad's economy. When Lithuania ceased imports of Russian gas in April 2022, it maintained transit deliveries to Kaliningrad. According to data from the Lithuanian transmission system operator Amber Grid, in 2024 Russia transported 26 TWh of gas (approximately 2.5 billion cubic metres) through Lithuanian territory to the exclave, generating transit revenues of around €20 million. This gas is the main fuel used for energy production in Kaliningrad and comes at a significantly cheaper cost than liquefied natural gas (LNG). The FSRU purchased for Kaliningrad's needs is not consistently used to supply the exclave; instead, Russia has deployed the vessel as a tanker for LNG exports, owing to a shortage of ice-class vessels suitable for export operations (the Marshal Vasilevsky FSRU is ice-class certified). As a result, the floating regasification unit often remains far from Kaliningrad and fails to provide the exclave with continuous security of gas supply.

At the end of December 2025, the gas transit agreement signed ten years earlier between Lithuania's Amber Grid and Russia's Gazprom will expire. Lithuania will have to decide whether to extend it. On 27 February 2025, Lithuania's State Defence Council, comprising the President, Prime Minister, Foreign and Defence Ministers, and the Commander of the Armed Forces, agreed that a decision on this issue would be taken in late 2025, following consultations with EU institutions, which had been involved in negotiating the agreement in 2015. Lithuanian President Gitanas Nausėda stated that there was no reason not to extend the agreement, but the Prime Minister and the Minister of Energy prevailed, arguing that the transit of gas to the Kaliningrad Oblast was an issue for the European Union as a whole and that the relevant decision should therefore be made at the EU level.

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⁵ J. Hyndle-Hussein, 'Lithuania's response to the European Commission guidance on Kaliningrad transit', OSW, 14 July 2022, osw.waw.pl.

⁶ 'Stiprinamas Kaliningrado tranzito saugumas', [alkas.lt](https://www.alkas.lt), 30.03.2022.

Kaliningrad's residents. Referring the matter to consultations with EU bodies indicates that the Lithuanian government is seeking to maintain a unified EU policy towards Russia.

Under pressure from disinformation campaigns, provocations, and sabotage

The successful synchronisation, achieved without power supply disruptions or significant increases in energy prices, has exposed Russia's disinformation campaign targeting this process. Moscow intensified its efforts in the weeks leading up to the synchronisation, aiming to stir up anxiety among citizens of the Baltic states by predicting energy shortages and price spikes, and seeking to undermine public confidence in their government's decision. However, this narrative failed to provoke the social unrest that Russia had hoped for.

Following the synchronisation, Lithuania expects Russia to intensify its provocations relating to Kaliningrad's isolation. One such effort, launched shortly after the

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synchronisation, was an online petition initiated by a group calling itself 'Lithuanian citizens', which demanded that the Lithuanian Seimas introduce a ban on the transit of trains from Russia to the Kaliningrad Oblast across Lithuanian territory. The petition's authors argued that the daily passage of four Russian trains posed a threat to national security and sovereignty due to the risk of saboteurs among the passengers and the transit of military equipment that the Kremlin could use to destabilise the situation in Lithuania. Had such a petition reached the Seimas after many unsuspecting Lithuanian citizens signed it, Russia could have used it to support its narrative that Lithuania was intent on cutting off Kaliningrad from supplies and its shortest access route. Provocations, and possibly acts of sabotage involving Russian bots and individuals recruited by Russia and Belarus, are expected to become increasingly difficult for citizens of the Baltic states to detect, as the perpetrators present themselves as patriotic actors and express pro-Ukrainian views.

Prospects

The synchronisation of the Baltic electricity networks, an EU-supported process aimed at enhancing security and a necessary choice in the face of growing Russian aggression, will be increasingly incorporated by Lithuania, Latvia, and Estonia into their narrative directed at other EU member states. Its purpose will be to demonstrate that, in the coming years, Russia cannot be treated as a partner but solely as an aggressor. The Baltic states will continue to urge the EU not to abandon its sanctions policy and, in the interest of the entire bloc, to strengthen its energy independence by permanently and fully ending imports of energy resources from Russia, including LNG.

The most significant emerging challenge for energy security in the Baltic region is strengthening the protection of power generation infrastructure. The planned expansions of gas and electricity interconnections over the coming years will significantly increase the number of infrastructure sites vulnerable to acts of sabotage by Russia or countries cooperating with it. Following a series of incidents involving damage to telecommunications cables and energy connections in the Baltic Sea⁷ over the past two years, Lithuania, Latvia, and Estonia are determined to intensify efforts to protect their energy infrastructure with the support of their NATO and EU allies. The first initiative in this area is NATO's Baltic Sentry mission, which was launched in January 2025 with the aim of reinforcing the protection of critical underwater infrastructure in the Baltic Sea.

⁷ P. Perminas, V. Venckūnas, 'VSD vadovas: nėra informacijos, jog Baltijos jūroje kabeliai būtų pažeidžiami tyčia', Lietuvos nacionalinis radijas ir televizija, 12 February 2025, lrt.lt.

Due to its direct proximity to the Kaliningrad Oblast, Lithuania is the most exposed to propaganda attacks and other hybrid actions by Russia and Belarus; it is also strengthening its monitoring of the Belarusian Nuclear Power Plant located about 50 kilometres from Vilnius. The government in Vilnius will likely avoid any steps that Russia could use in its propaganda campaign against Lithuania or as a pretext for hostile measures. Nevertheless, the Kremlin will likely seek to exploit the situation of the Russian exclave to exert pressure on both Lithuania – over issues such as sanctions – and the EU’s institutions, possibly aiming to weaken the EU’s unified stance on economic cooperation with Russia.

Map. Synchronisation of the Baltic region with continental Europe



Source: ENTSO-E.