



Power Grid Upgrade: Baltic States Seek Security, Reduced Dependence on Russia

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Lithuania, Latvia and Estonia, with the support of the European Commission, want to synchronise their power grids with European systems to reduce their dependence on Russia. A compromise reached on a connection via Poland does not specify the technical details and the Baltic States still have differences about what they want. Further support for integration of the electricity sector is in the interest of Poland but should be conditioned on the compliance of all three countries and funding from the European Union.

The Baltic States operate on a Soviet-era power system (IPS/UPS) connecting them with Russia and Belarus. Because of changing geopolitical conditions, including the growing threat from Russia, Lithuania, Latvia and Estonia are determined to separate the systems to become more independent of the Russian operator controlling the whole system. Although the countries recently expanded their power connections with EU countries, including with Finland, Sweden and Poland (EstLink1 and 2, NordBalt, LitPolLink1, respectively), they view only synchronisation as full integration into the European electricity sector. The technical connection to jointly managed European network operators is therefore a priority of their energy policies. The three countries succeeded in obtaining EC support for these connections in 2015. The consensus reached in May in Tallinn by the prime ministers of all three states and Poland was positively appraised by the energy secretary of the EC, Maroš Šefcovič. Political statements do not, however, guarantee a smooth process until the sides agree on key technical issues.

Motivation. The pursuit of synchronisation is strongly political because the Baltic States—former Soviet republics—want to separate themselves from any kind of dependence on Russia. Their reasons to disconnect from the Russian grid are mainly security-based, including protection of their own infrastructure. Although the Baltic States import a small amount of Russian electricity, they see a risk in Russia's monopoly on the power grid's management.

There are also concerns that nuclear power plants in Belarus and Kaliningrad may not comply with international safety requirements, which could affect supplies or infrastructure in case of failure. Lithuania especially opposes the project in Ostrowiec, Belarus. A law adopted in April this year related to non-EU power plants classified as dangerous and blocks the purchase or import of power from the Belarus plant. Meanwhile, Russia has announced the return of the suspended nuclear project in Kaliningrad. For Lithuania, disconnecting from the IPS/UPS system would enable it to completely cut off all supplies of Russian electricity.

Apart from political motives, there are economic factors as well. The development of a common electricity market provides opportunities to benefit from enhanced interconnections, although not equally for each of the Baltic States. Since the launch of NordBalt and Estlink1 and 2, electricity imports from Scandinavia have resulted in significant price reductions for the Baltic States. An additional source of income (which would be even higher if synchronisation with Poland is increased) would be transit fees on cheaper, imported

electricity, mainly for Lithuania but also for Latvia. However, only Lithuania's network can accommodate increased electricity flows. A third income opportunity from development of the market in the region is export of cheap surplus electricity produced from renewable sources. This mainly applies to Latvia. Estonia has greater wind power generation than the others but mainly uses it to balance its internal network. Synchronisation therefore will require strengthening the Estonian networks and its electricity generation capabilities.

Scenarios. The ongoing debate over synchronisation requires a number of technical and economic analyses. Even in 2013, research commissioned by the Baltic Transmission Network Operators group showed that connecting to European networks is technically feasible but economically unjustified. The costs will significantly outweigh the market benefits.

Based on the latest research conducted by the Joint Research Centre (JRC), the recommended solution is the connection via Poland. It was rated as the most economically viable option. Based on viability, the other two models were rejected: the first, the so-called island model in which the Baltic States would operate independently and be responsible for the network system in their region, and the second, synchronisation with the Nordic countries using undersea connections.

The JRC analysis referred to the original proposal, which required the construction of a second link between Poland and Lithuania. However, it is now technically possible to synchronise with the existing dual-line LitPol Link. This alternative is supported by Poland and is being considered by the Baltic States.

Challenges. Latvia, Lithuania and Estonia intend to complete the synchronisation process by 2025. A memorandum of understanding with Poland is due to be signed in June this year. However, given the diverging desires of the Baltic States, the memorandum is not clear about whether the synchronisation solution proposed by Poland with the use of existing infrastructure has been accepted.

Lithuania initially supported the scenario that used only the existing connection. For Estonia and Latvia, that would mean further development of their generation capacities and properly expanding and modernising their domestic networks. According to Estonia's estimates, synchronisation may cost €200 million to upgrade the regional power grid and an additional €600 million in operating costs. Although Latvia supported synchronisation with Poland, it also raised concerns about this solution. So, the implementation of this scenario using existing infrastructure will change the distribution of investment expenditures, requiring the greater involvement of the Baltic States, mainly Estonia and Latvia.

A still unresolved issue is the future status of electricity for Kaliningrad Oblast, which would lose its connection to the Russian system through the Baltic States. Considering Russia's aggressive actions in the region, Kaliningrad would probably have to rely on an island system. Moreover, it is uncertain what withdrawal from the contract binding the Baltic State operators would entail. To minimise the risk of increasing tension with Russia further, the Baltic States want the European Commission to take over the negotiations related to Kaliningrad Oblast.

Conclusions. The Baltic States so far have successfully managed to impose a discourse in the EU that—although it is not a condition for integration into the European electricity sector—gives priority to synchronisation.

In case of synchronisation via Poland using the existing infrastructure, it requires the Baltic States, the main beneficiaries of the process, to bear greater investment costs in the expansion and modernisation of their domestic networks. This applies especially to Estonia but also to Latvia, which may explain their hesitation and desire to build "LitPol Link 2," since then Poland and Lithuania would bear much of the financial burden.

Unanimity of the three countries is a prerequisite for support from the EC and its active participation in the negotiations with Russia. Furthermore, only the acceptance of one synchronisation scenario, followed by adding it to the list of EU Common Interest Projects—enabling an annual review of the project—will make it possible to apply for EU funds to underwrite the costs.

Poland will play a key role in the synchronisation process but will face huge financial and infrastructure challenges. Therefore, it may not only propose measures to enhance security and market integration in the region but also will want the Baltic States to arrive at a common position.