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## **Energy Policy in the Baltic States—United or Separate?**

Energy security is a priority for Lithuania, Latvia and Estonia, both internally and externally. The three former Soviet republics of Lithuania, Latvia and Estonia are still struggling with the effects of half a century in the communist empire, and the energy sector is a particularly acute example. The Baltic States constitute a so called “energy island” and operate almost entirely on the outdated, post-Soviet IPS/UPS power grids (only Estonia has a modern interconnector with Finland). At the same time, as members of the European Union since 2004, they are obliged to implement a common energy policy, incorporate relevant EU laws and fulfil directives such as those on common rules for the Union’s internal market and energy supplies. However, taking into account rapidly changing external conditions, especially geopolitical factors, the energy policies of Lithuania, Latvia and Estonia should be examined to determine how these factors relate to regional energy security.

Although these countries are often regarded as a relatively homogeneous group, their energy policies have obvious differences. Because of a diverse energy mix, their priorities do not necessarily align. At the same time, because all three countries are so called “small states” with a limited potential for conducting large, capital-intensive projects by themselves, it seems they are somewhat “doomed” to cooperate on such efforts. Moreover, and not insignificant, are external conditions such as changes to energy policy in European countries after the nuclear disaster in Fukushima and Russian projects in the region, particularly in Kaliningrad Oblast and Belarus.

The purpose of this paper is to analyse the energy policies of the Baltic States as viewed through the prism of interests of each country, and from a wider regional perspective.

### **The Energy Profiles of the Baltic States**

The essential factor that determines the energy policy of each of the Baltic States is the distinct structure of their energy sectors. Each of the Baltic States has different energy policy determinants. Nonetheless, in all of them, energy security has been given high priority. At the top of the list seems to be the diversification of supplies, especially away from dependence on Russian gas, which accounts for about 5.5 billion cubic meters (bcm)

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a year for all three states. Since 2009, fluctuations in energy usage by the Baltic States were noticeable, as a consequence of the economic crisis of the previous years. Changes in the energy balance in each of the states can be expected, mainly in the share of gas and renewables and particularly since the shutdown of the Ignalina nuclear power plant at the end of 2009, which was a significant energy source for all of the Baltic States.

### Lithuania

The disconnection of the second reactor at the Ignalina nuclear power plant in 2009 seriously changed the energy balance in Lithuania. The loss of available power had to be compensated with an increase in the use of other fuels and by enlarging energy imports. In 2010, Lithuania's total primary energy consumption amounted to 6.1 Mtoe,<sup>1</sup> about a 25% decrease compared to 2009 when it was 8.1 Mtoe. In 2011, it used 7.3 Mtoe.<sup>2</sup> The Lithuanian authorities assume that by 2020 Lithuania's energy production will increase from 14% to 50% of its own usage, and only that may reduce energy dependence on Russian supplies, which is estimated to be at 80% at present.<sup>3</sup>

Moreover, from 2009 to 2010, electricity production decreased by 63% (from 15.32 TWh to 5.7 TWh) and the share of imports in the country's energy mix grew from 4% to 56%.<sup>4</sup> In 2011, Lithuania's energy production was even smaller, only reaching 4.7 TWh.<sup>5</sup>

However, the share of natural gas in the Lithuanian energy mix has increased visibly. After Ignalina shut down, the Elektrėnai gas power plant became the country's main energy producer. Therefore, the need for conventional power plants to increase capacity grew gas consumption by 29%, from 2.6 million m<sup>3</sup> in 2009 to 3.37 million m<sup>3</sup> in 2011. Since then, gas has become one of the most important sources of energy, but still the Lithuanian gas system is separate from the other EU countries except for one connection to Latvia (Kiemėnai), which is used as an emergency in case of disruption of gas supplies or because of an increase in demand. Lithuania imports gas through Belarus, an important transit country, using the Kolovka gas grid through which gas is also supplied to Kaliningrad Oblast. The significant changes in the country's energy mix have forced Lithuanian authorities to seek additional supplies of mainly expensive gas, the costs of which were passed on in the form of a rise in heating prices.

### Latvia

Gas remains one of Latvia's most important energy sources, and even an increase in renewables in the energy mix probably won't change this state significantly. In recent years, Latvia's total primary energy consumption has been changing: in 2010, that number amounted to an estimated 4.79 Mtoe,<sup>6</sup> or about 6% more than in 2009 and about 2% less

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<sup>1</sup> Mtoe—Million Tonnes of Oil Equivalent, a unit of energy, the amount of energy released by burning one tonne of crude oil.

<sup>2</sup> *Energetikos 2011 statistika*, <http://www.stat.gov.lt/lt/news/view/?id=10060>.

<sup>3</sup> *Nacionalinė energetinės nepriklausomybės strategija patvirtinta Lietuvos Respublikos Seimo 2012 m. birželio 26 d. nutarimu, Nr. XI-2133*, [http://www.enmin.lt/lt/uploads/energetines\\_nepriklausomybes\\_strategija.pdf](http://www.enmin.lt/lt/uploads/energetines_nepriklausomybes_strategija.pdf).

<sup>4</sup> See: *Valstybinė kainų ir energetikos kontrolės komisija metų ataskaita*, [www.regula.lt](http://www.regula.lt).

<sup>5</sup> *2011 metų energetikos sektoriaus plėtros apžvalga*, Valstybinė kainų ir energetikos kontrolės komisija, 2012, p. 3–25, [http://www.regula.lt/lt/publikacijos/metine-ataskaita/priedas\\_Energetikos\\_sektoriaus\\_pletros\\_apzvalga.pdf](http://www.regula.lt/lt/publikacijos/metine-ataskaita/priedas_Energetikos_sektoriaus_pletros_apzvalga.pdf).

<sup>6</sup> Official data, [www.cbs.lv](http://www.cbs.lv).

than in 2011, though it still has not reached its pre-crisis level.<sup>7</sup> Renewables are a widely used energy source in this country, which makes Latvia one of the most “green” countries in Europe.<sup>8</sup> The main types are firewood and hydro resources, which comprise one third of the total sources of energy consumption in 2011. But even before the shutdown of Ignalina, which caused an increase in the consumption of gas in Lithuania, Latvia already was the most gas-dependent of the three Baltic States. Its total consumption of natural gas in 2011 was 1.604 billion m<sup>3</sup>, a decrease of 11.9% compared to the previous year, which can be explained by the reduced consumption by combined heat and power plants (CHP) because of relatively high temperatures in the fourth quarter of 2011 as well as investments by heating companies in the use of renewable energy sources.<sup>9</sup>

In Latvia’s case, though, the fluctuations in total energy consumption did not affect the energy mix very much. The share of gas in the energy mix has been about 30% during the past three years, and the Riga region accounts for about 70% of the total natural gas consumed in the country. Nevertheless, in contrast to Lithuania and Estonia, the higher stability Latvia’s natural gas supply is because of the Inčukalns Underground Gas Storage (UGS) area, which has a maximum capacity of 4.4 billion m<sup>3</sup> and as much as 2.3 billion m<sup>3</sup> of immediately available gas.<sup>10</sup> A plan for reconstruction of the facility includes extending the storage capacity to 6.2 billion m<sup>3</sup>. Gas from Latvia could then be delivered through Estonia to as far as Finland, but only if the Balticconnector, a pipeline between Estonia and Finland, is built. According to an assessment of the project, there are no technical obstacles to building a gas line from Paldiski in Estonia to Inkoo in Finland (the cost would be about €100 million).<sup>11</sup> As Latvia has the most extensive system of pipelines connecting all three states, it could make for a preferred place for regional gas terminal projects. However, that would require infrastructure expansion and modernisation there and across the other Baltic States.

## Estonia

Compared to Lithuania and Latvia, Estonia is the smallest of the Baltic States not only in size but also in population. In practice, that means less demand for energy and possibilities for the export of energy or energy resources. In 2010, the total primary energy consumption of the country amounted to an estimated 5.47 Mtoe, which is an increase of 15.4% from 2009, though in 2011 that number decreased by 4% (year on year).<sup>12</sup> Estonia’s use of solid fuels (oil shale) covers almost all its demands for electricity (84%) and heat. That makes Estonia the more independent of the countries, and it remains a large-scale exporter of electricity. In 2011, production exceeded consumption by 60%. Electricity exports increased by more than 20% (year on year). The share of electricity exported to Latvia and

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<sup>7</sup> See Latvia on Energy Delta Institute, <http://www.energydelta.org/en>.

<sup>8</sup> <http://www.energydelta.org/mainmenu/edi-intelligence-2/our-services/interactive-world-gas-map/europe/latvia>.

<sup>9</sup> Official data: <http://www.csb.gov.lv/en/print/notikumi/consumption-energy-resources-latvia-2011-33346.html>.

<sup>10</sup> A. Sprūds, “Latvia’s energy strategy: between structural entrapments and policy choices,” [in:] *Energy pulling the Baltic Sea Region together or apart?*, A. Sprūds, T. Rostoks, Riga: ZINATNE, 2009, p. 223–249.

<sup>11</sup> Integrating the gas networks of Finland and the Baltic States. See: *Liberalisation Of The Estonian Gas Market*, A report to Elering AS October 2011, p. 68, [http://www.poyry.co.uk/sites/www.poyry.uk/files/573\\_Estonian\\_Liberalisation\\_v1\\_0.pdf](http://www.poyry.co.uk/sites/www.poyry.uk/files/573_Estonian_Liberalisation_v1_0.pdf).

<sup>12</sup> “Renewable Energy Production Grows 13 Percent in 2011,” *Estonian Review*, <http://www.vm.ee/?q=en/node/14649>.

Lithuania grew by 30%. Nonetheless, because oil shale has high greenhouse gas emissions, Estonia seeks to cut the share of that source in the country's energy mix significantly.<sup>13</sup> In 2007, the share of electricity generated from renewable sources was only 1.5% of total electricity consumption, but in 2011 it was 12.7%. The growth was due to the expansion of existing wind parks and the commissioning of new wood fuel-based CHP plants.<sup>14</sup>

Estonia maintains a low level of demand for gas compared to the other Baltic States. In 2011, it consumed an estimated total of 631 million m<sup>3</sup> of natural gas—about 9% less than in the previous year. However, in recent years Estonia has built new internal gas connections and is planning the next one. The western part of Estonia does not have a developed gas network, so new connections would increase the share of gas in energy consumption in the coming years. Therefore, Estonia will be looking for new sources of supplies. One of them could be via an LNG terminal, which is also an option being considered by the other Baltic States.

### **Challenging the Energy Security of the Baltic States**

By comparing the mix and production of energy in the Baltic States, the priorities of each country can be defined.<sup>15</sup> All the countries have at least one common aim—greater energy independence through the diversification of energy supplies. Taking this into account, and due to their limited ability to act on their own, especially on large, costly projects, teamwork would be expected. Several factors are conducive to this, but one in particular is the geopolitical situation of a common neighbour, Russia, for whom energy is more than just business—it is a regular feature of a political game of relations with Lithuania, Latvia and Estonia.

Because the Baltic States are not integrated into the European electricity grids, in order to achieve a sufficient level of energy security a number of complementary projects within the Baltic Energy Market Interconnection Plan (BEMIP), such as connections with neighbouring countries other than Russia, must be completed (electricity interconnectors between Estonia and Finland (EstLink II), Lithuania and Sweden (NordBalt) or Lithuania and Poland (LitPol Link). Additionally, the issue of the construction of a joint regional LNG gas terminal is still valid, and the European Commission (EC) has agreed to subsidise its construction from EU funds, but only on the condition that all the Baltic States are involved in the project. Also, the regional idea to build a new nuclear power plant in Visaginas remains valid, and Lithuania's authorities seem to be determined to ensure the success of this project, despite the changing external conditions. Moreover, because the Baltic States are also members of the EU, they are obliged to introduce EU laws and follow the unbundling process in the energy sector. For gas, that means the Baltic States to some extent treat the EU directive known as the "Third Liberalisation Package" as a set of legal tools that can be used against Russia's gas monopolist Gazprom, which has approximately one third of the shares of the gas markets in each of the three countries. Therefore, there are at least a few reasons that reasonably justify the cooperation of the Baltic States in the

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<sup>13</sup> <http://www.energydelta.org/mainmenu/edi-intelligence-2/our-services/interactive-world-gas-map/europe>; <http://www.stat.ee/34183>.

<sup>14</sup> *Eesti statistika aastaraamat 2012: Statistical Yearbook of Estonia*, Tallinn, 2012, [http://www.stat.ee/publication-download-pdf?publication\\_id=29873](http://www.stat.ee/publication-download-pdf?publication_id=29873).

<sup>15</sup> M. Maigre, *Energy Security Concerns Of The Baltic States*, 2010, [www.icds.ee](http://www.icds.ee).

energy sector. Even so, the different energy policy conditions in these countries as well as their particular interests and competitive approaches hinder effective teamwork.

### **The Third Liberalisation Package**

Lithuania is the first of the three countries to have started the implementation of the Third Liberalisation Package, hoping for a more robust gas market as soon as possible. In June last year, Lithuania adopted amendments to the country's laws on natural gas and plans the unbundling in its strictest version, which requires the separation of the production, trade and transmission of gas. Lithuania's decision to introduce the EU directive will result in practice in a limitation on Gazprom's influence on the Lithuanian energy sector. The new regulations can significantly change the situation for Lietuvos dujos, the gas monopoly in Lithuania owned in large part by Gazprom (it holds 37.1% of the shares, while Germany's E.ON. holds 38.9% of the company and the Lithuanian government has 17.7%).

Lithuania emphasised that its prices for gas are about 15% higher than for the other Baltic States. The Lithuanian government, in struggling with Gazprom, has taken even more radical steps, such as reporting the Russian company to the EU Directorate-General for Competition and charging it with discriminatory gas pricing. That, in particular, exemplifies how Lithuania seeks to influence and force Gazprom to reduce its prices. In September this year, the European Commission announced the initiation of an antitrust investigation of Gazprom, which will be significant for Lithuania, as it tends to have harshest policy towards the Russian company. Moreover, Lithuania has also submitted an application to a district court that alleges that the board of Lietuvos dujos is acting against the interests of the state. Gazprom challenged this conclusion in the Arbitration Court at Stockholm, which rejected the company's claims and confirmed the Lithuanian government's right to initiate an investigation of Lietuvos dujos' operational activities.

In implementing the Third Energy Package, Lithuania chose an option that in practice will require the sale of pipelines managed by Lietuvos dujos, and which should be completed by the end of 2013. Gazprom opposed the sale and after a year of tough negotiations, it has been decided that the gas pipelines and gas transmission network will be separated from the company and that the network will be taken over by the government of Lithuania.

The other Baltic States were proceeding more carefully, and are in fact waiting to see the effects of Lithuania's policy. Nevertheless, the Estonian government has approved draft amendments for the unbundling of the natural gas supply and distribution. Under the new rules, the monopoly natural gas supplier and distributor, Eesti Gaas, will be forced to sell its gas distribution infrastructure and to divest ownership by 2015. The dominant shareholders in Eesti Gaas are, as with the Lithuanian company, Gazprom and E.ON. (as well as Finnish utility Fortum and Latvia's Itera).

Latvia, in turn, partly due to a long-term contract with Gazprom, has rather carefully planned the implementation of the Third Energy Package. To a large extent this is because Latvia's Latvijas Gāze is partially owned by Gazprom (34%) as well as by Itera Latvija (16%), and E.ON (47.2%). Nevertheless, Latvia probably will follow other European countries, and choose the third option for an Independent Transmission Operator, or the so called "status

quo plus” model.<sup>16</sup> In the near future, Latvia’s Ministry of Economy will ask the government to mandate negotiations on the termination of Latvijas Gāze’s monopoly. Because of the long-term contract with Gazprom, Latvia has a transition period to find alternative gas supplies until 2017.<sup>17</sup>

### **The LNG Terminal: No Longer a Regional Project?**

The proposal for a regional LNG terminal is being treated as an instrument to lessen the Baltic States’ dependence on Russia or, at least, as leverage during negotiations of new contracts for gas. At the same time, this is the best example of the tensions in the energy sector in the Baltic States. The European Commission is ready to support the regional LNG terminal project, but Baltic States authorities still have not achieved consensus on the terminal’s construction site. The EC will soon decide which location is the most suitable and will give its approval for that project, but all three countries seem to have plans to build their own LNG terminals, which in the end could play regional roles—Lithuania’s in Klaipeda, Estonia’s in Muuga, a port near Tallinn, and Latvia’s in Riga.

Lithuania's work on the implementation of an LNG terminal project are the most advanced. An agreement with Norway’s Höegh LNG, involving a 10-year lease of a maritime platform for importing liquefied gas, have been signed. The Floating Storage and Regasification Unit, with a 3.5 billion m<sup>3</sup> load capacity, should be delivered by the end of 2014. In turn, Estonia’s energy company has chosen Vopak LNG to conduct a feasibility study for an Estonian liquefied natural gas terminal at the harbour in Muuga. Meanwhile, in Latvia, the third possible LNG project, in Riga, could be recognised as the target regional location being assessed by the EU Commission. Nonetheless, building the terminal, even by all three countries does not resolve the supply problem, because modernisation and expansion of the gas network will still be necessary, especially given fluctuations in demand. Meanwhile, a lack of consensus amongst the Baltic States for joint construction of the terminal is seen not only as negative and weakening cooperation in the region but also as a clear manifestation of competition and the dominance of particular interests. At the same time, the lack of unification of internal laws about the gas market seems to be a serious obstacle, also.

### **The Nuclear Power Plant in Visaginas**

The construction of a new power plant in Visaginas has also been seen as a regional project that would increase the energy security of the Baltic States. Although an initial statement was signed in 2006, construction has not gone beyond the preparatory stage. At the end of June 2012, the Lithuanian parliament passed a draft law on the Visaginas project and agreed to conclude a concession contract with a strategic investor, Hitachi, which was selected last year. Hitachi will be responsible not only for delivering the technology (an ABWR reactor with a capacity of 1300–1638 MW) and for the completion of the investments but will also help fund the project. It is assumed the new power plant will have a capacity of 1350 MW and will be launched in the years 2020 to 2022. Its main shareholders will be Lithuania’s Visagino Atominė Elektrinė Energija (about 38%), Estonia's Eesti Energia (22%),

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<sup>16</sup> D. Koranyi and A. Sprūds, *Natural Gas and Energy Security in the Visegrad and the Baltic States*, [http://transatlantic.saisjhu.edu/partnerships/Cornerstone%20Project/cornerstone\\_project\\_koranyi\\_spruds\\_per.pdf](http://transatlantic.saisjhu.edu/partnerships/Cornerstone%20Project/cornerstone_project_koranyi_spruds_per.pdf).

<sup>17</sup> *Pavļuts: jau drīzumā EM prasīs valdībai mandātu sarunu sākšanai par LG monopolstāvokļa izbeigšanu*, <http://ltvzinas.lv/?n=zinas&id=5712>.

Latvia's Latvenergo and Hitachi (about 20% each). Lithuania initially committed €2.6 billion to the project, while Latvia and Estonia pledged up to €1 billion each. However, the latter countries will take final decisions on their participation in the regional nuclear project only during the next preparatory stage of the project, which will be at the end of 2015.

Despite the instability in the energy sector in the Baltic States, the Lithuanian authorities still treat the project in Visaginas as a high priority. The basic problem is the high investment cost (estimated to be at least €5 billion) and the increasing risk of a lower rate of return. Estonia conditioned its participation in the Lithuanian nuclear project on a certain level of profitability. Meanwhile, the cost-effectiveness of the construction of the power plant in Visaginas is questionable not only because of the divergent estimates of the potential price of energy generated by the plant but also in its operational lifespan. The hypothetical funding calculations are the greatest obstacle for all of the Baltic States, which are struggling with the effects of the economic crisis.

Moreover, the competitiveness of the proposed power station in Visaginas is becoming increasingly problematic because of the nuclear plans of neighbouring countries. The first reactor in Kaliningrad Oblast is set to be operational by 2016. Belarus has also joined the nuclear bandwagon, and finalised a part of the loan agreements. Still, the decisive factor for the success of any of these projects will be the pace of their implementation. Progress in the construction of these power plants may hamper the implementation of the project in Visaginas. If these other reactors come online, Russia could then significantly strengthen its position in the energy sector in the region, especially if it manages to secure German or Baltic markets for electricity from the nuclear power plant in Kaliningrad. But even then, the lack of interconnectors remains a problem, particularly regarding the announcement by Lithuania, which categorically rejects the possibility to purchase Russian electricity.

Under these conditions, several scenarios for the Visaginas nuclear project can be expected, even including the most extreme, meaning the withdrawal of Estonia and Latvia from participation in the construction of the new power plant or a significant reduction in their shares of the costs. Such a scenario seems even more likely as both Latvia and Estonia are interested in alternative sources of energy. Investments in renewable energy and/or conventional methods using new technologies in the domestic portion of the energy policy of the Baltic States at least partly supports this thesis. By 2020, Estonia wants the share of renewable sources for final consumption to increase to 25%, while Latvia aims to have more than 40% from renewables and Lithuania is seeking 23%.

## **Conclusions**

Lithuania, Latvia and Estonia are attempting to increase energy security in part by diversifying their sources of natural gas and supply routes, but they seem to do so separately rather than together. All the Baltic States are dependent on Russian gas and oil, but they also have significantly different determinants of their energy policy and priorities in common are pursued differently. The divergent energy mix of each of the Baltic States antagonises their interest in working together and even creates obstacles for multilateral cooperation. Consequently, this situation complicates the implementation of common regional projects, which applies in particular to two major plans, one, to build a nuclear power plant in Visaginas and, two, to open a joint regional LNG terminal. Because of the difficulties in

fulfilling these projects, the Baltic States have instead focused on their particular interests, investing for instance in their own smaller energy projects which are less expensive.

Although Gazprom has a strong position in all the Baltic States' major energy companies, the implementation of the EU's Third Energy Package probably will have serious consequences for the Russian company's position in the region, particularly in relation to proceedings brought by the European Commission. Even ignoring the different possibilities, or details of the rules under which each country intends to introduce the main provisions of the directive, it should be expected that Gazprom's role in the region will be limited but that the Baltic States will still need alternative gas supplies. Any additional damage to the Russian company, even in such small markets as those in the Baltic States, may prove to be much more tangible in the long term. Indeed, effective ownership unbundling could become a precedent in the EU and serve as a model for other EU countries. As well, the decreasing volume of gas exported by Gazprom to Europe means an additional reduction of its influence in the Baltic States region could be particularly detrimental to the Russian company. However, for Gazprom, much depends on the European gas market's development. If demand for Russian gas decreases, then one can assume it will take more conciliatory positions. That may also threaten plans for LNG terminals in the region.

Therefore, it is likely that Russia will seek with great determination to implement its own energy projects in competition with regional ones, putting particular emphasis on nuclear programs under its influence. In practice, that may hamper or even stop the construction of the nuclear power plant in Visaginas. Moreover, the different conditions in the energy policies of the Baltic States mean Lithuania, Latvia and Estonia will carry out energy sector reform in different ways. Therefore, it is hard to accurately predict the consequences of these changes for the internal energy markets or for regional cooperation. However, the inclusion of as these "energy islands" (Lithuania, Latvia and Estonia) into the European network and their integration with the European electro-energy and gas systems, is not only a priority of the Baltic States but also a strategic objective of the EU. The construction of the new nuclear power plant in Visaginas with the expansion of electricity grid interconnectors would at least partially promote the synchronisation of the energy market. Therefore, under current circumstances, it seems that what is decisive in making the Lithuanian nuclear programme a reality will be the pace of the project's implementation. If it fails, then Lithuania in particular will have to import electricity; so, it is important that all the Baltic States be fully connected to the European networks, as each of them will then be able participate in the energy exchanges.