

# BULLETIN

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## Nuclear Power in Lithuania

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*Energy independence and diversification of energy sources are the main objectives of the National Energy Strategy of Lithuania. The most important project is the construction of a nuclear power plant in Visaginas. However, due to internal disagreements, delays in implementing various stages of the project and changing external conditions, the creation of the project is not certain. This situation could adversely affect the energy security of Lithuania and in the long term could change the existing plans for energy cooperation in the region.*

**Lithuania after Ignalina.** The disconnection of the second reactor at the Ignalina nuclear power plant in 2009 seriously changed the energy balance in Lithuania. Even in 2008, nuclear power accounted for 28% of the country's energy. Shutting off this reactor meant the loss of power had to be compensated for by an increase in the use of other fuels and by increasing imports. According to the statistical data, the use of petroleum products increased between 2008 and 2010 from 31% to 36.3% and gas usage went from 28% to 35.4%. In 2010, as compared to 2009, electricity production decreased by 63% (from 15.32 TWh to 5.7 TWh) and the share of imports in the energy balance increased from 4% to 56%. For Lithuania, it is important that the share of natural gas in the energy balance has increased. The main energy producer is now the gas power plant Elektrėnai.

The disconnection of the Ignalina's second reactor and the need to increase capacity at conventional power plants resulted in an increase in gas consumption by 14% (from 2.6 bcm in 2009 to 3.1 bcm in 2010). Moreover, Lithuania is totally dependent on supplies from Russia and pays the highest price for gas in the Baltic region (\$338.50/tcm in the first quarter of 2009, \$385.70/tcm in the first quarter of 2010). The price also largely depends on political considerations.

In June this year, Lithuania adopted amendments to the Law on Natural Gas, which involves the separation of production, trade and transmission in accordance with the so-called "third legislative package" for an internal EU gas and electricity market, which came into force in March this year. Lithuania chose the option that in practice will require the sale of pipelines managed by Lietuvos dujos, a Lithuanian company. The division of the company in which Gazprom has a 37.1% share and German company E.ON has a 38.9% share should be completed by the end of 2013. Gazprom opposes the sale and announced a reduction in gas prices for Latvia and Estonia, but not Lithuania. Meanwhile, Lithuania submitted an application to the district court that alleges the board of Lietuvos dujos is acting against the interest of the state. Gazprom challenged this conclusion in the arbitration court in Stockholm, but its appeal was rejected and the matter will be decided in Vilnius. At the same time, Lithuania has asked the European Commission to investigate the company's pricing policy. Meanwhile, Lithuania's effective implementation of the new rules will limit Gazprom's influence in the internal energy market though it will remain a major supplier of gas.

**Lithuania's National Energy Strategy.** In May 2011, the Lithuanian government presented parliament with its National Energy Strategy in which energy independence and the diversification of energy sources will determine the main lines of action by 2020. The construction of the nuclear power station in Visaginas has been given high priority. This is not the only strategic project: In 2015, Lithuania plans to complete construction of the electricity interconnection with Sweden (NordBalt) and a similar bridge with Poland (LitPol Link) in 2016 to obtain a direct connection with the European system (Continental European Network). In addition, over the next few years there are intentions to build an LNG terminal in Klaipėda and a gas connection with the Jurbarkas–Klaipėda pipeline.

Lithuania also envisages the development of power at Elektrėnai (construction of a ninth block) and pumped storage plants in Kruonis.

**Nuclear Power Plant in Visaginas.** The new nuclear power plant in Visaginas is assumed to be a regional project. In addition to the strategic investor, various companies from Lithuania (Lietuvos Energija) and partners states would participate in the project: Poland (Polish Energy Group), Latvia (Latvenergo) and Estonia (Eesti energy). Originally, plans called for the power plant by 2015. However, delays in project implementation and changes in external conditions reduced the chances for success by that time. Energy Minister Arvydas Sekomokas initially announced that the total nuclear power plant would produce 2,200 MW and that it should be launched in 2020. The concession agreement specifies that conditions for participation in the project will be developed by the end of the year. From the beginning, plans to build a nuclear power plant in Visaginas were often accompanied by political feuds. Not without significance is the unclear relationship between business and politics, for example, the appointment of Leo Lt. in 2008 as the national strategic investor for the construction of the nuclear power plant in which 38.3% of the shares of Leo Lt. belonged to a private company, NDX Energija. In the end Leo Lt. dissolved in 2009. Last year's contest for a new strategic investor failed when Korean company KEPCO withdrew at the last minute. Finally, in July this year, the Lithuanian government went outside the tender process and selected GE Hitachi Nuclear Energy, which had competed with Westinghouse Electric Company. Hitachi probably was chosen because of the scope and manner of financing the project. Lithuania secured its 34% stake (shares in the project) and assumed the investor would bear no more than half of the cost of the construction of the plant, estimated to be about €3-5 billion, while the rest would be covered by states participating in the project.

**Energy Security in the Region.** Subsequent changes in the terms of the power plant construction in Visaginas can have serious consequences for the region. The economic crisis in 2008–2010 particularly affected the Baltic states and because of Latvia's high debt (45% of GDP) it's participation in this initiative became uncertain despite a final statement of support from the president. Although the withdrawal of Latvia or another state from the project would change its original character, it would at the same time presumably reduce the number of shareholders and facilitate negotiations.

The competitiveness of the proposed power station in Visaginas is becoming increasingly problematic in the context of the nuclear plans of neighbouring countries. In Kaliningrad Oblast, the first reactor is set to be operational by 2016. Belarus also joined the nuclear bandwagon, and in July this year signed an agreement setting out rules for the financing of a project implemented by Rosatom.

The decisive factor for the success of any of these projects will prove to be the pace of their implementation. Progress in the construction of these other power plants will seriously hamper the implementation of the project in Visaginas. Also, Russia could strengthen its position in the electricity sector in the region, especially if it manages to secure a market for energy from the Baltic Nuclear Power Plant in Kaliningrad.

**Perspectives.** There are even more obstacles to the project in Visaginas, including unfavourable external conditions, the construction of the nuclear power plant in Kaliningrad Oblast or Belarus and the consequences of the disaster in Fukushima, Japan. The main problem will be to evaluate the profitability of investments. Moreover, the competitiveness of the nuclear program in Lithuania depends on the implementation of parallel energy projects, primarily the construction of Lithuania's electricity interconnections with Poland and Sweden. Poland now has to reconsider participation in the Lithuanian project in terms of the energy interests of the state and the region.

A common regional project of nuclear power plants combined with interconnections enables a harmonization of activities in energy security. Poland could get a stable source of energy, which is important to the north-eastern region of the country. Moreover, it could be a chance to gain experience vital to Poland's nuclear plans. Nevertheless, the policy of *fait accompli* pursued by Russian investors put into question the viability of the Lithuanian power plants. Because of the capital intensity of the project, competitiveness and opportunities for return on investment are fundamental conditions for investment. Latvia's financial constraints as well as Estonia's current investments in domestic energy projects (€1.2 billion) may cause the previously assumed equal distribution of shares among the partner countries participating in the Lithuanian project to change.

Taking into account the economic conditions, the significant involvement of private capital is essential. If Lithuania manages to attract investors then Poland should continue its policy of engagement.