

ISSUE BRIEF

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ENERGY AND ENVIRONMENT PROGRAM

Baltic Energy Security: Building a European Energy Future

Historically, energy security has played a central role in shaping the national security strategy and interests of the Baltic nations. The diverse challenges that exist in the Baltic region make it necessary to focus on identifying areas of cooperation between the countries as they pursue diversified oil and gas supplies. This is crucial to achieve a regional approach to the European Union's common energy security goals.

In the face of the EU's growing dependency on imported energy resources, the rising competition for energy supplies with emerging economies and the pressing threat of climate change, incentives for deeper coordination of external energy policies is growing within the EU. This is especially critical in the Baltic region, which has been almost totally dependent on Russia for decades.

Since 2006, the various gas disputes between Russia, the EU's most important energy supplier, and different transit countries have revealed two important consequences: many member states are vulnerable to supply interruptions; and the EU lacks a cohesive energy policy that will be able to level out the impact of such external distortions. The European Commission's ongoing initiatives to establish a common energy policy are being seriously hampered by member states' efforts to defend their sovereignty. Given their different energy mixes, suppliers, and priorities, the member states are pursuing national energy strategies that are only partially compatible with each other. **Despite facing common challenges and strategic objectives found in a common European energy policy, member states still pursue national strategies that sometimes are not aligned with the goals of a common energy policy - security of supply, competitiveness, and sustainability.**

The Energy and Environment Program at the Atlantic Council explores the economic and political aspects of energy security and supply, as well as international environmental issues. Major shifts in policies, behavior, and expectations are increasingly required throughout the world to meet the challenges of maintaining secure and sustainable energy supplies and protecting the environment while maintaining economic competitiveness. The Energy and Environment Program facilitates international cooperation on developing strategies, policies, and regulations to address the energy security, environmental and economic challenges posed by increasing energy demands and climate change.

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The decisive obstacle the member states face when it comes to forging a common energy policy is the gap between the declared common goals and the actual compatibility of individual national energy strategies. Although the member states have the same overall objectives, they differ considerably with regard to the scope of the policies they advocate and the various means they aim to use in the implementation process. **Fortunately, regional approaches to a common energy policy remain a great opportunity for ultimately achieving a unified EU energy policy, as well as ensuring national energy security goals.**

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Conditions for Achieving Energy Security

Energy security for any country or region involves ensuring the supply of affordable, reliable, and diverse sources of energy necessary to sustain national economic prosperity. Fostering energy security is the obligation of every government. In the Baltic region, achieving this security is critical, as the existing market relationships and infrastructure—which belong to a past era—are incompatible with today’s requirements. The pursuit of energy security is a mandatory policy objective for governments all around the globe, not an act of aggression—a particular concern in the Baltic region, as it attempts to manage historical relationships with its eastern neighbor. Therefore, Baltic countries must strive to obtain energy security through economic integration with new partnerships within the region, and by establishing market integration with Western Europe—all while maintaining their political independence.

There is common agreement that good economics are a necessary foundation of sound energy security policy. However, history has shown that political decisions are sometimes made in the name of energy security, resulting in an infrastructure that is often built before proper due diligence or needs assessment is performed. Political declaration of projects will not make them real, and even when they are constructed, they are not always useful. Baltic countries should consider their potential options with a great sense of seriousness, stressing the importance of careful financial analysis to avoid unnecessary—and uneconomic—projects that are built simply to accomplish a political goal.

Further, energy security should not require either renouncing old supply relationships or surrendering national interest. The unbundling processes that are taking place in the European Union have a special significance for the countries of the Baltic region, as they can be viewed by Russia, its largest supplier, as a threat to the magnitude and profitability of the current relationship. However, these processes are necessary in order to position EU countries to best protect their own interests. There remains a tendency in Eastern and Central Europe to frame this issue as a zero-sum game. The countries of the Baltic, and those who support them in these efforts, should reframe the discussion by encouraging serious investors to identify long-term mutual interests.

Finally, energy security for the Baltic region, as for other parts of the world, will be achieved if the countries of the region are successful in aligning the interests of commercial actors, appropriate regulatory and legal frameworks, advanced technology, and each country’s national requirements. If the legal and regulatory structures do not serve to provide a clear framework in which companies can flourish—or if national policies focus on attracting a particular company without understanding its fit within a national strategy—economic and political imbalances will arise that will increase the country’s energy insecurity. **Furthermore, the limited size of national markets often requires regional cooperation in order for investments to be economically attractive to private investors, especially if financial and technological support is required from outside the region.**

Current Energy Challenges in the Baltic Region

The governments and leaders in the Baltic region understand that the pursuit of energy security is not a luxury but a necessity, as energy security lies at the heart of economic fortunes, national security interests, and the overall well-being of their populations. In order to achieve energy security, the region has to overcome a number of challenges, including:

- Achieving diverse sources of gas supply;
- Modernizing the power generation infrastructure;
- Incentivizing energy efficiency;
- Expanding connections to regional power grids; and
- Expanding gas network connections to access global supply.

The greatest challenge for Baltic countries is achieving diverse sources of gas supply. It is an understatement to say these states are highly dependent on Russia for gas. They are energy islands, connected to only one electricity system, and without any current connection to the global gas market. This leaves these countries exposed to political as well as technical risks. There is no other choice of supply if one electricity system goes down, so achieving diverse sources of gas supply is an issue related to changes that must be made in the current infrastructure, as well as to the makeup of the regional generation mix.¹ In the near term, gas is likely to be the next largest, scalable fuel of choice. Given the EU goals of greenhouse gas (GHG)

emissions reduction, the long time frame needed to build major infrastructure and large-scale energy projects, and the regulatory and financial uncertainties related to nuclear power, it's easy to see why the region is experiencing an increased sense of urgency to obtain new and diverse gas supplies for the region.

Moreover, the Baltic region's vestigial Cold War infrastructure is aging. The region needs to invest significant resources into energy generation, to replace the generating capacity lost by the closure of obsolete plants, as well as to meet increased demand, transmission and distribution networks, and other infrastructure elements.² This challenge has been further exacerbated by the global financial crisis, which has placed severe constraints on the availability of financing for such projects. Modernizing the infrastructure will require strong regional leadership, as a very difficult political decision must be made in order to gather the capital and pass on the costs necessary to upgrade this system.³

Another major concern is the Baltic region's low level of energy efficiency, which is in part due to the lack of incentives. Increased energy efficiency would translate into lower demand for electricity and lower costs related to additional generation capacity. However, incentivizing energy efficiency is difficult without the right pricing tools, rarely used in the region. The most effective way to attain a more-efficient use of electricity is to use proper pricing structures.⁴ Until a full-market price for electricity and natural gas is attained, incentives for efficiency will remain low.

The Baltic countries have recognized that they need to expand interconnections to regional power grids in order to strengthen the current fragile market configuration, and this is being implemented. Increased interconnections of physical infrastructure and markets will enable individual countries to support a broader array of renewable energies and encourage more-efficient use of energy. While expanding those connections is important, it is expensive, and requires significant political will among all countries in the region. The region has a goal of obtaining a fully functioning integrated energy market by 2014, yet without establishing the necessary interconnections, market size will limit investment in many necessary areas, such as the development of nuclear power.⁵

Alongside power networks, the gas systems of the Baltic region need new connections. To strengthen its flexibility, the region needs to cooperate and expand its gas-network connections, joining the global market by accessing the liquefied natural gas (LNG) supply, as well as providing a broader market for potential shale-gas production. This will not only strengthen the region's ability to obtain competitively priced supplies, but will also reduce its exposure to either physical or political disruptions.

Regional Policy Drivers

While the challenges faced by the Baltic region create a sense of concern over its ability to achieve greater energy security, there are developments within and outside the region that will dramatically change its regional energy security profile and help to define and enable Baltic cooperation, including:

- The EU Climate and Energy Package;
- The closure of the Ignalina nuclear power plant;
- The EU directives for disaggregation of transportation and supply;
- Impacts of the Nord Stream pipeline; and
- The potential for indigenous gas supply in the region.

The largest policy driver is the EU climate and energy package, also known as the "20-20-20" targets, which involves difficult and costly choices. This set of policies is designed to dramatically reduce GHG emissions, as well as to diversify energy sources. In the region, its most direct impact is on the use of solid fossil fuels, which will either be forced out or require the use of expensive auxiliary technologies. This will have a significant impact on the price of electricity. For example, phasing out the use of oil shale may turn Estonia—a country that obtains over 78 percent of its electricity from this source—from being a relatively self-sufficient country to one that is dependent on electricity imports, possibly from Russia.⁶ In Poland, there will be incentives to utilize carbon capture and storage technology (CCS) to diminish the adverse impact such a GHG-reduction policy would have on coal mining. While the goal of reducing emissions is commendable, it is also associated with higher costs, which will reduce the region's competitiveness.

The closure of the nuclear power plant at Ignalina creates another policy driver for the region. At the time of its closure

the plant supplied almost 70 percent of Lithuania's total electricity production, leaving the Lithuanian government and the rest of the region facing serious challenges in meeting electricity requirements and in diversifying the sources of electricity imports.⁷ In the short term, to make up for this loss of power supply, the next fuel of choice is gas, which creates a potential increased dependence on Russian supplies. Until new nuclear power plants are built to supply the region, there is no other choice of traditional fuels if the region also aims to reduce GHG emissions.

The set of policies put forth in the EU's third package for electricity and gas markets create a strong regional policy driver. This newest piece of energy legislation calls for disaggregation of transportation and supply. Once implemented, it will: facilitate cross-border trade in energy, and more-effective national regulators; encourage cross-border collaboration and investment; and allow for greater market transparency with network operations and supply. Producers will be encouraged to produce gas only if they have access to pipelines and the certainty that they can deliver to a customer who will pay market price for that gas. Currently, there are significant rigidities in the supply structures associated with the existing ownership of gas pipelines and terminals. In addition, the unbundling of the system will create considerable friction with Russia. Although discussions with Russia have already been initiated, they are likely to prove difficult.⁸

Nord Stream is both a new driver for change and a source of continued regional insecurity, as the pipeline bypasses the Baltic region and lands directly in Germany. Although this pipeline is being built and is expected to be expanded, questions remain regarding Russia's willingness to invest in its own upstream, as well as who will be the priority customers for the new flows. Hence, until diversification of source becomes a reality, the Baltic region will rely almost exclusively on Russian supplies. Nord Stream is not likely to provide competition. German customers have found the physical flows of Russian gas to be very reliable, but it is unclear how accessible and affordable such flows will be to supplies rerouted to the Baltic region. Germany's recent decision to decommission nuclear power plants has added to the sense of uncertainty, as German energy demands are likely to limit the flow of gas back to Central and Eastern Europe.

The newest and most exciting driver for policy change is the emergence of the potential for indigenous gas supply in the region. The largest such prospects appear to be present in Poland and Lithuania, but developments are still in the early stages. There is an acute need for a carefully crafted regulatory environment that will allow for development of these supplies while managing the associated environmental and social impacts.

New Regional Developments

In pursuit of a comprehensive strategy that addresses economic prosperity, environmental sustainability, and energy security, the region should explore the economics and applicability of recent initiatives, ranging from unconventional gas development and new oil and gas hubs, to the role of storage capacity in enhancing the liquidity of regional markets. Baltic countries are highly dependent on imports for their natural gas, and shale gas could help diversify gas supplies in the region. The region is not faced with shortages of gas, as the export capacity of the Russian pipelines currently meets the regional demand. However, the region should place a premium on supply diversification, both for gas and for alternative energy sources, such as nuclear.

The exploration and development of shale gas is expected to aid in diversifying the region's sources of energy. The Great Baltic Basin is the richest of the unconventional gas deposits in Europe and has the greatest chance of becoming commercially viable. Nevertheless, the potential development of shale gas has begun to impact the traditional linkage between gas and oil prices. While this linkage has been broken dramatically in the United States, gas prices still tend to track closely in Europe, even when looking at the different market regions. However, the potential for shale-gas production and the importation of LNG with the diversion of supplies from the United States is expected to soften the region's reliance on gas/oil indexing. In the long term, the degree to which Russia maintains control of European gas markets will determine the region's ability to avoid an ongoing high reliance on gas/oil indexing⁹.

Although sustainable gas-development practices are the Achilles heel of this new industry, they are nonetheless critical to its success. The individual Baltic nations will remain responsible for developing the detailed regulations

that will impact the exploration and development of unconventional gas within the framework imposed by EU directives. While good regulations are a start, they are not enough to secure public acceptance of an industry that is new to the region.¹⁰ Industry should aim to have a small footprint and to be a good neighbor. Fortunately, many of the sustainable development practices—such as water recycling, methane capture, and reducing noise and air pollution from the generation of NOx and other volatile organic compounds—are economically smart things to do. Companies can lower costs and improve revenues by following such practices.¹¹

There is much debate about when the first commercial-scale shale-gas production will become a reality. The estimates range from three years to as far into the future as twenty years. Industry tends to be optimistic, emphasizing that the drilling experience and practices learned and improved upon in North America are already starting to make a valuable impact.¹² Two wells drilled by ConocoPhillips were actually completed in less than thirty days, well ahead of schedule. Although the extent of exploration success remains uncertain, there are high expectations.¹³ Exploration is only the first step, however; significant commercial development will also require a major expansion of infrastructure and supply-change capabilities that are currently not in place, as they were in the United States.

While national perceptions of the economic and energy-security aspects of unconventional gas development vary greatly within the EU, the prompt exploration and timely development of the shale-gas resource would significantly improve the natural gas supply diversity available within the Baltic region. With sustainable gas development, these resources can be produced in an environmentally and economically prudent manner.¹⁴ Further, the development of know-how, education, and best practices offer the prospect of EU-wide cooperation.

Conclusion

The countries of the Baltic region have no doubt about what needs to be done, and all have made high-level political commitments to achieve the objective of energy security. However, the region needs to speak with one voice.

Implementation will be key to eliminating existing energy islands. Aspirations range from implementing the

Baltic energy-market interconnection plan (with linkages to Norway and Sweden) to accessing new LNG supplies. New sources of nuclear power are also planned for the region, as well as modernizing thermal plants, unbundling power and gas generation, and developing indigenous sources of supply. None of these developments is a silver bullet for resolving the regional challenges, or for replacing the energy supplies coming from Russia. It will never be viable for any of the Baltic nations' energy security plans to be framed as anti-Russian. **The logical strategic approach is to diversify supply, and to develop each and every one of the available economic energy options. Eliminating structural rigidities and achieving market-based pricing will be critical.**

While these are all great aspirations, **the reality is that none are presently moving forward in a coordinated manner.** There is potential for shale gas, but the economic and regulatory frameworks that will be required to start drilling at a commercial level have yet to be put in place. Furthermore, there is limited market pricing, which is a disincentive for investments in energy efficiency. Getting prices right in domestic economies and explaining to the population that electricity prices will have to increase in order to support new plants or new infrastructure is extremely unpopular politically. National priorities also differ. While the discourse speaks of regional challenges, the reality is that each government is accountable to their populations, and has a duty to safeguard energy supplies that ensure the national security and economic prosperity of each respective country.

Being part of the EU has tremendously strengthened economic security for the Baltic nations, although the current debt crisis has lowered economic growth. While some doubt the effectiveness of the European energy policy, EU requirements and directives are helping to drive all countries toward a lower carbon economy. As these policies tend to place disproportionate costs on Baltic economies, the EU has created strategic plans and proposed financing to help in implementing the new rules. However, **the EU cannot enforce regional cooperation among these countries, and will not offer any economic deals that are not already being developed by the commercial and political leadership in the region.** In the past, there has been too much reliance on the EU as the driver for regional cooperation, and this needs to change. Successfully overcoming challenges and achieving regional

energy security should be the task and goal of the leadership within the Baltic region. **The region's objectives can be achieved with support from—but not dependence upon—the EU structures.**

The next few years will be decisive for energy security in the Baltic region. The Baltic countries are committed to taking the necessary steps. Government leadership understands it will have to overcome the competing economic and political interests at stake in order to drive projects from aspiration to reality. Furthermore, although EU cooperation is key to the long-term provision of energy security for the region, these nations are likely to experience added insecurity and dependence in the short term as energy markets continue to change. **The goal is to ensure that the medium- and long-term plans are on schedule, and that insecurity is temporary. Progress in the region will reflect how Europe will be able to manage balancing the national, regional, and EU-wide goals in its EU energy policies.**

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