



LNG Developing Rapidly in the Baltic Sea Region

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In the Baltic Sea region, the liquefied natural gas market has developed dynamically and new methods of LNG transport and use stimulate infrastructure investments. Poland will compete on this market with other regional gas-importing countries and with Russia, which is developing its own LNG potential. Once the LNG terminal expansion in Poland is complete, additional volumes of natural gas can be sold to new clients needing small-scale LNG supplies and in the transport sector.

The LNG terminals in Poland and Lithuania have annual import capacity of 5 bcm and 4 bcm, respectively, and are the first such facilities in the region. They allow both countries access to the global liquefied gas (LNG) markets. Besides diversification of supplies and increasing energy security, the terminals also allow the countries to expand their contract portfolio. The sales stimulate the development of small-scale LNG infrastructure: smaller terminals, LNG carriers and tanker trucks with maximum capacities of 17.5 mcm to 1.3 bcm. This enhances LNG availability for road and maritime transport, the power sector, and industry in general.

Significance of the LNG Industry. LNG can be delivered to end consumers even when there is no pipeline infrastructure, which makes it flexible and competitive. In recent years, the LNG trade has become more liquid: global trade and the number of importing countries have grown, prices fallen, and the average length and volume of contracts decreased. The global liquefaction capacity amounts to 462 bcm. Qatar, the biggest exporter, has almost a quarter of the capacity itself, at 105 bcm. The U.S. and Australia are investing heavily in their own terminals and their LNG export capacity after 2022 will increase by, respectively, 78 bcm (to 92.6 bcm) and 42.3 bcm (to 115.6 bcm). According to a recent forecast by energy giant Shell, LNG demand will increase to 734-782 bcm in 2035 (from the 351 bcm traded currently).

The LNG market's development has been stimulated by environmental legislation, new applications, and expanding small-scale LNG use. The EU introduced a maritime fuel emissions cap for some areas, including the Baltic Sea. This gives LNG the upper hand there because it's considered a cleaner fuel. The EU's CO₂ emissions limit means the consumption of LNG, which emits half as much CO₂ as coal, will grow both in the energy sector and industry. Natural gas also will compete with coal because of its advantage as back-up fuel for renewables. More often it is being used for power and heat microgeneration and as fuel for trucks, public transport and railways. The greater availability of LNG, lower transport costs and development of small-scale LNG transport fleets allow shipments of smaller volumes of natural gas to local markets not connected to a gas grid. Not only regional importers but also exporters such as Russia want to take advantage of this trend.

Small-Scale LNG in the Baltic Sea Region. Both Poland and Lithuania seek ways to make their LNG exports more profitable. They are renegotiating long-term LNG import contracts and complement them with spot contracts. According to a recently published strategy by Poland's PGNiG, the country's LNG imports are set to improve in competitiveness. In one example, the company bought LNG from Norway's Statoil on the spot market last year. This year, PGNiG's London LNG trade office opened and signed its first contract with

Cheniere Energy from the U.S. (also on the spot market). Both Poland and Lithuania want to find new consumers for their natural gas.

Small-scale LNG creates new market opportunities. The Lithuanian terminal already has been equipped to enable LNG re-export in smaller tankers, and as of June, the terminal will be able to bunker ships and fill tanker trucks. This will enable Lithuania to sell LNG to Latvia, Estonia and Poland. Vilnius wants to gain experience in this sector by cooperating with Belgian firm Fluxys. The Polish terminal can export 120 mcm LNG in trucks and has already sold some LNG to Estonia using this method. This year, operator Gaz-System decided to expand Poland's LNG terminal to reach import capacities of 7.5 bcm and will build rail transport infrastructure. Gaz-System also is considering an investment in the floating storage and regasification unit (FSRU) in Gdańsk Bay, which would be used for reloading and bunkering LNG. At the same time, Poland's major oil company, Lotos, will build a reloading facility in Gdańsk. That means Poland and Lithuania will compete for the same customers. On the other hand, it cannot be ruled out that a new terminal will be built in Latvia or Estonia, which would increase regional competition.

This smaller-scale LNG also creates opportunities for new markets. Infrastructure for bunkering and loading trucks is currently being built near Tallinn. Sweden has two small-scale import terminals, Finland has one but is building another three. Both countries are considering new investments. Germany abandoned a plan to build large LNG importing terminals, instead it will focus on the small-scale market and is planning to build five terminals serving that goal. At the same time, LNG usage in transportation is becoming more popular there. The EU also supports new investments in Baltic Sea ports to promote LNG as a clean fuel.

Russia Enters New Market. Russian companies have had little experience in the LNG sector so far. The only big export terminal, owned by Gazprom, is in the Russian Far East. However, Russia is consistently investing in LNG, including small-scale LNG. Access to cheap gas deposits and its supply chain, as well as experience, make Russia a strong competitor.

After changes to laws lobbied for by Russian firm Novatek, the company has been granted a permit to export LNG. Novatek's Yamal LNG, with export capacity of 7 bcm, will be opened this year. It will export natural gas to Asia and Europe, which may increase supply and competition in the Baltic Sea region as well. There is strong demand for Novatek's LNG and almost all capacity is booked for long-term supplies; however, some of the LNG will be sold on the spot market. In 2019, the terminal will be expanded and its export capacity will rise to 21 bcm.

Gazprom's import terminal in Kaliningrad will have capacity of 2.7 bcm and will be completed this year. So far, the Russian enclave has been receiving gas supplies via Lithuania and Belarus. However, an investment in a large export terminal, Baltic LNG in Leningrad Oblast, has been moved from 2018 to 2022–2023. Initially, it was set to supply Kaliningrad and Europe; however, pipelines and small-scale LNG deliveries are more competitive.

Gazprom, which for years has remained a gas export monopolist, must face not only a domestic competitor but also an LNG market that is flexible in terms of supply and prices. However, the company is adapting to the new reality and has already established cooperation with more experienced players (such as Fluxys and Gasunie) and is looking for domestic and foreign LNG buyers. Gazprom owns small-scale export terminals with capacities of 26–30 mcm in Kaliningrad, near St. Petersburg near the Estonian/Latvian border, and it is planning new ones. Gazprom's key objective on foreign markets is to enter the supply chain to supply LNG to end consumers. This strategy is used in Poland as well. Gazprom invests in LNG stations and public transport sectors there through its subsidiaries. At the beginning of 2016, Gazprom and its subsidiaries owned 86 LNG and CNG stations abroad, including 35 in Germany, 26 in Belarus, 10 in Czech Republic, and two in Poland. Much of the 28 mcm in small-scale LNG exports in 2015 went to Poland. Gazprom sends its natural gas in tanker trucks to Germany, Estonia and Czech Republic.

Conclusions and Recommendations. The Polish and Lithuanian LNG terminals have increased the countries' energy security and diversified their natural gas supply. Competition between LNG exporters, flexible contracts, and lower prices have pushed both countries to use their terminals to maximize profit. The development of the LNG and small-scale LNG markets also stimulates new investments in the Baltic Sea region. Gazprom has been increasing its presence for some years now and is investing across the entire supply chain. It will be a heavyweight competitor; however, not as a monopolist but as a typical market player. It is finding its feet not only on the domestic market and in Germany but also in Poland.

Poland should use the opportunities created by the new LNG market trends, including increased industrial gas consumption, LNG usage in maritime and road transport, as well as small-scale LNG. Both domestic and regional markets will offer new prospects for expansion. Poland needs to make significant investments to ensure its companies will be able to reach new customers. This is especially important considering that other companies from the region will join the race soon.