

# *The Role of Gazprom in European Natural Gas Supplies*

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## **Overview**

The disturbance of the European-Russian relations and the political destabilization of Ukraine have revitalized considerations by the EU, the Member States, and Ukraine about the security of energy supply, in particular the potential threats of natural gas supply interruptions by Gazprom, the Russian natural gas export monopolist. This paper analyzes different aspects of European natural gas supply and the role of Russia and Gazprom therein, with a focus on European policy to increase resilience against physical supply shocks; it also addresses the issue of Ukrainian energy supply dependence, which can be considered the most critical aspect in the coming years.

## **The Issue**

Energy supply security is a relative concept that encompasses the resilience of a country against short-term supply disruptions (short-term) and the longer-term adaptation process of both supply and demand patterns (e.g. higher energy efficiency). This study focusses on potential short-term supply disruptions but also suggest longer-term adaptations of the concerned countries' energy systems. All natural gas security indicators show a steep reduction from East to West with respect to dependence upon natural gas supplies from Russia. Ukraine currently depends to two thirds upon natural gas from Russia, while this ratio is 100 % or close for Belarus and the East European countries Finland, Estonia, Latvia, Lithuania, Slovakia, Czech Republic, and Bulgaria. Other countries in the region are also heavily dependent, like Poland (53 %), Serbia (65 %), Greece (60 %), and Austria (61 %). On the contrary, "Western" European countries are much less dependent on Russian gas, such as Germany (31 %), Italy (25 %), and France (16 %), and they have much easier conditions to diversify their supplies.

Gazprom still controls the largest part of natural gas production in Russia, and produced ca. 75 % of total Russian production of 600 bcm. Total exports have been rather constant over the past decade, somewhat below 200 bcm/a, 60 % of which went to non-CIS countries in 2013. The "Russian Energy Strategy 2030" foresees a further increase in natural gas in production (towards 1000 bcm), domestic consumption (towards 650 bcm) and exports (towards 350 bcm). Over the last two decades, Gazprom has invested significantly in trading, distribution, pipeline, and storage activities all across Europe. It controls large shares, or even majority shares, in many East European countries. Gazprom owns distribution activities in the Baltic countries and Finland, pipeline transportation shares all over Eastern Europe, Turkey, Germany, in the UK interconnector, Poland, and Serbia, and under-ground storage facilities in Austria, Germany, Latvia, and Serbia, with projects under way in the Czech Republic, the Netherlands, and the UK.

Several legal cases between the EU and Gazprom render the natural gas supply even more complicated. The European Commission has opened formal proceedings against Gazprom about the potential abuse of its dominant position in upstream gas supply markets in Central and Eastern European Member States. In this context, the EU threatens to support the plans of the South Stream natural gas pipeline through the Black Sea, in which six EU Member States have a stake. Should the political tensions rise, the entire EU-Russia energy dialogue and cooperation projects are at stake.

## Methods

We apply a model-based analysis of two supply disruption scenarios confirms that the real threat potential of Gazprom lies in Ukraine (and Belarus) and Eastern Europe, and much less in Central and Western Europe. Mainly Eastern neighbors of Russia are severely affected in the Ukraine-disruption scenario: Romania, Croatia, Hungary and – primarily – Ukraine. By contrast, West European countries have multiple options of diversification and are less affected. Cuts of imports from Russia can be compensated by own production, LNG imports, and a reduction of natural gas consumption. Our model results further underline currently limited opportunities for Russia to diversify its exports in the short-term because construction of long-planned pipelines to China has not started yet.

## Results

Overall, the share of natural gas imports from Russia in total primary energy supply in Europe is very modest, below 10% on average. Also, the resilience of the European natural gas infrastructure and supply diversification have significantly improved since the natural gas crises of 2006 and 2009. However, some East European countries, mainly Ukraine and Bulgaria, are still vulnerable to supply disruptions.

The EU and the Member States should continue to take an active approach to improve the resilience against politically motivated supply interruptions. In the short-term, additional infrastructure to diversify supplies in the critical East European region is necessary, such as reverse flow options and the completion of LNG-terminals, etc. Member States can introduce national or (cross-border) “strategic gas reserves” for several weeks, in addition to the measures already prescribed in the Natural Gas Supply Security Directive. Complementary measures may need to be taken for particularly vulnerable consumer groups, e.g. large housing districts or industrial complexes that currently rely solely on imported natural gas. Domestic natural gas production from fracking is unlikely to play a major role in most EU countries due to political objections or insufficient geological conditions. The importance of Gazprom on the European market is alleviated by the availability of manifold other supplies, both via pipeline and via LNG; however, some East European countries, and in particular Ukraine, are still highly dependent upon Russian natural gas and need rapid diversification and higher efficiency. East European countries need support to convert their inefficient and fossil-dependent energy systems to more flexible and more efficient systems. The major challenge appears to be the restructuring of the Ukrainian energy system, both with respect to domestic energy consumption and a diversification of energy imports.

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