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European gas market in transition

During the financial crisis, major changes have occurred in the demand and supply of natural gas, which may have repercussions for the pricing of gas and for the position of Russian gas giant Gazrprom in the European market. This will not, however, nullifythe long-term interdependency of the EU and Russian gas markets.

EU countries' total gas production accounts for about 40% of their total consumption of 480 bn cubic metres; the remainder is covered by imports, primarily from Russia, Norway and Algeria. Future gas consumption is expected to increase at the expense of oil and coal. With North Sea gas production drying up, EU countries' dependency on imported gas is increasing year by year and is estimated to climb to nearly 80% in 2030. However, thanks to a network of natural gas pipelines coming from three directions, Europe has a geographic advantage over North America and the Far East. In addition, western European coastal regions have an expanding group of facilities for receiving liquefied natural gas (LNG).

Production bottlenecks in Russia

Accounting for ca 42% of total EU gas imports and just under 25% of total gas consumption, the single largest seller of gas in the EU is the Russian gas giant Gazprom. In the last few years, Gazprom's ability to sustain and increase its gas exports has often been questioned, as the company's major gas production areas in Western Siberia are past their peak-production phase, and new areas of potential production of a corresponding magnitude have not been brought on stream. In addition, domestic gas consumption in Russia is expected to grow at an annual rate of one to two per cent, if the economy succeeds in re-establishing the annual trend growth of ca 4%. The sharp decline in EU gas consumption due to the financial crisis has provided a couple of years' respite for Russia to find ways to either cut domestic consumption, increase production volumes, or safeguard gas imports and re-exports.

According to media reports, Gazprom's new strategy, running to 2030, gives some indication of how these challenges can be met. Gazprom has decided to focus its investments on opening up the giant Bovanenkovo gas field in the Yamal peninsula. Bovanenkovo is slated for production as early as end-2012, but it is likely to take some years for it to reach its full production capacity of 140 bn cubic metres. At least until then, Gazprom will focus on gas exports and rely on smaller independent gas producers to meet a growing portion of domestic demand. According to this strategy, export markets will take an increasing share of Gazprom's sales versus the domestic market.

Global gas supply is increasing…

Changes are also occurring in the global supply of gas. At the moment, less than 10% of the world gas supply is transported as LNG. In the EU, LNG accounts for some 9% and 15% of gas consumption and gas imports, respectively. These shares have been increasing steadily in the past decade and, with both demand and supply growing, the shares are likely to continue to increase in the future. Russia is the world's largest gas producer but is only a minor player in the LNG market. Therefore the increased use of LNG in Europe has contributed to Gazprom's dwindling market share in the EU.

Spain and France are key European importers of LNG, but globally the largest markets are Japan, South Korea and the USA. However, with US domestic gas production on the rise, it is estimated that the country's position is in the process of transformation from net importer to self sufficiency or even net exporter. Last year, US gas production figures matched those of Russia. Technical advances in exploiting gas fields over the last 12 months have brought about totally new possibilities for gas production especially in the old coal mining areas. The exploitation of shale gas is already in the planning stage eg in the UK, Poland, Germany, and several Asian countries. This turn of events, combined with the global financial crisis, has already set back the planning process for the giant Shtokman gas field in the Russian section of the Barents Sea.

…and the pricing is being revamped

Gazprom and other sellers of piped gas have traditionally favoured long supply contracts of 30 years or even longer. Contracts specify the amounts sold as well as the pricing principles. Because piped gas does not have a global world market like crude oil, it lacks a market price. The price of piped gas has been tied to crude oil price developments with a lag of some

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six to nine months. As the piped gas market is almost inevitably dominated by monopolies, pricing includes elements of perfect price discrimination. Owing to their real or imagined solvency, Eastern European countries and Baltic states were for long favoured by cheaper prices. In addition, gas contracts sometimes take account of price developments in other forms of energy (eg stock listed gas, coal).

The volatility of oil prices in the last two years has been distinctly reflected in gas prices. Owing to the pricing lag, piped gas was very cheap in early 2008, compared to oil, but its price began to rise sharply towards the end of 2008 – just when the impact of the crisis on the real economy led to a collapse of prices of other energy raw materials. In early 2009, the price of piped gas still reflected peak oil prices seen in summer 2008, which is why it was unable to compete at all with other forms of energy. Suddenly, spot-LNG was cheaper than piped gas. For this reason, many European energy companies preferred inexpensive LNG and violated the 'take or pay' conditions of long-term contracts in 2009.

As the market situation changed, Gazprom in particular was accused of an overly rigid approach to long-term contracts, and calls for a more flexible pricing model are becoming louder. In early 2010, Gazprom made agreements with some of its major European clients, including Eni and E.On Ruhrgas, on limited application of gas spot prices, which better reflect the market situation.

Dependency will continue

The European Commission has often pointed out that long-term supply contracts and vertical integration between gas companies prevent competition and the emergence of a truly European gas market. This is relevant particularly for new EU member states, where the markets are controlled by national monopolies. To enhance competition, the European Commission has promoted the unbundling of gas production and transmission capacity. However, the Commission does not have a unanimous opinion on the possible effects of unbundling, and these ideas have not prevented the planning of new gas pipelines.

In early 2010, a joint venture between Gazprom, EON-Ruhrgaz, BASF and Gasunie received the necessary permits from countries around the Baltic Sea to build a new gas pipeline. Known as Nord Stream, this pipeline will traverse the Baltic Sea from near Vyborg, through the economic zones of Finland, Sweden and Denmark, to Greifswald in Germany. The pipeline is estimated to have an annual capacity of 55 billion cubic metres, slightly over 15% of total EU gas production in 2009, and is scheduled to be in use in 2012.

The tone of the European energy dialogue has undergone a total transformation in a year's time. In January 2009, part of Central Europe was in the grips of cold weather, when gas deliveries from Russia to Ukraine were cut off. The energy debate focused on securing the supply of gas, in an atmosphere of concern about shortages. Now, a good year later, gas consumption has subsided in the wake of the financial crisis, while production forecasts have multiplied thanks to new technology. Where doubts abounded a year ago as to Russia's ability to produce enough gas for the North Stream pipeline, now it seems realistic to ask whether demand in the EU will match the supply.

It is essential to bear in mind, however, that in no circumstances will LNG replace traditional piped gas in Europe. Even the most optimistic estimates project LNG to account for less than a third of total consumption. In addition, the bulk of LNG will be sold under long-term contracts. That is why European gas consumption will continue to depend primarily on Russian, Norwegian and Algerian piped gas. If the idea of the Nabucco pipeline, cherished by the EU, ever becomes a reality, piped gas will also be supplied from the Caspian Sea. And, also in the future, companies managing pipelines will favour long-term supply contracts because a pipeline infrastructure undoubtedly binds both seller and buyer.

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