EXECUTIVE SUMMARY

# Liberalizing Russian gas markets – an economic analysis

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The Russian gas market is highly regulated with low user prices of natural gas. Over the last 20 years plans to raise domestic gas prices have been announced, but prices are still significantly below total (long-run) marginal costs of producing and delivering natural gas. This is a problem for Gazprom, which enjoys a monopoly right to transport and export natural gas by pipeline in exchange of ensuring secure supply to most domestic consumers at the regulated prices. The most recent plan for domestic Russian gas prices indicates only a moderate increase in prices. Nevertheless, the future level of Russian gas prices is highly uncertain. As Russia is the biggest supplier of natural gas to the European market, higher regulated prices, or other regulatory changes in the Russian gas market, can potentially have substantial effects on the European gas market.

In this paper we examine possible impacts of regulatory changes on the Russian gas market. In particular, we consider the effects on Russian energy consumers of increasing the regulated prices of natural gas, and how changes in Russian gas consumption may affect its gas export to Europe. We also examine the importance of Russian pipeline capacity to Europe, as well as impacts of hypothetical changes in Russian gas export behavior, such as removing the gross tax on export revenues.

For this purpose we use a detailed numerical model for the energy markets in Europe and Russia – LIBEMOD. This model provides a detailed description of a number of energy goods, including natural gas. All main activities in the energy market, such as investment, extraction, production, trade and consumption of energy, are determined within the model, along with a consistent set of prices. Demand for energy is modeled separately for five user groups in more than 30 countries. Pipeline and transmission capacities between pair of European countries are determined within the model. In this paper, the model is run for the year 2020.

Our results suggest that increasing the regulated natural gas prices in Russia will have substantial negative impacts on total consumption of gas in Russia, especially in the electricity sector. Although Russian production of natural gas will drop due to less demand, the magnitude of gas export to Europe will be significantly expanded, increasing the use of gas power in the EU. Removal of other market imperfections has smaller impacts on prices and quantities in the Russian energy markets than imposing competitive natural gas prices. Increasing the regulated gas prices will have positive welfare effects for the Russian energy sector, even though energy consumers will be negatively affected by higher prices.

Current pipeline capacity from Russia to the EU is sufficiently large to allow for a significant export growth without new pipeline investments such as the Turkish Stream pipeline. This may change, however, if pipeline capacities decline more rapidly than expected, for example, because of political considerations that lead to restriction on gas exports through Ukraine. Alternatively, if Russia becomes more aggressive in its export behavior, e.g. by removing the export tax on natural gas or by removing Gazprom's exclusive export rights, more international pipeline capacity may be beneficial. More competitive Russian gas export behavior would lead to much higher gas export to Europe. However, our results suggest that Russian welfare could drop due to lower gas export prices.

Based on our welfare calculations, one might be tempted to suggest a liberalization of domestic natural gas prices in Russia. However, our welfare assessments are restricted to sectors that are included in the model, that is, activities related to consumption and production of energy, transport of energy and distribution of energy. If our welfare results were confirmed in a study that covers the entire economy, the case for price liberalization would strengthen.