

## Shale Fever and the Future of Putin's Russia

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Few observers doubt that oil and gas serve as the economic foundation for the political regime built by Vladimir Putin in Russia. The global rush for energy and rising prices on fossil fuels have underpinned Russia's revival on the international arena and padded the popularity of Russia's president domestically. The "fat" 2000s brought a semblance of economic stability, increases in salaries and pensions, and Russia's association with the BRICS—a group of high-growth emerging economies hoping to join the ranks of the world's most influential countries in the twenty-first century.

The Russian economy's dependence on energy resources is well-established. According to various estimates, between 50-80 percent of Russia's federal budget depends on commodities revenues. Although the contribution of oil and gas rents to Russia's GDP is not very high—around 4 percent for gas and 14 percent for oil in 2010—the dependence of the federal budget on oil revenues has been increasing over the last few years. The 2012 budget, for example, needed an oil price of around \$120 a barrel to balance; the 2013 budget needs prices of \$125 or more to break even. Economists at the Higher School of Economics in Moscow have warned that if oil prices hit \$80 per barrel, the government will quickly deplete its reserve funds. To meet Putin's domestic spending campaign promises, estimated to cost \$309 billion (*Financial Times*, June 20, 2012), oil prices need to grow by \$10-15 annually.

Recent global developments in the energy sector appear to threaten the Russian oil and gas dependent economic model. The technological changes associated with shale energy production that have been developing over the last few years have already reconfigured the global energy industry and will likely impact the broader geopolitical landscape as well as domestic politics in states highly dependent on energy trade. Is Putin's luck undermined by what came to be known in the United States as the shale gas revolution and the potential shale oil revolution? This policy memo will first review the impact of these recent developments in the United States and globally and discuss how these changes have already impacted Gazprom, Russia's leading energy company. The first section will also examine the existing estimates for the shale oil revolution. The

second section will review the Russian government's reaction to these developments. The last section will assess the longer-term implications of changes in the global energy sector for Russia's economy and politics.

### **Shale Gas and Oil: Will This Revolution Last?**

The technological breakthrough associated with extracting shale gas and oil has revolutionized the United States' energy industry. The revolution started in the gas industry. Driven by shale gas production, gas output in the United States has increased by 20 percent over the past five years and pushed gas prices down from over \$13 to \$1-2 per mMBTU (million metric British thermal units). Since 2009, the United States has become the leading global gas producer, pushing Russia to second place. Cheap gas in the United States has translated into cheap electricity and boosted natural gas intensive industries such as plastics and nitrogen fertilizers (*The Economist*, March 16, 2013), lifting America's GDP growth by half a percentage point per year. Furthermore, shale oil production has been rapidly emerging in the United States as a new unconventional energy resource at a growth rate of around 26 percent in the last few years. PricewaterhouseCoopers (PwC) has estimated that in the long term shale oil could displace around 35-40 percent of waterborne crude oil imports to the United States. Shale oil production has already reduced U.S. domestic oil prices and, according to PwC, is likely to affect global energy markets significantly, lowering oil prices and contributing to higher global GDP.

Shale oil and gas have geopolitical consequences in that they favor large net oil importers and worsen trade balances of major oil exporters such as Russia and the OPEC states, especially when these states themselves do not take advantage of new technological advances. Shale energy has already lent some optimism to countries highly dependent on Russian gas. Ukraine, for example, recently signed a deal with Shell to explore and develop a domestic shale gas field. Although production is scheduled to begin only in five years' time, Ukraine is already using this development to pressure Gazprom to reduce the current price of gas. Although some states in the European Union like Bulgaria and France have developed strong opposition to the process of hydraulic fracturing, due to environmental and public concerns, others have been lifting bans and developing legislation to allow unconventional shale gas extraction. Poland, for example, has been on the front lines of the shale gas industry in Europe. Despite onerous geological conditions and an uncertain regulatory environment, oil and gas majors like Chevron, Eni, and ConocoPhillips remain committed to shale gas exploration in the country. Furthermore, Chevron has started exploration in Lithuania and is planning to explore for shale gas in Ukraine. Germany and Great Britain are launching their own shale gas production ventures.

The U.S.-driven shale gas revolution has already hit Gazprom, Russia's largest energy company frequently seen as Putin's main geopolitical weapon. The first round of news about "Gazprom in crisis" made the headlines in 2009-2010 when Gazprom was accused of being "a bloated and wasteful bureaucratic monster" in major need of reform (Anders Aslund, "Gazprom in Crisis," *European Energy Review*, 2010). The way things

have evolved since then have only worsened the outlook of this energy giant. This year Gazprom is being referenced as “Russia’s wounded giant” and “the 2012 loser.” The company’s capitalization has fallen by more than a third, sinking below \$100 billion and making Gazprom one of the least-valued among major energy companies. Its 2012 profits have dropped by 37 percent to \$17.8 billion. As U.S. gas production has skyrocketed, Europe has benefited from the greater availability of liquefied natural gas (LNG) originally meant for U.S. markets. Under increased competitive pressure, Gazprom’s exports to European markets have been reduced to a third of what they were in 2008. Existing long-term contracts that priced gas based on the price of oil have been revised to lower prices, with Gazprom handing out refunds to European customers. In another apparent blow to the company’s image, Gazprom had to revise major investment plans and shelve its flagship Shtokman field project, even as it went ahead with the costly South Stream project.

The causes of Gazprom’s downfall are apparent. They can arguably be reduced to the combination of inefficiency and corruption associated with Russia’s state capitalism and which Gazprom embodies and an increase in competition on energy markets resulting from the “shale gas revolution.” Many experts have commented on Gazprom’s managerial problems. “Gazprom is what one would expect of a state-owned monopoly sitting atop huge wealth—inefficient, politically driven, and corrupt,” according to one American diplomat in a 2009 cable published by German magazine *Der Spiegel*. Some experts have estimated that of the nominal profits of \$46 billion posted for 2011, the company lost \$40 billion to corruption and inefficiency (Peterson Institute). Russia-based critics have also highlighted Gazprom’s “gross lack of professionalism and incompetence” under the personal control of Vladimir Putin (Nemtsov and Milov, “Putin and Gazprom”). Even Russian government members such as federal antimonopoly service head Igor Artemyev have criticized the company for inefficiency. The recent downward trend is, however, associated with the competitive pressures originating from the shale gas revolution that have worked to expose many of the company’s pre-existing problems. Gazprom has utterly missed the new technological developments in the energy industry, denying their occurrence at first and thus failing to develop a strategy to deal with and take advantage of them.

### **Russia’s Reaction: Denial and the Hard Awakening**

At first, Gazprom’s leadership and the Russian government treated the shale gas revolution as a myth, a “Hollywood stunt,” or even a propaganda campaign unleashed by the West to topple Gazprom. Only recently has the Russian government acknowledged that a shale revolution really exists and that Russia, as a major producer of oil and gas, needs to adapt to changing energy market realities. In April 2012, Putin urged Russia’s energy companies to “rise to the challenge” of shale. In October of the same year, he requested that Gazprom develop a new export policy responding to new developments in LNG and shale gas markets. Meanwhile, Rosneft, the expansionist state-owned oil and gas company that has recently created a domestic challenge for Gazprom, is considering tapping into unconventional gas reserves, of which Russia is

estimated to have 680 trillion cubic meters, according to Gazprom's own research unit. The second rising domestic competitor to Gazprom, independent gas producer Novatek, is placing its bets on LNG production in the Arctic.

There have also been discussions on splitting Gazprom into two separate entities, likely a response to the anti-trust investigation the EU has launched against the company. Splitting Gazprom into one company responsible for production and another responsible for distribution would allow it to conform to the EU's "Third Energy Package" that requires the unbundling of production and transmission of energy. Rosneft CEO Igor Sechin, among others, has voiced this idea, and Novatek also supports it. These two gas producers are interested in getting access to trunk pipelines; a Gazprom split could benefit them.

Because Russia depends more on revenues from oil than from gas, the consequences of a shale oil revolution would be especially dramatic, in both a positive and a negative sense. Russia's scientific community recently made a revealing admission concerning the scale of the problem: the Russian Academy of Science's Institute for Energy Studies wrote that the projected impact from the shale revolution could mean that by 2040 Russia's export of oil might be lower by 50 million tons (*Wall Street Journal*, April 11, 2013). The shale oil boom, however, also holds great potential for Russia. Rosneft's recent activity is promising. The company created a joint venture with Exxon Mobil to drill test wells in Russian shale beds in Siberia. Statoil and Shell are also drilling through joint ventures. So is Lukoil. It thus appears that Russian companies are slowly realizing the potential opportunities associated with shale energy. Despite the continuing rhetoric of leaders of Russian oil and gas companies dismissing the importance of shale production, the actual projects undertaken by companies reveal their change of mind on the issue.

### **Three Broader Implications**

The shale gas boom in the United States has already been a game changer for global gas markets. Growing gas production in the United States has freed up LNG for European markets, resulting in cheaper spot markets for gas and reducing the importance of gas transported through pipelines. That means a lowering geopolitical significance of pipelines. In these new circumstances, the Russian government is decreasingly able to use gas exports as a geopolitical tool. Russia's neighbors, highly dependent on Russian gas, are likely to have new options. These developments do not mean that Gazprom will stop being an important supplier of gas to Europe, but it does mean that Russia will be more pressured to compromise with its customers in Asia. The Asian direction of Russia's gas trade will rise in importance in coming years.

Since oil prices are so important for government revenue, Putin's "luck" and the future of Russia's economy and politics highly depend on what happens to oil prices. The U.S. Energy Information Administration (EIA) has outlined three different scenarios based on low oil prices, high oil prices, and a reference case that estimates prices for 2020 in the range of \$70-155 per barrel (and an even larger spread for 2040). The reference case lists the price per barrel in 2015 at \$96, which would likely place financial

pressure on the Russian government (EIA, April 15). Given the loss of “Putin’s majority” and the growing discontent among the more educated groups in society, the prospects for Putin’s political standing are not very rosy. In the event of the low oil price scenario, the Russian government would be forced to undertake structural reforms that are likely to be unpopular among the population.

Finally, while the main weakness of Russia’s economy is its dependence on the increasingly uncertain price of oil, none of the figures or analyses presented here point to an unavoidable doomsday scenario for Russia or for Putin. Both could reap benefits if they are able to react appropriately to the shale oil surge.

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