

region and South Stream in the Black Sea region. Each of these projects involves serious economic, technological and political challenges. The fact that three of those four major projects are to be realized on the northern gas flank underlines the importance of that direction of the Russian energy and gas strategy. One can therefore say that much of the game for the future of Gazprom and Russia as reliable energy partners is going to be played in the north. The outcome of that game is, however, not given, not least due to the current economic crisis

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and lack of predictability in the area of energy pricing. According to various estimates, in order for Shtokman to be a profitable undertaking, the oil price should be as high as USD 80 per barrel, although also a lower price – USD 50 to USD 60 – is mentioned as guaranteeing the economic feasibility of that project. However, the oil price rollercoaster the markets have experienced over the last couple of years makes any predictions and planning a rather challenging task.

## Analysis

### Gazprom and Russia's Great Eastern Pipe-Dreams

By Nina Poussenkova, Moscow

#### Abstract

Gazprom maintains monopoly control of Russia's domestic pipeline and is the only company allowed to export Russian gas. Gazprom has long talked about expanding its capacity to produce gas in East Siberia and the Far East, but has made little progress toward these goals. Efforts to send gas to China have been stymied by the two sides' inability to agree on a price for gas and Russian concerns about China's growing power. Territorial disputes prevent deals with Japan. In contrast, Russia has moved ahead with plans to send gas to South Korea, which is not affected by the problems associated with China and Japan.

#### Gas Pipelines and Geopolitics

Controlling gas pipelines means wielding power over those dependent on the pipeline for access or gas consumption. Laying a pipeline from a gas-producing country to a consuming country means establishing a physical bond and long-term dependency between two parties. Disrupting this connection leaves the consumer without energy as there are often no alternatives available to quickly switch to other sources and suppliers. Thus, pipelines provide the producer with powerful leverage over the consumer – hence the geopolitical significance of gas pipelines, which is nowhere more significant than in the case of Russia, where the country's gas export pipelines, all controlled by Gazprom, connect Russia's huge gas reserves with dozens of European and CIS costumers.

Gazprom is Russia's single most powerful company and the world's biggest holder of gas reserves. It controls some 60 percent of Russia's gas reserves which equals 17 percent of the entire known global reserves of gas.

Gazprom produces around 85 percent of Russian gas and some 20 percent of the world's gas. What makes Gazprom dominant in the Russian gas market is also the fact that the company owns Russia's entire gas supply system, the so-called Unified System of Gas Supplies (USGS). This system comprises 155,000 km of trunk pipelines and their branches, 268 compressor stations, six gas and condensate processing plants and 24 underground storage facilities. Ultimately, every single gas producer in Russia is dependent on Gazprom for gas transmission.

Also, only Gazprom has the right to export gas abroad. So far, Gazprom has managed to resist any attempts from international organizations or Russian reformers to restructure the company by dividing its monopolistic control over gas transportation from the more competitive production sector, where several independent producers compete with Gazprom in bringing small amounts of gas out of the ground. A final important feature of Gazprom is that it is owned and protect-

ed by the Russian state, which holds a 51 percent share of the company. The state heavily influences all strategic company decisions.

As a commercial enterprise, Gazprom uses its gas pipelines to establish full control over the domestic gas sector and non-Gazprom producer companies. As a tool for achieving the Kremlin's geopolitical goals, Russia's leaders, via Gazprom, use gas pipelines to manage relations with European consumers, as well as with potential customers in Asia, which is now a priority region for Gazprom.

### **Big Brother: The Role of Gazprom in Russia's Gas Market**

Gazprom managed to retain its importance for the domestic Russian gas market because it was able to maintain control over the Soviet-era pipeline system. It remains the single most important producer of gas in Russia, mostly by exploiting existing gas fields developed in Soviet-times rather than commissioning new fields. In fact, since its creation in 1989, Gazprom opened only two new gas fields, the Zapolyarnoye in 2001 with a production of 105 billion cubic meters per year (bcm/y) and the Yuzhno-Russkoye field in 2007 (25 bcm/y). At the same time, the share of the so-called "independent" gas producers increased during the 1990s. While Gazprom controls and develops Russia's major gas fields, the independents were assigned the smaller and more complex fields that Gazprom is not interested in.

The independents are believed to play an increasing role in Russia's gas production. According to Gazprom's plans, the company intends to produce up to 580–590 bcm by 2020, up from 550 bcm in 2008, while it expects that the independents will by this time extract up to 170 bcm, up from 115 bcm in 2008. Their share in Russia's overall gas production is thus expected to increase from the current 15 percent to over 20 percent by 2020.

Gazprom says that it is interested in the development of Russia's gas market with an increasing share of Russia's gas output coming from independents as this will permit the satisfaction of increasing domestic demand and help Gazprom to meet its commitments to its clients abroad. Presumably, however, Gazprom is particularly interested in the development of the independents so as to free more of its own gas for the lucrative international market. Gazprom confirmed its monopoly on gas exports through the 2006 Law on Gas Exports.

Gazprom claims it is in favor of a more competitive market, yet it is consolidating its control in the gas sector by acquiring shares of independent gas produc-

ers or taking control of major gas projects from other companies. In 2002, Gazprom re-established control over the companies Zapsibgazprom, Vostokgazprom and Purgas by purchasing their shares and bought a 100 percent stake of Severneftegazprom. In 2004, it acquired Sevmorneftegas, Purgazdobycha and Stimul. In 2005, it took over 100 percent of Irkutskgazprom's shares and bought a controlling stake (51 percent) in Northgas. In 2006, it bought 19.4 percent of the shares of Russia's second largest independent gas producer – Novatek – and bought 51 percent of Sibneftegas.

Gazprom also exerts indirect control over independent gas producers by regulating their access to its pipeline system. In 1995, the Russian government allowed the independents to sell their gas to consumers at free market prices. But they either did not get access to the Gazprom-owned USGS, which meant they were not able to transport their energy, or were forced to sell their gas to Gazprom at very low domestic prices, while Gazprom later resold this gas at much higher export prices.

In 2008, claiming that there was not enough transportation capacity available, Gazprom reduced the gas pumping quota for Rospan (a company that belongs to TNK-BP) to 1.2 bcm/y – despite the fact that Rospan can produce three times more gas. It seems unlikely that Gazprom will grant Rospan more capacity unless it takes control over the company itself or unless Rospan agrees to invest \$250–300 million in a pipeline project connecting to Gazprom's USGS. (Now Rospan uses Gazprom's feeder pipelines to get access to USGS, but there is not enough space in these pipelines for its gas, according to Gazprom). Even the mighty Lukoil oil company had to reach an agreement with Gazprom on selling gas it produces from the Nakhodkinsk field at the low price of \$41.40 per 1000 cubic meters.

Gazprom is also establishing gas transportation tariffs in an arbitrary manner: the monopoly does not provide information about gas transportation costs and there is no way for independents to verify whether a pumping tariff is justified or not. Gazprom claims that the current tariffs do not even permit it to recoup expenditures on modernizing the gas transportation system and keeping gas in underground storage facilities.

The ambitions of Gazprom to establish absolute control over the domestic gas market are particularly visible in Russia's East. In 2002, the Russian government officially appointed Gazprom as the sole coordinator for developing Russia's eastern gas province. In order to establish control over the gas sector in this part of Russia, in 2006–07, the company signed three agreements on

gas sales with local companies – Bratskecogas, Irkutsk Oil Company and Urals Energy. The blue fuel produced by these companies will be sold to Gazprom which will use it to supply the Irkutsk region.

With the financial crisis of autumn 2008, third-party access to Gazprom's pipeline system has become an ever more important point of leverage for the company. The crisis hit Gazprom very hard: in January–February 2009, it had to reduce its gas production by 15.6 percent from the level of January–February 2008. During this period, the second biggest gas producer in Russia, Novatek, increased production by 10.7 percent. Now, Gazprom says that because of its production decline, independents will also suffer: the monopoly will constrain their access to the USGS, and Novatek will be one of the first companies to be affected by this limitation – Gazprom believes that the crisis should affect everybody equally.

### Marching East with High Ambitions

The plan to develop gas fields in East Siberia and connect these via pipelines to the expanding gas markets of China and East Asia has long been a priority goal of Russia and Gazprom. Yet while Russia and China recently made significant progress regarding the construction of an oil pipeline, the gas pipeline projects do not seem to move anywhere at the moment.

Gazprom, in cooperation with the Ministry of Energy, was to develop a “Program of Creating in East Siberia and the Far East a Single System of Gas Production, Transportation and Supplies with Due Account for Possible Gas Exports to China and other Asia-Pacific Countries.” The essence of Gazprom's eastern strategy lies in forming a new gas-producing center and an expansion of the USGS in Russia's east. Gazprom formulated two key tasks for this program: first, meeting the growing domestic demand in Russia's east and expanding gas service to new customers and, second, maintaining a single channel for Russian gas exports.

The government approved the final version of the Eastern Gas Program only in 2007, after many changes and disputes between the interested parties. The Eastern Gas Program envisages gas production in the region of 27 bcm/y by 2010, 85 bcm/y by 2015, 150 bcm/y by 2020 and 162 bcm/y by 2030. Pipeline gas exports to China and South Korea are planned to increase to 25–50 bcm/y by 2020, while LNG exports to Asian countries expand from 14 bcm/y in 2010 to 28 bcm/y in 2030.

To implement these plans, Gazprom has set out to achieve the goals formulated in the eastern strategy. In 2005, it acquired 72.7 percent of Sibneft, a com-

pany that has licenses to work on Sakhalin and in Krasnoyarsk Krai via its subsidiaries. In spring 2008, former Prime Minister Viktor Zubkov granted Gazprom the Chayandinsk field in Yakutiya, the Kirinsk field on Sakhalin and eight fields on the Yamal peninsula. These “gifts” were made possible thanks to the Law on Gas Supplies, which envisaged that fields of major significance for Russia (strategic or “federal” fields) are to be allocated to state-owned companies without any tender.<sup>1</sup> The gas monopoly might not be able to commission them in the nearest future, but shows no intention to let other companies participate in these fields either.

Most importantly, Gazprom joined the Sakhalin-2 project in 2006 as majority shareholder becoming a global LNG player: the 9.6 mt/y LNG plant being built within the framework of Sakhalin-2 is the world's biggest liquefied natural gas project to date. Long-term agreements on buying Sakhalin LNG have been signed with seven Japanese companies, Korean Kogas, and the US Shell Eastern Trading Ltd.

### Taking Over the East: The Kovykta Gas Field

In 2007, Gazprom took another step towards establishing itself as a key player in Russia's east by acquiring the huge Kovykta gas field with reserves of an estimated 2.13 trillion cubic meters (tcm). Since Kovykta is located close to the Chinese border, the issue of building an export gas pipeline was of paramount importance when Gazprom decided to take over the project from TNK-BP, until recently the biggest shareholder of RUSIA Petroleum (62.89 percent), which held the license for the Kovykta field.

In 2003, British Petroleum (BP) began to target China as the key market for Kovykta gas. RUSIA, CNPC and Kogas expected that 4 bcm/y would be provided to meet Russia's domestic needs. They planned to build an export pipeline to pump 20 bcm/y to China and 10 bcm/y to South Korea. Gazprom torpedoed their expectations by insisting that the gas should be exported via a single export channel, that is through the USGS, rather than from any individual field. Gazprom criticized the intention of RUSIA Petroleum to export the bulk of Kovykta's gas, claiming that gas sales to China could face serious price risks.

<sup>1</sup> In 2007, the Ministry of Energy and Industry made a list of 37 gas fields which were deemed strategic. These fields contain total gas reserves of 11 trillion cubic meters (tcm). The biggest fields in the list are Kruzenshternsk (ABC1+C2 of 1.67 tcm of gas), Chayandinsk (1.24 tcm), Leningradsk (1.05 tcm) and Severo-Tambeisk (929 bcm).

Under the license, the commercial development of the field was to commence in 2006, while gas export from Kovykta was to begin in 2008. Without the construction of an export pipeline (which Gazprom blocked), gas production could not reach the planned level. Starting as early as 2003, Russia's Ministry of Natural Resources thus has been threatening to revoke RUSIA's license because the planned targets were not reached.

In the summer of 2007, TNK-BP reached an agreement with Gazprom on selling its share in the project to the monopoly. Gazprom is preparing a new plan of field development that will correspond to the Eastern Gas Program. Presumably, commercial gas production in Kovykta will begin in 2017, and the blue fuel will be pumped to USGS to cover the potential shortage of gas in Russia – though it is possible that a portion of this gas may in the future also be exported to China.

Gazprom's success in developing the field and building an export pipeline to China will hinge primarily on the results of its negotiations with China, the leading potential market for Kovykta gas. Back in spring 2008, then Minister of Industry and Energy Viktor Khristenko confirmed that Gazprom's discussions with China were very intense, and the key issue was the gas price. "No mutual understanding has been achieved in this respect. And without this mutual understanding there will be no gas pipelines to China, since the basis for the decision on building a pipeline are the long-term contracts for gas deliveries." The Chinese are taking a very tough stance on gas prices since gas must compete with Chinese low-cost coal, which is primarily used for the Chinese power-generation market.

Gazprom, however, represents its failure in negotiations as a result of an agreement on Sakhalin-1 gas deliveries between ExxonMobil and CNPC (see below), as it believed that the contract between Sakhalin-1 shareholders and the Chinese on gas exports to China created competition to its own export plans and permitted the Chinese to insist on lower prices in negotiations with Gazprom.

### Apple of Discord: The Sakhalin-1 Project

The key challenge for Gazprom with regard to the Sakhalin-1 project is to reach an agreement with Rosneft<sup>2</sup>, to export all gas produced via a single Gazprom-controlled export channel and at the same time make sure enough

gas is being made available to supply the Khabarovsk Krai in Russia's Far Eastern region.

Although Rosneft, which is a state-owned company, has the right to export Sakhalin-1 gas independently of Gazprom, because the project is implemented under PSA terms, which Russia concluded in the 1990s, it admits that cooperation with the gas monopoly might be feasible.

Rosneft is also involved in the programs to provide gas to the Sakhalin, Khabarovsk and Primorsk regions using the Russian share of gas in the Sakhalin PSA projects. Gas is to be delivered to consumers through Rosneft's pipeline from Sakhalin to Komsomolsk-na-Amure, and a new Komsomolsk-na-Amure–Khabarovsk–Vladivostok pipeline is to be constructed. Today, only the 4.5 bcm/y Komsomolsk-na-Amure–Khabarovsk section has been built.

In order to become a key player in Russia's east, Gazprom needs to secure control over gas produced by the Sakhalin-1 project. Therefore, when in October 2006 Exxon Neftegas, the Sakhalin-1 project operator, signed an agreement with CNPC to build a 8 bcm/y pipeline from Sakhalin to northeastern China, Gazprom strongly resisted the plan.

In 2007, Alexander Ananenko, Deputy Chairman of Gazprom's Managing Board, declared that "We consider it necessary to have a directive passed requiring that Sakhalin-1 gas be sold to Gazprom in order to supply the Russian regions and not for export, as ExxonMobil wants."

This position of the monopoly is dictated not by its concern over the fate of the Eastern regions of Russia, but the desire to eliminate competition from ExxonMobil in gas exports to China.

In summer 2008, Russian President Dmitry Medvedev was forced to intervene in the conflict between Gazprom and the Sakhalin-1 shareholders, ordering Rosneft to help the gas monopoly reach an agreement with ExxonMobil on purchases of gas and to sell to Gazprom its stake in Daltransgas, the joint venture that is building the Komsomolsk-na-Amure–Khabarovsk pipeline.

Ultimately, Gazprom wants to buy Rosneft's Sakhalin–Komsomolsk-na-Amure pipeline, to extend the pipeline from Khabarovsk to Vladivostok and then to pump gas through it to China and South Korea.

### The Role of Energy in Russia's Relations to China

Gas pipelines play an important role in energy relations between Russia and potential consumers of its gas in

2 Shareholders of Sakhalin-1 project are: 1. Exxon Neftegas Ltd. (30%) – operator of the project; 2. Rosneft-Astra (8.5%); 3. Sakhalinmorneftegas-Shelf (11.5%); 4. SODECO (30%); 5. ONGC Videsh (20%).

East Asia. China is particularly interested in Russian hydrocarbons. However, until recently energy relations between the countries have been impeded by Russian perceptions that China is becoming too formidable, and fears that Russia's eastern territories might turn into a "resource hinterland" for China. Another obstacle arises in the difficulty of achieving a compromise on gas prices. Russia has no clear understanding of China's long-term objectives in its energy policy: does China strive for more pipeline gas or LNG, what will be the share of gas in the Chinese fuel mix, how long does the Chinese government intend to subsidize domestic gas and electricity prices? As long as these questions remain unanswered, Gazprom faces insecurity of demand and is reluctant to commit to the construction of an expensive new pipeline.

Thus, relations between Gazprom and China are only slowly expanding. During President Putin's state visit to China in 2006, leaders of Gazprom and CNPC signed a Protocol on Natural Gas Deliveries from Russia to China. According to the agreement, first shipments of gas were scheduled for 2011. The 2006 agreement was an important step forward in implementing Russia's plans to diversify its gas markets, and corresponded to the Russian policy of establishing closer ties with Asia.

In 2006, Gazprom took the decision to build the so-called Altai gas pipeline with a capacity of 30 bcm/y in order to connect to the gas fields in West Siberia. The project envisioned the construction of a 2,800-km pipeline from Urengoi to China's Sinytzyan-Uigursk District. From there, it was to connect to the Chinese West-East pipeline, which delivers gas to Shanghai.

Since then, however, serious doubts have arisen about whether the Altai project will be implemented at all in the near future. According to Gazprom, the main obstacle is that Gazprom was not able to achieve an agreement on price with its Chinese counterparts. The strategic goal of announcing the Altai project might be that Russia wanted to demonstrate to its traditional costumers in Europe that it was eventually ready to redirect gas flows from west to east.

The situation regarding oil is different. In mid-February 2009, Russia and China signed an intergovernmental agreement on the construction of a pipeline branch from Skovordino to the Chinese border and long-term Russian oil supplies of 110 million barrels of crude per year from 2011 until 2030. In return, the Chinese Bank of Development will provide a \$10 billion loan to Russia's oil pipeline operator Transneft and a \$15 billion loan to the state oil company Rosneft in order for them to strengthen their balance sheet, complete the

East Siberia–Pacific Ocean pipeline project and to develop oil fields in East Siberia, ensuring that the sales to China can proceed.

So, while Russian–Chinese oil cooperation expanded rapidly, it seems that Gazprom is not ready to commit to investing in a pipeline to China when it is not sure this project will bring stable long-term profits. Also, there are more deeply-rooted psychological fears on the side of Russia, which does not want to become dependent on China as its single most important Asian customer. In order to balance its risks, Russia is thus seeking to establish relations with other Asian countries as well, mostly Japan, but also South Korea and even the US (via the shipping of LNG from Sakhalin).

### **Energy Cooperation with Japan and South Korea**

Cooperation with Japan is very important not only to counterbalance China, but also in order to attract investments and new technologies in order to develop its eastern territories. The revival of East Siberia and the Far East is a prerequisite for Russia to emerge as a major player in East Asia, beyond the role of a mere supplier of raw materials.

However, the energy dialogue with the Japanese companies is limping along, presumably because of the difficult political relations between Japan and Russia that are colored by the legacy of World War II (the two countries still have not signed a peace treaty) and the on-going disputes over the Kuril Islands. Gazprom played an important role in undermining the plans of the Sakhalin-1 project (in which the Japanese SODECO is involved) to build a gas pipeline on the bottom of the Okhotsk Sea to Hokkaido Island. Whether this pipeline will be built ultimately depends on the general trends in Russian–Japanese relations and also on the overall balance of forces in the Russia–China–Japan triangle.

In contrast, gas cooperation between Russia and South Korea seems to be viewed by the two countries as a win-win situation. Russia might benefit from the future diversification of energy sources contemplated by South Korea and further development of the Korean gas transportation network. South Korea enjoys a unique blessing in its relations with Russia – Russia's attitude to South Korea is not affected by the security concerns that define its relations with China nor overshadowed by territorial disputes or any other World War II legacy as with Japan.

Back in October 2006, Russia and South Korea signed an intergovernmental agreement concerning conditions of Russian gas deliveries to South Korea.

However, a real breakthrough in gas relations with South Korea happened in September 2008, when Gazprom and Kogas signed a “gas package” worth \$100 billion envisaging supplies of 10 bcm/y over 30 years starting from 2015. There are plans to build in 2011–2014 a gas pipeline to South Korea from Vladivostok via North Korea<sup>3</sup>, a gas chemical plant and an LNG facility near Vladivostok. Kogas seems to be a convenient partner for Gazprom because the former is getting the last chance to establish itself in the Far East of Russia and will be receptive to Gazprom’s terms.

### Outlook

Gazprom, owner of Russia’s pipelines and exclusive exporter of gas, is the key player in the Russian gas market. This unique position permits it to establish full control over the sector by eliminating domestic competition, limiting the involvement of international compa-

nies in the development of strategic reserves and dictating terms of gas deliveries to its customers.

However, this super-monopolization may ultimately undermine Gazprom: as the state company that became fully responsible (together with Rosneft) for developing new petroleum frontiers, such as Russia’s East, the continental shelf and the Arctic, it might be unable to implement these formidable tasks in due time, particularly given the economic crisis and lower global oil prices. Gazprom currently lacks not only the finances but also the technical skills to develop difficult new projects – especially offshore. It needs to work together with other companies both national and international on new projects; otherwise, it will simply fail to produce enough gas to fill all its existing and planned export pipelines.

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<sup>3</sup> If North Korea does not permit Gazprom to pump gas through its territory, Russian gas will be delivered to South Korea in a liquefied or compressed form.

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#### *Literature and sources*

Data and information on Gazprom and Russia’s gas market can be found at Gazprom’s web site at [www.gazprom.ru](http://www.gazprom.ru) (in Russian) and [www.gazprom.com](http://www.gazprom.com) (in English).

Other information and data for this article was obtained from the following journals: *Oil and Capital*, *Vedomosti*, *Oil and Gas Vertical*.

Russia’s Energy Strategy to 2020, approved as decree no. 1234-r by the Russian government on 28 August 2003, can be viewed at: <http://www.minprom.gov.ru/docs/strateg/1/>

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