
Gazprom: Challenged Giant in Need of Reform

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The 2008–10 global financial crisis has shaken all, not least Russian perceptions of last decade’s energy boom. Gazprom, Russia’s natural gas monopoly, just over 50 percent of which belongs to the Russian state, is a national champion with enormous resources. But its business strategy faces serious challenges. Because of its size and importance for the Russian economy, much of Russia’s future depends on how the government handles Gazprom’s current dilemma.

Gazprom’s traditional business model is inadequate. The company has piped gas from its giant fields in West Siberia to a steadily growing European market, and when necessary it has cheaply bought additional gas from Central Asia. Now, everything has changed. Gas prices have tumbled and decoupled from oil prices, as liquefied natural gas (LNG) and shale gas are competing with piped natural gas. Increasingly, spot markets are offering an alternative to long-term contracts. Much of the European demand for Russian gas is gone and not likely to come back any time soon, but Gazprom has minimal physical possibility to export anywhere but Europe in the foreseeable future. With its West Siberian gas fields past their peak, Gazprom’s supply is in decline. Rather than selling their gas cheaply to Russia, the Central Asians are exporting to China through new pipelines. Gazprom is losing out in supplies, sales, and profits but insists on building new pipelines to Europe.

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In this chapter I first summarize Gazprom's traditional strategy, then record how the financial crisis has challenged Gazprom, report and assess the Gazprom management's response, and finally outline an alternative Russian gas policy.

Gazprom's Traditional Strategy

Gazprom draws on two traditions. One is that of Soviet ministries. In parallel with a few other Russian industries, notably railways and atomic energy, Gazprom was formed out of a Soviet ministry—the Ministry of Gas Industry. In contrast, most other Soviet industrial ministries, such as oil, coal, and electricity, were broken up into individual enterprises, which were largely privatized and encouraged to compete on domestic and foreign markets. But Gazprom and Rosatom (Russia's State Atomic Energy Corporation) stayed consolidated monopolies. Like the Soviet railways, they have retained many features of Soviet ministries.

The other Gazprom tradition, the state-owned national oil and gas company, is characteristic of most member countries of the Organization of Petroleum Exporting Countries (OPEC). These companies are forming a state within the state, dominating their respective countries both economically and politically. Gazprom has a few peculiarities in comparison with such national champions. Although it has acquired substantial oil production and power assets, it remains predominantly a gas company. Unlike most national champions in OPEC countries, Gazprom has substantial and widespread private ownership. Both these traditions involve extensive state monopolies.

Gazprom was formed by Viktor Chernomyrdin, the young, impressive professional who was appointed the last Soviet minister of gas industry in 1985. It was transformed into an enterprise association before the collapse of the Soviet Union. Chernomyrdin, who was Russia's prime minister from December 1992 until March 1998, granted Gazprom special privileges. In late 1993 it was awarded multiple monopolies and tax privileges, and in 1994 a large-scale insider privatization was launched. Gazprom's dominant features were huge resource endowment, extreme monopoly, favorable taxation, and insider privatization.¹ It also has many specific features.

First, Gazprom is big. It accounts for about 8 percent of Russia's GDP, one-fifth of its exports, and one-fifth of its market capitalization. In these three dimensions as well as tax payments, Gazprom is Russia's largest

1. Jonathan P. Stern, *The Future of Russian Gas and Gazprom* (Oxford: Oxford University Press, 2005) offers an upbeat view of Gazprom, while Clifford G. Gaddy and Barry W. Ickes, *Russia's Virtual Economy* (Washington: Brookings Institution) show the complexity of Gazprom's barter deals and cross-subsidization.

corporation, though its staff of some 330,000 is far smaller than that of the Russian Railways.

Second, Gazprom maintains monopolies over exports, trunk-line transportation, and development of new major fields. Russia has the world's largest gas reserves, and Gazprom's great advantage is its control of one-quarter of the world's gas reserves, through licenses granted by the government. Government protection is its greatest strength.

Third, gas prices are controlled far below the market level, and Gazprom rations its supplies. For the last several years, domestic prices have been gradually raised and are supposed to reach the market level in 2011, but the discrepancy between domestic and world prices varies with the vagaries of the international market. At times, domestic prices have been as low as one-fifth of world prices.

Fourth, Gazprom has far lower tax rates than the oil industry. In 2007 Gazprom paid \$7.3 in taxes per barrel of oil equivalent produced, while private companies paid \$31 to \$34 or nearly five times more.² The low taxes are justified with low regulated gas prices, but as a consequence Gazprom openly negotiates with the state on its taxes. Gazprom hardly makes any profits on its domestic sales, unlike independent producers, notably Novatek, which are making huge profits on such sales because of their greater efficiency.³

The Soviet gas industry expanded greatly in the 1970s and 1980s, when the large West Siberian gas fields were developed. The gas fields were developed later than the oil fields, and in the 1990s the gas industry managed to maintain nearly stable production, while Russian oil output plummeted by half. From 1999 to 2004, however, Russian oil production rose sharply, while gas output remained stagnant. From 2003 to 2008 Gazprom's production was almost perfectly flat at 550 billion cubic meters, accounting for almost 85 percent of Russia's gas output (figure 7.1).

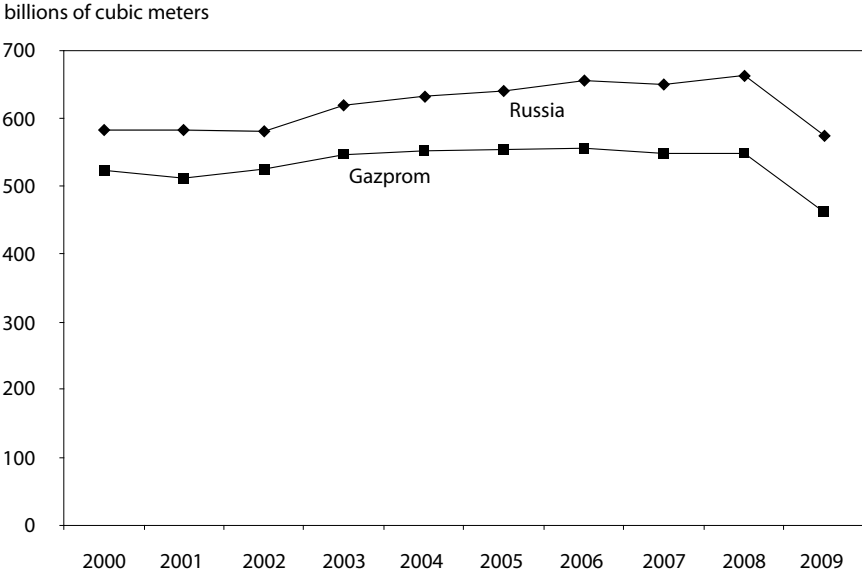
Russia's gas production rose slightly because of independent producers. In reality, Gazprom's own production has long been in decline, but it keeps its production constant by taking over the assets of independent producers. Some 40 billion cubic meters of associated gas is flared in Russia each year since Gazprom does not allow the producers in question access to its pipeline system.⁴

When its gas output expanded in the 1970s and 1980s, the Soviet Union initially satisfied its own gas needs, then those of its Eastern European satellites. In the early 1980s, the Soviet Union built politically controversial long pipelines to Western Europe, selling large volumes to primarily

2. Vladimir Milov, *Russia and the West: The Energy Factor* (Institut français des relations internationales and Center for Strategic and International Studies, July 2008), 3.

3. A large minority share of Novatek is now owned by Gazprom, so it is a related company.

4. Nadia Popova, "Bill Gives Priority to Gas Power," *Moscow Times*, August 13, 2009.

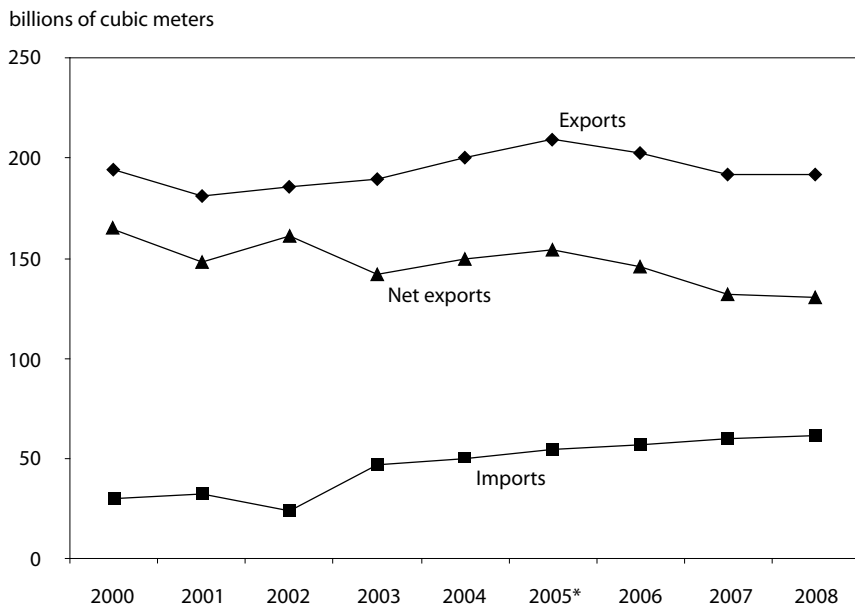
Figure 7.1 Gas production, Russia and Gazprom, 2000-09

Sources: Gazprom Databook, 2007 and June 2009, www.gazprom.com; Russian Federal Statistical Service; Kremlin.ru; and International Energy Agency.

Germany and Italy. These sales were based on long-term contracts, with prices changing quarterly related to various oil prices with a delay of half a year.

As the outer Soviet empire and the Soviet Union itself collapsed, Russia's gas sales changed geographic orientation. All the postcommunist countries reduced overall production and energy intensity, allowing Gazprom to redirect its sales from the Commonwealth of Independent States (CIS) and Eastern Europe to Western Europe. During the long economic boom starting in 2000, Gazprom thrived on steadily increasing gas demand from Western Europe, as the European Union's own gas production dwindled; gas was a favored source of energy, generating less carbon dioxide than oil and coal. Russian gas supplies were considered very reliable. Production costs in existing giant gas fields in West Siberia were low, allowing Gazprom to reap huge profits.

Gazprom has enjoyed monopoly over foreign trade in piped gas, though sometimes it allowed related intermediaries to participate in this trade. The value of its exports tripled from 2002 until 2006 because of rising oil and gas prices. Russia's export volume was actually more or less constant around 195 billion cubic meters. Its net export volume, however,

Figure 7.2 Russia's exports and imports of gas, 2000–08

* = includes natural gas, exported from underground gas storage houses in Ukraine.

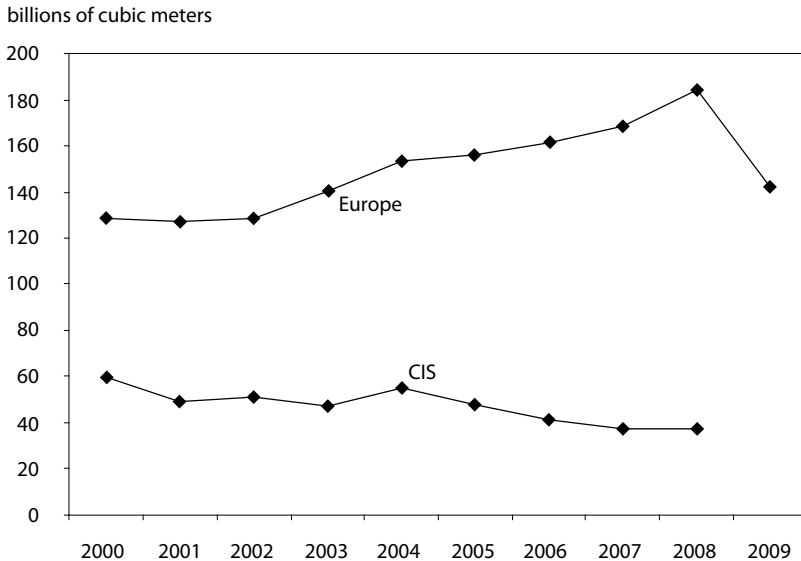
Sources: Central Bank of Russia, www.cbr.ru; Gazprom Databook, June 2009, www.gazprom.cpm; UN Comtrade Database (accessed on November 28, 2009 and February 16, 2010).

plummeted from 164 billion cubic meters in 2000 to 131 billion cubic meters in 2008, as Russia imported more gas from Central Asia (figure 7.2).⁵

Russia's exports to the CIS declined from 60 billion cubic meters in 2000 to 37 billion cubic meters in 2008, while those to Europe rose steadily from 129 billion cubic meters in 2002 to 184 billion cubic meters in 2008 (figure 7.3). Thus, Russia is now a net importer of gas from the CIS.

Sales seemed to be on autopilot, and the perception was that Russia could double its gas sales to Europe from 2006 to 2015. The big question was where Gazprom would find additional supplies. The long-term solution was perceived to be the development of some of Russia's known giant fields. The main focus was on the Yamal Peninsula in the far north or the offshore Shtokman field in the Barents Sea, but their development would be very expensive. The Gazprom management compared the costs with the low domestic gas prices and repeatedly postponed these two large developments.

5. Previously, Turkmenistan exported more of its gas directly to countries such as Ukraine without Gazprom's involvement.

Figure 7.3 Russia's gas exports to CIS and Europe, 2000–09

CIS = Commonwealth of Independent States

Note: The year 2005 for CIS includes natural gas, exported from underground gas storage houses in Ukraine.

Sources: Central Bank of Russia, www.cbr.ru (accessed on February 16, 2010); Gazprom, www.gazprom.com (accessed on February 16, 2010).

Instead, Gazprom increased its exports to the European market by increasing its purchases of Central Asian gas, and the Russian state helped Gazprom to control gas supplies from Central Asian countries such as Turkmenistan, Kazakhstan, and Uzbekistan. For years, Gazprom could dictate its export prices at a level far below the European prices plus transportation costs, awarding Gazprom large arbitrage rents.

Around 2005 Gazprom played with alternative themes. A major idea was to diversify its sales to reduce its dependence on the European market by supplying gas to the United States, China, and Japan, mainly through LNG to be produced at the Shtokman field for the United States and on Sakhalin for China and Japan. Another idea was to build new pipelines to Europe, mainly Nord Stream from Russia to Germany through the Baltic Sea and South Stream through the Black Sea over the Balkans to Italy. Pipelines to China were discussed more tentatively. Senior Gazprom officials traveled the world discussing developments in Nigeria and elsewhere, but most of these plans remained tenuous. Only in 2009 did Gazprom open its first LNG plant in Sakhalin Energy, a project initiated by Royal Dutch Shell, but Gazprom had forced the foreign companies involved to sell their majority share to it in 2006.

Gazprom seemed a money machine. In 2006 the Russian government finally liberalized trade in the previously restricted stocks of Gazprom. As a consequence of great foreign demand, Gazprom's market capitalization peaked at \$350 billion in May 2008, when it was the third most valuable corporation in the world. In June 2008 Gazprom's CEO Alexei Miller boldly predicted that the oil price would rise to \$250 per barrel "in the foreseeable future." The ensuing month, the oil price peaked at \$147 per barrel. Investment banks and energy consultants wrote rave reviews about Gazprom's splendid future. Its officials long predicted that their company would soon be worth \$1 trillion and become the biggest company in the world. Gazprom did not have a very clear strategy, but it seemed to be able to afford it.

Gazprom's great benefits did not necessarily favor the Russian state or its shareholders, but certainly its management. Its governance has persistently been poor and for a purpose. In their excellent book, *Putin and Gazprom*, Boris Nemtsov and Vladimir Milov argue that Gazprom's real aim is to transfer assets to officials through kickbacks on pipeline construction and equity purchases, illicit transfer of Gazprom shares, and transfer pricing in international sales.⁶

Challenges Hit Gazprom

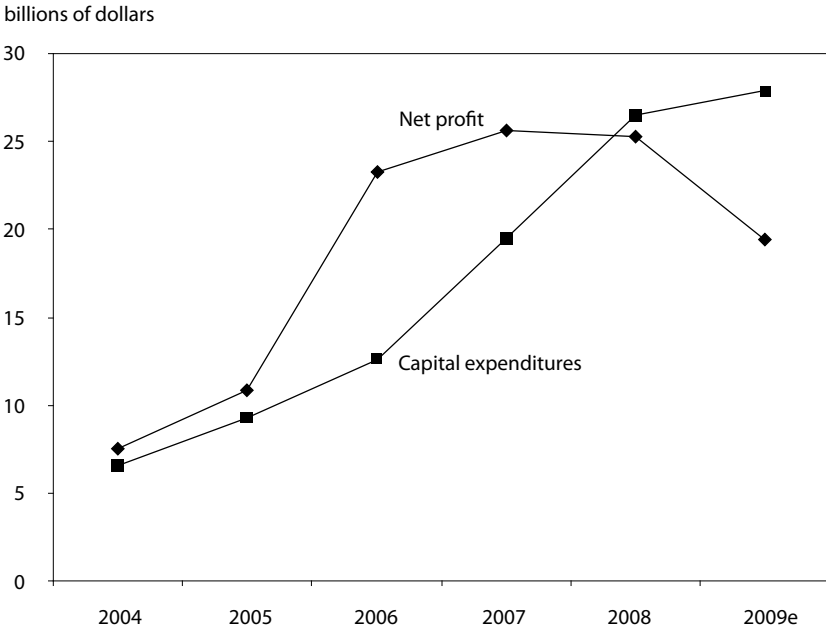
The global economic crisis hit Gazprom hard. In January 2009 the oil price plummeted to \$32.40 per barrel and Gazprom's market capitalization bottomed out at \$85 billion. A year later, the oil price recovered to \$75 per barrel, and Gazprom's market capitalization stabilized around \$140 billion, just 40 percent of its peak value. It remains Russia's largest company in terms of market capitalization, but it has underperformed in comparison with any relevant asset class.

Its net profit, which exceeded \$25 billion in 2007 and 2008, is likely to stop at some \$19 billion in 2009 (figure 7.4). Meanwhile, Gazprom's overall investment continues to rise and in 2010 is planned at \$30 billion, far exceeding net profits.⁷ As a consequence, Gazprom has a persistent negative cash flow with a net debt of over \$40 billion.

In each recession, some structural weaknesses are revealed, and Gazprom may be experiencing the beginning of a substantial structural crisis. Because of its unique role in Russia's economy and politics, this concerns

6. Boris Nemtsov and Vladimir Milov, *Putin and Gazprom* (Moscow, 2009); Global Witness, *It's a Gas—Funny Business in the Turkmen-Ukraine Gas Trade* (report, Washington: Global Witness Publishing, 2006).

7. UBS, "Gazprom Export—Key Takeaways from Conference Call," *Russian Daily News*, April 28, 2009.

Figure 7.4 Gazprom's net profit and capital expenditures, 2004–09e

e = estimate

Source: UBS Investment Research, July 15, 2009.

the country's economic and political model. The current financial crisis should not be seen as the cause but as a catalyst.

In the first quarter of 2009 an external shock hit Gazprom. Russia's gas exports plunged, compelling Gazprom to cut its production. By June it had reduced its production by 36 percent in annualized terms.⁸ Exports started recovering in April and production in July, but Russia's export volume for the year contracted by 11 percent, and the lack of demand forced Gazprom to cut its production from 550 billion cubic meters in 2008 to 462 billion cubic meters in 2009 or by 16 percent.⁹ Three factors caused this sudden drop: two weeks of supply cut, temporarily high gas prices, and the great recession.

There are at least six reasons to believe that this was not a temporary phenomenon but a new trend: Gazprom's unreliability as a supplier; new competition from LNG and shale gas; changing relative prices; structural

8. UBS, "Gas Industry –56.2% y-o-y Reduction in Russian Gas Exports," *Russian Daily News*, December 18, 2009; UBS, "Gazprom Export—Key Takeaways from Conference Call," *Russian Daily News*, December 18, 2009.

9. UBS, "Gazprom: 3Q09 IFRS Results Review," February 2, 2010.

decline in the demand for gas; decreased energy intensity in Russia, Ukraine, and Belarus; and Gazprom's underperformance relative to independent producers.

First, Gazprom has long advertised itself as a "Reliable Gas Supplier to Russian and Foreign Consumers,"¹⁰ but it has established a firm record to the contrary. In January 2006 its cuts of deliveries to Ukraine harmed eight countries, and a few were hurt by cuts to Belarus in 2007. In January 2009 Gazprom eliminated all deliveries for two weeks to 16 European countries because of a dispute with Ukraine. The European customers were neither guilty nor forewarned, and several of them, especially in the Balkans, suffered badly.

Gazprom has used considerable discretion in its deliveries for many years, but until 2006 it made a sharp distinction favoring its European customers, while treating post-Soviet countries badly. A study by the Swedish Defense Research Agency established that Russia used "coercive energy policy," such as supply cuts, coercive price policy, and sabotage 55 times from 1991 until 2006. Of these incidents, the authors reckoned that 36 had political and 48 economic underpinnings, that is, both motives were present. Gazprom was the dominant actor in 16 of these cases, and Itera, an allegedly related gas trading company, accounted for another 9. Thus coercive measures in Russia's gas policy toward post-Soviet countries do appear habitual. The main targets have been Lithuania, Georgia, Belarus, Ukraine, and Moldova.¹¹

Gazprom has justified its multiple cuts in supply with payment arrears and resistance to higher prices by post-Soviet countries, but often they have been accompanied by loud public political polemics by Russian officials. For many years, Gazprom offered much lower prices to these nations, which often accumulated large unregulated debts. Gazprom was patient because it tried to exploit these debts for debt-equity swaps attempting to acquire their pipeline systems. However, after Gazprom had succeeded in doing so, for example, in Moldova and Belarus, it continued disrupting supplies so it did not improve energy security. Since 2005, Gazprom has tried to extract the higher European prices from its post-Soviet customers, but it has done so in fits and starts with policies varying by country, making political motives all too evident. Moreover, Gazprom has often insisted on including nontransparent intermediaries, which have benefited from transfer pricing.¹²

10. Gazprom Today, www.gazprom.com (accessed on December 23, 2009).

11. Jacob Hedenskog and Robert L. Larsson, *Russian Leverage on the CIS and the Baltic States* (Stockholm: Swedish Defense Research Agency, 2007), 46–57; Robert L. Larsson, *Russia's Energy Policy* (Stockholm: Swedish Defense Research Agency, 2006), 296–97.

12. Simon Pirani, ed., *Russian and CIS Gas Markets and their Impact on Europe* (Oxford: Oxford University Press, 2009); Walerij Paniuszkin and Mikhail Zygar, *Gazprom: Rosyjska bron [Gazprom: The Russian Weapon]* (Warsaw: W.A.B., 2008).

Its agreement with Ukraine in January 2009 might set a new trend. Its characteristics, as amended in November, are a long-term agreement, a European gas price formula, reasonable transit tariffs, and no middleman. However, the volume agreed was far too large, and it had to be cut by about half for both 2009 and 2010 as Ukraine approximately halved its gas imports from Russia at the new, higher gas prices.

Naturally, the victims of these vagaries defended themselves. Some of Gazprom's major customers—Ukraine, Germany, Austria, and Hungary—have accumulated gas stocks for three months or more, but such large stocks involve substantial costs, which have to be included in the cost of purchasing gas from Gazprom. All are trying to diversify their energy supplies and diminish their dependence on piped gas. As a consequence, Gazprom's partial downstream monopoly as supplier of gas to much of postcommunist Eastern Europe is gradually being dismantled. Now countries such as Poland and Hungary receive half their gas from other sources. Gazprom delivers 40 percent of the European Union's gas imports and one-quarter of its total supplies.¹³

Gazprom's second problem is that it is encountering new competition from LNG and shale gas. Traditionally, Gazprom delivers gas only to Europe and it does so through pipelines. LNG technology has existed for a long time, but until recently it was too expensive and only now has it taken off. LNG allows gas producers far away, notably Qatar in the Persian Gulf, to freeze their gas in expensive liquefaction plants. The LNG is shipped like oil in supertankers to regasification terminals, from where it is distributed through pipelines. In the last few years, huge investments have been directed to all three stages of LNG, flooding the European gas market with comparatively cheap LNG through multiple new regasification terminals.¹⁴

At the same time, the United States has started mass producing cheap shale gas, replacing most of the anticipated American demand for LNG, which is now being redirected to the European market. The International Energy Agency predicts that this will remain the case for the next three to five years, and it does not expect European gas demand to return to the level of 2008 until 2012 or 2013.¹⁵ The steadily increasing demand for gas has turned into a medium-term glut.

Third, the gas surplus is changing market conditions and depressing international gas prices. LNG trade is reminiscent of oil trade and is domi-

13. Peter B. Doran, "Collective Energy Security: A Road Map for Europe," Report 24 (Center for European Policy Analysis, 2009), 11.

14. Richard Pomfret, "Energy Security in the EU and Beyond" (paper presented to the CASE Conference "The Return of History," Warsaw, November 20–21, 2009).

15. International Energy Agency, *Natural Gas Market Review* (Paris, 2009); Paul Betts and Andrew Hill, "Gas Glut That Risks Spoiling Russia's Power Games," *Financial Times*, December 16, 2009.

nated by the spot market, whose prices vary greatly, at times half the Russian gas prices in 2009. At present, a new customer has little reason to opt for piped Russian gas when cheaper LNG is available.

Also, Gazprom's contract terms are being challenged. Since it started selling gas to Europe in the early 1980s, Gazprom has insisted on long-term contracts with prices linked to a mixture of oil indices half a year earlier. Such contracts were attractive when oil prices were rising but not when prices fell. In the first half of 2009 Russian gas to Europe was seriously overpriced, which depressed demand. The recovery in the second half of 2009, when Russian gas was much cheaper, was only partial.

The hard question for Gazprom is whether European gas prices have decoupled from the oil price for good, leaving Gazprom's gas overpriced. The Gazprom view is that this is a temporary phenomenon, while independent consultants claim it is a long-term condition.¹⁶ Gazprom insists on its long-term contracts with a clause called "take or pay," forcing its customers to pay even if they do not accept deliveries.

A fourth challenge concerns the demand for gas after the crisis. The customary precrisis idea was that gas was one of the best fuels, emitting far less carbon dioxide than coal or oil, but it is primarily used in three spheres: power generation, heating, and process industry (chemical and metallurgical industry). In power generation, gas competes with coal, and great energy savings can be made through greater energy efficiency in power stations. Much of the heating costs can be saved through better insulation. Chemical and metallurgical industries are probably experiencing a structural downsizing. In a recent study, McKinsey & Company points out that Russia can make its greatest energy savings in these very sectors.¹⁷ Therefore, much of the demand for gas might disappear in the medium term.

Fifth, after high energy prices from 1973 to 1980, the world saw massive and unanticipated energy saving. Similar energy savings are likely this time around. Three countries that can save energy most easily are Russia, Ukraine, and Belarus. Today, Russia consumes twice as much primary energy as China and six times as much as the United States for each \$1 of GDP in purchasing power parities.¹⁸ The situation is similar in Ukraine and Belarus, two of Gazprom's largest export markets. As a consequence, gas demand from these three countries is likely to decline.

The decline in demand for gas will be all the greater if the ambitious targets for a reduction of greenhouse emissions by 50 percent by 2050, as were discussed at the Copenhagen climate conference in December 2009, are implemented (see chapter 6). In a paper with long-term scenarios for

16. Panel discussion on gas demand at Troika Dialog's Russian Forum 2010, Moscow, February 3-4, 2010.

17. McKinsey & Company, *Pathways to an Energy and Carbon Efficient Russia* (Moscow: McKinsey & Company, Inc., 2009), 4.

18. *Ibid.*

Russia's energy demand, Sergey Paltsev, John Reilly, and Natalia Tourdyeva find that Russia's gas demand might peak in 2010.¹⁹ The gas glut might be not only medium term but also long term.

A sixth challenge to Gazprom is independent producers in Russia. With its unwieldy bureaucracy, Gazprom can produce only from giant fields, but Russia has plenty of accessible small and medium-sized fields. It does not need to develop inaccessible new giant fields for the foreseeable future if it utilizes medium-sized fields. Agile independent companies are already doing that. Novatek and big private oil companies produce gas far cheaper than Gazprom, and unlike Gazprom they manage to sell increased gas volumes on the domestic market with profit.

Gazprom has repeatedly used its monopoly power and political muscle to purchase independent producers cheaply to recover its share of production. Many Russian and foreign companies have faced such a fate. Eventually, the question must arise why the Russian government allows Gazprom to waste billions of dollars every year.

In sum, Gazprom may have far too much gas in the medium term because of energy savings both at home and abroad, especially in industries using gas. But the prices that Russian gas can fetch abroad are likely to stay low and probably decouple from oil prices. Even if domestic gas prices in Russia rise, Gazprom's finances are likely to be squeezed.

Gazprom's Response to the Crisis

The Gazprom management—that is, the Russian government—does not seem to have understood the severity of these dramatic changes. After a long time in denial, it has reacted in an ad hoc manner. At the time of this writing, Gazprom is gradually molding a new defensive strategy. It is trying to maintain the old demand while letting go of new markets and cutting output.

The crucial issue for Gazprom is European demand, which generates all its profits. Instead of apologizing to its European customers for the supply cut in January 2009, Gazprom has aggressively insisted on its old long-term contracts with its take-or-pay clauses. It is bound to lose customers with this high-risk policy in a buyers' market. In February 2010, Gazprom finally started easing this policy, allowing four major European client companies to buy 10 to 15 percent of their contracted gas at lower spot market prices.²⁰

Gazprom has constrained its supplies by reducing its purchases of

19. Sergey Paltsev, John Reilly, and Natalia Tourdyeva, "Russia and the World Energy Markets: Long-Term Scenarios" (paper presented at the GTAP 12th Annual Conference on Global Economic Analysis, June 10–12, 2009, Santiago, Chile).

20. "Gazprom Price Change to Last 3 Years," *Moscow Times*, March 1, 2010.

Central Asian gas and by postponing the development of new giant fields. In 2008 Gazprom contracted 70 billion to 80 billion cubic meters a year of Central Asian gas at prices above current market prices. In April 2009 Gazprom suddenly and unilaterally halted the gas flow from Turkmenistan, which caused an explosion in the pipeline on Turkmen territory, blocking further gas sales to Russia. After the Turkmen repaired the pipeline, Gazprom refused to take the agreed volumes at the contracted price, although it had a take-or-pay contract. Turkmenistan had prior bitter experiences from the gas glut of 1997–98, when Russia embargoed all its gas exports for 18 months until it built an alternative pipeline to Iran.²¹ In December 2009 Russia and Turkmenistan agreed to reduce Turkmenistan's deliveries to Russia from 50 billion cubic meters in 2009, of which Russia took only 12 billion cubic meters, to up to 30 billion cubic meters in 2010.²²

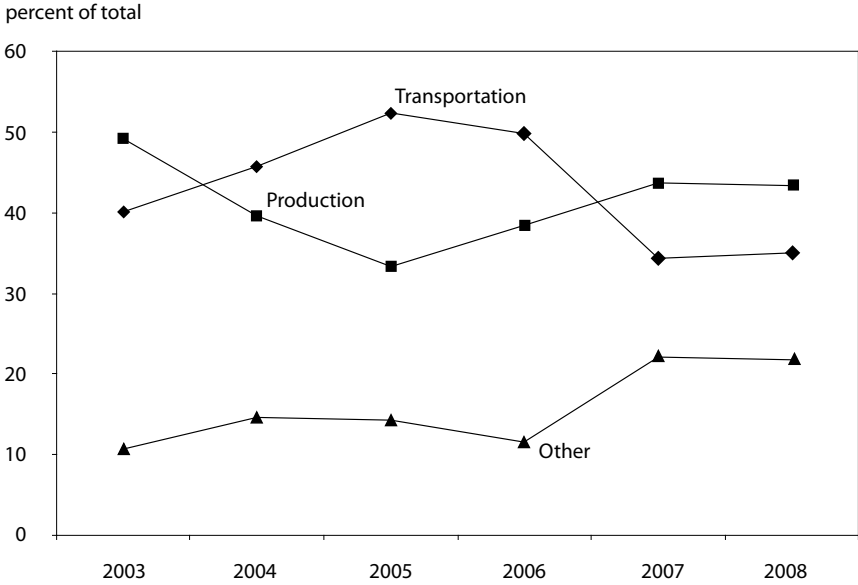
Since Gazprom has been forced to reduce its output from existing fields, it has neither need nor financing for the expensive new mastodon fields, Shtokman in the Barents Sea, Yamal in Northern Russia, or Kovykta in East Siberia. Gazprom has acted rationally, quietly, and without drama delaying the development of all these new fields.

One inconsistency remains in Gazprom's new defensive strategy. The company insists on building two new pipelines, Nord Stream through the Baltic Sea to Germany and South Stream through the Black Sea and Balkans to Italy. These two pipelines are intended to circumvent the transit countries Ukraine, Belarus, and Poland, but South Stream would pass through more transit countries. After the many coercive measures by Gazprom against their customers, Gazprom, not any transit country, appears to be the problem, which Gazprom refuses to acknowledge. Nord Stream, with a capacity of 55 billion cubic meters, would cost at least \$15 billion and South Stream, with a capacity of 60 billion cubic meters, about \$28 billion. By contrast, the March 23, 2009 EU-Ukraine declaration on the gas transit system through Ukraine could solve the problems with Ukrainian gas transit for a paltry investment of \$3.5 billion and secure all the necessary capacity.

Gazprom's investment structure is a traditional peculiarity. It has invested more in pipelines than in development and production and large amounts in acquisitions outside the gas sector. In 2005 more than half of its large capital budget went to pipelines and only one-third to production and development. But the Gazprom management has sobered up somewhat. In 2007 and 2008 Gazprom spent 43 percent of its capital investment on production and just over a third on transportation (figure 7.5). Yet, the existing pipeline network is poorly maintained, and these massive invest-

21. Vladimir Soccor, "Strategic Implications of the Central Asia-China Pipeline," *Eurasia Daily Monitor* (Jamestown Foundation, December 18, 2009).

22. Isabel Gorst, "Russia Welcomes End to Turkmen Gas Dispute," *Financial Times*, December 23, 2009.

Figure 7.5 Gazprom's capital expenditures, 2003–08

Source: Gazprom Databook, June 2009, www.gazprom.com (accessed November 28, 2009).

ments expanded the total Russian gas network by only 8.6 percent from 2000 to 2008.²³

Gazprom has no comparative advantage in pipeline construction. Few companies procure at higher prices. Anecdotal evidence suggests that it usually costs Gazprom three times as much to build a pipeline as anybody else. When Gazprom built Blue Stream, Hermitage Capital Management showed that Gazprom's cost per kilometer of pipeline was 119 percent higher than on the Turkish side.²⁴

Nor does Gazprom have any apparent comparative advantage in the transportation of gas, being notorious for including shady intermediaries, which later prompt it to shut off its deliveries. In March 2010, Gazprom sensationally announced that it would audit its related export intermediaries, which seemed to be an attack on customary corrupt schemes.²⁵

With reduced gas exports to Europe, Russia has no need for additional

23. Goskomstat (Russia's Federal State Statistics Service), *Russia in Figures for 2009, 2008, and 2007*.

24. Vadim Kleiner, "How Should Gazprom Be Managed in Russia's National Interests and the Interests of Its Shareholders?" (Hermitage Capital Management, June 2005), 40–41.

25. Yelena Mazneva, Inna Reznik, and Maxim Tovkailo, "Gazprom Middlemen Face Audit on Exports," *Moscow Times*, March 5, 2010.

pipeline capacity. It makes no commercial sense to build either Nord Stream or South Stream. Nor would it make any political sense, as Gazprom regularly causes delivery disruptions.

For all these reasons, demand from Gazprom's final European consumers is likely to stay low for years. Eventually, Gazprom's friendly intermediaries—the big European gas companies—have little choice but to renegotiate their long-term contracts with Gazprom. The post-Soviet countries have already reduced their dependence on Russian gas deliveries for many years, and the two remaining big customers, Ukraine and Belarus, can easily reduce most of their gas consumption. Ukraine, which has even greater energy intensity than Russia, could save all its gas imports from Russia in the medium term by becoming as energy efficient as Poland or Slovakia. Nor are Gazprom's domestic sales of some 270 billion cubic meters safe. If prices double within a few years as is currently planned, Russian gas consumption will plummet, as Russia is ripe for energy savings. If the independent producers are permitted reasonable market conditions, they will beat Gazprom in both production and sales. All this would be good for Russia but not for Gazprom.

The Central Asian gas market is going through a metamorphosis. Most of the Central Asian gas supply is likely to go to China without Russian intermediation. China has already built a gas pipeline to Turkmenistan. By 2013, China is planning to buy 40 billion cubic meters of natural gas from Turkmenistan, while the Russian-sponsored new pipeline project on the eastern shore of the Caspian Sea from Turkmenistan to Russia, which President Putin announced in May 2007, is going nowhere and will most likely never be built.²⁶

In 2007 Gazprom forced TNK-BP to abandon the giant gas field Kovykta in East Siberia, from which it could have been profitable to build a pipeline to China. Now Kovykta will remain stranded and barely exploited for years to come. Gazprom is also set to abandon the project to build a pipeline with a capacity of 80 billion cubic meters of gas from West Siberia to China, which President Putin presented with great fanfare in 2006, though it never appeared plausible.²⁷ The only Russian gas to be sold to China is LNG from Sakhalin Energy. Turkmenistan and Kazakhstan are likely to outcompete Russia on the Chinese gas market.

Without investment in new giant gas fields, notably Yamal, or without allowing independent producers more freedom, Gazprom's output is set to decline steeply beginning in 2011. It may lose as much as one-third of its production capacity in half a decade, as the four giant fields in West Siberia that currently dominate its production have all passed their peak

26. Pavel K. Baev, "China Trumps Gazprom," *Moscow Times*, December 17, 2009.

27. Catherine Belton, "Dispute Puts Gazprom China Pipeline on Hold," *Financial Times*, June 18, 2009.

and are in decline. Given that Russian gas demand may fall even further, such a development no longer seems problematic but an appropriate adjustment of supply to contracting demand.

If Gazprom does not change its pipeline construction plans and starts building both Nord Stream and South Stream in 2010, these two pipelines might become two of the most wasteful white elephants ever. Russia will not have gas for them for the foreseeable future, and it is far cheaper to use the existing pipelines through Ukraine. Their construction would not lead to any diversification but further tie Russia to the old pipeline transportation and the stagnant European gas market when it should try to diversify its markets. Nord Stream seems to have advanced too far to be stopped, while the construction of South Stream can still be halted.

As a consequence of less demand, less production, lower prices, and excessive capital investment, Gazprom will be a smaller, less profitable, and less valuable company. Within five years, its supply of gas could decline by 200 billion cubic meters or about one-third, while losing domestic and foreign sales of similar magnitude. Russian society will forgo huge wealth that its gas industry could have generated, but it also means that Gazprom will cease to be a state within the state, and Russia could become a more normal and open society.

An Alternative Russian Gas Policy

The current recession has exposed Gazprom's weaknesses and offers an excellent opportunity for reform as long outlined.²⁸ The crucial insight is that what is good for Gazprom's management is bad for Russia, because Gazprom is the primary cause of Russia's energy curse. The less energy rents it generates, the lesser the curse will be.²⁹ The danger is to be content with marginal improvements when truly profound changes are required.

The first step should be to separate Gazprom from the state. Either the president or the prime minister concludes virtually all important international gas deals. Even if the majority of Gazprom remains state-owned, it must gain integrity as an autonomous joint stock company. Therefore, it should be deprived of its regulatory functions, which should be transferred to an independent regulatory agency.

Since the Gazprom management has failed so miserably, a clean sweep of the existing management and installation of a new, competent management from the private sector are desirable. Another immediate decision

28. Rudiger Ahrend and William Tompson, "Russia's Gas Sector: The Endless Wait for Reform?" OECD Economics Department Working Paper 402 (Paris: Organization for Economic Cooperation and Development, September 2004).

29. Yegor T. Gaidar, *The Collapse of the Empire: Lessons for Modern Russia* (Washington: Brookings Institution, 2007).

should be to abandon Nord Stream and South Stream, since neither appears commercially viable.

In a rational market economy, a conglomerate such as Gazprom would not exist. All kinds of noncore assets from farms to television companies should be sold off.³⁰ Production of gas should be separated from transportation and sales in different companies. At least underperforming production companies should be put up for sale. Since Gazprom lacks the administrative ability to develop small and medium-sized fields, the Ministry of Natural Resources should take back all its neglected or mothballed licenses. Gradually, such licenses should be auctioned off, which would strengthen independent gas producers. No doubt, they would quickly outcompete Gazprom in production in the same way Russia's private oil producers dominate that industry.

The gas pipeline system could stay state-owned but be separated from production and opened up on equal pricing conditions to independent producers. As a consequence, flaring could be sharply reduced and Russia would benefit from a huge, cheap, additional supply of gas, at the same time air pollution would be reduced. This would be a large, swift gain for Russian welfare.

In accordance with long-accepted policy, domestic and CIS prices should be gradually raised to the market level, which would be considerably lower than in Europe because of large transportation costs for gas. For domestic Russian prices, the current target date is 2011. When market prices have been reached and a competitive gas market established, the gas market can be deregulated. Then differential taxation between the oil and gas industry will no longer be justified, and equal taxation should be attempted. That should increase Russia's federal tax revenues.

The combination of reduced flaring, introduction of market prices, and market allocation of gas will lead to greater efficiency, huge savings of energy, and reduction of air pollution, which will benefit the welfare of the Russian people. Presumably, this will lead to a substantial decline in gas consumption in Russia and other post-Soviet countries. If more gas is needed, independent companies can extract it from existing small and medium-sized gas deposits at much lower cost than from the distant giant fields in the far north. Then, Russia could manage without developing Yamal or Shtokman for quite some time. Instead, it could direct financial resources to the maintenance of the existing pipeline system to reduce losses. If independent producers are given more freedom, Russia's many accessible small and medium-sized fields could be developed.

Gazprom must also try to win back the trust of its foreign customers, whom it has abused in the last several years. To begin with, it should apologize for cuts in recent years and offer credible guarantees that it will

30. Admittedly, many enterprises have apparently been privatized through asset stripping. See Nemtsov and Milov, *Putin and Gazprom*.

not do so again. It may need to reconsider its centralized sales model. Gazprom should build up storage in its customers' markets to reassure them that sudden delivery cuts will no longer occur, and it can start participating in spot sales. Gazprom should adopt a more flexible, decentralized, and customer-oriented business model,³¹ but such a policy requires a different kind of company, which is an additional reason to break up Gazprom.

It will be much easier to render Gazprom transparent and improve its governance on a competitive market. Gazprom will stop being a slush fund for Russian politics. For the European Union, Gazprom's new weakness offers an outstanding opportunity to clean up gas trade with Russia. The European Union and Russia should come together and reform the European and Russian gas sectors, which are both in crisis. The centerpiece of an all-European gas reform should be marketization and the unbundling of transportation and production of gas.

The Europeans could take up Russian President Dmitri Medvedev's recent proposal to draft a new legal framework for energy cooperation meant to replace the Energy Charter of 1994, which almost all other European countries have ratified. Both Russia and Europe need an agreed legal framework for international energy cooperation. If Russia accepts the application of the Energy Charter's transit protocol, it could benefit from export revenues from international usage of its extensive trunk pipeline network.

Gazprom's current crisis offers the best opportunity ever for Russian and European energy reform. The arguments for a profound reform of Russia's gas sector have never been stronger.

31. I owe this policy suggestion to Vladimir Milov.