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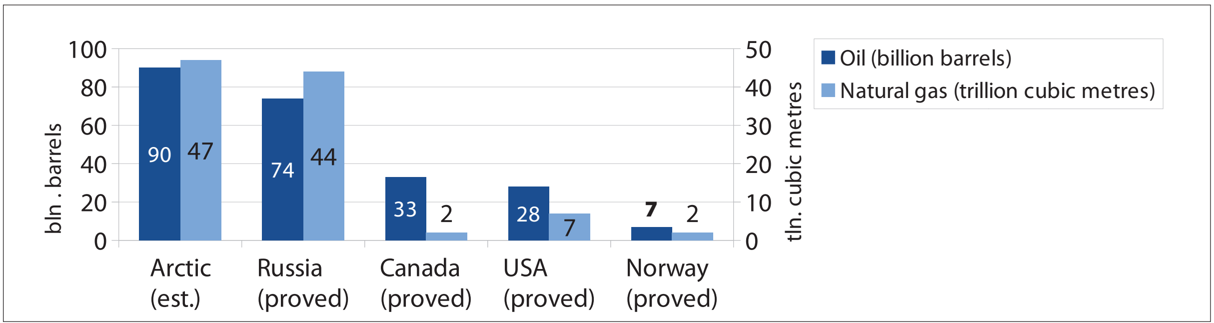
Figure 1: Undiscovered Oil and Gas Resources of the Arctic and Proved Reserves of the Littoral States



Source: United States Geological Survey, July 2008, http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf *(undiscovered resources of the Arctic); BP Statistical Review of World Energy June 2010* http://www.bp.com/statisticalreview *(proved reserves of littoral states)*

ANALYSIS

Liberalisation Heralds Change in the Gas Market

By Simon Pirani, Oxford

Abstract

The Russian government's efforts to liberalise the domestic gas market, and specifically to raise gas prices to levels comparable to those in Europe, will be a decisive factor in the country's energy sector over the next 5–10 years. Already, Ukrainian prices are close to "European netback" (i.e. European border prices minus export duties and transport costs)—and although Russian prices lag behind, sales across the former Soviet Union have become much more important to Gazprom, Russia's dominant, state-controlled gas company, than they were during the oil boom of 2002–08. In the domestic market, Novatek (Russia's no. 2 gas company after Gazprom) and the oil producers now account for one quarter of sales, and are giving weighty political support to liberalisation.

The European Netback Principle

The Russian government finally decided on gradual gas market liberalisation in 2006, as a corollary of liberalisation of power and heat markets (which account for more than half of domestic gas consumption). The key decree, no. 333 of May 2007, provides for domestic gas prices to move up in stages according to the principle of "equal profitability of gas supply to domestic and foreign markets" (i.e. European netback), and for other steps to end Gazprom's quasi-monopoly of domestic sales and control of the pipeline network through which gas is transported to customers.

In ruble terms, Russian consumers pay roughly nine times more for gas than they did in the late 1990s. But prices remain regulated at levels around, or less than, half of European netback. In 2007, ministers spoke of reaching European netback pricing by 2011—but as oil prices shot up to unprecedented highs that year, pulled back from these original targets. The world financial crisis, and the ruble devaluation that followed, further complicated things. Nevertheless, actual prices in dollar terms rose in 2009 and 2010.

The state regulatory body, the Federal Tariff Service (FTS), calculated nominal European netback levels in 2010 (averaged across Russian regions) at 5534 rubles/thousand cubic metres (r./mcm) (first quarter), 4190 r./mcm (second quarter), 4257 r./mcm (third quarter) and 4736 r./mcm (fourth quarter). Wholesale prices, which are regulated by the FTS, were (averaged across regions for the year) at about 40% of that level for households (1903 r./mcm), and just over half of it (2478 r./mcm) for other customers (including power companies, industry etc).

When the government reviewed progress last year, it decided that regulated wholesale gas tariffs would move up by 15% per year, for both industrial and residential sectors, with a view to reaching European netback by 2015. But raising tariffs remains extremely sensitive for governments that fear social protest—and Russia is no exception.[1] In April 2011, both prime minister Vladimir Putin and finance minister Aleksei Kudrin suggested that increases in all regulated tariffs—i.e. those for electricity, water, heat and rail freight as well as gas—should be slowed down to around the level of inflation. The economic development ministry drew up an alternative schedule, under which tariffs would rise "no faster than the expected level of inflation", i.e. 5–6% a year. Putin told officials to look at the two schedules and come back with proposals.

With the political establishment preparing for the presidential election in March 2012, this proposal to put the brakes on tariff increases was no great surprise. In the electricity market, it has caused friction with companies that bought power generation assets at privatisation in 2006–07, who complained that it cuts into expected revenues on which they had based investment plans. In gas, it will not only have significant implications for Gazprom's investment programme, but will also make it unlikely that European netback will be reached even by 2015—although that of course depends partly on how prices move in the European market.

For all Russian gas producers—Gazprom, Novatek and the oil companies—even the long-term prospect that domestic gas sales will be anywhere near as profitable as European sales is a game changer. Gazprom, almost continuously since being formed in 1990, has subsidised its domestic sales—which in turn have subsidised industry and the population—from revenues earned on European sales. Because European gas prices are linked to oil prices, those revenues soared during the oil boom of 2002–08 and remain high. But if the differential between the export and domestic market closes, the rationale for focusing on export disappears. In fact the sheer scale of the FSU markets could make them potentially more attractive.

Consider the numbers. Roughly, 650 billion cubic metres (bcm) of gas is consumed annually by the FSU, compared to 550 bcm by OECD Europe; Russia consumes roughly three times as much gas (450 bcm) as it exports to Europe (150 bcm). Between 2000 and 2010, when Gazprom's average sales price in Europe almost trebled from $103.20/mcm to $301.80/mcm, its average Russian sales price rose from 12% to 25% of the European price and its average sales price in other FSU countries (mainly Ukraine) rose from 52% to 77% of the European price. Those gaps will take time to narrow further, but, as they do, companies' strategies will be transformed.

Decree No. 1205

Decree no. 333 on market liberalisation was supplemented by decree no. 1205 "On improvement of state regulation of gas prices", issued by Putin on 31 December 2010, which set out the regulatory steps required. It directs officials to draw up proposals "on the transition, starting from January 1, 2015, from state regulation of wholesale gas prices to state regulation of transport services on high-pressure pipelines on the territory of the Russian federation". If and when this were implemented, it would amount to non-discriminatory third-party access with all parties, Gazprom subsidiaries included, paying regulated transport tariffs while selling gas at free market prices.

Decree no. 1205 also introduces the idea that regulated prices should be set taking into account not only the European netback levels but also "the cost of alternative fuels". It is not clear how these costs would be calculated, but it has long been an objective of Russian government policy to raise gas prices relative to coal prices.

This wording could also be an acknowledgement of the biggest uncertainty hanging over the price reform process—that the average sale price of Russian gas in Europe, which forms the basis of the FTS calculation of netback levels, is subject to powerful changes in the European market. The trend away from oil-linked prices on one hand and long-term contract sales on the other,

1 A recent survey of this issue in Russia is: Indra Overland and Hilde Kutschera, "Pricing Pain: Social Discontent and Political Willpower in Russia's Gas Sector", Europe-Asia Studies (2011) 63:2, pp. 311–331.

towards a bigger role for spot prices, will inevitably influence these calculations.

Ukraine Nearer to European Price Levels Than Russia

Ukrainian domestic prices are approaching European netback much more rapidly than those in Russia (see Table 1). Import prices of Russian gas, to which industrial consumer prices are tied, rose to a nominal European netback level under contract (about 10% higher than actual European netback) from January 1, 2010, and were $305/mcm in the first quarter and $336/mcm in the second quarter. Thereafter a $100 discount was applied under the agreement concluded with Russia in April last year. With the discount applied, this year's import prices were $264/mcm in the first quarter and $297/mcm in the second quarter.

Accelerated price increases for residential gas customers were scheduled as part of a programme of revenue-raising measures agreed with the International Monetary Fund (IMF) under a loan programme launched in October 2008—but, like Russia, Ukraine has found it difficult to implement changes at the pace initially envisaged. And the reasons are the same: apprehension about popular protest prior to elections (in Ukraine's case, parliamentary, in 2012). Regulated tariffs for residential consumers were raised by 50% in August 2010, in accordance with the government's commitments to the IMF. A further 50% increase was scheduled for April this year, but is now being implemented in stages: 10% in April, 20% in June and the remainder later in the year.

Russian and FSU Sales Have Cushioned Crisis Effect

As a consequence of the economic crisis of 2008–09, and the resulting zig-zag of oil prices and oversupply of the European gas market, Gazprom's Russian and FSU sales became significantly more important to it in 2010 (see Table 2). In 2009, demand for gas in both Europe and the FSU fell sharply due to the economic recession. In Europe, Gazprom found itself struggling to retain its market shares against other importers.

Gas prices in the long-term sales contracts that are used for most imports, which are tied to those of oil, dipped briefly but then returned to high levels, while gas sold on liberalised "spot" markets in Europe was much cheaper—half the price, at one point in 2009. Some importers, e.g. Norway, offered more substantial discounts on their contract prices than Russia was prepared to. Gazprom decided to lose volumes rather than cut its prices, and by 2010, with oil prices still high but the economy recovering and the gas market better balanced, it found its European market share had fallen (roughly, from 29% to 24%).

What saved Gazprom from a substantial fall in revenue were the sharp increases in prices for gas exported to Ukraine, and modest increases for Russian industrial customers. This meant that revenues from Russian sales have risen steadily for the last two years, and revenues from FSU sales—despite a sharp fall in Ukrainian import volumes—dipped negligibly in 2009 and rose sharply in 2010. In round numbers, Russia and the FSU contributed 40% of Gazprom's gas sales revenues in 2008, and 50% in 2010. That proportion may well keep rising.

Market Reform, Continued

There are two other key aspects to Russian market reform: (i) the development of an unregulated market, dominated by non-Gazprom gas producers, and (ii) the erratic progress towards pipeline access for those producers that is a precondition for a completely liberalised market. Gazprom stated recently that the unregulated market now accounts for up to 25% of total domestic gas sales—i.e. more than 100 bcm/year. The main sellers are Novatek and the Russian oil companies; the main buyers are large power and industrial sector customers. Prices are rarely disclosed, but usually hover at, or just above, the regulated prices at which Gazprom sells to industry.

A further aspect of market reform was the establishment in 2007–08 of the gas exchange, operated by Mezhregiongaz, Gazprom's domestic sales arm, on which 5 bcm of Gazprom gas and 5 bcm from non-Gazprom producers was to be sold. Operations were suspended in 2009 as prices fell sharply during the recession. President Dmitry Medvedev in April instructed officials to draw up plans to reopen the exchange, and industry sources expect this could happen at some point in 2012.

While the 2007 decree set out a framework for the unregulated market to grow, it left unresolved the issue of third-party access to the pipeline system, which is owned and maintained by Gazprom. According to current rules, spare capacity must be made available to any non-Gazprom producer that requests it. But until 2009, even the largest non-Gazprom producers complained that Gazprom granted or withheld capacity on the basis of its own commercial interests.

Negotiations went round in circles: the energy ministry insisted that Gazprom would itself only be allowed to sell gas at deregulated prices only when pipeline access was granted in a more transparent and predictable manner; Gazprom insisted that fuller price deregulation would have to precede third-party access. It also complained that regulated transport tariffs were far short of the levels needed to maintain and upgrade the world's largest gas transport system, while also fulfilling investment commitments insisted on by the government, Gazprom's majority shareholder.

In practice, pipeline access was always granted by means of opaque negotiations between Gazprom and other producers. In 2009, as the oil lobby grew stronger in government and the powerful oil trader Gennady Timchenko became the largest shareholder in Novatek, Gazprom was forced to make substantial concessions on pipeline access. Novatek signed contracts with OGK-1, the state-controlled power company, to supply nearly 10 bcm/year of gas at the regulated price, but on more favourable contract terms than Gazprom. This bombshell deal, which presumably involved OGK-1 breaching the terms of its previous purchase contracts with Gazprom, suggested that political pressure was being put on Gazprom to grant pipeline access to its powerful competitors without further delay.

The Novatek-OGK-1 deal marked something of a turning-point. At the same time, Rosneft, Russia's largest oil company, took monopolies commission proceedings against Gazprom over pipeline access: the case was halted by a last-minute deal between the companies. The Russian press subsequently reported major supply deals between Novatek and power, chemicals and metals companies; oil companies Rospan (TNK-BP) and Lukoil also reported higher sales of gas in the unregulated market. New third-party access rules have yet to be agreed, but in practice things are changing.

Changes in the taxation of gas production, proposed in April, sparked speculation that the rules of the game could be further tilted against Gazprom and in favour of its powerful competitors. The mineral resources extraction tax, which was 147 rubles/mcm in 2006–2010, rose to 237 r./mcm this year, and in March the finance ministry reportedly urged sharp hikes to 529 r./mcm in 2012 and 558 r./mcm in 2013. Last month several government sources hinted that a significant tax break could be introduced for "wet" gas—gas from relatively deep layers with high liquids content—which accounts for about three-quarters of Novatek's output, but less than a quarter of Gazprom's.

Conclusions

While European netback pricing is not the same as market liberalisation, in the Russian context it is a precondition for it. The government remains committed to achieving European netback prices, but its concerns about inflation mean that this target, already postponed to 2015, could be delayed still further. In Russian policy circles, the discussion on gas pricing is also linked to the progress of electricity market liberalisation, and Central Bank policy (i.e. whether to shift from exchange rate targeting to inflation targeting). In order to determine the future pace of change in gas prices, all these elements need to be considered. The significant changes in the European market, which itself appears to be shifting away from oil-linked pricing, could further affect Russian price reform.

The government and the Russian gas industry see European netback pricing as part of a broader liberalisation project and the oil industry's progress on pipeline access have put that issue on the political agenda, although it remains a subject of disagreement between different industrial lobbying groups. When European netback pricing finally arrives, it will imply (i) a transformation of Gazprom, away from its strategy of maximising revenue from exports to cross-subsidise domestic sales, and (ii) an ever-greater diversification of supply, with the non-Gazprom producers playing an increasing role.

About the Author
Simon Pirani is a senior research fellow at the Oxford Institute for Energy Studies (OIES).

Further Reading
Publications of the OIES Natural Gas Research Programme (www.oxfordenergy.org)

Forthcoming (July 2011):
Simon Pirani, Elusive Potential: Natural Gas Demand in the CIS and the Quest for Efficiency.

Published working papers:
- Jonathan Stern and Howard Rogers, The Transition to Hub-Based Gas Pricing in Continental Europe (March 2011)
- Simon Pirani, Jonathan Stern and Katja Yafimava, The April 2010 Russo–Ukrainian gas agreement and its implications for Europe (June 2010)
- Simon Pirani, The Impact of the Economic Crisis on Russian and CIS Gas Markets (November 2009)

Books:
- Simon Pirani (ed.), *Russian and CIS Gas Markets and Their Impact on Europe* (OUP, 2009)
- James Henderson, *Non-Gazprom Gas Producers in Russia* (OUP, 2010)

Table 1: Russian and Ukrainian Gas Prices Compared

$/mcm	2005	2006	2007	2008	2009	2010	2011 (proj)
Russian industry, wholesale	35.51	40.58	52.81	67.87	64.80	82.60	85.58
Russian households, wholesale	25.61	31.72	40.27	51.85	49.47	63.43	75.28
Ukraine import prices	77	95	130	179.50	236.10	255.20	264 (q1)
Ukraine industry, net of VAT	69.11	107.30	142.60	192.50	251.50	258.90	287.03 (q1)
Ukraine households, net of VAT	30.5	67.16	57.40	52.35	56.54	70.25	83.98 (q1)
European border price	213.70	285.20	294.10	418.90	307.80	323.70	n/a

Source: Federal Tariff Service (Russia), national electricity regulatory commission (Ukraine), OIES estimates and currency conversion

Table 2: Gazprom Sales of Natural Gas, 2008–2010

			2008	2009	2010
Europe	Net sales (Billion ru)		1260.6	1105.5	1099.2
	Volumes (billion cubic metres)		167.6	148.3	148.1
	Gross average gas price, per thousand cubic metres	$	407.4	296.7	301.8
		rubles	10125.4	9413.5	9166.6
FSU	Net sales (Billion ru)		356.5	309.9	450.1
	Volumes (billion cubic metres)		96.5	56.7	70.2
	Gross average gas price, per thousand cubic metres	$	159.2	202.1	231.7
		rubles	3956.9	6411.1	7039.0
Russia	Net sales (Billion ru)		479.4	503.1	636.8
	Volumes (billion cubic metres)		292.2	273.5	277.3
	Gross average gas price, per thousand cubic metres	$ (estimate)	66.15	58.03	76.56
		rubles	1640.6	1839.5	2296.8
Total	Net sales (Billion ru)		2096.5	1918.5	2186.2
	Volumes (billion cubic metres)		556.3	478.5	495.6
Exchange rate, rubles/$			24.8	31.7	30

Source: Gazprom Management Reports 2009 pp. 26–27; 2010, p. 30