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Domestic Gas Prices in Russia – Towards Export Netback?

James Henderson

NG 57

November 2011

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ISBN

978-1-907555-38-1

Preface

While most of the publicity and focus of Russian and CIS gas research is on exports to Europe and other potential markets, over the past few years OIES Gas Programme research has increasingly concentrated on domestic gas markets in these countries, especially the Russian Federation. With Russian gas demand in excess of 400 Bcm/year, the issue of how gas should be priced is of considerable importance, particularly given the start of much higher cost Gazprom production from Arctic fields in 2012.

The announcement in 2006 that Russian domestic prices would be raised to European netback levels by 2011 caused much excitement both within and outside Russia. The reality has been less dramatic but as Jim Henderson ably demonstrates this is partly because of completely unforeseen developments in European gas pricing, largely driven by higher oil price levels than anybody believed possible five years ago. This paper has been informed by other OIES Gas Programme research on Russian gas production and demand, and the likely evolution of European gas pricing, not least Jim Henderson's previous publications for us on non-Gazprom production and (most recently) price negotiations between Russia and China.

Continued liberalisation of the gas market and gas pricing in Russia – even should this require the best part of another decade to complete – will have significant consequences for Russian exports to Europe (and potentially elsewhere). As Europeans contemplate significant changes in their own method of gas pricing, changes in the same direction in the Russian gas market (albeit on a longer time scale) could create new and different linkages between the markets. Notably, as this paper argues persuasively, depending on the evolution of pricing in the different markets, Europe could find itself in competition for Russian gas supplies with the Russian domestic and CIS markets. These issues will increasingly demand attention in both Russia and Europe, perhaps as much attention as the political and strategic aspects of the subject which have for so long dominated public discourse.

Jonathan Stern
Oxford, November 2011

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Abbreviations and Units of Measurement

bbls	Barrels
bcm	Billion cubic metres
bcma	Billion cubic metres per annum
bn bbls	Billion barrels
boepd	Barrels of oil equivalent per day
bpd	Barrels per day
E&P	Exploration and Production
ESPO	East Siberia – Pacific Ocean (Pipeline)
FSU	Former Soviet Union
IOC	International Oil Company
kboepd	Thousands of barrels of oil equivalent per day
kbpd	Thousands of barrels per day
km	Kilometres
mm bbls	Million barrels
mcm	Thousands of cubic metres
mmboepd	Millions of barrels of oil equivalent per day]
mmbpd	Millions of barrels per day
mmbtu	Million British thermal units
mmcm	Millions of cubic metres
mnt	Millions of tonnes
mmtpa	Millions of tonnes per annum
Mm tonnes	Millions of tonnes
P&P	Proved and Probable
tcm	Trillion cubic metres

Conversion Factors

<i>Equals</i>			
1	tonne oil	7.3	barrels of oil equivalent
1	tonne condensate	8.0	barrels of oil equivalent
1	bcm gas	6.6	mm barrels of oil equivalent
1	bcm gas	35.3	billion cubic feet of gas
1	bcm gas	0.9	mm tonnes of oil equivalent

Source: BP Statistical Review

Acknowledgements

I would like to thank my colleagues at the OIES for their help with this research. In particular I am very grateful for the support and comments provided by Jonathan Stern and Simon Pirani, whose contributions were all vital to the completion of my analysis. I would also like to thank my editor, John Elkins, for his detailed corrections and useful comments.

I would also like to acknowledge the contribution of my colleagues at Lambert Energy Advisory, who as always have been generous with their time and support.

Thanks also to the many industry executives, consultants and analysts with whom I have discussed this topic, but as always the results of the analysis remain entirely my responsibility.

Summary

Prices for gas sold by Gazprom to its domestic customers have been regulated by the Russian state throughout the post-Soviet period and kept at relatively low levels in order to protect the country's economy from excessive price movements for its most important fuel. However, by 2006 this strategy had become increasingly untenable as Gazprom's need to invest in expensive new fields and Russia's need to increase energy conservation demanded a higher price level. As a result, President Putin (as he then was) introduced the target of domestic industrial gas prices reaching netback parity by 2011, implying a doubling of the price level over 5 years and the consequent introduction of a fully liberalised market at the end of the period.

However, although this target has been constantly referred to since then, in 2011 Russian domestic gas prices remained as far from netback parity as they have ever been over the past five years. This is by no means the fault of the Russian government, which authorised annual price increases in a 15-27% range over the period, but rather the consequence of a dramatic change in the base assumptions behind the original target, in particular movements in the oil price, the rouble/dollar exchange rate and transportation tariffs. The doubling of the oil price since 2006 has had an especially significant impact, and as a result of this change the target date for netback parity was initially moved back to 2015. But even this timescale seems unlikely to be achieved given the implications for rapid gas price increases over the next 4 years during a time of significant economic uncertainty. Indeed a number of Russian ministries have called for a complete change of strategy and a re-introduction of inflation-linked price rises, suggesting that the original Putin goal of netback parity is now an irrelevance.

This paper will argue that in considering the likely future for domestic gas prices in Russia one needs to understand the context within which the original netback parity target was set and to then re-assess the environment within which price formation is being structured annually. The oil price, to which long-term contract prices for gas in Europe are still linked, has clearly moved to a new, much higher range, but beyond this, slow progress in electricity reform, the emergence of significant new low-cost gas resources held by non-Gazprom producers, ongoing issues concerning regulation of the gas transport sector in Russia and the evolution of gas pricing in Europe towards a more hub-based model are also having a significant impact. As a result, it would be wrong to describe Putin's target as an irrelevance,

but rather it should be viewed as one way of describing the need to increase gas prices in Russia towards an economically rational level. In 2006, netback parity appeared a convenient slogan on which to hang this target. In 2011, netback parity is still a long way off, but this does not mean that gas prices in Russia will stall at current levels. Instead they are likely to demonstrate gradual and regulated growth linked to the strength of the domestic economy over the next few years, before potentially being set in a more market-oriented environment by the end of the decade.

Introduction

The domestic gas price in Russia has been regulated by the government for as long as gas has been produced in the country, with the only change in the post-Soviet era being that the regulated price has applied only to Gazprom and not to other domestic gas producers. This regulated price grew rapidly in the early 1990s, but then fell back to very low levels in dollar terms following the 1998 economic crisis, and despite consistent increases since then has remained at levels well below those charged by Gazprom for exports to Europe, even allowing for transport costs and export taxes. However, in November 2006 President Putin, as he then was, set a target for regulated gas prices to reach parity with the European export netback price by 2011, implying a target that would see the price more than double over the following five years. His motivations for setting this aggressive target included the need to make domestic market sales profitable for Gazprom and to allow it to generate funds for new investment, a desire to encourage increased energy efficiency in Russia, the objective of achieving ultimate liberalisation of the gas market (to match the reforms seen in the electricity sector) and a desire to satisfy the entry requirements for WTO membership. This paper will examine the progress that has been made towards the goal of netback parity to date, discuss whether it is still a realistic target and suggest potential outcomes for Russian domestic gas prices over the next decade.

Section 2 provides a brief history of gas prices in Russia in the post-Soviet era from 1991 to 2006, while Section 3 discusses the introduction of the netback parity target in 2006 and its implications for the Russian gas sector. In particular it examines the implications of the netback target being related to a number of external variables such as the oil price, the rouble-dollar exchange rate and transport tariffs that have created, and continue to create, significant volatility in reaching this objective. Section 4 then examines the implications of this volatility and questions the original motivations for setting the target, suggesting that President Putin may have used netback parity as a convenient label for higher prices rather than as a specific target. Section 5 discusses the current state of the debate on domestic gas prices and examines the implications of reaching a netback parity target by 2015 given the current high level of oil prices and export gas prices, highlighting that the potential implications for the Russian economy have led many politicians to call for less ambitious price growth over the next few years. Section 6 then examines the impact of a number of other factors on domestic gas prices, including gas sector reform in Europe, electricity sector reform in Russia and the ongoing diversification of a number of gas producers into the power sector, the improving

economics of Russian gas production as the importance of non-Gazprom producers grows, the need to match more transparent regulation of the gas transport system with liberalisation of gas prices and the political necessity of considering the impact of price rises on residential as well as industrial customers. Finally Section 7 provides conclusions and attempts to frame the potential progression of domestic gas prices in Russia from a regulated to a more market-oriented structure over the next ten to fifteen years.

1. A short history of gas pricing in Russia

The origins of the current gas price regulations in Russia can be traced back to the fall of the Soviet Union in 1991. At that time gas was, as it still is in 2011, the most widely used fuel in Russia, accounting for 45% of total primary energy supply¹ and 49% of the fuel used to generate power,² and the industry was dominated by one player, state-owned Gazprom. This company, newly-formed from the Soviet Ministry of Gas, produced 94% of Russia's total annual output of 643 bcm, and as the country's remaining gas was merely being generated as a by-product by Russia's oil companies and transferred into the gas system at very low cost, Gazprom was the only significant seller of gas in the Russian market. As a result, it was by far the largest player not only in Russia's energy industry but also in the country's economy. Consequently, while other commodity prices were liberalised during the first reform period of the early 1990s, it was decided that gas prices charged by Gazprom needed to remain under strict government control. They were initially set by the Ministry of Energy, although this authority was later transferred to the Federal Energy Commission in 1997 and ultimately to the Federal Tariff Service in 2001, (Burgansky, 2010, p. 180). During most of the 1990s this regulated gas tariff was the only relevant domestic wholesale price. A further level of regulation also mandated that different prices be set for industrial and residential customers, with the former initially paying a price 30 times higher than the latter (Stern, 1995, p. 36), in complete contrast to European markets where residential customers pay higher prices due to the extra distribution costs in that sector. Nevertheless, the industrial price has consistently been the key marker for the Russian gas sector, covering more than 85% of the country's customer demand (Pirani, 2011, p. 4).³

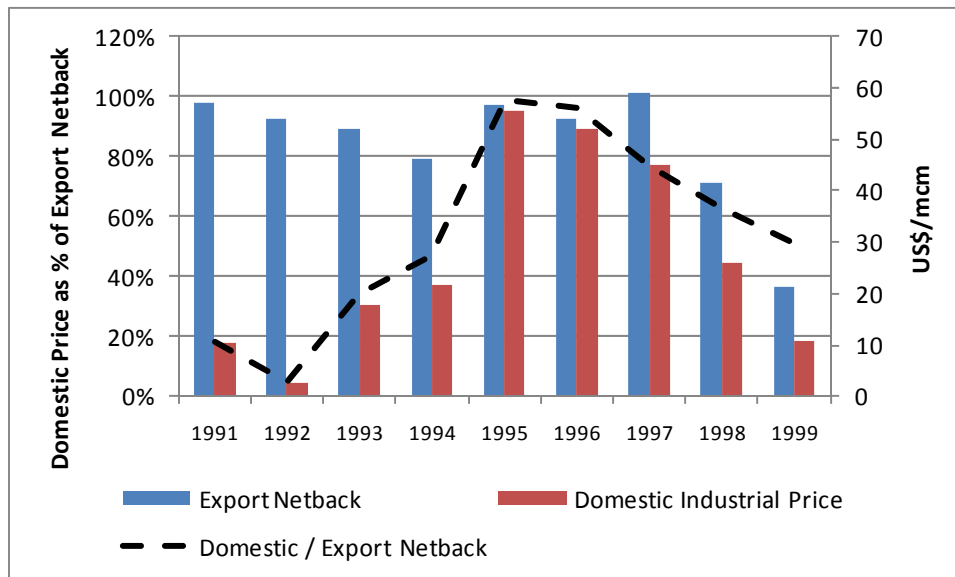
¹ IEA Russia Energy Survey 2002, p.49

² IEA Russia Energy Survey 2002, p.125

³ Demand defined as consumption from the power & heat, industrial, residential, commercial and other sectors, but excluding losses, pipeline use and own use.

As can be seen in figure 1, this government control initially meant that Gazprom was forced to set prices for its domestic industrial customers at well below the “global market” rate, as defined by the price of gas exports to Europe. However, this implied domestic market discount was justified by three key factors. Firstly, Gazprom had an effective monopoly over supply and sales of gas in Russia and therefore needed to be regulated in order to avoid exploitation of domestic consumers. Secondly, it had also been given the exclusive right to access export prices as the monopoly marketer of Russian gas to non-CIS countries, with the high revenues from export sales offsetting the low prices in the domestic market. In 1993, for example, Gazprom generated \$9 billion of revenues from the sale of only 101 bcm of gas to non-CIS export markets compared with revenues of \$8 billion from the sale of 440 bcm in Russia.⁴ Thirdly low domestic prices were also justified by the fact that Gazprom’s gas production was being generated from Soviet-era fields with very low marginal costs, due to the fact that the majority of capital expenditure had already been completed. As a result the benefits of Soviet investment were being reserved for Russian consumers rather than Gazprom’s shareholders.

Figure 1: Industrial gas prices in Russia in the 1990s compared to export netback prices



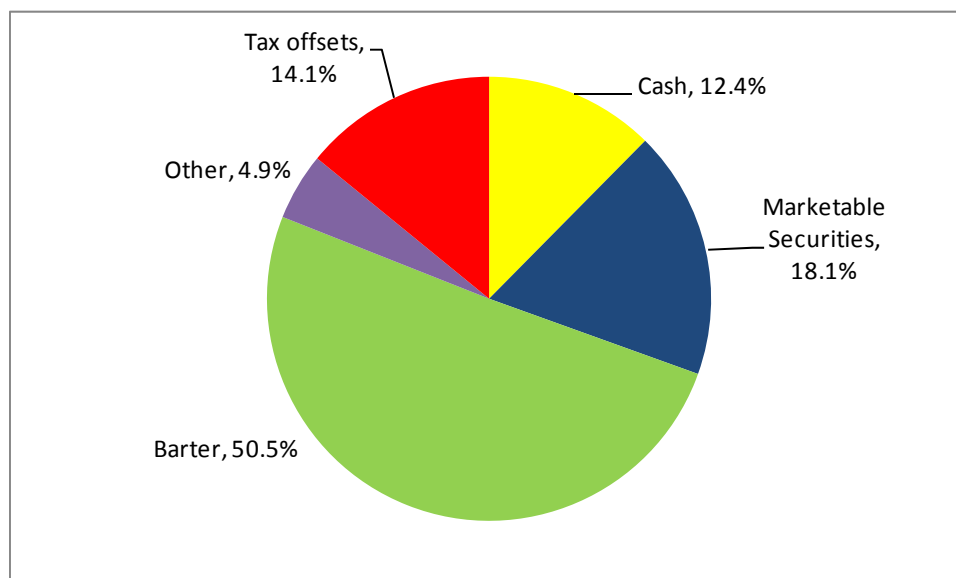
Source: IEA Russia Energy Survey 2002 and Author’s estimates

However, despite the fact that gas prices were being controlled by the Russian State, regulated tariffs actually rose very fast between 1991 and 1995 due to the fact that price increases were tied to inflation (Stern, 1995, p. 35), which itself was running at rates of

⁴ Data derived from IEA Russia Energy Survey 2002, pp.120, 125 and 127.

between 130% and 2500% during the period (EBRD, 1999, p. 261). As a result the industrial gas price moved from a level of only 5% of the comparative export netback price in 1992 to 100% in 1995 (see Figure 1), meaning that Russian industrial customers were being asked to pay the same effective price for gas as their European neighbours. In reality, though, the problems this sharp price increase caused within the Russian economy meant that rather than generating extra revenue, higher prices simply caused a huge non-payment problem which peaked in 1997 when Gazprom reported being paid for only 29% of its domestic gas sales, with only 12% being in cash (see figure 2). This non-payment problem was part of, but also contributed significantly to, a much broader issue of financial underperformance in the Russian economy as a whole that culminated in the 1998 debt default and currency devaluation crisis. While the rouble devaluation resolved much of the non-payment problem (as outstanding debts were reduced in dollar terms) and also reduced the real cost of gas in the economy (again gas prices fell sharply in dollar terms), it also made the Russian state and its regulators much more cautious in terms of their future strategy on utility prices. As a result, in December 2000 Resolution No. 1021 “On State Regulation of Gas Prices and Tariffs for Transportation” was published as a supplement to the Gas Supply Law, giving the Russian State (in the form of the Federal Tariff Service, or FTS) the right to set regulated gas prices, as opposed to linking them to inflation, until such time as tariffs had been fully liberalised.

Figure 2: Split of domestic payments to Gazprom in 1997



Source: IEA Russia Energy Survey 2002, p.129

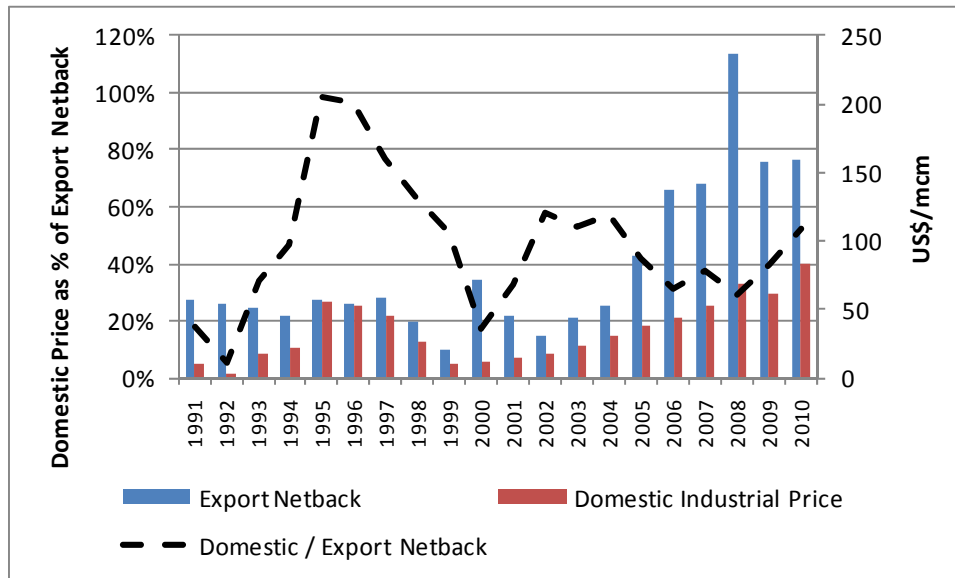
In 2000, as the full impact of the currency devaluation was felt, the industrial gas price in Russia had fallen from its high of over \$50/mcm in 1995/96 to only \$12/mcm. Furthermore, the collapse in global oil prices to below \$10/barrel in 1999, which had brought European gas prices down with it, meant that Gazprom suffered the double blow of reduced export as well as domestic revenues. Although the recovery in global commodity prices which began in 2000 started to alleviate this problem, it also rekindled the issue of the discount which Gazprom was providing to the domestic economy. At that time the Russian industrial gas price was at a level of only 12% of the export netback price (see figure 3) compared with the parity that had been achieved in 1995, and although the FTS announced a series of 20-25% price increases that were introduced in 2000-2004, by 2005 this gap had only narrowed to 42%. This meant that Gazprom was once again not only selling domestic gas at a large discount to global prices but was also providing a significant implied subsidy to its domestic customers, estimated at up to \$2.3 billion/year (OECD, 2004, p. 135), because it was selling gas to them at below the long run marginal cost of its asset base.⁵ This subsidy not only hampered Gazprom's ability to generate any profit from its domestic operations but also undermined Russia's attempts to fulfil the obligations agreed with the EU in May 2004 required to achieve WTO accession. Indeed this effective subsidy, defined as selling gas at below the combined cost of production and delivery, continued throughout the rest of the decade.

Further pressure on the regulated price system was also being generated by the changing structure of the domestic gas market, in particular via the emergence of new players in the gas supply sector. "Independent" gas producers such as Novatek and Itera, as well the oil companies such as LUKoil and Rosneft, had begun to take an increasing interest in producing gas and even marketing it to domestic customers, and despite the difficulty of gaining access to the trunk pipeline system (owned by Gazprom) had gained a market share of 15% of total Russian gas supply by 2005 (Henderson, 2010). The key element of this change was, and still

⁵ The concept of Gazprom providing an implied subsidy to its domestic customers is a difficult one. The definition offered in the OECD 2004 Economic Survey of the Russian Federation is that the domestic gas price subsidy is the difference between Gazprom's long-run marginal cost of production, estimated at US\$34-35/mcm in 2004, and the effective industrial tariff at the time of US\$26/mcm. However, the OECD itself acknowledges the difficulty in defining both the long run marginal cost and therefore the subsidy itself, given the uncertainties around Gazprom's actual costs, the allowances which need to be made for future capital investment and the lack of transparency around pricing in a non-competitive market. As a result, the notion of a "gas subsidy" is a relatively loose one, defined in general terms as selling gas at a price which fails to cover the costs of production and delivery to market as well as some allowance for capex to replace fixed assets. This "subsidy", though, is not the same as the effective discount offered by Gazprom to domestic customers as defined by the difference between the domestic and export gas prices.

is, the fact that non-Gazprom producers are not subject to regulated price restrictions and can essentially charge a tariff that effectively equates to a “free market” price. As a result a two-tier market was created, with Gazprom forced to sell at a low regulated price and non-Gazprom players able to charge whatever higher price consumers would bear, with the OECD identifying the mark up in November 2003 as just under 32% (OECD, 2004).

Figure 3: Industrial and export netback gas prices (1991-2010)



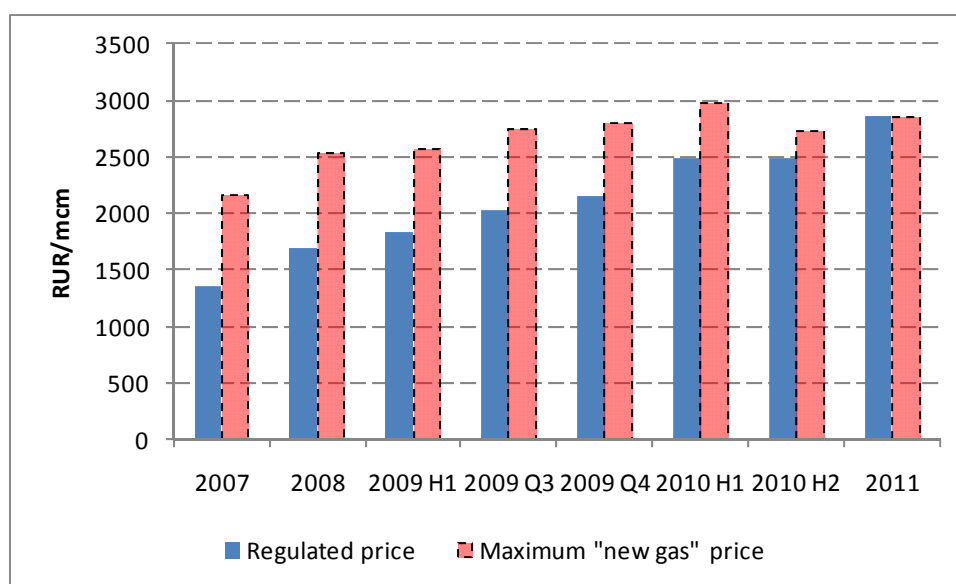
Source: IEA, Federal Tariff Service of Russian Federation, Author’s calculations

The final piece of the pricing jigsaw, which explains why some consumers would buy gas at above regulated prices from non-Gazprom producers, is the “Gas Balance”. Every year Gazprom and the Russian government would negotiate the volumes of gas that would be sold at the regulated price, and once a total number had been fixed potential customers would bid to be allocated gas to fulfil their demand for the following year. Regulated price quotas would then be allocated to each bidder, and any extra gas needed by specific customers would have to be purchased on the open market at higher “unregulated” prices. This quota system was meant to reflect supply limitations in Gazprom’s portfolio, with any excess demand being picked up by the “independents”, but in reality it acted as a means for Gazprom to limit regulated price sales and sell some spare gas at higher prices (OECD, 2004, p. 132). As a result, although by the mid-2000s the regulated price still accounted for over 75% of domestic gas sales, an increasing number of transactions involving independent producers and Gazprom were taking place at levels set by the market.

2. The introduction of the “netback parity” target

In the face of the development of this two-tier market and under pressure from Gazprom and the EU to increase domestic prices towards global levels, President Putin and the Russian government announced a new pricing strategy in November 2006, with a target of gas prices in Russia reaching European levels.⁶ This target was confirmed by decree number 333 in May 2007 as being a goal of “netback parity” with export prices to Europe by 2011, importantly based on the assumption of an oil price of \$50-55/barrel (Burgansky, 2010). The decree also confirmed Gazprom’s legal right to sell gas at higher prices to new customers as of July 2007, as it fixed the volumes of regulated gas sales at that date and authorised extra gas to be sold at a reducing premium to the regulated price in the four and a half years to the end of 2011. The plan, as shown in figure 4, was that as the regulated price increased, the premium for new purchases would decline until all prices would be equalised by 2011.

Figure 4: Planned evolution of regulated prices 2007-2011



Source: Federal Tariff Service of Russian Federation

At the same time one of the first building blocks for a liberalised market was also being put in place via the formation of a Gas Exchange, organised by Gazprom subsidiary Mezhhregiongaz. Created in November 2006, the Exchange was initially available for the trading of 10 bcm/year of gas (5 bcm by Gazprom and 5 bcm by independent suppliers), although this was increased to 15 bcm (7.5 + 7.5) in January 2008 (Burgansky, 2010, p. 182).

⁶ Interfax, 24 November 2006, “Gas price in Russia, EU to get closer – Putin”, Moscow

Although trading was halted in January 2009, mainly due to Gazprom's concerns over the potential for dumping gas during the 2008/09 economic crisis, the Exchange (also now known as the ETS or Electronic Trading System) did provide further evidence that industrial consumers would be prepared to pay an average premium of up to 38% over the regulated gas price (Henderson, 2010, p. 225). However, despite talk in 2010 of re-opening the ETS and ongoing enthusiasm from Gazprom and the Energy Ministry, which culminated in a draft resolution on a new trading system being sent to the government in April 2011,⁷ the legislation required to re-start the Gas Exchange has not yet been passed.⁸ The reason for this delay appears to concern the exact functionality of the Exchange, with Gazprom pushing for a market based on the trading of physical gas only (as in 2007/08), while the Russian Administration is keen to see a more advanced futures market also introduced. However, there is clearly also continued debate about the impact of an Exchange on the domestic gas price, with Deputy Prime Minister Igor Sechin, who is responsible for the Energy Sector, clearly concerned that a traded market "should neither over-price nor under-price commodities" and also worried about examples of collusion to manipulate prices on other exchanges.⁹

One of the reasons for this caution seems to be new uncertainty about the timing of full gas price and market liberalisation in Russia caused by dramatic shifts in the price levels implied by "export netback parity". Indeed one of the major problems with understanding how high domestic gas prices in Russia could rise based on the principle of netback parity, is that the underlying methodology used to calculate the parity level is itself driven by assumptions that are unstable or unclear. The netback calculation is relatively simple – Gazprom's export price in Europe, less transport costs from the Russian border, less export tax (30%), less the cost of transport from the market in Russia (generally taken to be Moscow). However, each element of the calculation is subject to uncertainty. Gazprom's export gas price is set in confidential contracts and is calculated from a base price adjusted using a number of variables, of which the fuel oil price is generally the most important but which can also include the coal and electricity prices as well as inflation. Transport tariffs in Europe and in Russia are more transparent, but are subject to change at variable rates on an annual basis, meaning that a forecast of a netback level by 2015, say, requires further assumptions to be made. And finally the export tax is clearly subject to the whim of the Russian Administration, which could

⁷ Interfax, 21 April 2011, "Energy Ministry submits draft legislation on electronic trading exchange", Moscow.

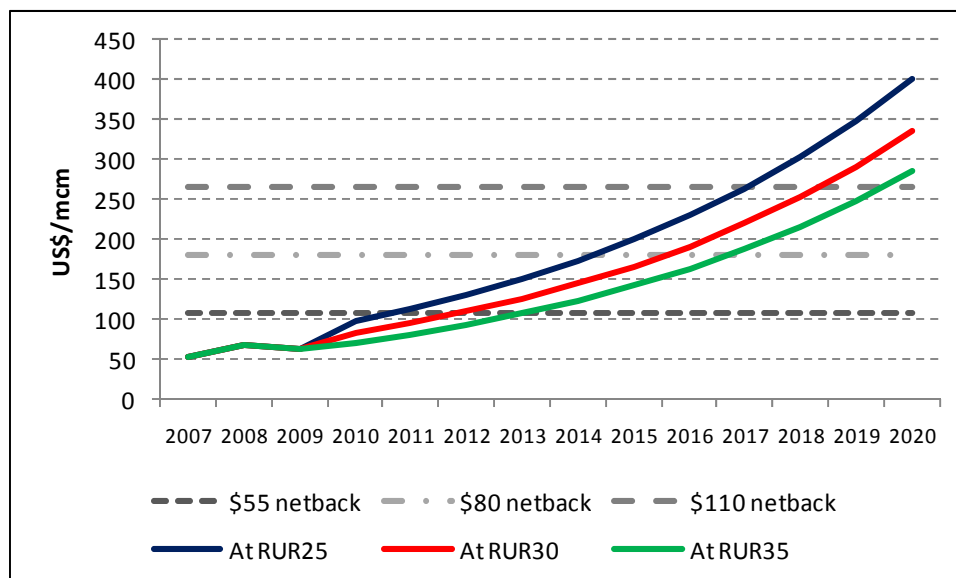
⁸ Interfax, 24 May 2011, "Government rejects latest version of draft resolution on gas exchange", Moscow.

⁹ Interfax, Sept 6 2011, "Electronic gas trading floor has to be independent of producers", Moscow.

adjust the netback level up or down according to its revenue requirements from gas export sales. A further complication is that gas prices in Europe are priced in dollars or euros while the gas price in Russia is priced in roubles, meaning that an exchange rate assumption is also needed.

In order to simplify the analysis, and to demonstrate the volatility that could be caused by only two variables, I have assumed that transport tariffs and the gas export tax remain stable in real terms and that the major variables impacting the gas export netback price are the oil price and the US\$:Rouble exchange rate. Using this simplified model it can initially be observed that when in 2006/07 then President Putin and his government set a target of netback parity by 2011, the oil price assumption being used was \$55/barrel and the US\$:Rouble exchange rate was approximately US\$1=RR25. Based on these assumptions the planned increases in the regulated gas price announced at the time (on average 18%/year for four and a half years) would have achieved netback parity by 2011, as shown in Figure 5 below. The problem, of course, has been that these assumptions have not remained stable, with the exchange rate moving out to approximately US\$1=RR30 and the oil price having fluctuated between \$40 and \$150/barrel and currently being established in a range of \$105-115/barrel.

Figure 5: Netback parity scenarios for Russian gas price



Source: Author's calculations based on Federal Tariff Service Data

NB: Dotted lines show level of netback parity with export gas price to Europe and various oil prices. Solid lines show potential growth of domestic gas price at various exchange rates assuming 15%/year growth from 2010.

As a result the timing of any conceptual netback parity has moved dramatically from 2011 to beyond 2020 and now back to somewhere between 2015 and 2018 (see figure 5), depending on forces largely beyond the control of the Russian Administration. The reaction of the government was initially to push the target for price liberalisation out from 2011 to 2014/15, with 15% price increases each year from 2010 being seen as enough to reach this goal (Henderson, 2010, p. 214). However, once it became clear that even this rate of growth would be insufficient given the consistently high level of oil prices (and therefore European gas prices), with increases of 18-20% being mooted as necessary if the goal was to be met,¹⁰ various ministers and regulators began to question the entire concept of the netback parity target.¹¹

4. Why was the netback parity target set and what does it really mean?

When Vladimir Putin first set out the plan to equalise the Russian domestic gas price with the European export price he made his motivation quite clear. He argued that “low gas prices in Russia are resulting in excessive consumption and are not stimulating energy conservation... Gas is being sold inside the country at non-market prices and this is leading to a situation where the entire economy, all consumers of energy and heat, are relying on one primary fuel. This could have a harmful influence on other energy sectors and it is dangerous from the point of view of supplying fuel to the economy and to the public”.¹² His solution was that “we should have equally profitable prices both inside the country and when selling abroad”, implying netback parity with export prices.¹³ The netback parity target was also confirmed in a 5-year plan drawn up by the government in late 2006, which introduced “the principle of equal revenue for gas supplies on the export and domestic markets” but importantly also made clear that “the authorities want to put a cap on gas price growth for each year up to 2011, when it will become totally liberalized”.¹⁴

This last statement makes it clear that the Russian Administration did not necessarily see netback parity as a specific goal in its own right but as a means of achieving the more general target of raising prices in an orderly fashion towards a level at which energy efficiency would be encouraged and market liberalisation could be implemented. At the time, netback parity

¹⁰ Interfax, 22 Feb 2011, “Gas price for Russian industry could rise by 18% per year in 2013-14”, Moscow.

¹¹ Interfax, 6 May 2011, “Govt may restrict monopoly tariff growth to inflation level next year – Putin”, Moscow.

¹² Interfax, 1 Feb 2007, “Gas prices in Russia will always be 30-45% cheaper”, Moscow.

¹³ Ibid.

¹⁴ Interfax, 6 Dec 2006, “Govt draws up five year plan for electricity, gas markets”, Moscow.

offered a price target that was approximately double the \$45/mcm then being paid by industrial customers in Russia, with government minister German Gref saying that “gas prices on the domestic market will become equal with Europe and could exceed \$100/mcm [by 2011]”.¹⁵ However, he also added the key caveats that “I would like to see that gas price policies are long-term and not shocking for the economy, with a clearly understandable schedule until 2011” and “we've had enough of the shocks we saw in the 1990s. Prices need to be gradually increased”.¹⁶ It is therefore clear that, in setting the netback target the Russian government was keen to raise the domestic gas price to a global level but not to do it at any cost, in particular the cost of re-creating the non-payment crisis seen in the early 1990s. Furthermore it is also clear from the government decree setting out the netback parity target¹⁷ that a further level of protection for the Russian population was also included, as prices for the household sector were specifically excluded from the bill.

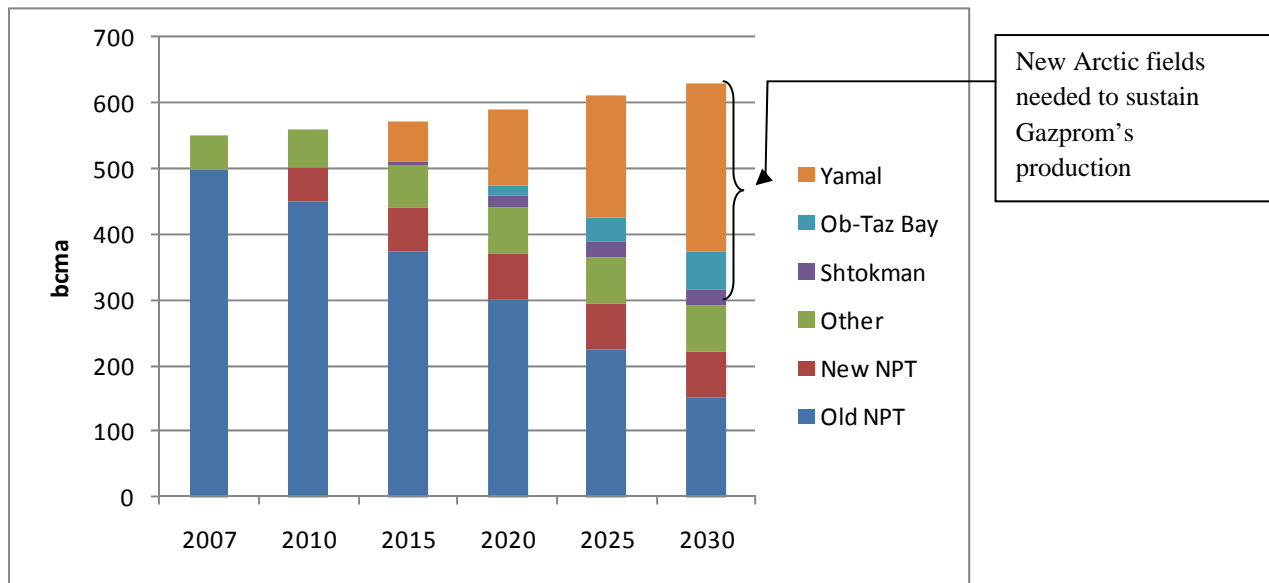
A further motivation for increasing prices to \$100/mcm and above was to ensure that the economics of Gazprom's supply portfolio could be sustained by the domestic market rather than being reliant on export sales. As mentioned above, an initial justification for low domestic gas prices had been that many of Gazprom's fields had been developed in the Soviet era and therefore had a very low marginal cost of production during the 1990s. However, by the mid-2000s these fields had gone into decline and Gazprom was facing the necessity of developing new supergiant fields in remote areas such as the Barents Sea and the Yamal Peninsula, both inside the Arctic region. Figure 6 shows how important the development of these new fields had become by 2007 when Gazprom produced its new production targets.

¹⁵ Interfax, 28 Nov 2006, “Russian gas prices could grow to more than \$100/mcm by 2011 – Gref”, Moscow.

¹⁶ Ibid

¹⁷ Decree No.333, 28th May 2007

Figure 6: The Importance of Yamal and the Barents Sea for Gazprom’s production profile

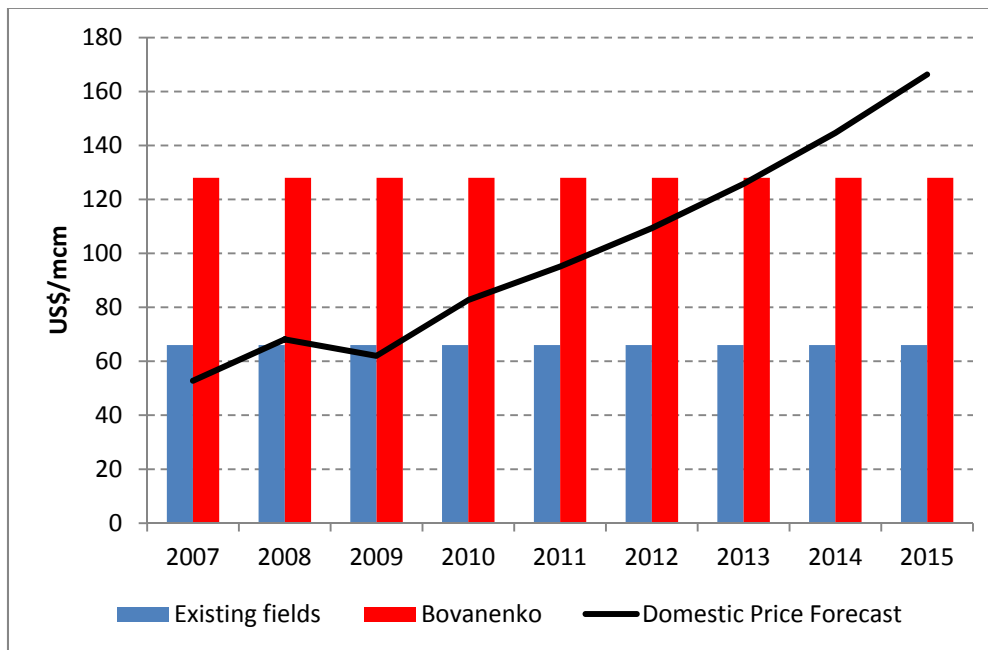


Source: Russian Energy Strategy 2007, Gazprom Questions & Answers 2008

The high costs of these developments meant that Gazprom could not afford to commit to capital expenditure on them until it either had certainty of demand in Europe or a higher domestic price. The perception of growing political reluctance in Europe to becoming over-reliant on Russian gas, combined with increasing competition from LNG, meant that European customers could no longer be relied upon to commit to the huge volumes from these new projects, meaning that their commercial viability would need to be underpinned by domestic sales to guarantee a minimum rate of return. As seen in Figure 7, the price at which this return could be generated for the Yamal fields was approximately \$125/mcm, a figure that would have been achieved by 2013 under the planned domestic price growth plan. It would appear to have been no coincidence that 2012/13 was also the planned start-up date for Bovanenkovskoye, the first Yamal field development, and it was also no doubt very convenient that the netback parity price as calculated in late 2006 was also \$125/mcm.¹⁸

¹⁸ Interfax, 28 Nov 2006, “Russian gas prices could grow to more than \$100/mcm by 2011 – Gref”, Moscow.

Figure 7: Breakeven gas price comparison versus domestic gas price forecast



Source: Author's calculations for breakeven prices in Moscow, FTS for domestic gas price forecast

One other important objective, as outlined by then Industry and Energy Minister Viktor Khristenko in late 2006, was to harmonise the liberalisation of the Russian gas and electricity markets.¹⁹ The gradual restructuring of the electricity sector had been an ongoing process since as early as the year 2000 (Nash, 2002, p. 44), and following the restructuring of the industry into 4 parts (generation companies, distribution companies, supply companies and the Federal Grid Company) the issue of price liberalisation became the key issue. Until 2006 electricity prices had been determined on a cost-plus basis (Goncharov, 2008) but the new plan outlined a gradual reduction of the volumes of electricity to be sold at regulated prices with the ultimate goal of achieving a fully market-based price by 2011. However, because gas accounted, and still accounts, for such a high proportion of the fuel input to the power sector (48% in 2008)²⁰ it was clear that full liberalisation of one market could not take place without consecutive reform in the other. As a result the government plan of December 2006 outlined a formula for allowing power generating companies to sign five-year contracts for gas supply at prices gradually increasing towards “equal export prices” by 2011.²¹ In this way the plan to increase gas prices to export netback levels was tied closely to the ongoing liberalisation of the electricity market.

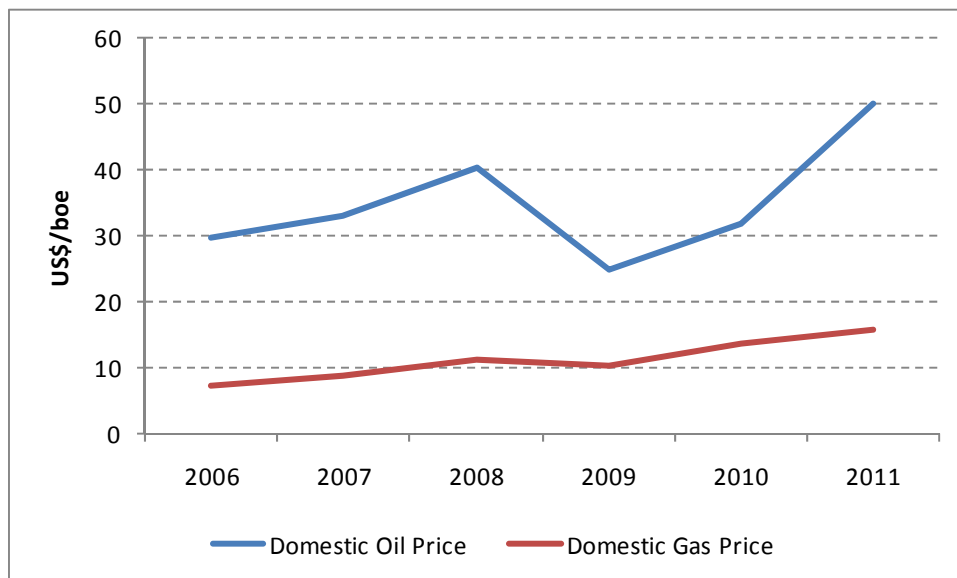
¹⁹ Interfax, 29 Nov 2006, “Industrial gas, electricity markets to be liberalised by 2011”, Moscow.

²⁰ Pirani, “Elusive Potential: Natural Gas Consumption in the CIS and Russia”, 2011, p.35.

²¹ Interfax, 6 Dec 2006, “Govt draws up five year plan for electricity, gas markets”, Moscow.

A further issue in the plan to reform of the gas and electricity sectors has been the relative price of domestic fuel inputs for power generation as well as for industrial use, with a particular focus on the balance of gas and coal prices, but also on the domestic oil price. Competition between gas and oil is mainly to be found in the industrial sector, with oil only accounting for approximately 3% of fuel input to the electricity sector and gas having very little impact in the transport sector, but nevertheless the very large discount on domestic gas prices to oil prices (as shown in Figure 8) has had a negative impact on Russia’s energy economy. Essentially domestic oil prices have been trading close to netback values based on global oil prices since 2005 (Burgansky, 2010, p. 148), and despite the increase in the regulated gas price over the past six years the discount on the domestic gas price to the domestic oil price has only fallen from 76% in 2006 to 57% in 2010. As a result the incentive for industrial customers to favour gas over oil has remained high, without a corresponding incentive to increase energy efficiency, and this has been and continues to be one of the drivers behind the Russian government’s gas “netback parity” strategy.

Figure 8: Domestic gas and oil prices in Russia

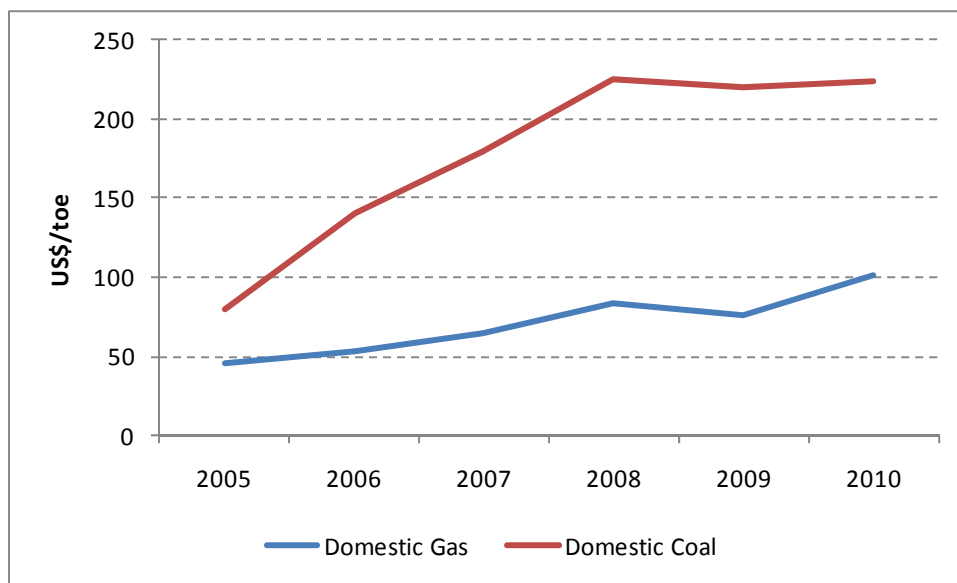


Sources: Federal Tariff Service of Russian Federation, IncoTEK

Of even more significance has been the differential between gas and coal prices, which has been particularly relevant in the electricity sector as coal is the second most important fuel input to thermal power stations in Russia. Comparisons between coal and gas prices are made difficult because of the large impact of transportation costs on the coal price in the different regions of Russia, meaning that coal tends to dominate in areas close to mines (for example

in Siberia) but is uncompetitive in more distant parts of European Russia. Figure 10 clearly shows that the discount on gas prices to coal prices in European Russia has widened dramatically since 2005, as coal prices have traded at netback parity levels while gas prices have been largely regulated, and the closing of this gap remains an important goal for the Russian government. As noted by the IEA in its report on the Russian electricity sector (IEA, 2005, p. 95), although low gas prices appear to be beneficial for the power sector, they distort investment decisions and potentially reduce diversity of supply and market efficiency, with a potential negative effect on both the gas and electricity markets for decades because of the long term investment horizons in both sectors. As a result, the introduction of netback parity in the domestic gas market, to match that in the domestic oil and coal markets, has been seen as a logical target for some time, but as Figures 8 and 9 demonstrate it is still a long way from being achieved.

Figure 9: Domestic gas price and coal price in Russia



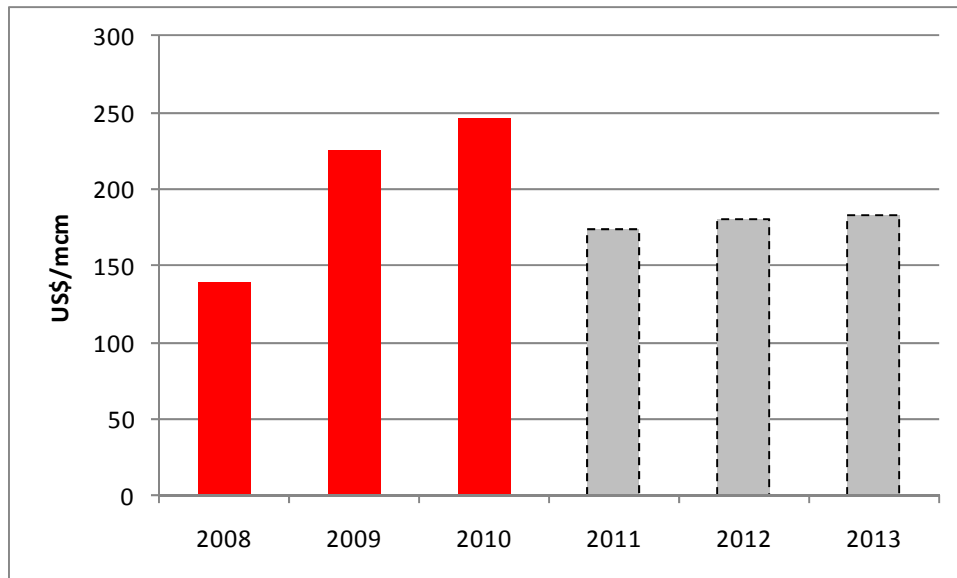
Sources: Federal Tariff Service, Interfax

5. Current status of the Russian domestic gas price and the implications of netback parity

As mentioned above, the rise in oil prices seen in 2008 led to a revision of the date for domestic gas prices to reach netback parity from 2011 to 2015, and as recently as February 2011 the Federal Tariff Service was planning its tariff increases to reach this later goal for

price liberalisation. Indeed the FTS has continued to publish its estimates of the netback parity price towards which the domestic gas price is aiming as well as forecasts for the netback parity price in years to come, as shown in figure 10. However, as can be seen in the disparity between the historic and forecast prices, oil price volatility has been causing significant confusion over the real relevance of these targets.

Figure 10: FTS 2010 estimates of historic and forecast levels of European export netback parity prices in Russia



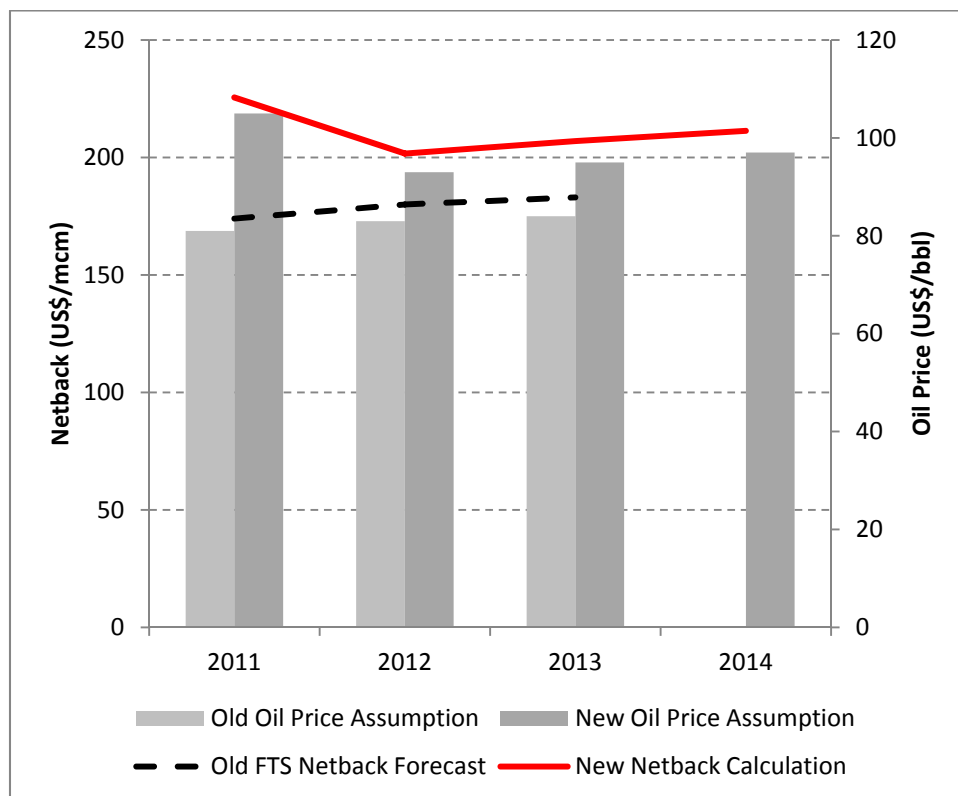
Source: Interfax, Federal Tariff Service

The netback parity prices calculated for 2009 and 2010 are in the range \$200-250/mcm due to the high oil price in mid-2008 and the recovery in oil prices during late 2009 and early 2010 from the low seen during depths of the economic crisis in H2 2008 and H1 2009 (as the European gas price reflects oil prices, as well as other inflators, with a 6-9 month lag). However, in contrast the FTS' forecasts for netback parity prices for 2011-2013 (published in 2010) are in the range \$175-\$185/mcm, reflecting relatively low oil price estimates of \$81/barrel in 2011, \$83 in 2012 and \$84 in 2013.²² The FTS' plans for domestic gas price growth were then based on these figures, with the goal being that the domestic price would be 60% of the netback price in 2011, 70% in 2012, 80% in 2013, 90% in 2014 and at parity in 2015. However, the difficulty of using a netback parity target was illuminated further when the Economy Ministry published its latest socioeconomic forecast to 2014, where

²² Interfax, 22 Feb 2011, "Gas price for Russian industry could rise 18% per year in 2013-2014", Moscow.

significantly higher oil price forecasts were used, implying similarly higher gas export netback prices (see Figure 11).

Figure 11: Netback prices derived from new (2011) Economy Ministry oil price forecasts to 2014



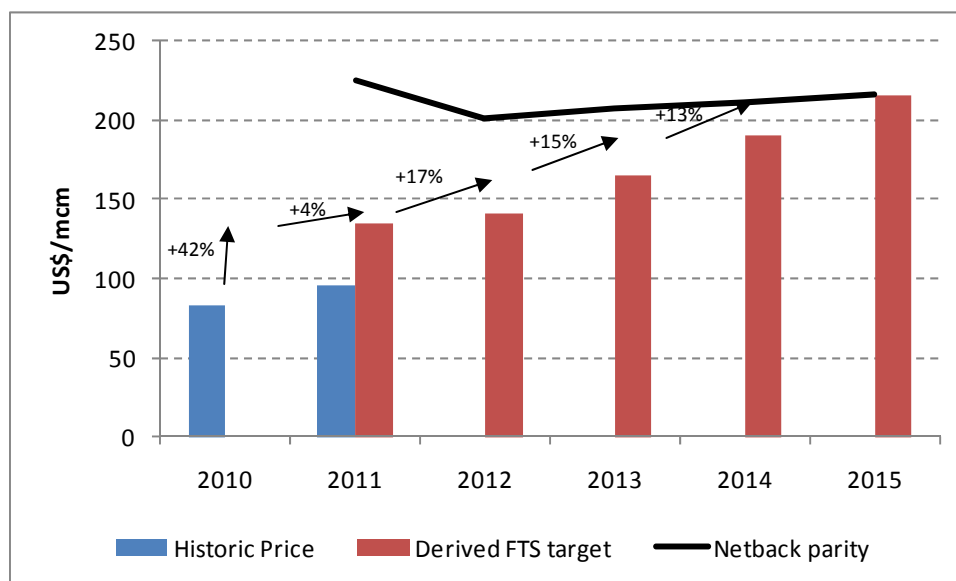
Source: Interfax, Author's calculations

Applying the FTS targets for reducing the disparity between regulated domestic gas prices and the export netback price by 2015 then highlights the problem with using netback parity as an ongoing target in an era of high oil prices. Figure 12 shows that to achieve netback parity at the Economy Ministry's new oil price forecasts would imply average growth in the domestic gas price of 23%/year over the next four years, with the key issue being that the current price in 2011 is already 42% below the derived FTS target. Furthermore the average annual growth required to meet the netback target is much higher than the 15%/year growth target originally approved by President Medvedev in 2009²³ and the 18% cap on price rises proposed by the FTS in February 2011.²⁴

²³ Interfax, 26 Aug 2009, "Domestic Russian gas prices to average 26.6% up in 2009", Moscow.

²⁴ Interfax, 22 Feb 2011, "Gas price for Russian industry could rise 18% per year in 2013-2014", Moscow.

Figure 12: Domestic gas price increases implied from latest FTS and Economy Ministry forecasts



Source: FTS, Author's estimates based on Economy Ministry SocioEconomic Forecasts to 2014

The realisation that high and potentially rising oil prices would imply very sharp increases in domestic gas prices, if the 2015 netback parity target was fully implemented, has caused the Russian government to re-think its strategy towards gas price growth and also to consider its thoughts on the need to reach netback parity. Prime Minister Putin himself, the original instigator of the netback parity plan in 2006, recently stated that “it is important that tariffs for energy resources and natural monopoly services...are commensurate with the economy's capability and participants in economic life, for industry and agriculture, and do not undermine business activity. Therefore we are looking at the option of limiting tariff growth...”.²⁵ This more cautious view was further reiterated by the Russian Energy Minister Sergei Shmatko, who confirmed that “[export netback] parity is not a simple matter and ... the switch to parity ought to depend on the state of our economy, not of the world market. The switch has to be simulated very carefully. Gas prices have to go up but that growth has to be simulated with the state of the Russian economy taken into consideration.”²⁶

With these themes in mind, in May 2011 the Ministry of Economic Development produced a new proposal which suggested that utility tariffs should be tied to inflation, which is currently forecast to be 6% in 2012, 5.5% in 2013 and 5% in 2014. Economic Development Minister

²⁵ Interfax, 11 May 2011, “Govt leaning towards tariff growth in line with inflation”, Moscow.

²⁶ Interfax, 23 May 2011, “Energy Ministry prepared to delay parity gas prices until economy ready”, Moscow.

Elvira Nabiullina later modified this approach to suggest that tariff growth of inflation plus 1-2% might be ideal,²⁷ and Prime Minister Putin has also been reluctant to agree to excessively low tariff increases, saying that “to this day I haven't had the heart to sign a resolution limiting the tariff increases for the so-called natural monopolies to just the inflation rate in future years.”²⁸ This new proposal is currently only being treated as an alternative scenario, and a subsequent statement from Deputy Economic Development Minister Andrey Klepach has suggested that the 15%/year target is still the most likely outcome, but with the increases coming in July each year rather than January.²⁹ A final decision on utility tariff growth is expected in the fourth quarter of 2011, but it is nevertheless becoming clear that the potential impact of the rapid price increases implied by a netback parity target is causing political concern, especially ahead of the Duma and Presidential elections set to be held in December 2011 and March 2012 respectively. In particular the benefit of lower utility prices on reducing inflation has been highlighted by the Economic Development Ministry,³⁰ and in the current global economic environment this argument is likely to carry more weight than the goal of price liberalisation.

The impact of the inflation-related targets and the other price growth scenarios is shown in Figure 13 and emphasizes the obvious point made by Sergei Novikov, the Head of the Federal Tariff Service, that “if decisions are reached to keep [tariff and price] growth in line with inflation then this will affect the timing [of netback parity pricing].”³¹ Indeed it would appear from Figure 13 that any thought of parity before 2020 would be fanciful under an inflation-related scenario, and that even under the 15%/year target it is unlikely to occur until well beyond 2015. The latest statements from the Russian government also appear to acknowledge this, with Novikov stating that the target for netback parity had been delayed to 2015-2018 and that, even then, the final timing would depend upon the level of world oil prices.³²

²⁷ Interfax, 17 June 2011, “Nabiullina: best option for monopoly tariffs is inflation rate plus 1-2 p.p.”, St. Petersburg.

²⁸ Interfax, 5 July 2011, “Russian econ ministry readies alternative tariff-hike plan pegged to inflation”, Moscow.

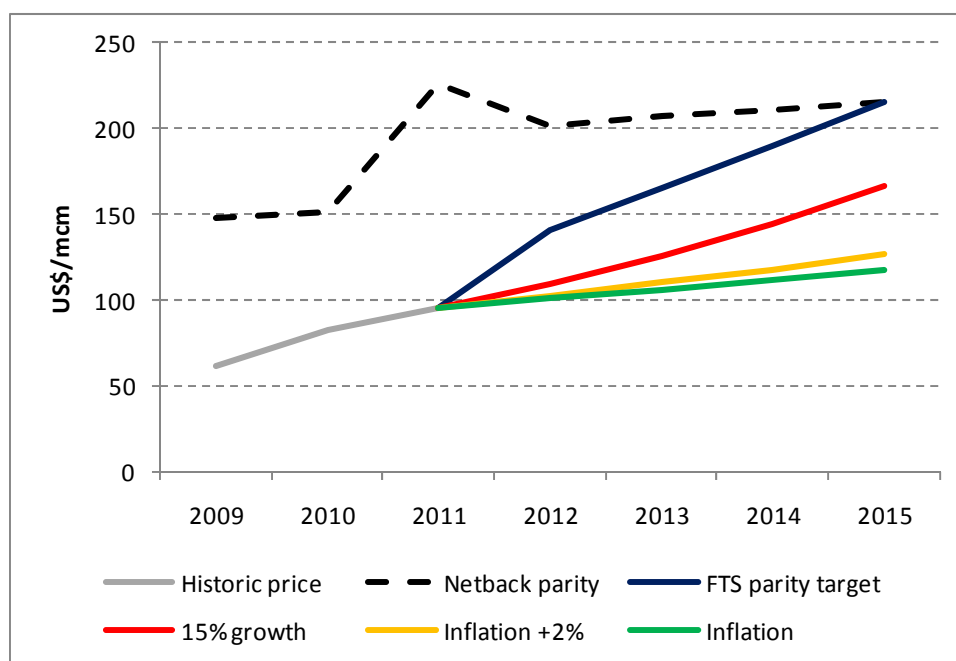
²⁹ Interfax, 29 Aug 2011, “Russian govt may freeze tariff growth for population, industry until July 2012”, Moscow.

³⁰ Ibid

³¹ Interfax, 17 May 2011, “Gas price parity in Russia could be delayed further – regulator”, St. Petersburg.

³² Interfax, 12 Oct 2011, “Regulator says netback for gas prices likely in 2015-2018” Moscow.

Figure 13: Comparison of gas price growth scenarios relative to netback parity target



Source: Interfax, Federal Tariff Service, Ministry of Economic Development of Russian Federation, Author's Calculations

6. Other potential drivers of domestic gas prices in Russia

The potential impact of gas sector reform in Europe

The question of netback parity is further complicated by the potential for changes in the pricing of gas in the European gas market. Stern and Rogers (The Transition to Hub-Base Pricing in Continental Europe, 2011) argue strongly that the link between gas and oil prices prevalent in the vast majority of long-term gas contracts in Europe no longer makes commercial sense, and is likely to be partly or wholly replaced by gas-to-gas competition based on the prices established at various hubs around Europe. The most recent example of a European customer arguing for this change has been seen in August 2011, when German utility E.On opened arbitration proceedings with Gazprom over the restructuring of its gas contracts in order to reduce the impact of oil prices and to increase the link to short-term gas prices.³³ As Stern and Rogers point out, this potential change in the structure of long-term gas contracts does not necessarily imply lower or higher prices, as it is merely a change in the

³³ Dow Jones, 1 Aug 2011, "E.ON opens arbitration process in talks with Gazprom", Dusseldorf.

price formation methodology, but it is likely to create greater short-term volatility and as a result greater uncertainty over the level of netbacks in Russia.

Gazprom has continued to argue vociferously for the continuation of oil-linked pricing (for example CEO Alexey Miller's speech at Gazprom's AGM in June 2011), and the calculations carried out by the company, the FTS and other government bodies continue to assume that this will be the case. As a result, the relevant netback price target to consider from a Russian perspective is one linked to the oil price, which clearly brings its own level of volatility as discussed above. The extra level of uncertainty generated by the possibility of a new pricing structure therefore merely adds further weight to the argument that the netback parity target at which domestic prices have been aiming is more a notional objective aimed at encouraging tariff increases rather than a specific goal of matching the European netback price. This is evidenced by the fact that in the depths of the 2008/09 economic crisis, when spot gas prices in Europe fell as low as \$4/mcf, domestic prices in Russia had already reached export netback parity, while at the current European spot price of \$8.50/mcf (\$300/mcm) the Russian domestic price is approximately 40% below the netback parity level.

The impact of slower than expected electricity price liberalisation

Beyond the specifics of the export netback calculation, a recent development in the implementation of tariff reform for Russian utility companies generally highlights another reason why gas price reform may be slower than originally anticipated, namely that electricity price liberalisation has stalled. In January 2011 full liberalisation of the electricity market was introduced across Russia, but almost immediately the Russian government became alarmed at the rate of price growth in some regions of the country. The Federal Antimonopoly Service accused a number of power companies of abusive practices that had allegedly driven up prices by as much as 39% in some parts of Siberia,³⁴ and Prime Minister Putin responded by demanding a cap on tariff growth of no more than 15%.³⁵ President Medvedev added his voice to the concern of over the impact of higher prices, stating that "The real threat to our economic growth has been rising electricity prices - this is a real threat".³⁶ He also noted that "the state let much go by the wayside during the reform of the electricity sector, primarily issues concerning pricing policy." As a result he instructed

³⁴ Interfax, 9 Feb 2011, "FAS accuses power companies of abusive practices", Moscow.

³⁵ Interfax, 17 Feb 2011, "Russian govt. unhappy with electricity prices – Putin", Moscow.

³⁶ Interfax, 11 March 2011, "Electricity prices in Russia rising at an alarming rate – Medvedev". Moscow.

Deputy Prime Minister Igor Sechin to ensure that “the creation of a fully-fledged electricity market is more under our control than it is now.”³⁷

The result of these pronouncements by the President and Prime Minister has been a series of proposals to limit electricity tariff growth by linking it to inflation, in a similar fashion to that discussed for the gas sector above. Initially the changes being proposed were less severe than those proposed for gas prices, with electricity prices potentially increasing by 11-13% in 2012, 10% in 2013 and 9-9.5% in 2014 compared to the 5-6% increases for gas prices. However, in later proposals submitted in September 2011 the situation appears to have been reversed, with electricity tariffs for end-consumers potentially rising by only 6.5%-7.5% in 2012 and 9%-11% in 2013 and 2014 compared with 15%/year growth for gas prices, while the Ministry of Economic Development is also proposing a broad range of measures to cap wholesale electricity market prices over the same period.³⁸ As a result, although in principle the key power market reforms remain intact, the current discussion of price caps and controlled price increases has upset investors, who were expecting supply and demand issues to have a much greater influence and who are now questioning the firmness of the Russian government’s commitment to electricity price reform.³⁹

From a gas sector perspective this has two evolving consequences with regard to prices. Firstly, progress towards price liberalisation is unlikely to move at a faster pace for gas than electricity, as this would clearly have the potential to undermine the economics of power generation companies given their significant reliance on gas as an input fuel. It is inconceivable that gas prices could reach netback parity in 2015 if electricity prices remain under any form of state control, and as such progress in electricity price liberalisation will be a leading indicator of the pace of gas price reform. As highlighted above, the indications at present are that progress will be slower than expected due to concerns over the impact on the Russian economy.

Gas sector players are diversifying into electricity to exploit arbitrage opportunities

The second consequence is the ongoing diversification of gas companies into the power sector, led by Gazprom. As shown in Figure 14, Gazprom has become the largest player in Russia’s power generation sector through a series of acquisitions and participations in

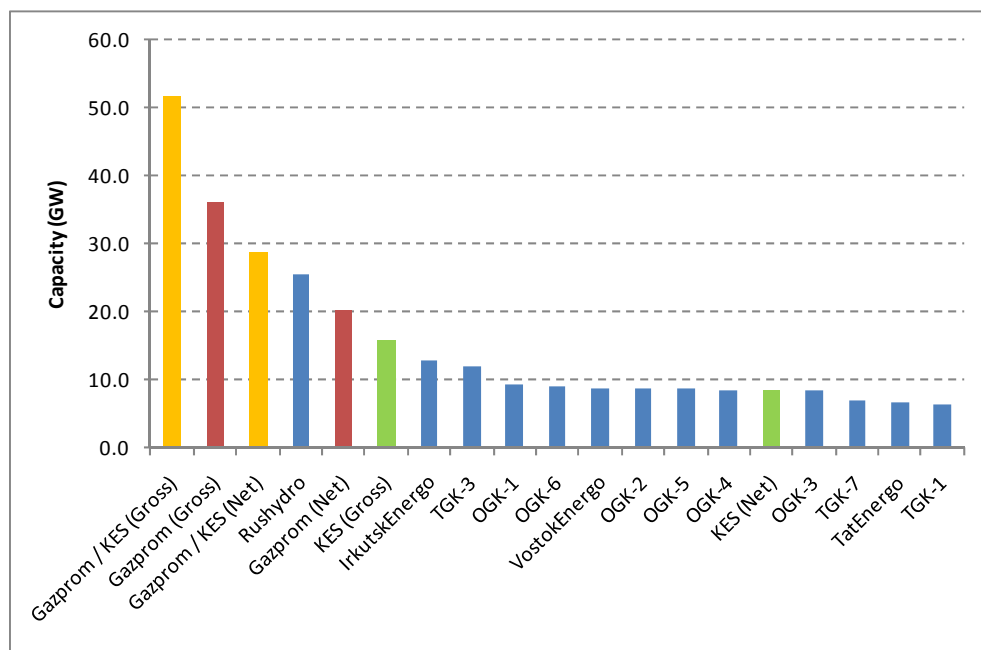
³⁷ Interfax, 11 March 2011, “Medvedev instructs government to work out measures to restrict electricity price growth”, Moscow.

³⁸ Interfax, 23 Sept 2011, “Ministry factors RAB reboot into Russia’s macroeconomic forecasts”, Moscow.

³⁹ Interfax, 9 March 2011, “Main reason for electricity price rises has been grid tariffs”, Moscow.

privatisation sales, and indeed in August 2011 it became even more deeply involved in the sector through the merger of its power assets with those of IES Holdings, owned by Viktor Vekselberg.⁴⁰ As a result Gazprom will own a 75% interest in the combined company with a total capacity of over 50GW, equivalent to approximately 25% of the Russian power generation market.⁴¹ In addition LUKoil is continuing to develop its power sector ambitions in Southern Russia as it looks to exploit its gas assets in the Caspian region, while TNK-BP has signed a memorandum of understanding with electricity company Inter RAO UES on the future development of a joint gas and power business.

Figure 14: Ownership of power assets in Russia (2011)



Source: Energy Ministry of the Russian Federation⁴²

All these moves suggest that companies in the gas sector are not only trying to take advantage of the arbitrage between gas and electricity prices but also that they may in future be less concerned with the absolute level of gas prices than with the differential between gas and electricity tariffs. At present the gas price remains the key driver of profitability, especially

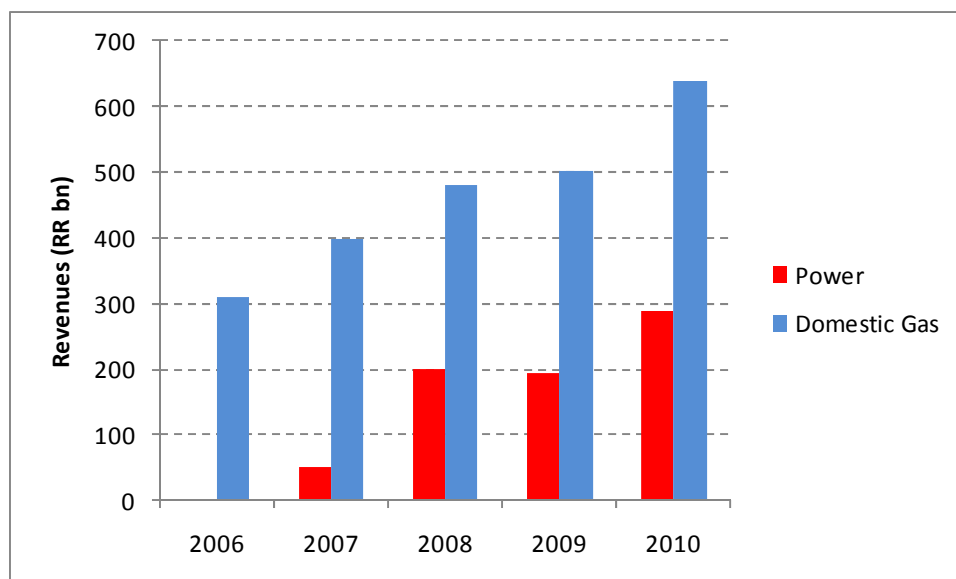
⁴⁰ Interfax, 7 July 2011, "Gazprom, Renova ink agreement on possible power asset merger", Moscow.

⁴¹ Interfax, 9 Sept 2011, "Gazprom to request FAS okay to merge Gazprom, Renova power assets within 2 weeks", Moscow.

⁴² Gazprom and KES figures are shown in gross and net form. Gazprom owns 58% of OGK-2, 61% of OGK-6, 52% of TGK-1 and 54% of Mosenergo (TGK-3). KES owns 26% of TGK-5, 100% of TGK-6, 32% of TGK-7 and 75% of TGK-9. Gazprom's gross generating capacity totals 36GW, but the combination of its net interests is 20.2GW. KES has gross capacity of 16GW and net capacity of 8.5GW. The combined company has gross capacity of 52GW and net capacity of 29GW, and Gazprom would have a 75% interest in this combined company.

for a company such as Gazprom, but increasing diversification into the power sector, which Gazprom is now contemplating in Europe as well as in Russia,⁴³ means that the pressure to push for higher gas prices is reduced. Indeed Gazprom's revenues from domestic power generation have risen from zero in 2006 to RR288billion (approx. \$10billion) in 2010 and have reached a level just under 50% of the company's domestic gas revenues (see Figure 15). If this level of growth were to continue, potentially driven by faster liberalisation in the power sector compared to the gas sector in Russia, then Gazprom could find itself generating equal amounts of revenue from electricity and domestic gas sales by the end of this decade. As a result, a government decision to delay the netback parity target beyond 2015 in the interests of the Russian economy may not be met with as much dismay as might have been expected by some participants in the gas sector.

Figure 15: Gazprom's revenues from its domestic power and domestic gas businesses



Source: Gazprom IFRS results 2006-2010

Of course the converse of this argument may also be true as and when gas prices are eventually set by market mechanisms, at which point vertical integration may also become essential for power generating companies. Indeed, although electricity prices have already been theoretically liberalised, in practice the government has acted to stop prices rising too fast. If this intervention continues, and indeed if the latest plans to restrain electricity price rises to a lower rate than gas price increases are maintained for any length of time, then

⁴³ Interfax, 14 July 2011, "Gazprom, RWE ink memorandum of strategic partnership in energy production," Moscow.

power companies may find it essential to invest in upstream gas assets in order to avoid their margins being squeezed. In this case the rush to integrate upstream gas and downstream power assets may come not only from gas producers looking to exploit the extra margins currently available from electricity sales but also from power companies looking to mitigate the risk of their margins being reduced by rising gas prices.

The economics of domestic gas production have improved dramatically

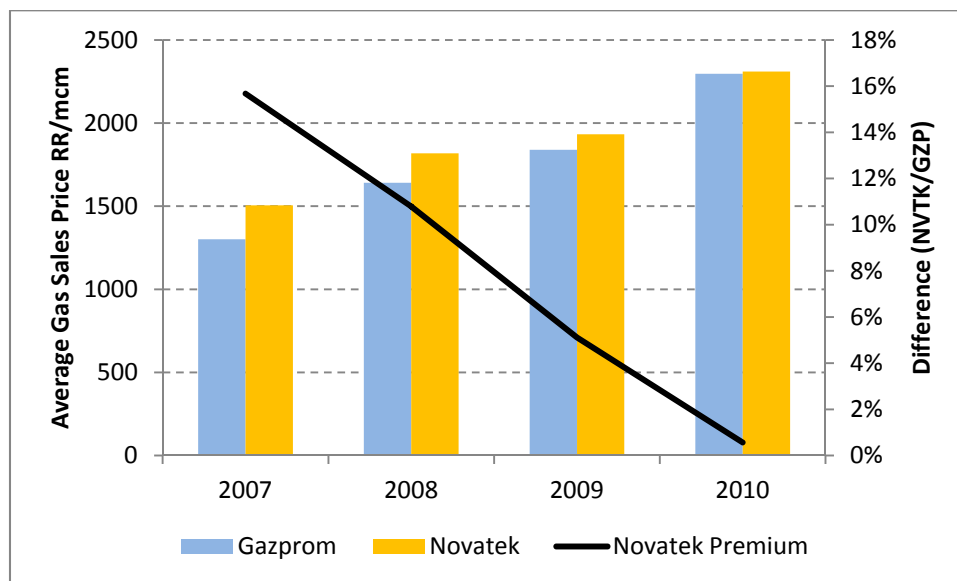
Another important factor in the consideration of the future of domestic gas prices is the ongoing financial viability of the gas sector in Russia. For many years Gazprom complained that it was making losses on the domestic market due to the regulated price environment, and indeed it used this argument to support its ongoing monopoly of export sales. However, an important milestone was reached in 2009 when the company announced that it had made its first profit from its domestic gas business, even in the face of the slump in demand caused by the economic crisis. Gazprom's CFO Andrei Kruglov announced that the company had made a profit of 70 billion roubles (approximately \$2.3billion) from its domestic gas business,⁴⁴ and although this contributed less than 10% of total profits for the year it nevertheless demonstrated that domestic prices had reached a level where some return could be made.

Independent gas companies have, of course, always been free of the restrictions of the regulated price regime, and as a result have been at liberty to charge whatever prices the market would accept. As a result companies such as Novatek have been able to generate very significant profit margins not only because of the higher prices they can charge but also thanks to their greater efficiency and ability to control costs. In 2009, for example, Novatek's EBITDA margin was 44% and its net profit margin was 30% despite the fact that it was totally focussed on the domestic market,⁴⁵ compared with a Gazprom EBITDA margin of 36% and a net profit margin of 26% for the combined group with its exposure to domestic and export markets. However, the inequality of the pricing regime in Russia has been gradually eroded over time, with independent producers able to charge an ever decreasing premium over rising regulated prices. As is shown in figure 16, the average sales price achieved by Novatek in Russia in 2007 was 16% higher than the average price achieved by Gazprom in the same market, but by 2010 this premium for Novatek had fallen to only 1%.

⁴⁴ Interfax, 2 May 2010, "Gazprom posts first profit on domestic gas sales in 2009", Moscow

⁴⁵ Figures generated from Novatek US GAAP Report for FY 2009

Figure 16: Difference between gas prices achieved by Novatek and Gazprom in Russian market



Source: IFRS reports for Gazprom and Novatek, Author's Calculations

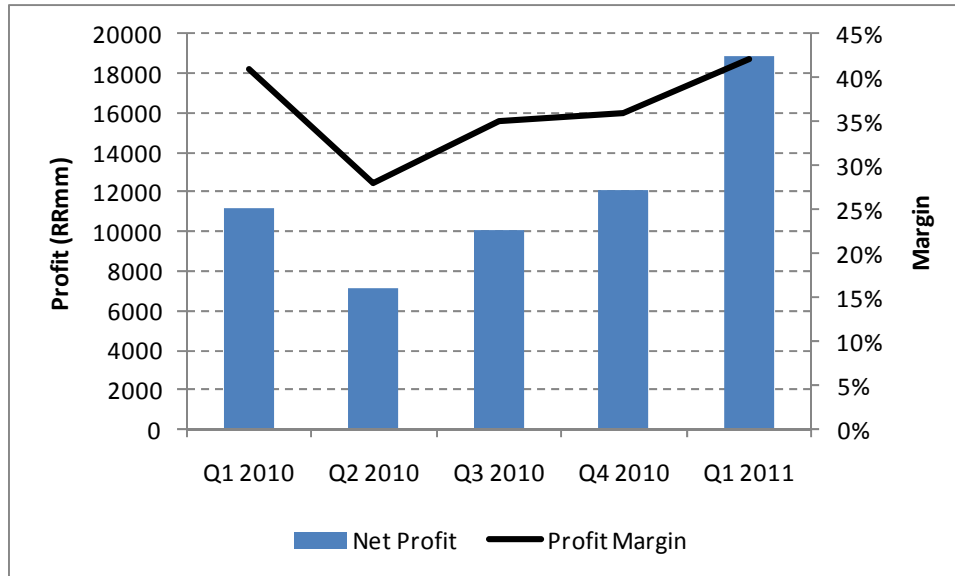
As a result, it would now appear to be much fairer to take Novatek's financial performance as a bell-weather for the economic viability of the Russian domestic gas sector, and as can be seen from the company's results for 2010 and the first quarter of 2011 (figure 17) it is certainly possible to make significant profits from gas sales to Russian consumers at close to the current regulated price. The ability to make money in the Russian domestic gas sector is also evidenced by the actions of other "non-Gazprom" players over the past six months. A number of Russian oil companies have announced aggressive expansion plans, with TNK-BP for example stating that it plans to invest \$3.8 billion until 2013 as part of a plan to double gas production to 30 bcm by 2020.⁴⁶ The key drivers for this new gas ambition are rising prices and also relatively low levels of tax compared with the oil sector, with TNK-BP's former Head of Gas Alastair Ferguson suggesting that domestic gas sales could actually be more profitable than oil exports by 2014.⁴⁷ Meanwhile Rosneft is preparing for the launch of a major gas programme from 2014, when it has negotiated greater access to the trunk pipeline system, and sees its potential output reaching 55 bcm by 2020, almost 4 times current levels. Furthermore, LUKoil has rekindled plans for the full development of its gas resources in the Bolshehetskaya Depression in West Siberia, where it generated \$116 million of profits from

⁴⁶ Dow Jones, 22 Nov 2010, "BP's Russian Joint Venture plans to double natural gas production over next decade", Moscow.

⁴⁷ Presentation to Chatham House, March 2011, "Russian Gas – Winds of Change", London.

its Nakhodkinskoye field in 2010 (LUKoil, 2011, p. 40) and has plans to develop a further three fields by 2020 (Henderson, 2010, p. 135).

Figure 17: Novatek profitability by quarter (2010-2011)



Source: Novatek Quarterly Highlights, 31st March 2011

International companies have also been active in the Russian gas sector, with French major Total buying a 12% equity stake in Novatek⁴⁸ to add to its existing joint venture at the Termokarstovoye field and its new investment in the Yamal LNG project.⁴⁹ Meanwhile ENI continues to invest in its new partnership with GazpromNeft and Novatek at Severenergia, the joint venture that will produce deep gas condensate in the West Siberian region of Nadym Pur Taz. Furthermore Wintershall is expanding its relationship with Gazprom to develop the deeper horizons of the Urengoy field via its Achimgaz JV, which has recently acquired two new licences to add to the one that is already in production and reached peak output of 8 bcm/year in 2010.⁵⁰

The potential impact of “Non-Gazprom” supplies on the domestic gas price

Overall this renewed domestic and international company activity in the Russian gas sector leads to a number of potential implications for domestic price reform. The first is that investors are already willing to produce gas at current prices, although they do anticipate

⁴⁸ Interfax, 4 April 2011, “Total close purchase of 12.087% of Novatek”, Moscow.

⁴⁹ Interfax, 20 July 2011” Government commission clears Total purchase of 20% of Yamal LNG”, Moscow.

⁵⁰ Interfax, 10 March 2011, “Wintershall to participate in developing two more Achimov sections at Urengoy”, Moscow.

further price growth to improve the economic viability of new projects and they also expect little change to the beneficial tax regime. The second is that, in this scenario, there is likely to be significant gas available even if domestic gas prices only reach a range between \$125-150/mcm as opposed to the \$240/mcm implied by the export netback price.⁵¹ Non-Gazprom producers currently identify in their annual reserve audits more than 8 tcm of proved and probable gas reserves, with the potential for this figure to be significantly higher should they be incentivised to fully develop other gas resources that are currently not deemed commercial due to a lack of access to the main gas trunk pipeline system (Henderson, 2010, p. 51). As one example, Rosneft currently books 1.3 tcm of proved and probable reserves but estimates that it has more than 2 tcm of possible reserves and prospective resources on its books that are awaiting further exploration and development.⁵² With a reserve life of over 100 years for its proved and probable reserves alone, it is clear that Rosneft has significant potential upside from the 12 bcm of gas it produced in 2010.

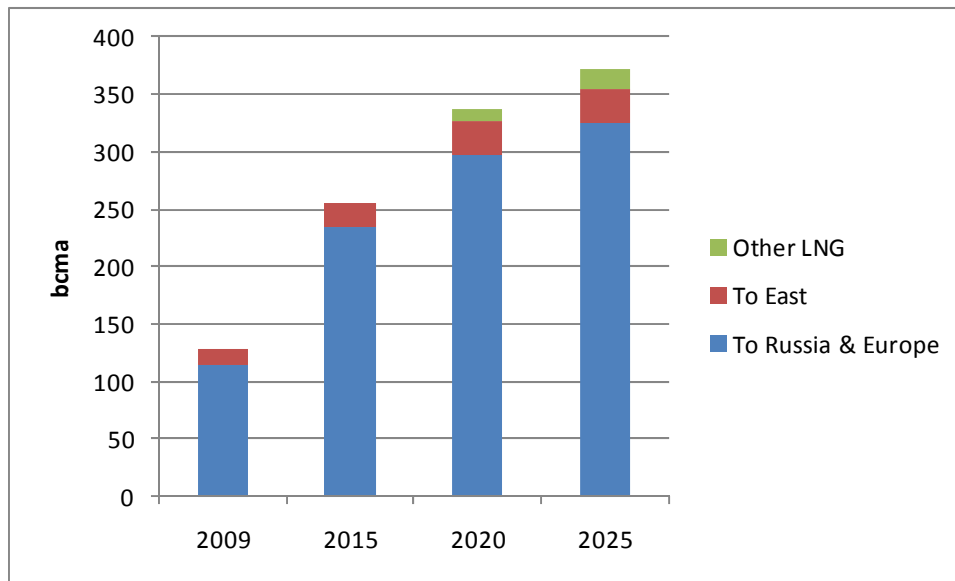
In 2010 the “Non-Gazprom” gas players in Russia produced 142 bcm of gas, equivalent to 22% of the country’s total gas production.⁵³ The latest Russian Energy Strategy, published in 2009, sees this share increasing to 27% by 2030, but the potential is for that target to be reached much earlier if the non-Gazprom companies are encouraged to produce their relatively low-cost gas that is located in the heartland of West Siberia close to existing infrastructure. Indeed if the full potential of their resources was exploited then it is possible that they could produce up to 330 bcma by 2020 and 370 bcma by 2025 (Henderson, 2010, p. 239), of which approximately 300 bcm in 2020 could be sent to the main demand centres in the European part of Russia (see Figure 18). This would imply a share of overall production of around 35% if Gazprom meets its target of 600 bcm by 2020.

⁵¹ Export netback price here assumes an oil price of \$100/barrel.

⁵² Data from Rosneft 2010 Databook available at www.rosneft.com.

⁵³ Interfax, 11 Jan 2011, “Gas production in Russia up 11.6% in 2010”, Moscow.

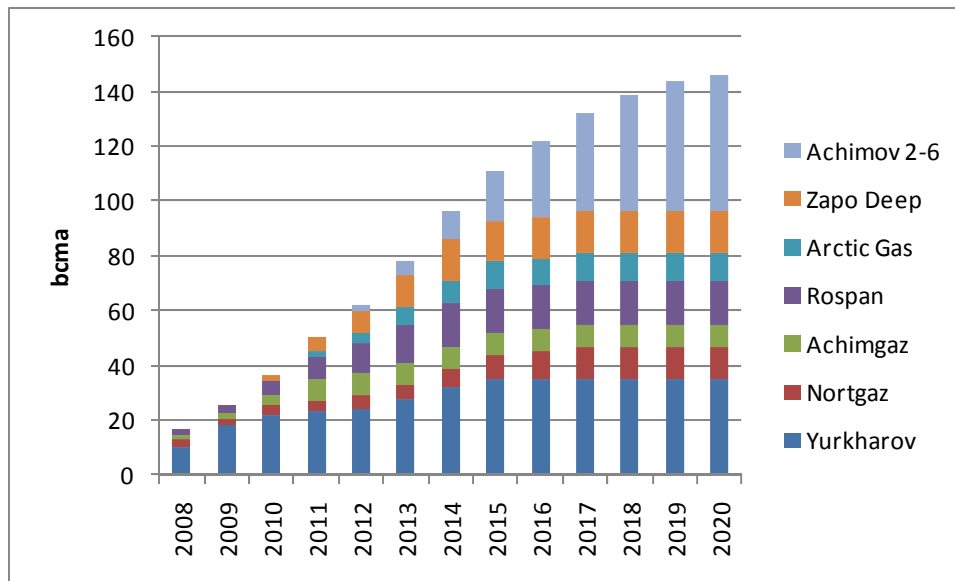
Figure 18: Potential non-Gazprom gas production in Russia



Source: "Non-Gazprom Gas Producers in Russia", Henderson, 2010, p.239

Not only would this gas appear to be ready to be exploited in the relatively short-term, but it would also seem to be available at relatively low cost. This is the case both because much of it is located close to existing infrastructure and also because a significant new resource of gas condensate is now being tapped in the deeper reservoirs below the existing fields in West Siberia. Novatek has been the leader in developing this “deep, wet gas” in the Achimov and Valenginian layers, but now companies such as ENI, TNK-BP, Total, GazpromNeft and others are beginning to take a greater interest. Indeed even Gazprom, with its partner Wintershall, has moved to develop the deeper layers below the giant Urengoy field, in order to take advantage of the economic benefits of producing liquids as well as gas from the same fields. Sales of the liquid condensate that are stripped from the wet gas provide a substantial boost to revenues from the fields and mean that the breakeven price for any gas sales is sharply reduced. As a result, the economics of gas production from West Siberia can be enhanced, reducing the need for dramatically higher gas prices and, as Figure 19 demonstrates, the potential production from this expanding resource is large, reaching up to 150 bcma from existing known fields alone.

Figure 19: Potential gas output from deeper reservoirs in West Siberia

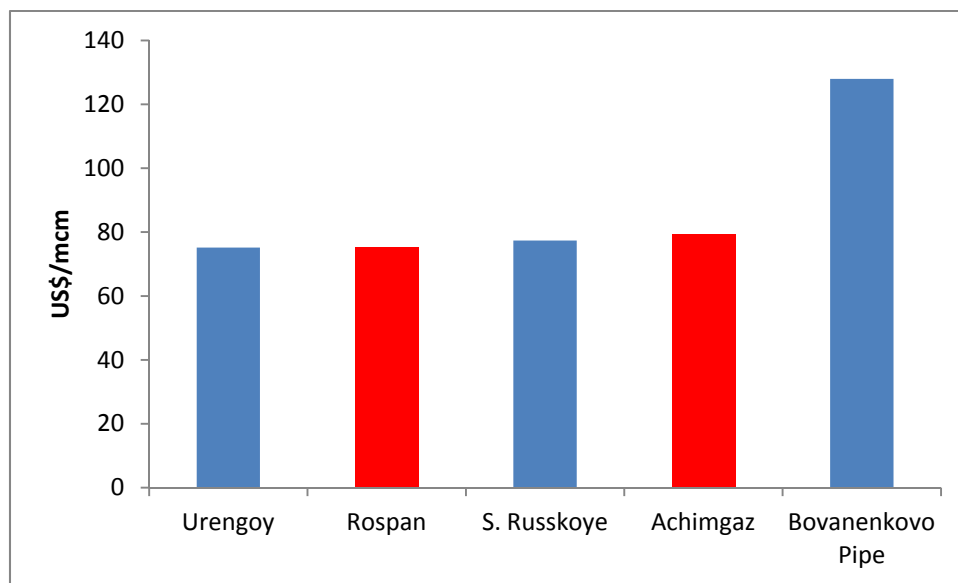


Source: “Non-Gazprom Gas Producers in Russia”, Henderson, 2010, p.179

As a result of this availability of non-Gazprom gas at relatively low prices a third important implication concerning the future of domestic gas prices in Russia can be drawn, namely that the issue of the economics of Gazprom’s new developments need not be quite such an immediate concern. It has been highlighted above that Gazprom’s Yamal developments will be an important foundation for sustaining and growing its production profile to 2020 and beyond, and historically this had been viewed as vital to the short and long-term prosperity of the Russian gas sector as a whole. However, it would now appear that there is a significant short-term resource available at relatively low cost that could allow the timetable of developments such as the Bovanenkovskoye field (the field that is planned to produce the first gas from the Yamal peninsula) to be scaled back somewhat. Bovanenkovskoye is scheduled to produce first gas in the fourth quarter of 2012 and, as has been argued above, this timetable has been one of the key drivers for increasing the domestic gas price towards the \$100-125/mcm range where the field is estimated to breakeven. While it is now inconceivable that the field start-up could be significantly delayed, given the financial, management and political investment already committed to the development, it is nevertheless possible that the capital expenditure plans could be deferred in order to allow a more gradual build up in production. This would then allow greater opportunity for some of the smaller and lower cost West Siberian fields to be developed in the near term, with a particular focus on the wet gas fields that Novatek has already demonstrated can be very

profitable at current domestic gas prices (see Figure 17). Fields such as Rospan (owned by TNK-BP) and Achimgaz (Wintershall/Gazprom) would require a gas price well below that of Bovanenkovskoye to break even in the domestic market (see Figure 20), and the early development of these fields would then allow both more time for the domestic gas price to rise to the levels that would justify a full development of the Yamal peninsula and also a more commercially rational exploitation of Russia’s overall gas resources.

Figure 20: Breakeven prices for Yamal and Nadym- Pur-Taz fields in Moscow



Source: Author’s estimates based on data from Wood Mackenzie Consultants

The issue of regulation of the transport system

Regulation of domestic gas prices in Russia is also closely tied to the regulation of transportation in the gas sector, specifically thanks to the Gas Supply Law created in 1999 and Government Resolutions No. 1021⁵⁴ and No.239⁵⁵. The combined effect of all these regulations is to give the government the right to temporarily regulate gas prices until such time as it can effectively regulate the domestic gas market through its control of the transport system. This time will come when gas prices have reached export netback levels and can therefore be liberalised, and also when the operation of the transport system is transparent enough to allow for appropriate regulation of both Gazprom and third parties. The transport system is currently run in an opaque fashion by Gazprom, which owns the Unified Gas

⁵⁴ “On State Regulation of Gas Prices and Tariffs for Gas Transportation on the Territory of the Russian Federation” 29 Dec 2000.

⁵⁵ “On Measures to Stabilise State Regulation of Prices (Tariffs)” – passed in 1995 but amended a number of times in the past 15 years.

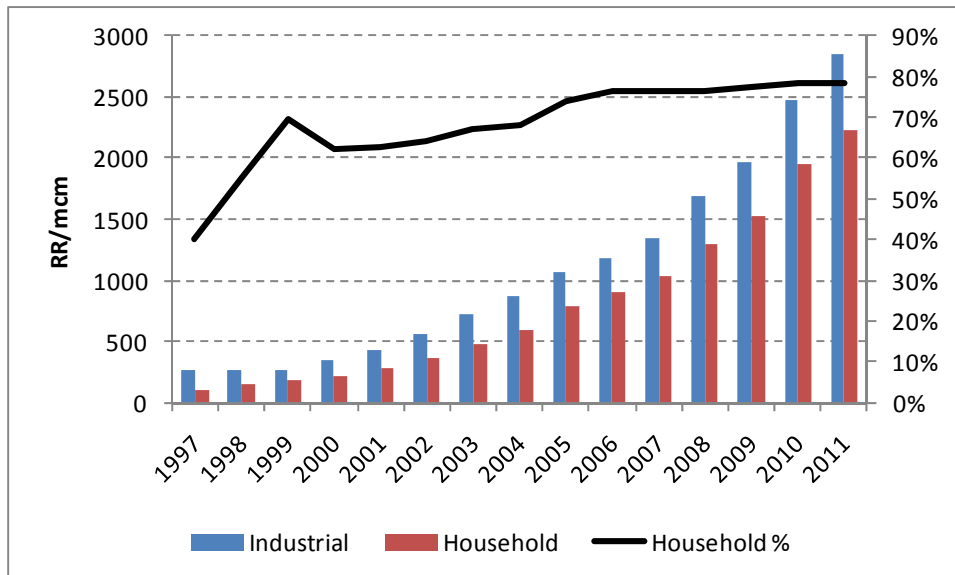
Supply System (the UGSS), with tariffs only being officially set for third party users. This means that the costs and returns for Gazprom itself are very unclear and would be challenging to regulate. In order to rectify this situation the Russian administration is currently pushing Gazprom towards the creation of a single transportation subsidiary (which should have been completed in 2010), while the regulator is currently testing price-setting methodologies that can be jointly applied to both Gazprom and third parties. However, until a system of fully transparent allocation of transport capacity, calculation of economic tariffs and independent regulation of disputes is established, it will be impossible for the Russian government to fully liberalise prices and maintain its control over the gas sector simply via its control over the transport sector. Indeed it is tempting to say that this could not truly happen until the gas transport system is owned by a company independent of Gazprom and other domestic gas producers, as is the case in the oil sector. There pipeline operator Transneft is a 100%-owned state company which independently allocates capacity in the trunk pipeline system and charges tariffs set by a government-appointed regulator. Achieving this ultimate level of independence for the transport system may not be required prior to the liberalisation of gas prices, as the government could regulate a Gazprom-owned “independent” transport subsidiary, but the lack of apparent progress towards even this intermediate position again means that the pressure to fully liberalise prices is reduced. Of course the debate is somewhat circular in nature – should liberalised prices catalyse independent transport regulation or vice versa – but at present the Russian State’s lack of ultimate independent control over the gas transportation business is another excuse for continuing price regulation.

The impact of residential gas prices

The discussion above has largely focused on industrial gas prices (including for power generation) as these account for the majority of gas sales in Russia, with household (residential) consumers only accounting for 19% of total demand in 2010 (Interfax, 2011, p. 6). However, the political importance of the residential sector, especially ahead of two important elections, means that considerations about the impact of gas prices on household consumers are given greater weight than the amount of the increases would suggest. For the past 15 years government strategy has been focused on closing the anomalous gap between residential and industrial gas prices that has seen the latter essentially providing a subsidy to the former by paying a premium price for its gas, in stark contrast to European markets where households pay a premium to account for the higher costs of distribution. Figure 21 shows that the government has made steady progress in closing the gap, in line with its stated long-

term priority to end the cross-subsidisation (Burgansky, 2009, p. 156), with household gas prices increasing from 40% of the industrial price in 1997 to 78% of the price in 2010/11.

Figure 21: Comparison between residential and industrial gas prices in Russia



Source: Russian Federal Tariff Service, Gazprom

However, now that prices have risen and become more equal, a given percentage increase will have a more significant impact in money terms on residential consumers. Although the government could, of course, reverse its previous policy and implement lower growth for residential consumer prices over the next few years while continuing to push industrial prices towards netback parity, it appears reluctant to implement this change. As a result, any moves to dampen the economic impact of price rises on residential customers is likely to have an impact on gas prices overall, again slowing any potential increases. In 2011 the prices for the residential and industrial sectors both rose by 15%, but plans for 2012 remain uncertain as the discussion concerning overall gas price strategy continues. However, the proximity of the parliamentary and presidential elections at the end of 2011 and at the start of 2012 are likely to affect the short-, if not the long-term decision making process and to increase the chances of a regulated rather than market-oriented strategy over the next few years.

Conclusions

In the year 2000 the Russian government rekindled its efforts to increase domestic gas prices from the very low levels seen immediately after the 1998 economic crisis towards international norms, although in a controlled and measured fashion in order to protect

Russian consumers from the excessive price increases seen in the early 1990s when tariffs were tied to inflation. This control has been exercised through the regulation of the gas prices at which Gazprom, the former gas monopoly and still the dominant player in the Russian market, can sell gas to domestic customers, and initially relatively low levels of regulated prices were justified by Gazprom's ownership of low-cost Soviet-legacy fields and by the company's monopoly over high-priced gas exports to Europe.

However, by 2006 this situation had changed, as Gazprom's need to develop new, remoter and more expensive fields, combined with Russia's desire to reduce energy inefficiency and meet its commitment to achieve WTO entry requirements, catalysed the formation of a new objective to equalise Russia's domestic gas price with its export equivalent on a netback basis. At the time this netback was based on a European export price related to a world oil price of around \$55/barrel, and implied achievable growth in prices of 15-18%/year for 4-5 years. As a result the target of "export netback parity by 2011" was endorsed by the Russian government and became the basis for subsequent price increases implemented by the Federal Tariff Service.

However, since then a number of factors have combined to call into question the relevance of the netback parity target. Firstly, the major assumptions behind the netback parity target have changed dramatically. In particular the oil price has doubled to a range of \$105-115/barrel, with a consequent impact on long-term contract prices in Europe. The rise in the oil price initially led to a delay in the netback parity target date from 2011 to 2015, but even this later date now looks unrealistic because to meet even a netback parity target based on \$100/barrel oil would imply domestic gas price growth of 23%/year for the next four years. The netback picture is further complicated by the fact that the structure of long-term export contracts in Europe is changing to include more hub-based gas prices. While the exact effect of this on the netback price in Russia in the long-term is unclear, it is certain that it will increase short-term uncertainty and concerns over price volatility, again undermining the netback parity target.

Furthermore, concerns over the potentially high levels of price growth implied by an oil-linked netback parity target have caused various Russian ministries to call for a review of the price targets for the next few years. Suggestions initially included a move to an inflation-linked gas pricing mechanism, although this move may well have been driven by the imminent parliamentary and presidential elections in December 2011 and March 2012.

However, a less radical change has now been approved which will see the government freezing prices until July 2012 before re-introducing 15%/year annum price growth thereafter,⁵⁶ but the impact of any of these changes would be to further defer the achievement of the netback parity target. In the case of inflation-related price growth it would not have been achievable for more than a decade (assuming a \$100/barrel oil price), and even the currently approved 15%/year price growth will delay any hope of netback parity until towards the end of the current decade. Indeed this fact has been acknowledged by the Federal Tariff Service, which stated in October 2011 that the new target for netback parity is 2015-2018.⁵⁷

In addition, worries over price increases for all utilities have also led to a review of price reform in the electricity sector. Full price liberalisation was introduced in January 2011, but almost immediately the Russian government became concerned about what it regarded as excessive price increases, and is now planning to re-introduce some price controls on the sector. Given that electricity and gas sector reform are closely related, with the former widely regarded as a model for the latter, it is very unlikely that gas prices will be allowed to proceed rapidly towards netback parity while electricity prices remain partially regulated, not least because this could destroy the economic viability of many power companies who are heavily reliant on gas as their major fuel input.

The need for much higher domestic gas prices has in any case been reduced by the increased availability of lower-cost “Non-Gazprom” gas supply. Independent gas producers and the Russian oil companies, plus a number of foreign energy companies, own over 8 tcm of gas reserves close to existing infrastructure in West Siberia and with the potential to produce up to 300 bcma of west-facing gas by 2020. The cost of supply of a significant part of this gas could also be reduced by the sale of associated liquids, meaning that the need for Gazprom to rapidly develop its higher cost fields, such as those on Yamal, has been reduced. As a result the consequent need to urgently increase the domestic gas price to much higher levels has also somewhat dissipated. Having said this, it seems clear Gazprom’s major field developments on the Yamal peninsula will still go ahead, but the increase in production may be slower than expected. The domestic gas price is currently still below the level at which the development of fields such as Bovanenkovskoye can be economically justified, and as a

⁵⁶ Interfax, 22 Sept 2011, “Russian govt eager to hold back price growth for electricity, gas and heat to households in 2012 – Econ Min”, Moscow.

⁵⁷ Interfax, 12 Oct 2011, “Regulator says netback for gas prices likely in 2015-2018”, Moscow.

result an alternative plan could involve lower short-term capital expenditure on field development, with a consequent slower increase in production, allowing lower cost non-Gazprom gas to fill any void. Meanwhile domestic gas prices could increase more slowly, before peak production at Bovanenkovskoye is achieved at a time when netback parity is closer, perhaps towards 2020.

Finally, the move to domestic gas price liberalisation is also predicated on the Russian government being able to exert control over the gas sector via regulation of the transport system. However, this is currently owned and opaquely run by Gazprom, and although slow progress is being made to increase transparency and regulatory power the situation remains far from the position where a regulator could hope to exert control over an independent transport operator. As a result, the ending of gas price regulation and any concept of domestic prices at netback parity are likely to be delayed until issues surrounding the control of the transport system are resolved.

Overall it would therefore seem that achievement of a European export netback level is not currently, and in reality never was, the most relevant target for Russian domestic gas prices. The volatility of the assumptions behind such a target, the much higher level of oil prices that has driven up the absolute value of the implied export netback price, concerns over the impact of higher prices on the Russian economy and the fact that many Russian gas producers, including Gazprom, can make money at current prices from their currently producing fields would seem to suggest that a less radical short to medium term goal would make more commercial and political sense. Indeed the words of former Minister of Economic Development German Gref in 2006 arguably retain significant relevance today: “The fact that gas prices are lower in [Russia] than Europe is a natural advantage and preference, which along with the "peculiarities of the climate” are offered to Russian enterprises. No one is forcing us to overcome sharp price gaps for energy suppliers. We don't have any international obligations. We've had enough of the shocks we saw in the 1990s. Prices need to be gradually increased.”⁵⁸

The key question, then, is how can the overall aims of the Russian government be achieved? On the one hand domestic gas prices need to rise to encourage fuel efficiency and a rational use of all the country's energy resources (including coal and oil), to meet the requirements of

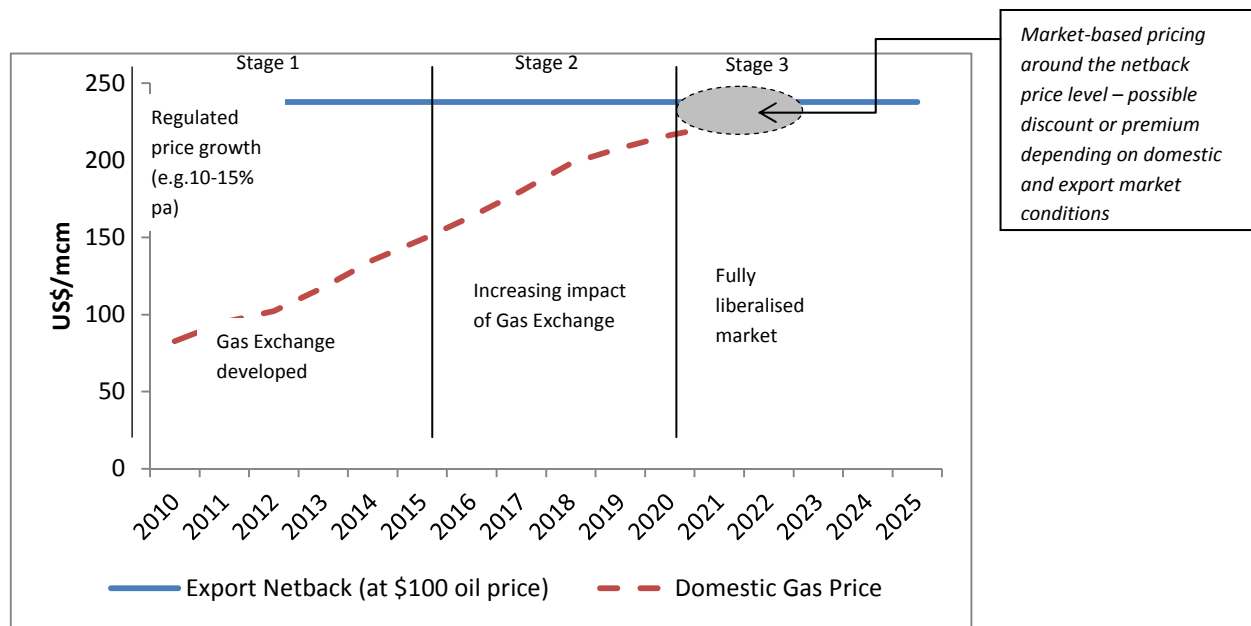
⁵⁸ Interfax, 28 Nov 2006, “Russian gas prices could grow to more than \$100/mcm by 2011 – Ministry”, Tula.

WTO entry and to underpin the development of a new range of indigenous gas fields that would not be profitable at current prices (for example Gazprom's fields on the Yamal peninsula). On the other hand tariffs cannot be allowed to rise so fast that they undermine economic growth by increasing the impact of inflation on the country's industrial and residential consumers, and must also be co-ordinated with the ongoing reforms in the electricity sector.

One answer, connected to the need to underpin the development of the country's gas sector, would be to relate gas price increases to the long-run marginal cost of indigenous gas production, including the cost of new developments needed to sustain and grow output. This would create a "cost-plus" pricing structure that could allow a suitable margin to be made by gas companies and could encourage efficiency by allowing the lowest cost producers to generate the highest profits. However, such a solution would be fraught with regulatory difficulties, especially as Gazprom appears to be facing the problem that its low cost fields are in decline while its new developments are in high cost Arctic regions. As a result the government would appear to have a stark choice to make in deciding how to set the long-run marginal cost of Russian production. If price rises were to be based on Russia's overall gas portfolio, including a significant amount of "independent" gas, then Gazprom could be disadvantaged and see its production go into steep decline. If, on the other hand, prices were increased to allow Gazprom to develop its high cost fields while retaining its control over the transport system then cheaper "independent" gas could be crowded out to the detriment of Russian consumers and Russian economic growth. Furthermore, in either case the Russian government would effectively be "picking winners" in a discriminatory fashion, with the likely consequence being a very inefficient use of the country's natural resources.

The alternative of a swift move to market-based pricing seems equally unappealing at present. As noted by a number of Russian Ministers, even retention of the previous target of full price liberalisation by 2015 could lead to price rises so rapid that they could undermine the Russian economy and create serious political problems for the Kremlin, given the likely impact on Russian industry and the gas-using population as a whole. As a result, although the label of "netback parity" may be retained as a stated political objective for the medium term, in reality it is unlikely to be adhered to as a fixed goal.

Figure 22: Potential outlook for domestic gas prices in Russia



Source: Author's estimates

The most probable outcome, therefore, is a hybrid of the regulated and market-based strategies. An initial period of state-controlled price increases could be based not on Gazprom's long-run marginal cost but rather on its average cost of production, including both its low cost currently producing fields and its new more expensive Arctic developments. This averaging process could allow for a gradual increase in regulated prices as the share of higher cost gas increases once production from Yamal comes onstream in 2012/13. By the time Bovanenkovskoye, the first Yamal field, has reached peak output in 2018-2020 the domestic price could have reached a high enough level to then allow a transition to a market-based pricing system based around the Gas Exchange concept that was initially trialled in 2007-2009.

Figure 22 offers a pictorial representation of how this might work in practice, with three potential stages leading to the development of a fully liberalised gas market beyond 2020. Stage 1 is characterised by a period of continued government control of prices before and after the 2011/2012 election period as the state manages the increase in gas tariffs to soften the potential blow to the Russian economy while still encouraging meaningful price rises. In the scenario painted here, annual growth of 15% would continue to 2014 followed by 10%/year growth until perhaps 2018 (with lower overall growth in 2012 to allow for a price freeze until July), by which time the domestic gas price would have reached almost

\$200/mcm. This level would be enough to allow Gazprom to develop its new Arctic fields while also encouraging independent players to develop their gas resources at prices which would continue to be closely related to, although not tied to, Gazprom's regulated price. At the same time development of the Gas Exchange, either by a Gazprom subsidiary or by an independent government-sponsored entity, could continue, with the establishment of a fully fledged exchange trading significant volumes of Gazprom and non-Gazprom gas by 2018. By this time Gazprom's monopoly of the trunk gas pipeline system would also need to have been resolved, implying the probable need for unbundling of Gazprom's upstream and downstream businesses, but with independent regulation of a commercially autonomous Gazprom transport subsidiary the absolute minimum requirement for further progress towards a fully liberalised market.

Stage 2 could then see significant steps taken towards the full working of a domestic Gas Exchange, with increasing volumes traded by all gas producers, the ending of the quota system whereby volumes to be sold at regulated prices are allocated on an annual basis, full access to the trunk pipeline system granted to allow the development of a competitive long-term contract market and a marked reduction in the importance of the regulated pricing mechanism. Price rises during this period could even start to slow as parity with export prices approached and increasing amounts of lower cost non-Gazprom gas became available on the market.

The question of access to export markets could also become very relevant at this stage, with Gazprom's increasing ability to trade its domestic gas production on the open market and its ability to charge unregulated domestic prices undermining its case for full control of export sales. While it is unlikely that the concept of the single export channel would be changed, the development of an allocation mechanism to allow non-Gazprom players to access export markets is perfectly conceivable, perhaps in proportion to their sales in the domestic marketplace. As a result Russia would continue to have one gas exporting company (perhaps even still called Gazpromexport) responding to the needs of its European, and potentially Asian, customer base, but with this company taking supplies from a number of different indigenous Russian supply sources. Indeed Prime Minister Putin himself acknowledged the possibility of a change to the way that Russia's gas export sales are conducted in October

2011, stating that “Russia may liberalise the export of gas down the road...we don’t rule out doing this at some stage.”⁵⁹

This increased access to both domestic and export markets for all gas producers could then lead Russia into the fully liberalised market envisaged in Stage 3 at some point beyond 2020. Supply and demand in the Russian and European markets would determine prices as state regulation fell away completely (apart from perhaps some controls over prices for essential services), and Gazprom would be forced to compete with its domestic rivals for market share in both areas. Furthermore Gazprom’s transport business might also by this stage have been separated from its upstream and distribution businesses, allowing for fully independent regulation of the trunk pipeline system via a state-owned gas transport company. Market-based pricing would then effectively be achieved, although as in the oil market today the actual level of prices in the domestic and export markets would be set by a number of commercial, political and environmental factors that would see fluctuation around a netback level rather than strict adherence to one number based on European prices. In particular the impact of price rises on demand in Russia, which could stagnate or even fall as the country’s industrial capital stock is replaced and more efficient energy use is encouraged by higher gas tariffs, could even create an oversupply scenario that would see prices fall back rather than rise inexorably towards European levels. The key conclusion, though, is that in this period the subsidisation of the Russian economy by the Russian gas industry would have ended. Although it is perfectly possible to conceive of scenarios in which the domestic gas price could continue to trade at a discount to the European export netback price, it is very unlikely in a market-based environment that it would trade at a level below the average long-run marginal cost of gas supply in Russia. Russian gas supply would respond to price signals both in Russia and export markets, ensuring that both were profitable for gas producers (removing any likelihood of subsidisation of domestic Russian customers) even if the prices for Russian gas in any one market might trade at a premium or discount to another depending on specific market conditions over time.

One obvious additional consequence of this gradual evolution towards a fully liberalised gas market in Russia is that Russia’s relationship with the European gas market could change quite fundamentally. In the past the higher prices available in Europe have made gas exports from Russia a priority for Gazprom and a desired goal for other indigenous gas producers. As

⁵⁹ Interfax, 6 Oct 2011, “Putin: Russia might liberalise gas exports in future”, Moscow.

domestic prices increase towards netback parity, however, this balance will change, although the exact impact will depend on the levels of demand both in Russia and Europe. In the scenario outlined above, where higher prices in Russia cause demand to stagnate or even decline, while the availability of indigenous supply increases as non-Gazprom producers expand output in a liberalised market, then a gas bubble could be created that could reduce prices not only in Russia but also in the European gas market. Conversely, if continued GDP growth in Russia and ongoing inefficiencies in the energy economy encourage continued gas demand growth, and if this perhaps coincides with slower than expected development of Russia's indigenous gas resources, then higher prices in Russia could result, reducing the incentive for producers to export and potentially creating a gas deficit in Europe. Although it would be wrong to conclude from this that gas exports from Russia could go into decline, as the Russian Energy Strategy to 2030 clearly outlines that both production and exports are expected to increase, it is nevertheless possible that customers in Europe will face more competition for gas produced in Russia than has been the case to date. What is becoming clear, though, is that the gradual deregulation of the Russian gas market is set to have significant consequences for all customers of Gazprom and the other emerging Russian producers in the "independent" gas sector. It will also mean that the factors influencing Russia's domestic and export markets will need to be considered as much more mutually interdependent than has been the case in the first two decades of the post-Soviet era.

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