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## **CHANGES IN RUSSIA'S GAS EXPORTATION STRATEGY Europe versus Asia?<sup>1</sup>**

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**Catherine Locatelli**  
*LEPII-EPE, CNRS-University of Grenoble II*

### **Abstract**

With almost 40% of world gas reserves, Russia's international strategy is currently undergoing fundamental changes. The institutional and organisational developments in the European Union, its principal export market, and the emergence of Asia as a significant importer is likely to modify the Russian gas export policy. To some extent, Russia could bring its various potential markets into competition, at least as far as Europe and Asia are concerned.

**KEYWORDS:** Russian gas exports, Liberalisation, European gas market, Russian gas policy

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## Introduction

Europe has been the privileged, and indeed the only, market for Russian gas exports. With almost 80 Gm<sup>3</sup> of gas exported to the European Union in 2003, that is, 33% of all supplies to this area, Russia has established its position as an essential supplier to the EU alongside Algeria, Norway and The Netherlands. This logic should be maintained in the medium term. Europe, and especially the European Union, is still at the heart of the gas strategy adopted by Russia and its principal gas company Gazprom. The Russians are thus undoubtedly looking to remain a significant supplier to major partners such as Europe, and to be considered as a strategic and unavoidable partner in this regard.

Can it be said that Russia's gas strategy, in this broad sense, is merely an extension of the strategy adopted by the Soviet Union? From this point of view, two factors need to be taken into consideration. On one hand, the deregulation of the European gas market is a major challenge that brings opportunities as well as restrictions. This could suggest significant changes in the way the Russian gas industry is organised. The question of Russian gas supplies costs is very important in the light of the competition likely to develop on the European market. On the other hand, the entry of certain countries from Central and Eastern Europe into the European Union is a second factor likely to upset, to some extent, Gazprom's gas strategy. These countries are in fact important transit territories for Russian exports to Western Europe, as well as being markets in which Gazprom has until now been almost the only gas supplier. Finally, Europe is no longer the "sole objective" as far as Russian exports are concerned, and Gazprom is thus very clearly expressing a willingness to define a global strategy (Komarov 2004). It therefore needs to increase its market share in the European Union, while at the same time finding its position on the Asiatic markets, especially in China, and in the North American markets. To some extent, Russia could bring these various potential markets into competition, at least as far as Europe and Asia are concerned. With almost 40% of world gas reserves, Russia undoubtedly has a trump card to play on the international energy markets.

### Russia and the European gas market

Russia's gas strategy with regard to Europe and the European Union has a clear overall logic, namely a strategy of maximising exports. It is accompanied by a willingness to increase not just the number, but also the safety, of the export networks set up in order to reach the European markets. It suggests at the same time a strategy of maximising production in order to satisfy internal needs and the anticipated increase of exports to Europe.

*The export maximisation strategy*

Gas exports from Russia to Europe totalled 139 Gm<sup>3</sup> in 2003 and should exceed 140 Gm<sup>3</sup> in 2004. In the European Union, the exports have been concentrated on a number of countries, mainly Germany, Italy and France (see Table 1). The recent entry of Poland, Hungary, the Czech Republic, Slovakia and the Baltic States should further strengthen Russia's weight in supplying the European Union, because of these countries' level of dependency on Russian gas.

This strategy of maximising exports to the European Union should be maintained in the short term. This zone is the one that allows Russia to obtain the greatest value from its gas production because of low gas prices in its domestic market and the persistence of non-monetary relations concerning some consumers<sup>2</sup>. Exports to the EU will therefore be a determining variable in the gas company's capacity to finance its investments, leaving Europe to remain an area in which Gazprom endeavours to maximise its exports. At the 2008-2010 horizon, the official gas target is to export almost 200 Gm<sup>3</sup> of gas to Europe, out of a total export volume of 245-275 Gm<sup>3</sup> of gas (see Table 2). In addition, the Putin-Prodi initiative concerning the signature of a "Energy partnership" between the European Union and Russia (under discussion since 2000) should link these two areas even more closely (UE 2001).

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<sup>2</sup> In 2001, these prices were \$10 per 1,000 m<sup>3</sup> for households and \$15-16 per 1,000 m<sup>3</sup> for industrial units, compared with an average of \$120 per 1,000 m<sup>3</sup> for exports to Western Europe. *Petroleum Economist*, February 2002, p. 40 and Butler 2002.

**Table 1: Russian Gas exports to European markets  
and Russian gas production from 1980-2003, in bcm**

	1980	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>W. Europe</b>	<b>22,2</b>	<b>62,1</b>	<b>74,4</b>	<b>74,4</b>	<b>74,1</b>	<b>78,4</b>	<b>88,4</b>	<b>90,4</b>	<b>90,7</b>	<b>87,8</b>	<b>92,0</b>
• European Union	22,2	57,2	68,3	67,9	67,0		76,9	79,8			78,9
Germany (1)	11,8	22,9	32,2	32,3	32,5	32,5	34,9	34,1	32,6	32,2	35,0
France	0,0	12,1	12,5	12,0	10,9	10,9	13,4	12,9	11,2	11,4	11,2
Italy	6,4	14,1	13,9	13,8	14,2	17,3	19,8	21,8	20,2	19,3	19,7
Austria	3,0	5,1	6,1	6,1	5,6	5,7	5,4	5,1	4,9	5,2	6,0
Finland	1,0	3,0	3,6	3,7	3,6	4,2	4,2	4,3	4,6	4,6	5,1
• Turkey	0,0	4,5	5,7	5,7	6,7	6,6	8,8	10,2	11,1	11,8	12,8
• Switzerland	0,0	0,4	0,4	0,4	0,4	0,3	0,4	0,4	0,3	0,3	0,3
<b>E. Europe</b>	<b>29,4</b>	<b>37,1</b>	<b>42,9</b>	<b>49,1</b>	<b>42,7</b>	<b>42,1</b>	<b>38,4</b>		<b>40,3</b>	<b>41,6</b>	<b>46,0</b>
Czech Rep			8,4	9,4	8,4	8,6	7,8	7,5	7,5	7,4	7,4
Slovakia			7,4	7,2	7,1	7,1	7,5	7,9	7,5	7,7	7,3
Poland	5,3	6,7	7,3	7,2	6,8	6,9	6,1	6,8	7,5	7,3	7,4
Hungary	3,9	4,8	6,3	7,7	6,5	7,3	7,4	6,5	8,0	9,1	10,4
Bulgaria	4,0	5,2	5,8	6,1	5,0	3,6	3,2	3,2	3,3	2,8	2,9
Romania	1,5	4,6	6,2	7,4	5,1	4,8	3,2	3,2	2,9	3,5	5,1
<b>Total</b>	<b>51,6</b>	<b>99,2</b>	<b>117,3</b>	<b>123,5</b>	<b>116,8</b>	<b>120,5</b>	<b>126,8</b>	<b>129,1</b>	<b>131,0</b>	<b>129,4</b>	<b>138,9</b>

Sources: Cedigaz. - *Natural Gas in the World*, Rueil-Malmaison, various years.

Russia is now trying to increase its market share in Europe, and is thus being compelled to search for new export markets. The United Kingdom, to which Gazprom wishes to export 8-10 Gm<sup>3</sup> as soon as possible, is one of these markets<sup>3</sup>. The completion of the North European Gas Pipeline, which the Russians consider a priority project, forms part of this strategy, although there are doubts concerning its realisation in the short term<sup>4</sup>. The Russian gas company also intends to export gas to Sweden from 2010 onwards; Turkey and Italy are other markets in which Gazprom wishes to strengthen its presence.

*The production maximisation strategy*

The export maximisation strategy relies, logically, on a production maximisation policy. In 2003, Russian gas production totalled 616 Gm<sup>3</sup>, most of which, that is 540 Gm<sup>3</sup>, originated from Gazprom. We must however be aware of the difficulties that the Russian gas company is experiencing with renewing its production capacities. In recent years, production objectives have been mostly revised downwards. The optimistic estimate for Russia's long-term energy plan anticipates production of 645-665 Gm<sup>3</sup> in 2010, this being much less than the initial estimates of 765-850 Gm<sup>3</sup>, and 710-730 Gm<sup>3</sup> in 2020. Russian gas reserves are not in question, but the anticipated production levels will require consequent investment of some \$164-171,000 million (some of which relates to transport) over the period 2001-2020 (AIE-OCDE 2003). Does the Russian gas company have the capacity to generate production at the desired rate from deposits that will allow production consistent with export levels as high as those envisaged? The rises in oil prices and their knock-on effect on gas prices have significantly improved Gazprom's financial capacity in 2003 and 2004. The fact remains, however, that the low gas prices on the Russian domestic market are a factor that can only restrict its capacity for financing investments. It is therefore mainly through export that Gazprom should search for the liquid assets necessary for financing its investments. This situation of dependency on the foreign market will weaken its development, insofar as any fall in gas prices on the European market will reduce its financial capacity and therefore have a restrictive effect on its investment strategy.

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<sup>3</sup> "Gazprom targets UK in gas export plans", *Gas Matters*, March 2004, p. 8.

<sup>4</sup> "Will political ties lead to a Russia-Uk pipeline link ?" , *Gas Matters*, July 2003, p. 10-15.

**Table 2: Prevision of Russian gas exports in 2010-2020, Gm<sup>3</sup>**

	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2020</b>
<b>Total</b>	<b>217</b>	<b>245-260</b>	<b>245-275</b>	<b>270-275</b>
Outside CIS and Baltic countries	130,0	175-190	195-205	200-210

Source: *Energy Strategy of Russia for the period ending 2020: Mains provisions*, Mintopenergo, Moscow, November 2000.

Recent years, however, have seen an interesting development with the emergence of new producers such as Itera and most significantly the Russian oil companies, mainly Lukoil, Yukos and Surgutneftegaz<sup>5</sup>. In future, the companies may become major actors in the gas industry and have the effect of slightly altering its structure. Their increased involvement in the gas industry is however still largely conditioned by reforms in the sector as a whole. Free and equal access to Gazprom's transport network is one condition, and reforms in domestic gas prices another factor of considerable importance (Locatelli 2003).

### **Russia faced with the deregulation of the European gas market**

The main market for Russian gas exports, the European Union, is currently undergoing fundamental changes to its organisation, structures, rules and institutions (Finon 2002). These changes are compelling Gazprom to make some changes as well. Its strategy must be structured around two fundamental questions. How can its market share be increased in an environment that will become more and more competitive? How can the export pipelines be secured in order to reach those markets? The disintegration of the Soviet Union has weakened the Russian export route system by increasing the number of transit territories in a politically unstable environment.

#### *Constraints and opportunities for suppliers to the EU*

The deregulation of the European gas market will probably increase exposure of the traditional suppliers to "price risk" and "volume risk" for traditional suppliers to this area. It will lead eventually to modification of certain contractual clauses of existing contracts concerning indexation of prices and multiple aspects of the price formulae, which organise gas company sales. Price formulae will have to take account of variations in oil prices more quickly (this now takes more than six months). In some cases price formulae will also take account of market prices for electricity as an element of valuation of a part of gas supplies, or prices for coal, which can substitute gas in electricity production. After several years they may also integrate spot market prices on the European continent: these markets do not evolve like oil prices but follow a logic of short-term competition (when the markets are sufficiently liquid). Liberalisation will thus probably lead to modifications in price formation. It should also lead to the abolition of the final destination clause. In the short term, and especially in the longer term, modifications to contractual clauses, the Take-or-Pay clause, the price indexation

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<sup>5</sup> *Gazprom estimates that Russian oil companies could provide gas supplies to the tune of 150-170 bcm in the period 2010-2020 ("Gazprom hints at transportation quota for independent gas producers", Gas Briefing International, May 2002, p. 3).*

clause and the final destination clause will lead to restrictions for the Russian gas company, as the long-term contracts are the basis for financing Gazprom's investments in relation to production and transport.

- *Modifications of certain contractual clauses*

Gas liberalisation may result in a modification of exported volumes by increased flexibility of the Take or Pay clauses. The "Take or Pay" clause and the clause concerning indexation of prices to oil prices provide Gazprom with financial stability, which it clearly needs in order to make investments of such magnitude. We have seen that this characteristic is a particular problem in Russia in that its gas company has reported heavy financial losses on its domestic market. Gazprom is more dependent than any other gas company on export conditions for financing investments and renewing production capacities. In this respect, modification of long-term contracts implies major uncertainty and may increase constraints on company investment policy just as major investment is needed for the launching of new deposits (Yamal, Shtokmanovskoye). Gazprom has to invest massively in the renewal of its production base due to progressive exhaustion of its major deposits (Urengoy, Yamburg). Thus, faced with the uncertainty created by the deregulation of the EU gas market, Gazprom is currently preferring to delay development of the Yamal Province and importing gas from Central Asia. The gas company will only be able to develop the "Yamal fields" if long-term contracts allow it guaranteed outlets on the European market.

- *The need to increase opportunities for Russian exports in the light of foreseeable increases in competition*

The deregulation of the European gas market, and the increase in competition that this should produce in the long term, has confronted every supplier with the issue of competitiveness of exports. The competitiveness of Gazprom exports and more generally of Russian gas exports will determine the ability of Russia to maintain or even increase its market share. Russian competitiveness will depend largely on its cost level compared with those of their other gas exporters. Although we lack reliable information on this question, it is reasonable to suspect that cost levels of Russian gas deliveries are raising, and that conditions are decidedly less favourable than in the past. Significant investments need to be made as current productive assets become depreciated (or were already depreciated by Soviet practices of capital replacement). Launch of production in zones with more difficult technical conditions will impact costs as the large deposits of West Siberia become exhausted. Thanks to their size, Urengoy, Yamburg and Medvezhe definitely benefited from very low production costs per well, and this will not necessarily be



the case for deposits, which come into production in the future. According to J. Grace (1995), Yamal development costs will exceed those at Yamburg by a factor of two or three. Finally, Russia's evolution towards a market economy will mean very different cost accounting compared to that in the planned economy. Capital and tax costs will be taken into account and administrative fixing, which artificially lowered costs under the old system, will no longer apply. All these factors may increase production costs.

- *Opportunities dues to liberalisation*

At the same time, the deregulation of the gas market is likely to facilitate the Gazprom's strategy of conquering new market shares (by offering it new outlets and by allowing it to develop short-term transactions, "spot markets"). But it is important to note that a strategy aiming at conquest of new market shares would pull spot prices downwards, leading to unease among Gazprom's major contractual partners. According to Boussena's (1999) point of view suppliers will have to find a balance 'between defence of their position and conquest of new market shares, on the one hand, and between current strategies to maximise volumes and strategies for defending prices by restricting volumes in agreement with competitors, on the other hand'. Considering Gazprom practices aimed at maximisation of exports, the budgetary constraints of the Russian state, domestic non-payments and the low domestic gas prices, balancing between a high-volume strategy and a strategy of price defence could prove extremely difficult.

#### *Gazprom's responses*

- *Maintaining a system of long-term contracts*

At present, Gazprom is trying to maintain a system of long-term contracts while looking to take benefit from the new market characteristics brought about by deregulation (Komarov 2004). Its managers have on numerous occasions stressed their preference for long-term contracts while agreeing to the modification of certain clauses in existing contracts and "playing the spot market card" at the right time. The spot sales made by the gas company on the British market in 2003 (almost 3 Gm<sup>3</sup>) are indicative of a policy that could develop further (especially on the Belgian market).

This policy is accompanied by a willingness to have direct access to final consumers. This strategy of integration further down the gas chain was the overriding consideration in the creation of the Wintershall-Gazprom joint venture, known as Wingas. It is currently being implemented in Italy, Gazprom having

negotiated direct access to certain large gas consumers (electric power stations). The gas company policy, is to try to modify the classic way in which the gas rent is shared between importer-transporter and exporter-producer, giving Gazprom the chance to collect part of this rent downstream (Quast and Locatelli 1997).

- *Increasing the number of export gas pipelines*

The conquering new gas market shares policy is accompanied by a strategy of investing in export pipelines. The North European Gas Pipeline project, which passes through the Baltic, is the clearest illustration of this policy. With a capacity of 19-30 Gm<sup>3</sup>, this pipeline will allow the supply in Russian gas, of Finland, Germany, Sweden, The Netherlands and the United Kingdom. The priority that Gazprom intends to give to this project is consistent with a wish to secure export channels while finding new outlets at the same time. The strategy is very costly in terms of investments, and raises a number of questions concerning its relevance. It should, in fact, be applied in parallel with the strategy aimed at increasing spot market sales by using existing pipelines (Stern 2004). We should also note the completion of the Blue Stream undersea pipeline, which now allows Russia to open up new export channels to Turkey and the Balkans.

- *Limiting “gas to gas” competition in Russia*

Against a background of increasing instability for traditional suppliers in the EU, it is understandable that the Russian government wants to prevent competition developing between “Russian gas and Russian gas”; this is the given justification for preserving the gas export monopoly currently held by Gazprom. The Russian oil companies that hold significant gas reserves, such as Lukoil, Yukos and Surgutneftegaz, have on several occasions shown a willingness to export gas to Europe. They would therefore be likely to invest on a spot basis, as well as on a contractual basis, for significant quantities of gas on the European market. This possibility, however, depends to a considerable extent on an overall reform in the Russian gas industry, and this is not currently on the agenda. It requires on one hand that the Gazprom’s export monopoly will be removed and that free and equal access to its gas pipeline network will be allowed. These two conditions are not currently being fulfilled<sup>6</sup>.

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<sup>6</sup> “Putin sanctions cautious reform of Gazprom”, *Gas Matters*, March 2004, p.6-7.

### **Central and Eastern Europe: a new gas-related stake for Russia**

The Russian gas company is now becoming more and more involved in Central and Eastern Europe through its specific policy of assets acquisition in the importing countries' distribution companies and in the transit pipelines. It is therefore no longer limited to the single role of a privileged supplier of hydrocarbons. This strategy forms part of the strategy aimed at strengthening its position and market share in Europe. Central and Eastern Europe are currently of particular importance to Gazprom, which has announced its intention of participating (alongside Western companies) in the privatisation of gas industries in most of the former Eastern bloc countries.

#### *Securing and increasing the market shares*

This strategy meets several different objectives. The first is to gain a position on these markets in order to make the gas company's traditional export markets secure, most notably through increasing transit channel safety. This relates to the purchase of shares in the Slovak gas pipeline that transports Russian gas to European markets. This year Gazprom must decide whether or not to exercise its option to purchase its 16.3% in SPP, the Slovak pipeline, from GDF and Ruhrgas, which hold a total of 49%. The same course of action is evident in Ukraine and Belarus', where Gazprom is attempting to obtain controlling shares in the companies that manage the transport networks through which the Russian gas transits<sup>7</sup>. Control of the transit pipeline would also allow it to influence the development of new infrastructures and transit tariffs (which make up a significant portion of Gazprom's export costs). At the same time Gazprom will, through this process, have to maintain its position in the Central and Eastern European countries and in the Baltic States, territories that currently depend heavily on Russian imports. This situation could change rapidly. A certain number of Central European countries, such as Poland, try to diversify their gas supplies (especially towards Norway) because of their very high levels of dependency on Russia. However, the infrastructures already in place and the proximity of the Russian deposits have given it an indisputable advantage over other potential suppliers.

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<sup>7</sup> In Ukraine, Gazprom and the State company Naftohaz have formed a consortium to manage the gas transit network. In Belarus' Gazprom, in an exchange for that country's gas debts, is attempting to obtain a measure of control in the gas pipeline operator Beltransgaz. It should be remembered that these countries are the two principal transit territories for Russian gas coming to Europe (Eurosiberian and Yamal).

*Controlling the competition from the Caspian*

The second objective relates most specifically to Gazprom's acquisitions in the Balkans, and especially in Romania and Bulgaria. The need here, while ensuring an outlet onto these markets, is to attempt to weigh up and control the development of potential competition from the Caspian. Southern Europe, in this sense, is a major strategic stake in that it could be used as a route for transporting Caspian gas to Europe. The Russian gas company will try to acquire shares in gas companies during the privatisation and opening processes already started in the Balkans. Most significant is Gazprom's desire to acquire shares in the two Romanian distributors, Distrigaz South and Distrigaz North, and in the Bulgarian gas company Bulgargaz, during its privatisation<sup>8</sup>.

In this perspective, the Turkish market is crucial for Russia. In the short term, the Russian contracts signed with Turkey could saturate the Turkish market and therefore limit imports of gas to that country from other countries such as Azerbaijan. In this case, at least in the short term, it will prevent Turkey, the obligatory transit territory for gas exports coming from the Caspian to Europe, to fulfil that role. It should be remembered that the Blue Stream Pipeline should deliver 16 Gm<sup>3</sup> to Turkey in 2007. The Turkish company Botas also has two other contracts with Russia, for a total of 14 Gm<sup>3</sup> per year. In this context, it is not certain that Turkey will, from 2006 onwards, be able to absorb the Shah Deniz gas contracted with Azerbaijan (for a total of 6.3 Gm<sup>3</sup>)<sup>9</sup> and exported via the pipeline under construction running from Baku via Tbilisi to Erzerum.

**The Asian stake**

The increase in uncertainty linked to the deregulation of the European gas market undoubtedly explains, at least in part, Gazprom's wish to define a "global" gas strategy. The Russian gas company thus wishes to find itself a secure position on the Asiatic markets (through exports via gas pipelines and LNG exports) and on the American market (exports of LNG). The Asiatic territories, and especially China, are likely to be confirmed in years to come as major gas importers, because of a demand that totalled 274 Gm<sup>3</sup> in 2002, which should exceed 350 Gm<sup>3</sup> by 2010

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<sup>8</sup> *This State company, in fact, currently has a monopoly on imports, transportation, storage and offers of gas. It is both the operator and the owner of the whole of the gas transit system in Bulgaria. This system transports Russian gas to Turkey, Greece and Macedonia. 13.5 Gm<sup>3</sup> of Russian gas were transported via this system in 2002, and this total could increase to 19 Gm<sup>3</sup> by 2010.*

<sup>9</sup> "Sanction of Shah Deniz opens door to corridor – but where will it lead?", *Gas Matters*, March 2003, p.8-18.

and could reach or even exceed 500 Gm<sup>3</sup> by 2020<sup>10</sup>. Between 2010 and 2020, China's contribution to the increase in demand for gas in Asia could reach 34% and India's contribution about 20% (compared with only 3% for Japan and 8% for South Korea - EIA-US DOE 2003). The stakes are therefore considerable.

In view of its gas reserves in Eastern Siberia and in the Republic of Sakhalin, Russia could become one of the major suppliers in this area. Three major areas of reserves can be identified in Eastern Siberia: the Republic of Sakha, the Irkutsk and Krasnoyarsk Regions, and the Republic of Sakhalin. In these three areas, the proven and potential reserves of hydrocarbons are very significant as they have been assessed at between 3.7 and 5.3 trillion m<sup>3</sup> according to source for proven reserves, and at over 50 trillion m<sup>3</sup> for ultimate reserves<sup>11</sup>. According to Russia's long-term energy plan, these reserves allow for anticipated production in 2010 of between 25-30 (conservative estimate) and 50 Gm<sup>3</sup> (optimistic estimate) and production in 2020, of between 55-90 (conservative estimate) and 110 Gm<sup>3</sup> (optimistic estimate) in 2010. The final objective (in the very long term) would be to create a "North-East Asia Gas Pipeline Network" that would link Japan, China and Korea to the productive regions in Sakhalin and Eastern Siberia (Toichi 2003).

The option that currently has the greatest chance of being realised consists in making supplies to China from the Kovytko Deposit in Irkutsk Region. Feasibility studies have dealt with figures of 20 Gm<sup>3</sup> per year for exports to China, to which 10 Gm<sup>3</sup> can be added for exports to South Korea. The advantages of this solution are many. In particular, the development of the deposit and the gas pipeline could be assured with help from foreign investors, especially BP. Following the creation of a joint venture with TNK (Tyumen Oil Company), BP is now one of the major shareholders in the production company Russia Petroleum, which holds the licence for the development of the Kovytko Deposit. The main question still unanswered on this project concerns the place to be occupied by Gazprom, which currently holds the monopoly on gas exports.

### **Final comment**

Russia's gas strategy is currently undergoing fundamental changes. Faced with the institutional and organisational developments in its principal export market, that of

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<sup>10</sup> According to APEC forecasts, demand for gas in Asia would be 359 Gm<sup>3</sup> in 2010 and 537 Gm<sup>3</sup> in 2020. According to EIA-US DOE, it would be 370 Gm<sup>3</sup> of gas in 2010 and 552 Gm<sup>3</sup> in 2020 ("Gas suppliers battle for buyers", *Petroleum Economist*, May 2003, p. 10, EIA-US DOE, 2003, and BP/Amoco, 2003).

<sup>11</sup> The International Energy Agency gives proven reserves of 3. trillion m<sup>3</sup>, E. Khartukov proven reserves of 5.3 trillion m<sup>3</sup>, and Petroleum Argus proven reserves of 5.1 trillion m<sup>3</sup>.

the European Union, the Russian gas company has been forced to adapt in a number of ways. The European Union is still its main export market, but the emergence of Asia as a significant importer of gas is likely to modify the Russian gas export strategy. The internationalisation of Russia's gas exchanges is at the heart of Gazprom's strategy, and the company no longer intends to count on the European market alone.

Will Europe and Asia be brought into competition for Russian gas? Nothing is less certain in the short term, in view of the existing infrastructures and the deposits concerned with exports to one area or another. Such a question must however weigh to some extent on the negotiations between Russia and the European Union, for which Russian suppliers are essential. It is no less obvious that the deregulation of the European gas market has produced major stakes for the Russian gas industry as a whole, in that it has increased the pressure of competition on its traditional suppliers. The question of profitability of Russian gas exports will therefore become all the more pressing, in contrast to the Soviet period, when it was neglected as a factor because of the practices of the planned economy. From this point of view, the reform of the model of organisation for the Russian gas company is right at the heart of the debate.

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