

## Europe and China Competing for Russian Gas?

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When President Vladimir Putin visited Beijing on 21 March 2006 heading a delegation of 1000 government officials, many observers expected that he would finally sign the contracts for the East Siberian oil pipeline to China which had been under discussion for many years. Instead, he surprisingly offered the construction of a gas pipeline from West Siberia to China. Such a pipeline would affect European interests, because it is fed by Russia's main gas-producing region with its large gas pipelines going to the West. In this context the questions about Russia's future gas exporting potential and European alternatives for gas supply, raised by the International Energy Agency, become even more relevant topics.

Putin's announcement to start gas exports to China as early as 2011 was received with much interest, for such a step might change the balance of power between Europe and Russia. So far, the gas fields of West Siberia, apart from the supply to the European part of Russia and the west of the Commonwealth of Independent States (CIS), are used exclusively for the supply of Western and Eastern Europe, which puts Europe and Russia into a state of close interdependency: While Europe needs Russian natural gas, Russia is dependent on the European market. The new pipeline will provide Gazprom a limited option to make alternative contracts on gas supply either with Western or Eastern purchasers. However, a situation critical for Europe would emerge only if the West Siberian

gas fields failed to produce enough gas to supply both Europe and China with increased amounts of gas. This would be the case if the opening of new gas fields were delayed, meaning that the decrease in production of the large West Siberian "giant fields" could not be compensated for.

Table 1 offers an optimistic scenario for the Russian gas balance. It is based on the plans of Gazprom and the Russian "Energy Strategy" of 2003. While Gazprom is planning only a slight increase in its own production, even if the exploitation of the newly discovered deposits in the Barents Sea and on Yamal Peninsula is started without delay, Russian oil companies and independent gas producers expect an annual increase of 3.5 per cent in their production for the period 2005–2020. Provided that

**Table 1**  
**Russian natural gas balance in 2005 and forecast for 2010 and 2020 (bln m<sup>3</sup>)**

		2005	2010	2020	Average annual increase (%)
<i>Supply</i>	Production of Gazprom	547	560	585	0.4
	Production of oil companies and independent producers	93	120	155	3.5
	Total production	640	680	740	1.0
	Import	5	50	105	22.5
	Total supply	645	730	845	1.8
<i>Demand</i>	Export	200	280	385	4.5
	Europe	145	190	200	2.2
	CIS	55	60	65	1.1
	Asia/USA	0	30	120	
	Domestic consumption (estimated as a residual quantity)*	445	450	460	0.2
<i>Deficit</i>	Domestic consumption (increase according to the “Energy strategy”)*	445	475	540	1.3
	Deficit	0	25	80	

\* Including own consumption of the gas industry.

Sources: Gazprom, <http://www.gazprom.ru>; Vladimir Yolgin, “YANAO. Problemy i priority razvitiya” [YANAO. Problems and Priorities of Development], in: *Neftegazovaya vertikal*, August 7, 2004; *Energeticheskaya strategiya Rossii na period do 2020 goda* [Russia’s Energy Strategy to 2020], approved August 28, 2003, <http://www.mte.gov.ru/files/103/1354.strategy.pdf>, and own estimates.

Russia will import substantial amounts of gas from Central Asia (Kazakhstan, Turkmenistan, Uzbekistan), its total supply of gas will increase in that period by some 2 per cent. This would permit an increase of 2.2 per cent in gas exports to Europe, a slight extension of exports to the CIS countries (primarily Belarus and Ukraine), and substantial exports to China/Korea and the United States. A precondition for this is that the domestic consumption in Russia will be all but stagnant (see table 1). If, however, the Russian need for gas increased to the extent anticipated in the Russian energy strategy (1.3 per cent annually), this would amount to a gas deficit of 80 bln m<sup>3</sup> by 2020. To be sure, this deficit could be compensated for by reducing exports, but that would neither be in the interest of the Russian foreign trade policy nor would it match the wishes of the foreign purchasers of Russian gas.

A “gas gap”—a term that has been introduced into the discussion by the Inter-

national Energy Agency—could be avoided if Russia made clear changes in its use of gas, starting with the domestic price for natural gas which, by order of the government, is kept at an artificially low level. As a result, consumers prefer natural gas to any other kind of energy, and two-thirds of Russian gas production is consumed at home at prices which hardly cover the costs. Apart from reducing private consumption, an accelerated increase in the domestic price of natural gas would have the effect of substituting gas for coal in the production of electricity, while the increase in price for the population could be compensated for with direct subsidies.

Regarding Russian gas import from Central Asia, it remains uncertain whether Turkmenistan will keep to its obligations of gas supplies which are expected to amount to 90 bln m<sup>3</sup> after 2010. Ashkhabad has been considering alternatives to the Russian market for a long time. With this aim in view, it would like to construct a gas

pipeline to Pakistan via Afghanistan or to China via Uzbekistan and Kazakhstan. So the success or failure of Russian plans regarding gas exports depends on the ability to permanently interlink the Turkmen gas economy with Russia.

In 2005 the pipeline capacity for Russian gas supplies to Europe amounted to 200 bln m<sup>3</sup>. With the construction of the “North European Gas Pipeline” (NEGP) and the extension of existing gas pipelines, the capacity will rise to 300 bln m<sup>3</sup> in 2020, thus being more than sufficient (see map 1).

### The solution for Europe: Regional diversification of gas imports and substitution of energy supplies

Gas imports from Russia to Europe (i.e., Western and Eastern Europe, excluding the CIS states) will amount to 190–200 bln m<sup>3</sup> annually from 2010, when the European demand increases due to the construction of new gas power plants.

There is no question that Russian gas reserves are sufficient to supply Europe for many decades, but it is uncertain whether the deposits will be opened up soon enough to meet the increasing demands of Europe and China. Moreover, the Russian gas supply to Europe depends indirectly on whether Turkmenistan continues to be a gas supplier for Russia or whether it turns predominantly or entirely to the Asian market.

Although Russia in the long run will remain the biggest individual gas supplier for Europe, its relative share in European gas imports will decrease (see tables 2 and 3). The major problem in future will not be excessive dependency on Russia, but Europe is in a principally favourable situation because, unlike any other region of the world, it is surrounded by gas-exporting countries with which it is connected by pipelines or from which pipelines can easily be built—namely Russia, the Central Asian CIS states, North Africa, and the Middle East.

**Table 2**  
Gas import potential of Europe in 2002 and 2020 (bln m<sup>3</sup>)

Supplier	2002	2020	Increase
Russia	126	200	74
Africa	65	199	134
Middle East	7	100	93
Caspian area	0	16	16
Others	1	3	2
Total	199	518	319

Source: Observatoire Méditerranéen de l'Énergie (OME), *Analysis of Future Supply Sources and Costs for Europe*, Newsletter, June 2004, <http://www.ome.org>.

**Table 3**  
Gas importing potential of Europe in 2002 and 2020 (percentage)

Supplier	2002	2020
Russia	63	39
Africa	33	38
Middle East	4	19
Caspian area	0	3
Others	1	1
Total	100	100

Source: same as in table 2.

The African countries—primarily Algeria, but also Nigeria, Libya, and Egypt—will be able to significantly increase their gas exports to Europe and, by 2020, reach the level of Russian supplies to Europe. Natural gas from the Middle East, primarily from the joint offshore North Field (Qatar) and South Pars (Iran), will come to Southern Europe in the form of LNG (liquid natural gas) as well as through the “gas transport corridor” Turkey on the “Nabucco” pipeline (capacity: 30 bln m<sup>3</sup>) which, however, has yet to be built. The Caspian countries (that is to say, first of all, Azerbaijan and Turkmenistan) will only deliver minor quantities in this way, because the net export potential of Azerbaijan is low and the exports of Turkmenistan are reserved by contract for the Russian domestic market and would more likely go eastward to China rather than westward to Europe.

Map 1  
Gas pipelines to the West



Moreover, a progressing geographical diversification of European gas imports is brought about by an increased use of LNG, although this does not apply to all European regions equally. LNG will gain importance above all in Southern Europe as well as in France and Britain, while increasing imports will make Germany and the countries of Eastern Europe even more dependent on gas coming in pipelines from Russia.

### China and the Russian gas market

When Putin visited Beijing in March 2006, the Chinese leadership hoped that he would speak out clearly in favour of the Russian-Chinese oil pipeline from Angarsk to the Chinese oil centre of Daqing, which had been discussed since 1992. However, quite a number of obstacles have been put in the way of these plans. Environmentalists are objecting to the planned route. What makes the matter even more complicated is the fact that the oil pipeline to China has been designed as a turn-off of a pipeline going to the Pacific port of

Map 2

Gas and oil pipeline projects in Eastern Siberia and in the Far East



Nakhodka which serves the supply of Japan and South Korea. And last but not least there is the unsolved question of the Kuril Islands which is blocking progress of the project.

As a compensation for the delay of the oil project, Putin wanted to comply with Beijing's wishes at least with regard to the gas question. However, there has been little progress in this area as well. There have been plans to build a gas pipeline connecting East Siberia with China which would go from the Kovykta gas field to the Chinese oil centre of Harbin (see map 2). Although this project would not meet with ecological reservations, its prospects are unclear, because it does require an agreement between the Russian Gazprom as the operator of the pipeline and the British-Russian joint venture TNK-BP, which has the right to exploit Kovykta. But such an agreement is not likely to be concluded in the near future, because Gazprom is not interested in this kind of partnership.

Putin's announcement to realise the West Siberian pipeline first and to delay the East Siberian pipeline for the time being (see map 1), was a surprise for most

of the observers and gave rise to speculations over the motives. However, Gazprom had had this option in mind for many years. Indeed the way from West Siberia to Central China is longer than the way from East Siberia, but this solution would allow reliance on the existing production potential in West Siberia, while the East Siberian gas fields are being explored, but are not yet in service. First of all it has to be asked why China needs Russian gas at all and in what amounts.

While China has been dependent on fast growing oil imports since 1993, it has so far been able to cover its need for natural gas through its own production. This will, however, change in the years to come, because Beijing plans to rely on gas rather than on coal to generate electricity (see table 4).

But as the domestic production of natural gas continues to increase, imports will not grow to the same extent as the expanding consumption. Thus, imports are not likely to reach the German demand for gas imports (91 bln m<sup>3</sup> in 2004; 105 bln m<sup>3</sup> in 2020).

China has already looked for future natural gas suppliers and has made con-

**Map 3**  
Oil and gas producing regions



**Table 4**  
China's imports of natural gas (bln m<sup>3</sup>)

	2004	2010	2020
Production	41	80	120
Consumption	39	120	200
Import	0	40	80

Source: Su Shulin, *The Prospect for the Development of China's Natural Gas Industry*, September 2004, <http://www.cnpc.com.cn/english/xwygg/speeches>; BP Statistical Review of World Energy 2005, <http://www.bp.com>.

tracts for LNG supplies with Australia, Indonesia, and Iran. However, a significant deal with Iran (10 million tons of LNG annually, which equals 14 bln m<sup>3</sup> of natural gas beginning in 2009) is still under reservation until the sides agree on a price. Apart from this, Beijing reckons on the construction of pipelines from the neighbouring countries, Kazakhstan and Russia.

The gas deposits nearest to China are those in East Siberia and in the Russian Far East. Taking into account Russia's domestic demand and the supplies designated for

South East Asia and the United States, up to 40 bln m<sup>3</sup> of natural gas would remain for export, which, however, is not enough to cover the Chinese need for import in the long run.

The situation would change if West Siberia were to be included in the gas supply of China (see map 3). So far the network of oil and gas pipelines which has been built up during the Soviet period, has served exclusively for the supply of the European market. After Putin's announcement, West Siberia will supply as much as 40 bln m<sup>3</sup> of natural gas to China, which is the same amount that is expected to come from East Siberia.

The "Altai" pipeline, which goes from West Siberia through the Altai region, is to meet the Chinese "West-East gas pipeline" coming from the gas producing region Tarim (Xinjiang) which, however, would have to extend its capacity from 12 bln to 40–50 bln m<sup>3</sup>. In this case China could reduce its planned imports of LNG from the Middle East, including Iran. Gas imports from Kazakhstan and Turkmenistan, which

### The Altai Pipeline

A pipeline going from West Siberia through the Altai region to the West Chinese region of Xinjiang had been under discussion as early as 1999/2000, but the project was thought to be rather unlikely, due to the high expenses which its realisation would require. To avoid transit through third countries, the route is planned to lead over the 50 km section of the Russian-Chinese border where Russia, China, Kazakhstan, and Mongolia meet (see map 3). The pipeline would cross the plateau of Ukok, a reservation of rare fauna and flora which is included in UNESCO's World Heritage List, and, moreover, is regarded by the Altai peoples as a holy territory. This is not expected, however, to jeopardize the project, nor the US\$5 billion expense for the 3000-km-long pipeline.

also are to be transported through the West-East gas pipeline, would become less urgent as well. Of course, Beijing is not likely to give up this alternative to gas imports from Russia, because it does not want to become dependent on Russian gas.

If Russia, with its West and East Siberian pipelines, is able to largely cover China's demand for gas imports, it sure would gain importance as a trading partner for Beijing and strengthen its strategic partnership with China. But at the same time, it would have substantial amounts of gas assigned to the Chinese market, while the People's Republic, as an importer, would be in a position to react more flexibly, having the option to import LNG from Iran or Indonesia. Therefore, it is not to be expected that both of the planned pipelines will be realised in quick succession, but that in the foreseeable future only one of them will be built, and this will probably be the Altai pipeline from West Siberia.

### Outlook

To a certain extent, Europe is able to exert influence on Russia and thus to safeguard its own imports. One of its options is to urge ratification of the Energy Charter which would grant foreign investors equal rights with Russian investors and accelerate the opening of new oil and gas deposits. Moreover, the European Union should cooperate with Russia both in energy saving in general and in the introduction of new technologies for producing electricity in particular, which would reduce Russia's need for gas. At the same time, given an increasing quantitative dependency on North Africa and the Middle East—not only with regard to oil, but also natural gas—Europe will have to pay greater attention to its energy relations with this part of the world. In a few years, as a consequence of the pipeline between West Siberia and China, Europe will enter into competition with the energy-hungry China for Russian natural gas. But because of its cooperation with Russia in the field of reducing gas consumption and because of progressing regional diversification of its gas imports, Europe will have several options to secure its energy supply in the gas sector.

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