

EU-Russia Gas Relations: a View From Both Sides

By Vitaly Protasov*

EU-Russia Gas Interdependency

First of all to speak about EU – Russia gas relations we need to understand its role for each other in this sphere. In spite of widespread opinion, Russia is not a monopolist in the European gas market. Its share has fallen over last twenty years (Exhibit 1).

In 2009 the share of Russian gas in Europe decreased. This was caused by following:

- * A 9 month lag in the price of gas in Gazprom's long-term contracts, which made Russian gas uncompetitive after oil prices dropped;
- * A decrease of European gas demand because of the economic crisis;
- * The Ukrainian gas crisis (it caused a 4.5 bcm reduction of exports from Russia to Europe);
- * An increase in LNG supply in Europe because of new LNG terminals and plants.

The first three factors are temporary so the Russian share can be expected to rebound. However, much depends on the development of unconventional gas in Europe, EU energy policy, and activity of other suppliers (Norway, Algeria, Qatar, etc).

Despite the decrease in its share, Russia is the largest exporter of natural gas to Europe. A disruption of gas supply from Russia can cause huge damage to the European economy, especially Eastern and South-Eastern Europe and Finland. The 2009 Ukrainian gas crisis showed that such disruption is possible. It is one of the main arguments of European politicians for decreasing the role of Russia in the EU gas market.

Dependence on Russian gas is distributed disproportionately among European countries (Table 1). The most dependant countries are: Bulgaria, Finland, Slovakia, Romania, Lithuania, Estonia, and Latvia. The latter three imported 100% of their natural gas from Russia in prior years. The strong wish of most of these countries to diversify their gas imports is understandable.

On the other hand, to analyze the level of dependence on a supplier we should take into account problems with transit countries, reserves of natural gas, alternative fuels in storage, the share of interruptible consumers, the potential gas supply from other sources, seasonal volatility of gas consumption, cross-border and import capacities, gas pipeline bottle necks and a lot of other factors.¹ For example, Finland has no problems with transit countries and the biggest share of interruptible consumers in EU (93%).² It secures energy safety in its gas industry despite of 100% dependency on Russia and the lack of UGS. The real dependence on Russian gas is lower than shown in Table 1 because of these factors.

The Russian gas industry depends on the European gas market because it is a main source of cash for Gazprom and correspondingly for investments in the Russian gas industry. In 2009 Gazprom for the first time got a profit from the internal Russian market. CIS markets are also not very profitable for Gazprom because of discounts on gas prices for them. In 2008 the share of Gazprom revenue from EU-27 deliveries was about 59% (share of gas volumes was only 21.7%).³ The oil and gas industry of Russia provides about 20% of GDP and 60% of Russian exports.⁴

EU-Russia Interdependence in Future

EU and Russia both depend substantially on each other. Nowadays the European Commission and governments of many EU members are trying to decrease the role of natural gas in the energy balance, limit the share of Russian gas imports and find new sources of gas. On the other hand, the Russian government has made a few statements about diversifying Russian gas exports through an increase of USA and Asia deliveries. Also a lot of Russian experts call for quick development of a gas-chemical industry which will provide additional consumption for Russian gas.

To understand the possibility of a decrease in EU-Russia gas interdependency it is necessary to analyze the sources of additional supply/demand, ways of

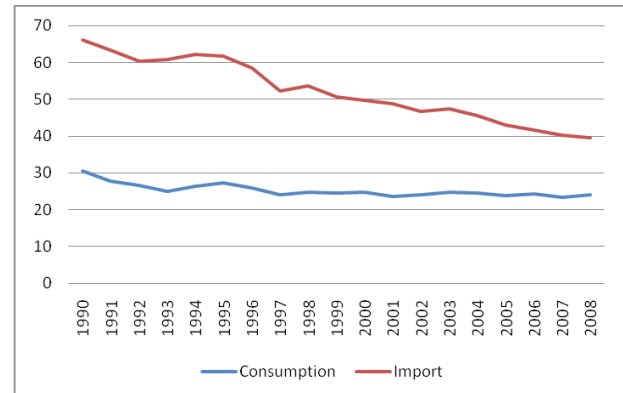


Exhibit 1. Shares of Russian Gas in EU-27 1990-2008, %.

Sources: Eurostat Database, OECD, Natural Gas Information 2009

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See footnotes at end of text.

Country	Import	Consumption
Austria	66.7	77.5
Belgium	5.2	5.2
Czech Republic	78.3	86.0
Denmark	0.0	0.0
Finland	100.0	100.0
France	14.3	14.1
Germany	44.3	42.5
Greece	66.9	66.9
Hungary	76.9	66.9
Ireland	0.0	0.0
Italy	29.0	26.2
Luxembourg	0.0	0.0
Netherlands	0.0	0.0
Poland	69.5	47.0
Portugal	0.0	0.0
Slovak Republic	100.0	99.3
Spain	0.0	0.0
Sweden	0.0	0.0
UK	0.0	0.0
Slovenia	51.3	51.3
Bulgaria	100.0	98.7
Romania	99.2	30.7
Estonia	100.0	100.0
Latvia	100.0	100.0
Lithuania	100.0	100.0

Table 1. Dependence of EU countries on Russian Gas in 2008.

Source: IEA, Natural Gas Information 2009

Note: In several cases share of Russia in import is lower than in consumption because these countries also export gas. IEA data sometimes differs from Eurostat and Rosstat data and other sources.

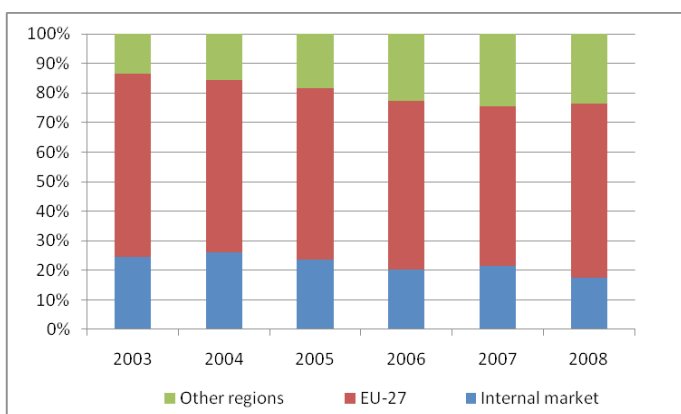


Exhibit 2. Structure of Gazprom revenues in 2003-2008

Sources: Gazprom Databook 2009, Gazprom Annual Report 2008

decreasing existing consumption and limitations caused by long-term contracts, infrastructure, and technological matters.

Natural gas is more ecological and efficient than coal and oil products and also it is cheaper and more available than renewables. Natural gas is a bridge⁵ for a New Energy System with a high share of renewables and low carbon emissions (the second bridge is nuclear power). The EU has the ability to decrease the role of gas but it would probably not be efficient to do so in the long-term.

Europe also can decrease the Russian share in the gas balance by new LNG deliveries, new gas pipelines (Galsi, ITGI, TAP, Skanled, Nabucco) and probably an increase of unconventional gas production in EU. But decreasing the role of Russia does not mean reduction of risks of gas supply because most of the new gas sources are in politically unstable regions: Middle East-Persian Gulf and Africa. The high price volatility for spot LNG deliveries also should be taken into account. Unconventional gas is also not a panacea. Its future production potential in the EU is unknown due to poor exploration information on it. Furthermore unconventional gas has its own disadvantages: small period of well exploitation, high investments, and ecological risks.

On the contrary, transit risks which are the most important Russian gas supply risks will substantially decrease because of Nord Stream and South Stream. A decrease in the Russian share of the European market shouldn't be an end in itself. It should be based on extensive supply risk analysis.

The high share of Russian gas on the markets of Eastern Europe and Finland reflects geography. Nowadays Western Europe dependence on Russian gas is not so high. To make not paper but real diversification of imports in the most dependent regions, the European Union should construct several new gas pipelines which will transport gas from West to East (now the main direction is East-West) and LNG-terminals in eastern regions of Europe. It should also develop a net of interconnectors in Europe. This requires a huge investment and cannot be done quickly.

The Russian potential to diversify its exports of natural gas is low. There are three possibilities: pipeline deliveries to China and South Korea, LNG for the U.S. market and LNG for the Asian market. China asked for a very low gas price (it can be even lower than the internal Russian market) and also contracted for substantial volumes of gas from Turkmenistan and several LNG producers. During the economic crisis trends on LNG markets have changed. Redundant LNG capacities has caused an increase in competition in this market. Moreover, Russia has no strategic advantages in the LNG market but it has higher costs due to natural conditions. The opportunities for exports to the U.S. gas market have been reduced due to the substantial increase of shale gas production. From 2008 to 2009 IEA has lowered its 2030 forecast for net gas imports into North America from 143 to 61 bcm.⁶ For the U.S., shale gas is more realistic than for EU.

The system of long-term contracts (LTC) between Gazprom and EU companies limits the possibilities of an interdependence decrease. If we assume that LTC's are not dissolved, then Gazprom will deliver to EU almost the same volumes as in previous years. Also it can prolong some old

and sign new delivery contracts. Actual delivery volume could be lower because of minimum contractual obligations which are usually about 80% in Gazprom contracts. In the beginning of 2010 Gazprom temporarily decreased the level of minimum contractual obligations with EON Ruhrgas and Eni but after three years these should come back to previous levels.

Comparison of Russian, EU and International Organizations Views

The European Commission (EC) view on role of natural gas in Europe is the most pessimistic among

all organizations. For example, we can compare the last IEA Reference scenario and PRIMES model New Energy Policy (NEP) with high oil and gas price scenarios. Both scenarios assume an oil price of about \$100/barrel. Shares of coal in the primary energy balance are the same, oil shares differs only 1.6 pct. But in the European Commission scenario the share of natural gas is 6.3 lower than in the IEA scenario. In absolute terms, consumption of natural gas in 2020 in the EC scenario is lower by 118 mtoe (34%) than the IEA forecast. Even in the IAE 450 scenario, which assumes an increase of renewables share, natural gas provides 25.7% of European energy consumption. One of the reasons for this difference is that the gas price for EC scenarios is 16% higher than for the IEA scenario at the same oil price. It seems very strange because gas prices in Europe are strongly correlated with oil prices. The IEA and European Commission have opposite opinions on the future share of natural gas in the EU energy balance. Moreover, industry associations, Eurogas and International Gas Union, think there could also be fast growth in the role of natural gas in the energy balance in the long-term.

The 2007 Baseline scenario of the PRIMES model projects EU-27 gas imports from Russia to be 105 mtoe in 2020 and 124 mtoe in 2030.⁷ IEA in 2009 anticipated that gas imports from Russia in Europe (EU, OECD Europe, Southeast Europe) in 2020 will be 172 mtoe.⁹ 8ENTSOG states that the potential supply from Russia (including straight deliveries from Russia

and via Ukraine and Belarus) in 2019 will be 219 mtoe.⁹ The new Russian Energy Strategy till 2030 (ES-2030) proposes that in 2020-2022 Russian gas exports in a western direction (it also includes Turkey) will be about 150-154 mtoe, in 2030 – 160 mtoe.¹⁰

The Russian government states that its Energy Strategy has conservative forecasts but it is more optimistic on gas production in Russia than IEA. The IEA reference scenario production forecast is lower by 15% than the low scenario of Russian Energy Strategy. The difference between the high scenario of ES-2030 and the 450 scenario of WEO-2009 increases from 27% in 2020 to 60% in 2030.

The maximum difference in the consumption forecast equals 18% in 2020 and 48% in 2030 (Exhibit 5).

One of the main factors of the internal Russian gas market development is the date of issuing of export parity price (price on internal markets equals export price in Europe minus transportation costs and export duty) because it will substantially increase the profitability of the Russian gas market and investment opportunities. IEA assumes that it will be issued in 2020. ES-2030 is based on the assumption of issuing export parity in 2011 (now not possible). Gazprom wants to get export parity in 2014, IEF estimates that it will be possible only after 2016.

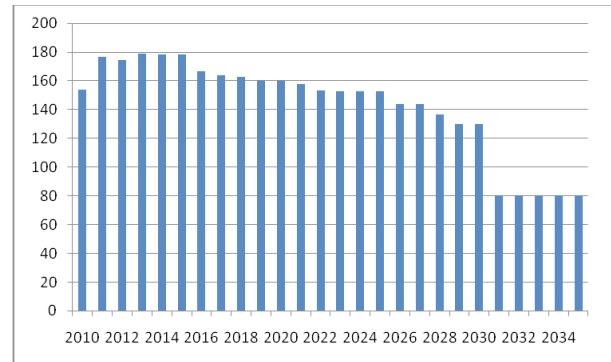


Exhibit 3. Volumes of Existing Long-term Contracts of Gazprom for EU-27 in 2010-2035, bcm.

Sources: Gazprom, author's estimates

EU-27, 2020	-----IEA-----			-----European Commission-----			Factual, 2007
	2008, Reference	2009, Reference	2009, 450 scenario	2007, Baseline	2008, NEP	2008, NEP, high prices	
PEC, mtoe	1903	1723	1668	1968	1712	1672	1757
Coal	308	260	204	342	216	253	330
Oil	630	557	512	702	608	567	607
Natural Gas	517	463	429	505	399	345	432
Nuclear Energy	206	202	257	221	218	233	244
Renewables	241	241	267	197	270	274	144
Structure of PEC,							
%	100,0	100,0	100,0	100	100	100	100
Coal	16,2	15,1	12,2	17,4	12,6	15,1	18,8
Oil	33,1	32,3	30,7	35,7	35,5	33,9	34,5
Natural Gas	27,2	26,9	25,7	25,7	23,3	20,6	24,6
Nuclear Energy	10,8	11,7	15,4	11,2	12,7	13,9	13,9
Renewables	12,7	14,0	16,0	10,0	15,8	16,4	8,2

Table 2. Comparison of EU and IEA Forecasts on EU-27 Energy Balance in 2020.

Sources: IEA, World Energy Outlooks 2008, 2009. Second Strategic Energy Review: an EU energy security and solidarity action plan, European Energy and Transport Trends to 2030 – update 2007.

Note: NEP – New Energy Policy

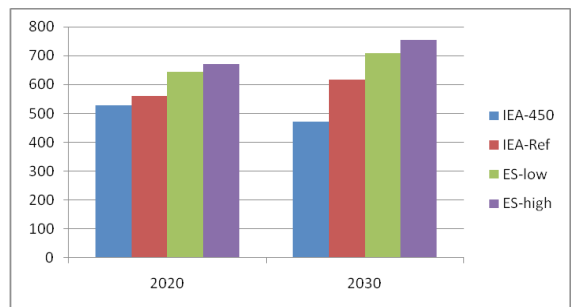


Exhibit 4. Forecasts of Russian Natural Gas Production in 2020-2030, mtoe

Sources: IEA, World Energy Outlook 2009; Russian Energy Strategy till 2030

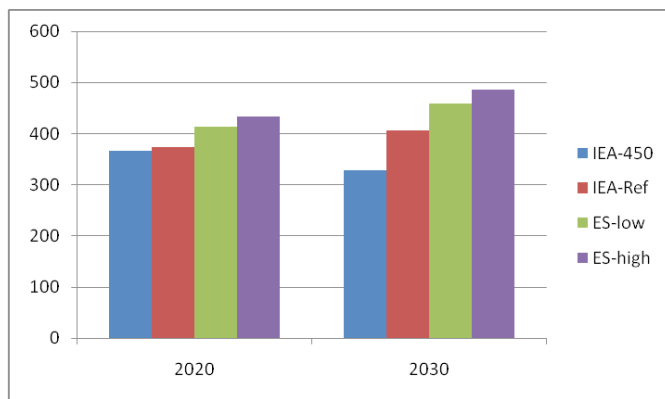


Exhibit 5. Forecasts of Russian Natural Gas Consumption in 2020-2030, mtoe

Sources: IEA, World Energy Outlook 2009; Russian Energy Strategy till 2030

Conclusion

Both EU and Russia have substantial gas industry dependence on each other. Because of this it is wrong to speak only about dependence of one side on another (for example, EU from Russia). In each case we should use the term interdependence.

Nowadays the level of EU-Russia gas interdependence is rather high. It can be reduced only by both sides working together. But even when this is the case dependence on gas from one partner to the other will remain substantial in the mid-to long term. Therefore, both EU and Russia should cooperate in the gas sphere. The first step to cooperation is realization of the position and views of the opposite side.

Forecasts of the future development of the gas industry in Russia and EU differ substantially from each other. Furthermore, scenarios of each side vary in a very wide range. It has been caused by a high degree of uncertainty in energy, too

high a role of politics in gas relations and misunderstandings between Russia and EU.

Such misunderstanding is a self-reproducing process which can induce huge losses for Russian and European companies and governments. Misunderstanding makes possible a mechanism of scenario spiral. For example, pessimistic forecasts of EU and international organizations on the role of natural gas in Europe may cause a decrease in Gazprom's investment program.¹¹ Lower perspectives on Russian gas production may stimulate the EU to adjust its forecast about Russian imports and so on. The decrease of supply from Russia leads to a reduction in competition and price increases in compliance with the market theory which is used by the European Commission in its forecasts. The final result of this scenario will be a sudden increase of energy prices for EU end-user consumers and a reduction of its energy security.

To decrease the level of difference between scenarios of EU-Russia gas relations, a more active EU-Russia Energy Dialog is needed together with a more thorough analysis of existing scenarios. Some steps in this direction were already taken by the Institute for Energy and Finance in the network of activity of the Subgroup on energy economics of the Thematic Group on strategies, forecasts and scenarios. The second step should be creating a permanent association of experts on forecasts and modeling. Convergence of the Russian and EU position in the energy sphere (e.g., harmonization of forecasts) should lay a base for EU-Russia cooperation.

Footnotes

¹ Protasov V., Long-term modeling of resilience and flexibility of European gas transportation system: integrated factors//materials of Enerday conference, 2009.

² CEER, paper on TPA to storage and flexibility – Annex, 2003

³ Gazprom Databook 2009, Gazprom Annual Report 2008,

⁴ Russian Energy Strategy till 2030

⁵ International Gas Union, Meeting the Global Energy Challenge, 2009; ExxonMobil, Outlook for energy: a view to 2030, 2009.

⁶ IEA, World Energy Outlooks 2008, 2009.

⁷ Capros P., Overview of Energy Economic Analysis for the EC, 2009; European Energy and Transport Trends to 2030 – update 2007.

⁸ IEA, World Energy Outlook 2009

⁹ ENTSOG, European ten year network development plan 2010-2019.

¹⁰ Russian Energy Strategy till 2030

¹¹ In 2009 due to low demand on Russian gas Gazprom decreased its investment program, postponed Bovanenkovskoye field at 1 year (planned production 115 bcm/year) and Shtokmanovskoye field at 3 years (planned production 70 bcm/year).