

Belarusian Energy Strategy Today: Improving Energy Efficiency, Reducing Energy Dependence and Insuring Gas Transit to the EU

By Alexander M. Zaborovskiy*

Belarus has been a key player in the oil sector since the days of the former Soviet Union: the pipeline system “Druzhba” (“Friendship”) through Belarus was and still is a major export channel for Russian oil that ensures up to 40% of the export supplies. In 2008 Russia exported 243 Mio tonnes of oil (out of 473.2 Mio tonnes produced), of which 85.1 Mio tonnes were transported via Druzhba. Druzhba will remain the main continental corridor until the second phase of the Baltic pipeline system becomes operational, the capacity of which should be 50 Mio tonnes annually.

In the gas sector, the monopolist JSC Gazprom is completely dependent on the Ukraine for exporting natural gas. The total transit capacity of the Ukrainian system is estimated at 170 bcm per year (Polta-vets, 2004). To reduce dependency, the Yamal–Europe pipeline was proposed for Belarus. The project consists of two branches, each with a capacity at 33 bcm annually. The first branch went into operation in September 1999. If the Yamal–Europe pipeline is completed, and accounting for the capacities of the “Beltransgaz” system, the total volume of gas transmitted via Belarus could reach 96 bcm annually. Obviously, this won’t allow eliminating Ukrainian pipelines from transit entirely, but, it will give JSC Gazprom room to maneuver in its negotiations with Ukrainian authorities regarding the terms of transit. In order to construct the Yamal–Europe pipeline Belarus provided most-favoured treatment for JSC Gazprom, including exemption from fees for the allotment of land and streamlined decision-making regarding construction.

The development of cooperation between Belarus and Russia in the gas sector took place during the rapid political and economic integration of the states, when three treaties were signed in a relatively short period: on the Commonwealth of Russia and Belarus (1996), on the Union between Belarus and Russia (1997), and on the Creation of a Union State of Russia and Belarus (1999). The treaties provide for a number of basic agreements, i.e., the creation of a customs union; a common energy market; a common market; and common pricing for energy resources. According to the Russian–Belarusian agreement on equal conditions for economic agents of the Union State of Russia and Belarus (the Treaty of 1999), prices for natural gas exported from Russia to Belarus could be no higher than those in the Smolensk Region (Russia) bordering Belarus. It allowed Belarus to purchase Russian gas at prices considerably lower than contract prices for Russian gas exported to the EU. As a result, the share of Russian gas in the country’s Total Primary Energy Supply (TPES) increased from 36.7% to 61% during 1992–2005 (IEA, 2009). See Figure 1.

The lower prices, compared with competitors from Central and East Europe, ensured profits for Belarus’s gas-intensive petrochemical plants which include the manufacturers of chemical fibers and the producers of nitrogen fertilizers. Under previous Soviet centralized planning, such plants were located in the territory of Belarus.

Another significant contributor to the run-up in demand was Chernobyl’s radioactive contamination which made the use of firewood unsafe in Belarus’s southern districts. The accelerated, capital-intensive gasification of these districts resulted in increased consumption of natural gas by households.

For many years, growing dependence on natural gas provided by a single supplier did not concern the Belarusian authorities who instead treated Russia as a strategic partner in the energy sphere. As stipulated in the Treaty on the Creation of a Union State of Russia and Belarus (1999), relations between the two are based on the concept of collective energy security. The treaty suggested that a single energy balance of Belarus and Russia should be worked out, a scenario that did not encourage Belarus to develop its own independent energy security strategy. The planned construction of the Yamal–Europe pipeline also played a

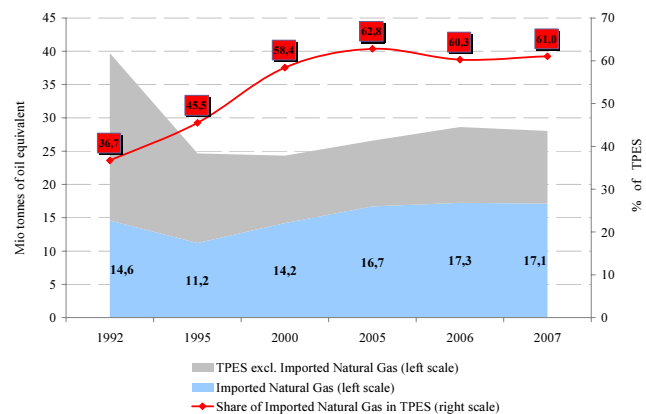


Figure 1: Share of natural gas import in TPES of Belarus

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role in guaranteeing reliability of supply.

Thus Belarus was unprepared for Russia's revision of the bilateral agreements in 2004, in particular, the additional conditions related to the cost and terms for the transfer of the Belarusian pipeline to the ownership of JSC Gazprom (the conditions were associated with the price of gas for Belarus set by Russia). Belarus's refusal to accept the conditions led to the temporary suspension of gas supplies in that same year, but as a result of the following negotiations in 2005-2006 the former gas prices were restored. At the start of 2007 the Russian Federation unilaterally withdrew from the new agreement and JSC Gazprom then announced plans to raise gas prices for Belarus to the European level. Russia's unilateral withdrawal from the principles of a common market and its contradictory positions on oil and gas transit through Belarus in 2004, 2006, 2007 and 2009 resulted in considerable changes to both Russia's strategy for the development of oil and gas export infrastructure and Belarus's energy strategy.

Difficult negotiations in December 2006 led to the sale of 50% of JSC Beltransgas shares to JSC Gazprom at 2.5 Bio USD and the formation of a long-term pricing mechanism for natural gas supplied to Belarus similar to the one used in take-or-pay contracts for the EU. The shares were transferred to JSC Gazprom in equal portions of 12.5% and the payments were 625 Mio USD annually in 2007-2010. This four-year period also brought reductions in the price of natural gas which were calculated by a formula set and pegged to a basket of oil products. In March 2010 JSC Gazprom transferred the last tranche and became a 50% owner of JSC Beltransgas. This strategy has allowed JSC Gazprom greater influence over the terms of future gas transport to Belarus and transit capacities delivering natural gas to the EU – the latter with a total volume of 60 bcm per year including the capacity of the Yamal-Europe's first branch (as mentioned above, the second branch is yet to be constructed).

The reality that bilateral relations in the energy sphere had worsened caused the Belarusian government to revise its strategy for domestic energy sector development. In 2005-2007, three normative documents that cover 2006-2010 and up to 2020 were approved: the State Program for the Belarusian Energy System Modernization, the Concept of the Energy Security of the Republic of Belarus and the Directive N 3, "Economy and Thrift – the Main Factors of Economic Security of the State". They call for diversifying supply, improving efficiency and increasing use of domestic resources. Considering the limited potential of local energy resources (according to optimistic forecasts, their share in total fuel consumption can amount to 25% in 2012 compared with 17% in 2005), the construction of a nuclear plant and a coal plant in Belarus appear to be reasonable. The planned reduction of GDP energy intensity is 31% in 2010, 50% in 2015 and 60% in 2020.

Notably, the progress in energy efficiency achieved by Belarus during the period of its independence is impressive and experts consider it the best of the CIS countries (ECS, 2007). Prior to independence, its economy was one of the most energy wasteful in the world: energy intensity (TPES/GDP PPP) in 1990 was 0,78 toe per thousand 2000 USD (IEA, 2009). During 1990-2007 the energy intensity of the Belarusian GDP decreased by 2.3 times to 0,34 toe per thousand 2000 USD, while GDP in 2007 is 1.5 times greater than in 1990. Yet, the achieved energy consumption level is 2 times higher than the average for the OECD countries and 1.7 times higher than the world average (see Figure 2). The comparatively low energy efficiency of the Belarusian economy and a high degree of energy dependence indicate that the price of energy resources and the terms of supply are critical to national economic security.

The key issues in Directive N 3 and the Strategy of Energy Security of Belarus are greater security of supply, reduced dependence on imports, in particular, from Russia, and exploitation of all possible advantages of Belarus's geopolitical situation as an energy transit country connecting Russia and the EU. These key issues take on greater significance when considering Russia's treatment of the Ukraine in 2005-2006 and 2008-2009. Russia limited supplies of natural gas to the Ukrainian gas transportation system which in turn caused considerable havoc for EU gas supplies.

Thus, during the past five-year-period, energy disputes each year in the post-Soviet region did not encourage trust between the partners and produced understandable concern within the EU.

Still another factor has contributed to the present regional destabilization – the absence of universally recognized supranational rules for regulating natural gas transit. The Energy Charter Treaty has never acquired the status of a document that sets universally recognized rules for interstate trade in energy. Therefore, disruptions of natural gas and oil supplies to the EU have occurred, even though the Energy Charter Treaty contains preventative measures.

Russia has developed its own concept of minimizing transit risks in supplying energy resources to the EU by excluding transit countries from the supply chain. The reasons are the following: lack of an effective interstate legal environment to acknowledge the interests of the countries producing, transporting and consuming energy resources along the Russia-EU axis; contradictions in the issues of economic

integration of Russia and Belarus; and little effectiveness of the Russian-Ukrainian interaction in the energy sphere. Russia has proposed several new projects: construction of the Northern European Gas Pipeline (NEGP, 55 bcm per year, 27.5 bcm per year in a first phase) beneath the Baltic Sea which bypasses the transit states, and a second phase of the Baltic pipeline system for the purpose of transporting oil through the port of Primorsk. These projects are more costly for Russia than the construction of the second phase of the Yamal-Europe pipeline through Belarus and the maximal use of Druzhba. Moreover, the entire infrastructure for the second phase of the Yamal-Europe is already available. The additional costs to be paid by operating companies to construct the Northern European Gas Pipeline and the second phase of the Baltic pipeline system can be considered the true price of ineffectiveness of the Energy Charter Treaty. The last two projects are the South Stream pipeline (30 bcm per year) and a Caspian gas pipeline (20 bcm per year).

Undoubtedly, the European market will remain a high priority for Russia in the future, yet the EU desires to minimize the risks caused by energy dependence on Russia. The reappraisal of factors influencing global supply and demand is forcing Russia to enter new markets and to develop the appropriate infrastructure. For example, the Energy Strategy of Russia for the period up to 2030 cites diversification of export markets and routes, which include increasing the share of the Asian-Pacific region to 11-12% by 2015, 16-17% by 2020 and 19-20% by 2030.

Table 1 shows the predicted natural gas production and domestic consumption according to the Energy Strategy of Russia to 2030. The data given in italics are calculated on the basis of the strategy's target parameters.

In 2008 the total export of natural gas from Russia was 195 bcm, including 37.0 bcm to the CIS countries (Belarus accounted for 21.1 bcm). Thus, the export of the Russian natural gas to the EU countries and Turkey was 158 bcm. Pipeline facilities providing only 50% of Russian natural gas exports are controlled by JSC Gazprom, and the other 50% are supplied only through the Ukrainian gas pipeline system. The realization of the projects already announced by JSC Gazprom will bring the total transit capacities under its control to 162 bcm per year, which is 71% of net surplus of production over domestic consumption of Russian natural gas in 2015 and about 54% in 2030.

The following conclusions can be made:

- The surplus of natural gas production over consumption will not be considerable before 2020. Moreover, for 2015-2020 it is predicted that the growth of gas production will stand at 107.8% and the growth of consumption at 103.8%. If the demand during this period is higher, then available export resources of natural gas in Russia will not exceed 250 bcm annually. As a result, planned growth rates for the export of Russian natural gas cannot be achieved without a corresponding increase in natural gas imports from Middle Asia.
- JSC Gazprom control over the Belarusian gas pipeline system considerably strengthened the position of the Russian monopolist during negotiations with Ukraine. This ensures supply of Rus-

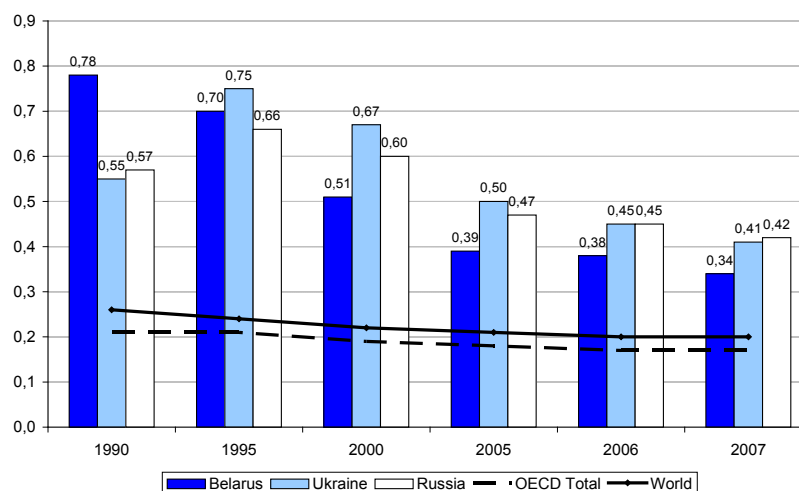


Figure 2: Dynamics of TPES/GDP PPP (toe per thousand 2000 USD) in Belarus, Ukraine and Russia in comparison with OECD and world average

	2008 (actual)	2015	2020	2030
		----- (forecast) -----		
Natural gas production, bcm	664	745	803	940
Natural gas consumption, bcm	457	519	539	641
<i>Net excess (prod. – cons.)*, bcm</i>	207	226	264	299

*Capacity of natural gas supply routes from Russia to EU and Turkey**, bcm/y*

<i>Under control of JSC Gazprom</i>	77,0	162,0
- NEGP	0,0	55,0
- Beltransgas	61,0	61,0
- Blue stream	16,0	16,0
- South stream	0,0	30,0
<i>Through Ukraine (JSC "Naftogaz")</i>	170,0	170,0
Total to EU and Turkey	247,0	332,0

*import from Middle Asia is not considered

**existing and announced projects

Table 1: Russian Natural gas production, consumption and net excess to 2030 according to the Energy Strategy of Russia

sian natural gas to the EU by 2015 at 160 bcm per year practically without the participation of the Ukraine (JSC Naftogaz).

- The second phase of the Yamal-Europe pipeline can be put into operation at a relatively low cost and at the same time will increase the volume of gas pipeline capacities controlled by JSC Gazprom to 190 bcm per year. In general, Belarus is a reliable transit country that, subject to further development of its pipeline system, can become a secure “energy bridge” between Russia and the EU.
- The necessity of participation by JSC Naftogaz in gas transportation to the EU is evident if one is to account for the corresponding volume of Russian export at more than 160 bcm per year while the second phase of the Yamal–Europe pipeline is not yet developed. Acting within the framework of this strategy, Russian officials have suggested that the assets of JSC Gazprom and JSC Naftogaz could be merged. Considering the Ukraine’s present-day political situation, such a scenario appears realistic.
- Belarus must reduce its energy dependence and increase its energy efficiency. Achieving the world average level of energy efficiency requires economic restructuring, increasing the role of the services sector and implementing effective economic incentives in energy policy (Zaborovskiy, 2008).

To improve reliability and to develop mutually beneficial cooperation requires a common interstate legal base. The Energy Charter Treaty should be expanded to address the interests of producers, customers and transit states as well as protecting foreign investments in the region’s energy sector.

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The Russian Power Market (continued from page 30)

The gas prices are expected to increase to ensure equal profitability of domestic and foreign markets by 2011. According to the tariff regulation strategy, the regulated domestic gas price will increase by 27.7 per cent this year (Abdurafikov, 2009) which again will feed into the price of electricity. Power plants fuelled by coal are located close to the mines. Because coal producers compete with gas producers and need to recover their extensive reconstruction costs, they tend to set prices similarly to gas.

Fuel oil accounts for 2-4% of the thermal generation and trades at market prices.

Conclusion

The Russian power market has evolved from a state monopoly to a transitional market on the path to full liberalization. This entails a development toward unregulated (competitive) prices in the two major price zones: European and Siberian. Price levels are relatively low compared to Europe, but buyers must also pay for available capacity such that the effective price is higher.

The market has some similarities with the LMP markets in the U.S. and is expected to develop in that direction. Furthermore, as a part of market liberalization, power (energy) and capacity will be traded on commodity exchanges to facilitate hedging and trade among market participants. Due to the geographical and time zone diversities, pricing and risk management will continue to present Russia with challenges.

The government still retains ownership in network companies, regulators, hydro and nuclear generation companies, including several territorial and wholesale generation companies. Many technical regulations and standards could benefit from updating to improve energy conversion and conservation (Abdurafikov, 2009). Existing generation capacity would thus work more efficiently

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