Centre for Economic and Regional Studies
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CONTENTS

CENTRAL AND EASTERN EUROPE'S DEPENDENCE ON RUSSIAN GAS IMPORTS: PLAYING THE SOURCE AND TRANSIT DIVERSIFICATION GAME*

*Csaba Weiner***

Central and East European countries express a strong fear of Russian gas, yet they have done little to reduce dependence. However, recently, some progress has been made in the diversification of supply and increasing the security of supply. It was not only the Russo–Ukrainian gas crisis in early 2009, but the period since 2008 and 2009 has shown how different the conditions of each state are, i.e. to what extent they could have taken advantage of the benefits of changed conditions and globalising gas markets. For a Central and East European consumer, the focus is mainly on pricing, and the anti-trust probe that has been launched by the European Commission against Gazprom stresses the crucial importance of this issue. Despite many criticisms, the EU has made a few steps that can help reduce the fear and influence of Russia.[1]

JEL Classification: D42; F14; L12; L71; L78; L95; L98; Q41; Q48

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[1] Based on information up to 30 November 2012 (*i.e.* up to the date of the roundtable).

1) Introduction

It has been conventional wisdom to talk about Central and East European (CEE) dependence on Russian gas imports and the western Commonwealth of Independent States (CIS)[2] as transit routes. But despite the common past, the CEE region is not totally homogeneous. The 13 gas importing countries[3] of Central and Eastern Europe have different conditions. They are to a different extent dependent on gas, gas imports and Russian gas. A central question is the extent to which a country's domestic gas production can meet its demand. Besides, other major elements need to be looked at: on how many pipelines and from how many directions a country can receive gas; which transit pipelines pass through it (if any); whether the country has a seashore to make use of terminals to regasify liquefied natural gas (LNG); and what the capacity of the particular country's underground gas storage(s) is.[4]

The Russo–Ukrainian gas crisis in January 2009 showed exactly the conditions of the Central and East European states and the achievements in improving the security of supply at that time. South-East Europe suffered very seriously, but in Central Europe, Slovakia was also strongly affected by the gas crisis.

Since 2005, several gas supply contracts have been signed or extended with Gazprom[5] in the CEE region, but some contracts will expire already at the beginning and in the middle of the 2010's. Before the extension of these contracts, it is important to see how much Russian gas will be needed, and in order to enjoy a better bargaining position, it would be necessary to show progress in diversification projects.

2) Market changes, with special attention to the pricing

In the last four to five years, the global gas market picture has changed significantly, although these events have affected different regions differently, even within

[2] Belarus, Ukraine and Moldova.

[3] These are Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Slovenia, Serbia, Bosnia-Herzegovina and Macedonia. Croatia did not extend its long-term gas supply contract with Russia when it expired at the end of 2010. Among the Central and East European countries, Albania and Montenegro (and Kosovo) do not import gas at all. They have no import capacity.

[4] The issue of underground gas storage facilities is not analysed here, while emphasising their importance. Among Gazprom's customers in the region, there are no gas storage facilities in Estonia, Lithuania, Slovenia, Bosnia-Herzegovina and Macedonia, while in Serbia one has recently been opened.

[5] Gazprom or its 100 per cent owned subsidiaries have the exclusive right to export gas or LNG produced in Russia. In principle, this monopoly does not apply to production-sharing agreements (PSA), but Gazprom has successfully prevented the Sakhalin-1 PSA project to export gas directly to China.

Europe. Several factors have been shaping the process. Among the most important are: the onset and the effects of the economic crisis, the sharp rise in unconventional gas production (most importantly the shale gas revolution in the US), the surge in LNG production and globalising gas markets.

The main challenge for gas is the way it is priced.[6] Since the end of 2008, the so-called "two-price" or "hybrid price" market has been seen in Europe.[7] The role of the gas trading hubs and their prices started to grow. As a consequence of the over-supply, the spot market gas prices have fallen well below oil product-indexed prices in long-term gas supply contracts. Moreover, after having recovered from a downward spiral, oil prices have remained (relatively) high.

Gas consumption fell in Europe not only in 2009, the year of the economic crisis, but in 2011 as well, and it is projected to fall again in 2012,[8] despite the gas demand shock in early 2012. In 2011, three additional factors deserved serious attention: the temporary suspension of Libya's gas exports, the Fukushima nuclear disaster and the subsequent decisions on nuclear power plants. At present, apart from the weather conditions, European gas demand is driven by the problems of economic growth, the (relatively) high gas prices, the strong growth of renewables and the extremely low CO_2 prices.[9] "Because of coal's replacement by gas in the US, more coal is being exported to the EU, because of weak [carbon reduction] targets and because the gas prices are very high here."[10] At its lowest level in 2012, gas in the US traded at around one-fifth of import prices in Europe and one-eighth of those in Japan.[11]

Gas exports outside the former Soviet Union[12] by Gazprom Export, a 100 per cent owned subsidiary of Gazprom, fell sharply in 2009 (from 158.8 bcm[13] in 2008 to 140.6 bcm in 2009), in which the lower gas demand, high contract prices and gas interruption during the Russo–Ukrainian gas crisis in January 2009 also played a role. 2010 brought a slight further decline before soaring in 2011 (from 138.6 bcm in 2010 to 150.0 bcm in 2011), still far below the 2008 level. High oil product-linked contract prices of Gazprom have clearly been curbing gas demand.

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[6] Answer given by Jonathan Stern to the Fondazione Eni Enrico Mattei about the main challenge facing the gas industry over the next years (http://www.youtube.com/watch?v=VJMWBr-R9Cg).

[7] Stern–Rogers (2011).

[8] *Dow Jones Newswires,* 1 October 2012.

[9] IEA (2012a, 2012d).

[10] Stephan Singer of WWF for *Natural Gas Europe* (28 November 2012 http://www.naturalgaseurope.com/shale-gas-environmentalist-perspective).

[11] IEA (2012e): 2.

[12] This gas belongs to Gazprom's gas balance (or produced/owned by Gazprom) and is sold under long-term gas supply contracts. In this paper, we do not analyse the causes of differences between data taken from the Russian customs statistics and various Gazprom sources.

[13] The abbreviations used for units of measurement in this study are: bcm – billion cubic metres; bcma – billion cubic metres per annum; mcm – thousand cubic metres.

Table 1
Prices for Russian gas in Europe
($/mcm)*

	2011[a, 1)]	2010[a, 1)]	2010[b]	2009[b]
Macedonia	462	381		
Bosnia and Herzegovina	429	339		
Poland	420	331	336	333
Czech Republic	419	326	~320[2)]	n.d.
Greece	414	359	357	n.d.
Italy	410	331	331	321
Switzerland	400	296		
France	399	306	306	297
Baltic States[3)]	397	333		
Bulgaria	391	311	310	n.d.
Austria	387	305	304	259
Hungary	383	350	348	306
Turkey	381	326	328	290
Romania	380	325	304	294
Germany	379	270	271	294
Slovenia	377	312		
Netherlands	366	308	302	312
Finland	358	273	271	250
Slovakia	333	371	~370[2)]	n.d.
Great Britain	331[4)]	240[4)]	191	260

* No data was given for Serbia. [1)] Average prices, including European operations, i.e. there is no available price data for gas that comes exclusively from the territory of Russia. [2)] Preliminary data. [3)] An average for the three states (Estonia, Latvia and Lithuania). [4)] There is no accurate price data for Great Britain, thus average spot prices at the British National Balancing Point (NBP) are given.

Source: [a] *Vedomosti*, 18 June 2012. [b] INEI RAN (2011): 15–16.

In 2009, almost all customers of Gazprom Export outside the former Soviet Union bought less gas than in 2008. In 2009, Poland was the only one, which, after the removal of the controversial Russo–Ukrainian intermediary company Rosukrenergo, increased its imports, and significantly so, while Switzerland took roughly the same amount as in 2008. In 2010, Poland became the fourth largest customer of Gazprom Export outside the former Soviet Union, ahead of France, and it still retains that position.[14]

In 2011, 25.3 per cent of gas exports by Gazprom Export outside the former Soviet Union went to ten Central and East European states. This volume (accounting for 38 bcm of gas) is more than 10 per cent below the 2008 level, but if Croatia is not counted in this, then it is almost 8 per cent below the 2008 volume. Besides Poland, the Czech Republic, Hungary and Slovakia are among the large customers in the region. In 2011, apart from Poland and Macedonia, all countries bought less gas from Gazprom than in 2008.

Gazprom wants prices that are independent of market conditions. But if it continues, Gazprom will have more and more problems with gas exports.[15] Since 2010, Gazprom has granted various concessions regarding the long-term gas supply contracts, but the best is yet to come. In 2011, 58 per cent of the gas sold in Europe was under an oil-linked formula, but due to renegotiations and arbitration cases, this ra-

[14] As to Gazprom Group's total sales in Europe, Poland and France had already changed places in 2009, but in 2009 and 2011, gas sales to the UK exceeded those achieved in Poland.

[15] *Bloomberg,* 14 March 2012. http://www.bloomberg.com/news/2012-03-14/gazprom-trips-in-india-as-shale-upends-asia-gas-markets-energy.html.

tio has been falling.[16] According to late 2011 and early 2012 information, Gazprom supplies only 7 per cent of its total gas exports to Europe at spot rates.[17] Gazprom responded too late to the market processes, and has lost its market share in Europe. In 2011, the EU's main external source of supply was Russia, representing 24 per cent of the EU's gas consumption. Other major sources were Norway (19 per cent), Algeria (9 per cent) and Qatar (7 per cent).[18]

In the CEE region, price disputes of RWE Transgas, the Czech subsidiary of Germany's RWE and the Lithuanian Energy Ministry with the Gazprom Group are to be resolved via arbitration. PGNiG of Poland has recently secured a deal with Gazprom, closing the arbitration proceedings. In October 2012, RWE Transgas won an arbitration procedure for the fulfilment of the take or pay clauses, but Gazprom Export will certainly appeal.

In early September 2012, one year after the end-September 2011 inspections at the premises of companies active in the supply, transmission and storage of gas in several EU Member States (mainly in Central and Eastern Europe), the European Commission launched an anti-trust probe against Gazprom. The Commission is investigating three suspected anti-competitive practices in Central and Eastern Europe, involving Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Hungary and Bulgaria.[19] First, Gazprom may have divided gas markets by hindering the free flow of gas across Member States. Second, Gazprom may have prevented the diversification of gas supply. Finally and third, Gazprom may have imposed unfair prices on its customers by linking the price of gas to oil [product] prices.

3) Gas demand and production in Central and Eastern Europe

The Central and East European countries[20] can be divided into three distinct groups based on the role of gas in primary energy consumption. In 2011, Hungary and Lithuania were the countries where gas had the biggest part in primary energy con-

[16] *Natural Gas Europe,* 13 September 2012. http://www.naturalgaseurope.com/shale-gas-needed-for-fully-functioning-eu-gas-market.

[17] This data is derived from Gazprom's 2011 November Base Prospectus and reiterated by Alexander Medvedev (of Gazprom) in Gazprom's Investor Day in London on 14 February 2012. However, we understand that this figure has increased since that time (Gazprom Investor Day, Questions and answers, London, 14 February 2012 http://www.gazprom.com/f/posts/67/590264/2012-02-14-investor-day-london-en.pdf).

[18] *Eurogas – Press Release,* 29 March 2012. http://www.eurogas.org/uploaded/Eurogas%20press%20release%20on%20More%20customers,%20consuming%20less%20gas,%20in%202011.pdf.

[19] *European Commission – Press Release* (IP/12/937, 4 September 2012); *Bloomberg* (4 September 2012, http://www.bloomberg.com/news/2012-09-04/gazprom-faces-eu-antitrust-probe-on-eastern-european-gas-sales.html).

[20] Without Montenegro and Albania, but with Croatia.

sumption, but the ratio was also high in Latvia, Romania, Croatia and Slovakia. In all six cases, representing the first group of countries, ratios were higher than the OECD average, and even the OECD Europe average. However, it was below the average in countries of the second group, comprising the Czech Republic, Bulgaria, Poland, Slovenia, Serbia and Estonia. Finally, in countries such as Macedonia and Bosnia-Herzegovina gas played an extremely low role in the energy balance.

Table 2
Gas balances of the Central and East European countries in 2011*
(bcm)

	Estonia	Latvia	Lithuania	Poland	Czech R.	Slovakia	Hungary	Romania
Production	-	-	-	6.2[(a)]	0.2	0.1	2.8	11.0
Gas demand	0.6	1.6	3.4	17.2	8.9	5.6	11.6	14.4
Total imports	0.6	1.7	3.5	11.8	9.3	5.9	8.0	3.1
of which LNG	-	-	-	-	-	-	-	-
Total exports	-	-	-	0.0	0.2	0.0	0.6	-
Total storage capacity	-	2.3	-	1.7	2.5	2.7	4.2	3.1
Share of gas in TPES[(a)] (%)	10.1	33.1	36.0	12.6	17.2	28.1	38.2	30.8
Self-sufficiency (%)	-	-	-	36.0	2.2	1.8	24.1	76.4

	Bulgaria	Slovenia	Croatia	Bosnia-H.	Serbia	Macedonia
Production	0.5	0.0	2.3	-	0.4	-
Gas demand	3.3	0.9	3.2	0.2	2.4	0.1
Total imports	2.8	0.9	0.9	0.2	2.0	0.1
of which LNG	-	-	-	-	-	-
Total exports	-	-	0.2	-	-	-
Total storage capacity	0.3	-	0.6	-	0.5	-
Share of gas in TPES[(b)] (%)	12.9	12.0	30.8	3.1	11.9	3.3
Self-sufficiency (%)	15.2	0.0	71.9	-	16.7	-

* Estimates. [(a)] Compare it with other data sources! For example, according to national sources, domestic gas production was 4.3 bcm in 2011, similar to that of BP. [(b)] Total Primary Energy Supply.

- Nil. 0.0 Negligible.

Source: The table is based on the numbers of the IEA's 'Gas Trade Flow in Europe'. We assume that the IEA uses '0' where the amount is negligible or nil. We corrected these numbers with data from IEA (2012a, 2012b, 2012c) and Gazprom. However, in some cases, data for correction were only available for 2010.

In the CEE region, Poland, Romania and Hungary are the largest gas consumers, with a combined share of nearly 60 per cent in 2011.[21] In 2009, in all countries under review except for Albania (where it did not change), gas consumption decreased, quite dramatically in certain cases (in the order of 30 to 40 per cent). How-

[21] The data was taken from the IEA.

ever, in most countries, gas demand reached its peak years before 2008.[22] A key question is to evaluate the extent of additional gas demand in the CEE region, but the forecasts are contradictory. The current fickle economic conditions and uncertainties around energy policies are no help in planning, making predictions or decisions.

Table 3
Gas demand scenarios for the Central and East European region
(per cent)

	OIES by Honoré (2010)	IHS CERA[1)] cited by Roberts (2012)	TYNDP (2011)[2)]	Kantor – Booz & Co. (2012)[3)]		
	2020/2008	2020/2008	2020/2008	2020/2010		
				Min	Base	Max
Estonia	0.0		+8.4			
Latvia	-2.5		-20.3			
Lithuania	-26.3		-15.0			
Poland	+26.7		+15.3	+22.7	+45.3	+51.8
Czech R.	+2.9		+54.3	+23.0	+38.2	+60.0
Slovakia	+6.7		+15.5	+16.5	+24.4	+33.5
Hungary	-1.4	-8.3	+23.4	+5.3	+26.0	+55.6
Romania	+12.9	+16.2	-20.0	+17.2	+25.2	+37.9
Bulgaria	-7.4	+21.9	-13.0	+41.5	+77.5	+110.9
Croatia	-14.3	+58.6	+33.5	+34.5	+86.9	+105.2
Slovenia	-34.0	+30.0	+68.2	+14.3	+35.2	+42.4
Serbia & M.	+2.0	+39.1	+75.5[(b)]			
Bosnia-H.	-32.5	+100.0				
Macedonia	+10.0	+8x	+7x			
Albania	0.0	-[(a)]				

[1)] The information came from a private study conducted by IHS CERA. John Roberts of Platts told this author that he thought the information dated back to 2010. [2)] Final customers. [3)] The data for 2010 is also an estimate. [(a)] 2008: 0.0 bcm; 2020: 0.2 bcm. [(b)] Without Montenegro and UNMIK.

In Central and Eastern Europe, only Romania has substantial gas production, but gas production in Poland, Croatia and Hungary also needs to be mentioned. Romania and Croatia have been largely self-sufficient in their natural gas supplies, with 76.4 per cent and 71.9 per cent of gas consumed in 2011, respectively.[23]

It is hoped that unconventional gas would bring competition to the Russian-dominated markets and lower gas prices. But one cannot predict the future of unconventional gas in Central and Eastern Europe. However, Black Sea gas is that Romania and, as a follower, Bulgaria are focusing on in 2012. And it looks like the Polish shale gas euphoria is disappearing, thus opening up to the realties. In order to avoid letting shale gas be the victim of PR failures, there are very strict rules that should be adhered to from the very beginning. Without following these principles, in some countries they will not even reach the point of determining whether or not they contain economically recoverable resources. In January 2012, after seeing lots of protests throughout the country, the technology of hydraulic fracturing for shale

[22] IEA (2008, 2011a, 2012a).

[23] According to IEA definitions.

gas exploration and extraction was banned and Chevron's exploration permit was revoked in Bulgaria. In Romania, the coming of the new government meant the end of Romania's pro-shale gas position. A moratorium is effectively in place, in spite of the fact that so far, no relevant legislation has been adopted to implement such measures.[24] In the Czech Republic, a moratorium on shale gas exploration is expected to be put in place until (at least) mid-2014 as well.

4) Transit through the western CIS states and Central and Eastern Europe

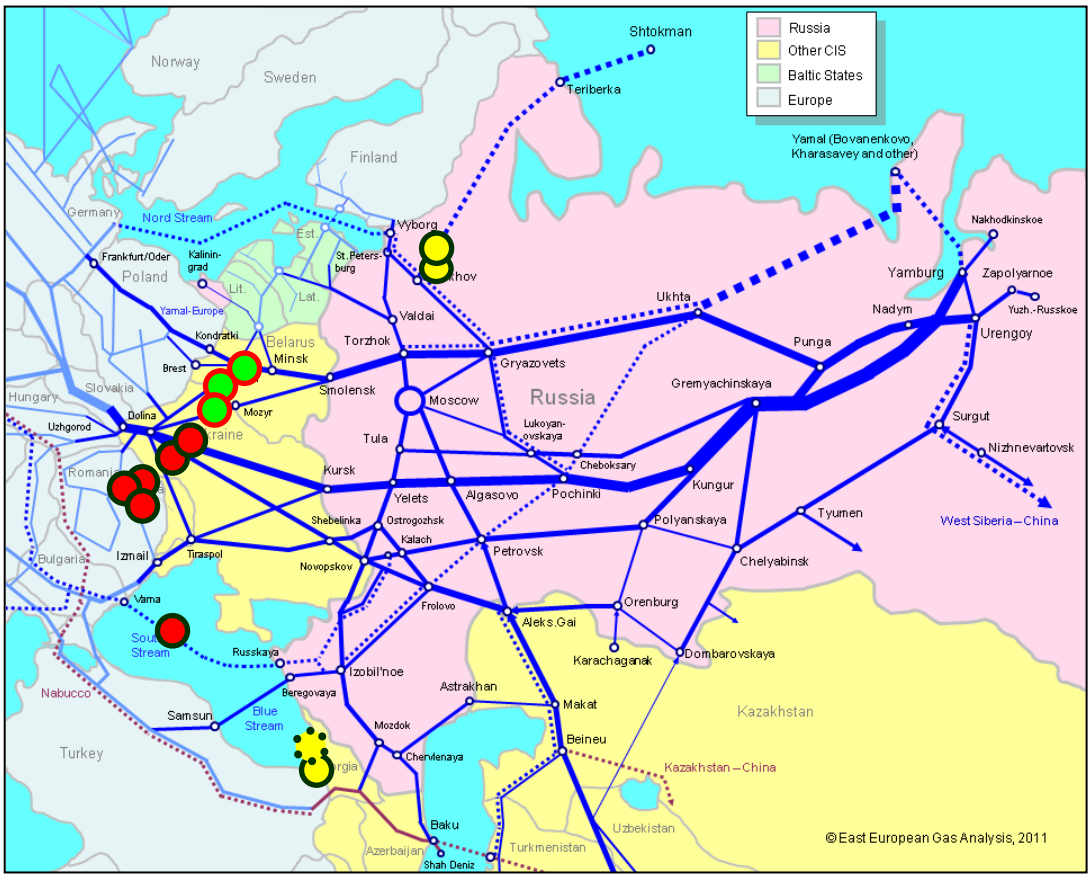
The bulk of Russian gas exports to consumers outside the former Soviet Union transits through three western CIS states, namely through Ukraine, Belarus and Moldova. Finland is interconnected with Russia. A large part of Turkish exports is delivered via the Blue Stream pipeline in the Black Sea, and gas deliveries via the Nord Stream pipeline in the Baltic Sea started in 2011. The gas pipelines going through Ukraine heading towards Europe follow the route of Poland, Slovakia, Hungary, Romania and Moldova. Gas travelling through Moldova flows to Romania and onwards. Belarus provides transit services in the direction of Lithuania, Poland and Ukraine. In 2011, 101 bcm of gas was transited to Europe through Ukraine, while 44 bcm through Belarus and nearly 20 bcm through Moldova. There is no free transit through Russia. Among the three western CIS transit states, Gazprom owns the Belarusian section of the Yamal-Europe pipeline, carrying Russian gas to Poland and Germany (and onwards), and the trunk gas pipeline network of Belarus' Beltransgaz. In Moldova, Gazprom holds half of shares in Moldovagaz, including transmission pipelines. In Ukraine, Gazprom has no such position.

In the CEE region, the three main transit routes lead through Slovakia, Poland and Romania. Gas transit through Slovakia reached a peak of nearly 85 bcm in 1999.[25] The Yamal-Europe gas pipeline, commissioned in 1999, reduced the significance of Slovakia, while Poland became an important transit country to Germany.

[24] *Transindex* (21 June 2012, http://itthon.transindex.ro/?hir=29748); *Natural Gas Europe* (16 August 2012, http://www.naturalgaseurope.com/shale-gas-exploitation-in-romania-postponed); Dąborowski–Groszkowski (2012).

[25] IEA (2005): 140.

Figure 1
Cross-border entry/exit points of Russian gas to Europe
at the borders of the former Soviet Union



Source: Based on a 2011 map of East European Gas Analysis.

Ukraine's neighbours will or can find themselves in a new role of providing transmission services to Ukraine. In November 2012, for the first time, gas deliveries to Ukraine were managed from the west by reverse flow. RWE started to supply physical gas flows to Ukraine from/through Poland, while Ukraine reduced its purchases from Russia below the take or pay minimum. The Ukrainians also approached Hungary to find out whether physical gas supply to Ukraine is possible. By now, there are both technical and legal possibilities to pump gas to Ukraine from Hungary.[26] Naturally, the Ukrainian partner should buy gas somewhere. At the same time, Slovakia's transmission system operator (TSO) Eustream was considering the construction of a new bi-directional interconnection between the gas transmission systems of Slovakia and Ukraine, but, as it was announced in October 2012, the Open Season had not identified sufficient binding market interest in new transmission capacity.[27]

[26] According to information provided this author by János Zsuga, CEO of Hungary's TSO.

[27] *Eustream – News,* 19 June 2012, 15 October 2012.

4.1. Bypass pipelines and their effects on transit

The first line of the Nord Stream gas pipeline, with a capacity of 27.5 bcma, had become operational in November 2011, followed by the opening of the second line in October 2012. If it is up to Russia to decide, this will not be the last line in the Baltic Sea. The Nord Stream shareholders considered a preliminary feasibility study for the third and fourth lines, and their construction was recognised as economically expedient and technically possible. One of the lines may go to Great Britain.[28] The capacity utilisation rate of the Nord Stream pipeline is expected to attain high levels, but since November 2011, the first line has only moderately been loaded.

The South Stream pipeline through the Black Sea will provide a transport capacity of 63 bcma consisting of four strings; each of them is to have a capacity of 15.75 bcma. The earlier plans envisaged two branches, a northern one and a southern one, starting from Bulgaria, however, the southern branch (Greece and southern Italy) has been removed from the agenda. Gas will go through Bulgaria, Serbia, Hungary and Slovenia to north-east Italy, and legs are planned to be built to the Bosnian Serb Republic and Croatia from Serbia. In the end, Austria will not be connected to the South Stream pipeline (at least in the next five years),[29] but Macedonia and (perhaps) Montenegro could join the project. In compliance with Putin's end-December 2011 "recommendation," the construction of South Stream would be officially (!) launched at the end of 2012. South Stream has a very high price tag, and both Nord Stream and South Stream spur a huge wave of pipeline construction in Russia as well.

Nord Stream and South Stream create large additional capacity. Gas transit through Belarus and Poland are not at stake. In fact, Gazprom would increase the transit through Belarus at the expense of Ukraine. However, the Slovakian transit route has already been negatively affected. Transit through the Czech Republic will be doubly affected by the Nord Stream pipeline. This is because when completed, the Gazelle pipeline will increase transit through the Czech Republic. Gazelle is the continuation of Germany's OPAL gas pipeline through the Czech Republic. OPAL is connected to the Nord Stream pipeline.

A range of criticisms have been made of the intergovernmental agreements on South Stream signed by various countries in early 2008, partly because the agreements state that the Russian party has the right to use all the capacity in the pipeline. But such mistakes can and must be avoided by at least using the information exchange mechanism on intergovernmental agreements between Member States and third countries (see the Decision No 994/2012/EU of the European Parliament and of the Council of 25 October 2012).[30]

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[28] *RIA Novosti*, 8 October 2012.

[29] *Népszabadság,* 11 November 2012. http://nol.hu/archivum/20121110-gaz_van__penz_lesz.

[30] For antecedents, see the EU Regulation No 994/2010 of 20 October 2010, concerning measures to safeguard the security of gas supply and the Conclusions of the European Council of 4 February 2011.

Gazprom is strongly opposed to the EU's Third Energy Package, not just because of the capacity utilisation, but also because of the so-called unbundling. Unbundling is a serious source of conflict with Russia on existing assets with Russian ownership as well. In Poland, the owner of the Polish section of the Yamal-Europe gas pipeline (EuRoPol GAZ) handed over operation and the Polish state-owned company Gaz-System became the independent system operator (ISO) in 2010. Gazprom has stakes in all three "national" gas companies (in Estonia's Eesti Gaas, Latvia's Latvijas Gāze and Lithuania's Lietuvos Dujos) of the three Baltic Sates, respectively, so, unbundling concerns these assets. In Lithuania, the Government set an October 2014 deadline for the unbundling. The dispute between Lithuania and Russia is very intense. In Estonia, the national company must sell its natural gas transportation network before the end of 2014, and the Government is required to approve the sale. Latvia also announced its intention to unbundle gas monopoly. The deadline is no later than 2017.

5) CEE countries on the way to diversification

The gas crisis in early 2009 and also the year 2010 showed how different conditions of each CEE state have. The two extremes were represented by Croatia and Poland. The most significant results were achieved by Croatia in reducing dependence on Russian gas. The CEE region has not yet seen anything like it. However, it is obvious that Croatia's participation in the South Stream project (*i.e.* the decision to construct a leg from South Stream to Croatia) means that Croatia will buy gas from Russia in the future again. Despite various projects, Gazprom Export has an increased part in gas supplies in Poland thanks to the elimination of Rosukrenergo. Such intermediary companies offered a certain degree of diversification in Hungary and elsewhere for some time. Excluding Croatia, Slovenia is the least dependent on Russian gas supplies and it has the most diversified portfolio of gas importing contracts. The position of the Czech Republic and Hungary is worse than that of Slovenia, but long-term contracts with western countries and spot markets for cheaper natural gas bring a certain degree of diversification to their portfolio. The January 2009 gas crisis was needed to force Slovakia to start diversification and consider the security of supply measures, to have at least contracts with western suppliers and import capacity other than from Russia. With the exception of very small amounts of gas imports, Serbia purchases most of its natural gas from Russia. The rest comes from Hungary. Romania is also able to buy gas from and through Hungary using the Hungarian–Romanian interconnector completed in 2009. Bosnia-Herzegovina, Bulgaria, Macedonia and the Baltic States are solely dependent on Russia for their gas supplies. However, physical reverse flow is possible for Bulgaria, as in the case of Slovakia.

5.1. Diversification through interconnections and LNG regasification projects

The European Council of 4 February 2011 concluded that no EU Member State should remain isolated from the European gas networks after 2015 or see its energy security jeopardised by the lack of the appropriate connections. The European Commission's November 2010 communication on energy infrastructure priorities identified the following as priority projects in the CEE region: the North-South Corridor in "Central Eastern and South-East Europe", the Southern Corridor and the Baltic Energy Market Interconnection Plan in gas (BEMIP Gas). According to the EU Regulation No 994/2010 of 20 October 2010, concerning measures to safeguard the security of gas supply, the transmission system operators shall enable permanent bi-directional capacity on all cross-border interconnections between Member States at the latest by December 2013, with some exceptions. This regulation also includes the binding infrastructure standard 'N-1'.

In contrast to the large projects, the importance of interconnections is (also) emphasised. Building gas interconnections has been a long-standing unresolved issue in Central and Eastern Europe, but recently some progress has been made. Hungary has taken significant steps in this area. However, the European Commission argues in its most recent Staff Working Document on investment projects in energy infrastructure (dated 15 November 2012) that Hungary "needs to increase its cross-border capacity" because "its current capacity is insufficient to ensure the integration of national markets on a regional level".[31] The case of the Slovak–Hungarian interconnector showed clearly what options are available when considering a project that cannot be made on market terms. Looking at the region south of Hungary, very little has been done apart from the interconnections with Hungary. The European Commission, among others, points out that Bulgaria "needs to play a more proactive part in opening up the Southern Gas Corridor."[32]

Among the LNG regasification projects in the region, the Polish and Lithuanian projects are to be realised by 2014. The others are only in planning stages. In Croatia, the Adria LNG project of an international consortium has stalled. Thus, the Croatian state-owned pipeline operator Plinacro is examining an alternative project, the so-called 'migration concept.' In Romania, the project of the Azerbaijan–Georgia–Romania–Hungary interconnector would develop an LNG regasification plant. Bulgaria is focused on compressed natural gas (CNG), and not LNG. The increasingly protracted issue of a regional LNG terminal in the Baltic States has also shown how difficult it is to get any regional cooperation.[33] In Lithuania, the LNG project is helped by the gas quota through the LNG terminal. However, in Poland, the maximum share of gas imported from one country has already been set since 2000.

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[31] European Commission (2012b).

[32] Ibid.

[33] We do not believe in these Black Sea plans.

5.2. Diversification through the Southern Corridor

The Southern Corridor[34] initiative includes routes going through and from Turkey and other routes that could pass the Black Sea (both pipelines as well as CNG and LNG options) and the Eastern Mediterranean to the EU. The Trans-Caspian Pipeline would also be a major project in the Southern Corridor to bring new sources of gas to Europe. South Stream is not part of the Southern Corridor initiative.

Apart from the delays, the common characteristic of the projects is that all Southern Corridor projects, except for the Trans-Caspian Pipeline and projects through the Eastern Mediterranean, bid for Azeri gas, namely gas from the second stage of the Shah Deniz field development (Shah Deniz 2).

Since the autumn of 2011, important changes have occurred in the Southern Corridor, but the outcome is still far away. The first crucial change was when in September 2011 BP came up with the concept of the so-called South East Europe Pipeline (SEEP), which would have started in western Turkey and would have run across Bulgaria and Romania to Hungary's eastern frontier, representing about a third of Nabucco's length. The second crucial change was when, in November 2011, Azerbaijan and Turkey started work on the Trans-Anatolian Gas Pipeline (TANAP) project from Turkey's eastern border to its western border.[35]

The Shah Deniz consortium conducts a three-round selection process among pipelines from the western border of Turkey. In the first round of the race, in February 2012, it chose the Trans Adriatic Pipeline (TAP) over ITGI[36] as a possible route, should it decide on the south of Italy as the destination. In the second round of the race, in June 2012, the Nabucco West project, an already scaled-down version of Nabucco 'classic,' was selected, rejecting the South East Europe Pipeline as pipeline option to Central and South East Europe. The Shah Deniz consortium is expected to make a final decision between Nabucco West and the Trans Adriatic Pipeline by mid-2013. Before the submission of the proposal for Nabucco West to the Shah Deniz consortium, the Hungarian Prime Minister indicated on 23 April 2012 that Hungary's Mol, or precisely FGSZ, owned by Mol, was leaving the project. By this time, several negative messages had been received from not only Mol, but from the Hungarian government, RWE, Bulgaria, the EU or the US. RWE is also considering leaving the project.

The South East Europe Pipeline and Nabucco West mean an adaptation to the reality. Main problems with the ten-year old Nabucco 'classic' have not been solved, and even though progress has been made on some issues, new problems have arisen. The State Oil Company of the Azerbaijani Republic, or SOCAR, holding a controlling stake in the Trans-Anatolian Gas Pipeline, can be a guarantee for the

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[34] The Southern Corridor would be – after the Northern Corridor from Norway, the Eastern Corridor from Russia, the Mediterranean Corridor from Africa and besides LNG – the fourth big axis. It aims at the transmission of gas from the Caspian Basin, Central Asia, the Middle East and the Eastern Mediterranean Basin to the EU (European Commission, 2010, 2012a).

[35] The South Caucasus (Baku–Tbilisi–Erzurum) Pipeline needs to be expanded.

[36] ITGI (Interconnector Turkey–Greece–Italy) comprises the already operating ITG (Interconnector Turkey–Greece) and the IGI (Interconnector Greece–Italy) project, the latter including IGI Onshore and IGI Poseidon.

Turkish project. Certain other members of the Shah Deniz consortium (BP, Statoil and Total) will also be shareholders of the pipeline. Certain Shah Deniz shareholders will get shares in the pipeline that is to be selected to deliver gas from the western border of Turkey as well.

According to Jonathan Stern, the decision to court Caspian gas was first and foremost a political one.[37] But buying gas is rather a market-driven decision. European utilities expect supplies from the Caspian to be priced to reflect conditions across the continent's freely traded gas hub markets. It must be noted that diversification alone does not inevitably lead to supply security. And Azerbaijan has not yet demonstrated that it is a reliable supplier.[38] Moreover, the Trans-Caspian Gas Pipeline, if ever built, would make Azerbaijan an important gas transit state as well.[39]

6) Conclusions

Since 2008, Gazprom's market position has changed totally, while Gazprom is locked into the European market. In such a difficult situation, it has launched gas production in the Yamal Peninsula and is about to start building the South Stream gas pipeline. Additionally, in this situation, Gazprom faces an EU anti-trust probe, of which the most important issue is how gas is priced. In order to avoid more arbitration, Gazprom recognised the need to narrow the gap between oil product-linked contract prices and hub-based market prices. The series of concessions means that Gazprom is aware that the status quo cannot be maintained, but has not yet accepted the need to shift to hub-based pricing.[40]

Central and East European countries can take very limited advantage of the benefits of changed conditions and globalising gas markets. This is partly due to the lack of necessary import capacity, and partly due to the long-term contracts. However, some countries have really benefited from the ongoing developments.

Forecasts for gas demand in the Central and East European region are vague and different. Internal gas production has been steadily declining, so in countries where domestic gas plays a significant role in gas consumption, the degree of self-sufficiency has also been eroding. The future role of unconventional and Black Sea gas in gas balances of particular countries remains a conundrum, but we do not see any revolution in the making. In such circumstances, Central and East European countries should put a much greater emphasis on energy efficiency.

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[37] Rausch (2012).

[38] Ibid.

[39] On 12 September 2011, the European Commission was given a mandate to negotiate a legally binding treaty between the EU, Azerbaijan and Turkmenistan to build a Trans-Caspian Pipeline System.

[40] These are Jonathan Stern's findings about pricing principles of Gazprom. *Bloomberg* (17 January 2012, http://www.bloomberg.com/news/2012-01-17/gazprom-price-retreat-offers-eon-hope-as-euro-crisis-cuts-demand.html); *Financial Times* (16 February 2012, http://www.ft.com/intl/cms/s/0/2e57f4c4-58ad-11e1-9f28-00144feabdc0.html#axzz1oivhTm7f).

Nord Stream and South Stream can increase the security of supply. In the CEE region, South Stream dramatically rearranges the existing transportation and transit directions, thus some former investments may turn out to be unnecessary. It is important to emphasise that the Third Energy Package cannot be avoided by tactics when it comes to implementing pipeline projects with either Russian or non-Russian participation. For example, it refers to both South Stream and the Hungarian–Slovakian interconnector.

Demonstration of the possibility of diversification plays an important role in diversification steps, if only showing Russia that there are other options. Different countries have taken different steps to ensure the security of supply and diversification since the early nineties and, in particular, the January 2009 crisis, but the best is yet to come. LNG and pipeline projects are moving forward very slowly and being delayed for long. Acting on a commercial basis, these can be accepted but greatly erode the credibility of those governments' and companies' commitments.

To obtain the Azeri gas is a key. By the end of the decade, Shah Deniz 2 gas could reach Europe. Nevertheless, in the future one must remember that Turkey is not an easy case to negotiate.

We are convinced that Russia remains the single largest gas supplier to Europe. The vision or the goal of energy independence, which has been communicated in certain CEE countries, is far off the reality, regardless of what is to be understood by such statements.

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