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**CENTRAL AND EASTERN EUROPE'S DEPENDENCE ON
RUSSIAN GAS, WESTERN CIS TRANSIT STATES AND
THE QUEST FOR DIVERSIFICATION THROUGH THE
SOUTHERN CORRIDOR**

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SUMMARY*

Central and East European countries have expressed strong fears about Russian gas but did little to reduce dependence. However, recently some progress has been made in the diversification and increasing security of supply. The Russo–Ukrainian gas crisis in early 2009, together with the period since 2008, help to illustrate the different opportunities each country faces, i.e. to what extent they could have taken advantage of the benefits of the changed market environment. For the Central and East European consumers, the focus is mainly on pricing, and the anti-trust probe launched by the European Commission against Gazprom stresses the crucial importance of this issue. Despite much criticism, the EU has taken a few steps that may help mitigate the fear of Russian influence.

The paper is arranged into five main sections. After a short introduction, Section 2 presents the gas market changes that have occurred over the last four to five years. Supply- and demand-side dynamics combined with the pricing evolution have been seriously affecting Gazprom's market position in Europe. I shall examine how Russia has responded to these challenges, with a special emphasis on the Central and East European region.

Section 3 investigates the role of gas in primary energy consumption in the Central and East European countries and the change in gas demand. Here, different gas demand scenarios are compared. The issues of domestic gas production, including unconventional and offshore gas resources, and the degree of self-sufficiency are also key questions.

Section 4 addresses the issue of transit through the western Commonwealth of Independent States and Central and Eastern Europe. Bypass pipelines have already begun to affect transit and will create a large additional capacity. I argue that bypass pipelines may increase the security of supply. Here and elsewhere in the paper, attention also turns to the EU's Third Energy Package.

In Section 5, the role of Russian gas in Central and Eastern Europe (consisting of both EU Member States and Energy Community Contracting Parties) is examined country by country, emphasising the gas supply portfolios, and existing and planned physical infrastructure.

Finally, before concluding, diversification projects in the Southern Corridor are discussed separately in Section 6. I argue that by the end of this decade, gas from the second stage of Azerbaijan's Shah Deniz field development could reach Europe.

* Based on information up to 25 October 2012. This paper was commissioned by Central European University's Center for EU Enlargement Studies and Sabanci University's Istanbul Policy Center and will appear in a volume of theirs. The paper has not been updated, but certain corrections and adjustments have been made.

1) INTRODUCTION¹

It has been conventional wisdom to talk about Central and Eastern 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 countries³ of Central and Eastern Europe have different conditions. They are dependent on gas, gas imports and Russian gas to a different extent. 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: through 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

¹ When talking about the European gas market, one should understand what is meant by Europe. One may think of the EU27, the OECD Europe or – and this is what I will do – the countries stretching from the Atlantic Ocean to the Commonwealth of Independent States (see Honoré, 2010: xxvi–xxvii, xxxvii). Gazprom considers Europe to consist of countries beyond the former Soviet Union. The Russian terminology distinguishes between 'far abroad' and 'near abroad.' Russian statistics regard 'far abroad' as areas beyond the Commonwealth of Independent States, while Gazprom looks on them as countries other than the former Soviet Union. The measurement of gas volume is another key problem. The terms 'demand' and 'consumption' without definitions also can be misleading. In this study, the quantity of natural gas is given in (billion) cubic metres. However, the standards differ from the International Energy Agency (IEA) to BP and the former Soviet Union to the European countries. The abbreviations used for units of measurement in this study are: bcm – billion cubic metres; bcma – billion cubic metres per annum; mmcm – million cubic metres; mcm – thousand cubic metres; mmtpa – millions of tonnes per annum.

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.

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 badly, but in Central Europe, Slovakia was also strongly affected by the gas crisis. Under these circumstances, the then and now Slovak Prime Minister Robert Fico proposed restarting the second block of the Bohunice nuclear power plant that had been shut down only a short time prior to the crisis as an anti-crisis measure. Bulgaria, which had been hit even more dramatically, also hinted that it could re-open one of its units at the Kozloduy nuclear power plant.⁵

Since 2005, several gas supply contracts have been signed or extended with Gazprom⁶ in the CEE region, but some contracts will have expired 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 need, and in order to enjoy a better bargaining position, it would be necessary to show progress in diversification projects.

2) MARKET CHANGES IN EUROPE, WITH SPECIAL ATTENTION TO THE PRICING, THE CEE REGION AND GAZPROM

In the last four to five years, the global gas market picture has changed significantly,

⁴ The issue of underground gas storage facilities is not analysed here, while emphasising the importance of them. Among Gazprom's customers in the region, there are no gas storage facilities in Estonia, Lithuania, Slovenia, Bosnia-Herzegovina and Macedonia, while in Serbia it was put into commercial operation in 2011.

⁵ *EurActiv.com*. 12 January 2009.

<http://www.euractiv.com/energy/gas-crisis-gives-slovakia-excuse-news-221021>.

⁶ 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 to China.

although these events affected various regions differently. Several factors have been shaping the process. Among the most important are the following: 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); and the surge in liquefied natural gas production and globalising gas markets.

Before the economic crisis, European gas customers were working to sign or extend long-term gas supply contracts with Gazprom, thus to ensure themselves for 20 to 30 years. When oil prices surged in July 2008 to a record level, Gazprom head Alexei Miller expected oil prices to rise to USD 250 a barrel, and, consequently, gas prices to spike to USD 1,000 per mcm.^{7, 8}

A few months later, a totally different situation was found in the gas market. In 2009, gas demand declined sharply in Europe. As a consequence of the oversupply, 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. In such a situation, the role of gas trading hubs and their prices started to grow. Since the end of 2008, the so-called “two price” or “hybrid price” market has been seen.⁹

All these mean that Gazprom’s European customers have needed less and cheaper gas, facing take or pay problems and their consequences. In 2009, gas demand was determined by the economic crisis in Europe, with gas consumption falling by 7 per cent. In 2010, the cold weather was a huge plus, and helped to push demand to 6 per cent above the 2009 level. The year 2011 was characterised by warm weather, and gas demand fell by 8 per cent.¹⁰ In early 2012, the gas demand shock in Europe attracted attention. But despite this, gas consumption is projected to decrease again in 2012.¹¹ In 2011, three additional factors

deserved serious attention: the temporary suspension of Libya’s gas exports, the Fukushima nuclear disaster and its 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 CO₂ prices.¹² As the IEA claims, during 2011, neither long-term nor spot-indexed gas was in a position to compete with coal as the marginal source for base-load generation, in part due to a significant drop in CO₂ prices.¹³ Gas price movements in the US have had a significant impact on coal consumption in Europe. “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.”¹⁴

Gas exports outside the former Soviet Union¹⁵ by Gazprom Export, a 100 per cent owned subsidiary of Gazprom, fell sharply in 2009 (from 158.8 bcm 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.

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%), Algeria (9%) and Qatar (7%).¹⁶ In 2010, European LNG imports increased significantly, and then declined slightly in 2011.¹⁷ In 2012, a

⁷ Reuters. 3 July 2008. <http://www.reuters.com/article/2008/07/03/gazprom-gas-prices-idUSL0341241220080703>.

⁸ In Continental Europe, gas prices in the long-term gas supply contracts are mainly linked to oil product prices and a take or pay requirement, meaning a minimum purchase obligation, is imposed.

⁹ Stern–Rogers (2011).

¹⁰ Stern (2012).

¹¹ *Dow Jones Newswires*. 1 October 2012.

¹² IEA (2012c); IEA (2012b).

¹³ IEA (2012b): 142.

¹⁴ Stephan Singer of WWF for *Natural Gas Europe* (28 November 2012, <http://www.naturalgaseurope.com/shale-gas-environmentalist-perspective>).

¹⁵ 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, I shall not analyse the causes of differences between data taken from the Russian customs statistics and various Gazprom sources.

¹⁶ *Eurogas – Press Release*. 29 March 2012. <http://www.eurogas.org/uploaded/Eurogas%20press%20release%20on%20More%20customers,%20consuming%20less%20gas,%20in%202011.pdf>

¹⁷ IEA (2011a): 186; IEA (2012b): 104. My calculations based on IEA (2012c) show that after

considerable drop is expected to follow as Asian demand has been pulling gas away from Europe.¹⁸

According to the collection of the daily newspaper *Vedomosti*, in 2011, Macedonia paid the highest price for Russian gas (USD 462 per mcm), while the lowest price was paid by Armenia (USD 180). In the CEE region, Slovakia was offered the lowest price (USD 333), which was even lower than that for Moldova (USD 338). In 2010, it still did not reach the same level. Besides Slovakia, Slovenia was the only one in the CEE region for whom the gas price (USD 377) was lower than for Germany (USD 379). Bosnia-Herzegovina bought gas for USD 429, Poland for USD 420 and the Czech Republic for USD 419, paying record high prices among all the customers of Gazprom. Bulgaria purchased gas for USD 391, Hungary for USD 383 and Romania for USD 380. For the Baltic States, only one price was given by *Vedomosti* at USD 397.¹⁹

Because of the take or pay provision, the customers have had to seriously think about what would happen to those gas amounts that had not (yet) been taken within a given contract year. In 2009, almost all customers of Gazprom Export outside the former Soviet Union bought less gas than in 2008. In terms of volume, Germany, Turkey and Italy, the three main customers, lowered their purchases the most. In 2009, Poland was the only one, which, after the removal of the controversial Russo-Ukrainian intermediary company Rosukrenergo (see below), 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

still retains that position.²⁰ Italy, the third largest importer of Russian gas after Germany and Turkey, was seriously impacted in 2010. In 2010, Turkey also significantly reduced gas purchases from Russia, but to a much lesser extent. However, in 2011, Turkey and Italy accounted for the bulk of the increase. Italy took more gas from Russia to make up for a shortfall from Libya.²¹ To be more precise, the closure of the Libyan-Italian Greenstream gas pipeline allowed Italy's ENI to replace Libyan supplies with pre-paid gas from Gazprom.²²

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 excluded from this figure, 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 2011, apart from Poland and Macedonia, all countries bought less gas from Gazprom than in 2008.

Since 2010, Gazprom has granted various concessions regarding the long-term gas supply contracts. In the region, several companies have agreed to the terms of a price reduction. In December 2010, Latvia and Estonia were offered to lower prices by 15 per cent in 2011, provided they increase gas consumption to the levels of 2007 (i.e. to pre-crisis levels).²³ Since July 2011, import prices for Hungary's E.ON Földgáz Trade, which is still a subsidiary of Germany's E.ON Ruhrgas, have been

experiencing extremely high growth rates both in 2009 and 2010, LNG imports increased very slightly in 2011. Also, according to my calculations, BP data indicates similar trends but with higher growth rates. GIIGNL, the International Group of Liquefied Natural Gas Importers, reported a very small increase in imports in 2011 as well.

¹⁸ *Reuters*. 9 August 2012. <http://in.reuters.com/article/2012/08/09/energy-Ing-idINL6E8I9CA820120809>

¹⁹ *Vedomosti* (18 June 2012). Naturally, various averages are given for the other cases as well. No data was provided for Serbia.

²⁰ 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.

²¹ *Financial Times*. 16 February 2012. <http://www.ft.com/intl/cms/s/0/2e57f4c4-58ad-11e1-9f28-00144feabdc0.html#axzz1oivhTm7f>.

²² *ICIS Heren*. 3 March 2011. <http://www.icis.com/heren/articles/2011/03/03/9440628/gazprom-counts-on-rue-gas-as-production-falls,-exports-soar.html>.

²³ *RIA Novosti* (24 December 2010, <http://en.rian.ru/business/20101224/161916344.html>). According to the 2011 Annual Report of Latvijas Gāze, the Latvian incumbent, a new agreement with terms and conditions similar to those of the previous supply contract was also signed for 2012. See below for more details on the gas supply contracts of each Baltic country.

reduced.²⁴ In 2011, SPP of Slovakia was among the companies whose prices were revised. In December 2011, Serbia achieved a 12 per cent price cut for 2012.²⁵ In 2012, Bulgaria received a price discount of 11 per cent from April 2012 until the end of 2012.²⁶

In the CEE region, price disputes of RWE Transgas, the Czech subsidiary of Germany's RWE, the PGNiG of Poland and the Lithuanian Energy Ministry with the Gazprom Group are to be resolved via arbitration, respectively.²⁷ After the deal with E.ON Ruhrgas in early July 2012, meaning the end of the arbitration procedure, Gazprom declared that it had defended its price model.²⁸ But Jonathan Stern (of the Oxford Institute of Energy Studies) believes Gazprom is fighting a losing battle to preserve its oil-linked contracts. "Europe is moving to hub-based pricing, and that means Gazprom is as well."²⁹

Gazprom responded to the market processes too late, and has lost its market share in Europe.³⁰ However, from the point of view of Gazprom, priority is given to revenue generation and not to the export volumes. 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 ratio has been falling.³¹ According to late 2011 and early

2012 information, Gazprom supplies only 7 per cent of its total gas exports to Europe at spot rates.³²

There was a serious warning for Gazprom when at the end of September 2011, in order to investigate the possibility of anticompetitive practices, the European Commission officials undertook unannounced inspections at the premises of the companies active in the supply, transmission and storage of gas in several EU Member States, mainly in Central and Eastern Europe.³³ A year later, in early September 2012, 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.³⁴ Firstly, Gazprom may have divided gas markets by hindering the free flow of gas across Member States. Secondly, Gazprom may have prevented the diversification of the supply of gas. Finally, Gazprom may have imposed unfair prices on its customers by linking the price of gas to oil prices.³⁵ But

²⁴ Horváth (2011): 15.

²⁵ According to media information, this addendum will be in place until the new long-term contract is signed. *Kommersant*, 24 February 2012. <http://www.kommersant.ru/doc-rss/1879271>

²⁶ The 11 per cent figure is an average for the three contracts of Bulgaria (with Gazprom Export, WIEE and Overgaz, see below). *Ministry of Economy, Energy and Tourism of the Republic of Bulgaria – News*, 28 August 2012. <http://www.mi.government.bg/en/news/delyan-dobrev-otstapkata-ot-11-ot-cenata-na-gaza-e-v-sila-ot-1-vi-april-do-kraya-na-godinata-830.html>

²⁷ After completing this study, PGNiG secured a deal with Gazprom.

²⁸ *Reuters*, 5 July 2012. <http://www.reuters.com/article/2012/07/05/us-energy-gas-europe-gazprom-idUSBRE8640FN20120705>

²⁹ *Financial Times*, 16 February 2012. <http://www.ft.com/intl/cms/s/0/2e57f4c4-58ad-11e1-9f28-00144feabdc0.html#axzz1oivhTm7f>

³⁰ Konoplyanik (2012).

³¹ *Natural Gas Europe*, 13 September 2012. <http://www.naturalgaseurope.com/shale-gas-needed-for-fully-functioning-eu-gas-market>

³² 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 (Gazprom, 2012). However, we understand that this figure has increased since then.

³³ *European Commission – Press Release*, MEMO/11/641, 27 September 2011. http://europa.eu/rapid/press-release_MEMO-11-641_en.htm?locale=en.

³⁴ *European Commission – Press Release* (IP/12/937, 4 September 2012, <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/12/937&format=HTML&aged=0&language=EN&guiLanguage=en>); *Bloomberg* (4 September 2012, <http://www.bloomberg.com/news/2012-09-04/gazprom-faces-eu-antitrust-probe-on-eastern-european-gas-sales.html>)

³⁵ In response, on 11 September 2012, President Putin signed an executive order, which says that "open joint stock companies on the list of strategic enterprises and their subsidiaries should supply information on their activities (unless such information must be published or disclosed in any case) upon request from the authorities and agencies of foreign countries, international organisations, associations and groups of foreign countries, only subject to prior consent of a respective federal executive body authorised by the Russian Government. The same procedure shall apply if the aforementioned economic actors make amendments to contracts concluded with foreign counteragents and other such documents pertaining to their business (pricing)

as for Lithuania, one and a half years before the anti-trust investigation started, in January 2011, Lithuania's Ministry of Energy had launched a complaint to the European Commission requesting to investigate the abuse of dominant position by Gazprom.³⁶ It was while Günther Oettinger, the EU energy commissioner, was in Lithuania that in mid-September 2012 he emphasised that Russian gas prices to the EU Member States should not vary greatly.³⁷

In the first half of the 2000's, the Directorate-General for Competition (DG COMP) was taking steps to remove the territorial restrictions ('destination clauses') from the gas supply contracts concluded by Gazprom with a number of gas wholesalers in the EU. They found mutually acceptable alternatives with ENI, OMV (of Austria) and E.ON Ruhrgas, and in June 2005, the European Commission ceased its review of Gazprom's contracts. After that, Gazprom declared that they no longer included such clauses in new contracts with companies organised under the laws of a Member State of the EU ('EU companies').³⁸ Now, the issue of lifting the ban on gas re-export can also receive attention in Central and Eastern Europe.³⁹

policy in foreign countries, or for the purposes of alienating their shares and stakes in foreign entities, rights to conduct business activity on foreign soil, and titles to real estate located abroad, should the above actions be accomplished on demand of the abovementioned organisations, bodies and groups. The Executive Order states that the authorised federal executive body must refuse to grant its consent to these actions to proceed if they could harm Russia's economic interests." (Executive order on measures protecting Russian interests in Russian legal entities' foreign economic activities. 11 September 2012. [http://eng.kremlin.ru/news/4401#sel=.](http://eng.kremlin.ru/news/4401#sel=))

³⁶ *Ministry of Energy of the Republic of Lithuania – News*. 25 January 2011. <http://www.enmin.lt/en/news/detail.php?ID=1198>

³⁷ *Reuters*. 14 September 2012. <http://www.reuters.com/article/2012/09/14/eu-gas-gazprom-idUSL5E8KE9YZ20120914>

³⁸ European Commission (2007); Gazprom (2005); Gazprom (2007).

³⁹ I argue that the problem is also more subtle when it comes to the old contracts. István Kutas, then Head of Communications at E.ON Földgáz Trade, in reply to my questions said the following in early September 2008: "Critical amounts concerning the ToP [take or pay] are partly exported (i.e. we do not take it from Baumgarten, but we sell it there), partly redirected to our mother company, and partly are not taken (or we delay the offtake)." "Our contract has not changed in this respect, but intra-EU trade is not

3) GAS DEMAND AND PRODUCTION IN CENTRAL AND EASTERN EUROPE

3.1. Role of gas in primary energy consumption in Central and East European countries

The Central and East European countries⁴⁰ can be divided into three distinct groups based on the role of gas in primary energy consumption. In 2011, Hungary (38.2%) and Lithuania (36%) were the countries where gas played the biggest role in the primary energy consumption, but the ratio was also high in Latvia (33.1%), Romania (30.8%), Croatia (30.8%) and Slovakia (28.1%). 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 (17.2%), Bulgaria (12.9%), Poland (12.6%), Slovenia (12%), Serbia (11.9%) and Estonia (10.1%). Finally, in countries such as Macedonia (3.3%) and Bosnia-Herzegovina (3.1%) gas played an extremely low role in the energy balance.

Sometimes things change very quickly. According to my calculations based on data from the IEA, in 2009 it was Latvia where gas played the largest role in power generation, among the countries examined. (Latvia was followed by Hungary.) But at the end of 2009, Lithuania closed the Ignalina nuclear power plant, which increased the share of gas in electricity generation dramatically. From a net electricity exporter

considered as export and is not, therefore, covered by the clause." (*These are my translations. – Cs. W.*) In Poland, the annex which was signed in October 2010 to the existing long-term contract, the so-called Yamal contract of 1996 (see below), lifts the ban on re-export of gas to third-party countries without Gazprom Export's consent.

⁴⁰ Without Montenegro and Albania, but with Croatia.

Lithuania became the most dependent country of electricity imports in the EU.⁴¹

3.2. Gas demand

In the CEE region, Poland (with 17.2 bcm in 2011), Romania (14.4 bcm) and Hungary (11.6 bcm) are the largest gas consumers, with a combined share of nearly 60 per cent in 2011.⁴² In 2009, in all countries under review, except for Albania, gas consumption decreased, and in certain cases it decreased quite dramatically (in the order of 30 to 40 per cent). However, in almost all countries, gas demand reached its peak years before 2008.⁴³

Forecasts for gas demand in the Central and East European region are vague and different. From the same source for all countries examined (and with figures measured in bcm) only one forecast has been available for this author. Anouk Honoré (of the Oxford Institute of Energy Studies), following the IEA methodology, calculated in early 2010 that gas consumption in the 15-country region would rise from 77.5 bcm in 2007 (and 75.8 bcm in 2008) to 80.5 bcm in 2020. This is a 4.7 bcm, or 6.2 per cent increase, which is predominantly due to Poland and Romania's consumption growth. Honoré forecasts decline in half of the CEE countries (in Latvia, Lithuania, Hungary, Bulgaria, Slovenia, Croatia and Bosnia-Herzegovina).⁴⁴

In a report by Kantor Management Consultants SA in association with Booz & Company Ltd. that was published in early 2012, a significant increase in consumption is forecast by 2020, compared to 2010 (which is also an estimate) for the region comprising eight CEE countries (Poland, the Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Croatia and Slovenia). In the three scenarios, namely the minimum, base and maximum scenarios, the figures, respectively, are from 55.3 bcm in 2010 to

65.8 bcm in 2020 (+14.3%), from 55.7 bcm in 2010 to 76.7 bcm in 2020 (+35.2%) and from 56.2 bcm in 2010 to 86.5 bcm in 2020 (+42.4%).⁴⁵ Honoré calculated much lower increases from 2010 to 2020 in the same eight countries. Practically, Honoré's number (+14.2%) is, in relative terms, similar to the one set out in the above-mentioned minimum scenario (+14.3%). In her predictions, all countries are expected to increase their consumption as well. In her scenario, consumption will be increased from 63.7 bcm in 2010 to 72.8 bcm in 2020, of which the given date for 2010 is also a projection by Honoré,⁴⁶ *i.e.* even base numbers (estimated or forecasted absolute numbers) of the two forecasts differ greatly.

According to Honoré, in the CEE countries south of Hungary, only a 0.7 bcm of additional gas demand will be created by 2020, compared to 2008 (from 25.4 bcm in 2008 to 26.1 bcm in 2020). Outside Romania, growth will barely be noticeable, but rather a decrease is anticipated. In contrast, IHS CERA predicts 7.1 bcm of additional gas demand in the same countries (from 23.5 bcm in 2008 to 30.6 bcm in 2020). Romania and Croatia would account for nearly half of the increase; nevertheless, all countries are assumed to have a certain amount of additional demand.⁴⁷

In its Ten Year Network Development Plan 2011–2020 (TYNDP 2011–2020), unveiled in February 2011, ENTSOG provides data for all concerned countries except for Bosnia-Herzegovina (and Albania).⁴⁸ However, data is given in GWh (and for "final customers").⁴⁹ As regards the Baltic States, Latvia (-20.3%) and Lithuania's

⁴¹ Paskevicius (2011).

⁴² The data was also taken from the IEA.

⁴³ IEA (2008); IEA (2011b); IEA (2012c).

⁴⁴ Honoré (2010): xl, 243, 292, 293–294.

⁴⁵ Kantor Management Consultants SA – Booz & Company Ltd. (2012).

⁴⁶ 2008 data (67.1 bcm) is a factual data, while 2009 data (60.7 bcm) is an estimate.

⁴⁷ Cited by Roberts (2012). 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.

⁴⁸ Available at <http://www.entsog.eu/publications/tyndp?year=2011>. The creation of the European Network of Transmission System Operators for Gas was initiated by the EU's Third Energy Package.

⁴⁹ Unfortunately, the first ten-year Gas Regional Investment Plans, prepared in accordance with the EU's Third Energy Package and published in 2012, provide proper time series for fewer countries. (Available at http://www.gie.eu/memberarea/purtext_entsog_GRIP.asp?wa=plus_GRIP)

(-15.0%) gas demand will be much lower in 2020 than it was in 2008. Honoré also expects depressed demand not to return to the levels experienced before 2009 in these countries, but the magnitudes are different. TYNDP 2011–2020 shows growth in Estonia (+8.4%), while in Honoré's calculations, by 2020, consumption will have recovered and reached the same level as that of 2008. In the remaining countries, except for Romania (-20.0%) and Bulgaria (-13.0%), demand is predicted to rise significantly by 2020. Contrary to this, as seen above, according to Honoré (+12.9%) and IHS CERA (+16.2%), Romania will see its gas consumption go up. But in Bulgaria, Honoré predicts a lower consumption level (-7.4%), while IHS CERA thinks that an increase will come (+21.9%).

3.3. Internal gas production in Central and Eastern Europe, with special attention to unconventional gas

In Central and Eastern Europe, only Romania (with 11.0 bcm in 2011) has a substantial gas production, but gas production in Poland (6.2 bcm⁵⁰), Croatia (2.3 bcm) and Hungary (2.8 bcm) also needs to be mentioned.⁵¹ 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. Although not comparable to that of Romania and Croatia, in Poland (with 36% in 2011) and Hungary (24.1%) gas consumption against production is not negligible. This ratio is even lower in Serbia (16.7%) and Bulgaria (15.2%), while others have only a token degree of self-sufficiency (such as in the Czech Republic – 2.2%, and Slovakia – 1.8%); it is entirely non-existent in the rest of the CEE region.

Among unconventional gas resources, shale gas has been attracting the most attention. However, shale gas production

will be a more difficult matter in Europe than in the United States. The first steps have been taken in the CEE region and the first failures have also occurred. Poland's case remains the most hopeful. Nevertheless, recently, several negative messages have been received, starting with the fact that according to the latest assessments, shale gas resources might be much lower than it was estimated in the widely known April 2011 report of the Energy Information Administration (EIA) of the US Department of Energy. While estimates given by the March 2012 report of the Polish Geological Institute are very low-key, the report of the US Geological Survey (USGS) published in July 2012 painted an exasperating picture. In spite of the fact that some companies yielded disappointing drilling results for shale gas, it may be too early to draw any firm conclusions. As to the further negative messages, in June 2012 it turned out that the disappointed US 'supermajor' Exxon Mobil was pulling out of Poland's shale gas exploration projects, although these had been at an early stage of the process.⁵² In Poland, the government is expected to start the commercial production of shale gas in late 2014 or early 2015.

In Bulgaria, another US supermajor, Chevron's shale gas project was not allowed to go ahead. In January 2012, after seeing lots of protests throughout the country, the technology of hydraulic fracturing (or fracking) for shale gas exploration and extraction was banned and Chevron's exploration permit was revoked. In Poland (and Lithuania⁵³), Chevron has the opportunity to show results. 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.⁵⁴ According to an August 2012

⁵² *Natural Gas Europe*. 20 June 2012.

<http://www.naturalgaseurope.com/exxonmobil-leaves-poland-shale-gas>

⁵³ According to information dated 25 October 2012, Chevron bought half of Lithuania's LL Investicijos.

⁵⁴ *Natural Gas Europe* (16 August 2012, <http://www.naturalgaseurope.com/shale-gas-exploitation-in-romania-postponed>); Dąbrowski–Groszkowski (2012); *Natural Gas Europe* (25 June 2012, <http://www.naturalgaseurope.com/romania-senate-rejects-fracking-ban>); *Transindex* (21 June 2012, <http://itthon.transindex.ro/?hir=29748>).

⁵⁰ Compare with other data sources. For example, according to national sources, domestic gas production was 4.3 bcm in 2011, similar to that of BP (*BP Statistical Review of World Energy*).

⁵¹ According to IEA definition of gas production.

statement by the Romanian Minister of Environment and Forests, Romania will most likely extend the moratorium by two years until 2014. However, Romania's hope is not shale gas, but rather gas in the Black Sea. Similarly, the Black Sea gas is also a new hope for Bulgaria.

In the Czech Republic, a moratorium on shale gas exploration is expected to be put in place until (at least) mid-2014 as well. But such legislation has not yet been passed. In 2012, the news has not been about going ahead with projects, but rather about revoked licenses and local objections.⁵⁵

Among the Baltic States, Lithuania also wants to join the shale gas club. In the summer of 2012, Lithuania called its first shale gas exploration tender after a postponement. Moreover, there is a company in Lithuania (Minijos Nafta), which is involved in shale oil and gas exploration activities. Latvia also noted that it planned to diversify its energy sources by exploring the development of shale gas resources.⁵⁶ But since then, no positive news has yet been released.⁵⁷

Unconventional gas in Hungary's Makó Trough attracted interest, but the exploration drilling has been unsuccessful. However, Hungary's oil and gas company Mol produces gas from unconventional reservoirs in Hungary.

Finally, the potential of Hungary's former Yugoslav neighbours for unconventional gas is worth mentioning, too.

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 transited to Europe through Ukraine, while 44 bcm through Belarus and nearly 20 bcm through Moldova. 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.

After the expiration of their agreement at the end of 2011, Moldovagaz did not succeed in signing new, long(er)-term gas supply and transit contracts with Gazprom. Instead, existing contracts were extended several times, the last time until the end of 2012. The lack of consent has been largely related to the fact that in October 2011, the Energy Community Ministerial Council adopted the EU's Third Energy Package. Due to its shareholding in Moldovagaz, Gazprom still strongly opposes the Third Energy Package, in particular the so-called 'unbundling' (of transmission networks). In the end, Moldova, pressed by Russia, has decided to postpone the implementation.

There is no free transit through Russia. And due to its withdrawal in 2009, Russia is not a Contracting Party to the Energy Charter Treaty. Ukraine and Moldova ratified the Energy Charter Treaty, but Belarus has not.

⁵⁵ Dąborowski–Groszkowski (2012).

⁵⁶ *The Baltic Course* (24 February 2011, http://www.baltic-course.com/eng/good_for_business/?doc=37695); *Natural Gas Europe* (21 July 2011, <http://www.naturalgaseurope.com/latvia-pursue-shale-gas-development>).

⁵⁷ *news2biz*. 18 October 2012. <http://www.news2biz.com/?PublicationId=c19f59c3-d95e-45f1-ae33-4e273d53e8bb>.

The agreement on the CIS free trade zone, which was signed in October 2011 by eight nations, has come into effect in four countries. The question of freedom of transit by pipelines is waiting for a solution.

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. Yamal-Europe gas pipeline, commissioned in 1999, reduced the significance of Slovakia, while Poland became an important transit country to Germany. In 2011, 25 bcm of gas entered Germany through this pipeline with a capacity of 32.9 bcma.^{58; 59} Slovakia's transit contract was signed in November 2008, covering a term of 20 years and the transportation of 50 bcma of gas.⁶⁰ In 2011, 47.4 bcm of gas was transited.⁶¹ The transit contract of RWE Transgas of the Czech Republic with Gazprom was extended through 2035 to transit up to 30.5 bcma of gas.⁶² Moreover, the operation launch of the new transit pipeline with a capacity of 30-33 bcma through the Czech Republic called Gazelle is scheduled for January 2013. Gazelle is the continuation of Germany's OPAL gas pipeline of 35 bcma of capacity. OPAL is connected to the Nord Stream pipeline. So as part of the wider Nord Stream project, Gazelle will transport the Russian gas delivered through the Nord Stream pipeline in the Baltic Sea even further. Romania's Transgaz has two transit contracts with Gazprom (one is from 1987 and extended to 2012, the other is from 1999 and valid until 2023), but there is no information about the quantities.⁶³ In 2006, Bulgaria's transit contract was extended until 2030,

providing transit volumes of 17.8 bcma (with an option to an additional 5 bcma of gas).⁶⁴ In 2011, Bulgaria transited 15 bcm, of which 80 per cent went to Turkey, 19 per cent to Greece, and one per cent to Macedonia.⁶⁵

Ukraine's neighbours will or can find themselves in a new role as providers of transmission services to Ukraine. The Ukrainians approached Hungary to find out whether physical gas supply to Ukraine is possible. Currently, both technical and legal possibilities to pump gas to Ukraine from Hungary are in place.⁶⁶ Naturally, the Ukrainian partner should buy gas somewhere. At the same time, Slovakia's transmission system operator Eustream, a subsidiary of SPP, was considering 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 the new transmission capacity.^{67; 68}

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, became operational in November 2011, followed by the opening of the second line in October 2012. If it depends on Russia,

⁵⁸ IEA (2005): 140; *OilCapital.ru*. 23 April 2012. <http://www.oilcapital.ru/transport/155258.html>.

⁵⁹ Implementing the Third Energy Package, in Poland, the owner of the Polish section of the Yamal-Europe gas pipeline (EuRoPol GAZ) handed over operation and Poland's state-owned natural gas transmission system operator (TSO) Gaz-System became the independent system operator (ISO) in 2010. The unbundling is a serious source of conflict with Russia. It also concerns existing assets with Russian ownership (see below).

⁶⁰ Gazprom Export/Foreign partners/Slovakia. <http://www.gazpromexport.ru/en/partners/slovakia/>

⁶¹ Medvedev (2012).

⁶² Czech TSO Net4Gas (named at that time RWE Transgas Net) is still a subsidiary of RWE Transgas.

⁶³ ING (2008); Transgaz (2011).

⁶⁴ Gazprom Export/Foreign partners/Bulgaria. <http://www.gazpromexport.ru/en/partners/bulgaria/>

⁶⁵ *Manager.bg*. 30 September 2012. <http://www.manager.bg/news/357-mln-evro-v-ochakyane-na-nabuko%E2%80%9C-i-yuzhen-potok%E2%80%9C>.

⁶⁶ According to information provided this author by János Zsuga, CEO of Hungary's TSO.

⁶⁷ *Eustream – News* (19 June 2012, http://www.eustream.sk/en_media/en_news/binding-open-season-for-the-sk-ua-gas-interconnector); *Eustream – News* (15 October 2012, http://www.eustream.sk/en_media/en_news/open-season-for-the-sk-ua-interconnector-evaluated).

⁶⁸ Following completion of this study, finally, for the first time, gas deliveries to Ukraine from the west by reverse flow were managed. 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.

this will not be the last line in the Baltic Sea. Shareholders of the Nord Stream AG consortium, including Gazprom, Wintershall Holding (of Germany, belonging to the BASF Group), E.ON Ruhrgas, Gasunie (of the Netherlands) and GDF Suez (of France), considered a preliminary feasibility study for the third and fourth lines, and their construction was recognised as economically expedient and technically possible. Before the end of January 2013, a memorandum on the construction of new capacity is planned to be signed. One of the lines may go to Great Britain.⁶⁹

The capacity utilisation rate of the Nord Stream pipeline is expected to attain high levels, as Gazprom signed ship or pay contracts for 100 per cent of the capacity of 55 bcma. However, since November 2011, the first line has only been moderately loaded, meaning that about a third of the available capacity has been used. After it reaches 100 per cent, the tariff per transmission of 1,000 cubic meters of gas to 100 kilometres will be higher for sending gas through Ukraine than through the Nord Stream pipeline.⁷⁰ Chyong, Noël and Reiner (2010) came to the conclusion that the unit cost of shipping through Nord Stream is lower than using the Ukrainian route and is only slightly above shipping through the Yamal-Europe pipeline.⁷¹ The Nord Stream pipeline cost a total of EUR 7.4 billion.

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. Gazprom, ENI, Wintershall Holding and EDF (of France) are the members of the South Stream Transport AG consortium that is responsible for studying, constructing and operating the offshore section of the pipeline. As to the November 2010 announcement of Gazprom, the offshore part of the pipeline may cost EUR 10 billion, while the price tag of the onshore part in

Europe was put at EUR 5.5 billion.⁷² According to Wintershall, the investments necessary for the offshore sections are estimated to be at least EUR 10 billion, while costs of EUR 20-25 billion have been estimated for the overall project (onshore and offshore).⁷³ However, as for Russia, it does not end there. Both Nord Stream and South Stream spur a huge wave of pipeline construction in Russia.

According to Putin's recommendation, which was made at the end of December 2011, the construction of South Stream will be launched at the end of 2012 (at least officially).⁷⁴ South Stream is to be commissioned at the end of 2015 and commercial deliveries are set to start at the first quarter of 2016.⁷⁵ Bulgaria will be the entry point of the pipelines from the Black Sea. Gas pipelines will run through the Turkish exclusive economic zone to Bulgaria. Gazprom had been waiting for a long time for Turkey to issue the permit for the South Stream construction. However, on the question of the land route of the pipeline, there were a number of uncertainties as well. The final investment decisions are scheduled to be made some time in October and November 2012.

The earlier plans envisaged two branches, a northern and a southern one, starting from Bulgaria; however, the southern branch has been removed from the agenda. During its project presentation in Brussels in May 2011, Gazprom showed four options for the route of the South Stream gas pipeline. Romania was also included in one of the routes, but Romania did not join the South Stream project (as it did not sign an intergovernmental agreement), although a feasibility study was conducted for a possible Romanian section. A new turning point was reached when in May 2012 Gazprom's corporate magazine stated that 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

⁶⁹ *RIA Novosti*, 8 October 2012. <http://ria.ru/economy/20121008/769142388.html>, <http://en.rian.ru/business/20121008/176482137.html>.

⁷⁰ *Kyiv Post*, 6 September 2012. <http://www.kyivpost.com/content/ukraine/nord-stream-tariff-still-double-that-of-ukrainian-transit-312571.html>.

⁷¹ Chyong-Noël-Reiner (2010).

⁷² *Korporativniy Zhurnal OAO "Gazprom"*. No. 11/2010: 9.

⁷³ Wintershall (n.d.).

⁷⁴ *RIA Novosti*, 30 December 2011. <http://ria.ru/economy/20111230/529997206.html>

⁷⁵ *Korporativniy Zhurnal OAO "Gazprom"*. No. 5/2012.

Serbia and to Greece from Bulgaria. They did not exclude that other countries, including Macedonia and Montenegro, could join it too. But most importantly not a single word was written down about Austria and Southern Italy.⁷⁶ The failure of buying shares in the Central European Gas Hub (CEGH) must have played a significant role in the exclusion of Austria. The preparations have not gone smoothly in the other countries of the northern branch either. There have been problems not only in Bulgaria (enjoying the best bargaining power), but also in Hungary. In August 2012, there was already news about that Croatia could replace Hungary.

Europe faced gas supply interruptions through the western CIS transit states four times in the 2000's, two of which happened in Belarus and two in Ukraine. While an interruption of gas supplies through Ukraine is felt by all CEE buyers except for the Baltic States, an interruption of the Belarusian transit is a serious problem "only" for Lithuania and Poland among the CEE countries.

Nord Stream helps to change the balance of power between Russia and above all, Ukraine.⁷⁷ The Nord Stream pipeline has been causing a reduction in the Ukrainian transit, which consequently reduces the transit through Slovakia and the Czech Republic. These transit countries also lose certain amounts of transit fees. However, transit through the Czech Republic will be doubly affected by the Nord Stream pipeline. This is because when completed, Gazelle will increase transit through the Czech Republic. In May 2011, half a year before the commissioning of Nord Stream, Miller said that 20 bcm of gas was planned to be redirected from transit to Europe via Ukraine to Nord Stream. It is just under one-fifth of what Ukraine transported to Europe in 2010 and 2011.⁷⁸ The aim of the redirection of transit activity can be seen from the November 2008 transit contract between Gazprom and Slovak TSO

Eurostream,⁷⁹ and from data obtained from Eurostream. According to gas industry analyst Mikhail Korchemkin, Gazprom is unlikely to fulfil its transit contract with Eurostream.⁸⁰ However, Slovakia is secured by the ship or pay provision. At the same time, the 2009 transit contract between Ukraine and Russia does not contain ship or pay obligations, so Gazprom can lower the transit volumes without facing a penalty. Belarus and consequently Poland are in a much safer position than Ukraine, as Gazprom has secured full ownership of the Belarusian gas pipelines. In fact, Gazprom would increase the transit through Belarus at the expense of Ukraine.

South Stream is expected to have a significant impact on transit, adding very large available capacity. In May 2011, it was declared that two-thirds of the South Stream pipeline would be filled by gas under existing contracts, proving that it will be a bypass pipeline. But despite South Stream, Bulgaria's Prime Minister explained in July 2010 that Gazprom would continue to transit the same amount of natural gas through Bulgaria to Greece and Turkey using the existing pipelines.⁸¹

In June 2011, Alexei Miller emphasised that when implementing the Nord Stream and the South Stream projects, they pursued the noble aim of completely excluding transit risks for Russian gas to Europe.⁸² In February 2012, in the heat of debate, Gazprom stated that South Stream to full capacity, Nord Stream with additional lines and its existing capacity through Belarus and the Black Sea would reduce Ukraine's importance for transit to zero.⁸³ The pessimistic scenario of the updated draft Energy Strategy of Ukraine for the period

⁷⁹ *East European Gas Analysis*. 15 February 2011. <http://eegas.com/south-str-2011-02e-15.htm>.

⁸⁰ *East European Gas Analysis*. 2 July 2012. <http://www.eegas.com/slovakia-eurostream.htm>.

⁸¹ *Novinite.com*. 10 July 2010. http://www.novinite.com/view_news.php?id=117974.

⁸² Gazprom (2011a).

⁸³ *Reuters* (22 February 2012, <http://www.reuters.com/article/2012/02/22/russia-ukraine-gas-idUSL5E8DMAU920120222>); *Bloomberg* (22 February 2012, <http://www.bloomberg.com/news/2012-02-22/gazprom-sees-zero-need-for-ukraine-gas-transit-with-new-links.html>).

⁷⁶ Following completion of the study, it became certain that Austria, Greece and southern Italy had been removed from construction plans for the South Stream pipeline.

⁷⁷ *Reuters*. 7 November 2011. <http://in.reuters.com/article/2011/11/07/idINIndia-60372320111107>.

⁷⁸ *Reuters*. 25 May 2011. <http://ru.reuters.com/article/idUKLDE74O27O20110525?sp=true>.

leading up to 2030 expects drastic declines in transit.

The avoidance of the Third Energy Package is a regularly recurring issue in relation to the South Stream pipeline. However, this is not possible, irrespective of the dates and deadlines. It refers to either the unbundling or the capacity utilisation.⁸⁴

5) THE ROLE OF RUSSIAN GAS IN CENTRAL AND EAST EUROPEAN COUNTRIES

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 lack of the appropriate connections. According to the EU regulation of 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. 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). Building gas interconnections has been a long-standing unresolved issue in Central and Eastern Europe, but recently some progress has been made.

In order to break or at least ease Russia's domination, greater or lesser attempts had been made in the Central and East European countries, but very few results were reported. The January 2009 gas crisis and the emergence of the "two price" or "hybrid price" market (a market with both the relatively very expensive – Russian – contract gas prices and the hub-based mar-

ket prices) gave new impetus. The existence of segmented markets has always been a great advantage for Gazprom (the possibility to execute price discrimination). But while some are happy to point out that Gazprom had been trying to prevent the diversification or the free flow of gas, the lack of diversification could have been explained many times by simple economic reasons, such as the price of Russian gas, compared to other options. And we have not talked about the discounted prices for the Baltic States that ended in 2008, thus ensuring equal profitability for Gazprom, compared to the European markets. Also the method of 'gas for transit' had to be abolished in the Central and East European transit states.

In some countries, a minimum level of diversification is required by legislation. In Poland, the maximum share of imported gas from one country of origin relative to the total volume of imported gas was set for each year in 2000 until 2020. The Regulation applies to all wholesalers buying gas from abroad. In Lithuania, the LNG terminal project brings minimum limits to diversification. The legislation requires at least 25 per cent of the country's natural gas needs to be purchased via the terminal.⁸⁵ In Bulgaria, the government's main objective is that a supplier should not have a market share greater than 50 per cent by 2020 (or earlier).⁸⁶

Various types of intermediaries were and have been involved in gas import and trade ever since. The Eural Trans Gas, which was registered and being operated in Hungary as an offshore business entity and the Swiss-based Rosukrenergo comprise just one group of (former) intermediaries. Also, there are some joint ventures, such as Panrusgáz in Hungary, Yugorosgaz in Serbia or Overgaz in Bulgaria, which are registered in the concerned country. In Bulgaria and Romania, an intermediary such as the Swiss-based WIEE also plays a role.⁸⁷ To secure the

⁸⁴ The latest reaction to the unbundling requirements is Gazprom's intention to restructure its European assets. *Interfax*. 19 September 2012. <http://www.interfax.com/newsinf.asp?id=361880>.

⁸⁵ *15min.lt*. 12 June 2012. <http://www.15min.lt/en/article/business/lithuanian-parliament-approves-lng-terminal-construction-527-225787>.

⁸⁶ *Minisztversztvo na ikonomikata, energetikata i turizma na Reszpublika Balgarija* (2011); *24chasa.bg* (24 November 2011, <http://www.24chasa.bg/Article.asp?ArticleId=1125602>).

⁸⁷ Wintershall Erdgas Handelshaus Zug AG (WIEE) is a subsidiary of the Berlin-based Wintershall Erdgas

removal of certain intermediaries is not a new issue.

Statistics of gas imports to each country are very different; therefore, without a proper explanation, they can be misleading. For example, BP indicates in its statistics that flows are on a contractual basis and may not correspond to physical gas flows in all cases. And it is important to understand that the physical flow of gas can differ from the commercial flow of gas. In such cases, they are administered as if the gas volumes purchased actually came to a particular point. For example, gas is not physically delivered to Hungary from Germany and France from the direction of Austria (Baumgarten an der March) by long-term gas supply contracts with E.ON Ruhrgas and GDF Suez, respectively. Moreover, the region is flooded with gas from Russia causing the real part of Russian gas to be higher than the numbers indicate.

5.1. The Baltic States

Among the Central and East European countries, only *Estonia* and *Latvia* can be supplied from Russia without transit countries. The third Baltic country, *Lithuania* is dependent on transit through Belarus, but it also provides transit to Russia's exclave Kaliningrad Oblast. Latvia's underground gas storage facility plays a significant role in this region, as during the winter, gas is supplied from the gas storage not only to Latvia's consumers, but also to Estonia, Lithuania and back to Russia. The expansion of the gas interconnection between Latvia and Lithuania is in progress.⁸⁸

Handelshaus GmbH & Co. KG (WIEH), which is, in turn, a joint venture of Gazprom and Wintershall. WIEE is also present in Hungary through its subsidiary WIEE Hungary.

⁸⁸ 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 States, respectively, so unbundling concerns these assets. Among the three Baltic States, Lithuania came first and decided to nationalise its transmission system. In June 2011, Lithuania's parliament voted in favour of full ownership unbundling, approving a bill to separate the country's gas transportation and

The three Baltic States do not have any interconnections with Central Europe. They only buy gas from Russia. As to Estonia, Eesti Gaas is the only one that imports gas; its contract with Gazprom is valid until 2015. Previously, the fertiliser producer Nitrofert purchased gas directly from Gazprom, but in February 2009 it suspended its activities due to high gas prices; therefore, Estonia's gas imports were drastically reduced. Eesti Gaas also purchases gas from Latvia's Itera Latvija, but in small quantities. According to a 2009 presentation regarding its gas sales chain in 2008 by the parent company Itera, Russia's independent gas producer, gas belonging to Itera comes to Itera Latvija through Gazprom Export, and then, in turn, from Itera Latvija to Eesti Gaas and Latvia's Latvijas Gāze. Itera has a long-term contract to supply 0.6 bcma of gas to Latvia by 2030, while supplies to Estonia are only 0.1 bcma.⁸⁹ In Latvia, all import operations are handled by Latvijas Gāze on the basis of a long-term supply contract among Latvijas Gāze, Gazprom and Itera Latvija.⁹⁰ In February 2009, Latvijas Gāze and Gazprom extended their gas supply contract until 2030, which would have been due to expire in 2015.

Gazprom exports gas to five companies in Lithuania, namely to the vertically integrated gas company Lietuvos Dujos, the nitrogen fertiliser producer Achema, the gas trading company Dujotekana (being the second main gas supplier to both the wholesale and retail markets), the Kaunas power plant ('Kauno termofikacijos elektrinė') and Haupas; the latter supplies gas to the Druskininkai region. Since October 2008, Gazprom has been supplying gas through the intermediary LT Gas Stream AG to Dujotekana, whose contract is

supply assets. In October 2011, the government set an October 2014 deadline for the unbundling. Since announcing the ownership unbundling in the spring of 2010, the dispute between Lithuania and Russia has been very intense, with the involvement of national courts, arbitral tribunals and the European Commission. In early June 2012, Estonia's parliament also passed a law on unbundling. Accordingly, Eesti Gaas must sell its natural gas transportation network before the end of 2014, and the government is required to approve the sale. In April 2012, Latvia announced its intention to unbundle gas monopoly Latvijas Gāze as well. The deadline is no later than 2017.

⁸⁹ Henderson (2010): 70.

⁹⁰ Latvia Public Utilities Commission (2011).

effective until the end of 2012. The contract of Haupas lasts until 2013,⁹¹ while those of Lietuvos Dujos and Achema until 2015,⁹² and, according to Lithuania's Energy Ministry, that of Kauno termofikacijos elektrinė until 2017.⁹³ It can be seen that there are several gas supply contracts, and, in turn, it can be supposed that for them the prices are not the same. It is confirmed that Achema buys gas for less than Lietuvos Dujos.⁹⁴

The Baltic States have been unable to agree on a regional LNG regasification terminal; therefore, they turned to the European Commission to choose the proper location. Lithuania, however, insisting on its own facility, signed a lease agreement for a floating liquefied natural gas storage and regasification unit (FSRU) in early March 2012. In mid-June 2012, the Lithuanian parliament adopted a law concerning the LNG terminal.⁹⁵ The conclusions of supply contracts are yet to be reached.

While the date for the start of operation of the LNG terminal is the end of 2014, the interconnection between Poland and Lithuania (GIPL) is only expected to be commissioned in the late 2010's. The feasibility study is due to be completed in the first quarter of 2013. The Balticconnector between Finland and Estonia is still in its planning phase, and, in principle (!), a final decision is supposed to be made about it sometime in 2013–2014.

5.2. Poland

Poland has the opportunity to buy gas from the east, west and south, but capacities are very limited at the southern and western borders. Some of the cross-border pipelines are only for the local needs (and gas is not introduced to the transmission grid). Poland can physically receive gas through the following channels:

- (1) From the east through Belarus (through two entry points from the network of Beltransgaz and one cross-border entry point through the Yamal-Europe gas pipeline) and from/through Ukraine (through two entry points);
- (2) from the west from/through Germany (through three entry points); and
- (3) from the south from/through the Czech Republic (through three entry points).⁹⁶

Recently, Poland's import possibilities from the non-east directions have been increased by 3.3 bcma, representing about 30 per cent of current imports. Firstly, since November 2011, a virtual reverse flow service on the Yamal-Europe gas pipeline has been offered (with a volume up to approximately 2.3 bcma). Secondly, since January 2012, import capacity from the direction of Germany through Lasów has been increased by about 0.5 bcma to 1.5 bcma.⁹⁷ Thirdly, in September 2011, a new cross-border gas pipeline between Poland and the Czech Republic called STORK (with the Cieszyn entry point) was opened, with a capacity of 0.5 bcma in the first phase. (The deadline for the STORK II project is 2017.)⁹⁸

In 2011, 9.3 bcm of gas, or 85 per cent of the total imports to Poland, were purchased under the long-term contract with Russia, while 1.6 bcm arrived (mostly) from Germany and (in small volumes) from the Czech Republic. These were supplemented by the domestic production of 4.3 bcm of gas.⁹⁹ While other countries worried about the excess gas volumes contracted, Poland was trying to adjust its

⁹¹ NCC (2012).

⁹² *The Lithuania Tribune* (25 February 2012, <http://www.lithuaniatribune.com/2012/02/25/achemas-leader-says-pms-letter-was-not-the-reason-for-cheaper-gas-supply/>); *The Lithuania Tribune* (22 October 2012, <http://www.lithuaniatribune.com/2012/10/22/gazprom-has-strong-commercial-reasons-to-maintain-its-current-pricing-in-europe-russian-expert/>).

⁹³ Lietuvos Respublikos energetikos ministerija (2012). According to this report, Haupas' contract ends in 2015.

⁹⁴ *15min.lt*. 4 July 2012. <http://www.15min.lt/en/article/politics/ethics-commission-clears-lithuanian-prime-minister-of-conflict-of-interest-suspicious-526-231422>.

⁹⁵ *15min.lt*. 12 June 2012. <http://www.15min.lt/en/article/business/lithuanian-parliament-approves-lng-terminal-construction-527-225787>.

⁹⁶ PGNiG (2012); Minister of Economy (2011); Gazoprojekt (2010).

⁹⁷ Total import capacity available from Germany, including the capacity for the local needs, is just minimally more than the above-mentioned capacity.

⁹⁸ *Gaz-System – News*. 10 January 2012. <http://en.gaz-system.pl/press-centre/news/information-for-the-media/artikul/201338.html>.

⁹⁹ URE (2012). Compare with data given by, for example, the IEA (6.2 bcm in 2011).

negative gas balance in 2009–2010, caused by the elimination of the intermediary Rosukrenergo in early 2009. After a short-term contract in 2009, it was only in October 2010 that an annex to the existing long-term contract was signed, allowing an increase of gas purchases. With this step, Gazprom's role in Poland's gas supplies has definitely increased. However, the contract was finally not renewed until 2037, so the expiration date remained 2022, which was a wise move, as it is necessary to evaluate the shale gas potential and other options. Due to the high oil-indexed contract prices of Russia's gas, PGNiG planned in March 2012 to minimise purchases in 2012 to the take or pay level (85%) and supply the rest through the interconnections with Germany and the Czech Republic as well as the virtual reverse on the Yamal-Europe gas pipeline.¹⁰⁰

The 1990's saw a stream of diversification announcements about bringing pipeline gas from Netherlands, Norway and Denmark. But despite negotiations and even contracts, only a "small contract" was concluded with Norway on the supply of only 0.5 bcma of gas for the period between 2000 and 2006.¹⁰¹ Poland has already been supplied from Germany and the Czech Republic from the 1990's onwards, taking only a very small amount of gas for the local needs. Before 2009, a certain type of diversification was achieved from the east, first by Eural Trans Gas and then Rosukrenergo. Also, Ukraine's Naftohaz was selling a very small quantity of gas for the local needs under a long-term gas supply contract, signed in 2004 for the period until 2020, but Ukraine suspended deliveries. Once completed, the LNG regasification terminal will open up a new dimension for Poland in 2014. So far, only one deal has been made, with Qatar for the supply of 1 mmtpa of LNG for 20 years. As for the missing gas link with its neighbour Slovakia, in January 2011, a

letter of intent for cooperation on the development of the interconnection between Poland and Slovakia was signed. The feasibility study will be completed in early 2013. In principle, the deadline for the completion of the pipeline is 2017. The interconnection between Denmark and Poland, called Baltic Pipe, which could connect the Norwegian–Swedish–Danish Skanled gas pipeline project (the latter was suspended in 2009), is now scheduled to be commissioned in 2020 (depending on the market interest).¹⁰²

5.3. Slovakia

Under normal circumstances, gas physically enters *Slovakia* from Ukraine and gas transit leaves Slovakia towards the Czech Republic (Lanžhot) and Austria (Baumgarten).¹⁰³ During the January 2009 gas crisis, for the first time gas entered Slovakia from the west to the east, i.e. the physical flow of gas was directed through the Lanžhot border transfer station, however, only in small amounts.¹⁰⁴ The Slovak transmission network is now able to transport gas from the west to the east in standard operating mode.¹⁰⁵ There is another Austrian–Slovak gas pipeline, the Kittsee–Petržalka gas pipeline (KIP), which was commissioned in 2009 and can be used for emergency needs. After the gas crisis broke out, the pipeline was swiftly completed; only a few metres of pipelines were missing on the Slovakian

¹⁰² Source: "List of projects submitted to be considered as potential Projects of Common Interest in energy infrastructure – Gas."

¹⁰³ Slovakia's Mokřý Háj is an entry point into the inland transmission system of the Czech Republic (and not into the transit system). Mokřý Háj connects the Czech system with the Láb underground gas storage facility in Slovakia. However, there is a further cross-border pipeline between Slovakia and the Czech Republic. A storage facility in the Czech Republic at Dolní Bojanovice is directly connected to the Slovak system (IEA, 2012a; ERU, n.d.).

¹⁰⁴ SPP (2009); ERU (2010); European Commission (2009).

¹⁰⁵ *Eustream – News*. 30 November 2011. http://www.eustream.sk/en_media/en_press-releases/reverse-flow-project-is-completed.

¹⁰⁰ *Reuters* (20 March 2012, <http://www.reuters.com/article/2012/03/20/pgnig-gazprom-idUSL6E8EK2PY20120320>); *Bloomberg* (20 March 2012, <http://www.bloomberg.com/news/2012-03-20/pgnig-plans-to-cut-gazprom-gas-purchases-to-85-of-upper-limit.html>).

¹⁰¹ *Stern* (2005): 116; Statoil.ru (http://www.statoil.ru/statoilcom/inf/svg01429.nsf/html/e1999_1999gas).

side.¹⁰⁶ From among its neighbours, Slovakia is not interconnected with Poland and Hungary. As opposed to the non-binding phase in 2009, the binding phase of the Open Season process¹⁰⁷ for the development of the interconnection between Slovakia and Hungary yielded unsuccessful results twice in 2010. Subsequently, Hungary's TSO FGSZ, owned by Mol and operating as an ITO (independent transmission operator), was replaced by Hungary's state-owned electricity company MVM Group in the project. The project company is now owned equally by MVM and MFB Invest; the latter is a subsidiary of Hungary's state-owned MFB Hungarian Development Bank. The pipeline would start to operate in January 2015.

Before 2004, Gazprom was the sole external gas supplier to Slovakia. Alternative supplies from Norway or the Netherlands were considered in the second half of the 1990's, but they did not materialise.¹⁰⁸ In the end, only Eural Trans Gas and then Rosukrenergo remained as options. SPP and Gazprom Export signed a new long-term gas supply contract only in November 2008, starting in January 2009. SPP is supplied with 6.5 bcma of gas over a 20-year period. The contract signing was shortly followed by the January 2009 gas crisis, which finally gave impetus to start diversifying. After the January 2009 gas crisis, SPP signed (diversification) contracts with E.ON Ruhrgas for 10 years, and GDF Suez for 5 years,¹⁰⁹ which can cover up to 20 per cent of Slovakia's annual gas consumption. In case of a disruption of supplies from the east, these volumes can be obtained following the flow reversal of the gas pipeline system.¹¹⁰ Hungary (more precisely Mol) had already signed contracts in the 1990's with (E.ON) Ruhrgas

and GDF (Suez), still the owners of SPP with a total share of 49 per cent.

5.4. The Czech Republic

Gas can enter the *Czech Republic* not only from Slovakia, but also from Germany. There are four cross-border entry points from Germany. The Czech Republic, having only a marginal domestic gas production, made a step to break the dominant position of the Russian gas supplies in 1997, when the then state-owned Transgas of the Czech Republic signed a long-term gas supply contract with Norwegian companies for 20 years. The contract envisaged annual supplies gradually increasing to 3 bcm by 2002.¹¹¹ Transgas signed a long-term gas supply contract with Gazexport¹¹² in 1998 for 15 years, but the contract was extended in 2006 until 2035. The contract is for 9 bcma of gas. Until 2005, RWE Transgas was the sole importer of gas to the Czech Republic. In 2006, new gas importers, namely Vemex¹¹³ and Wingas (a joint venture of Wintershall and Gazprom), started to operate on the Czech market. They were supplied by Gazprom Export, but their combined market share was negligible, approximately 0.5 per cent. In 2007, apart from RWE Transgas, Vemex was said to be the only importer of gas. Through Vemex, Gazprom diversified its exports to the Czech Republic and reached the final consumers, thereby circumventing RWE Transgas. A March 2006 short-term supply contract between Vemex and Gazprom Export was followed by a long(er)-term one in October 2007.¹¹⁴ The contract for 2008 to 2012 was

¹⁰⁶ Gas Connect Austria GmbH (<http://www.gasconnect.at/de/Unser-Netz/Leitungssystem/KIP>); *ICIS Heren* (28 January 2009, <http://www.icis.com/heren/articles/2009/01/28/9309362/russiaukraine-crisis-wake-up-call-for-europe.html>); Rokovania vlády Slovenskej republiky (n.d.).

¹⁰⁷ Open Season process allows shippers to express their interests and book capacity.

¹⁰⁸ IEA (2005): 138.

¹⁰⁹ In addition to these, SPP signed a short-term contract with Germany's VNG for 30 mmcm of gas in an emergency case. Gazprom holds a 10.52 per cent stake in VNG.

¹¹⁰ IEA (2011c).

¹¹¹ *Europolitics* (23 April 1997, <http://www.europolitics.info/czechs-and-norway-sign-natural-gas-supply-deal-artr196930-10.html>); EU Enlargement Watch (2000).

¹¹² This was the old name of Gazprom Export.

¹¹³ At that time, ZMB GmbH of Germany and Centrex Europe Energy & Gas AG of Austria each held 33 per cent in Vemex. In 2009, trading subsidiary ZMB merged into its parent company Gazprom Germania. The sole shareholder of Gazprom Germania is Gazprom Export. Now, Gazprom Germania has a 50.14 per cent stake in Vemex.

¹¹⁴ *redOrbit*. 12 October 2007. <http://www.redorbit.com/news/business/1100068/gazprom-and-vemex-reportedly-sign-gas-deal/>.

conducted to deliver only 0.5 bcm of gas, with a possible extension for five years following that. In 2010, the number of importers was increased to 19 (from 12 in 2009 and 5 in 2008). The most important ones were RWE Transgas and Vemex. But the market share of RWE Transgas has been quickly falling in the Czech Republic.¹¹⁵ The difference between the long-term contract prices and market prices has hit the company. Many new traders have bought gas in West European markets for the Czech Republic at advantageous prices. In 2009, the share of the Russian imports fell dramatically to 58.8 per cent from 73.6 per cent in 2008. In 2010, Russia accounted for 64.1 per cent of gas imports, while Norwegian gas for 12.4 per cent and gas from EU Member States for 23.5 per cent. In 2009, gas supplied by German companies represented 6.6 per cent of the total imports, compared to 2.5 per cent in 2008. In 2007, only 2 mmcm of gas came from Germany for Vemex from a VNG storage facility. The share of supplies from the EU and Russia was increased at the expense of those from Norway.¹¹⁶ Concerning the interconnections with neighbouring countries, there are no interconnections between Austria and the Czech Republic,¹¹⁷ although four pipelines have been planned.

5.5. Hungary

Hungary buys gas through cross-border pipelines with Ukraine and Austria. Due to the high Russian contract prices, imported quantities through the Ukrainian–Hungarian border (at Beregovo point for domestic use) have fallen dramatically since 2008, while the role of the HAG pipeline between Austria and Hungary became very significant.

¹¹⁵ RWE Transgas (2012).

¹¹⁶ Information is provided by the annual reports of the Energy Regulatory Office of the Czech Republic. See http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS;http://eru.cz/dias-browse_articles.php?parentId=271

¹¹⁷ The border crossing between Hevlín (the Czech Republic) and Laa an der Thaya (Austria) is a different thing. It is a connection between the distribution networks.

Thanks to the increased interest, the capacity of HAG has been expanded. But before this has been done, the import capacity at the Ukrainian–Hungarian border was expanded, which was partly necessary because of the new strategic gas storage facility in Hungary. The Hungarian–Romanian interconnection was inaugurated in 2010, while the Hungarian–Croatian one in 2011.¹¹⁸ Apart from the missing interconnection between Hungary and Slovakia, a small-capacity pipeline between Hungary and Slovenia was proposed by Slovenia, but its interest did not go beyond a completed feasibility study.

The main gas supplier to Hungary is Gazprom Export through the intermediary Panrusgáz. E.ON Földgáz Trade's long-term gas supply contract expires in 2015.^{119; 120} This contract was concluded by Mol and subsequently was taken over by E.ON Ruhrgas, as it acquired, among others, Mol's gas wholesale, marketing and trading subsidiary Mol Földgázellátó (Mol Natural Gas Supply Co.) in the middle of the 2000's. As mentioned, in (the second half of) the 1990's, Mol signed supply contracts with Ruhrgas (until 2015) and Gaz de France (until 2012) as well.¹²¹ In 1998, long-term gas supply contracts were also signed with O&G Minerals Ltd. and (the latter's subsidiary) the Hungarian-based “Euro-bridge” Kft. for delivery of gas from Ukrainian sources. However, in early January 2005, Mol abrogated the latter two due to breaches of contract. The Swiss-based Bothli Trade AG came to replace them with a 2004 contract with Mol. Bothli was selling gas that belonged to Eural Trans Gas to Mol.¹²² As Eural was an offshore company,

¹¹⁸ According to CEO FGSZ János Zsuga, physical reverse flow is possible on all cross-border interconnections with the EU Member States.

¹¹⁹ Panrusgáz has a gas purchase contract with Gazprom Export and, in turn, a gas sales contract with E.ON Földgáz Trade. The future role of MVM and the planned takeover of E.ON's gas business in Hungary will not be discussed here.

¹²⁰ In July 2007, Gazprom Export and the Hungarian-based Centrex Hungária signed a long-term gas supply contract for the period of 1 October 2008 to 31 December 2028.

¹²¹ I approached E.ON Földgáz Trade with questions about its long-term gas supply contracts, but no data was given.

¹²² *FigyelőNet* (8 April 2004, http://fn.hir24.hu/itthon/2004/04/08/gazmosas_s_vajcon_at_kapna/?action=PrintPage); Mol (1997–2004a) (Mol 2004b).

registered in Hungary, its activity was restricted. But with the coming of the Hungarian-based company Emfesz, Bothli-Trade assigned its two gas supply contracts with Mol to Emfesz,¹²³ and Eural was replaced by Rosukrenergo. After the January 2009 gas crisis, when Rosukrenergo was eliminated from the system, the fate of Emfesz was sealed.

5.6. Serbia

Serbia receives gas from and through Hungary and provides transit services to Bosnia-Herzegovina. Serbia has no other cross-border entry and exit points. The share of domestic gas production in consumption has increased in Serbia, accounting for 19 per cent in 2011. With the exception of a small amount of gas that is imported from Hungary, Russia is the dominant gas supplier to Serbia.¹²⁴ The latter is based on the long-term contract with Gazprom, but annexes are added to the contract every year. So the practice of extending the Russian–Serbian supply contract is an annual event.¹²⁵ According to earlier statements, the take or pay principle has not yet been applied to Serbia. In mid-October 2012, an intergovernmental agreement between Serbia and Russia on Russian gas supplies until 2021, needed for the new long-term (commercial) gas supply contract, was signed. The agreement envisions gas supplies of up to 5 bcm, which is more than double of the current level of imports, and only for domestic use. According to media information, Gazprom and Srbijagas will be signing contracts regulating the

¹²³ Case No COMP/M.3696 E.ON/MOL. http://ec.europa.eu/competition/mergers/cases/decisions/m3696_20051221_20600_en.pdf.

¹²⁴ Concerning purchases from Hungary, all the information we have is that in October 2009 Srbijagas and E.ON Földgáz Trade signed a gas sale contract for 200 mcm of gas in the winter of 2009/2010. *E.ON Földgáz Trade – News*. 29 October 2009. <http://www.eon-foldgaz-trade.com/en/media/press/news/e-on-seals-gas-supply-agreement-with-srbijagas>.

¹²⁵ AERS (2011); AERS (2012); *Gazprom Export – Gas market news* (30 December 2010, <http://www.gazpromexport.com/en/presscenter/news/98/>).

price and delivery volumes every year throughout the timeframe of the new agreement.¹²⁶ In mid-December 2011, Srbijagas' general manager was speaking about a discounted price, adding that Serbia would be required to draw 85 per cent of the agreed quantity, but would not have to pay penalties for not taking up the remainder. It was also added that a possibility for Serbia to renegotiate its commercial terms each year would be included.¹²⁷

On the question of gas interconnection projects in Serbia, the planned bi-directional Serbian–Bulgarian interconnector would be operational by the end of 2015, and theoretically the construction would start in 2013. The project is part of the Energy Community Gas Ring (formerly known as the Western Balkan Ring), which is a concept of linking the networks of Albania, Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia with each other to develop a regional gas market. The Ionian Adriatic Pipeline (IAP), which is planned to run along the Adriatic coast from Albania through Montenegro to Croatia,¹²⁸ would be a part of the Gas Ring. The bi-directional IAP could connect Croatia with the planned Trans Adriatic Pipeline (or TAP, the Greece–Albania–Italy pipeline, see below) in Albania. For the Gas Ring, interconnections of Croatia–Serbia, Serbia–Kosovo–Macedonia, Macedonia–Albania and Croatia–Bosnia-Herzegovina should also be built.¹²⁹

5.7. Bosnia-Herzegovina

¹²⁶ *RIA Novosti* (13 October 2012, <http://en.rian.ru/world/20121013/176601838.html>); *Itar-Tass* (13 October 2012, <http://pda.itar-tass.com/c1/544850.html>); *Interfax* (15 October 2012, <http://interfax.az/view/555093>); *Gazprom Export – Gas market news* (13 October 2012, <http://www.gazpromexport.com/en/presscenter/news/701/>).

¹²⁷ *Reuters*. 21 December 2011. <http://www.reuters.com/article/2011/12/21/serbia-gazprom-gas-idUSL6E7NL4H320111221>.

¹²⁸ It was aimed at examining the possible route through Bosnia-Herzegovina as well.

¹²⁹ Note that there are no interconnections not only between Serbia and Bulgaria, but between Serbia and Romania either. These can be considered as feed-in lines to the Gas Ring.

Bosnia-Herzegovina can only receive gas imports through the border with Serbia, and is entirely dependent on gas purchases from Russia. Energoinvest d.d. Sarajevo and Gazprom extend the gas supply contract annually. At the end of 2011, when the contract was extended for 2012, the news was about negotiations on a long-term gas supply contract continuing.¹³⁰ In Bosnia-Herzegovina, due to the poor conditions in the industry, the gas consumption is lower than in 1990. Although the current gas consumption is well below the pre-war levels, significant increases are expected by 2020.¹³¹ As to the gas transmission pipeline development projects, apart from the leg of the Ionian Adriatic Pipeline, the possibility of other interconnections between Croatia and Bosnia is also being examined.¹³² A total of three interconnections between Bosnia-Herzegovina and Croatia would be built. However, their implementation is yet to happen.¹³³

5.8. Croatia

Croatia has substantial gas production, compared to its consumption. The gas supply contract with Gazprom Export ended at the end of 2010. Until the end of 2010, Croatia imported around 1 bcma of gas from Gazprom Export, and received a negligible volume of gas, i.e. only a few million cubic meters a year, from others.¹³⁴ Finally, at the end of 2010, Prirodni Plin, a

subsidiary of Croatia's INA, signed a contract with ENI to get only 750 mmcm of gas per year for three years. This was followed in June 2011 by the gas supply deal between Croatia's Prvo Plinarsko Društvo and E.ON Ruhrgas, but the volume and the term were not made public.¹³⁵ It was a very significant event in terms of diversification when gas supplies through the Hungarian–Croatian interconnection started in 2011. Croatia had been able to import gas only through Slovenia for a long time. But since a leg is planned to be built to Croatia from the South Stream project (see below), it is clear that in the future they will again buy gas from Russia. As for the other projects, according to late 2011 information, the Croatian–Italian interconnector was commissioned and is operating as an upstream pipeline.¹³⁶ Apart from the Croatian–Serbian and Croatian–Bosnian interconnections, interconnections between Croatia and Slovenia are also included in the plans. Moreover, if the original plans had gone ahead, Croatia's LNG regasification facility would have been operating. But in Croatia, the Adria LNG project of an international consortium, planned on the island of Krk, has stalled. Meanwhile, Croatia is not waiting. The Croatian state-owned TSO Plinacro is examining a three-phase alternative project, the so-called 'migration concept,' starting with an LNG Regasification Vessel (LNG RV) and reaching the third phase with an onshore LNG terminal. However, some phases could be skipped. The results of the feasibility study will have been known by September 2013, with a final investment decision expected before the end of 2013.¹³⁷

¹³⁰ *24sata.info*. 1 December 2011.

<http://www.24sata.info/vijesti/bosna-i-hercegovina/79468-Moskva-Energoinvest-Gazprom-dogovorili-produzenje-isporuke-gasa-BiH.html>

¹³¹ Softić–Glamočić (2012).

¹³² Western Balkans Investment Framework (http://www.wbif-ipf.eu/index.php?page_id=377&id=88, http://www.wbif-ipf.eu/index.php?page_id=377&id=89); Đurović (2012); Frančić (2011); BH-Gas (2010).

¹³³ *Business.hr*. 12 July 2012.

<http://www.business.hr/ulaganja/antunovic-rok-za-lng-na-krku-kraj-2016-godine/print>

¹³⁴ For example, in 2009, at least on paper, a very minimal amount of gas was imported from Italy, Slovenia, Germany, France and Switzerland (HERA, 2010).

¹³⁵ In July 2012, Croatia's largest fertiliser producer, Petrokemija d.d. signed a gas supply contract with E.ON Ruhrgas only for the August–September 2012 period.

¹³⁶ Zsuga (2011): 7.

¹³⁷ Presentation given by Dubravko Proštenik (Plinacro) in Budapest on 31 May 2012 ("Annual Stakeholder Seminar of the Priority Area 2 – to encourage more sustainable energy – of the EU Strategy for the Danube Region"); Ministarstvo regionalnoga razvoja i fondova Europske unije; *ICIS Heren* (4 July 2012, <http://www.icis.com/heren/articles/2012/07/04/9575385/first-phase-of-croatian-lng-terminal-ready-for-2016.html>); *Plinacro – Novosti* (<http://www.plinacro.hr/default.aspx?id=371>); Western Balkan Investment Framework <http://www.mrrfeu.hr/UserDocsImages/EU%20fon>

5.9. Slovenia

Slovenia is almost entirely dependent on external supplies of gas, with a volume of more than 1 bcma. Slovenia receives gas from the direction of both Italy and Austria. Since 2003, the share of Russian imports had been steadily declining from 59 per cent in 2003 to only 47 per cent in 2010. In 2011, 48 per cent was supplied from Russia, 23 per cent from Algeria, 22 per cent from Austria, 7 per cent from Italy and the rest from other countries. Geoplin d.o.o. Ljubljana is the largest importer of gas, with a 92.8 per cent share of the market in 2011. In 2011, Adriaplin, belonging to ENI, and Petrol were the other two importers.¹³⁸ In 2009 and 2010, the role of short-term contracts in gas imports saw a dramatic increase, followed by a slight decrease in 2011. Geoplin's long-term gas supply contract with Gazprom is effective through to 2017. In 2009, the Slovenian side proposed that the contract be revised and extended until 2035. In August 2009, Gazprom Export and Geoplin signed a letter of intent to extend the contract and review the possibility of increasing the amount of gas in the framework of the South Stream project.¹³⁹ In March 2011, the head of Gazprom said that they were negotiating to extend the contract until 2035, and increase the export from 0.5 to 1.7 bcma.¹⁴⁰ Since then, no contract has been signed.

5.10. Romania

With the commissioning of the Hungarian–Romanian interconnection, *Romania*

[dovi/b03%20WB5-HR-ENE-01-LNG Regasification Vessel%2020%2002%202012.pdf](http://www.ria.ru/economy/20110216/334797983.html)

¹³⁸ Information is derived from the annual reports of Slovenia's Energy Agency (as an energy regulator). See http://www.agen-rs.si/en/informacija.asp?id_meta_type=36&id_informacija=708, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS

¹³⁹ *RIA Novosti*. 16 February 2011. <http://www.ria.ru/economy/20110216/334797983.html>

¹⁴⁰ *RIA Novosti*. 22 March 2011. <http://ria.ru/economy/20110322/356819989.html>

receives gas through three entry points. Previously, only two cross-border entry points with Ukraine were available. However, a third Ukrainian–Romanian gas pipeline is planned in Romania's energy strategy for 2007–2020 and 2011–2020; the latter is an updated version as of 2011. Romania already tried to diversify in the 1990's, but without success.¹⁴¹ The activity of the intermediary Rosukrenergo meant some diversification, but the first, however small real breakthrough is the interconnection between Hungary and Romania, which started to operate in 2010. Gazprom's sales of gas to Romania are conducted through two intermediaries, such as the Swiss-based WIEE and Romania's Conef Energy S.R.L. This will be unchanged for a good long time, since Gazprom signed long-term contracts in 2007 with the two companies effective until 2030. WIEE will supply 5 bcma of gas to Romania from 2013, while, according to the contract, Conef has been supplied by 2 bcma since 2010.

The Romanian–Bulgarian interconnection is under construction. It could be put into operation in 2013. The building of an interconnection between Romania and Moldova is also planned, to be operational by 2013. In principle, an LNG regasification facility could be built in Romania in the frame of the AGRI LNG project (see my opinion on it below). The feasibility study has not been completed.

5.11. Bulgaria

Despite its favourable geographic location, *Bulgaria* buys gas only from Russia and has only one supply route at present through Romania.¹⁴² Bulgaria's long-term gas supply

¹⁴¹ Stern (2005):117.

¹⁴² During the January 2009 gas crisis, at the last minute, reverse flow from Greece to Bulgaria (and, as mentioned above, from the Czech Republic to Slovakia) became operational. The CEO of Bulgargaz said in October 2009 that they had concluded framework agreement with Greece to receive about 3 mmcm of gas per day in case of an emergency, adding that an agreement in principle also existed with Turkey's Botaş for about 2 mmcm per day. (According to Bulgaria's energy regulator's 2012 annual

contracts are due to expire at the end of 2012. The new contract should solve four problems.¹⁴³ Firstly, gas should be cheaper than it is (introducing a spot component into the price formula, not only oil products). Secondly, intermediaries, such as WIEE and Overgaz, should be eliminated. Thirdly, the contract term should be shorter. Finally, of course, the possibility of re-export should be allowed. Bulgaria does not want to close itself by agreeing to a long-term commitment, but would rather open itself up to diversification opportunities, such as the domestic (mainly Black Sea) gas production, or gas through the planned interconnectors. However, apart from the Romanian–Bulgarian pipeline, there is no international project where the final investment decision has already been made. According to the draft Ten-year natural gas transmission and storage infrastructure development plan 2013–2022 of Bulgarian TSO Bulgartransgaz, published in September 2012, the Interconnection Bulgaria–Romania (IBR) is planned to be completed (and commissioned) in 2013, while the Interconnection Turkey–Bulgaria (ITB, from Malkoçlar to Lozenets) in 2014, the Interconnection Greece–Bulgaria in 2014–2015, the Interconnection Bulgaria–Serbia (IBS) in 2015, and the CNG (compressed natural gas) facility in 2015–2016.¹⁴⁴

Before the gas crisis of January 2009, Bulgaria had already taken steps to buy Azerbaijani gas. The protocol of intention, signed in June 2008, envisaged the possibility of signing a contract for the supply of 1 bcma of gas to Bulgaria by Azerbaijan.¹⁴⁵ In November 2009, a new element was added by the appearance of the

possibility of the CNG option, besides the pipeline gas.¹⁴⁶ Meanwhile, the goal to import 2 bcma of gas was restored to 1 bcma (in addition to the volume to be pumped sometime in the future in the framework of the Nabucco project). Moreover, Azerbaijan would choose the land route through Turkey over the CNG option.¹⁴⁷ Several deadlines have been set for the start of deliveries, but it has not come close to realisation, despite meetings and agreements.

Bulgaria wants the Turkish–Bulgarian interconnection to be financed by the grant allocated from the EU’s European Energy Programme for Recovery (EPR) funds, or by someone (including the Nabucco consortium), and it would be regarded as the first section of Nabucco West (see below). However, this will not work. In October 2012, the Bulgarian Prime Minister indicated that if it was not accepted, it would be built for only emergency needs before 2018, with an investment of about BGN 100 million (EUR 50 million) from Bulgartransgaz.¹⁴⁸ Meanwhile, other

¹⁴⁶ *APA* (13 November 2009, <http://en.apa.az/news/111019>); Tsakiris (2010); *News.Az* (16 November 2009, <http://www.news.az/articles/2510/print>)

¹⁴⁷ *Economy News.bg* (18 August 2010); *News.Az* (18 August 2010, <http://www.news.az/articles/21211>); *Novinite.com* (4 October 2010, http://www.novinite.com/view_news.php?id=120787); *Novinite.com* (23 June 2011, http://www.novinite.com/view_news.php?id=129578); *Upstreamonline.com* (17 August 2010, <http://http://www.upstreamonline.com/live/article/226287.ec>); *Trend* (17 August 2010, <http://en.trend.az/capital/energy/1736279.html>); *Reuters* (27 April 2012, <http://uk.reuters.com/article/2012/04/27/bulgaria-azerbaijan-gas-idUKL6E8FR3YX20120427>); *The Sofia Echo* (25 September 2011, http://sofiaecho.com/2011/09/25/1162402_azerbaijan-may-start-gas-deliveries-to-bulgaria-in-2013); *Natural Gas Europe* (15 November 2011, <http://www.naturalgaseurope.com/bulgaria-and-azerbaijan-finalise-gas-deal-3499>); *The Sofia Echo* (3 April 2012, http://sofiaecho.com/2012/04/03/1800619_borisov-to-push-azerbaijan-georgia-bulgaria-gas-transit-project-at-meeting-with-van-rompuj).

¹⁴⁸ *Darik News* (29 September 2012, http://dariknews.bg/view_article.php?article_id=970653); *News.bg* (8 October 2012, http://news.ibox.bg/news/id_2031338516); *New Europe Online* (9 October 2012, <http://www.neurope.eu/article/borisov-lays-down-conditions-nabucco>); *Bulgarian National Radio* (10

report to the European Commission, “[c]orrespondence has been exchanged and a technical agreement is to be signed with Turkey.”) As to Bulgaria’s Energy Ministry, Bulgaria can receive more than 2.4 mmcm of (reverse flow) gas per day through the two cross-border pipelines, respectively, in an emergency. *dnes.dir.bg* (8 October 2009, http://dnes.dir.bg/news.php?id=5189791&tag_id=63160); *Ministersztvo na ikonomikata, energetikata i turizma na Respublika Balgarija* (2012); *Bulgargaz* (2010); *European Commission* (2009).

¹⁴³ Following completion of this study, the new contract was signed in November 2012.

¹⁴⁴ *Bulgartransgaz* (2012).

¹⁴⁵ *Novinite.com*. 4 June 2008. http://www.novinite.com/view_news.php?id=93815

information came to light. In September 2012 the former head of Bulgaria's state-run gas supplier Bulgargaz announced that the Bulgarian government had already secretly signed protocols of intent with the Turkish company Setgaz to build an interconnector between the gas networks of the two countries. According to the announcement, the gas pipeline was to reach Stara Zagora in Bulgaria's south and expected to be completed by the end of 2014. Bulgartransgaz confirmed the news, adding that Setgaz's project had a different concept and route from its own (i.e. the planned interconnection between Malkoçlar and Lozenets).¹⁴⁹

On the question of LNG, Bulgaria is not thinking of a Black Sea project.¹⁵⁰ Rather it believes a CNG project would be appropriate there, with gas from Azerbaijan.¹⁵¹ The history of Bulgaria's CNG plan began only in 2009. The fact that Azerbaijan prefers the use of Turkey as an export route rather than the Black Sea is not the only problem with the Black Sea CNG project. The CNG project clashes with the AGRI LNG (see below).¹⁵²

October 2012,
http://bnr.bg/sites/en/Economy/Pages/1010NABU_CCOprojectbefore2018.aspx; *News.Az* (5 October 2010, <http://news.az/articles/economy/23965>).

¹⁴⁹ *Novinite.bg* (12 September 2012, <http://novinite.bg/articles/19561/Turska-firma-shtyala-da-stroi-gazova-vrazka-s-Balgariya>); *Novinite.bg* (12 September 2012, <http://novinite.bg/articles/19574/Bulgartransgaz-i-Setgaz-shteli-da-stroyat-2-razlichni-gazoprovodas-Turciya>); *Novinite.com* (12 September 2012, http://www.novinite.com/view_news.php?id=143172); *Novinite.com* (12 September 2012, http://www.novinite.com/view_news.php?id=143179).

¹⁵⁰ Here, I do not deal with the issue of a South-East European regional LNG regasification terminal in Greece.

¹⁵¹ *The Sofia Echo* (22 September 2011, http://sofiaecho.com/2011/09/22/1161389_bulgaria-may-help-georgia-in-joining-european-energy-network); *Novinite.com* (3 April 2012, http://www.novinite.com/view_news.php?id=138176).

¹⁵² The Bulgarian media reported in April 2012 that Bulgaria's Prime Minister had discussed the transportation of LNG in Georgia. At that time, as a former Energy Minister, Traicho Traikov explained that the issue involved CNG rather than LNG, adding that, however, buying CNG would be much more expensive than pipeline gas imports from Russia. *Money.bg* (3 April 2012, http://money.bg/news/id_

5.12. Macedonia

Macedonia buys gas only from Russia and solely through Bulgaria, having no other import capacity available. In 2012, Macedonia's Makpetrol A.D. signed a long-term gas supply contract with Gazprom Export for a period of 15 years.¹⁵³ The gas market in Macedonia is underdeveloped and only a small part of northern Macedonia is gasified. There is no gas distribution network in the country at all. Natural gas is mostly used in industries (for final consumption) and by district heating companies (for heat production).¹⁵⁴

6) DIVERSIFICATION PROJECTS IN THE SOUTHERN CORRIDOR

The Southern Corridor initiative¹⁵⁵ includes routes going through and from Turkey and the Eastern Mediterranean as well as other routes that could pass the Black Sea (both pipeline as well as CNG and LNG options) 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.¹⁵⁶ South Stream is not part of the Southern Corridor initiative.

Apart from the delays, the common characteristic of the projects is that all Sout-

[1670814083](http://www.investor.bg/ikonomika-i-politika/332/a/traikov-vnosyt-na-kompresiran-gaz-ot-azerbaidjan-shte-struva-skypo,132524/)); *Investor.bg* (3 April 2012, <http://www.investor.bg/ikonomika-i-politika/332/a/traikov-vnosyt-na-kompresiran-gaz-ot-azerbaidjan-shte-struva-skypo,132524/>).

¹⁵³ *Gazprom Export – Gas market news*. 27 September 2012. <http://www.gazpromexport.ru/en/presscenter/news/682/>.

¹⁵⁴ Bulgartransgaz (2012).

¹⁵⁵ The Southern Corridor would be – following 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 East Mediterranean Basin to the EU (European Commission, 2010, 2012).

¹⁵⁶ In September 2011, the EU adopted a mandate to negotiate a legally binding treaty between the EU, Azerbaijan and Turkmenistan to build a Trans Caspian Pipeline System.

hern Corridor projects, except naturally for the Trans-Caspian Pipeline and projects through and from the Eastern Mediterranean, bid for Azeri gas, namely gas from the second stage of the Shah Deniz field development (Shah Deniz 2). Azeri gas seems to be the only guaranteed source for Europe. Gas export is expected to start around the end of 2017.¹⁵⁷

Azeri gas has reached only Greece in Europe. Turkey re-exports a smaller amount of gas to Greece imported from Azerbaijan in the first stage of production of gas from the Shah Deniz field. The gas is imported through the Interconnection Turkey–Greece (ITG). The ITG project was a very important step. Signalling Washington’s support, the US Energy Secretary attended the inauguration ceremony in 2007.¹⁵⁸ ITGI (Interconnector Turkey–Greece–Italy) comprises ITG and the IGI (Interconnector Greece–Italy) project, the latter including IGI Onshore and IGI Poseidon.

Until the autumn of 2011, three projects, namely Nabucco, ITGI and TAP, were really involved in the gas game. Merger or some kind of cooperation of the competing pipeline projects in the Southern Corridor would have been obvious and these opportunities have arisen several times, mostly in 2011, but the different actors looked at the question differently, thus a positive result was not achieved.

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.¹⁵⁹ The announcement came as a surprise; however, a BP top executive declared already in March 2011 that they were going to build a 10 bcma line into Europe that was expandable. “We’ve got to

stop being preoccupied by the word Nabucco,” he added.¹⁶⁰ Shortly after the announcement, the Shah Deniz consortium received bids from Nabucco, TAP and ITGI by the 1 October 2011 deadline, and SEEP became a fourth possible option that would be looked at. Not much later, on 25 October 2011, the so-called Izmir agreements were signed, including an agreement to sell gas to Turkey from Shah Deniz 2 and an agreement on the transit of gas from Shah Deniz 2 via the networks of the Turkish Botaş company.¹⁶¹

The outline of the second crucial change started to materialise in the Southern Corridor on 2 November 2011, when the deputy head of the State Oil Company of the Azerbaijani Republic (SOCAR) said a consortium would be created to build a new pipeline that would carry natural gas from the Shah Deniz 2 project through Turkey.¹⁶² Two weeks later, the name of the new project was revealed. On 17 November 2011, SOCAR announced that Azerbaijan and Turkey had started work on the Trans Anatolian Gas Pipeline (TANAP) project from Turkey’s eastern border to its western border.¹⁶³ It was decided that the pipeline would have a capacity of no less than 16 bcma, of which 10 bcma was destined for Europe and 6 bcma for Turkey’s western regions.¹⁶⁴ Although SOCAR said this did not mean the end of the Nabucco project,¹⁶⁵ the situation was clear. The last remaining chance of the full-scale version of Nabucco, or Nabucco ‘classic’ that would have

¹⁵⁷ The South Caucasus (Baku–Tbilisi–Erzurum) Pipeline needs to be expanded.

¹⁵⁸ *The New York Times*. 19 November 2007. <http://www.nytimes.com/2007/11/19/world/europe/19greece.html?r=1>.

¹⁵⁹ *Financial Times*. 26 September 2011. <http://www.ft.com/intl/cms/s/0/ed9151b8-e84c-11e0-ab03-00144feab49a.html>.

¹⁶⁰ *Natural Gas Europe*. 26 March 2011. <http://www.naturalgaseurope.com/caspianeu-gas-pipeline-10-bcm>.

¹⁶¹ *News.Az* (28 October 2011, <http://www.news.az/articles/47744/print>); *News.Az* (28 October 2011, <http://news.az/articles/economy/47699>); *Eurasia Daily Monitor* (Vol. 8, Issue 201, 1 November 2011, http://www.jamestown.org/single/?no_cache=1&ttnews%5Btt_news%5D=38603&ttnews%5BbackPid%5D=512).

¹⁶² *PanARMENIAN.Net*. 2 November 2011. <http://www.panarmenian.net/eng/news/82691/>.

¹⁶³ *Reuters*. 17 November 2011. <http://af.reuters.com/article/commoditiesNews/idAFL5E7MH1W520111117?sp=true>.

¹⁶⁴ *PanARMENIAN.Net*. 2 November 2011. <http://www.panarmenian.net/eng/news/82691/>.

¹⁶⁵ *Reuters*. 17 November 2011. <http://af.reuters.com/article/commoditiesNews/idAFL5E7MH1W520111117?sp=true>.

included pipeline construction in Turkey was abolished.

On 26 December 2011, a memorandum of understanding was signed concerning the construction of the TANAP pipeline, under which SOCAR, Botaş and TPAO (of Turkey) became the first members of the pipeline consortium. They stated that third-party international oil and natural gas companies would be allowed to join the consortium later during the construction process.¹⁶⁶ The signing of the intergovernmental agreement (and the host government agreement) between Turkey and Azerbaijan was delayed until the end of June 2012. It was not easy to reach an agreement about it, but finally SOCAR's shareholding remained at 80 per cent. Therefore, the Turks did not increase their stakes.¹⁶⁷ SOCAR will keep 51 per cent, but the remaining 29 per cent will be distributed among potential partners such as (certain members of the Shah Deniz consortium, including) BP, Statoil and Total.¹⁶⁸ According to the plans, TANAP's capacity could reach 16 bcma by 2020, 23 bcma by 2023, and 31 bcma by 2026. The ultimate capacity of 60 bcma is an infinite perspective.¹⁶⁹

The Shah Deniz consortium has been conducting 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 over ITGI 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 the 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.

Nabucco West was put into the public domain in mid-March 2012, but in February 2012 it became known that a shortened project had been considered. This version is not only shorter but also smaller in terms of capacity than the original one. Nabucco West is designed for an initial capacity of 10 bcma, which could be scaled up to 23 bcma. Initially, TAP is also planned to pass 10 bcma of gas that could be increased to 20 bcma.

By this time, several negative messages had been received not only from Mol, the Hungarian participant, but also from the Hungarian government, RWE, Bulgaria, the EU and the US. Under such conditions, before the submission of proposal for Nabucco West to the Shah Deniz consortium, on 23 April 2012, the Hungarian Prime Minister indicated that Mol was leaving the project. Of course, Russia immediately welcomed the move. It turned out that Mol, or precisely FGSZ did not approve the 2012 budget of Nabucco Gas Pipeline International GmbH (Nabucco International Company). Having failed to pay a contribution, its share in the pipeline company reportedly fell.

The history of Nabucco has been dragging on for ten years, and has been facing serious problems since the very beginning. It was in early May 2011 that the consortium once again decided to postpone the start-up. Nabucco Gas Pipeline International GmbH announced that it expected gas to flow first through the pipeline only in 2017, instead of 2015.¹⁷⁰ But the target date of 2015 was also the result of a multi-year delay. For example, the year 2009 was targeted in 2004, while

¹⁶⁶ *SOCAR – News*, 26 December 2011. <http://new.socar.az/socar/en/news-and-media/news-archives/news-archives/id/4086>.

¹⁶⁷ *Bloomberg* (29 March 2012, <http://www.bloomberg.com/news/2012-03-29/turkey-seeks-to-raise-stake-in-tanap-gas-pipeline-reuters-says.html>); *EurasiaNet.org* (6 April 2012, <http://www.eurasianet.org/node/65233>); *Bloomberg* (1 May 2012, <http://www.bloomberg.com/news/2012-05-01/azerbaijan-turkey-to-sign-delayed-tanap-pipe-deal-end-of-june.html>).

¹⁶⁸ *Bloomberg* (6 September 2012, <http://www.bloomberg.com/news/2012-09-06/socar-offers-29-of-gas-pipeline-to-bp-statoil-total-partners.html>); *AzerNews* (6 September 2012, http://www.azernews.az/oil_and_gas/43415.html).

¹⁶⁹ *Reuters* (26 June 2012, <http://www.reuters.com/article/2012/06/26/turkey-azerbaijan-gas-idUSL6E8HQAVA20120626>); *Financial Times – beyondbrics* (12 July 2012, <http://blogs.ft.com/beyondbrics/2012/07/12/azerbaijan-total-gas-find-raises-hopes-of-more-discoveries/#axzz2AAmXY1vG>).

¹⁷⁰ *Nabucco Gas Pipeline International GmbH – Press releases*, 6 May 2011. http://www.nabucco-pipeline.com/portal/page/portal/en/press/NewsText?p_item_id=A297E805CEADAB20E040A8C002017939

the year 2011 was considered to be the start-up year in 2005.¹⁷¹

In early March 2010, European Energy Commissioner Oettinger did not rule out the possibility that the Nabucco consortium could decide in 2010 to back out of the project altogether.¹⁷² In late March 2010, he believed the completion of the Nabucco gas pipeline might be delayed to 2018.¹⁷³ In Hungary, where the issue has been totally politicised, finally, in July 2011, Mol Chairman-CEO Zsolt Hernádi admitted that there were serious problems, and they would spend more on it if the return was ensured.¹⁷⁴ In October 2011, Hungary's then Minister for National Development Tamás Fellegi also raised doubts about the viability of Nabucco, saying that the very optimistic cost scenario ran to around EUR 24-26 billion.¹⁷⁵ Although it was an accepted fact in expert circles that the planned EUR 7.9 billion Nabucco budget is underestimated, it received much attention when in February 2011, BP estimated the costs to be around EUR 14 billion. For example, Jonathan Stern could never see it costing less than EUR 12 billion.¹⁷⁶ In early November 2011, Oettinger pointed out that Nabucco's cost factor was EUR 10 billion or more and it was scheduled to transport the first supplies in 2017 or 2018.¹⁷⁷ But BP's February 2011 statement about the high costs and March 2011 statement about a 10 bcm line can be looked at in a slightly different light if we consider its late

September announcement about the South East Europe Pipeline that came just before the 1 October 2011 deadline.¹⁷⁸ In February 2012, Oettinger approached the issue from a neutral position when saying that Nabucco was just one of the projects and he could live with any pipeline.¹⁷⁹ It is important that the United States changed its policy towards Nabucco, and urged in mid-November 2011 the Shah Deniz producers and SOCAR choose a smaller pipeline as the first pipeline that would be extendable.¹⁸⁰ The US expressed pessimism about Nabucco once again in January 2012.¹⁸¹ RWE's attitude has also changed because of cost pressures. In mid-January 2012, RWE mentioned that it could support other pipelines that had competed with Nabucco.¹⁸² However, in May 2012, RWE declared that they continued to be convinced Nabucco in its original shape was the best solution.¹⁸³

Shortly after the Hungarian announcements of April 2012, OMV of Austria, Transgaz of Romania and even Bayerngas of Germany, of which the latter began negotiations to become a member of the Nabucco consortium in October 2011, defended the project.¹⁸⁴ Bulgaria, however,

¹⁷¹ This is my compilation from Nabucco presentations.

¹⁷² *EUobserver.com*. 5 March 2010. <http://euobserver.com/9/29611>.

¹⁷³ *EurActiv.com*. 25 March 2010. <http://www.euractiv.com/en/energy/oettinger-says-nabucco-will-be-delayed-four-years-news-379171>

¹⁷⁴ *HVG.hu*. 28 July 2011. http://hvg.hu/gazdasag/20110728_Mol_Hernadi_intervju.

¹⁷⁵ *Reuters*. 24 October 2011. <http://www.reuters.com/article/2011/10/24/idUSL5E7LO1HL20111024>.

¹⁷⁶ *The Guardian* (20 February 2011, <http://www.guardian.co.uk/business/2011/feb/20/european-gas-pipeline-nabucco-costs-double>); *The New York Times* (7 March 2011, http://www.nytimes.com/2011/03/08/business/global/08nabucco.html?_r=1&ref=world).

¹⁷⁷ *Reuters*. 4 November 2011. <http://www.reuters.com/article/2011/11/04/nabucco-idUSL6E7M41SN20111104>.

¹⁷⁸ *Financial Times*. 26 September 2011. <http://www.ft.com/infl/cms/s/0/ed9151b8-e84c-11e0-ab03-00144feab49a.html>.

¹⁷⁹ *Reuters*. 6 February 2012. <http://www.reuters.com/article/2012/02/06/oettinger-gas-idUSL5E8D638K20120206>.

¹⁸⁰ *ABC.AZ*. 16 November 2011. http://abc.az/eng/news_16_11_2011_59582.html.

¹⁸¹ *Novinite.com*. 19 January 2012. http://www.novinite.com/view_news.php?id=135883.

¹⁸² *Novinite.com* (18 January 2012, http://www.novinite.com/view_news.php?id=135829); *RWE – News* (17 January 2012, <http://www.rwe.com/web/cms/de/37110/rwe/presse-news/pressemitteilungen/pressemitteilungen/?pmid=4007850>); *Reuters* (19 January 2012, <http://www.reuters.com/article/2012/01/19/energy-gas-pipelines-idUSL6E8CJ2XL20120119>).

¹⁸³ *Reuters*. 12 May 2012. <http://www.reuters.com/article/2012/05/12/rwe-nabucco-idUSL5E8GC26K20120512>.

¹⁸⁴ *Reuters* (25 April 2012, <http://www.reuters.com/article/2012/04/25/romania-nabucco-idUSL6E8FP71120120425>); *Reuters* (24 April 2012, <http://www.reuters.com/article/2012/04/24/nabucco-mol-financing-idUSL5E8FOFYC20120424>); *Reuters* (26 April 2012, <http://www.reuters.com/article/2012/04/26/omv-nabucco-idUSL6E8FQ3OV20120426>); *Reuters* (25

was criticising the project. There does not seem to be any significance to the Bulgarian section of Nabucco being made a national project. Shortly before the Hungarian announcements, in early April 2012, Bulgaria's Energy Minister said that by 2018 the country would be able to rely on gas interconnections with Romania, Serbia, Greece and Turkey and on a major energy project, "be it Nabucco or something else." Indeed, Nabucco is not included in Bulgaria's Energy Strategy until 2020, which was adopted in June 2011. Bulgaria also made it clear that they would like to use the national gas transmission system rather than build a new pipeline for the project, as long as it would carry up to 10 bcm by 2018.¹⁸⁵ Soon after the Hungarian announcements, Bulgaria emphasised that it had no opportunities to implement the project,¹⁸⁶ adding, however, that Nabucco would probably be built sometime in the very, very distant future.¹⁸⁷ Despite this, at the end of May 2012, Bulgaria's representative in Nabucco Gas Pipeline International GmbH considered the project as the most viable one aimed at connecting the Turkish gas market to Europe.¹⁸⁸ While Bulgaria has been facing financial problems, building an interconnection with Turkey is a key for the country.

In late July 2012, Azerbaijan's Industry and Energy Minister declared that Nabucco West was the best option for piping natural gas from the Caspian Sea, considering "East and Central Europe" to be a more reliable market for Azeri gas.¹⁸⁹ It was obvious that Turkey shifted its priority to its own TANAP

project from Nabucco,¹⁹⁰ but, of course, Botaş, which is one of the six shareholders in Nabucco Gas Pipeline International GmbH, supports Nabucco West, assuming it to be the natural continuation of TANAP.¹⁹¹

According to Jonathan Stern, the decision to court Caspian gas was first and foremost a political one.¹⁹² But buying gas is rather a market-driven decision. Jonathan Stern and Howard Rogers emphasise that Shah Deniz 2 will be an important test case for new commercial, and specifically pricing frameworks in Europe.¹⁹³ According to their information, the Europeans are willing to buy only at hub-based prices. E.ON Ruhrgas, which is one of the three shareholders in TAP with a 15 per cent stake, shares this view. It clearly stated well in advance that the company would only be interested in Azeri gas if the supply contract was competitive and had the right price formula, adding that the European utilities expected supplies from the Caspian to be priced to reflect conditions across the continent's freely traded gas hub markets.¹⁹⁴

BP CEO Bob Dudley insists that the rationale for the decision on pipeline projects will be purely economic, so the tariff levels will decide the winner.¹⁹⁵ It is important to note that the aim of SEEP was also to make the project cheaper. BP argued that without competitive pipeline offers, the sale of Shah Deniz gas to distant European markets would prove uncommercial.¹⁹⁶

The concept of the White Stream pipeline, a trans-Black Sea project (comprising of a Georgia–Romania route and later a Georgia–Ukraine route) is not discussed separately here, as I do not believe

April 2012, <http://www.reuters.com/article/2012/04/25/germany-nabucco-bayerngas-idUSWEA918220120425>).

¹⁸⁵ *Novinite.com*. 10 April 2012. http://www.novinite.com/view_news.php?id=138403

¹⁸⁶ *Trend*. 26 April 2012. <http://pda.trend.az/en/2018978.html>.

¹⁸⁷ *Reuters*. 27 April 2012. <http://www.reuters.com/article/2012/04/27/bulgaria-azerbaijan-gas-idUSL6E8FR3YX20120427>.

¹⁸⁸ *Novinite.com*. 27 May 2012. http://www.novinite.com/view_news.php?id=139715

¹⁸⁹ *Reuters*. 24 July 2012. <http://af.reuters.com/article/idAFL6E8IOFZA20120724>.

¹⁹⁰ *Novinite.com*. 31 January 2012. http://www.novinite.com/view_news.php?id=136233

¹⁹¹ *Bloomberg*. 15 May 2012. <http://www.bloomberg.com/news/2012-05-15/turkey-backs-nabucco-west-as-rwe-reviews-support-for-gas-link.html>.

¹⁹² Rausch (2012).

¹⁹³ Stern–Rogers (2011).

¹⁹⁴ *Reuters*. 15 May 2012. <http://www.reuters.com/article/2012/05/15/us-energy-summit-gas-eon-idUSBRE84E0ZY20120515>.

¹⁹⁵ *Natural Gas Europe*. 1 August 2012. <http://www.naturalgaseurope.com/caspian-pipeline-choice-to-be-based-on-tariff-7431>.

¹⁹⁶ *Argus*. 27 September 2011. <http://www.argus-media.com/News/Article?id=768162>.

it would be implemented. The AGRI (Azerbaijan–Georgia–Romania–Hungary Interconnector) project is also not considered to be on track. The seriousness of the project is merely given by the fact that SOCAR participates in it. Apart from TANAP, this still cannot be said of other projects. AGRI is a fresh project in the Southern Corridor; its story began in 2010. Azerbaijan, Georgia, Romania and Hungary are partners in the project, but Hungary joined the partnership only in 2011. A number of countries and companies have reportedly expressed interest in the project, of these countries Serbia and Bulgaria are from the CEE region.¹⁹⁷ The feasibility study for the AGRI project should be ready by late November 2012.¹⁹⁸

Should the Turkish gas imports from Azerbaijan increase and the Southern Corridor projects based on gas from and through Azerbaijan be realised, Georgia's transit role would grow further. Through TANAP, Turkey will also function as an important transit state. The Trans-Caspian Pipeline, if ever built, would make Azerbaijan an important gas transit state as well.¹⁹⁹ Nabucco 'classic' had a common legal framework that should have been applied throughout the whole route, including Turkey. But with TANAP, the situation has changed. While Turkey will play a key role as a transit state in the diversification of gas supplies to the EU, the European Commission fails to open the chapter on energy issues (Chapter 15).²⁰⁰ Georgia and Turkey take part only as observers in the Energy Community. Azerbaijan, Georgia and Turkey are signatories to the 1994 Energy Charter

¹⁹⁷ *Bloomberg* (1 November 2011, <http://www.bloomberg.com/news/2011-11-01/serbia-wants-to-join-agri-gas-project-to-tap-caspian-supplies.html>); *Trend* (27 September 2012, <http://en.trend.az/capital/energy/2070276.html>); AGRI LNG (<http://www.agrilng.com/agrilng/Home/Istoric>).

¹⁹⁸ *ACTMedia*. 6 September 2012. <http://actmedia.eu/energy-and-environment/romanian-ambassador-to-azerbaijan-we-hope-for-feasibility-study-for-agri-project-in-november/41912>.

¹⁹⁹ 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.

²⁰⁰ Roberts (2011); *News.Az* (5 January 2011, <http://www.news.az/articles/economy/29279>).

Treaty, and members of the Energy Charter Conference.

7) CONCLUSIONS

Since 2008, Gazprom's market position has changed totally, while as a piped-gas exporter, Gazprom is locked into the European market. It has launched gas production in the Yamal Peninsula in such a difficult situation, and is about to start building the South Stream gas pipeline. And it is also in this situation that Gazprom faces an EU anti-trust probe, of which the most important issue is how gas is priced. Gazprom wants prices that are independent of market conditions. But if it continues, Gazprom will have more and more problems with gas exports. In order to avoid more arbitration, Gazprom recognised the need to narrow the gap between oil-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.²⁰¹

Central and East European countries can take very limited advantage of the benefits of the changed conditions and globalising gas markets.²⁰² This is partly due to the lack of the necessary import capacity, and partly due to the long-term supply contracts. The Russo–Ukrainian gas crisis in early 2009, together with the period since 2008, help to illustrate the different opportunities each country faces. The two extremes were represented by Croatia and Poland. The most significant results were achieved by Croatia in reducing dependence on Russian gas. The

²⁰¹ These are Jonathan Stern's findings about the 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>); *Bloomberg* (14 March 2012, <http://www.bloomberg.com/news/2012-03-14/gazprom-trips-in-india-as-shale-upends-asia-gas-markets-energy.html>); *Financial Times* (16 February 2012, <http://www.ft.com/intl/cms/s/0/2e57f4c4-58ad-11e1-9f28-00144feabdc0.html#axzz1oivhTm7f>).

²⁰² However, each country has faced different opportunities.

CEE region has not yet seen anything like it. However, it is obvious that Croatia's participation in the South Stream project and the decision to construct a leg from the South Stream to Croatia mean 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. These types of intermediary companies offered a certain degree of diversification also in Hungary and elsewhere for some time. Excluding Croatia, Slovenia is the least dependent on the Russian gas supplies and 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 gas bring a certain degree of diversification to their portfolio. The January 2009 gas crisis was needed to force Slovakia to start diversifying 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 gas from Russia. The rest comes from Hungary. Romania is also able to buy gas from Hungary and transferred 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.

Nord Stream and South Stream create large additional capacity. Gas transit through Belarus and Poland are not at stake, but the Slovakian transit route has already been negatively affected. 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.

Internal gas production in the CEE region has been steadily declining, so in countries

where domestic gas plays a significant role in gas consumption, the degree of self-sufficiency also has been eroding. Unconventional gas is considered to be a hope to bring competition to the Russian-dominated markets and to lower gas prices. But one cannot predict the future of unconventional gas in Central and Eastern Europe. However, Black Sea gas is what 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 realities. In order to avoid not letting shale gas be a victim of PR failures, there are very strict rules that should be adhered to from the very beginning. Without following these principles, some countries will not even reach the point of determining whether or not they contain economically recoverable resources.

A key question is to evaluate the extent of additional gas demand in the CEE region. But the forecasts are contradictory. The current economic conditions and uncertainties around energy policies are no help in planning, making predictions or decisions.

Different countries have taken different steps to ensure the security of supply and the diversification since the early nineties and since the January 2009 crisis in particular, but the best is yet to come. The vision or the goal of energy independence, which has been communicated in certain CEE countries (e.g. in Hungary and Romania), is far off (the reality), regardless of what is to be understood by such statements.

It can be seen that LNG regasification and pipeline projects are moving forward very slowly and are being delayed. Acting on a commercial basis, these can be accepted but greatly erode the credibility of those governments' and companies' commitments. In contrast to the large projects, the importance of interconnections is also emphasised. Hungary has taken significant steps in this area. But the case of the Slovakian–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. Nevertheless, demonstration of the possibility of diversification plays an

important role in diversification steps, even if only showing Russia that there are other options.

To obtain the Azeri gas is a key. Since the autumn of 2011, important changes have occurred in the Southern Corridor, but the outcome is still far away. The South East Europe Pipeline and Nabucco West mean adaptation to the reality. The 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. SOCAR, holding a controlling stake in the Trans Anatolian Gas Pipeline, can be a guarantee for the Turkish project. Certain other members of the Shah Deniz consortium will also be shareholders of the pipeline. Nevertheless, one must remember in the future that Turkey is not an easy case to negotiate. 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.

Azerbaijan is the only definite supplier of gas to Europe in the Southern Corridor, but with high gas prices, European utilities will not stand in the queue for Azerbaijani gas. Also, 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.²⁰³

Among LNG regasification projects in the region, the Polish and Lithuanian projects are to be realised by 2014. The others are in planning stages. 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. 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 been set since 2000. This requirement is difficult to meet.

Finally, although it is cliché, it must be mentioned again that Central and East European countries should put a much greater emphasis on energy efficiency. Campaign announcements are not enough anymore.

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