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**Gazprom and the natural gas markets
of the East Baltic States**

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The contents of this paper are the author's sole responsibility and do not necessarily represent the views of the Regional Centre for Energy Policy Research (REKK) or any of its members.

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PREFACE

Vija Pakalkaite applied for summer internship at the Regional Centre for Energy Policy Research (REKK) in April 2011. Upon her research interest she was selected to our new summer internship program. This working paper on the Baltic natural gas markets is the result of her three months long research internship at REKK in the summer of 2011.

The three Baltic States (Estonia, Latvia, and Lithuania) have recently started the transformation of their natural gas market regulation. These relatively small consumers choose different approaches to open their natural gas markets. The inability to come on mutually acceptable location for an LNG terminal raises questions about the drivers and interests of market liberalization in this region.

In this working paper Vija gives a detailed overview of the three Baltic natural gas markets, their actors and regulation. She examines the differences of the main supplier's strategy in these markets and draws the attention to the fact that despite of the transmission network characteristics and the abolition of the destination clause the latter remains de facto in force across the Baltic region.

Vija's research was based on regulation theory and competition policy literature review and extensive data collection. Her results demonstrate the challenges that regulators and new market entrants face. The paper also lines out the theoretical strategies that the currently dominant player(s) would implement to safeguard its positions despite the proposed market framework changes.

REKK has been involved in providing training and education for young and senior energy professionals during the last eight years. In 2011 our new summer internship programme aimed to provide energy market knowledge and research experience for a highly motivated and a talented university student with a Central or Eastern European background. Vija was a pioneer in this internship programme. Her paper gives an overview of the barely analysed Baltic natural gas markets. I hope it provokes thought and discussion among its readers and draws the attention to important details of the market opening in these three new European Union member states.

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ABSTRACT:

The natural gas markets of Estonia, Latvia and Lithuania (the Baltic States) are teetering on the edge of dramatic changes through the introduction of alternative sources of supply and simultaneously unbundling the ownership of the natural gas market companies. It is likely that this process will engage deeper involvement of the European Union institutions on the competition policy level. The least liberalized natural gas market in the Baltic States is Latvia and is located in the middle of the region. Unfortunately, all roads of transportation of natural gas between the Baltic States go via Latvia, making it a bottleneck on the pathway for the Baltic States to the competitive single natural gas market. The Russian natural gas company, Gazprom, and its long term partner, German E.ON Ruhrgas, hold a dominant position in the Baltic States, and liberalization of the market is threatening to diminish its market share. Consequently this may stimulate a reaction from Gazprom. This paper analyses the energy policy of the Baltic States through the use of competition policy literature. It also provides the theoretical strategic measures of competitive entry deterrence into the market and analyses probabilities that could be applied. The paper reveals that a wide set of the entry deterrence techniques can be used such as price and non-price strategies, predation pricing, refusal to supply, and many other techniques which will be contextually explained in detail in the report.

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INTRODUCTION

This paper analyses the natural gas market of the three European Union (EU) members east of the Baltic Sea and the role of Russian state gas company, Gazprom,¹ in their region. Since Gazprom, quoting or citing the European Commission, enjoys “a privileged relationship and strategic partnership” with the German E.ON Ruhrgas² (European Commission 2005), the paper analyzes the role of E.ON in the region as well.

The lack of competition and absolute isolation from the rest of the EU in the natural gas sector of the East Baltic States³ is not just about fairness and transparency of the price that these states pay for the natural gas. It undermines the whole idea of the creation of an internal natural gas market within the EU, which would allow it to transform from a highly regulated to a competitive and “demand and supply” based market, and thus increase the security of supply for the continent. For that reason the special case of the situation in the natural gas markets in the East Baltic States is unique and deserves attention.

The four countries in the East-North of the Baltic Sea – Estonia, Latvia, Lithuania and Finland – are isolated from the rest of EU natural gas systems. As a direct result, EU institutional documents often refer to these countries as “energy islands” or “gas islands” (Ramboll Oil & Gas 2009; European Parliament 2009; European Parliament and European Council 2010; Šemeta 2011). Due to a myriad of historical factors, 100% of their consumed natural gas comes from Russia; mostly from the Russian state owned gas giant Gazprom. The East Baltic States both have the same main supplier of natural gas – Gazprom – and similar ownership structure of their Transmission System Operators (TSOs) – the incumbent natural gas companies, where Gazprom plays a role as a shareholder. These countries together constitute a small customer for Gazprom. In 2010, in Lithuania, Latvia, Estonia and Finland

¹ As of December 31, 2010, Gazprom shareholders were: 50.002% interest controlled by the Russian Federation (including State Property Management 38.373%, Rosneftgaz 10.740% and Rosgazifikatsiya 0.889%, ADR holders 27.570% and other entities 22.428% (Gazprom 2011).

² E.ON Ruhrgas is a 100% owned subsidiary of German E.ON. According to E.ON survey, approximately 79% of all identified shareholders are institutional and about 21% are retail investors. The geographical breakdown relates to shareholdings of approximately 37% in Germany and 63% foreign shareholders (E.ON 2011).

³ This paper uses the definition of the East Baltic countries provided in the Baltic Energy Market Interconnection Plan (BEMIP) reports (Ramboll Oil & Gas 2009; High Level Group 2009), which identifies them as Estonia, Finland, Latvia and Lithuania. However, data from Finland in the paper is used a few times, where necessary. Finland has the analogical situation in the natural gas market – it depends on a single supplier of natural gas, Gazprom and is not interconnected to the other EU members. However, Finland has never been a part of the Soviet Union and does not have the heritage of such a past, and this is reflected in the legal mindset, and Gazprom has a smaller part in the share capital of the Finnish natural gas transmission system operator.

around 10 billion cubic meters of gas were consumed, and it was merely 2% of the whole Gazprom gas sales in 2010 (Gazprom 2011). Nevertheless, they can act as a game changer in the pan-EU and Gazprom relations if unbundle the ownership the natural gas companies co-owned by Gazprom.

The East Baltic Sea states are standing on the edge of changes in the natural gas market by planning to unbundle the ownership of the gas market companies and to introduce alternative sources of supply. This can be viewed as a natural experiment to observe Gazprom and its partner E.ON Ruhrgas business policies and their possible responses to emerging competition which have not existed for the last half century. The process will also define how active a role in it the EU as a whole will take.

The European Union's relations with Gazprom until recently were mostly limited to the internal energy policy regulations and were a field for the energy commissioner and General Directorate for energy. Until recently institutions responsible for competition in the EU have not become involved in any prominent case related to Gazprom⁴. However, the activities of implementing the Third energy package Directives and the ownership unbundling processes in the Gazprom co-owned gas infrastructure companies might require deeper EU involvement on the competition level.

The paper analyses the energy policy of the Baltic States and also uses elements of analysis of competition policy. The paper is divided in three parts. The first shows the role of Gazprom and E.ON Ruhrgas in the region and reveals the monopolistic situation of Gazprom in several layers. The second part provides the analysis of the complex challenges Gazprom and E.ON together face in the region. The third part provides the assessment of the situation and uses competition policy theory and Competition DG cases in the natural gas sector to forecast the range of reactions Gazprom can take.

⁴ In fact, by September 2011, there have been just four formal procedures of the Commission's Competition Directorate General directly related to Gazprom, out of which three were related with mergers and one antitrust case related with the territorial restrictions in Austria: http://ec.europa.eu/competition/elojade/iseef/index.cfm?fuseaction=dsp_result. However, in autumn 2011 DG Competition exercised a major dawn raid in the Gazprom affiliate companies in all over Eastern and Central Europe. Outcomes of this dawn raid are yet unknown.

1. GAZPROM AND E.ON RUHRGAS DOMINANCE IN THE BALTIC STATES

In this chapter the role of Gazprom and E.ON Ruhrgas in the Baltic region is disclosed first on the level of natural gas supply, then on the level of ownership of the transmission system operators, and then in the distribution sector of the Baltic States. It becomes clear by the end of the chapter that Gazprom and its strategic partner, E.ON Ruhrgas, enjoy a dominant position in the natural gas market of the East Baltic States, and Gazprom is the main external supplier to the Baltic States.

The European Court has stated that “very large market shares are in themselves evidence of the existence of a dominant position and that is the case where there is a market share of 50%” (European Court 1991). In the EU Directives on natural gas markets a special term regarding dominance of supply is defined. A company is a “main external supplier” if it has a market share of more than 75% (European Parliament 2003; European Parliament 2009). The market situation of the abovementioned companies reach over these thresholds. Admittedly, the energy sector in the Baltic States is heavily regulated, including the components of the sales prices in some of the Baltic States. However, no regulator can define an import price of the natural gas which is decided by Gazprom.

I.1. Natural gas imports to the East Baltic States

All three Baltic States import 100% of their natural gas from a single source – Russia – by pipeline. Russian natural gas reaches Estonia and Latvia via direct interconnections with the Russian Federation, while Lithuania gets Russian gas via a pipeline which comes from Russia through the territory of the Republic of Belarus.

Estonia and Lithuania import natural gas only from the Russian state gas company Gazprom. However, part of the Gazprom gas is nominally sold to Lithuania by the company registered in Switzerland. The import of natural gas to Latvia, however, slightly differs, as natural gas comes from two Russian companies – Gazprom and Itera. Besides, the recent annual reports of the Estonian incumbent of the natural gas market, Eesti Gaas, show that the company has also been purchasing some small amounts of natural gas from Itera Latvia (Eesti Gaas 2006; Eesti Gaas 2008; Eesti Gaas 2009; Eesti Gaas 2011a), which is a minor

shareholder of both Eesti Gaas and Latvijas Gāze. Nevertheless, Gazprom is almost the sole⁵ supplier of natural gas to the Baltic States.

In 2010, during the recovery of the economies of the Baltic States and because of a cold winter, natural gas consumption also increased and reached 5.6 billion cubic meters. Together with Finland, 8.96 billion cubic meters of natural gas in 2009 and 10.1 billion cubic meters in 2010 were consumed, and the increase was roughly 13% (see Table 1.1).

Table 1.1 Consumption of natural gas in the Baltic States, billions cubic meters

Country	2009	2010	Change %
Estonia	0.64	0.7	9.4
Latvia	1.49	1.79	20.1
Lithuania	2.73	3.11	13.9
Finland	4.1	4.5	9.8%
East Baltic States	4.86	5.6	15.2%
Total	8.96	10.1	12.7%

Source: Lietuvos Dujos 2011a; Eesti Gaas 2011a; Latvijas Gāze 2011a

In 2010, Gazprom sold 495.6 billion cubic meters of natural gas (Gazprom 2011) out of which only a little over 1% were exported to the Baltic States. Together with the natural gas exports to Finland, exports to the East Baltic States were just around 2% of the total amount of gas sold by Gazprom. Compared just to the amount of Gazprom's natural gas devoted to exports (218.3 billion cubic meters – total Gazprom natural gas sells less than in Russia)⁶, natural gas exported to the Baltic countries was 2.6% and, together with Finland – 4.6%.

All of the Baltic interconnections are mapped out in Figure 1.1 below. The actual capacities and bi-directional potential of the interconnections that are shown in the Figure are provided in Table 1.2 further down. As seen from the map, there is no interconnection between the

⁵ Based on the data provided by Latvian natural gas transmission system operator (TSO), Itera usually imports around 20–30% of the gas imported to the Latvian territory, and Gazprom the rest. Itera states it is one of the largest independent producers and traders of natural gas operating in the Commonwealth of Independent States and the Baltic States. Itera has been involved in production of natural gas in the Yamalo–Nenets Autonomous Region (YaNAO) in Western Siberia (Russia) since 1998 (Itera).

⁶ In 2010 total Gazprom sales of natural gas were 495.6 billion cubic meters, out of which sales in Russia – 277.3 billion cubic meters. Sale volumes in former Soviet Union countries were 70.2 billion cubic meters. The sales to FSU countries and Europe and other countries include both exports from Russia, and sales of gas purchased by the Gazprom Group outside Russia (Gazprom 2011).

Baltic States and any other EU Member State by pipeline, and the gas is delivered by the network from the East.

Figure 1.1 Map of the natural gas transmission system in the Baltic States



Source: European network of transmission system operators for gas 2011

Table 1.2 below was compounded from the data on the East Baltic States natural gas interconnections provided by the European Network of Transmission System Operators for Gas (ENTSOG), local regulating authorities and local TSOs. In the Table, the natural gas transmission system interconnections and system operators which are in charge of them are named, and the transmission capacities are provided.

The Table depicts the complex system of natural gas supply to the Baltic States. First of all, not all cross-border capacities are used (Estonian–Russian Narva interconnection and Lithuanian–Belarusian Ivancevici are not in use), so the system is not fully exploited. Cross-border interconnectors between Estonia–Latvia, Latvia–Lithuania and Latvia–Russia are bi-directional. This is because all three Baltic States and Russia are keeping some reserves of natural gas in the Inčukalns underground gas storage facility (UGS), which is located in Latvia and is operated by the local vertically integrated transmission system operator Latvijas Gāze. They reverse the gas shipments when necessary. Estonia and Latvia fill the storage

during the warm seasons and depend on the storage during the cold season, while Lithuania keeps some gas more for contingency reasons. Russia's motives to keep gas and ship it back to Russia are unknown, however, this can be for historical reasons as the system was built during Soviet times to provide natural gas for Lithuania, Latvia, Estonia, Pskov and partly Leningrad region in Russia.

Table 1.2 Natural gas interconnectors in the East Baltic States

Nr .	Point type	Location name	System operator 1	CC	System operator 2	CC	Remarks	Technical physical capacity GWh/d	Technical capacity MW	Technical capacity millions cubic meters
1	Non-EU	Narva	Gazprom	RU	Eesti Gaas	EE	Typically closed	n.a.	1555 in theory, 194 in practice	4 theoretical, but practical 0,5 in winter and 1 in summer
2	Non-EU	Värskä	Gazprom	RU	Eesti Gaas	EE		n.a.	1555	4
3	Non-EU	Misso	Gazprom	RU	Eesti Gaas	EE	Minor pipeline close to the Värskä one	n.a.	n.a.	n.a
4	Cross-border	Karksi	Eesti Gaas	EE	Latvijas Gāze	LV	Bi-directional	n.a		7
			Latvijas Gāze	LV	Eesti Gaas	EE		78	2721	7
5	Non-EU	Korneti	Gazprom	RU	Latvijas Gāze	LV	Bi-directional	165,6		19
			Latvijas Gāze	LV	Gazprom	RU		n.a.		13
6	Cross-border	Kiemēnai	Latvijas Gāze	LV	Lietuvos Dujos	LT	Bi-directional	22,3		5.2 ⁷
			Lietuvos Dujos	LT	Latvijas Gāze	LV		55,8		5.2
7	Non-EU	Kotloková	Beltransgaz	BY	Lietuvos Dujos	LT	No reverse flow	281		27.2–31.2
8	Non-EU	Ivancevici	Beltransgaz	BY	Lietuvos Dujos	LT	No reverse flow, not in use	n.a.		
9	Non-EU	Šakiai	Lietuvos Dujos	LT	Gazprom	RU–KAL	No reverse flow	113		10.5–11.52
10	Non-EU	Druskininkai	Bieltransgas	BY	Intergas	LT	n.a.	n.a.	n.a.	n.a.

Source: European network of transmission system operators for gas 2011; Lietuvos Dujos 2011b; National competition authority of Estonia 2010a, 60; National control commission for prices and energy 2011e, 65

⁷Such cross-border capacities from Latvia to Lithuania are available only in the summer time, in winter it is smaller. Lithuanian and Latvian TSOs are enhancing the throughput capacity of the Lithuania–Latvia gas interconnector. The project is scheduled for completion in 2013.

The maximum withdrawal from the Inčukalns UGS is 24 million cubic meters per day. Latvijas Gāze sends signals that the company is willing to expand the gas storage. Besides, because of the reconstruction withdrawal capacity may reach 30 million cubic meters per day (Latvijas Gāze, 2011 d). However, in the BEMIP report highlighted that the maximum daily demand in the three Baltic countries plus Kaliningrad is estimated to be 40 mcm per day (Ramboll Oil & Gas 2009, 25).

Until recently Eesti Gaas and Latvijas Gāze would purchase the gas injected into Inčukalns and would be the owners of the gas. However, the financial reports of the company and annual reports of the Estonian Competition Authority show that Eesti Gaas stopped buying the gas beforehand, and, when necessary, acquires gas from Gazprom who is now the owner of the gas stored in Inčukalns ⁸.

I.2. Natural gas importers and transmission system operators

Gazprom, together with E.ON Ruhrgas, has a stake in the form of shares in the local transmission system operators, which themselves hold dominant or near dominant⁹ positions in transmission, distribution and supply businesses in Estonia, Latvia and Lithuania.

Eesti Gaas is the only importer of natural gas in Estonia and therefore has a dominant position in the market in this country. Before the recent financial crisis, however, the chemical industry company, Nitrofert, had also been importing natural gas directly from Gazprom for its own needs for use in its technological process. The company suspended activity in February 2009 at the peak of the financial crisis (National Competition Authority of Estonia 2010a, 18). By the middle of 2011 Nitrofert still had its production halted; explaining that the activities were unprofitable due to the constantly increasing prices of natural gas, electricity and services (dv.ee 2011).

In Latvia, gas is imported by a single vertically integrated company, Latvijas Gāze, which operates the transmission, distribution system and underground gas storage. From 1997 until February 10, 2017, Latvijas Gāze has an exclusive license to provide regulated public services granted by the Energy Supply Regulation Council of the Republic of Latvia in 1997 (Latvijas Gāze 2011a). In addition to exclusive licenses for transportation, storage, distribution and sale of natural gas until 2017, the government guaranteed that Latvijas Gāze would be granted unlimited and exclusive right to use Inčukalns UGS for the period of twenty

⁸ A more detailed description of each of the interconnectors and the Inčukalns underground gas storage is provided in the appendices

⁹ This will be explained by the natural gas import market share of Lietuvos Dujos further below.

years (Ješinška 2006). In addition to having the natural monopoly, Latvijas Gāze in the Latvian market can also be called a statutory monopoly (Monti 2002). Latvijas Gāze transmits natural gas on the basis of contracts from Gazprom, Itera–Latvija, Lietuvos Dujos (Public Utilities Commission of the Republic of Latvia 2010, 12).

Out of the three Baltic States the picture of gas imports and distribution is undoubtedly most complex in Lithuania due to the fact that this country has the largest number of Russian natural gas importers and in some cases encounters several intermediaries on the import pathway. The major natural gas importer is the natural gas markets largest company (incumbent) Lietuvos Dujos. Lietuvos Dujos' long term supply agreement will expire by the end of 2015. Unlike its counterparts in Estonia and Latvia, Lietuvos Dujos' share of imports is slightly fluctuating (table 1.3).

Table 1.3 Breakdown of natural gas imports to Lithuania

Year	2006	2007	2008	2009	2010
Lietuvos Dujos share of imports	45%	39.1%	36.3%	42.8%	50.3%
Achema share of imports	27%	38.7%	38.3%	28.7%	23.1%
Dujotekana share of imports	17%	13.5%	15.6%	17.7%	17.3%
Others	11%	8.7%	9.8%	10.8%	9.9%

Source: Lietuvos Dujos 2011a; Lietuvos Dujos 2010; Lietuvos Dujos 2009; Lietuvos Dujos 2008

As seen in the Table, the import share of Lietuvos Dujos for the last five years have been ranging from 36 to 50%. However, the second largest importer, Achema, imports just for its own needs, and Lietuvos Dujos supplies 100% of gas to the residents of Lithuania. Moreover, it is guaranteed by the privatization agreement that Lietuvos Dujos from 2004 till 2014 will import not less than 70% of the Lithuanian demand, except for demand which comes from Achema and the cogeneration plant (CHP) Kauno Termofikacijos Elektrinė. This means that the Lithuanian government in 2004 assured Lietuvos Dujos the dominant position or at least significant market power for ten years (State Property Fund 2004).

In 2010, in addition to Lietuvos Dujos, natural gas from Russia to Lithuania was imported by four other companies: Achema, which is a large manufacturer of nitrogen fertilizers and chemical products, the energy company Dujotekana, the CHP Kauno Termofikacijos Elektrinė and the energy company Haupas. The latter company does not use the Lietuvos Dujos system for its imports of natural gas and is directly connected to the

territory of Belarus. Achema and Kauno Termofikacijos Elektrinė imported natural gas for their own needs (Lietuvos Dujos 2011a).

Dujotekana is an intermediary for Gazprom natural gas in Lithuania, despite the fact that Gazprom has shares in the company Lietuvos Dujos.¹⁰ The company was established in 2001, and it serves just business clients (in 2010 it served 15 large business consumers, mostly thermal plants) (National Control Commission for Prices and Energy 2011e, 84). In October 2008, Dujotekana terminated its agreement with Gazprom and replaced it with an agreement to import Russian gas via one more intermediary to deliver the same Gazprom gas – LT Gas Stream,¹¹ which was registered in Switzerland at the end of 2007. The supply agreement with LT Gas Stream is from 2008 until 2012.

In 2010, 83% of all imported gas to Lithuania was bought from Gazprom, the remaining part of Gazprom's natural gas via LT Gas Stream (National Control Commission for Prices and Energy 2011e). As Dujotekana's long-term gas supply agreement is over by the end of 2012, the picture of import divisions might change. All of the importers of natural gas in Lithuania and the share of their imports in the first quarter of 2011 are shown in Figure 1.2 in section 1.4 about natural gas distribution and retail in the East Baltic States.

In Finland the natural gas market is also characterized by vertical integration. The wholesale supplier of natural gas – Gasum Oy – is the sole importer and operator of the transmission system. Furthermore, it is downward vertically integrated into retail supply and distribution network operations. The companies operating in the retail market are active both in retail supply and distribution network operation. The Finnish natural gas transmission network is only connected to the Russian natural gas pipeline which provides for the entire supply of natural gas to Finland. The Russian natural gas exporter Gazprom and Gasum Oy have entered into an agreement for Russian natural gas exports to Finland until the end of 2025 (Energy Market Authority of Finland 2010).

¹⁰ In April 2007, the parliamentary Committee on National Security and Defense unclassified the previously secret testimonies of the officials of the State Security Department. There the unnamed state security officials called Dujotekana a “cover company”, “which was established with the help of Russian special agencies”. The testifying Lithuanian officials asserted that they were in possession of a letter to the Russian leader Vladimir Putin where he had been requested to permit the establishment of Dujotekana and appoint a natural gas quota for the company, and some parts of Dujotekana's profits would be used to maintain the Russian diaspora in Lithuania and create conditions for some Russian institutions to reach their aims in Lithuania (Committee on National Security and Defense 2006). Dujotekana's shareholders by the end of 2010 were eight individuals. The largest shareholders were Lithuanian citizens Piotras Vojeika, Rimandas Stonys and Vladimir Orechov (Dujotekana 2010)

¹¹ The shareholders of LT Gas Stream are unknown. During the establishment of the company at the end of 2007 the main shareholder was a Cypriot company, Restoni Trading, established just three weeks before the LT Gas Stream.

I.3. Ownership structure of the transmission system operators

Gazprom and E.ON Ruhrgas own stakes in the natural gas transmission system operators of the Baltic States which are the largest natural gas companies in Estonia and Lithuania, and the only natural gas company in Latvia. Despite the fact, the TSOs own the transmission and distribution networks, natural gas supply activities are the largest part of their TSOs revenues. In 2010, Eesti Gas's sales of natural gas constituted 90% of the total sales (Eesti Gaas 2011a, 17), and supply reached 80% of total sales of Lietuvos Dujos and revenue from transportation reached 20% (Lietuvos Dujos 2011a).¹² The distribution of shares in the natural gas TSOs in the Baltic States and Finland is shown in Table 1.4 below.

Table 1.4 Division of the the transmission system operators in the Baltic States and Finland¹³

	Estonia: Eesti Gaas	Latvia: Latvijas Gāze	Lithuania: Lietuvos Dujos	Finland: Gasum
OAQ Gazprom (Russia)	37.02%	34.0%	37.1%	25%
E.ON Ruhrgas International (Germany)	33.66%	47.2%	38.9%	20%
Fortum Heat and Gas (Finland)¹⁴	17.72%	–		31%
Itera Latvija¹⁵ (Latvia)	9.85%	16.0%		
Ministry of Energy of the Republic of Lithuania (Lithuania)	–	–	17.7%	
Finnish State				24%
Other shareholders	1.75%	2.8%	6.3%	–

Source: Lietuvos Dujos 2011a; Gasum Oy 2011; Eesti Gaas; Latvijas Gāze 2011a

In Estonia, the share capital of Eesti Gaas differs from the Latvian and Lithuanian transmission system operators. The company has two types of shares: A– and B–type shares (common and preference). The nominal value of the A–type shares is EEK 1,000; each share

¹² Latvijas Gāze's sales are not broke down into such detail in the annual reports.

¹³ The composition of Eesti Gaas shareholders is of December 31, 2005, Latvijas Gāze – as of December 31, 2010, Lietuvos Dujos – as of December 31, 2010, Gasum – December 31, 2010. Eesti Gaas in the website does not provide shareholder structure later than December 31, 2005, and from the annual report of 2007 it stopped providing information about shareholders in annual reports.

¹⁴ As of June 30, 2011, Fortum Heat and Gas OY had 99,337 shareholders. The biggest shareholder was the Finnish prime minister's office which had 50.76% of the shares, and a large part of the largest 100 shareholders were various pension funds: <http://www.fortum.com/en/investors/share-information/major-shareholders/pages/default.aspx>

¹⁵ In 2011 66% of Itera Latvia belonged to the natural gas producer ITERA Oil and Gas Company in Russia, which was owned by Cyprus registered Itera Group Limited and the holder of the control share package in the consolidated financial report of 2009 was named as the chairman of the board of directors of ITERA Oil and Gas Company Ltd, Igor Viktorovich Makarov (Itera 2011; Itera 2010).

granting one hundred votes to its owner at the general meeting of shareholders. In the case of the dispossession of shares, other A-type shareholders have the preemptive purchase right. The nominal value of the B-type shares is EEK 10, each share granting one vote to its owner at the general meeting of shareholders. B-type shares are freely tradable (Eesti Gaas 2011a).

Table 1.5 Eesti Gaas shareholders

Shareholder	A shares	B shares	Total share capital
ОАО Gazprom (Russia)	50.8792%	–	37,0264%

Source: Eesti Gaas

As shown in Tables 1.4 and 1.5 above, neither of the shareholders have over one-half of the shares in the companies. However, both Gazprom and E.ON Ruhrgas International have more than 33.33% of the shares in each of the Baltic States gas incumbents, which allow these companies to have a right to veto the important decisions in the company's business development and destiny. In Estonia, Gazprom and E.ON Ruhrgas International together own more than 2/3 of the total share capital. Adoption of major corporate decisions, however, may be blocked by Fortum Heat and Gas and Itera Latvija.¹⁶ In Latvia and Lithuania, Gazprom and E.ON Ruhrgas International hold together more than ¾ of the shares, which allow these companies solely to make the major decisions in the companies. However, the Lithuanian government may hold some additional rights in the shareholders' agreement of Lietuvos Dujos, which is confidential.

¹⁶ According to Estonian commercial law, if a public limited company has several classes of shares, a resolution on major corporate decisions (e.g. amendment of the articles of association, increase or decrease of the share capital, issuance of bonds, merger, division or liquidation of the company) is adopted if at least 2/3 of all the votes represented at a general meeting and at least 2/3 of the votes represented at the general meeting of each class of shares are in favor of the resolution. Eesti Gaas has two classes of shares (A and B class) – 86% of A shares are held by Estonia Gazprom and E.ON Ruhrgas International. However, only 29% of B class shares are held by E.ON Ruhrgas International (Gazprom does not own B class shares). Thus, if Fortum Heat and Gas and Itera Latvija vote against the resolution, the general meeting cannot adopt a resolution on the above matters.

Table 1.6 The main rights that shareholders holding 2/3 of the shares have in the Baltic States

Main rights of shareholders with 2/3 (or 3/4) of the shares	Estonian Commercial Code	Latvian Commercial Law¹⁷	Lithuanian Law on Companies¹⁸
Amendment of the articles of association	+	+	+
Issuance of convertible debentures (bonds)	+	+	+
Increase or reduction of share capital	+	+	+
Liquidation of the company and cancellation of the company's liquidation	+	+	+
Termination or continuation of activities	+	+	— ¹⁹
Merger	+	+	+
Division or transformation or reorganization of the company	+	+	+
Determination of the class, number, nominal value and the minimum issue price of the shares issued by the company	+	+	+
Conversion of the company's shares of one class into shares of another class or type, approval of the share conversion procedure, replacement of a private limited liability company's share certificates with non-certified (non-material) shares ²⁰	+	+	+
Appropriation of profit (loss)	+	+	+
Forming, using, reduction or liquidation of reserves	+	+	+

Source: Riigikogu 1995; Saeima of Latvia 2011b; Lithuanian Parliament 2009

Table 1.6 above reveals that the legal regulations of the share capital are largely identical among the East Baltic States. As seen, the shares in the Lithuanian and Latvian transmission system operators are enough for Gazprom together with E.ON Ruhrgas to make major decisions in the companies even on decisions to merge the companies.

Gazprom supplies natural gas to the natural gas incumbents it partly owns. Its strategic partner's E.ON Ruhrgas role in the TSOs differs. Instead of sales of natural gas its role is

¹⁷ Decisions can be taken by a meeting of stockholders if not less than 3/4 of the stockholders with voting rights present vote for them, if the statutes do not specify a larger number of votes. If there are several categories of shares in a company, a decision on an issue which affects the rights of shareholders of the relevant category of shares shall be taken if the shareholders of each of the relevant categories of shares, by a majority of votes of the shareholders with voting rights present as specified by law or the statutes, vote for it in each of such groups of shareholders.

¹⁸ Not less than 3/4 of all the votes carried by the shares of the shareholders present at the general meeting of shareholders are required when deciding to withdraw for all shareholders the pre-emption right in acquiring the company's newly issued shares or convertible debentures (bonds) of a specific issue. If there are several classes of shares, certain decisions may require approval by a certain majority of votes of each class (as may be specified in the articles of association).

¹⁹ In Lithuanian legislation there is no such separate procedure as termination and the termination of the company's activities is implemented via liquidation procedure.

²⁰ There are no share certificates in Estonia. In addition, this refers to private limited companies; However, Eesti Gaas is a public limited company.

related with the sales of other services such as software (Eesti Gaas 2009, 18), advising on procurement issues, consulting upon issues related to the latest technologies (Latvijas Gāze 2011a, 23), and sharing know-how.

I.4. Distribution, retail of natural gas

Despite the similar ownership structure of the TSOs and almost identical import structure, the internal markets of natural gas and the supply to customers in the Baltic States differ among themselves. They very much reflect the specifics of legislation in each of the countries. In Estonia and Lithuania regulations of the natural gas market allow for some competition in the trade/supply level (even if the natural gas is imported from a sole source), while in Latvia no competition is yet allowed. Both Estonian and Lithuanian gas consumers are eligible and have a right to choose a natural gas supplier, third party access to the network is legally granted while the section of market liberalization in Latvian Energy law will come into force from 4 April 2014 (Saeima of Latvia 2011a). Therefore, legally consumers both in Estonia and Lithuania are eligible to choose a gas supplier, and they will become eligible in Latvia in 2014. However, even if consumers are eligible, there is no coercion for consumers to change a gas supplier, unlike the electricity sector in Estonia and Lithuania.²¹

Estonia, despite being the smallest of the East Baltic States, has the largest number of distribution system operators. There the Eesti Gaas wholly owned subsidiary, Võrguteenus, possesses the transmission network and also is the largest distribution network. The National competition authority of Estonia, however, notes: “Differently from the wholesale market the competition in the retail market has been activated” although the market “remains extremely concentrated” (National Competition Authority of Estonia 2009; National Competition Authority of Estonia 2010b). Various gas sellers (network undertakings) buy gas from Eesti Gaas and resell it. Most of their customers are households connected to their network. In 2008, there were 1,109 cases of a change of gas seller. In 2009, there were as many as 1,576 cases of the same phenomena. In 2009, the share of Eesti Gaas was 92% and the remaining 8% sold in the retail market was firstly purchased by other network undertakings from Eesti Gaas (National Competition Authority of Estonia 2010a, 19).

²¹ In Estonia since 1 April 2010 eligible customers (defined as one with an annual consumption of at least 2 GWh in a calendar year) have no right to buy electricity at the regulated price, but instead must buy it at the market price in Estonia (National Competition Authority of Estonia 2010a, 6). In Lithuania since 31 July 2011 only consumers with installed capacity less than 30 kW and households may demand electricity from the public supplier, from the beginning of 2013 this right remains only with households (Seimas of the Republic of Lithuania 2010). In Latvia, there is no coercion in the electricity market, since July 1, 2007 all customers became eligible to choose an alternative supplier of electricity (Public Utilities Commission of the Republic of Latvia 2010).

Together with Võrguteenus, the total number of distribution network operators which existed since 2010 and still remain are 25 (National Competition Authority of Estonia 2009; National Competition Authority of Estonia 2010b). Such a large number of distribution networks are related with the Natural Gas Act changes that came into effect on July 1, 2003. The amended law allowed the distribution companies to operate if they met the license, *modus operandi* and capital requirements. The same amendments of the Natural Gas Act allowed the residential customers in Estonia to become eligible customers: they acquired the right (but not the obligation) to purchase gas from any seller within the technical limits of the network (Riigikogu 2009). In addition, a “network operator is required to enable third party access to the network, which for the purpose of the Act means the right of market participants to connect with the network or to use network services” (National Competition Authority of Estonia 2010a).

In Estonia, the other distribution network operators besides EG Võrguteenus mainly consist of two groups. Part of them was established in the period of 1996 to 1998, and part was established after 2002.²² Several of them are owned by the Finnish energy companies such as Fortum Power and Heat and Gasum Paikallisjakelu, several are owned by the Estonian municipalities, and several by Estonian individuals. The largest single shareholder is distribution system operator (DSO) Energate, which owns four other DSOs and belongs to the private equity fund (RIK Centre of Registers and Information Systems).

In Latvia, the situation from first sight might seem the most simple since the transmission system operator, Latvijas Gāze, is the only trader of natural gas in Latvia. Additionally, its monopoly is both protected by law and by exclusive licenses the company possesses. In Latvia, a section of consumer liberalization in Latvian Energy law will come into force from 4 April 2014. The section states that “all natural gas users have the right to freely choose a natural gas trader. Final customers who have a connection to a transmission system have the right to change traders without restrictions” (Saeima of Latvia 2011a). In such a case there is no legal market liberalization in Latvia until spring 2014.

²² The time of the establishment of these small Estonian DSOs might be explained by the fact that the companies from the part established between 1996–1998 expanded their business as usual into the sphere of distribution of natural gas when the legal possibility arose. The second part established after 2002 might be the companies started-up during the discussion of the law amendments and established especially accordingly to the law. Around a third of the companies which have a license to distribute natural gas have exactly that amount of share capital (31,966 EUR) which the law requires as a minimum, though some of them were established way before the amendment of the Act (RIK Centre of Registers and Information Systems; National Competition Authority of Estonia 2011). By the amended Natural Gas Act, capital required for a network operator is not less than 500,000 Estonian kroons (now – 31,956 EUR) (Riigikogu 2003).

Moreover, there might be a contradiction upon liberalization on April 1, 2014, because the exclusive licenses of Latvijas Gāze last longer, until 2017. This will have to be solved by negotiations between the State of Latvia and the shareholders of Latvijas Gāze. In Latvia, the special legal articles providing third party access to the natural gas transmission networks will also come into force in April 2014 (Saeima of Latvia 2011a).

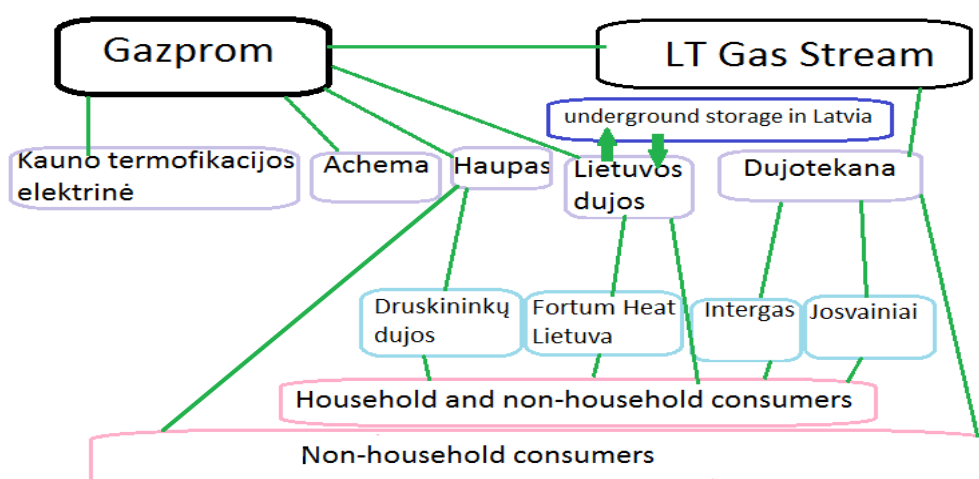
Conversely, the Lithuanian Natural Gas Law (last time amended in 2011) not only allows consumers to be eligible to change a natural gas supplying company, but also explicitly states that consumers have the right to buy natural gas from a company registered *in any Member State*, which has possibilities to supply gas and who obey the Natural Gas Trade rules. These rules require the balancing of and the security of supply set in Lithuania (Seimas of the Republic of Lithuania 2011a). The consumers in Lithuania, including households, are eligible since July the 1st 2007. Besides that, third party access to the system is warranted by the Law on Natural Gas. So if a consumer possesses an amount of natural gas on the border of Lithuania, Lietuvos Dujos, as is stipulated by the legal acts, must transport it and apply the certified and regulated transmission tariffs (Seimas of the Republic of Lithuania 2011a).

In Lithuania, six companies²³ have licenses for gas distribution and all of them have been active during the first quarter of 2011 (National Control Commission for Prices and Energy 2011d), and there are 13 license holders²⁴ for the supply of natural gas (National Control Commission for Prices and Energy 2011c).

²³ Holders of licenses to distribute natural gas in Lithuania are: Lietuvos Dujos, Josvainiai, Achema, Intergas, Druskininkų Dujos and Fortum Heat Lietuva (National Control Commission for Prices and Energy 2010).

²⁴ Licenses to supply natural gas in Lithuania are held by: Lietuvos Dujos, Josvainiai, Dujotekana, Achema, Intergas, Haupas, Druskininkų Dujos, Kauno Termofikacijos Elektrinė, Joint Lithuanian–Russian company Stella Vitae, Fortum Heat Lietuva, Joint Lithuanian–USA company Iteralit, Prekybos namai Giro and Imlitex. The latter five companies did not operate under the license of supply in the first quarter of 2011 (National Control Commission for Prices and Energy 2011d). Interestingly, despite the fact that the name suggest relations of the company with Russian Itera (which is also one of the Latvian Latvijas Gāze shareholders), in the official name of Iteralit is included a description “United States–Lithuanian” company. Itera Lietuva had a license to provide natural gas in Lithuania from February 2002 (National Control Commission for Prices and Energy). The license was cancelled in 2006.

Figure 1.2 The structure of natural gas imports and supply in Lithuania



Source: National Control Commission for Prices and Energy 2011a

Natural gas for the end users in Lithuania is provided by two main providers: Lietuvos Dujos (73.6%), which provides gas to business and households, and Dujotekana (25.6%). Haupas provides natural gas just to the mineral water resort region of Druskininkai in Lithuania – to the heating company Druskininkų šiluma and gas company Druskininkų Dujos (southern part of Lithuania in Figure 1.1). The other providers resell natural gas which they buy from Lietuvos Dujos, Dujotekana and Haupas (National Control Commission for Prices and Energy 2011b).

As Latvia sooner or later will proceed with natural gas market liberalization, the natural gas consumers and local want-to-be natural gas companies will be in relatively weaker situation than in Estonia and Lithuania because of the lack of experience in the free natural gas market. The Latvian natural gas consumers and companies, unlike Estonian or Lithuanian, do not have a possibility to practice how the free market could work, how to select another gas retailer or provide such services respectively. Even if Estonians and Lithuanians have the single natural gas supplier, Russia, their consumers and businesses can gain experience in a natural gas trade partly resembling the free trade.

I.5. Possibilities of price arbitrage

At the moment consumers from each of the Baltic States acquire just natural gas which was assigned to the importers in the territory they are from. For example, in practice this means

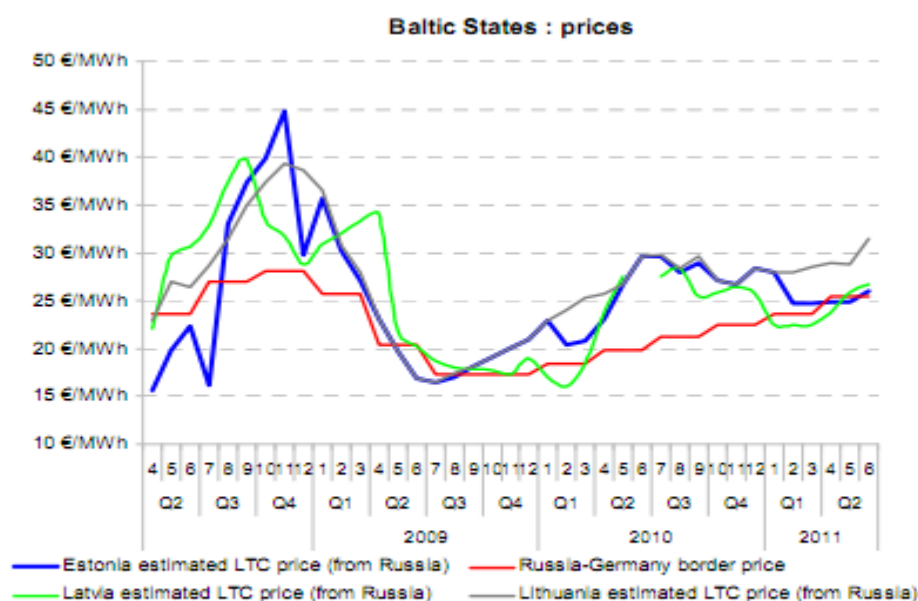
that if Gazprom raises prices in Lithuania, a Lithuanian customer will not start buying natural gas across the border from Latvia or Estonia. Not to be confused, the natural gas flow among the interconnections of the Baltic States does happen, but it is processed by the agreements among TSOs, not between the TSOs and individual consumers or among the consumers. As was comprehensively discussed in section 1.4, there are no legal obstacles to do so in Estonia or Lithuania; however the legislation differs among the Baltic States.

The non-existing trade of natural gas may also be imposed by the interests of the same shareholders in the Baltic States TSO which do not have an incentive to expand sales from one Baltic State to another as it already has the market in all three markets. Besides, it may be imposed by legal monopoly assured by the Latvian government to Latvijas Gāze and by the technical capacities of the overall system in the Baltic States. Nevertheless, the natural gas systems of the Baltic States are interconnected and gas import prices to differ among them, therefore a natural gas price arbitrage possibility might exist.

Figure 1.4 below shows that Latvian gas import prices since the middle of the third quarter of 2009 have been mostly below both Estonian and Lithuanian prices. Since the beginning of 2009 prices of import to Lithuania and Estonia mostly coincided except for the first half of 2010 when import prices to Estonia fell.²⁵ Moreover, from the beginning of 2011 one can see the hike of gas import prices to Lithuania and the fall of import prices to Estonia and Latvia.

²⁵ According to the Public utilities commission of Latvia, from the end of 2008 the gas price for Latvia is tied to 9 month average of oil products and for Estonia and Lithuania to 6 months average, but it made just minor differences in gas price.

Figure 1.3 Estimations of the long term monthly average prices of Russian gas to the different Baltic States and the average monthly German border price²⁶



Sources: Eurostat COMEXT, Gas Strategies.

Source: European Commission Directorate –General for Energy, Unit A.1 – Energy Policy, Programming & Observatory, Economic Analysis & Infringements 2011, 16

The gas import price situation since the beginning of 2011 can be explained by the changes in Gazprom prices to the Baltic States. By the end of 2010 it was publicly announced that Gazprom had agreed to give 15% discounts for Estonia and Latvia in 2011 (baltinfo.ru 2011; 2010; РИА Новости 2010). It should be added that at that moment it was clear that just Lithuania was going to implement the EU Third energy package on gas sector ownership unbundling. Valery Golubev, the vice-president of Gazprom, related²⁷ the pricing decision and the implementation of the EU Directive (The Lithuania Tribune 2010; Regnum 2010).

It is not clear what exactly has been changed in pricing, but Latvijas Gāze in its annual report for 2010 states that changes were negotiated in the natural gas price calculation formula “that could result in a lower level of natural gas prices in 2011. Eventually Latvijas Gāze signed an agreement with Gazprom on the calculation of natural gas supply

²⁶ Border prices are estimations of prices of piped gas imports paid at the border, based on information collected by customs agencies, and are deemed to be representative of long-term oil indexed gas contracts. However the source of the prices Gas Strategies is in the process of reviewing its methodology for calculation of long-term-contract prices. Therefore, if calculated using the new methodology, the prices may look different.

²⁷ The full quote of Mr. Golubev was “there is no reason to reduce prices in Lithuania. <...>We do not understand why Lithuania is implementing the EU Third energy package. Currently, the European Commission does not lead us to any negotiations on the gas for Lithuania” (The Lithuania Tribune 2010; Regnum 2010).

price for the following year. The agreement envisaged a reduction by 15% under equal conditions compared with the previous price calculation formula” (Latvijas Gāze 2011a). Latvijas Gāze received a price reduction in exchange for the promise to bring natural gas consumption back to the pre-crisis level of 2007. On the basis of the announcements on discounts of gas price for Estonia and Lithuania, in January 2011 the Ministry of Energy of the Republic of Lithuania launched a complaint to the European Commission requesting an investigation of the abuse of dominant position by the Russian gas supplier Gazprom (Ministry of Energy of the Republic of Lithuania 2011a).

The larger the gas import price spread, the more attractive the price arbitrage possibilities to the consumers should be, even including the transportation costs, especially for Lithuanian consumers. The import price to Lithuania is recently the highest and Lithuania, unlike Estonia, uses the interconnector to Latvia for extraordinary cases, not on a daily basis, so there is free cross-border transportation capacity. It is clearly seen in the interactive map of the capacities which is provided in the website of Lietuvos Dujos that interconnection from Latvia to Lithuania is rarely used. For example, it was not used at all for the first half of 2011, and in 2010 it was used just in January, June and December with the direction from Latvia to Lithuania (Lietuvos Dujos 2011b).

It is not clear whether Gazprom uses destination clauses (or territorial sale/restriction contracts) for the gas import to the Baltic States as it used to use in Europe until the first half of the 2000s. As the Energy Charter informs, these “clauses excluded the re-selling of the gas to a third country, thereby protecting the exporter’s position by preventing arbitrage operations to the detriment of the seller on the basis of any price differentials in different downstream markets”. The European Commission has argued that such clauses are not in line with European competition law within the European Union, as they restrict the re-sale and flow of gas between countries of the EU and thus violate basic provisions of the 1958 Treaty of Rome regarding free movements of goods. Russian Gazprom agreed in July 2002 to drop the destination clause from all future contracts (Energy Charter Secretariat 2007). However, the long-term gas supply agreement between Lietuvos Dujos and Gazprom was signed in 2004 and is valid until the end of 2015, and in Latvia the term is even longer. Agreements with the natural gas suppliers Gazprom and ITERA Latvija, including changes that envisage the extension of the period of validity of the previously concluded gas supply agreements till 2030, but the negotiations on this agreement were concluded in the beginning of 2009 (Latvijas Gāze 2009) which is after Gazprom stated it had abandoned destination clauses.

II. CHANGES AWAITING GAZPROM DOMINANCE

The natural gas market of the East Baltic States faces several types of changes which all bring closer the creation of the internal natural gas market. First, the Baltic States implement the EU directives and at different pace continue legally liberalizing the market. Second, the Baltic States are striving to implement various infrastructure projects such as interconnections with the other EU Member States and the LNG terminals.

II.1. Unbundling the natural gas system

The European Union aims to create a single natural gas market. The latest important Directive concerning the natural gas market (Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas) obliges the Member States of the EU to make the natural gas TSOs more transparent by unbundling transmission systems and transmission system operators from 3 March 2012. Member States can choose from ownership unbundling (OU),²⁸ Independent Transmission Operator (ITO) or the Independent System Operator (ISO)²⁹ model for their TSOs (European Parliament 2009). The strictest option is the ownership unbundling.

Estonia, Finland and Latvia chose to ask for derogation from this Directive, and it was granted to them because these countries “are not directly connected to the interconnected system of any other Member State and having only one main external supplier”(European Parliament 2009, 129). Lithuania which also is not directly connected to any other Member State and gets gas from one external supplier did not opt for derogation. Lithuania has chosen the strictest option – Ownership Unbundling. Subsequently, in order to implement the Directive, at the end of June 2011 the Lithuanian Parliament amended its Natural Gas Law. In Lithuania, the ownership unbundling will have to be implemented by the initiative of the gas company in question during the *not shorter* period than 24 months starting from the August 1, 2011 (thus not earlier than August 2013). It will have to be done “via contracts on transfer of property, transfer or the shares, transfer the rights of shareholders, shareholders' agreement, increase or reduction of the authorized capital or any others” (Seimas of the Republic of Lithuania 2011b). The Lithuanian prime minister of the time, Andrius Kubilius, stated that the ownership unbundling of the gas sector is a “prerequisite” for the LNG terminal though he does not precisely explain why (Seimas of the Republic of Lithuania 2011c). As shown in

²⁸ A single company could no longer own the transmission system at the same time as carrying out energy production or supply activities (EUR-Lex, PreLex, and Europe Direct 2009).

²⁹ Vertically integrated companies could retain ownership of the network on the condition that it is actually managed by a completely independent company or body (EUR-Lex, PreLex, and Europe Direct 2009).

Table 2.1, Lithuania is not the only EU country to choose the strictest option of the Directive implementation.

During the discussions in the Government and the Parliament, Lietuvos Dujos shareholders opposed the plans to unbundle the ownership of the company. For example, in autumn 2010, Gazprom and E.ON. Ruhrgas together sent an open letter to the Lithuanian government, in which they stated that unbundling itself would be costly as well as increase permanent operating costs (E.ON Ruhrgas and Gazprom 2010).³⁰ The Russian Prime Minister at the time, Vladimir Putin, used a stronger expression to describe this opinion about Lithuania's unbundling plan for gas utility Lietuvos Dujos. In November 2010 in business forum in Berlin Putin he called the process a "robbery"³¹ (Arkhipov 2010).

The derogation which was granted to Latvia, Estonia and Finland still means that the State upon its own decision can implement any of the three above mentioned models, and Estonia seems to be choosing the Ownership Unbundling option. The Ministry of Economics of Estonia in May 2011 announced that Estonian Gas must unbundle its gas network by 2015 (Toomas Hõbemägi, 2011).

Table II.1 European Union members listed by choices on implementation of gas sector unbundling

Chosen model of unbundling	Country
Ownership unbundling	Belgium, Denmark, Great Britain, Hungary, Italy, Lithuania, Portugal, Romania, Spain, Sweden, the Netherlands
Independent system operator	In its pure form chosen by none
Independent transmission operator	Austria, Bulgaria, Check Republic, France, Greece, Ireland, Luxemburg, Slovakia, Slovenia
Mixed	Estonia (OU, or ITO, or exception), Germany (OU+ITO), Poland (OU+ISO)
Not applicable (exceptions)	Cyprus, Finland, Latvia, Malta

Source: Ministry of Energy of the Republic of Lithuania 2011c

There is one important aspect related with the derogations from the Directive in the Baltic States. An exemption from the Directive would automatically expire even if Estonia, Latvia

³⁰ The full quote is: "Unbundling the transmission business would cause high costs, which would need to be included in consumer tariffs, for example: Doubling of the IT and telecommunication systems, installing commercial metering in 65 stations inside the current Lietuvos Dujos grid, separate premises, asset transfer and other restructuring costs. In addition, permanent operating expenses will increase due to loss of synergy, higher support and maintenance costs, and increased staff numbers" (E.ON Ruhrgas and Gazprom 2010).

³¹ The full quote is: "Our companies and their German partners in Lithuania legally acquired part of the assets in the pipeline system. Now, citing this third energy package, they're getting thrown out. What's that about? What kind of robbery is that?"(Arkhipov 2010).

or Finland did not choose so. It may happen in two cases: first, if Lithuania connects its natural gas system to Poland, second, if any Baltic State builds a liquefied natural gas (LNG) terminal which covers more than 25% of the demand.

Firstly, it is stated in the Directive that the articles concerning unbundling in the gas sector do not “apply to Estonia, Latvia and/or Finland until any of those Member States are directly connected to the interconnected system of any Member State *other than* Estonia, Latvia, Lithuania and Finland” (European Parliament 2009, 36). As wording of the Directive shows, it is enough that **any** of these four countries connects to the interconnected system of any Member State, other than Estonia, Latvia, Lithuania and Finland, for the derogation of all three above mentioned countries to become invalid. To put this in other words, it is enough for Lithuania to build a pipeline to Poland, and, as long as the Lithuanian system is connected with Latvia and subsequently Estonia, derogation would expire for them.

Secondly, Article 49 of the EU Gas Directive 2009/73/EC stipulates that “a supply undertaking having a market share of more than 75% shall be considered to be a main supplier”. Which means that in the case an LNG terminal is built in any of those four countries which diversifies the supplies so that there is no longer a main external supplier and the market share 75% no longer applies, any derogation shall automatically expire (European Parliament 2009). The various infrastructure projects that are undertaken in the East Baltic States described in the next section show that implementation of any of them will affect the derogation and force the derogated Member States to implement the Directive even if they are unwilling to do so.

Gazprom itself considers the liberalization of the European gas market among the various key risk factors. According to Gazprom, “the policy of gas market liberalization that contributes in the improvement of competition and increase in spot sales and can entail the refusal of a long-term contracts system ... [and] disparity of prices under long-term contracts and gas prices at spot markets represent a certain risk for Gazprom” (Gazprom 2011, 47). The part of the liberalization policy which provides for separation of gas production assets from transportation networks within the EU creates a risk that “lack of exemption from the provision means that the Group is unable to own or exercise control over transport business which will impede the implementation of the investments projects in the EU” (Ibid, 47).

II.2. Infrastructure projects and EU funding

The idea of ending the status of the Baltic States (and Finland) as “energy islands” – both electricity and gas – has already been viable for many years. However, the actual

implementations of the projects bringing alternative gas supplies in the gas sector, unlike in the electricity sector³² have not been very successful. This means that instead of being an “electricity island”, the Baltic States slowly become an “electricity peninsula”, but still remain a “gas island”. In the gas sector the Baltic States either do not proceed to actual planning of pipeline interconnections, or compete with each other where to build a new LNG terminal. This does not help them to come up with a single regional LNG project.

The European Commission proposed to allocate 40 billion EUR for the period 2014–2020 in the next financial perspective for the Connecting Europe Facility, out of which 9.1 billion EUR is proposed to be allocated for the energy sector (European Commission 2011a). Algirdas Šemeta, Commissioner for Taxation, Customs, Anti-fraud and Audit stated that a **one fourth** (roughly 2.275 billion EUR) of the funds provided for energy infrastructure would be devoted to the projects of the Baltic States, including not only natural gas, but also electricity interconnection projects (Šemeta 2011).

The EC also created a list of priority energy corridors. This list includes:

1. Interconnectors linking Finland and Estonia, Poland and Lithuania and a regional LNG terminal in the East Baltic;
2. Internal system upgrades to reach sufficient capacity to allow free flow of gas in all directions;
3. For the West Baltic area, further interconnection possibilities between the Norwegian and Danish systems, an interconnection between Poland and Denmark and increase in bidirectional capacities between Germany and Denmark.

According to the EC, these projects would “end the isolation of the three Baltic States and Finland, ending single supplier dependency as well as enhancing security of supply in the whole Baltic Sea region through increased diversification of supplies from Norway” (European Commission 2011b). Seeing the EU institutions’ determination to support the projects opening up the “gas islands”, there are substantial possibilities that in the next financial perspective of the Union 2014–2020 funds for the projects will be allocated.

II.2.1. Interconnector linking Poland and Lithuania

Two East Baltic Sea states have announced their plans to build gas pipelines: a pipeline Baltic Interconnector between the shores of Finland and Estonia and a pipeline between Lithuanian–Polish territories in the south. Only the latter one at the moment could bring alternative gas

³² The cable Estlink interconnection connected the Baltic States with Scandinavia, the Estlink–2 and project NordBalt between Swedish and Lithuanian shores are being implemented.

supply if there is a Polish LNG or a reverse flow from Germany is provided. The Finnish–Estonian interconnection would still provide these countries with Russian gas, but would increase the technical security of supply – N–1 standard.³³ Poland is actually building an LNG terminal in Swinoujscie, which is in the western part of Poland's Baltic coast – far from the Lithuanian border. However, in the case of an existing gas interconnection Lithuania and Poland could engage into swap sales of the gas from Swinoujscie. The planned start-up of the LNG in Poland is June 2014 (LNG World News 2011). In addition, the EU regulation on security of supply adopted after the Russian–Ukrainian gas dispute in January 2009 requires Member States fulfill the reverse flow infrastructure standard (European Commission 2010; European Commission). In the longer term period, Poland is actively planning to start extracting shale gas in its territories, and if these projects were implemented, the Polish shale gas could be traded in Lithuania too.

Lithuania and Poland have been planning to interconnect their gas infrastructures for many years, but not much has been achieved. In Table 2.2 below, recent estimations of the Lithuanian Energy ministry about the possible investment choices for the Lithuanian–Polish gas interconnections are displayed.

Table II.2 Estimations of the Polish–Lithuanian gas interconnector by the Lithuanian Ministry of Energy

Choices	Length in Lithuania, km	Length in Poland, km	Total length	Gas capacity m3/day	Planned investment, million EUR
Kondratki Jamal–Suvalkai–Vievis	140	160	300	15	343
Zambrov Jamal–Suvalkai–Vievis	140	160	300	15	344
Niechorshe–Suvalkai–Vievis	140	560	700	14,5	778

Source: Sekmokas 2010

In autumn 2008, representatives from the Polish Gaz–System conducted a market screening for the Poland – Lithuania interconnection near Suwałki. Subsequently, they began an Open Season procedure regarding the investment project in 2009. It was agreed both with the participants of the gas market as well as with the national regulatory authorities that an

³³ The N–1 formula describes the ability of the technical capacity of the gas infrastructure to satisfy total gas demand in the event of disruption of the single largest gas supply infrastructure, during a day of exceptionally high gas demand occurring with a statistical probability of once every 20 years (European Commission 2010).

“evident interest exists in increasing the transmission capacity in the scope of cross-border connections” (Gaz-System S.A. 2009), but the Open Season procedure bore no tangible results. Interestingly, the estimated annual volume which was used in the in the Open Season procedure was 1.5 bcm in the Lithuania–Poland direction and an estimated annual volume of 0.6 bcm in the Poland–Lithuania direction. This means that if the project were implemented, Lithuania would have been a Russian gas transit country to Poland, rather than a receiver of diversified supplies from Poland. In the case of a total long-term cut of the gas supplies from Russia via Belarus, the 0.6 bcm projected interconnector would not have been enough to cover Lithuanian demands.

The companies came back to the idea in 2011. On 5 April 2011, an agreement was signed to perform an analysis of the conditions of fulfilment of the Poland – Lithuania connection project between Gaz-System and the Lithuanian gas company, Lietuvos Dujos, as well as with the winner of the tender, Ernst & Young Business Advisory. The analysis is expected to supply information to partners about the possibilities and perspectives of constructing the Poland – Lithuania gas connection (Gaz-System 2011). The results of the feasibility study may constitute the basis for preparing once more the Open Season procedure for all market participants to assess the demand for gas transmission via the Poland – Lithuania gas pipeline.

II.2.2. Interconnector linking Finland and Estonia

As mentioned before, there has been a plan to construct a so-called Baltic Interconnector gas pipeline connecting Finland, Estonia and Latvia (subsequently Lithuania). The connection would contribute to the fulfilment by Estonia of the N-1 criterion, regardless of the Narva connection between Estonia and Russia. The project has not yet received final approval and, according to estimations by Eesti Gaas, construction of the gas pipeline will not be started before 2013 (National Competition Authority of Estonia 2010a). The project to examine the feasibility of constructing a pipeline to link Finnish, Estonian and Latvian natural gas networks is being carried out by Finnish Gasum together with Gazprom, Eesti Gaas and Latvijas Gāze (Energy Market Authority of Finland 2010, 68).

The Estonian National Competition Authority remarks that in Finland the gas supply situation is similar to that in the Baltics, because all natural gas is imported from Russia. Thus, no gas market can be expected even if a gas pipeline is built between Estonia and Finland, as such a common market of four countries would still have a single source of supply. However, according to Eesti Gaas, Finland plans to be connected to the Russian–

German pipeline and if a connection between Estonia and Finland is added then gas supplies to Estonia could be more technically secured. This new pipeline would enable the Latvian natural gas storage facilities to be used to improve reliability in natural gas transmission to Finland (Energy Market Authority of Finland 2010).

II.2.3. Competing plans to build LNG terminals

Each of the East Baltic States has a plan to build a liquefied natural gas terminal and this is the biggest problem in the way of bringing alternative supplies to the Baltic States. The internal competition mood in developing the LNG terminals does not allow the Baltic States to sufficiently cooperate on this issue.

Estonia has been considering two possible sites for the LNG terminal – in Paldiski or Muuga, Latvia has been selecting from 2–4 different places, but lately has focused on the port in Riga, and Lithuania has been planning an LNG terminal in Klaipėda. However, international experts warned more than once that because of the small size of the gas markets of the three Baltic States (and even with Finland) *only one* LNG terminal is feasible (Jahn 2011; Ramboll Oil & Gas 2009).

Since 2008, the gap between hub based and oil-linked long term gas prices has been noted. The divergence is estimated to finish around 2013–2014 (Stern and Rogers 2011). As a result, when any of the planned Baltic LNG projects are implemented, the consumers of the Baltic States will not necessarily have a choice of cheaper supply. They will have access to market based prices, however, which will depend on the demand and supply of the natural gas, thus consumers will be able to buy gas when it is cheaper (summer), and store and consume when it is more expensive.

Both Latvia and Lithuania already have transmission pipelines to the Baltic Sea shores where the LNG terminals are planned, whereas Estonia, especially the Paldiski site, is not connected to the natural gas transmission system of the country. Estonians plan to construct a transmission pipeline to Paldiski for a new LNG and/or interconnection to Finland.

The projected LNG terminal in Estonia is used within the context of the interconnection with Finland, so the LNG could be common for the Baltic States and Finland (National Competition Authority of Estonia 2010a). In a recent annual report the Estonian competition authority indicated that several investors had shown an interest in building a LNG terminal on the northern shores of Estonia, although no decisions have been made. The Competition authority stated that an “LNG terminal in conjunction with the Baltic connector

would improve security of supply both in Estonia and Finland and would also activate competition in the wholesale market” (National Competition Authority of Estonia 2010b). This is possible, as Estonia and Finland would be able to trade between themselves, and via Estonia this LNG terminal would also bring natural gas other than Russian to Finland.

Based on press information, there are two different competing private entities in Estonia, each involved in the development of their own LNG terminal projects. Estonian company, Balti Gaas,³⁴ is developing the project in Paldiski, west from the capital Tallinn. LNG Estonia³⁵ is developing the terminal in Muuga, east of the capital Tallinn.

As Balti Gaas states, “the terminal would potentially cover the entire gas consumption in Estonia and the company has for future supplies a pre-agreement with Nitrofert, Estonia’s largest industrial gas consumer”. During the first phase of the Paldiski-based LNG terminal plan the developers foresee supplying enough gas to cover Estonia’s gas needs for three weeks, with a 60,000–cubic-meter tank (Balti Gaas 2011). Based on the estimated consumption, the average throughput of the Paldiski terminal is calculated to be about 2.4 mcm a year at a cost of 300–400 million Euros (Bonnier Group/Äripäev 2011). In Muuga, the 2009 announced estimated cost was 7.5 billion EEK (around 450 million EUR). The project was planned to start in 2012 at the earliest or 2014 at the latest (Eesti Päevaleht 2009).

The company which develops the terminal project in Paldiski stated that it owned the land necessary for the construction. The company plans in 2012–2014 to build an onshore storage for the LNG and vaporizing facility. The company believes that because the terminal is meant for the security of supply, it “shall be financed partly from tariffs”. It is seen that the company also considers that the LNG terminal can stand idle sometimes “to tear Gazprom prices down”. The company does not consider storing the received natural gas in Inčukalns in Latvia, as “Inčukalns cannot offer security of supply to Estonia as then the same pipe is used, and its throughput is limited”. The company does not plan to invest in the transmission pipeline connecting Paldiski and the national gas system (Balti Gaas, 2011a).

³⁴ According to the Estonian Centre of Registers and Information Systems (RIK) data, the company, Balti Gaas, was registered in July 03, 2008 (RIK Centre of Registers and Information Systems). January 7, 2011, dated press release of Balti Gaas states that the company is owned by Baltic International Trading, Paldiski Arendamise and Sergei Timoshenko (Balti Gaas 2011). Paldiski Arendamise AS itself entered into the registry on February 08, 2006, and its share capital is 35,700,000 EEK, Baltic International Trading entered into the registry in October 2002, and its share capital is 10,000,000 EEK (RIK Centre of Registers and Information Systems).

³⁵ According to the Estonian Centre of Registers and Information Systems (RIK) data, the company, LNG Estonia AS, entered into register on June 13, 2007, and its share capital is 1,000,000 EEK (63,912 EUR) (RIK Centre of Registers and Information Systems). The publications in press show that the initiator of this LNG project is the former Estonian minister of environment and chairman of the state-owned lottery firm, Eesti Loto, Heikki Kranich (Eesti Päevaleht 2009; Bonnier Group/Äripäev 2011).

It is important to state that the LNG investment location recommended in the final report for the BEMIP was destined to be located on the Finnish or Estonian shores. The LNG in Latvia was not mentioned in the BEMIP and LNG in Lithuania only as additional investment “in the case reverse flow in Yamal–Europe (in Poland) is not established”. In the final report it is also stressed that “the relative small gas markets in Finland, Estonia, Latvia and Lithuania do not generate scope for more than one LNG terminal” (Ramboll Oil & Gas 2009).

In summer 2011, a feasibility study commissioned by Latvenergo was conducted in Latvia by a consortium of GL Noble Denton and the Energy Contract Company. Latvia plans to create a regional terminal which would be used by all East Baltic States and increase the energy security in the whole region. According to the statements of the Latvian authorities, the feasibility study revealed that the Latvian advantage was its geographical location, pre-existing and appropriate infrastructure, and the developed natural gas connections with Lithuania and Estonia. As factors in favour for building an LNG terminal in Latvia they also mentioned vicinity of the underground gas storage facility, Inčukalns, which if necessary could be extended to 3.2 billion cubic meters and which “would help to keep the lowest possible price of gas acquisition, purchasing the natural gas at its lowest price during the period” (Latvijas Republikas Ekonomikas Ministrija 2011).

Lithuania declares it would support the regional LNG terminal idea in Latvia (Andrius Kubilius, 2011 June 29), but at the same time it seems to have its own agenda. The public position of the Lithuanian officials is that Lithuania will not make obstacles for Latvia to build the regional LNG terminal, supposedly financed with EU money, but in addition Lithuania would build its own “small” terminal. It should be noted that the planned capacity of this “small” terminal is enough to cover almost all Lithuanian natural gas demand – 2–3 billion cubic meters annually. The Lithuanian way of acting not to create a perceived threat to the other Baltic States’ LNG projects seems to work, at least in Estonia. For example, Estonian Balti Gaas does not forecast possible competition coming from Lithuania “due to the distance” (Balti Gaas, 2011a). In the case the terminal is built and fully exploited, the question may arise where the gas delivered by Gazprom by pipeline would be used. The long-term gas supply agreement between Lietuvos Dujos and Gazprom, however, was signed in 2004 and it is valid until the end of 2015 and the terminal is planned to be finalized by the end of 2014. This means that one year later after the projected launch of the LNG, Lithuanian consumers might have more flexibility where to choose their supplied gas.

The LNG terminal is a priority project of the Lithuanian gas sector. One of the alternatives that the government discusses is a combination of the LNG and the underground storage, although the government acknowledges that the possible site might not suite the project (Government of the Republic of Lithuania 2011). In 2010 two studies administered in Lithuania on the planned LNG were completed – Belgium's Exmar NV study on the liquefied natural gas technologies in Lithuania and USA Science Applications International Corporation study about the supply of gas by sea alternatives (National Control Commission for Prices and Energy 2011e, 106). The Lithuanian company, Klaipėdos Nafta, signed a preliminary agreement with US Cheniere for the liquefied gas imports. According to the memorandum of understanding, Klaipėdos Nafta and Cheniere agreed to continue talks on liquefied natural gas supply volumes. If negotiations are successful, long-term LNG purchase and delivery contracts will be signed (Klaipėdos Nafta 2011c). In April 2011, Klaipėdos Nafta became an owner of 33 percent of the electricity market operator, Baltpool, in order to establish a secondary natural gas exchange on the already existing electricity power exchange platform (Klaipėdos Nafta 2011a; Klaipėdos Nafta 2011b). According to the feasibility study conducted by Sweco, basing calculations on the recent natural gas price Lithuania paid, and expecting prices of LNG gas to reduce by 10%, the 350 million EUR investments into the LNG would be repaid in 4 years from the beginning of operations (Sweco 2011, 2).

One more specific aspect related with the Lithuanian plans to build an LNG terminal is the stated necessity to strengthen the gas transmission network from the seacoast (pipeline Šakiai–Klaipėda or Jurbarkas–Klaipėda) for the terminal to be viable. This will create a ring/grid of Lithuanian natural gas transmission system. The Lithuanian government divided this pipeline into three projects, and made a resolution to appoint EU funding to them on February 17, 2011. Total cost of the three projects is expected to be 168 M LTL (around 50 million Euros) (National Control Commission for Prices and Energy 2011a).

To summarize the section on the LNG projects, all three east Baltic countries are racing to build an LNG terminal ,while for experts it seems obvious that due to the small size of the Baltic gas market only one terminal is feasible. Both Estonia and Latvia are eager to attract investment into their planned LNG terminals from the other Baltic counterparts, while Lithuania's most recent official position is to build an LNG on its own and for its own needs. In Latvia and Lithuania the LNG terminal projects are guided by the governments, while in Estonia a couple of private entities have plans to build LNG terminals in different parts of Estonia.

III. POSSIBLE RESPONSE TO THE DEVELOPMENTS

III.1. Assessment of the market situation

The ownership structure of the Baltic States gas TSOs makes it easier for Gazprom to apply different price zones to Estonia, Latvia and Lithuania, which are sufficiently interconnected by pipelines. If this was not the case their consumers and companies would become involved in cross border trade of natural gas. Despite the fact all three Baltic States are interconnected by the natural gas pipelines and their (except for Latvian) consumers are eligible to choose a gas supplier, there is no cross-border trade of natural gas among the final consumers of these countries. Instead of being a single market, the natural gas market in the Baltic States is fragmented and consists of three separate gas markets with different prices applied for the gas imported from the same source of supply – Russia. The natural gas importers to the Baltic States mostly limit their activities for further resale of gas within the geographical borders of each of the states. There is some reluctance to engage in cross-border trade from the policy makers of the Baltic States as well. If they are allowed to trade, it could increase the demand of the natural gas from the Baltic State which imports it for the lowest price, and it could increase the price for this country, whichever it may be.

Based on EU requirements, Gazprom by now should have abandoned the destination clause of the gas it provides. Even if the clause is abandoned, however, the company can limit the possibilities to sell gas to the consumers outside of each Baltic State, first by having shares and thus managing in the company, so deciding their business plans. Secondly, they can make limits by providing only the amount of the specific Baltic State need and provide no additional amount for resale.

Gazprom and its strategic partner E.ON have a substantive stake in all three Baltic States' gas incumbents. Therefore these three companies may be prevented from allowing and/or involving in other neighbouring Baltic countries. Put it in another way, they do not try to expand their sales in the neighbouring states and get advantage from the natural gas price differences which otherwise could be expected from an independent business entity. In Estonian and Lithuanian legislation there are no clauses prohibiting their natural gas business entities and consumers from involvement in the cross-border trade of natural gas (consumers are eligible to choose a natural gas supplier and third party access to the transportation system must be provided), however, such trade simply does not exist.

The ownership structure also does not necessarily provide the best outcome for the consumers of the natural gas stored in Inčukalns UGS in Latvia. Inčukalns UGS is of

particular importance to Estonia and Latvia, as these countries during the winter seasons receive the gas supply stored in the UGS beforehand, conversely the Lithuanian TSO, stores small amounts in Inčukalns. As the pricing formulas are a commercial secret, it is not possible to see how the pricing for the natural gas changed because of these decisions. Not storing the gas as inventories frees some cash, which companies can use for their needs during the year, instead of “storing the money under the ground”.

Some amount of gas stored in Inčukalns is delivered back to Russian territory, although the amounts are smaller than envisaged for Estonia and Latvia. Gazprom pays for the storage services to Latvijas Gāze. Being a shareholder in Latvijas Gāze, however, it gets the benefits from its revenues, while the owner of the underground geological structure, the state of Latvia, receives small fees for it. Latvian authorities may explain that an increase in fees would be transferred to the Latvian utility tariffs, which may be the case. However, the decision makers – Latvian governing institutions – would be mostly concerned about Latvian customers. Inčukalns UGS is also used by Estonians, Russian and (to a lesser degree) Lithuanians. A question might arise whether the Latvian state should indirectly subsidize the gas consumers of the other countries.

The above described situation will eventually change in the Baltic States, as they will proceed with building alternative routes of natural gas supply and implementing the EU Directives which will liberalize the market. Estonia and Lithuania have already moved some articles of the natural gas market liberalization into their legislation, but the bottleneck in this case is Latvia. Latvia is situated between Estonia and Lithuania, and for that reason it plays a crucial role if Estonian and Lithuanian natural gas providers and consumers would try to engage in the gas trade between them.

Latvia will allow third party access to the transmission networks and let consumers be eligible not earlier than April 2014 when the respective articles of the Natural Gas Act will come into force. Nevertheless, the exclusive licenses granted to Latvijas Gāze are valid even longer, until February 2017, and the contradiction will have to be solved by negotiations among Latvian State, Latvijas Gāze and its shareholders. Some aspects of natural gas market liberalization in Latvia, however, can be postponed to as late as 2017. This means that if Estonian and Lithuanian customers and business entities were willing to be involved in the cross border natural gas trade, the actors in Latvia in the midst (for transportation as well) might seriously hinder it if concerned to do so. Until it has the natural gas market legally liberalized, Latvia makes the task of the EU (and Baltic States) to create a single natural gas market much more complex. Therefore if any interest group, company or political power,

found it beneficial to limit the pace of development of the East Baltic natural gas market it would be enough to concentrate on slowing the legal liberalization of the Latvian natural gas market. In this case, for instance, if the natural gas were delivered to the LNG terminal in Estonia, for a while it would depend just on the private agreements with Latvijas Gāze to deliver it to the Latvian or Lithuanian consumers, as there is no third party access to the transmission system obligation in Latvia yet.

Obviously, Gazprom realizes the crucial role of Latvia. This can be seen by their establishment of a Gazprom central office for all three Baltic States in Riga. In July 2010, Gazprom held a celebratory opening of Gazprom's Representative Office in Latvia's capital Riga. The major goal of the office is to "contribute to mutually beneficial economic cooperation of Gazprom with the Baltic States, represent and protect the company's interests in the region". The sphere of activity also includes searching for new directions and forms of Gazprom's operation on the energy markets of the Baltic States (Gazprom 2010). There are no Gazprom representations in Estonia or Lithuania. The closest representation next to the region is in the capital of Belarus, Minsk (Gazprom 2011, 59).

The obscure situation of the market liberalization and implementation of the EU Directives in Latvia might limit the enthusiasm of Estonia and/or Lithuania to undertake participation in the LNG terminal in Latvian territory. In general, if any of the Baltic States implement the planned infrastructure projects which would bring larger amounts of alternative natural gas, this would make the derogation from the Directive on unbundling of the natural gas sector expire and increase the pace of market liberalization in the Baltic States. In this case, the Baltic States can have an indirect impact on each other, meaning for derogations to end it is enough for one of them to build a large enough LNG terminal.

In parallel to any of the Baltic States building an alternative gas supply route, the problem of the non-existing cross border retail trade of gas has to be solved. Otherwise when the alternative supply infrastructure projects are implemented, cross-border trade of gas may be impeded by a cumbersome process of ending the derogation from the Directive, and adjusting the local legal acts.

Based on the fact that the Baltic States seek to diversify the natural gas supply, it is unlikely that the governments of the countries would involve Gazprom's co-owned local TSOs in the LNG projects, except for the requirements to access the transmission and distribution networks. Gas supply constitutes the major part of the local Gazprom co-owned natural gas incumbents' income and they have vertical ownership relations in imports,

transmission and supply. As a direct result, it is unlikely these incumbents would engage in helping the Baltic States diversify the gas supply because it is a direct threat to their revenue.

Lithuania, and some extent Estonia, are litmus tests to check Gazprom's reaction to attempts to further liberalize the natural gas market. The Gazprom and E.ON reaction to Lithuanian ownership unbundling in the gas market can be observed from Estonia and Latvia. The reaction also depends on the policy makers of the Baltic States – whether they just require unbundling ownership or they plan to nationalize the transmission system. If this is the case, what price they choose to nationalize can also be a sign. The Lithuanian officials do not precisely explain why the ownership unbundling of the gas sector is “a prerequisite” for the LNG terminal, however, it might be related with the fact that natural gas supplies bring the largest amount of revenue for the East Baltic natural gas incumbents, resulting in a less than enthusiastic reason to bring in competing sources of the supply in the region.

In the natural gas market of the East Baltic States several different processes are taking place and all of them threaten the profitability of Gazprom and E.ON in these countries and their market share of their co-owned companies. Firstly, being actively supported by EU institutions the East Baltic States plan to bring an end to a single gas supplier situation. Secondly, the process of TSO's ownership unbundling from the suppliers which Lithuania and possibly Estonia undertakes could weaken Gazprom's and E.ON's position even more. The complexity of the issue Gazprom and E.ON are exposed to might create a complex response. There might be a need to update laws on competition and use some reorganization to strengthen competition authorities that have never dealt with a similar situation before.

The decision to unbundle gas transmission system ownership may result in a natural gas price increase as a “stick” to “punish the disobedient state”. Conversely, the plans to build an LNG terminal might encourage the lowering of the natural gas prices delivered by the pipeline to make the LNG project unprofitable or signal that it could be unprofitable.

Latvijas Gāze is already investing in Inčukalns and expanding its capacity, and Inčukalns gas storage can become of even bigger importance than now if the LNG terminals are built. On the other hand, if Gazprom used the “stick” to punish any Baltic States for implementation of the Gas Directives or bringing alternative routes of supply, it would discourage these countries from joint expansion of Inčukalns. Purely from a business perspective an expansion would be beneficial for Gazprom (as a shareholder of Latvijas Gāze which owns the infrastructure in Inčukalns) and for the countries considering supply by LNG because it would provide the place to store the gas shipped by sea.

Lithuania has already complained to the EC for the possible abuse of market power by Gazprom as it gave a 15% natural gas price discount for Latvia and Estonia, and is likely to continue to try involving EU competition institutions in natural gas relations. In different Baltic States the structure of energy sector regulators and competition institutions is different. In Estonia, the competition authority and the energy sector regulator is the same body. As a direct result, the internal exchange of information within the two sectors is faster. In Latvia and Lithuania, different institutions are responsible for competition and regulation of the energy sector. There are the Competition Council and the Public Utilities Commission in Latvia and the Competition Council and National Control Commission for Prices and Energy in Lithuania. The recent changes in the legal acts, however, enabled the Lithuanian National Control Commission for Prices and Energy to use some actions which resemble the activities traditionally attributed to the competition institutions. An example of this, is finding the market abuse cases in the natural gas market and disciplining the companies by starting price control (Seimas of the Republic of Lithuania 2011a).

III.2. Possible reaction to the developments of Gazprom

Behaviour of a dominant company which faces a potential or actual entry of a competitor is one of the key topics of competition policy. The company may choose to accommodate the entrant, force the entrant to agree to a smaller market share or smaller revenue, or to deter the entry. This section provides an overview of the theoretical frameworks applied when an incumbent acts to deter entry or force the entrant to accept its rules. Moreover, this section will analyse the applicability of these frameworks in the natural gas market of the East Baltic States at the same time as reinforcing these theories with concrete examples of their practical implementation by the incumbent from the cases in the natural gas market pursued by the Directorate-General (DG) for Competition.

In Table 3.1 pricing and non-pricing entry deterrence strategies as they appear in the general competition theory are listed. The distinction between legal and illegal strategies in the legislation is not made, and the competition laws and institutions of the Baltic States and EU dealing with the latter ones are not analyzed.

Table III.1 Pricing and non-pricing entry deterrence strategies

Pricing strategies	Non-pricing strategies
Predatory pricing	Strategic investing: over-investment/under-investment
Limit pricing	Exclusive dealings/single branding contracts
Import parity pricing	Refusing to supply/foreclosing access of rivals to possible inputs
Price discriminating	Raising costs of rivals

	Contractual bundling and tying
	Aftermarkets/secondary market
	Incompatibility choices
	Strategic product differentiation

Source: Aghion and Bolton 1987; Baumol, Willig, and Panzer 1982; Directorate-General for Competition, Unit A 1 – Antitrust policy and strategic support 2005; Lipczynski, Wilson, and Goddard 2005; Motta 2004; Wang 2009; The Unilateral Conduct Working Group 2008

As for **pricing strategies**, there might already be some features of *price discrimination* or applying price zones in the Baltic States. Prices for natural gas for Estonian, Latvian and Lithuanian buyers are different. The situation coincides with the general competition theory, that for the price discrimination to be possible, the arbitrage has to be made impossible (Shy 1995, 75). However, in theory price discrimination might be applied in a way that the consumers closer to the competitor's utility can be charged a lower price, so they are less willing to acquire a competitor's goods and services (Motta 2004, 498–499). This is not the case at the moment, but it could become the case if Gazprom starts charging lower prices to the Baltic State(s) which will build an LNG terminal.

The latter action could also be another strategy – so called *import parity pricing* which itself seems like a modern form of *limit pricing* strategy. The 50-year-old theory on limit pricing describes a pricing level of a monopolist which is low enough to discourage the entry of potential competitors in a market, but higher than in a perfectly competitive market (below the monopoly price, but above the incumbent's average cost). This allows the incumbent firm to earn above-normal profits, but less than monopoly profit. In other words, it is a “highest common price which the established seller(s) believe they can charge without inducing at least one increment to entry” (Bain 1949, 8). In turn, usage of *import parity pricing* might mean both pricing up to the equivalent cost which the local buyer would pay for imports, or leveling the price down to the import price to make the import unprofitable (Ezrachi and Gilo 2010; Wang 2009). Since estimated import prices to the Baltic States recently have been higher than imports on Germany's border, the latter would be more likely to be used. As Ezrachi and Gilo state, the import parity pricing is used if there is a credible threat that the buyer can buy from foreign firms (Ezrachi and Gilo 2010), which slowly becomes the case in the Baltic States.

For example, below is the import parity pricing formula. It is adjusted from Zhongmin Wang's formula of import parity pricing for the gasoline market:

Equation 1 Import parity pricing formula example³⁶

$$\theta = \alpha + \beta + \gamma + \varepsilon + \epsilon + \vartheta$$

Where:

θ – import parity pricing based import cost

α – benchmark LNG wholesale price in a gas hub

β – shipping cost

γ – quality premium

ε – wharfage

ϵ – insurance and loss

ϑ – tax

(Wang 2009)

The pipelines that Gazprom uses for transportation of the natural gas to the Baltic States were built in the times of the Soviet Union, and since then exploited, so most likely the investments have already been paid off. In contrast, the investments in new interconnections and/or LNG terminal(s) will have to be done and eventually paid off. The usage of import parity pricing may prolong the period of payoff for the investment. On the other hand, part of the new infrastructure investments will be financed by the EU which would make the projects possibly more profitable. If the import parity pricing were applied to natural gas imports based on long term contracts, the formula in the contracts should be reviewed and pricing in the long term contracts would be shifted from the linkage to the prices of the oil products which are used now.

Application of import parity pricing may not be necessarily found illegal. For example, this is used in the Lithuanian gasoline sector to explain why local people pay similarly high prices to gasoline which is sold abroad. The import parity pricing, however, may work downwards to the cheapest possible alternative of supply minus the transportation costs. In this case it might drag the prices down so much that it could be considered to be **predatory pricing**.³⁷ Gazprom is a gigantic entity which could find enough resources to pursue the predation pricing, as opposed to the Baltic State governments and smaller entities

³⁶ The fluctuations in the currency exchange rates also play a role (Roberts 2004), if import parity pricing is applied, in case different currencies for the supplies are used.

³⁷ Predation mechanism has two elements: a) the sacrifice of the short-term profits; b) the ability to increase profits in the long-run by exercising market power – increasing prices and recouping losses – once predation has been successful (Motta 2004, 442).

which will possibly invest in the new interconnections and/or LNG terminals. If predation pricing is suspected, it is very likely that a single competition authority from any Baltic State would not be enough and DG Competition would have to be involved as well. In such a case the outcomes of the process would pave the road to future EU competition relations with Gazprom, and the case would have greater impact both if Gazprom would be punished, or would not.

In some theoretical cases, if an incumbent had used the excessive pricing before entry, this dominant firm may not be willing to immediately cut the prices, because the “post-entry price-cut” by the competition authorities may be used as a benchmark to show that prices before the entry were excessive (Ezrachi and Gilo 2010). Having in mind the official complaint of the Lithuanian government over alleged usage of excessive pricing, coupled with the fact that there is an ongoing DG Competition investigation at the moment, it may prevent Gazprom from exercising its abilities to push down the natural gas prices in the Baltic States (so as to avoid being accused of predatory pricing). By the time any new interconnection or LNG terminal is (in the most optimistic evaluations) constructed, the response of DG Competition to the claim of Lithuania will be more clear, and Gazprom will be able to evaluate whether it can engage in the price-cut practices without attracting too stringent attention of the EU Competition institution.

In any case, the evaluation of historical cases of application of the predatory strategies may be applied. Between the years 1991 and 2006, the Swedish Defense Research Agency calculated 55 incidents in Former Soviet Union countries caused by Russia, with the majority of the cases – 38 cases or 70% – to be supply cuts. Among the targeted objects of the coercive energy policy, the majority of the cases during the 15 year period – were related to Lithuania and Georgia (12) (Hedenskog and Larsson 2007, 50). Coercive price policy – using prices as carrots and sticks – was defined as used in 20% of the cases or 11 cases (Hedenskog and Larsson 2007, 46). The authors refer to the term coercive price policy as the “the incidents that in media sources have been highlighted as forceful ‘marketization’, dramatic price increases, demands for fast payments (sometimes in violation of existing contracts), take-over of infrastructure”. They included into the definition coercive price policy that may have legitimate claims, but that occurred on politically important occasions. Supply cuts were defined as “deliberate supply interruption of energy by Russia/Russian companies (regardless of underpinning) possibly in combination with threats, price increases, take-overs etc.” shortages were not included. The term “coercive price policy” is not very clear but their

statistics might depict the fact that Gazprom has a history of pricing strategy usage for its business policy.

To continue with **the non-pricing strategies**, some attention has to be paid to the tool of *strategic investment*. In the natural gas case, where the legislation requires providing third party access to the gas pipelines, the possibility of strategic under-investment is more likely to occur than strategic over-investment, because the over-invested capacities would probably be used by the competitors to ship their gas. The vertically integrated incumbents may sacrifice the possibilities to expand their network business. This would bring additional competition and protect their market power and their profitability of their supply business by underinvesting in new interconnections or the expansion of the old ones. There are many such cases of this practice in Western Europe. For example, the European Commission found that “ENI, the Italian gas incumbent, has delayed investments, which would increase the capacity in a pipeline owned by one of ENI’s subsidiaries, the Trans Tunisian Pipeline Company” (Lowe et al. 2007). The never ending process to connect Lithuanian and Polish natural gas systems, as well as, slow investment in the Lithuanian gas system to construct a ring-like system for the LNG terminal may raise suspicions whether the strategic underinvestment tool has not been used already.

The EC distinguishes between two kinds of *refusal to supply*. First, it can be a situation where a dominant company halts supplies to punish *buyers* for dealing with competitors and refusing to supply buyers that do not agree to exclusive dealing or tying arrangements. As the EC states, in this circumstance the refusal to supply is best viewed as an instrument to achieve another purpose, such as exclusive dealings or tying of product service. Such practices are normally not aimed at excluding the buyer, but rather a competitor of the dominant company. Secondly, it can be the case that a dominant company denies a buyer access to an input in order to **exclude** that buyer from participating in an economic activity (vertical foreclosure).

As for the first kind of refusal to supply in order to punish a buyer, the Russian State owned energy companies actually have a record “of total or partial supply interruptions, covert or overt threats of supply interruptions” (Hedenskog and Larsson 2007, 47). Gazprom has not directly disrupted a gas supply or threatened to do so in any of the Baltic States since they became members of the European Union, but an example of the interruption of gas supply happened in Ukraine in 2009. This interruption affected the amount of gas delivered to EU States, alarmed the European Union and sparked a unified reply from the EU. Gazprom currently does not have an “indebtedness” basis to cut gas supply to any of the Baltic States,

as it did in the recent cases of gas supply interruptions to Belarus (summer 2010), Ukraine (winter 2009) and former cases of gas supply to Lithuania (1999). In addition, gas transit to Kaliningrad is transmitted via pipelines across Lithuanian territory. Therefore, the disruption of gas supply would inevitably affect the supplies to this region. In the Lithuanian Law on Natural Gas it is explicitly specified that “in the case of gas supply disruption transmission of transit gas will be ceased immediately” (Seimas of the Republic of Lithuania 2011a). In Latvia, Russia uses the Inčukalns gas storage for its own needs, so the existence of Inčukalns is also an insurance against gas supply cuts. Nevertheless, another Russian state owned company from the energy sector, Transneft, has a recent record of cutting the crude oil supply via the pipeline to Lithuania which was officially explained as due to technical reasons.³⁸

Continuing with the second theoretical kind of refusal to supply in order to exclude a buyer from competition, Gazprom would most likely be unable to refuse to supply natural gas itself to the alternative gas suppliers. The LNG shippers and traders acquire gas in many different places all around the world. This kind of refusal to supply in the natural gas sector, however, may also take the form of refusal to provide access to the crucial input – gas pipelines. In the EU natural gas sector “refusal to supply” term is also assigned to refusals to provide access to the infrastructure by using long-term own capacity bookings, small natural gas balancing zones, which increase the complexity and costs of shipping gas within Europe, discrimination in nominating gas transport capacities and other means. A finding of the EC Energy Sector Inquiry was “that the lack of transport capacities in Europe, mainly caused by the incumbents’ own booking prevented competitors from gaining access the pipelines necessary to reach their gas customer” (Cardoso et al. 2010; Lowe et al. 2007; European Commission DG Competition 2007). Besides, the DG Competition found out that in the case of vertically integrated transmission system operator, it has an initiative to apply small size of balancing zones with very frequent balancing timing: “The smaller the balancing zones and the shorter the balancing period, the higher the risk of imbalance for the supplier balancing charges, clearing costs and penalty charges are not transparent and often contain unjustified penalty charges, favouring incumbents”. This raises the administrative costs of the small natural gas shippers and in this way deters them from entering a market already pre-empted by the incumbent (European Commission DG Competition 2007).

³⁸ The official version of the disruption of Russian crude oil supply to Lithuania in July 2006 was a breakdown of the “Družba” pipeline. The deliveries of oil were shut down a couple of weeks after the agreements to sell Lithuanian oil refinery Mažeikių Nafta to Polish PKN Orlen were signed. Russian companies also participated in the tender but unsuccessfully. Since then the oil refinery imports crude oil via Būtingė oil terminal, which was already in place at the time of the incident.

Single branding/exclusive dealing arrangements³⁹ could be used by Gazprom by introducing an LNG terminal in the market. In this case it could be related to the group of customers which would be likely to switch their purchases of natural gas from Gazprom to the one delivered by the LNG. Firstly, it could be the business clients not the household consumers. This is also the case as the energy sector inquiry shows if the ownership unbundling of the natural gas incumbents is not implemented, “network operators may find a way to inform the management of the vertically integrated supply branch when a customer is considering switching supplier” (Lowe et al. 2007).

The question of how E.ON and in particular Gazprom would act facing market liberalization processes in the Baltic States and the EU has already attracted some analytical attention. Jahn in the study for BEMIP, analyses the possible reaction of the shareholders of TSO’s E.ON and Gazprom in the context of a possible introduction of an Entry/Exit Model⁴⁰ to the Baltic States. The forecasted reaction of E.ON and Gazprom could be applied not only to the specific Entry/Exit Model, but also to the broader situation of the emergence of competition in the natural gas market of the East Baltic States. Jahn sees differences between the possible reaction of Gazprom and E.ON to new competition due to the fact the former is a gas supplier, and the latter is to a much lesser degree. The author postulates that when E.ON and Gazprom lose their monopolistic status in the gas sector in the East Baltic region, “they will accept this, as they have to comply with EU regulations and national laws, but will try to be involved in other activities in the region, for example as partners in the new LNG terminal, the UGS storage or the new pipelines”(Jahn 2011).

Jahn explains that as all TSOs, E.ON would have to comply with the national regulations and then be more active in the region in order to limit their losses in the regional gas market shares. Therefore, Jahn expects that E.ON will consider ownership in new gas pipeline infrastructure, but not in the additional LNG terminal because there are special companies investing in LNG terminals as their core business. E.ON would also consider being a supplier of LNG to the new terminal company and could concentrate on the TSO level (Jahn 2011).

³⁹ As defined by the International Competition Network Unilateral conduct group, exclusive dealing arrangements are the arrangements that require a buyer to purchase all of its requirements or a large extent from one (dominant) seller, or a supplier to sell all of its products or services or a large extent to a dominant firm (The Unilateral Conduct Working Group 2008, 3).

⁴⁰ Entry/Exit Model, as Jahn defines, is the market model where natural gas enters the grid at any entry point and leaves the grid at any exit point, even at different times during a defined time interval (usually one day) at prices independent of distance of transport.

Gazprom in its latest annual report described its management tools in the market liberalization in the EU as a whole. Based on this, Gazprom would “develop new forms of trading in the European market utilizing the additional opportunities to generate profit”. Also, the Gazprom group will “participate in finding solutions to disputable issues related to the development of the European energy sector; in such a way, *it supports the system of long-term contracts* as the basis of business which provides guarantees to suppliers and customers. Refusal from the system of long-term contracts may disrupt the balance of demand and supply in the European gas market and result in unpredictable consequences, including threat to energy security of importing countries”. For the purpose of diversifying its operations, Gazprom considers the Asia-Pacific countries as new markets (Gazprom 2011).

A study published in 2011 by the Centre for Eastern Studies in Warsaw emphasized the importance of the processes happening in the Baltic States and the way in which the Russian side will adapt to the changing rules of the EU’s liberalizing gas market as a guideline for future EU–Russian gas relations. Furthermore, “in becoming involved in what had so far be seen as the sole competence of Member States, the EC sees an opportunity for increasing its role and competences in energy relations with third countries, not only temporarily but also in a more sustainable manner” (Brunarska et al. 2011, 45).

Gazprom has already been named as a key player in the coercive policies in the energy field⁴¹ and uses gas import price discounts to Estonia and Latvia (Hedenskog and Larsson 2007, 52). Moreover, Gazprom attempts to increase their influence by establishing a representative office in Latvia for the Baltic States. This may be treated as a sign of planned and already undertaken activities to keep the natural gas market share as large as possible. If Gazprom decides to prevent the entry of alternative gas supply sources to the East Baltic market, meaning to deter entry, it cannot be completely ruled out that it would use a very wide range of tools it has at its disposal to do so. In particular, they could see their most influential tool – the supply sources of the natural gas.

⁴¹ By definition of the Swedish Defense Research Agency (FOI) in its report on Russian leverage on the CIS and the Baltic States, besides the strategic Russian State energy levers (pipeline routes, fields of resources, strategic energy partnership or transit issues) there are tactical ones (total or partial supply interruptions, covert or overt threats of supply interruptions, coercive pricing policy and price differentiation or usage of existing energy debts take-overs of companies or infrastructure) (Hedenskog and Larsson 2007, 45).

CONCLUSIONS

The three East Baltic States are in a very unique position in terms of natural gas markets. Historically, their natural gas transmission system was constructed during the Communist era and is integrated in the system of the Former Soviet Union. In all three Gazprom owns more than one third of the incumbent transmission system operators. This enables them to be on the board of the company and gives Gazprom a veto right in the decision making process. In each of the Baltic States, Gazprom's long term partner, E.ON Ruhrgas, owns more than 1/3 of the shares of the natural gas TSO. As a result, both companies together own more than 2/3 of the Baltic States natural gas TSOs, which enables them to make major concerted decisions in the natural gas incumbents in the East Baltic States.

Each Baltic State has practically a single source of natural gas. Even though this may be the case, the natural gas markets in the Baltic States differ and they reflect the different national legal regulations. In Estonia, a single company, TSO Eesti Gaas, imports natural gas for resale, but the gas is distributed in addition by a couple of dozen of the smaller companies which buy gas from them and resells it. In Latvia, a single company, Latvijas Gāze, has a legal monopoly to import, transport and supply the natural gas. In Lithuania, besides the TSO Lietuvos Dujos, natural gas from Gazprom is imported by several other companies.

Russian natural gas to Lithuania is imported via Belarus on the southern border, and to Estonia and Latvia via Russian territory in the north-east. The three Baltic States are interconnected with each other by natural gas pipelines and Gazprom applies different import prices for each of them. Nevertheless, the three Baltic States do not engage in cross border trade of natural gas and do not take advantage of the price differences.

The introduction of never-seen competition in the East Baltic States natural gas market will consist of two parallel processes. First, the Baltic States will at a different pace continue legally liberalizing the market. Second, the Baltic States will eventually implement some of the planned infrastructure projects, such as interconnections with the other EU Member States and the LNG terminal(s). The pioneer of the first process is Lithuania which has already adopted the requirement to unbundle ownership in the natural gas market, where consumers are eligible to choose the natural gas supplier and third-party access to the system. Already having established the eligibility of the natural gas consumers and third-party access, Estonia will be most likely to follow Lithuania in the ownership unbundling processes.

It may take some time to observe Gazprom's reaction to the unbundling activities in Lithuania. Latvia will legally allow for eligibility of consumers and secure the third-party access not earlier than April 2014. The legal monopoly granted in 1997 to Latvijas Gāze, however, will continue until February 2017, meaning that from 2014 Latvia will experience a contradiction between the Energy Law articles and the exclusive rights given to Latvijas Gāze. The fact that Latvia is in the middle of the three Baltic States may slow down the engagement in the natural gas trade between Estonia and Lithuania and harmonizing the market liberalization.

The East Baltic States are competing to build an LNG terminal and instead of contributing to the projects this competition slows them down. Lithuania plans an interconnection to Poland and an LNG terminal. Latvia and Estonia have plans to build LNG terminals as well, and Estonia in addition to connect with Finland. In the new financial perspectives 2014–2020, the European Union plans to allocate some one fourth of the 9.1 billion EUR proposed for the energy sector.

Gazprom and its partner E.ON may respond to the latest natural gas market developments because they threaten to decrease their profits in the natural gas markets in the Baltic States. Gazprom which extracts natural gas has various tools set up to deal with this, ranging from pricing to non-pricing strategies. If the pricing strategies such as import parity pricing are used followed by predatory pricing, the financial support from the European Union for the development of the natural gas infrastructure in the Baltic States could mitigate their potential impact. They would help the Baltic States continue with the natural gas supply diversification. In any case, vigilance is needed from the local competition authorities and DG Competition to detect attempts to deter entry if they are to be implemented. Full ownership unbundling, however, may eliminate incentives of the natural gas network companies to deter entry in the supply business.

The attempts of the Baltic States to liberalize the monopolized natural gas market may serve as a game changer in Gazprom's and European Union relations. They could be expanded from rather limited to the internal energy regulations to the larger involvement of the EU competition authorities and trigger deeper energy dialog between EU and the Russian Federation.

ANNEXES

i. The transmission system of natural gas in the Baltic States

Estonia has network connections with Russia and Latvia. Altogether there are four connections: from Narva, Värskä and Misso to Russia and from Karksi to Latvia (European network of transmission system operators for gas 2011). Misso and Värskä interconnections are in the vicinity of each other. Usually only the Värskä and Karksi connections are operational. The Narva connection is typically closed because of limitations (congestion) in Russian territory. Although its theoretical transfer capacity is a million cubic meters daily (1555 MW), the potential flow rate cannot exceed 500 thousand cubic meters daily in winter time and one million cubic meters daily in the summer period (National Competition Authority of Estonia 2010a).

The Latvian natural gas transmission system was developed 40 years ago. The process of gas supply consists of the following components:

- 1) Natural gas is supplied to Latvia along a Latvian–Russian pipeline only during the warm period of the year (April–September), and it is stored in an underground gas storage facility.
- 2) During the colder part of the year, gas from the underground facility is delivered to Latvian customers, as well as transmitted to Estonia, and back to Russia and (in smaller amounts) Lithuania (to the latter three countries about 1 bcm of natural gas is transmitted) (Public Utilities Commission of the Republic of Latvia 2010). For example, in 2010, the supply to Latvia from Inčukalns UGS was 1.301 billion cubic meters and direct supply from Russia – 0.487 billion cubic meters (Latvijas Gāze 2011a).
- 3) The transmission system was designed for annual consumption of up to 4 bcm in Latvia – about three times more than total consumption in 2009 (Public Utilities Commission of the Republic of Latvia 2010).

Lithuania has interconnections with the Russian enclave of Kaliningrad, Belarus and Latvia. Natural gas is supplied to Lithuania from Russian gas fields through Belarus using Minsk–Vilnius gas mainline. The second interconnection with Belarus, Ivancevici–Vilnius–Riga is currently not in use and it has no gas metering station installed. In the National energy strategy adopted by the Seimas in 2007, it was estimated that both interconnections from

Lithuania to Belarus were of 6 billion cubic meters yearly capacity (Seimas of the Republic of Lithuania 2007).

In the North, the Lithuanian gas transmission system is connected to Latvian gas lines. Gas metering takes place in Kiemėnai gas metering station. The metering station was installed in 2005 with the purpose of metering gas volumes going to the Latvian gas transmission system and vice versa. The gas metering station capacity is 5.2 million cubic meters daily. Though due to technical capacity of Latvian gas lines Lithuania may be supplied with gas pressurized up to 40 bars and the pressure of gas supplied to Latvia may reach 55 bars which means that natural gas flow to Lithuania is weaker than the reverse to Latvia. When supplying gas via the bypass line without gas metering installed, the interconnection capacity may reach up to 10 million cubic meters per day. The actual maximum throughput capacity, however, was 2 mcm per day and in the winter at the peak of gas consumption the Latvian gas system capacity would allow supplying 1 mcm per day (National Control Commission for Prices and Energy 2011b).

Across the Lithuanian territory gas transit goes to Kaliningrad. This is based on a long term agreement between Gazprom and Lietuvos Dujos. This agreement was signed in 1999, and it is valid until January 1, 2016. In 2009, 1.197 billion cubic meters of natural gas was transported to Kaliningrad via Lithuanian territory (National Control Commission for Prices and Energy 2011e).

Lithuania also has one short privately owned natural gas pipeline from Belorussia to the city of Druskininkai in the south of the country. Intergas, the owner of the so-called “first private 25 km gas-pipe in Lithuania” explains that until the construction of the pipeline households in Druskininkai were heated by fuel oil and solid fuels. As the railway branch which was used to bring fuel oil was closed, “a monopolistic gas supplier for unclear economic, technical and political reasons had not constructed the necessary pipelines”. Intergas invested around 8 million litas (around 2.3 million euro) and the pipeline was opened by the end of 2002 (Intergas 2011). The nearest transmission pipeline which belongs to the national gas system is 60 km north in the city of Alytus. If the project of Lithuanian–Polish gas interconnection is implemented in the future, there might be a branch made to Druskininkai.

ii. Inčukalns underground gas storage facility

Latvijas Gāze operates the Inčukalns Underground Gas Storage (UGS) Facility which is the only functioning gas storage facility in the Baltic States. In 2008, the active, or regularly extracted, natural gas capacity in the Inčukalns underground was 2.32 billion cubic meters (Latvijas Gāze 2011b). The Latvijas Gāze's has the exclusive right to use Inčukalns from 1997 for a period of 20 years. It owns the technology and passive gas in the storage, while the Latvian state owns the empty space in sandstone 700 m below the surface. For the use of the underground space Latvijas Gāze pays the state 0.01 LVL (0.014 EUR) per 100 cubic meters of injected gas⁴² (Saeima of Latvia 2006). In its website Latvijas Gāze states that "as natural gas consumption in the region increases, it will be possible to increase the capacity of the Inčukalns UGS Facility to 3.2 billion cubic meters of active natural gas which could completely ensure the region's needs for natural gas. They assert that in the future the facility may also be used to store the natural gas required by Finland (Latvijas Gāze 2011b).

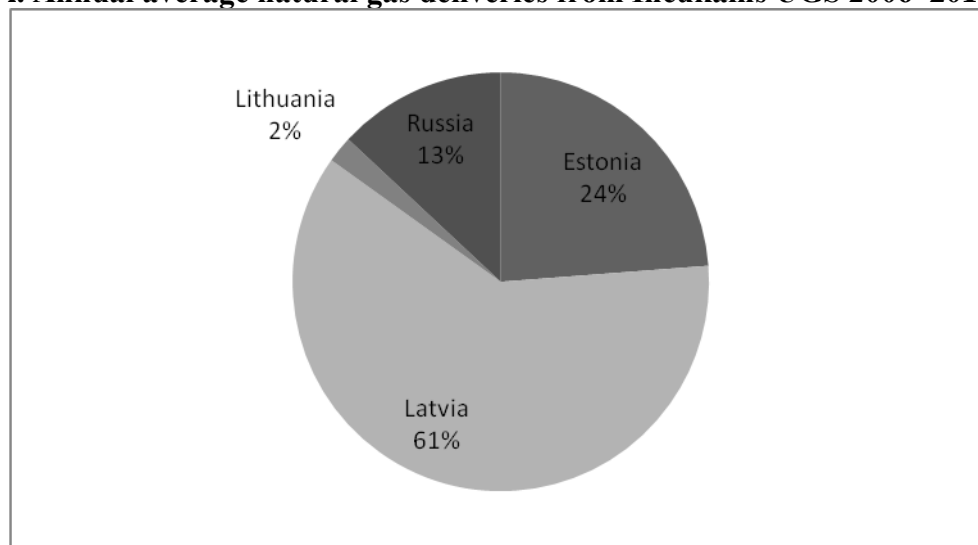
As the term of exclusive rights to using Inčukalns are coming to an end, Latvijas Gāze's shareholders are expressing their wishes to remain operating Inčukalns after 2017. According to Jurijs Savickis who is the president of Itera Latvia, if the state is not willing to extend the company's right to manage the gas storage after 2017, it should grant Latvijas Gāze owners compensation of 600 million lats because Latvijas Gāze owners "have invested much money during these 14 years" (BNN 2011). However, based on calculations of the investments provided in the official website of Latvijas Gāze, the summed up investments from 1997 to 2010 are roughly 92 million EUR⁴³ which is nine times less than the sum named by Savickis (Latvijas Gāze 2010). The value of amortized investments by the end of the period of the exclusive rights to use UGS facility is unknown.

Inčukalns plays a more important role for Estonia and Latvia than for Lithuania. During the winter months Estonia stops importing natural gas via the pipelines from Russia and merely uses the gas stored in Inčukalns while Lithuania stores gas reserves there for contingency reasons. In Figure i below gas deliveries from Inčukalns are presented. As is shown, the Lithuanian share is small in comparison to the others.

⁴² To imagine the whole possible value of fees Latvijas Gāze could have roughly paid to the State recently: in 2010, 2.142 billion cubic meters natural gas was delivered from Inčukalns so the fee could have reached 30 thousand EUR.

⁴³ The amounts of money expressed in EUR in Latvia were calculated using the Eurostat annual average LVL/EUR 2010 exchange rate which was around 0.709 LVL per EUR.

Figure i. Annual average natural gas deliveries from Inčukalns UGS 2006–2010 (mcm)

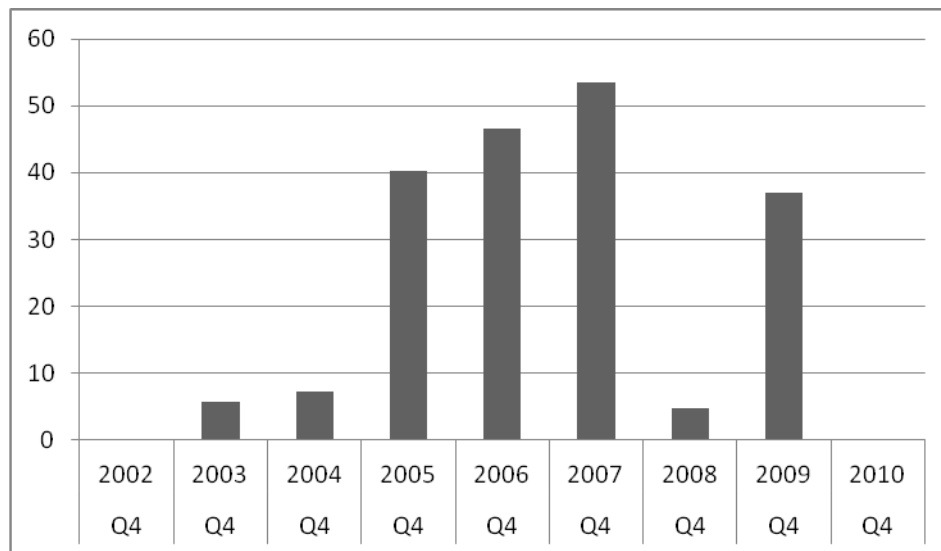


Source: Latvijas Gāze 2010

In the previous five years approximately 1.775 bcm yearly averages was delivered from Inčukalns. The proportions are split up amongst East Baltic States accordingly: 1.085 bcm natural gas delivered to Latvia, 0.422 delivered to Estonia and 0.232 bcm sent back to Russian territory.

For Estonia the Inčukalns storage is filled up between the months of April to October and Eesti Gaas can monitor the filling up process. A failure to fill up the storage poses possible gas supply risk as the country's winter time peak consumption is covered by the stored gas (National Competition Authority of Estonia 2010a, 85). Until spring 2008, Eesti Gaas rented space in the Inčukalns gas storage (a volume of 500–600 million cubic meters). According to the Estonian Competition Authority, since spring 2008 the situation in gas supply has changed. Eesti Gaas has quit storing gas in the Latvian storage and buys gas directly from Gazprom. This means that Gazprom itself stores gas in the storage and is the owner of gas until it is handed over on the Estonian–Latvian border (National Competition Authority of Estonia 2008, 96).

Figure i.i. Eesti Gaas natural gas reserve at the storage in Latvia, million EUR

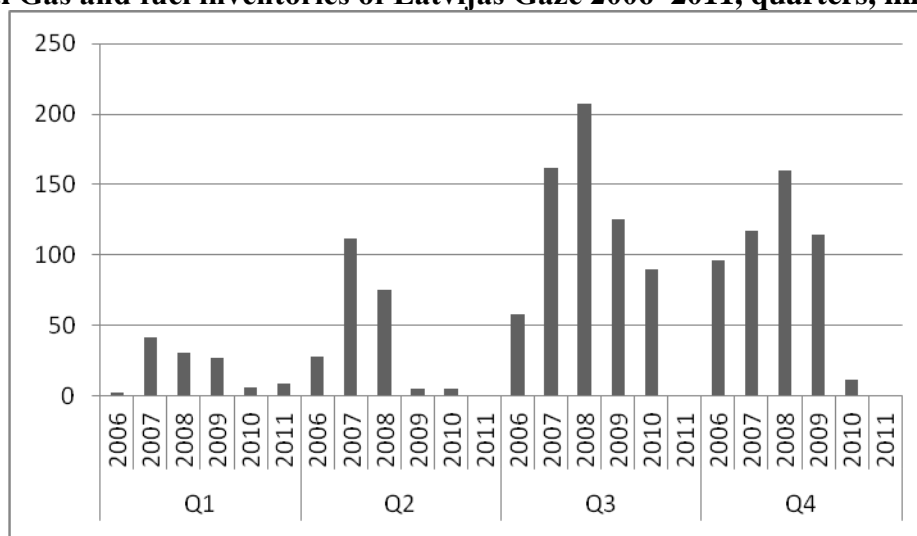


Source: Eesti Gaas 2011b

The data of company's inventories kept in the storage in Latvia shows that Eesti Gaas did have natural gas reserves in storage in Latvia on December 31, 2009 (Figure i.i). However, at the end of 2010 Eesti Gaas natural gas reserves were equal to zero. The decision to stop buying natural gas in advance and store it coincided with the sharp economic crisis in Estonia. It unlocked the substantial financial reserves which otherwise would have been stored underground. The competition authority points out that while the technical solution of storing gas has not changed, because in the winter period Estonia is still supplied from the Latvian storage, there is an essential difference in ownership of the gas (National Competition Authority of Estonia 2008, 96).

The annual financial reports' data shows that Latvijas Gāze in 2010 might have partly taken similar action as Eesti Gaas in 2010. As shown in Figure i.i.i, in the various quarters of 2010 it generally had less gas and fuel inventories than in the earlier years. This was despite the fact that estimated gas import prices to Latvia in 2010 had been higher than in the previous year and despite the economic recovery in 2010 which would suggest increased gas consumption and thus amounts of stored gas.

Figure i.i.i Gas and fuel inventories of Latvijas Gāze 2006–2011, quarters, millions EUR



Source: Latvijas Gāze 2011d

Unlike Estonian or Latvian, Lithuanian natural gas inventories never reached significant values in EUR by the end of each year for essentially the last decade (Lietuvos Dujos 2011).

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