

**Evaluation of the Nord stream and Caspian gas
infrastructure and procurement projects in the
context of the European Union internal market policy
and need for energy security**

By

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Submitted to
Central European University
Department of Economics

In partial fulfillment of the requirements for the degree of Master of Arts in
Economic Policy in Global Markets

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Budapest, Hungary

2012

ABSTRACT

This thesis analyses two major natural gas projects in the EU, namely Nord Stream and plans to bring natural gas from the Caspian Sea Basin. It analyses these projects in the context of the EU's internal energy market and need for energy security. Major shortcomings of these projects are identified, such as low level of supply diversification of the Nord Stream and small scale of the Caspian gas project. The thesis also highlights the complex effects of these projects on the competition in the internal natural gas market. The thesis makes final policy proposals devised to help the European Union to maximize its interests in energy security and not to undermine the process of creation of the internal energy market.

ACKNOWLEDGMENT

I would like to express my very great appreciation to my supervisor professor Gergely Csorba for his help. His willingness to give his time and share his knowledge with me so generously has been very much appreciated. I am also particularly grateful for the assistance given by academic writing professor Robin Bellers and his continued help. I would also like to thank Romans Baumanis, the Regional Advisor to Nord Stream for the Baltic States, for readily providing me the necessary information for the research. Also I would like to thank my family, friends and Brendan Duprey for supporting me through the studies and thesis writing period.

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INTRODUCTION

When the European Union (EU) policy makers were putting together the idea that major new gas infrastructure should enhance both competition in the gas markets and security of supply, they probably already realized that in order to ensure reaching one aim, part of another aim may have to be foregone. Different actors have interests in these two fields: in the competition policy profit driven and economic objectives are pursued, but governments play a larger role and pursuance of non-economic objectives in energy security. Moreover, because of the increasing energy dependency and natural gas demand, the EU is more than ever concentrating on energy security, but the process of creating competition in the energy markets cannot be undermined as well.

The internal energy policy of the European Union is the base for the Union's external energy relations, and these two parts are mutually dependent and interrelated. The special title on energy in the Treaty on the Functioning of the European Union combines both aspects: on the one hand internal - such as ensuring the functioning of the energy market and promoting energy efficiency and new and renewable sources of energy and on the other, external - such as ensuring security of supply in the Union and promoting the interconnection of energy networks (Council of the European Union 2010, Title XXI). A more fully developed internal policy is a pre-condition for delivering the EU's external energy interests, and for better judging what leverage the EU is able to bring to bear in its external relations for furthering these interests (European Commission and High Representative 2006).

The European Commission states that "the effectiveness and coherence of the EU's external energy policy is dependent upon the progress with internal policies and, in particular, the creation of the internal market for energy". However, the process of creating an internal energy market and ensuring security of supply may stand at odds. For example, Hancher and

Janssen generalize that “the introduction of competition has meant that a number of traditional instruments and organizational structures used to promote or guarantee, inter alia, national security of supply have been removed” (2004, 86).

The European Union’s (EU) demand for natural gas and therefore dependence on the imported sources is set to rise. According to the International Energy Agency (IEA), by 2035 the European Union’s primary natural gas demand may rise by almost 20% compared to the demand in 2008 (International Energy Agency 2011a, 23). The EU’s energy dependency – the extent to which an economy relies upon imports in order to meet its energy needs¹ – is already more than 50% and in 2010 the natural gas dependence was a little more than 60% (Eurostat 2012).

The new major gas projects – Nord Stream and plans to bring the Caspian gas directly to the Old Continent – are meant to help Europe to overcome ever increasing demand for natural gas. The Nord Stream project is now in the final stages of completion, and one of the two “twin” pipelines is already operational. In the Caspian gas project many problems and puzzles are yet to be solved, starting with the sources of gas, final route, pipelines, finishing with the buying agreements. Both of these projects reportedly increase the energy security of Europe; however, at the same time they raise serious competition policy concerns which are important to be solved in the process of creating the EU internal energy market. This thesis analyses these two major natural gas projects, which because of their importance can be called “energy corridors” (or energy routes) between the EU and the third–countries (European Commission and Directorate–General for Research 2007, 6). After evaluation of the projects, this thesis analyses the various policy options and proposes the most suitable ways to develop

¹ The indicator is calculated as net imports divided by the sum of gross inland energy consumption plus bunkers (Eurostat 2012).

and supervise these projects so they serve the best for the integrity of the market and provide energy security.

The research methodology is qualitative empirical research. Close and comprehensive analysis is used of primary and secondary sources, public records, documents, and media accounts are used. Any analysis on effects on competition in the natural gas sector requires first to define the market share of the company(s) of interest and then the features of the relevant market, such as market concentration. The level of accessible information, however, varies across the EU countries to a great degree. Even information provided in the national energy reports for the European energy regulator, which is supposed to have common features, varies: some regulators name the dominant natural gas companies and provide the HHI index of market concentrations, others do not.

The thesis consists of two parts, the first theoretical part about the common aims and distinctions between the internal natural gas market provisions and the need of energy security consists of three chapters. The first shorter chapter introduces general background information on the natural gas market and major trends of the European Union and especially of the regions which Nord Stream and Caspian gas will affect. The second and third chapters go deeper in the internal market provisions and the EU energy security respectively. The second practical part consists of two – fourth and fifth – chapters. The fourth chapter brings in the most important aspects of the Nord Stream and Caspian gas projects for further analysis from the competition and energy security policies point of view. The fifth chapter evaluates the projects and analyses possible policy choices. The final set of policy tools is delivered in the conclusions.

Throughout the thesis terms downstream and upstream are used and very rarely midstream. Downstream means the natural gas markets in the European Union where the natural gas reaches the consumers. Upstream in the context of this thesis means sources

(fields) of the natural gas outside of the European Union and the pipelines to deliver them to the European Union. The term midstream is used just once in the fifth chapter in order to distinguish the “midstream oriented” natural gas projects from the “exporter oriented” when otherwise both would be called upstream.

In order to be able to compare with the internal market provisions and in particular competition policy, in this thesis only the long-term needs and tools to ensure security of supply are considered. These include the diversification of energy supplies, investments to production and infrastructure to ensure supply for ever increasing demand, and the EU’s position towards the third-country actors in the Union’s energy field.

1. NATURAL GAS MARKET IN THE EUROPEAN UNION

One of the aims of the European Union and its competition policy is to create a single market for its producers, goods and consumers. The energy sector, namely, electricity and natural gas sector have always been natural monopolies because of their network-like activities. During the 1990s, the EU decided to gradually open these markets to competition. Some parts of the energy industry are so-called non-competitive, such as operation of the networks and other infrastructure, and some are competitive, such as energy supply to the customers. During the liberalization process EU separated these two parts of the industry and subsequently obliged operators of the non-competitive parts to allow third-party access and for the competitive part to engage in competition (European Commission 2011b).

Establishing competition rules for the functioning of the internal market is inscribed in the EU Treaties as an exclusive competence² of the European Union, while the EU competences towards the energy and trans-European networks area are shared³ between the Union and the member states, thus more flexibility is left towards national choice (Council of the European Union 2010, Articles 3–4). However, recently the EU seems to consolidate power in the energy field and to move to the long desired “one Europe” in the energy field. This process is even called the “Europeanization of the energy policy” and the particular recent milestone – 4 February 2011 European Council priorities on EU energy policy – is named (Stanič 2011). In its conclusions, the Council declared the completion of internal market for gas and electricity by 2014 as “foremost priority:” and called for “consistency and coherence in the EU’s external relations with key producer, transit, and consumer countries”

² Exclusive competence of the EU means that “only the Union may legislate and adopt legally binding acts, the member states being able to do so themselves only if so empowered by the Union or for the implementation of Union acts” (Council of the European Union 2010, Article 2).

³ Shared competences between the EU and member states means that both “the Union and the member states may legislate and adopt legally binding acts in that area and the member states shall exercise their competence to the extent that the Union has not exercised its competence” (Council of the European Union 2010, Article 2).

(European Council 2011). Besides, the European Union politicians are increasingly expressing their wish to create a mechanism of common purchase of natural gas. European Parliament President, Jerzy Buzek, urged general managers of the EU's biggest natural gas companies to "consider the coordination or joint purchases of fuel to strengthen their hand in negotiations with outside suppliers" and to involve the European Commission in the negotiations for the suppliers (Buzek 2011).

The roots beneath these consolidation processes lay in Europe's realization of its increasing energy dependency and need for common external energy policy first of all to ensure energy security (European Commission 2000, 4). According to the International Energy Agency, the EU's natural gas demand may reach 636 billion cubic meters (bcm) per year in 2035 compared to 536 bcm in 2008. Even more, the IEA states that because of the new positive assumptions for the natural gas demand such as anti-nuclear policies in the EU, natural gas use in road-transport sector etc., gas demand in the EU in 2035 may be 38% higher compared to the one of the earlier base case scenario (International Energy Agency 2011, 23).

Most of the natural gas consumed within the European Union comes from third countries such as Russia, Norway, Qatar, and Algeria (Eurostat 2012). Natural gas from Russia and Norway reaches the European Union mostly by pipeline; other gas reaches the Continent via the liquefied-natural gas pipelines. Figure 1 on the following page shows the gas pipeline network in the European Union. The red lines are the transit pipelines and the blue lines are the transmission pipelines. As seen in Figure 1, major natural gas inflows to the European Union come from the East: Russian territory. It is also seen that the densest network of transit pipelines is in the core of the European Union: Germany and surrounding countries, which also means that these countries have the biggest choice of international pipelines and cross-border interconnectors.



Figure 1 Natural gas pipeline network of the European Union

Source: International Energy Agency 2011b

The gas projects analyzed in this thesis enter the European Union from the North (Nord Stream) and from the East (Caspian gas). The Nord Stream pipeline will come to the German shores, but Germany is interconnected to the Czech Republic, Belgium, Denmark, Poland, Austria, France, and the Netherlands, Luxemburg, and Switzerland. The Caspian gas may enter the EU from Turkey and then pass Bulgaria, Romania, Hungary and Austria, or also Greece and Italy. Austria is subsequently connected to Germany and other neighboring countries. Neither of these projects would have influence on the gas markets of the Baltic States, because there is no interconnection between any of the Baltic States and Central or Western Europe.

Table 1 Gas market features of the future markets of Nord Stream and Caspian gas

Project	Country	Natural consumption 2010 (bcm)	gas in dependence 2010 (%)	import in 2010, % of total imports	Major exporters of gas in 2010, % of total imports
NORD STREAM	Belgium	20.28	99.01		Norway (30.31%), Qatar (28.32%), Netherlands (25.90%)
	Czech Republic	8.18	85.38		Russia (88%), Norway (12%)
	France	49.775	92.98		Norway (31.13%), Netherlands (15.23%), Russia (13.60%), Algeria (13.02%)
	Germany	93.51	81.89		Russia (39.07%), Norway (32.80%), Netherlands (24.19%)
	The Netherlands	54.86	-61.59		Norway (50.06%), UK (27.47%), Russia (15.69%)
	The United Kingdom	97.99	37.69		Norway (47.18%), Qatar (27.63%), Netherlands (15.40%)
CASPIAN GAS	Austria	9.49	74.44		Russia (48.41%), other (39.60%), Norway (11.97%)
	Bulgaria	2.92	95.08		Russia (100%)
	Greece	3.81	99.90		Russia (54.10%), Algeria (20.08%), other (19.06%)
	Hungary	11.90	78.71		Russia (70.26%), other (23.86%), France (4.57%)
	Italy	82.98	90.51		Algeria (36.65%), other (23.11%), Russia (19.65%)
	Romania	14.65	16.83		Russia (100%)

Compilation by the author based on data of Energy Delta Institute 2012; Eurostat 2012

Natural gas markets which those two projects would serve are listed in Table 1 above. As seen in the table, the EU states from the first group are generally larger consumers of gas and therefore larger markets of natural gas, except for the Czech Republic. In the second group, only Italy is a large consumer. Russia mostly is not a main exporter to the countries from the first group which the Nord Stream pipeline will serve, contrarily, the major share of gas imports to these countries in most of the cases come from Norway. Russia, however, holds a strong position in imports in the second group of the countries.

2. FRAMEWORK FOR THE INTERNAL ENERGY POLICY

The European Union has repeatedly been stating that in order to “use one voice” in external energy relations (EU External Action Service 2011) a robust internal energy market must be created. The internal energy policy in the European Union is based on the primary legislation such as the Treaty provisions, including the amendments on creating a single market, and the secondary legislative measures such as various Directives, rules of competition, state aid, Trans-European Networks and other legislation. The most important Treaty provisions that are applicable in the energy sector are:

- the rules on the free movement of goods (Articles 34–37 TFEU),
- Free movement of services and capital, right of establishment (Articles 49–66 of TFEU),
- rules of competition (Articles 101, 102 and 106 TFEU) and on state aid (Articles 107 and 108 of TFEU),
- and the internal market provisions (Articles 26 and 27) (Council of the European Union 2010).

The early EC Treaty did not have a chapter or title on the energy sphere, therefore the measures applied to the energy market were “based on general non-energy provisions and principles of the EC Treaty” (Guimaraes-Purokoski 2008, 21). Now the Treaty of Functioning of the European Union has a special title on energy (Title XXI, Article 194).⁴ The secondary legislation stems from these abovementioned Treaty provisions.

Most of the provisions that can be applied to the internal energy market are not specifically composed for the energy market; furthermore they are not specifically made for

⁴ There were attempts to put separate energy section in the 2004 Constitutional Treaty of Europe but the Treaty was not ratified. The title on energy finally appeared in the Treaty of Functioning of the European Union in 2010 (Guimaraes-Purokoski 2008, 20–27).

the natural gas market. The rules that form energy markets are rather general competition policy rules which can be applied to all the business sectors, or rules that can be applied to the network-like activities and natural monopolies, thus not just energy markets, but also airports, communications, postal services, namely, rules of access to the essential facilities. Some tools to increase competitiveness in the energy markets are energy-market specific, such as gas release programs or contract release programs, but again they were devised by the EU's competition authority and pursue competition policy aims.

In this chapter, the most important provisions influencing the internal energy market are presented in greater detail, such as internal market provisions, competition policy rules on horizontal agreements, abuse of dominant position, and essential facility doctrine, and Natural Gas Directives that carry on the competition policy rules. Aspects of the Gas Directives related with encouragement of investment are defined in the next chapter because they work as a tool to build energy interconnectors with the third countries and usually come in the form of exemptions from the main rules.

2.1. The internal market provisions

The Single European Act (SEA), which came into force on July 1, 1987, laid the foundations to create the internal market within the European Union. The SEA amended the European Economic Community treaty of 1957 and within the Treaty determined the aim of “progressively establishing the internal market over a period expiring on 31 December 1992”. The internal market was meant to be *an area without internal frontiers in which free movement of goods, persons, services and capital is ensured* (EU Council 1986, 9, italics added). Currently the establishment and functioning of the single market is settled in the Articles 114 and 115 of the Treaty of Functioning of European Union (Council of the European Union 2010, Chapter 3).

In 1988, the EC published a working paper on establishing a single energy market and “inclusion of energy in the single market concept”. Already in this Communication a potential conflict was noticed between the “exclusive rights given in respect of the construction or use of infrastructures quantitative restrictions to energy imports or exports” (European Commission 1988, 10) and that such cases can create an obstacle to creating the internal energy market. The other principal obstacles to create internal energy market as listed by the EC were related with domestic monopolies, technical specifications and the political ones (aids to the national producers) (European Commission 1988, 13). This Communication however is different from how the internal energy market is sought to be established now: for example, EC statements “Community energy industries which need fortifying in order to play a bigger role in Europe and beyond in an environment of greater international competition” (European Commission 1988, 9) has features of protectionism and rather indicates bundling of the energy market than unbundling. Besides, the fact that destination to certain countries of gas existed was taken as given (European Commission 1988, 85), whereas decades later the EC started to fight against destination clauses as anticompetitive.

However different from the current, the internal market provisions were later used by the European Commission “as the legal basis for its broad legislative initiatives in the electricity and gas sectors, which it coupled with attempts at more vigorous enforcement of the Treaty rules on competition and free movement” (Roggenkamp et al. 2007, 228).

The internal market in natural gas has been progressively implemented throughout the Community since 1999 (European Parliament 2009a, 1), when the first Gas Directive had to be transposed into the national legislations of the EU member states. The internal market provisions in natural gas target consumer welfare: it “aims to deliver choice for consumers of the European Union, be they citizens or businesses, new business opportunities and more cross-border trade, so as to achieve *efficiency gains, competitive prices, and higher standards*

of service, and to contribute to *security of supply and sustainability* (European Parliament 2009a). More information about the Directives is provided in later sections.

2.2. Competition policy in the energy field

Competition policy in the European Union, compared to the one of the United States for example, has one additional function: it controls the behavior of the states and companies, not only in light of development of competition, but also serves to facilitate integration of the EU markets into one single market. According to As Roggenkamp et al, “there is a perception that the objective of market integration was traditionally regarded as more important within the Community than that of promoting competition *per se*” (2007, 250).

The main competition policy question in assessment of business activities is the impact on competition and on final consumers' welfare. The EU's jurisdiction on competition policy embraces all the companies affecting the EU markets, the companies does not have to be necessary registered in the EU. The competition policy in the EU is based on Articles 101, 102 and 106 of the TFEU (formerly Articles 81, 82 and 86 of the EC Treaty) and it defines EC competition policy in the field of agreements between undertakings, abuse of dominant position and state aid respectively. The main pursuer of the competition policy in the EU is the Directorate-General for Competition, and “the major tools of competition policy are law enforcement with respect to mergers, cartels, abuse of dominance and soft tool of advocacy for more competitive regulation”(OECD Competition Committee 2007, 38). As Roggenkamp et al. state, there is “nothing new” with application of EU competition law to energy market players' commercial practices, “EU competition law never played the same role as legislation did in supporting the development of the single energy market” (2007, 251).

As the OECD points out, “for competition policy makers, two features of natural gas sector are notable: time scale and corporate governance” (OECD Competition Committee 2007, 17). Energy security and competition policy operate on very different time scales:

substantial changes in energy infrastructure or shifts in primary energy mix takes decades, unexpected energy supply disruption leads to a few days anxiety, and competition policy is somewhere in between these two ends of the scale. In the oil and gas sectors often “governments rather than profit driven economic actors make many economic decisions” (Ibid), the natural gas markets supply tends to be in the governments’ hands and demand is private (OECD Competition Committee 2007, 24).

2.2.1. Agreements between undertakings

Article 101 of TFEU prohibits all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between member states and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:

- (a) Directly or indirectly fix purchase or selling prices or any other trading conditions;
- (b) Limit or control production, markets, technical development, or investment;
- (c) Share markets or sources of supply;
- (d) Apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (e) Make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts (Council of the European Union 2010, Article 101(1))

Such agreements as “incompatible with the internal market” are deemed to be automatically void. The Article, however, provides possible exemptions from the above provisions if they “contribute to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit”. In this case restrictions in the agreements have to be **indispensable** to reaching these objectives and do not provide for companies to **eliminate competition** “in respect of a substantial part of the products in question” (Ibid, Article 101(3)). The

exemptions can be granted despite the fact that the agreements that are listed in the Article are considered to be prohibited *per se*.

There are other agreements which are not prohibited *per se*, and their effects must be explored by the competition authority before deciding to prohibit or to allow them. Such agreements that are applicable to the natural gas market and are of particular importance to this thesis are joint production agreements and joint purchase agreements which both can take the legal form of joint ventures.

As Csorba highlights, the EU's competition authorities focus on cooperation can be at various vertical levels of supply from the furthest to the closest level to the final consumer: 1) Research & development agreements, 2) Production agreements, 3) Purchasing agreements, and 4) Commercialization agreements and the "intuition is that the closer the co-operation happening to the consumer, the higher the risk for restricting competition" (Csorba 2011, 13). Consequently, "the market share thresholds for the "likely" satisfaction of §101(3)" to be granted an exemption are higher for "higher levels" of cooperation which are further from the final consumer: 1) R&D agreements: 25%, 2) Production agreements: 20%, 3) Purchasing agreements: 15% and 4) Commercialization agreements: 15% (Csorba 2011, 13; European Commission 2011a).

2.2.1.1. Joint production agreements

The agreements, and most often joint ventures to build new gas pipelines, can more precisely be attributed to the second group, production agreement, listed in the Guidelines. The legal structure of joint production may vary from loose forms of cooperation in production such as subcontracting agreements, where one party entrusts another party the production of goods and finishing with joint ventures, a jointly controlled company operating one or several facilities (European Commission 2011a, 35).

The *combined market share* for the “likely satisfaction” of the conditions to receive an exemption is 20%. In the analysis of whether the parties to a production agreement have market power, the number and intensity of links (for example, other co–operation agreements) between the competitors in the market are relevant to the assessment (European Commission 2011a, 38). Table 2 below lists the main competition concerns of the joint production agreements, the harm they bring and important aspects of assessment if there is a suspicion of anticompetitive behavior.

Table 2 Main competition concerns of the joint production agreements

CONCERN	HARM	ASSESSMENT
Direct limitation of competition between the parties	Parties start directly align output levels and quality, the price at which product is sold by joint venture, etc.	
Collusive outcome	Result in coordination between the parties or reduced output, product quality, variety or innovation	If parties have market power, and if market characteristics are conducive to coordination, in particular if commonality of costs increase or if agreement included exchange of sensitive information
Foreclosure of the third–parties in the market	If downstream market relies on inputs from the market where production agreement takes place, then price of key component for a market downstream may be raised, rival costs risen and the rivals forced out of the market, power of the parties downstream rises which enable to harm consumers..	At least one of the parties must have a strong market position in the market where the risk of foreclosure is.

Source: Compilation by author based on European Commission 2011a, 36

As seen in Table 2, the main competition concerns related with the joint production agreements can be divided into three groups: limitation of rivalry between the (potential) competitors in the market, initiatives to collude and act illegally and possibilities to exclude competitors from the market. In the fifth chapter a competitive assessment of both the Nord Stream and Caspian Basin gas projects will be made based on these several types of competition concerns.

2.2.1.2. Joint purchasing agreements

One particular type of agreements between undertakings is considered to be used to buy Caspian gas – joint purchase agreements. In the special Guidelines on the applicability of Article 101 of the TFEU to horizontal co-operation agreements, the EC agrees that joint purchasing agreements⁵ of products “usually aim at the creation of buying power which can lead to lower prices or better quality products or services for consumers”, but it warns that the “buying power may, under certain circumstances, also give rise to competition concerns” (European Commission 2011a, 44). There are two markets which may be affected by joint purchasing arrangements: the market or markets with which the joint purchasing arrangement is directly concerned, or the relevant purchasing market or markets, and the selling market or markets, or the market or markets downstream where the parties to the joint purchasing arrangement are active as sellers (Ibid).

There is no absolute threshold above which the EC would presume that the parties to a joint purchasing arrangement have market power, so that the joint purchasing arrangement is likely to give rise to restrictive effects on competition. The EC evaluates that “in most cases it is unlikely that market power exists if the parties to the joint purchasing arrangement have a combined market *share not exceeding 15 % on the purchasing market or markets as well as a combined market share not exceeding 15 % on the selling market or markets* (European Commission 2011a, 45 italics added). The threat of restrictive effects on competition in the selling market(s) is smaller if co-operating purchasers are not active on the same relevant selling market “for example, retailers which are active in different geographic markets and cannot be regarded as potential competitors” (European Commission 2011a, 45).

⁵ Joint purchasing can be carried out by a jointly controlled company, by a company in which many other companies hold non-controlling stakes, by a contractual arrangement or by even looser forms of co-operation (collectively referred to as "joint purchasing arrangements") (European Commission 2011a, 44).

The main competition concerns that arise from joint purchasing agreements are listed in Table 3 with a note whether concerns arise in the upstream (production) or downstream (retail) markets. They are grouped in the three general groups: reduced competition between undertakings (not necessary because of collusion among them). If agreements involve fixing purchase prices they “can have the object of restricting competition within the meaning of Article 101(1) (1)” (European Commission 2011a, 45), which means they are automatically void and punishable.

Table 3 Main competition concerns of the joint purchasing agreements

GROUP OF CONCERN	CONCERN	MARKET	HARM
Reduced competition between undertakings	Increased prices	Downstream	Incentives of the buying parties for price competition decrease if significant part of input is bought together
Reduced competition between undertakings	Reduced output, product quality or variety, or innovation	Upstream	If purchasers have a significant market power in the purchasing market, suppliers may be forced to reduce range or quality of products they produce.
Collusion	Collusive outcome	Downstream	Joint purchasing arrangements may lead to collusive outcome if they facilitate the coordination of the parties' behavior on the selling market
Exclusionary effects	Exit of competitors.	Downstream	If buyers upstream get access to large amounts of the product for a low wholesale price, it may lead to lower prices downstream, force competitors to leave the market
Exclusionary effects	Anticompetitive foreclosure of other possible purchasers	Upstream, downstream	Foreclosing competing purchasers by limiting their access to suppliers, most likely if there is a limited number of suppliers or significant entry barriers on the supply side
Exclusionary effects	Entry barriers	Upstream	Increase in buyers power may make entry of competitors less attractive by raising entry barriers

Source compilation by author based on European Commission 2011b; Secretary General of OECD 2009

It is more likely that the first and foremost project effects on the downstream – the EU – market and final consumers would be analyzed by the competition authorities rather than in the upstream market, unless the situation in the upstream market would have serious negative

effects on the downstream markets too. Consequently out of all competition concerns related with the purchasing agreements listed in Table 3, the more important for EU competition authorities would be increased prices, anticompetitive foreclosure of other possible purchasers, collusive outcome and exit of competitors because of the effect on the downstream market.

2.2.2. Abuse of dominant position

Article 102 of the TFEU (ex Article 82 EC Treaty) prohibits the abuse of dominant position of the undertaking(s) in the internal market or in a substantial part of it. The actions are in particular prohibited if they consist of:

- (a) Directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) Limiting production, markets or technical development to the prejudice of consumers;
- (c) Applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (d) Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts (Council of the European Union 2010, Article 102).

In the energy sector (in particular natural gas sector) companies are often vertically integrated, which means that they have activities and interests in both upstream and downstream markets. There are two special possible kinds of abuse of dominant position if a dominant firm is vertically integrated: cases of vertical exclusion such as refusal to deal and margin squeeze (European Commission 2009a, pt. D). In the natural gas sector a dominant company may refuse to deal and may reject access to the crucial input gas pipelines. The access may be refused directly or by such techniques as usage 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 (Cardoso et al. 2010; Lowe et al. 2007; European Commission DG Competition 2007). Instead of refusing to supply, a “dominant undertaking may charge a price for the product on the upstream market which, compared to the price it charges on the downstream market, does not allow even an equally efficient competitor to trade profitably in the downstream market on a lasting basis, a so-called “margin squeeze” (European Commission 2009a, para. 80) . To overcome refusal to supply issues in the network like industries, the obligatory third-party access is used, which is described in the section below.

2.2.2.1. The third-party access

The European wide solution assuring access to essential facilities is the non-discriminatory and transparent third-party access (TPA) to the gas and electricity systems with *ex ante* supervision by the authorities (Geldhof and Vandendriessche 2008, 35). The third party access can be “regulated” or “negotiated”. Regulated TPA is the access regime where network users have access to the system on the basis of published tariffs that are approved by a regulatory authority, and in the case of negotiated TPA, the network users have to negotiate the price and conditions of access to the system (Ibid). In the Third Gas Directive, negotiated third party access is allowed only in the case of access to the gas storage facilities (European Parliament 2009a, Article 33, part 3) and in the cases of access to upstream pipelines the regime is left for a member state to determine (European Parliament 2009a, Article 34, part 2). In other cases, such as third-party access to the transmission and distribution system and LNG facilities, the third party access is based on published tariffs and those tariffs or the methodologies of their calculation are *ex ante* approved by a regulatory authority (European Parliament 2009a, Article 32, part 1).

No access to the essential facilities may cause the exit of competitors from the market or so-called exclusionary effects or foreclosure so that in the case of lack of transportation facilities an entry of the competitor never takes place and consumers never benefit from it.

Non-discriminatory access is also called by the EC “one of the key principles of energy market liberalization” (European Commission 2009c, 5).

2.2.3. DG Competition tools to increase competitiveness in the energy market

As was shortly mentioned in the beginning of the chapter, the European Commission Directorate General for Competition (DG Competition) has devised some specific tools to increase competitiveness in the energy market, namely, in the electricity and natural gas sectors. These tools are behavioral remedies in the case of possible harm to competition as opposed to the effective unbundling process which is structural remedies. Such behavioral remedies include gas release programs, contract release programs, obligatory trading in hubs, use-it-or-lose-it provisions regarding infrastructure (European Commission DG Competition 2007). However, the EC looks skeptically at behavioral remedies. It pointed out that it may be impossible for the Commission to verify whether or not the commitment is complied with and even other market participants, such as competitors, may not be able to establish at all or with the requisite degree of certainty whether the parties meet the conditions of the commitment in practice. In addition, competitors may also not have an incentive to alert the Commission as they do not directly benefit from the commitments. Therefore, the Commission may examine other types of non-divestiture remedies, such as behavioral promises, only exceptionally in specific circumstances, such as in respect of competition concerns arising in conglomerate structures (European Commission 2008).

To summarize this subsection on the EU’s competition policy, the competition policy in the European Union is aimed to keep functioning competition between the companies at least at the same level as it is and to encourage fiercer competition. In addition, no harm to final consumers should be imposed and competition policy should serve the aim to create the internal energy market. As far as the energy sector and in particular natural gas sector is concerned, provisions that most influence the sector are related to the agreements between

undertakings such as joint production or purchase agreements and threats of abuse of dominance such as refusing access to essential facilities or margin squeeze. The competition policy authorities attempt to protect the EU market from such types of harm as elimination of rivalry among the direct competitors and foreclosure of the market or exclusion of the competitors from the market.

2.3. Energy market Directives and effective unbundling

Issuance of Directives specially on creating internal gas and electricity markets is relatively new in the Union: the Directive to create internal market of electricity was enacted in 1996, followed by the Directive in the gas sector in 1998. These Directives, even though they approach the specific electricity and natural gas markets, however, largely transpose the competition policy rules. Therefore the competition policy rules are a concurrent part of the energy policy.

During the early liberalization process in the late 1980s, the basis for the EC actions against monopolies, were “that they were contrary to the free movement rules of the European Treaty and made internal European market for electricity and gas impossible”, but later the EC changed its tactics and “adopted a legislative approach to open up the energy markets” such as the Electricity and Gas Directives (Geldhof and Vandendriessche 2008, 33). The electricity and natural gas Directives are instruments that target directly the energy market in the European Union. The main concept of the Directive is the single market provisions. The first Electricity Directive and the first Gas Directive were adopted respectively in 1996 and 1998 – around a decade later after the Single European Act. Their aim is to break down the “*de jure* and *de facto* national monopolies and/or oligopolies in the electricity sector” during the process of opening these European energy markets to competition or so-called liberalization (Geldhof and Vandendriessche 2008, 33).

The inquiry into the functioning of the European gas and electricity markets which was launched in 2005 and completed in 2007 shows the main shortcomings in the EU's energy markets:

- Structural conflicts of interest: a systemic conflict of interest caused by insufficient unbundling of networks from the competitive parts of the sector;
- Gaps in the regulatory environment particularly for cross border issues.
- A chronic lack of liquidity, both in electricity and gas wholesale markets and persistence of the market power of pre-liberalization monopolies
- A general lack of transparency in market operations in the sector (European Commission DG Competition 2007, 14)

These findings led the Commission to initiate the so-called "Third Energy Package" proposals (Geldhof and Vandendriessche 2008, 34), which materialized in the adoption of the third wave of Directives in the EU's electricity and gas sector in 2009. Out of that the Gas Directive 2009/73/EC is of interest to this thesis (European Parliament 2009a). The Directive introduced a novelty – effective unbundling of network and supply activities and in particular ownership unbundling.

The EU member states were presented with three unbundling choices in their energy markets: Ownership unbundling (OU), Independent system operator (ISO) and independent transmission operator (ITO). Under the choice of **ownership unbundling**, member states have to ensure that "the same person or persons are not entitled to exercise control over a production or supply undertaking and, at the same time, *exercise control⁶ or any right* over a

⁶ The definition of the term "control" was taken from Council Regulation No 139/2004 of 20 January 2004 on the control of concentrations between undertakings. "Control" in the context of the Third-energy package thus is "constituted by rights, contracts or another means which, either separately or in combination and having regard to the considerations of fact or law involved, confer the possibility of exercising decisive influence on and undertaking, in particular by:

(a) Ownership or the right to use all or part of the assets of an undertaking;

transmission system operator or transmission system. Conversely, control over a transmission system or transmission system operator should preclude the possibility of exercising control or any right over a production or supply undertaking” (European Parliament 2009a, 1). Network activities from supply and production activities have to be fully and effectively separated to both EU and non EU companies (European Parliament 2009a, 3). Ownership unbundling is considered the “most effective tool by which to promote investments in infrastructure in a non-discriminatory way, fair access to the network for new entrants and transparency in the market” (European Parliament 2009b, 1).

Member states can also chose the **independent system operator** option. In that case a system operator is assigned with notification to the EC which cannot be the same entity as the network owner. The owner of the transmission system cannot be responsible for granting and managing third-party access and for investment planning, but it has to finance the investments decided by the ISO and approved by the regulator or allow for the third-party to finance them (European Parliament 2009b, Article 14).

If a state chooses the **independent transmission operator** option, the transmission system operator may be related with the vertically integrated gas company, but cannot use the same brand, identity, IT system, it has to be legally unbundled and accounts have to be independent, and it must have effective decision making rights, have to have independent staff and management (European Parliament 2009b, chap. IV).

In this chapter, the internal EU natural gas market policies were discussed and it became clear that they are mostly based on the competition policy rules and provisions, which themselves facilitate the creation of single European market. In the EU natural gas market, like in other business sectors, certain horizontal agreements and abuse of dominant position

(b) Rights or contracts which confer decisive influence on the composition, voting or decisions of the organs of an undertaking (European Council 2004a, 7).

are prohibited per se. In other cases the competition effects of agreements and behavior of the dominant undertakings that have an impact on substantial part of the EU internal market also have to be investigated. Even the Natural Gas Directives transpose the competition policy rules, and apply policies such as effective unbundling or provisions for the third-party access specific not just to the natural gas markets but all network-like activities. Hancher and Janssen note that with the introduction of competition in the energy markets and removal of exclusive rights to energy monopolies and the introduction of the requirement to unbundle “different functions previously performed by vertically integrated companies”, security supply objectives must now “be secured by other, “arms-length”, means such as regulation or economic support” (2004, 86). The energy security issues are discussed in the following chapter.

3. FRAMEWORK FOR ENERGY SECURITY POLICIES

The European Commission holds that external energy policy is subject to the successfully created internal energy market. According to the EC, “the effectiveness and coherence of the EU’s external energy policy is dependent upon the progress with internal policies and, in particular, the creation of the internal market for energy” (European Commission 2006, 14). The acknowledgment of the importance of the EU’s external energy policy in the natural gas sector came after efforts to create an internal gas market. For example, in the earliest EC Communication on the internal energy market of 1988, there was virtually no attention paid to the need of interconnections with third countries, and the proposed policies concentrated just on the internal market and expansion of the internal gas grid (European Commission 1988, 56–66). Since 2006, however, the external energy coordination between the EU member states is increasing (Belyi 2007, 195).

This chapter puts together the basis for the external energy policy of the European Union in order to develop evaluation criteria which are used in the project evaluation part of the thesis. In order to be able to compare the Nord Stream and Caspian Basin gas projects in the context of internal energy policies and external energy policies of the European Union in this chapter the understanding of external energy policy is developed and important elements to the external energy policy are distinguished. The basic elements of the internal energy policy have already been pooled together in the previous chapter.

In this chapter, first the energy concept in the European Union is defined and it is clarified that in the European continent it is understood first and foremost as the security of supply. Then the long-term aspects of ensuring security of supply are discussed, because only the long-term aspects are comparable with the internal market and competition policy provisions which are long-term by nature.

3.1. What is energy security in the European Union

The main component of the external energy policy of the EU is energy security of the Union and its members. As Belyi puts it, the “essence of energy security with regards to EU consists in finding the balance between internal needs to ensure security and external policy ensuring the stability of supplies” (2007, 199). The definition of energy security, however, depends on the context of the country (or the Union). The countries in which a large share of energy is imported relate energy security with security of supply, and, conversely, the exporting countries relate it rather with interdependence and security of demand and therefore with stable revenues (OECD Competition Committee 2007, 18). The European Union’s external energy policy besides energy security also concentrates on the climate change objectives (European Commission and High Representative 2006) but this is out of the scope of this paper.

The internal market provisions and competition policy objectives and tools are more clearly defined in the European Union, whereas when it comes to energy security there are various policies, aims and tools proposed, often not even defining what in the context the main objective – energy security – is. Winzer in his paper “Conceptualising Energy Security” he addresses the issue that the concept of energy security has not been clearly defined and “and even papers that produce quantitative assessments and indicators of supply security often don’t provide an explicit definition” (Winzer 2011, 1). The common concern underlying various concepts he found was “the absence of, protection against or adaptability of a system to threats that related to the energy supply chain (Ibid, 2).

The import dependent European Union concentrates on the former understanding of energy security – security of supply. These two terms are so much merged in the context of the EU that in many cases in official documents the term “security of supply” is interchangeably with the term “energy security”. One example is the Green Paper “A

European Strategy for Sustainable, Competitive and Secure Energy” European Commission” where both terms are used (European Commission 2006). The Commission there speaks about “the physical security of Europe’s energy infrastructure against risks from natural catastrophe and terrorist threat, as well as security against political risks including interruption of supply” and “potential supply disruptions” (European Commission 2006, 8). For the European Union (European Parliament 2009a, 3) the security of energy supply is an essential element of public security.

As the OECD Competition Committee points out, the definition of energy security is often *supply disruption risk-based*, but energy security can be also about the *level of price during non-emergency periods*. Three potential parts to a definition of security of supply are: 1) risk and uncertainty of supply disruptions and their resulting price spikes (or shortages), 2) the non-emergency level of prices, and 3) the psychological feeling of riskiness of imports (OECD Competition Committee 2007, 28, italics added). However, it acknowledges that supply disruptions are the classic energy security concern, where physical disruption is translated into a price spike where markets can flexibly operate to re-allocate physical fuels (Ibid). Barton et al define energy security similarly: “as a condition in which a nation and all, or most, of its citizens and businesses have access to sufficient energy resources at reasonable price for the foreseeable future free from serious risks of major disruptions of service” (Barton et al. 2004, 5).

Now when it is clearer how energy security is understood in the EU context, not a less confusing task is to clarify security of supply issues time-wise. In the documents and communications of the EC and other EU institutions usually such a clear distinction is not made. For example, in a paper from the European Commission and Secretary-General/ High Representative “An external policy to serve Europe’s energy interests” both guiding principles to enhance the external security of energy supplies of the EU that can be considered

to be short–time management in case of supply disruption and long–term strategic measures are listed together with no distinction. In the same list of principles, the EC proposes promoting strategic reserve stocks and encouraging joint stock holding with partner countries, which can be called the short–term “putting fires away” measure if supply of energy is interrupted, and “diversifying energy imports by product and country” which is a long–term and strategic measure (European Commission and High Representative 2006, 2).

Another example is the Directive concerning measures to safeguard security of natural gas supply (2004/67/EC). This Directive does not define what security of gas supply is, but its provisions are intended towards security of supply during “major (gas) supply disruptions”⁷. There it is decided to establish a Gas Coordination Group “which should facilitate coordination of security of supply measures at Community level in the event of a major supply disruption, and may also assist member States in coordinating measures taken at a national level (short–term objective) and at the same time the need to ensure continued investments in gas supply infrastructure is reiterated (European Council 2004, 1–2).

The whole non exhaustive list of the instruments provided in the annex of this Directive was not grouped in terms of time. They could be approximately grouped into the EU’s efforts to prevent a major disruption of supply which can be called long–term (1) and measures to be undertaken within the EU if disruption happens (2) which can be called short–term:

- 1) Cross–border capacities, domestic production of gas, import flexibility, diversification of sources of gas supply, long term contracts, investments in infrastructure for gas import via regasification terminals and pipelines;

⁷ The Directive defines major supply disruption as a “situation where the Community would risk losing more than 20 % of its gas supply from third countries and the situation at Community level is not likely to be adequately managed with national measures”.

- 2) Working gas in storage capacity, withdrawal capacity in gas storage, provision of pipeline capacity enabling diversion of gas supplies to affected areas, liquid tradable gas markets, system flexibility, development of interruptible demand, use of alternative back-up fuels in industrial and power generation plants, production flexibility (Ibid, 5).

Hancher and Janssen generalize Commissions understanding of security of supply as consisting of two elements: first one physical security of supply and the second one strategic and commercial (Hancher and Janssen 2004, 106, footnote 66). Such understanding also coincides with distinction between short-term and long-term security of supply used in this thesis.

In order to be able to compare the external energy policy needs of the EU with the internal market provisions and in particular competition policy, in this thesis only the long-term needs and tools to ensure security of supply are considered. These include the diversification of energy supplies, incentivizing of investments to production and infrastructure to ensure supply for ever increasing demand, and the EU's position towards the third-country actors in the Union's energy field.

3.2. Diversification of supply

According to the European Commission/High Representative paper "An external policy to serve Europe's energy interests" two building blocks of energy security are: functioning markets (the creating of functioning markets was discussed in the previous chapter) and diversification (European Commission and High Representative 2006, 2). Diversification is understood by the European Commission as the "balance between and diversification of the various sources of supply (by product and by geographical region)" (European Commission 2000, 4). Sometimes a third type of possible diversification is added: not only diversity of sources of a given fuel (sources) and diversity of transport infrastructure

(transit), but also the diversity of primary fuel types (energy types) (European Commission 2006, 4; OECD Competition Committee 2007, 31). According to the EC, the policy on securing and diversifying energy supplies are especially appropriate for gas (European Commission 2006, 15). The EC emphasizes that allowing access to new producer countries and not diversification of the route makes the positive effect of security of supply, “both at national and EU level will be substantially stronger” (Piebalgs 2007, 4).

To achieve diversification of gas sources and transit routes, investment in the gas infrastructure has to be made. The fact that investment into the internal natural gas infrastructure and especially international interconnections are one of the main tools to ensure the long-term security of supply – enough energy supply – is well understood in the EU. Investment is an important aspect for ensuring security of energy supply and now “there is urgent need for investments” (European Commission 2006, 3). The Natural gas Directive and other energy legislation provide for some possible incentives to invest into the major new gas infrastructure or a substantial expansion of the existing pipelines.

The difference of approach from the competition policy is that policy measures to ensure security of supply are positive towards incentivizing investments, and the competition policy is just non-negative towards investments. This may be seen in the Commission’s guidelines on the enforcement priorities towards the abusive exclusionary conduct by dominant undertakings (2009 C 45/7). Paragraph 75 from the Guidelines states that EC “considers that intervention on competition law grounds (for example in cases of imposition the obligatory third-party access) requires careful consideration where the application of Article 82 (now 102, discussed in the second chapter) would lead to the imposition of an obligation to supply on the dominant undertaking” because “the existence of such an obligation — even for a fair remuneration — *may undermine undertakings' incentives to invest* and innovate and, thereby, possibly harm consumers” (European Commission 2009a,

12, *italics added*). The EC acknowledges that “the knowledge that they may have a duty to supply against their will which may lead dominant undertakings — or undertakings who anticipate that they may become dominant — not to invest, or to invest less, in the activity in question. Also, competitors may be tempted to free ride on investments made by the dominant undertaking instead of investing themselves and neither of these consequences would, in the long run, be in the interest of consumers” (Ibid).

Therefore both from the perspective of security of supply policies and from the perspective of the competition policy particular importance are paid to the investments. However, as will be seen from the following sections, security of supply policies attempts to incentivize them additionally, as opposed to the competition policy consideration just *not to undermine* these incentives.

3.3. Trans–European energy networks

Certain energy infrastructure projects may be deemed eligible for Community assistance if they are ranked as such based on the guidelines for trans–European energy networks (TEN–E). Energy infrastructure projects may be ranked to be: 1) projects of common interest, 2) priority projects and 3) projects of European interest.

Projects of common interest have to have potential economic viability. Priority projects are selected from the projects of common interest. They must “have a significant impact on the proper functioning of the internal market, on the security of supply and/or the use of renewable energy sources (Directorate–General for Energy and Transport 2007). Such projects have priority for the granting of Community financial assistance. Some priority projects of a cross–border nature or which have a significant impact on cross–border transmission capacity are declared to be projects of European interest. They have priority for the granting of Community funding under the TEN–E budget and particular attention is given to their funding under other Community budgets (Directorate–General for Energy and

Transport 2007). With regards to the latter two types of projects question of possible anticompetitive effects because of the state aid may arise. In order to avoid possible distortions to competition the budget allocated to the TEN-E (around EUR 20 million per year) is mainly intended for financing feasibility studies. Other Community instruments are also used to part-finance investments, for example the Structural Funds in the convergence regions. However, “the construction and maintenance of energy infrastructure should be subject to market principles” (Ibid).

3.4. Exemptions from the provisions of the Directives

The EC considers that “ownership unbundling –as much as third party access and tariff regulation– may undermine the commercial viability of a new interconnector if it enhances the risks of the project promoter not to recoup its investment costs and an adequate return on equity” (European Commission 2011c, 10).

The Natural gas Directive provides for the possibility of exemption from third-party access, establishing *ex ante* and *ex post* tariff regulation and the ownership unbundling in case a new major natural gas infrastructure is built. Exemptions are created to allow for investments where the level of risk related with the investment is such “that the investment would not take place unless an exemption is granted (European Commission 2009c, 5).

The Gas Directive allows for major new gas infrastructures, i.e. interconnectors, LNG and storage facilities, upon request, to be exempted for a defined period of time from the provisions determining unbundling of transmission systems and transmission system operators (Article 9 of the Directive), third-party access (Article 32 of the Directive), and access to storage (Article 33) (European Parliament 2009a, Article 36).

In the preamble of the Gas Directive, the EU legislator especially concentrates on exemptions to the new pipelines within the Community transporting gas from third countries into the Community. It states that “given the exceptional risk profile of constructing those

exempt major infrastructure projects, it should be possible temporarily to grant partial derogations to undertakings with supply and production interests in respect of the unbundling rules for the projects concerned. The possibility of temporary derogations should apply, for security of supply reasons, in particular, to new pipelines within the Community transporting gas from third countries into the Community” (European Parliament 2009a, 5). The exemption has to be granted by the national regulatory authority, the EC has to be informed about it and modify the exemption or allow it.

To receive exemption, it has to comply with certain conditions, such as:

- a) The investment must enhance competition in gas supply and enhance security of supply;
- b) The level of risk attached to the investment must be such that the investment would not take place unless an exemption was granted;
- c) The infrastructure must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built;
- d) Charges must be levied on users of that infrastructure;
- e) The exemption must not be detrimental to competition or the effective functioning of the internal market in natural gas, or the efficient functioning of the regulated system to which the infrastructure is connected (Ibid).

Parts of the exemption conditions which have to be fulfilled for the new or significantly expanded existing gas infrastructure are similar to the conditions to receive general competition policy exemptions (for example, exemption must not be detrimental to the functioning of the market). Nevertheless, there are some gas market specific requirements in the Natural Gas Directive which have to be fulfilled such as the exemption not only has to enhance competition in the market but also increase the security of supply. The burden of

proof to show that the necessary conditions are fulfilled lies with the applicant which is required to provide all necessary documents to the Commission (European Commission 2009c, 6). The European Commission warns that “exemption requests by dominant undertakings in markets served by the new infrastructure are likely to have the greatest potential for harming competition and therefore require particularly careful scrutiny” (European Commission 2009c, 11).

The European Commission also clearly states that “exemptions are an exception to the general rule of regulated third-party access. Such exceptions have to be limited to what is strictly necessary to realize the investment and the scope of the exemptions has to be proportionate” (European Commission 2009c, 6). According to Geldhof and Vandendriessche, the exceptionality of such derogations is implicitly confirmed by the procedural rules: by the fact that only positive decisions of the national regulatory authorities to provide exemption have to be confirmed by the Commission or asked to be amended or withdrawn, but not decisions refusing an exemption (Geldhof and Vandendriessche 2008, 52, footnote 94).

In the fifth chapter the level of energy supply diversification will be used as a tool to measure how the Nord Stream and Caspian gas projects ensure energy security.

3.5. Long-term contracts

The long-term gas supply contracts in Europe are considered to be a part of security of supply policy, for example, among scholars (Hancher and Janssen 2004, 102, book section on security of supply in the European Union) or especially among the energy companies (for example, E.ON Ruhrgas 2012). The preamble of the Council Directive of 26 April 2004 concerning measures to safeguard security of natural gas supply also openly states that “long-term contracts have played a very important role in securing gas supplies for Europe and will continue to do so” (European Council 2004, 1). The Council goes on by stating that the

current level of long term contracts is adequate on the Community level, and it is believed that such contracts will continue to make a significant contribution to overall gas supplies as companies continue to include such contracts in their overall supply portfolio (Ibid).

Moreover, among the other instruments to enhance the security of gas supply listed in the annex of the Directive long term contracts are listed (European Council 2004, 5).

The preamble of the Natural Gas Directive of 2009 also acknowledges that “long-term contracts will continue to be an important part of the gas supply of member states and should be maintained as an option for gas supply undertakings in so far as they do not undermine the objective of this Directive and are compatible with the Treaty, including the competition rules”. It states that : “it is therefore necessary to take into account long-term contracts in the planning of supply and transport capacity of natural gas undertakings” (European Parliament 2009a, 6). Under the provisions about obligatory third-party access it is again restated that the provisions “shall not prevent the conclusion of long-term contracts in so far as they comply with Community competition rules” (Ibid, Article 32). It is repeated again while listing the duties of the regulatory authority that it has to respect contractual freedom with regard to long-term contracts “provided that they are compatible with Community law and consistent with Community policies” (Ibid, Article 41).

New investments in gas production and transportation infrastructure are usually underpinned by the long-term “take-or-pay” or “ship-or-pay” contracts which mean that for the pipeline to be built one side of the projects undertakes obligation to buy certain amount of gas or to use infrastructure for the investors to build the infrastructure. The investor companies try to long-term derogations from requirements to provide third-party access to cover the lengths of these contracts (Piebalgs 2007, 5).

On the other hand, the Energy Sector Inquiry of 2007 revealed that the long-term supply contracts “in certain markets, long-term contracts <...> can reinforce concentration

levels” (European Commission DG Competition 2007, 7), that the tradition to link natural gas prices with the prices of oil derivatives in the long-term gas supply contracts does not allow to see “clear trends towards more market based pricing mechanisms (Ibid, 9) and cause illiquidity of natural gas markets (Ibid, 19) and they can foreclose access to inputs or downstream customers (Ibid, 47). Therefore the existence or non-existence of the long-term gas supply contracts are considered to facilitate to energy security, but can work against the competition policy goals.

3.6. Acquisition of the transmission networks by the third-countries

A trend in the natural gas markets (as well as oil) is that the supply side tends to be in government hands and demand side in private hands, such as corporatized or privatized energy intermediaries in the OECD countries (OECD Competition Committee 2007, 24–25). Thus in the external energy policy it may be a must to put more weight on political measures.

This is particularly true in the EU and Russian relations because of the “Russian strategy of using energy diplomacy in order to reinforce its own position in the world arena” and therefore “EU–Russia energy relations are mainly characterized by a mutual fear: energy supply security for the EU and energy demand security for Russia” (Belyi 2007, 222). This unease in the relations resulted in the special treatment of the persons from the third-country in the Natural Gas Directive (2009/73/EC), an unofficially called “Gazprom clause”, aimed at restricting investments in transmission in the Directive (Belyi 2008, 5). In the European Parliament press releases (European Parliament 2009a) the “Gazprom clause” is openly called a tool to protect the EU’s energy security.

In the Directive itself Gazprom or even Russia is not mentioned in the infamous “Gazprom clause” Article 11. In this Article, however, it is ensured that if certification to be a transmission system operator is “requested by a transmission system owner or transmission system operator which is *controlled* by person or persons *from a third country or third*

countries, the regulatory authority shall notify the Commission” (European Parliament 2009b, Article 11, italics added). The regulatory authority should also notify the Commission “without delay of any circumstances that would result in person or persons from a third country acquiring control of a transmission system or transmission system operator”. Besides, the regulatory authority is obliged to refuse certification if the transmission company is not unbundled from the supply or production activities (the ownership unbundling), if granting the certification will put at risk the security of energy supply of the member state and the Community (Ibid). Such emphasis on the origin of the energy supplier and owner of the transmission system can be attributed to the third part of the energy security definition by OECD Competition Committee, the psychological feeling of riskiness of imports, which was presented in section 3.1.

In the fifth chapter the control of the transmission network by the person or persons from the third-country or other significant presence of the third-country will be considered as unwanted element towards energy security, and in terms of competition policy it will be considered to be neutral. It is rather an emotional measurement of security of supply, based on how third-country suppliers and especially Russia are perceived within the EU.

Summary

This chapter concluded the theoretical part of the thesis. As was overviewed in this chapter, the main component of the EU’s external energy policy and need for it stems from the necessity to ensure energy security. Energy security in the European Union, an importing rather than exporting body, is firstly related with security of supply, not demand. Security of supply issues may be grouped into the shorter-term issues and the longer-term issues. The shorter-term issues are largely related with the demand management within the EU especially in case of supply interruptions, and the long-term are related with the EU’s role among the third-country energy suppliers and proper interconnections between the sources of energy and

the EU. At times tension may be felt between the energy security and internal market goals in the EU. The European Commission states that “liberalized and competitive markets help security of supply by sending the right investment signals to industry participants” (European Commission 2006, 8). Often both internal energy policy, or competition policy, and security of supply policies strive to reach the same goals. There are cases, however, where tools to ensure energy security are at odds with the competition policy. They are summarized in Table 4 below.

Table 4 Competition policy versus energy security policy evaluation criteria

	External energy policy/energy security	Competition policy/internal energy policy
Ownership/integration	Vertical integration may bring energy security.	(Ownership) unbundling and vertical separation of natural monopoly from competitive parts of energy activities reduces the incentives to discriminate or foreclose competitors.
Investments	Governments are often involved in securing investments through state owned companies or appropriate framework.	Projects are pursued by the private companies.
Length of contracts and pricing	Long-term contracts help to secure investments.	Price should be responsive to demand and supply conditions
Third-party access	Granting or mandating infrastructure to the costly infrastructure may discourage the building of this infrastructure.	Downstream competition can be harmed absent access to the essential facilities.

Source: Compilation by the author based on the previous chapters and on OECD Competition Committee 2007

The next two chapters will analyze the Nord Stream and Caspian Basin gas projects, develop evaluation criteria based on the previous chapters, evaluate the projects and suggest appropriate policy proposals.

4. THE PROJECTS

In this chapter, two major and most recent European natural gas projects are presented: the Nord Stream natural gas Russian gas delivery project and plans to bring Caspian gas to the European Union. Four main aspects of each project are provided: the routes, sources and amounts of gas to be delivered to the EU, the major actors related with the projects, the possibilities to access facilities by third-parties and the gas procurement regimes via the pipeline systems. These aspects are necessary in order to evaluate the projects in the context of internal market and security of supply in the next chapter.

4.1. Nord Stream: a new route for the Russian natural gas

Nord Stream is an international consortium of five energy companies established in 2005 controlled by the Russian state gas company Gazprom. The other shareholders of the Nord Stream are German Wintershall Holding (a BASF subsidiary), German E.ON Ruhrgas, Dutch Nederlandse Gasunie, and French GDF SUEZ (Riley 2008, 3). The consortium builds the two so-called “twin-pipelines” on the seabed of the Baltic Sea from Vyborg, Russia, where the gas will be pumped to the pipeline to Lubmin, Germany, where the gas will be received.

One pipe has already been operating since November 2011, and the offshore construction of the second line was commenced in May 2011. It is planned to start operating by the last quarter of 2012 (Nord Stream 2012c). At the exit point on the German shores gas will be received by the connecting pipelines OPAL (Baltic Sea Pipeline Link) and NEL (North European Gas Pipeline) for further transportation into the European grid. This can be seen in the Figure 2 below. Where OPAL ends, the Gazelle pipeline begins (which is not visible in Figure 2). The gas in this pipeline will mainly flow through the Czech Republic back to Germany. At the German Waidhaus border station, Gazelle will be connected to the pipeline system in southern Germany that transports gas from Waidhaus and the

Austrian/German border to the German/French border (MEGAL pipeline system) (European Commission 2011b, 3). OPAL, NEL and Gazelle pipelines are owned by separate entities.



Figure 2 The route of the off–shore Nord Stream and its onshore extensions NEL and OPAL

Source: E.ON Ruhrgas 2012

Table 5 below presents the natural gas companies which are related with the offshore Nord Stream project or its onshore extensions NEL, OPAL and Gazelle. It is clear from Table 5 that Russian Gazprom plays the major role in the whole project: it owns 51% of the Nord Stream consortium, and the affiliate company of Gazprom Wingas controls both the OPAL and NEL pipelines. Besides, it is seen that the project partners in the EU are mostly the long established natural gas companies in the respective Western EU countries, and part of them hold dominant positions in the national gas markets.

Table 5 Companies related with the Nord Stream infrastructure

Pipeline	Place of the pipeline	Shareholders	Activities and markets of the shareholders	
Nord Stream	Two 1,224-kilometer offshore pipelines run from Vyborg, Russia to Lubmin near Greifswald, Germany through the Baltic Sea. Planned to transport combined total amount of 55 bcm gas per year.	Gazprom	51%	Russian government controlled company which is active in natural gas production in Russia, transportation, it owns pipelines, and also via its subsidiaries it is active in gas supply activities in some EU countries.
		Wintershall Holding	15.5%	Wintershall is a wholly owned subsidiary of the chemical group BASF and it is Germany's largest crude oil and natural gas producer. Since 1990 it is active partner of Gazprom. In 1999 Wintershall and Gazprom agree to jointly produce oil and gas in Russia as well as in other countries. At the same time Wintershall withdraws from its refinery activities.
		E.ON Ruhrgas	15.5%	E.ON may hold a market share of at least around 55–65% in its grid are in the wholesale supply of regional and local distribution and the EC regards E.ON's gas transmission network having a substantial part in the internal market. Related company, E.ON Energie, is also one of around 20 importers of natural gas to the Czech Republic. E.ON has many ties with Gazprom and co-owns a handful of gas companies in the Southern–Eastern Europe.
		Nederlandse Gasunie	9%	Dutch natural gas company.

		GDF SUEZ	9%	GDF SUEZ holds a dominant market share in France: supplying 92% for household use and 67% for industrial use in the third quarter of 2011. Subsidiary of GDF SUEZ is also one of around 20 importers of natural gas to the Czech Republic but held insignificant part in 2010.
Ostsee–Pipeline–Anbindungs–Leitung – Baltic Sea Pipeline Link (OPAL)	The OPAL picks up the natural gas in Lubmin near Greifswald from the Nord Stream pipeline and transports it 470 kilometers south to Olbernhau on the Czech border. Its capacity over 35 bcm per year.	Wingas	80%	Wingas is a joint venture of Wintershall Holding, Germany's largest crude oil and natural gas producer, and Russia's Gazprom. Wintershall has a stake in Wingas of 50% plus one share, the Russian natural gas producer 50% minus one share which corresponds to 49.98%.
		E.ON Ruhrgas	20%	<i>Information is above</i>
Nordeuropäische Erdgas–Leitung – Northern European Gas Link (NEL)	NEL will pick up the natural gas in Lubmin near Greifswald and transport it over 440 kilo–meters towards the west. NEL will link the Nord Stream Baltic Sea pipeline with the existing trans–regional pipeline system in Germany. Planned capacity – over 20 bcm a year.	Wingas	51%	<i>Information is above</i>
		Gasunie	20%	<i>Information is above</i>
		Fluxys G	19%	Fluxys is the Belgium natural gas transportation, storage and trade company co–owned by the Belgian municipal holding company in the natural gas sector Publigas and financial institution Caisse de dépôt et placement du Québec.

		E.ON Ruhrgas	10%	<i>Information is above</i>
Gazelle pipeline	Gazelle will link the OPAL gas pipeline system near Brandov in the Czech Republic to the MEGAL pipeline at Waidhaus in Germany. Gazelle will start at the Czech/German border point Brandov; crosses the Northwest of the Czech Republic and ends at the Czech/German border at the Waidhaus border station. Its planned length is 160 km long of which 140 km will be newly constructed The planned operating capacity is between 29.53 bcm/year and 32.81 bcm/year.	Gazelle will be fully owned by a special purpose company called Brawa which was set up as a 100% subsidiary of NET4GAS.		NET4GAS (former RWE Transgas) is the transmission system operator of the existing Czech pipeline system and solely belongs to the RWE Transgas group. Related company RWE Transgas in 2010 held the largest market share, 72.6%, as regards imports. RWE Transgas also holds sole control over RWE Gas Storage, which operates 75% of the storage capacity located in the Czech Republic. In terms of sales to customers, gas trade was dominated by the RWE Group: 62%.

Source: Compilation by the author based on data of Energy Regulatory Office 2011; European Commission 2009d; European Commission 2010; European Commission 2011b; Fluxys 2012; Japan Credit Rating Agency 2012; NEL 2011; Nord Stream 2012a; Nord Stream 2012b; OPAL Pipeline 2012; Wingas 2011; Wingas 2012; Wintershall

Three out of five shareholders of the Nord Stream pipeline also cooperate on providing the natural gas to the pipeline. One of the main gas sources to feed Nord Stream pipeline is the Yuzhno–Russkoye field with design gas production capacity of 25 bcm per year located in Western Siberia. The gas field is developed by Severneftegazprom, a joint venture project between *Gazprom, E.ON Ruhrgas and Wintershall* (Nord Stream 2012a). Gazprom has just about 50% of voting interests, E.ON Ruhrgas and Wintershall a little less than 25% of voting interests each in the venture (Severneftegazprom 2012). Thus the Nord Stream project partners are interrelated in the upstream level of gas extraction too.

Access to facilities

The Nord Stream pipeline largely crosses international territorial waters and this makes the project special in terms of application of the EU legislation and requirements to provide third–party access. According to Börner, since the Nord Stream pipeline starts on Russian territory and then continues on the Baltic seabed, “the United Nations Convention on the Law of the Sea the Exclusive Economic/Continental Shelf Zones do not give the general territorial rights but rather only specific preferential rights (for exploitation) and obligations (for environmental protection)” (Börner 2009, 6). Furthermore, there is no physical way for third party access on the sea route.⁸ According to Börner, when the pipeline reaches German territory, any competition effects are “final”, because the gas, which is in the ownership of the seller or purchaser but not of the transportation company and the transportation fee is settled outside the EU. The EC shareholders are even together in a minority (49%) position and cannot be held responsible for the policies of the pipeline company. In consequence,

⁸ This was also reiterated to the author by Nord Stream officials. To the questions whether third–party access will ever be provided in the offshore part of the Nord Stream pipeline Baumanis answered “Nord Stream is not subject to 3rd energy package” (Baumanis 2012).

according to Börner, “there is hardly a genuine link allowing for the oppression of EC law to the operation of the pipeline” (2009, 7).

However, the EU internal market legislation applies to the on-shore extensions of Nord Stream which are entirely on EU territory, i.e. OPAL (going from the North of Germany to the border with the Czech Republic), Gazelle (going through the Czech Republic into the south of Germany) and NEL, and the EC has its say there. The German energy regulator with the consent of EC exempted the OPAL capacity (up to 35 bcm) from the third-party access years and denied the exemption to the NEL (20 bcm). Besides, with consent of the European Commission the Czech energy regulator exempted the third-party access⁹ and obligation to pursue ownership unbundling to Gazelle (European Commission 2011b; European Commission 2011c). In all the cases, the exemption period ends on 1 January 2035. Giving its approval to the decision of the regulators, the EC, however, decided that a dominant undertaking of the Czech gas market must not in any year book more than 50% of the OPAL exit capacity at the border to Czech Republic. In case capacity is booked by Gazprom or/and Wingas they would be considered as one entity. If the booking by dominant entity exceeds 50%, around 3 bcm gas on the border with Czech Republic has to be released together with the corresponding capacity (European Commission 2009d). This would correspond with approximately a third of Czech Republic gas consumption in 2010. The design of gas and capacity release programs has to be approved by the German energy regulator.

Officially, the Gazelle part within the Nord Stream pipeline system is designed not to increase Russian gas imports to Germany but to diversify routes and re-route gas which otherwise reaches the European Union via the “Brotherhood” pipeline system (European Commission 2011b, 9), therefore it “will not result in increased gas imports from Gazprom”

⁹ Out of 32.81 bcm of planned capacity of Gazelle, 30 bcm per year were exempted from TPA. This means that 2.81 bcm/year forward flow and the reverse flow capacity are subject to TPA (European Commission 2011c, 11, footnote 17).

to Germany since “Gazprom is not in a position to substantially increase its imports into Germany on this point” (European Commission 2011b, 10).

Gas procurement

Gazprom states that the entire gas volume has already been contracted out by major international energy companies (Gazprom 2012a). According to Gazprom, French GDF Suez at the moment has contracts to receive 2.5 bcm of gas per year via the “Nord Stream” pipeline (Gazprom 2012c). The controlling company of OPAL and NEL pipelines Wingas plans to procure up to 9 billion cubic meters of natural gas a year through the Nord Stream over a period of 25 years from the time of commissioning (Wingas 2012). The Nord Stream officials also stated¹⁰ that long-term contracts are signed with Wintershall for 9 bcm per year, E.ON 5 bcm, Gazprom Marketing and Trading UK¹¹ 22 bcm, Danish Dong 1 bcm (Baumanis 2012). This means that the majority of the natural gas to be delivered by Nord Stream, or 31 bcm, is envisaged for Gazprom affiliates in Europe and subsidiaries – to the Gazprom Marketing and Trading UK and Wingas.

¹⁰ This information was provided by the email interview with the Romans Baumanis, Regional Advisor to Nord Stream for the Baltic States, on 2012 May 23.

¹¹ Gazprom Marketing and Trading is wholly owned by the investment and holding company Gazprom Germania GmbH. This in turn is a 100% subsidiary of Gazprom Export – the export arm of Gazprom (Gazprom Marketing & Trading 2012). It is the gas spot market trading arm of Gazprom. It is involved in gas trading operations in Belgium, France, the Netherlands and the UK selling purchased European gas and some Russian gas under spot market conditions. It also deals with exchange trading in electricity, greenhouse gas quotas and derivatives. Gazprom Marketing & Trading Ltd. is a participant of the following trading floors: National Balancing Point, Powernext, Nordpool, Z-Hub, TTF, PEG, European Energy Exchange and European Energy Derivatives Exchange (Gazprom 2012b).

4.2. Caspian natural gas: Southern Corridor, Nabucco, Caspian

Development Corporation

Natural gas from the Caspian Sea basin may potentially involve cooperation of EU companies on three levels: upstream, transportation and downstream. One EU company – BP – has been already working in the gas Shah Deniz II gas field in Azerbaijan, if more gas fields are developed in the Caspian and further regions, for example, Kazakhstan, Turkmenistan Iran, Syria, Egypt or Iraq, other EU companies may also get involved there. Which companies will eventually participate in the pipeline system projects will become clear when the final decision of the route to deliver this gas is made. There are also signs about planned cooperation between buyers of the Caspian natural gas in the downstream level in the EU. All these three levels are discussed in this section. The main beneficiaries of the Caspian gas projects firstly would be the EU member states on the route of the future pipelines: Bulgaria, Romania, Hungary, Austria and/or Greece and Italy. The Caspian natural gas to Europe would primarily come from Azerbaijan Shah Deniz II field, but there are plans to deliver gas from Turkmenistan (IHS CERA 2010). The Shah Deniz II field was discovered in 1999 and is located in the deep water shelf of the Caspian Sea, 70 km south–east of Baku (BP Caspian 2012). The agreement on the exploration, development and production sharing for the Shah Deniz prospective area in the Azerbaijan sector of the Caspian sea (production sharing agreement) in 1996 was signed between the state oil company of the Azerbaijan Republic (Socar) on the one hand and a company to be formed by Socar – Socar Commercial Affiliate (SCA) – on the other hand, as well as BP Exploration Azerbaijan (England), Elf petroleum Azerbaijan, Lukoil International (Russia), Oil industries engineering and construction (OIEC, Iran), Statoil Azerbaijan (Norway), and Turkish petroleum overseas company limited (TPAO) (Socar et al. 1996). BP is the operating company of the project, meaning that it is responsible for the management, coordination, implementation and conduct on behalf of all contracting

parties of the day to day petroleum operations (Ibid, 19). The field is expected to provide around 16 billion cubic meters of natural gas to the EU and Turkey (BP Caspian 2012) from which Turkey is expected to lift-off 6 bcm (Agayev 2012) and is targeted to start first gas exports in 2017.

Whatever the source of gas, the natural gas from the Caspian Sea would be transported onshore via the planned Southern Gas Corridor which is planned to bring Caspian natural gas to the EU through Turkey, Bulgaria, Hungary, Romania, and Austria and/or through Turkey, Greece and Italy (IHS CERA 2010). The whole route of pipelines from the Caspian sea to Europe is estimated to reach around 4,000 km (Tawse 2011).



Figure 3 Possible Southern Corridor pipelines

Source: Tawse 2011, 3

As seen from the Figure 3 above, four options of the possible pipes have been considered to deliver the gas within the so-called Southern Corridor: Nabucco, Trans-Adriatic Pipeline (TAP), ITGI and South East Europe Pipeline (SEEP), South Caucasus Pipeline.

Table 6 Possible routes and related companies with the Southern Gas Corridor

Name of the pipeline	Crossed territories	Description	Companies involved
South Caucasus Pipeline (SCP)	Through Azerbaijan and Georgia	Existing pipeline will be upgraded by 16 bcma additional export capacity to Georgian/Turkish border along the route of SCP	The shareholders of the existing SCP are: BP (technical operator – 25.5%), Statoil (commercial operator – 25.5%), Azerbaijan SCP (10%), Lukoil (10%), Nico (10%), Total (10%), and TPAO (9%).
BOTAS transmission network	Turkey	Already existing pipeline would be upgraded.	BOTAS, the Turkish pipeline company
Trans-Anatolian–Pipeline (TANAP)	Turkey	New pipeline infrastructure	Socar plans to start with about 80% shares of TANAP, and the Istanbul–based state pipeline company Boru Hatlari Ile Petrol Tasima , or Botas, and oil and gas producer Turkiye Petrollari will get a combined 20% which they may increase later
Interconnector Greece Turkey Italy (IGI Poseidon, also ITGI Poseidon)	To Italy	The proposal from IGI Poseidon for this export <i>route is not considered further</i> by the Shah Deniz consortium. The Poseidon project was designed to import over 8 bcma of natural gas starting from 2015 and it represents 10% of the Italy’s consumption.	IGI Poseidon has been incorporated Edison International (100% Edison.) and Depa by 50% and 50%. Edison is a leading Italian operator in the energy sector, active in the supply, production and sale of electric power and gas. The 65% of the Depa belongs to the Greek state and the remaining 35% is owned by Hellenic Petroleum S.A.
Trans Adriatic Pipeline (TAP)	From Turkey onwards to Europe: route to Italy: he pipeline will originate in Greece near Komotini, cross Albania and the Adriatic Sea, and enter southern Italy. In Greece and Italy, TAP will tie into the existing national gas systems.	Transportation of 10 billion cubic meters of gas a year.	Pipeline would be built the joint venture company of Norway’s StatoilHydro (42.5%), Swiss–based EGL Group (42.5%) and E.ON Ruhrgas of Germany (15%).

Nabucco	Would bring gas across Turkey from Azerbaijan, Turkmenistan and Northern Iraq to the EU.	Annual capacity 31 bcm. The project was scaled down.	The Nabucco shareholders are: Bulgargaz Holding (Bulgaria), Botas (Turkey), 100 % subsidiary of MOL FGSZ (Hungary) ¹² , OMV (Austria), RWE (Germany) (European Commission 2009b) ¹³ , Transgaz (Romania) ¹⁴ . Each shareholder holds an equal share of 16.67% of Nabucco Gas Pipeline International GmbH.
Nabucco West	From Turkey onwards to Europe: gas taken from Turkish–European border through Eastern Europe to the West.	Scaled down former Nabucco project, with annual capacity 11 bcm. The concept foresees the construction of a 1300 km pipeline that will run from the Bulgarian/Turkish border to the Central European Gas Hub.	The same shareholders as of Nabucco
South East Europe Pipeline (SEEP)	From Turkey onwards to Europe: gas taken through Hungary, Bulgaria and Romania.	Delivers natural gas to Bulgaria, Romania, Hungary and Croatia, provided that there is sufficient market in these countries to purchase all the Shah Deniz gas.	Has been proposed by members of the Shah Deniz consortium

Sources: Agayev 2012; European Commission 2009b; IGI Poseidon 2012; Nabucco Pipeline 2012a; Nabucco Pipeline 2012b; BP Caspian 2012; Soltanov 2012; Socor 2012; Anon.; Tawse 2011

¹² While selection for the ultimate route of the Caspian gas to Europe is reaching its final stage, the Hungarian company MOL decided not to finance Nabucco in the next financial year and announced that it was ready to sell its stake in the gas pipeline consortium (EurActiv.com 2012; Than and Jukwey 2012), thus the list of the shareholders may change.

¹³ OMV Gas International is a 100% subsidiary of the holding OMV AG, an integrated oil and natural gas group. 50.9% of the shares of OMV AG are owned privately, 31.5% are held by ÖIAG (Österreichische Industrieholding AG) and 17.6% by IPIC (International Petroleum Investment Company). Other subsidiaries of the OMV AG are the sales and marketing branch Eongas GmbH owned to 50% by OMV AG and OGG, the transmission and storage subsidiary (European Commission 2009b, 5).

¹⁴ Transgaz is the national company for natural gas transmission in Romania. It is fully owned by the Romanian State (European Commission 2009b, 5).

Table 6 on the previous pages supplements what is seen in Figure 3. There is also data about the South Caucasus Pipeline (SCP) in the table which is outside of the map. There are at least four proposed pipelines to bring the Caspian natural gas to the EU. Shah Deniz Export Negotiating Team, led by Socar and including BP, Statoil and Total, decided that the consortium would select a single pipeline to Italy and a single pipeline towards Central Europe for further consideration. The export route whether it goes to the EU via south (Italy) or Center (Central–Eastern Europe) is to be selected in 2013 (BP Caspian 2012).

The most famous pipeline of the Southern Corridor listed in Table 6 is Nabucco. This project has been discussed for many years already and the highest levels of the European Community have been involved in the discussions. During the earlier stages of discussions before Nabucco was downscaled to 10 bcm, it was planned that the countries which Nabucco crossed would lift–off parts of the natural gas and at the final point in Austria around 10–20 bcm would be available at the Baumgarten hub for further transmission and distribution in Europe.

Some companies – shareholders of Nabucco – hold dominant or near-dominant position in the national markets. For example, the EC determined that several of the Austrian markets “which will be provided with gas from the Nabucco pipeline are dominated by a single market player being the vertically integrated OMV including its subsidiary Econgass”¹⁵ (Piebalgs 2008, 9).

¹⁵ The Commission also noted this on 25 January 2008, OMV and Gazprom signed a cooperation agreement. The two companies agreed on a contractual framework to expand their cooperation: Gazprom would take a 50% interest in the trading hub Central European Gas Hub, and OMV and Gazprom would carry out joint storage projects in Austria and neighboring countries. Thus, the EC assumed that Gazprom and OMV intended “to align certain interests concerning the wholesale market and the storage market”. In combination with other links between OMV and Gazprom “it could result in a situation in which Gazprom and OMV have the power to adopt a common market policy and are jointly dominant on such markets” (Piebalgs 2008, 9).

Access to facilities

Out of all pipelines listed in Table 6, the Nabucco and Poseidon pipelines are the only ones which received exemptions from the requirement to provide third-party access to the pipeline. The Poseidon option is not anymore considered by the Shah Deniz II consortium, but Nabucco and its exemptions are still on the table and may be chosen. Because Nabucco would pass several EU members, the energy regulators in each of the members provided separate exemptions to 50% of the Nabucco pipeline capacity in the period 2008–2009 (Directorate-General for Energy 2012). The exemptions were granted to the sections of the pipelines in the territories of Bulgaria, Romania, Hungary and Austria from the legal obligations to grant network access to third parties up to 50% of the technical annual capacity. The exemptions given to Nabucco are to cease in five years after the Commission's approval of them if the Nabucco natural gas pipeline is not put into operation, that means in a couple of years when this thesis is written.

In line with the exemptions, the Nabucco consortium plans to share capacities in two-step open season procedures. The open season would first be addressed to the Nabucco shareholders for an amount up to 15 bcm per year¹⁶ (50% of Nabucco's transportation capacity). In the second step, Nabucco would offer the remaining 50% to external companies ("third party access"), and the consortium promises to offer them the same conditions and transparency (Nabucco Pipeline 2012b).

Gas procurement

Several ways to procure Caspian gas and deliver to Europe were discussed during the planning process. Firstly, Nabucco shareholders themselves expressed the intention to buy gas from Azerbaijan: e.g. "it is the shareholders who are responsible for the negotiation of gas

¹⁶ The website of Nabucco still provides information on around 30 bcm per year capacity trading, not the revised amount of 10 bcm per year.

contracts (Nabucco Pipeline 2012c)". Secondly, the operator of the Shah Deniz II field BP reveals that there are negotiations ongoing of the consortium with more than 14 potential buyers of the Azeri gas (and these negotiations are not related strictly to the Nabucco pipeline). The prospective buyers were requested to submit a gas purchase price on the same date on October 1, 2011 (Tawse 2011, 4–5). Thirdly, one more way is the plans to jointly purchase gas from one more Caspian State – Turkmenistan with possibility to extend the purchase order to other neighboring states such as Azerbaijan. There is not much public information about the former plans, but a feasibility study was done with regards to the joint purchase of gas from Turkmenistan,¹⁷ so there is more information.

According to the concept, in order to be able to purchase gas jointly, a Trans–Caspian Pipeline between the shores of Turkmenistan and Azerbaijan should be built, thus the Turkmen gas could reach the Southern Gas Corridor pipeline. EC, World Bank and European Investment Bank (EIB) have been working on creating an institutional design, commercial framework and plan of implementation of a so–called Caspian Development Corporation (CDC) – project to aggregate gas demand from European buyers and present a single large offer to Turkmenistan (after the building of the Trans–Caspian pipeline from the shores of Turkmenistan to Azerbaijan) and “thus to contribute to gas development in the Caspian region”. CDC would buy gas near Turkmenistan’s Caspian Sea coastline, perhaps in Turkmenbashi, at the entry flange to the Trans–Caspian Pipeline (IHS CERA 2010).

¹⁷ In December 2010 IHS CERA created a joint purchase concept in December 2010.

5. EVALUATION OF THE PROJECTS

The Nord Stream and Caspian gas projects are different in nature. The Nord Stream gas infrastructure project is an exporter promoted model with an exporting company, Gazprom, being a leader of the project and importers in the EU being partners. As seen in Table 7 extracted from the European Commission and Directorate–General for Research, the main political dimension of exporter promoted projects is usually the international relations dimension. In the meantime the project to deliver Caspian natural gas is an importer promoted project although it has some features of a midstream¹⁸ promoted project (the Nabucco pipeline part). The main political dimension of importer promoted projects is mainly security of supply and of the midstream promoted contracts – competition.

Table 7 Main characteristics of import projects by category

	Exporter promoted	Importer promoted	Midstream promoted
Exporting companies	Leader	Partner	Partner/ not involved
Importers (incumbents)	Partner	Leader	Partner/ not involved
Private producers/shippers	Partner (sometimes)	Partner	Leader/Partner
Entrants	Very rare	Partner	Leader/Partner
Number of partners	Small	Small	High
Vulnerability to market risk	Low	Low	High
Type of regulatory risk	Few risks	Incumbent market share	Third party access
Main political dimension	International relations	Security of supply	Competition

European Commission and Directorate–General for Research 2007, 28

One could expect that exporter promoted projects would enhance competition in the natural gas sector because a new entrant who possesses gas only needs a route to deliver it therefore could enter the market. At the same time the exporter oriented project may

¹⁸ As was mentioned in the introduction the term midstream is used just in the this chapter in order to distinguish the “midstream oriented” natural gas projects from the “exporter oriented” when otherwise both would be called upstream.

contribute less to the energy security, because it may create or increase dependence on the exporter which has bargaining power. With regards to the importer promoted infrastructure projects one could expect that it may be detrimental to the competition in the natural gas market, because most likely the incumbent participants of the market would be the importers. Thus the developed project may increase their market power downstream and the market shares of the incumbent companies may rise. Since the project would also strengthen the local downstream companies and increase their bargaining power with the gas producers it may increase the security of supply. The analysis below shows that Nord Stream and Caspian Basin gas projects are not that straightforward as they may be in theory. The sections below evaluate the Nord Stream and Caspian basin gas projects in terms of competition policy and from the perspective of security of supply.

5.1. Evaluation criteria

The evaluation criteria for the Nord Stream and gas delivery from the Caspian Basin projects are developed based on the in-depth policy overviews analysis presented in the previous chapters. Two kinds of criteria are developed for the purpose of this research. The first criteria are the related with the evaluation from the competition policy sight of view. The second criteria are evaluation from the energy security point of view. The evaluation from the perspective of competition policy is more localized to the effects on the markets of separate EU members, based on the relevant markets and the position on the different levels of these markets (upstream or downstream. This results from the fact that the national gas markets of different EU members have not yet been integrated yet sufficiently enough to be considered on a larger scale than national. The European Commission DG Competition also usually

considers the affected gas markets to be national in scope¹⁹. Conversely, the evaluation of the security of supply is regional in scope where region is defined as the European Union.

The criteria to evaluate possible effects on competition include:

- Nature of the projects which means the, nature of the participating companies and ties between them.
- In the case that horizontal agreements are concluded between the companies, evaluation consists of how close this cooperation is to the final consumers. The negative effects to competition are more likely the closer the cooperation is to the consumers, and when joint purchasing agreements are closer to the consumers than the production agreements.

The criteria to evaluate possible effects on security of supply include:

- The scope of the investments and the projects.
- Level of diversification of gas supply, whether it is diversification by source, transportation route, or both.
- Control of the transmission network by the person or persons from the third-country or other significant presence of the third-country in the gas project.

5.2. Evaluation of Nord Stream and Caspian gas projects from the competition policy perspective

This section addresses possible effects on the competition in the EU gas markets of Nord Stream and Caspian natural gas projects based on the criteria from the previous section but not limited to these criteria. First the possible positive effects are discussed such as enhancement of competition in the respective EU member states which these projects affect.

¹⁹ For example, look at definition of the relevant markets in the E.ON/MOL case (European Commission 2005, 30).

Later the competition policy concerns are discussed. The existence of such concerns does not mean that the stakeholders of both projects have done or are planning to do anything to harm competition. Concerns are discussed on the theoretical sense only. The following section will discuss the implications of these projects on the security of supply.

Discussion of enhancement of competition

Nord Stream pipeline

The Nord Stream pipeline, or, more precisely, its extensions OPAL and subsequently Gazelle to the South and NEL to the East of Germany crosses the territories of Germany and the Czech Republic. Therefore the EU competition *acquis* are applicable to them. From the first sight, obligation to ensure competition in the market will be enforced on the on–shore part of Nord Stream. NEL did not receive an exemption from the third–party access, and OPAL received, but with limitations (not more than 50% of the exit point to the Czech territory can be booked by the dominant gas company in the Czech market). Despite this, serious questions arise as to how these obligations will actually be realized. For example, there is no publicly accessible coherent information on how a requirement to allow third–parties to access the NEL pipelines will be fulfilled, because only one supplier, Russia, fills the pipe with gas on its end on the Russian side. Also there is no information how gas release and capacity release programs will be constructed. One must admit, the OPAL pipeline in its website provides comprehensive information about the access to pipeline, tariffs, data of gas flows, capacities and other information of the pipeline (OPAL NEL Transport 2012). Therefore the above criticism on lack of transparency of gas and capacity release is firstly directed to the European Commission.

The argumentation, which the EC used to justify the approval of exemption to Gazelle, was borrowed from a Czech energy regulator. The first argument was that the available import capacities for competitors of Gazprom would rapidly decrease without the

construction of Gazelle, since the gas volumes arriving to the territory of Czech Republic via OPAL pipeline would have to be transported on the existing Czech gas transmission system, thereby significantly reducing import capacities. As a direct result, the construction of Gazelle supposedly “ensures that the import capacities available to Gazprom's competitors will at least be maintained even after the change of gas transits to OPAL” (European Commission 2011b, 8). Thus, the EC continues to say that the construction of Gazelle will improve the competitive situation of competitors of RWE Transgas on the Czech gas wholesale and retail markets (European Commission 2011b, 9). The second argument about favorable impact on competition by the Gazelle was stated by the German and Czech regulatory authorities: part of the gas in the Gazelle pipeline may be lifted-off and sold in the territory of the Czech Republic (European Commission 2009d, 13–14).

The first argument does not explain how competitiveness of the Czech natural gas market will be increased compared to the situation which currently exists (before OPAL is connected to the system and probably congests it). In fact, if there was no OPAL pipeline bringing gas to the Czech border, the question of congesting the Czech gas system would not arise to begin with. Moreover, if Gazprom not only brings new gas via the OPAL and subsequently Gazelle, but also re-routes gas which is now being transited in the Czech Republic via the existing pipeline system, the current gas transit pipeline system may become under-used and deteriorate in quality.

Despite the fact that the pipeline would transit Gazprom gas back to Germany, there are no signs that any of this gas would be lifted-off in Czech Republic and increase competition in its natural gas markets, as the second argument states (European Commission 2009d, 14). Even if gas was lifted-off from the OPAL pipeline, it would be Gazprom gas, and would have to compete with Gazprom gas sold by RWE Transgas which supplies almost all the Czech market. The long-term natural gas supply agreement between RWE Transgas and

Gazprom Export, which originally had to terminate at the end of 2013, has been extended to remain in effect until 2035 (Energy Regulatory Office 2011, 47). This extension of the terms shows that Gazprom at the moment is not planning strategic changes in the gas supply business in the Czech Republic.

Despite the above mentioned doubts as to whether Nord Stream project will bring competition to the natural gas market of the Czech Republic, the new major investment in interconnection may indeed have pro-competitive effects. Firstly, it produces new gas infrastructure on the territory of Germany and Czech Republic while at the same time bringing more gas routing and transportation flexibilities. Secondly, new amounts of natural gas arriving from Russia may increase liquidity of the markets. The fact that the largest single amount of Nord Stream gas is booked by the spot trading arm of Gazprom (discussed below) speaks in favor of this view.

The European Union for decades has been using long-term gas purchase agreements in which natural gas price is linked to the prices of oil derivatives, and such order prevents gas-to-gas competition from happening. There are opinions that the Nord Stream pipeline would contribute to this traditional contracting and pricing structure in the EU. As Riley points out, “Nord Stream could only be commercially justified if the old quasi-monopoly national provider structures which relied on traditional long term supply contracts remained in place. It is however, very commercially challenging to deliver Nord Stream profitably in a market which is being liberalized” (2008, 14). The decision of Gazprom to sell most of the Nord Stream gas to its subsidiary in the UK may, however, speak against this argument. Although 22 bcm of the Nord Stream gas devoted for the Gazprom Marketing and Trading may speak against the security of supply concerns (next section), the fact that the largest amount of natural gas of Nord Stream is acquired by the company which specializes in the spot-market may increase the liquidity of the European gas hubs and gas-to-gas competition.

This could happen if indeed gas reserved by the Gazprom Marketing and Trading is traded in the spot market and not by long-term supply contracts. In any case, the information about where, how and under which conditions the Nord Stream gas is distributed in Europe is not the most transparent one.

Caspian Basin gas

There is much less information available in order to evaluate positive competition effects of the Caspian gas, because the final route, participating countries and shareholders of the pipeline and available capacities are not yet defined. Three possible routes to bring Caspian gas may emerge:

- 1) The South Stream corridor partly embodied by the Nabucco project.
- 2) 3) The South Stream corridor embodied by the set of other pipelines, such as the eastern “competitor” of Nabucco, South East Europe Pipeline, or the southern competitor, the Trans-Adriatic pipeline.

If the Nabucco route is chosen, certain proportions of gas are likely to be assigned to the countries the pipeline is to pass (shareholders of Nabucco), thus the cross-border trade and deeper cross-border gas market integration among Bulgaria, Hungary, Austria would not necessarily happen. This would especially be the case if the downscaled Nabucco project is implemented, because only a small share of gas would reach the trading hubs and increase liquidity of the markets instead of the previously hoped 10–20 bcm to be traded at the Austrian Baumgarten hub for further transmission and distribution in Europe. Besides, if the Shah Deniz II consortium chooses Nabucco as a final route, the pipeline will be built by the energy companies that are incumbent in the Southern-Eastern EU states that the pipeline will pass, thereby strengthening their position in the market.

If another combination of pipelines is chosen to deliver Caspian gas, such as Trans-Anatolian-Pipeline till the Turkey-EU border and the South-East European pipeline from it,

the initially importer-oriented Caspian gas project will turn into exporter-oriented (to remind: the major shareholder of TAP is Azerbaijan Socar, and the SEEP pipeline was also proposed by the Shah Deniz consortium itself). As such, it may bring more new entrants to Europe's natural gas market and more competitiveness. In a sense this could be considered a positive development. Such a choice of the routes, however, may raise questions about the vertical integration if the gas producers upstream, such as Socar and BP, own the transportation network.

Positive effects on competition would come from the fact that the Caspian project would bring in a new source of gas which would be a rival to the Russian gas now dominating in the Eastern region. However, for investment into the new pipeline routes from the Caspian region to be recouped, in the beginning the Caspian gas may be sold at higher prices than Russian gas which is delivered by decades-old pipelines where investments were recouped already. The competitiveness and rivalry of the Caspian gas would depend on the developments of the Russian gas pricing (if Gazprom gas prices continue to be linked with the oil prices and they are rising, Caspian gas may indeed spark some gas competition in the region).

Discussion on concerns of competition

Both projects – the Nord Stream project and Caspian Basin gas – raise traditional concerns for competition policy:

- 1) Such as the decrease of rivalry between the current or potential competitors in the downstream market even if there is no intended collusion,
- 2) Possible collusion outcome arising from increasing commonality of costs and information exchange resulting in harm to consumers downstream, and
- 3) Vertical exclusion of the competitors from the market downstream.

The first two groups of concerns may be called concerns about horizontal effects and the third group may be related with the vertical effects. In case there production or purchasing agreements are concluded, rivalry may decrease or a collusive outcome result in between the participating parties which are the (potential) competitors (horizontal effects). For concerns of vertical exclusion of the competitors to the input such as infrastructure to be valid, the pipeline should have a dominant position on the upstream market of a certain country where concerns may arise. In such a case, anti-competitive behavior of the pipeline as an entity would stem from its efforts to protect interest of shareholders which are active in the downstream markets. The new major gas interconnection may also strengthen position of the companies in the countries even if there is no abusive behavior. For example, if external supplier has a significant market share in a country and a new pipeline provides one more route for gas reserved for this supplier it strengthens the already established position in the market and raises barriers to entry the market.

In the subsections below, the discussion about possible competition concerns is continued by analyzing the specific concerns of the Nord Stream and Caspian gas projects. First the concerns about horizontal effects are discussed and then those relating the vertical effects on competition.

Horizontal effects

The Nord Stream

The current development of the Nord Stream project includes cooperation of the energy companies on two levels:

- 1) Extraction of gas in Russia, in the Yuzhno–Russkoye field;
- 2) Transportation of the gas via the Baltic seabed.

The larger market shares of the participating companies are in the downstream European natural gas market and the more ties these companies have the bigger are the

competition concerns. In this sense the cooperation of the Nord Stream partners raises more competition concerns about the decrease of rivalry or incentives to collude, because the participating companies, and especially Gazprom with E.ON Ruhrgas and Wintershall, have a history of extensive cooperation in various projects. The partners of the whole Nord Stream project, including off–shore and on–shore pipelines, mostly have dominant positions in the markets which may also be a favorable incentive to collude. Moreover, the partners of the Nord Stream projects are not only potential, but also actual competitors in the European Union. For example, the Dutch Gasunie competes with the Russian Gazprom on the product level of gas, because the Netherlands also is a gas exporter. Gazprom is also active on the gas distribution (downstream) level in the EU. The market position and supply portfolio of Gazprom as a supplier is also strengthened in the German market, because the Gazprom acquires an additional access point to the center of the European Union and other large markets including Germany which is also a direct route.

On the other hand, unlike in the Caspian basin project plans, the Nord Stream partners cooperate on the higher levels, which are further from the final consumers: on gas extraction level in the Yuzhno–Russkoye field and on the pipeline agreement. As was discussed in the second chapter of the thesis, the EC considers cooperation between competitors that happens further from the consumers to be less threatening to the welfare of the consumers.

The Caspian Basin gas

The current developments to deliver Caspian gas to the EU may include cooperation of the energy companies on three levels:

- 1) Extraction of gas in the Caspian region, firstly Azerbaijan,
- 2) Transportation of the gas, and
- 3) Joint gas purchases of the gas to be resold in the EU.

The first level at the moment gives least concerns, because only two European (and just one of them EU) companies play a role in the Shah Deniz gas field of Azerbaijan: UK BP and Norwegian Statoil. The competition concerns coming from the transportation agreements of gas from the Caspian region will depend very much on which routes to transport this gas to Europe are chosen.

However, as may be seen from first sight, the cooperation of the companies to deliver the Caspian gas to Europe may also take place closer to the consumers than the Nord Stream project – there are plans to make joint purchasing agreements to aggregate European gas demand from the Caspian and neighboring regions. If a plan to establish the Caspian Development Corporation to procure the Caspian gas was implemented, the single buyer's model for the Caspian natural gas would include a cooperation agreement between the European natural gas companies. These companies may be (potential) competitors at the downstream in the EU. Despite the fact that the ultimate goal of the arrangement would be “to enhance diversity of gas supply for Europe and thus increase the choices available to customers” (IHS CERA 2010, 5), the cooperation agreement may introduce commonality of costs and exchange of information between the players and reduce rivalry between them. The EC considers cooperation agreements that are closer to the final consumers to also be of concern.

Vertical effects

Both projects – the Nord Stream project and the Caspian Basin gas project – are related with club ownership of the facilities (pipelines). Incentives to discrimination of access of club ownership is defined by the OECD Competition Committee as: “where two or more owners build the facility together, share both the risks and access together – depend on the fact whether the facility is commonly owned with a company “active in a potentially competitive vertically-related market” (2007, 41). For Nord Stream this seems to be the case

because, most of the EU shareholders of the pipeline projects are traditional gas utilities in the EU markets.

The vertical abuse of dominance, e.g. refusal to deal in supplying the essential input – pipeline (provide third-party access) may arise only if there actually is a dominant position on the upstream level in the particular relevant national market. This means that if the Nord Stream or more precisely, its on-shore extensions; NEL, OPAL or Gazelle, are suspected of refusal to deal in Germany or the Czech Republic, the capacity of Nord Stream would be evaluated in the context of the overall gas supply and access to imports from various sources to these countries. In the case of Germany, it could be Russian, Norwegian and Dutch gas imports by pipeline. In the Czech Republic, it could be infrastructures to access Norwegian and Russian gas. Due to the large planned scale of Nord Stream (55 bcm in the German territory and 32 bcm in the Czech territory) the Nord Stream may be found to have a dominant position in the respective markets. With regards to the Caspian gas, the relevant geographic markets of the countries the future pipeline passes would be considered. It could be markets of such EU countries as Bulgaria, Romania, Hungary, Austria, Greece and Italy (and the proportionate shares of the Caspian gas delivery to these markets would be evaluated that is not the full Azeri gas export capacity). Due to the very small scale of the current Caspian gas project it is highly unlikely that in its current form the Caspian gas projects would represent a threat to abuse the dominant position in the form of refusal to supply or margin squeeze.

5.3. Nord Stream and Caspian gas projects in the context of energy security

Russian gas deliveries to Europe via Nord Stream do solve some questions of security of supply, namely, the *diversification of the transport infrastructure* which constitutes a part of ensuring security of supply (OECD Competition Committee 2007, 31). It *does not*, however, *diversify the source* of natural gas (OECD Competition Committee 2007, 32). Conversely, the projects to deliver Caspian natural gas to Europe not *only diversify the*

transportation infrastructure, but also bring gas *from new sources/fields*. In the sense of diversification of supply, the Caspian gas projects contribute much more to the European Union security of supply.

Moreover, the Nord Stream pipeline is controlled by the third-country company, Gazprom, which is also a producer of the natural gas. Besides, the substantial part of extensions of the Nord Stream pipeline on the EU territory, NEL and OPAL, are also owned by Gazprom. Wingas, which owns 80% of OPAL pipeline and 51% of NEL pipeline, is a joint venture of the largest German crude and natural gas producer, Wintershall Holding, and Gazprom. Gazprom has 50% minus one share in the capital of Wingas. Therefore it avoids the EU's ownership unbundling rules in OPAL and NEL since it does not control the pipelines.

There is a major shortcoming of the current plan however: at the moment it would bring just around 10–11 bcm of natural gas to Europe or around 2% of Europe's natural gas demand in 2008. Conversely, the Nord Stream pipeline is planned to bring 55 bcm of gas per year or more than 10% of the EU's demand in 2008. Therefore unless the Southern corridor pipelines scalability – possibility to increase capacities – is ensured and additional gas sources besides Azerbaijan are secured, the Caspian gas project in the sense security of supply does not bring much of that desired security.

5.4. Possible policy options

The possible policy options to increase contribution to competitiveness together with energy security by the Nord Stream and Caspian gas projects may be grouped to the political, structural and behavioral options (grouping was made by the thesis author). These policy choices are discussed below, and the selected actions are proposed in the conclusion part.

Political options

There are two possible political options, meaning that they can be delivered by the European Union and its institutions based on the political decision, which can address deficiencies of the natural gas projects discussed in the former section.

1) Expansion of the EU competition and energy *acquis*

In order to ensure that the Nord Stream pipeline fully complies with the EU competition requirements such as related with third-party access to the pipeline, the competition *acquis* and general idea of energy market liberalization can be expanded across the EU borders to Russia. One way to expand this specific EU legislation would be to include Russia in the Energy Community. In this case Russia would be legally bound to implement the EUs *acquis communautaire* on energy and competition, including the main articles of the Treaty on competition on horizontal agreements and abuse of dominant position. It would also have to transpose the Second Energy Package, which besides the legal and accountancy unbundling requirements also provides the requirement to provide third-party access to infrastructure (Energy Community 2005). Such a development is highly unlikely, however, because there are no negotiations even ongoing with Russia where such possibilities would be analyzed and because Russia has already rejected the Energy Charter Treaty (International Law Office 2009) which had less binding requirements. Therefore such a policy tool may be proposed just as a long term strategic objective of the EU which, if implemented, would have impact not only on the Nord Stream project, but on overall EU–Russia energy relations.

2) Derogation from the EU competition legislation

One particular part of the EU plans to facilitate bringing Caspian gas to Europe is aggregation of demand for this gas on the EU side. This could incentivize not only possible partners in the Caspian region but also beyond it to sell their gas to the EU and invest in the cross-border pipelines. Besides, it would increase the bargaining power of the EU companies

in gas purchase negotiations. Increase of bargaining power may be in particular important for the EU members from the Southern Corridor region which are not very large consumers themselves (Chapter 1, Table 1).

One way to reach these objectives would be to grant a formal exemption (derogation) from competition rules under Article 10 of Regulation 1/2003 to the Caspian Development Corporation or other similar joint purchasing venture of the Caspian gas. The above mentioned article defines that where “Community public interest” requires, the Commission “acting on its own initiative” can decide that articles of the Treaty regarding the agreements between undertakings are not applicable to “an agreement, a decision by an association of undertakings or a concerted practice” (European Council 2002). This solution, however, needs to satisfy certain conditions, such as the agreement has proven to contribute to “improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit” (Council of the European Union 2010, C 83/49:Article 101). In such a case the indispensability of the agreement has to be proven and the agreement must offer the parties no possible elimination of competition in relation to a substantial part of the products in question (European Commission 2011b). There is a possibility to prove the indispensability of the joint purchasing in the particular CDC case of buying gas from Turkmenistan because this country wants to deal with the EU if it buys gas in a block purchase rather than separately. Besides, the agreement of single buyer model in any case cannot include purchase price-fixing, output limitation or market sharing; such agreements in the EU are illegal per se. In addition, an exception would increase public skepticism of a project as possibly going against efforts to create an internal liberalized natural gas market in Europe.

Structural options

There are several options in order to improve competitiveness of both natural gas projects or at least to decrease the likelihood of their anticompetitive effects.

1) Divestment and ownership unbundling

For the European gas companies which participate in the major common energy projects, competition concerns may be removed if they are no direct competitors in the EU, serve various and not overlapping geographic markets (European Commission 2011b, Paragraph 212). To achieve this separation the DG Competition sometimes uses the structural tool: it obliges the companies to divest from the assets and businesses in the overlapping markets. Such a tool could be used if necessary when the final plans of the transportation routes and purchasing of the Caspian gas is clear and the companies notify the Commission about creation of the joint venture.

2) Market shares of the participants

It is considered that purchasing agreements are unlikely to have restrictive effects on competition if the parties have a combined market share not exceeding 15% on the purchasing market as well as on the selling market and 20% share in case production agreement is concluded (European Commission 2011b, Paragraph 208). It is unclear at this stage which European natural gas companies would take a part in the CDC project and more so what would be their combined market share. In the case of the Nord Stream pipeline it is clearer since the companies are known and in most cases it exceeds 20% of the separate markets of the EU members.

In both cases, there is a possibility to expand the relevant downstream market via integration and build new interconnectors, increasing capacity of the old ones and introducing the reverse gas flow in the existing ones. Then the relevant gas markets would not be limited among the borders of the EU members, the comparative market share of the companies would

be smaller, and possible anticompetitive effects less problematic. In the assessment of downstream market power by evaluating the combined market share, thus the numerator – the relevant market – would be larger and probability increases for the purchasing agreement to fall within the 15% or 20% safe harbor. The integration of the markets would be a less painful way for the companies participating in both projects ensuring the competitiveness of the market.

Behavioral options

1) Gas release programs

If most of the amounts of natural gas are booked by the incumbent natural gas companies, mandatory gas and capacity release programs, obligatory trading in hubs, contract release programs (European Commission DG Competition 2007) may allow new entrants to access necessary inputs to serve the markets and increase rivalry in the markets. The gas (and capacity) release programs are advised if a supply route or delivery is under the control of an incumbent through long-term contracts and with no secondary trading. Release programs for short duration supplies may also have added advantages in facilitating the development of gas trading hubs (European federation of energy traders 2003, 2). The price must not be higher than the average price paid by the incumbent (including contractual discounts). If a release program is also used as a remedy to balance an incumbent's market power, the price must not be higher than that offered in the wholesale market, even if this implies a financial loss to the incumbent (Ibid). For gas release programs to be effective, there needs to be properly implemented regulated third party access downstream (European federation of energy traders 2003, 3). The gas release programs may be initiated by obliging the owners of the infrastructure and/or gas to trade in the gas exchange market certain amount of the new pipeline gas, for example, 10%.

This tool can be set in the EC exemption decision from the third-party access and other regulation. Therefore this tool should be particular be considered in the future deliberations to provide exemptions to the selected Caspian gas pipelines. It can be applicable to the already existing Nabucco exemptions because they will soon expire and will have to be reconsidered by the national regulators and the EC.

2) Special limitations and caps in the third-party access exemptions

One useful tool for the European Commission to ensure enhancement of competition in the natural gas markets when new interconnectors are built is the exemption decisions of these infrastructures themselves. The Commission may inscribe binding obligations to the gas companies and energy regulators in these decisions. The Commission may oblige to cap the possibility of a single entity to book new capacity to 50% if this entity has a dominant position in the respective market (even if this dominant company is not a shareholder of the new infrastructure). Therefore, there are safeguards installed that the non-exempted capacity is not booked by a single company which already has a dominant position. The EC used such solution in the OPAL decision and in Nabucco decisions in Hungary and Bulgaria. Such a tool can be used again when validity of Nabucco exemptions ceases or other EU routes are chosen for the Caspian gas and the stakeholders apply to receive an exemption.

3) “Chinese walls” on information

The competition concerns about facilitation of the joint production or joint purchase agreements to future collusive behavior and coordination in the downstream markets, especially because of possible communality of costs and information exchange, may be overcome by thoroughly designing the joint ventures to build pipelines, joint purchasing ventures or other similar mechanisms. Access to individual participant’s gas supply costs and other information, such as scheduling, should be restricted between the venture shareholders. The venture’s staff has to be “Chinese-walled” from the shareholders. If the venture was

created for the negotiation of prices with the gas producers, such that supply prices must not be communicated in detail to the participants, data is collated by the joint purchase arrangement and not passed to the parties (European Commission 2011b, para. 215; IHS CERA 2010, 88–89).

The final series of recommendations selected from this chapter are provided in the conclusions.

CONCLUSIONS AND POLICY PROPOSALS

Evaluation based on the both Nord Stream and Caspian Basin gas projects have pro-competitive effects and to a certain level serve to ensure energy security, however, there are also drawbacks in both projects. These are concisely reviewed in this concluding chapter and, in order to optimally achieve both goals internal market and security of supply, final proposals are made.

Both Nord Stream and Caspian Basin gas projects may contribute positively to the competitiveness of the EU's natural gas market by increasing the number of interconnectors and gas infrastructure and also by providing more liquidity to the trade of natural gas in the EU. As for liquidity, it may especially be the case of Nord Stream, because almost half of the Nord Stream gas is booked by its subsidiary Gazprom, Gazprom Marketing and Trading UK, which is a gas spot market player.

In order to reach more pro-competitive effects, the European Union institutions should maintain Nord Stream under close supervision and ensure that transparent, clear and substantial gas and capacity release programs are undertaken by the NEL, OPAL and Gazelle stakeholders. Competitors and entrants in the natural gas markets have to be allowed to purchase Gazprom gas from the Nord Stream pipeline on a non-discriminative basis. Because Nord Stream and its on-shore extensions is a cooperation of the EU natural gas companies and Gazprom which are (potential) competitors on the downstream natural gas markets, the EC should consider instigating research of the effects on competition of this cooperation and, if necessary, to impose structural measures. For example, only if the EC finds that it raises competition concerns, shareholders of Nord Stream and extensions could be obliged to divest from the energy assets in the overlapping markets.

As for effects on competition by the Caspian gas projects, the early plans to deliver natural gas from the Caspian Basin via the Nabucco pipeline would strengthen the “national

champions” in the gas sectors in the participating countries, national incumbents that already hold dominant positions in these countries, for example, Bulgaria. Therefore transforming the Caspian gas project into more exporter-oriented – Azerbaijan (and participants of consortium of Shah Deniz II such as BP) – which is happening recently does indeed allow new rivalry and competitive pressure into the EU countries which the Southern Corridor is supposed to pass.

If the Shah Deniz consortium II chooses the final route to deliver Caspian gas other than via Nabucco, the European Commission should consider partly granting exemption from the third-party access as it did with Nabucco. As with the Nabucco decisions, in addition to providing exemption just to 50% of the pipeline, the European Commission should cap the exit points from the countries through which this Corridor passes, for example, by obliging the shareholders of the pipeline to make an open and transparent procedure for the unused capacity where each capacity bidder is allocated a minimum amount of capacity. These additional safeguard measures should be taken because otherwise there is a risk that a single third party may obtain all of the exit capacity not booked by the project owners, for example, Gazprom would obtain it and use to transit Russian gas.

In the sense of diversification of supply, the Caspian gas project may contribute much more to the European Union security of supply. Firstly, this project, unlike the Nord Stream project, diversifies not only the route but also the source of the natural gas to the European Union. Secondly, a third-party gas producer, Gazprom, controls the underwater Nord Stream pipeline, and the offshore extensions of this pipeline in the German territory OPAL and NEL are controlled by the company Wingas, which is substantially co-owned by Gazprom. Besides, the majority of the 55 bcm natural gas – at least 31 bcm - was devoted to the subsidiary of Gazprom, Gazprom Marketing and Trading UK (22 bcm), and Wingas (9 bcm) on a long-term basis. In the field of security of supply of the Nord Stream pipeline, the

European Union cannot do much except for ensuring that the gas supply via this pipeline is as transparent as possible. On the medium-term basis, the European Union institutions should promote the idea of energy market liberalization to Russia. If in the medium-term Russia allows the third-party access to the pipelines on its territory and not only Gazprom can export natural gas, gas coming to the EU via the Nord Stream pipeline may still be Russian, but no longer Gazprom's. If other Russian natural gas companies, competitors of Gazprom, could supply natural gas to the EU via Nord Stream, the Nord Stream level of diversification of supplies would increase.

However, the positive effects of the Caspian gas projects on the security of supply of the European Union will be felt only and if the Caspian projects are implemented (they are still currently in the planning phase) and if the pipelines to deliver the Caspian gas are scalable, that is, possible to increase capacity upwards under demand. Whichever pipeline route is chosen for the Southern Corridor to deliver the Caspian gas, at current plans it will deliver just around 10 bcm of the natural gas to the European Union from the Shah Deniz II gas field in Azerbaijan, which is only around 2% of Europe's natural gas demand in 2008. Therefore the European Communities and Commission in particular should promote the inclusion of other gas sources from the Caspian Basin, for example, Turkmenistan.

The decision may be made in the following years to further increase the capacities to transport natural gas from Russia to the EU through the Baltic Sea and the route to deliver natural gas from the Caspian Basin region will be chosen. This will necessitate policy reappraisal in the future.

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