

PROMOTING COMPETITION ON THE NATURAL GAS MARKET IN THE EUROPEAN UNION

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Abstract: The objective of this paper is to analyze the development of natural gas infrastructure in the EU and discuss its prospects. The first part is shown the relationship between the regulatory framework of the European Union and development investments to increase competition in the gas sector. High consumption of natural gas in the Member States of the European Union has led to a dramatic increase in imports, and this trend is likely to continue in the future. In addition, resource security after prolonged disruptions of gas supply initiates a series of projects that should enhance security of supply by promoting market integration and allow natural gas flows reversed. In this context the European regulations to encourage investment coming into interstate natural gas transmission pipelines, an industry characterized by a special regulatory framework. The European Commission adopted in 2015 a list of 195 key energy infrastructure projects that will help achieve the objectives on energy and climate in Europe and form key elements of the EU Energy Union. The projects - known as project of common interest (PCIs) - will allow connection Energy Union through gradual integration of energy markets in Europe and the diversification of energy sources and transport routes. In Europe it is found that the gas market is generally well integrated physically in the west, but in Southeast Europe, there is severe congestion. Following the failure of infrastructure projects in the region, Nabucco and South Stream project is investigating BRUA for infrastructure integration in this region of Europe. In the second part of the article analyzes the integration of Romanian gas transmission system in the European market during the next decade. Economic theories of investment in gas infrastructure does not provide clear indications of the conditions in which levels of investment can be effectively achieved, but demonstrated the added value of using a new institutional economic prospects. The author tries to make an assessment of the impact of national gas infrastructure development on the Romanian economy.

Keywords: Energy infrastructure; investment; natural gas market; projects of common interest.

JEL classification: Q43

1. Introduction

European vision on energy is building an integrated single market, the competitive activities to be liberalized and competitive, the only remaining covered components networks. For the Single Market to work, it has abolished all restrictions possible

(physical and regulatory) to energy trading across borders. The market is more competitive and diversified, the greater energy security. Growing dependence on imports of natural gas in the European Union requires additional infrastructure investment import and storage.

2. European gas market integration

2.1. Theoretical considerations

There is a rich economic literature on regulation and infrastructure specifically regulating infrastructure with natural monopoly characteristics (Laffont and Tirole, 1993). However, economic theory does not provide clear guidance on the conditions under which investment levels can be effective.

The theory of public interest (den Hertog, 2000) provide explanations to regulatory intervention in the concept of market failure, but makes to explain.

Klein (1996) defines a number of ways the competition can be applied to network industries and provide some conditions to be fulfilled for the successful adoption of certain options in a specific context.

Regarding the new institutional economics Williamson (1998), provides a better framework for analysis infrastructure regulation, since it is based on assumptions of behavior more realistic, and recognize the essential role of the institutional environment in the functioning of markets. In particular, the economic cost of the transaction, who eventually transaction analysis center seems to be the solution to help explain differences regulating various types of gas infrastructure expansion in different contexts. While the new institutional economics provides a better framework since May explanatory factors include, it must be operationalized regulatory cases of investment in gas infrastructure.

The observed differences in the implementation of regulations in different markets or network industries focuses on relevant external effects.

2.2. Regulations on natural gas infrastructure development in the European Union

In the early 1990s, the EU was characterized by the existence of several national markets of gas at all or poorly interconnected dominated by state giants who held a monopoly on all related activities: production, transport, import, storage, distribution. But high consumption of natural gas in the Member States of the European Union has led to a dramatic increase in imports. Thus Member States began to be increasingly dependent on gas supply contracts concluded several decades, the price was set by the oil price and the importer undertook to pay a certain minimum amount of gas.

In line with the European principle of free movement of goods, services, people and capital in the internal market, the European Commission adopted three directives approved in 1998, 2003 and 2009 which instituted deregulation of the gas market and separating activities such as production the gas distribution. The stated objective of this policy was the introduction of competition in a market that was closed it before. The concept Brussels, a large number of independent distributors, competing, should lead to attempts supply from new producers outside Europe, lower prices and expand the transmission network in Europe, to have access to the widest possible range of end users.

Article 87 of the EC Treaty (Article 107 TFEU) provides that "be incompatible with

the common market any aid granted by a Member State through State resources in any form whatsoever which distorts or threatens to distort competition by favoring certain undertakings or the production certain goods as long as it affects trade between Member States ". But Article provides a number of exceptions considered compatible with the internal market of the Union including aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of Member States.

Given the liberalization of the domestic gas market, on security of supply, any difficulty having the effect of reducing gas supply could cause serious disruption of economic activities so and supply of natural gas to households.

The European Commission adopted in November 2010 initiative called "Energy 2020 - A strategy for energy competitive, sustainable and secure energy", COM (2010) 639, which defines the energy priorities for a period of 10 years and propose measures that can be taken to address a number of challenges, including achieving a market with competitive prices and secure supplies, strengthening leadership in technology and effective negotiation with international partners.

Strategy "Energy 2020" requires investment in energy sector 1000 billion (540 million euros - energy production, 210 million - networks of electricity and gas) and the Energy Roadmap 2050, aims at the full integration of networks, energy and openness European market.

The large variety of energy sources and diversity of suppliers, transport routes and transport mechanisms may each play an important role in ensuring energy supply. Building reliable partnerships with suppliers, transit countries and consumer countries is seen as a way to reduce the risks associated with the EU's energy dependence; to this end, in September 2011 the European Commission adopted a Communication entitled "EU Energy Policy: Engaging with Partners beyond Our Borders" [COM (2011) 539].

The European Commission stated in its Communication COM (2010) 677/4, on energy infrastructure: "Every European region should implement infrastructure allowing physical access to at least two different sources."

Progress to date is still too slow and there are still many problems to be solved to provide the expected benefits of market integration in terms of security of supply and competition. These issues are addressed for better regional cooperation among stakeholders at national level, better coordination related to infrastructure development, better align regulation and authorization processes for transboundary infrastructure and facilitating access to finance.

Regulation (EU) Nr.994 / 2010 requires operators of transmission systems to ensure a permanent bi-directional capacity on all cross-border interconnections, unless that was granted an exemption from this obligation. Its objective is to ensure that the potential benefits of permanent bi-directional capacity are always taken into account when a new interconnection planned. However, bidirectional capability can be used for both gas supplies to neighboring Member States and other countries located along the corridor of gas supply. Thus, the benefits they can ensure a permanent bidirectional capabilities for security of supply should be considered from a broader perspective, in the spirit of solidarity and enhanced cooperation.

Although there have been efforts continue to implement harmonized standards under the third energy package, Regulation 994/2010 / EU concerning measures to safeguard security of gas supply supports the development of key infrastructure

projects.

Acting on their own Member States cannot achieve a sufficiently objective of this Regulation, namely to guarantee a secure gas supply within the Union. Given the scale or effects of the action, this can be better achieved at Union level.

Review of the Regulation Nr.994 / 2010 proposed in February 2016 aims to achieve an adequate level of preparedness in Europe in the event of gas supply disruptions and mitigate any effect that must occur at the lowest possible cost.

General objectives are to review the Regulation in accordance with EU Treaty objective to ensure security of energy supply in the EU (Article 194 (1) (b) TFEU).

2.3. Projects of Common Interest in natural gas

Energy 2020 strategy "requires investment in energy sector 1000 billion (euro 540 million - energy production, 210 million euros - electricity and gas networks). Energy Roadmap 2050 is envisaged full integration and market opening European energy networks, essential for maintaining balance between energy security, competitiveness, profitability, sustainable economy and consumer interests; completion of the internal energy market, eliminating energy islands in the European Union.

The European Commission adopted in November 2015 a list of 195 key energy infrastructure projects that will help achieve the objectives on energy and climate in Europe and form key elements of the EU Energy Union.

The projects - known as project of common interest (PCIs) - will allow connection Energy Union through gradual integration of energy markets in Europe, the diversification of energy sources and transport routes. PCIs will benefit from accelerated authorization procedures and regulatory conditions improved and may be eligible for financial support from the Connecting Europe Facility (CEF). A budget has been allocated € 5350000000 trans-European energy infrastructure within MCE 2014-2020, helping projects of common interest to be implemented more quickly and make them more attractive to investors. List of projects 2015 PCI updating the list adopted in October 2013. It comprises 108 electricity projects, 77 gas 7 3 projects for oil and smart grids. A good balance between projects in electricity and natural gas was achieved also by identifying clear priority projects in a regional context.

The MCE, in 2014 and 2015, the amount of € 797 million was allocated for financing of studies and construction work to help the implementation of PCIs. It is expected that about 62 projects to be completed by the end of 2017.

According to Order No 157 of 11.4.2015, Article 1 methodology for evaluating investments in projects of common interest in gas infrastructure, including risks related to them, apply to projects of common interest, as they are defined in Art. 2 pt. 4 of Regulation (EU) no. 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure repealing Decision No. 1364/2006/ EC and amending Regulations (EC) No. 713/2009, (EC) No. 714/2009 and (EC) No. 715/2009, for which a project initiator assumes higher risks in the development, construction, operation or maintenance project of the risks incurred typically a comparable infrastructure project.

European Commission's proposal to invest 217 million euros in a series of 15 key projects for trans-European energy infrastructure was accepted by Member States of the European Union.

Under this agreement, the largest amount (179.3 million euros) to be paid to the

National Gas Transmission Company Transgaz SA for execution works in Romania at national transmission system of natural gas in order to develop a pipeline that will linking Bulgaria and Austria via Romania and Hungary (Table 1).

Of the 15 projects selected for funding are nine natural gas (which will receive financial aid of 217 million).

Interconnector linking the natural gas networks of Bulgaria, Romania, Hungary and Austria is an important step for the development of the gas market in the European Union because it will allow gas from the Caspian region and other possible sources, including LNG, to reach Central Europe.

Table 1: List of actions selected for receiving financial assistance under the second CEF Energy 2015

PCI name	Action Name	Applicant(s)	Action location	Maximum EU financial assistance (in Eur)
North-South gas interconnections in Western Europe Priority Corridor (NSI West Gas)				
Development of the Islandmagee Underground Gas Storage (UGS) facility at Larne (Northern Ireland)	Front End Engineering & Design Study and Insitu Downhole Testing	Islandmagee Storage Limited/ Infra Strata plc	UK	4.024.000
PCI Reverse flow interconnection on TEN P pipeline in Germany	Reverse Flow on TENP - Works	Fluxys TENP DE GmbH	DE	8.665.000
PCI Eastern Axis Spain-France- interconnection point between Iberian Peninsula and France at Le Perthus [currently known as Midcat	Conceptual and FEED studies (French part of the MidCat project)	TRANSPORT ET INFRASTRUCTURES GAS FRANCE	FR	4.150.000
PCI Eastern Axis Spain-France interconnection point between Iberian	Engineering studies of	Enagas Transporte	ES	1.477.125

Peninsula and France at Le Perthus [currently known as Midcat]	MidCat project	S.A.U.		
North-South gas interconnection in Central Eastern and South Eastern Europe Priority Corridor (NSI East Gas)				
Városföld-Ercsi–Győr pipeline+ enlargement of Városföld Compressor station + modification of central odorization	Preparing the Environmental Impact Assessment (EIA) and obtaining the environmental permits for the Hungarian part of the Romanian- Hungary- Austria transmission corridor	FGSZ Natural Gas Transmission Private Company Limited by Shares	HU	1.377.000
PCI Interconnection Croatia–Slovenia (Bosiljevo – Karlovac – Lučko – Zabok – Rogatec (SI))	Interconnect ion Croatia – Slovenia (Bosiljevo – Karlovac – Lucko – Zabok – Rogatec	Pinacro d.o.o.	HR	4.825.000

	(SI) – Studies for Phase I			
Necessary rehabilitation, modernization and expansion of the Bulgarian transmission system	Preparatory activities in the frame of the P.C.I 6.8.2. Necessary rehabilitation, modernisation and expansion of the Bulgarian transmission system	Bulgartransgaz EAD	BG	850.000
Southern Gas Priority Corridor (SGC)				
Gas pipeline from the EU toTurkmenistan via Turkey, Georgia, Azerbaijan and the Caspian [currently knownasthe combination of the"Trans Anatolia Natural Gas Pipeline" (TANAP), the "Expansion of the South-Caucasus Pipeline"(SCPF)X)and the"Trans-Caspian Gas Pipeline" (TCP)]	Detailed Engineering for Stations, Pipeline Monitoring System and Security System	TANAP DOLGALGAZ ILETIM ANONIM SIRKETI	TR	2.219.000
	Developme nt on Romanian	Societatea Nationala de Transport Gaze	RO	179.320.4

Gas pipeline from Bulgaria to Austria via Romania and Hungary	territory of the National Gas Transmission System on the Bulgaria-Romania-Hungary-Austria execution works Stage 1	Naturale Transgaz S.A.		00
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Source: European Commission

3. Development of transport infrastructure natural gas from Romania

3.1. National regulations

Law no. 346/2007 concerning measures to safeguard security of natural gas supply, transpose into national law the provisions of Directive 2004/67/EC of the European Union. The purpose of this bill is to ensure an adequate level of security in the supply of natural gas through measures transparent, non-discriminatory and compatible with the demands of a competitive market for gas.

Given the liberalization of the domestic gas market, on security of supply, any difficulty having the effect of reducing gas supply could cause serious disruption of economic activities so and gas supply consumers.

In accordance with Art. 15 of Law no. 346/2007 concerning measures to safeguard security of natural gas supply, S.N.T.G.N. TRANSGAZ S.A. Medias developed in order to create technical and technological conditions to ensure safety in natural gas supply, the document "Strategy Interconnection National Transmission System natural gas transport systems of natural gas from neighboring countries" .Strategy Interconnection gas networks allow the investment objectives established both increased cross-border capacities through the construction and development of interconnections, ensure the gas supply at national and European security in gas supply and creating new networks trans-European gas transportation natural.

The data presented by Transgaz, the national carrier gas administers the 13.138 kilometers of pipeline, while major gas distributors, E.ON Gas Distribution, which covers the north of Romania, and GDF SUEZ Energy Romania, covering south, operates a pipeline network of 20,000 km and 17 550 km. With this total, Romania ranks 11 in Europe in terms of length of gas pipelines. But the local market is lagging behind countries like Hungary, Czech Republic and Belgium, which have much smaller surface area compared to Romania.

The European Commission endorsed on 19 January 2016 funding to the sum of 179 million euros (Table 1) of the works to be carried out by Transgaz to the national gas transportation Romanian development of a pipeline that will link between Bulgaria and Austria via Romania and Hungary (to interconnect Bulgaria - Romania - Hungary - Austria abbreviated BRUA - phase 1). Thus, Transgaz will have some of the necessary funding to execute, Romania, the works in question.

The project was born after the failure of Nabucco involves developing a natural gas transmission capacity between existing points of interconnection with natural gas transportation systems in Bulgaria (Giurgiu) and Hungary (Csanadpalota) by building a new pipeline. This would have a total length of 550 km, the corridor Giurgiu - Plateau - Corbu - Hurezani - Hațeg - Recaș - Horia. After commissioning, the project will provide natural gas transportation capacity of 1.5 mld.mc/year to Bulgaria and 4.4 mld.mc/an towards Hungary. Project implementation period is 2019 and the estimated value amounts to 560 million euros (Energy Report).

3.2. Effects on the Romanian economy

In 2012 it was discovered more natural gas deposits in the Romanian Black Sea. Through this pipeline would be transported to Austria and the EU and gas extracted in the area.

Table 2: GDP estimates for the period 2017- 2021

The year	2017	2018	2019	2020	2021
GDP (mld.Euro)	177,23	182,22	181,040	186,9	191,9
Annual growth rate (%)			4,52	4,67	4,79

Source: Results of the author based on data Transgaz

For Romania, through the project, in case natural gas transit capacity by Romanian transport system, economic growth is expected to be at 4.52% in 2019, up from 4.79% in 2021 (Table no. 2).

Transit of gas through pipelines from Romania supposedly occurs at a capacity of 5.9 mld.mc/an. The estimated value is about 40 mil. Euro.

4. In conclusions

To achieve smart growth and encouraging competition in the gas sector The European Union requires modern infrastructure with a high level of performance, contributing to the integration and interconnection Union and all its regions. TENs should facilitate cross-border interconnections, to promote greater economic, social and territorial cohesion and to contribute to a more competitive social market economy.

Growing dependence on imports of natural gas in the European Union requires additional investment in transport infrastructure and storage. In addition, resource security after prolonged disruptions of gas supply initiates a series of projects that should enhance security of supply by promoting market integration and allow natural gas flows reversed.

At European level project BRUA will contribute both to the integration of European energy markets, increasing the security of gas supply for Bulgaria, Romania, Hungary, Austria, diversifying sources of supply in the region by facilitating access to gas from the Caspian region, providing LNG via Greece and Bulgaria and creating conditions for future regional access to potential gas resources in the Black Sea. It ensures diversification of transport routes, creating an infrastructure that allows the elimination of energy isolation of some Member States.

Nationally benefits for Romania are diversifying transport routes, creating an infrastructure that allows the elimination of energy isolation, creating conditions for future regional access to potential gas resources in the Black Sea accompanied by economic growth.

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