

LIQUIDITY AND TRANSPARENCY OF NATURAL GAS ON THE WHOLESALE MARKET

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Abstract: In this article the author wishes to present the regulation of the wholesale market for natural gas in the European Union in general and in Romania in particular. This regulation is seen through the regulatory instrument called a gas exchange. The obligation to trade on the exchange of natural gas is a regulatory remedies directed against the dominant natural gas companies that hold long-term contracts. In order to establish an internal market in natural gas, Member States of the EU have promoted the integration of their national markets and the cooperation of system operators at Union level and at the regional level, also incorporating isolated systems formed gas islands. The European Union appeared competition on the free interplay of supply and demand after deregulation of the energy industry (gas, electricity) in the 90s starting with the UK. In this country the gas is trading at the National Balancing Point (NBP), which is a virtual shopping center. Similar arrangements are now completed and the rest of Europe, because the European Union was facing gas trading system in shopping centers (hub) virtual. In Romania qualitative analysis results confirm that the corrective actions, namely the introduction of natural gas trading on the exchange in Energy Law in Romania, was a successful reform. Romanian Commodities Exchange (BRM) has obtained the license to operate as a centralized trading platform for gas in 2013 and already has remarkable results. This is due to launch a trading platform completely new market of Romania, developed by specialists BRM, which can achieve a continuous trading under extremely flexible buyer and seller. Research conducted in this paper contributes to scientific knowledge regarding regulatory issues and policy, and adopted solutions can be applied to other markets natural gas which face similar problems because natural gas markets are liberalized and the liquidity problem and wholesale market transparency is being played.

Keywords: long-term contracts; market for natural gas; regulation; wholesale market

JEL classification: P48

1. Introduction

In the last 15 years, Europe has tried to build a competitive single energy internal market through the adoption of three successive legislative package of measures which address market access, transparency and regulation, consumer protection,

supporting interconnection and adequate levels of supply.

The first prerequisite for the development of the liberalized natural gas wholesale market is to ensure that the industrial, commercial and residential are fully liberalized; this creates competition between suppliers and encourages the end user to request more competitive prices.

2. Materials and methods

Full implementation of a natural gas transportation system based on points Input / Output Virtual Point requires implementation with the objective that all inputs and outputs are balanced in a safe place called Virtual Trading Point. The Virtual Trading Point can become a hub of natural gas when it can be characterized by a concentration of trading activity, products and services offered by the operator liquidity hub. The objective of a hub it is obviously concentrating liquidity. This is the premise of creating an efficient market. Trading systems and information should be developed with consideration of a single point.

The trading platform made available by the operator must allow market participants to introduce, amend or accept offers for buying and selling. This platform can be made available by a TSO (Transmission System Operator) under the regulation of the National Regulatory Authority.

Liquidity represents the functioning of a market that offers participants the opportunity to contract with the trust to buy or sell gas for a future delivery period in the volume it needs at a fair market price without causing a change Excessive the level of market pricing, and at a reasonable cost for trading.

Contracts used in the gas market traded tend to be standardized, which means that terms and conditions are harmonized apart from the period of delivery, quantity and price. They can be traded bilaterally or in shifts. Standardizing concentrate liquidity attracts liquidity volume, volume draws together merchants and help create a successful hub.

3. European stock markets natural gas

3.1. European regulations

Until 2009 internal gas market suffered from a lack of liquidity and transparency, which hamper efficient resource allocation, hedging risk and to limit the entry of new competitors. In these circumstances it was introduced Directive 2009/73 / EC of the European Parliament and of the Council on common rules for the internal market in natural gas.

Under Article 37 of the Directive, Community legislation had to take into account the characteristics of natural gas, such as certain structural rigidities arising from the concentration of suppliers, long-term contracts or the lack of downstream liquidity. Therefore, it was necessary for greater transparency, including full pricing Ince.

By applying Article no. 56 of the Directive, to establish an internal market in natural gas, Member States had to promote the integration of their national markets and the cooperation of system operators at Community and regional level, also incorporating isolated systems formed gas islands that.

In October 2011, the European Union adopted Regulation (EU) no. 1227/2011 regarding the integrity and transparency of wholesale energy market which seeks to ensure fair trade practices are European energy markets. It gives ACER (Agency for the Cooperation of Energy Regulators) the power to collect, review and disseminate data related to wholesale energy markets, monitor markets and trade, to investigate cases of market abuse and coordinate with Member States applying appropriate sanctions.

3.2. European stock markets natural gas operation

In the UK there was a competition based on the free interplay of supply and demand after deregulation of the energy industry (gas and electricity) in the 90s. Gas was traded to the National Balancing Point, NBP, which was a virtual shopping center.

British NBP was the first European gas hub, which started its activity in 1996, although significant activity began in the spring of 1997. It soon attracted a variety of participants from manufacturers to wholesalers to large consumers and financial players. In the first year, it was settled futures contract traded exchange whose volume has increased rapidly. Despite problems in the mid 2000s trading volumes have steadily increased both OTC and exchange markets and there are now a record number of participants estimated at about 200.

NBP is predominantly European hub for gas, with the following key attributes: full transparency of data, easily accessible, good liquidity and volume.

Bursa Dutch TTF gas began in 2003, but for several years has established trade relations very much. A number increased trade relations only when there was a real political commitment to develop the Netherlands. This hub has started to develop slowly, around 2007, then progress has been firm from 2009 to 2011, traded volumes increasing by an average of over 62% / year, from an average 28.5 € / MWh gas production in 2009, € 46.3 / MWh in 2010, about 50 € /MWh in late 2011. After a second rise in traded volumes in 2012 and third in 2014, today FTT is about two thirds the size NBP's total volume traded. As with NBP, TTF has very good data transparency, accessibility, good liquidity and attract a growing number of participants, estimated at about 150, of which about 30 are considered to be active. TTF is increasingly used by traders from other countries in continental Europe and serves as a center of balance for the Netherlands. Since late 2013, it became the second European reference node, and priced in € / MWh.

All gas hubs in Europe are balancing hubs: used by carriers to balance their portfolios close to maturity and the TSO to balance physical gas network; Trading hubs are additionally used by carriers who manage their portfolios.

Similar arrangements have been made in Northwest Europe as the European Union switch to gas trading system in shopping centers (hubs) Virtual such as Zeebrugge in Belgium and Netconnect (NCG) and Gaspool in Germany. The center is taken from US- Henry Hub, the new Louisiana- the intersection of interstate pipelines, where the gas is distributed to end buyers and where it sets a benchmark (benchmark) for prices in America.

Europe is not a homogeneous gas market, neither in terms of infrastructure, nor the political will to change it, and even in each area there are several levels of development.

The most developed part of Europe in terms of trading hubs is liberalized northwest. It is also the highest discrepancy: the British and Dutch hubs fully mature at the hubs mediocre French, German, Belgian and northern illiquid. Finally, Ireland has not developed its gas hub. Even within each country there may be differences as is the case in France, which is effectively divided north and south, low in the north and two nodes illiquid in the south. Germany has two hubs competing limiting their potential for development as volumes traded.

Central Europe is showing promise for further development over the coming years in both infrastructure and market development. The Austrian market traded starting in 2013 with the creation of a virtual center, it is well placed in the center of Europe and hopes to be part of a regional center for Central Europe. Other countries in this region are still at different levels of development of the market, but there seems to be a general desire for progress towards a fully liberalized gas market with the possible exception of Hungary.

Iberia is essentially a separate market depends largely on LNG.

Italian market was for a long time lags in development. Other remaining countries in the north and east are grouped in Northern Europe and Northeast (Denmark, Sweden, Finland and the Baltic States); and in Central and Eastern Europe, Southeast Europe (Ukraine, the Balkans, Romania, Bulgaria and Greece). Most states in Eastern Europe are still highly dependent on Russian gas supplies, arriving by historical transit pipeline network.

In Table 1 shows the main European hubs and exchanges appropriate.

Table 1: The main European hubs and energy exchanges through which services are provided centralized natural gas market

Country	Hub	Trading
United Kingdom of Great Britain	NBP	APX UK/Nasdaq Commodities
Denmark	GTF/NPTF	Nord Pool Gas
Netherlands	TTF	APX NL
Belgium	Zeebrugge	APX ZEE
Germany	NCG / (Gaspool)	EEX
France	PEG (Nord)	Powernext Gas
Italy	PSV	GME
Austria	CEGH	CEGH

Source: OPCOM, 2014

Table 2 represents trading mechanisms used by the main European hubs of gas.

Table 2: Experiences Central European natural gas trading

Trading	Traded products	Trading mechanism used
EEX Power Derivatives GmbH, Germany	<ul style="list-style-type: none"> • Day-ahead spot market; • intra-day market; • Contracts 	Open auction; Unique price determined in accordance award exchange rules.

	weekend	
Nord Pool Gas, Denmark	<ul style="list-style-type: none"> • Day-ahead spot market; • intra-day market 	Continuous trading; Prices of different award as bids entered in the system trading.
CEGH (Central European Gas hub AG) Austria	<ul style="list-style-type: none"> • Spot Market Day Ahead 	Open auction; Continuous trading. During the auction does not open, but closes transactions, where there are orders to the contrary can perform transactions, the trading system automatically displays the present value of the market equilibrium price. During the continuous trading related transactions are concluded orders placed during the auction opened and the orders related to newly introduced.
GME - Energy Mercati GESTORE S.p.A., Italy	<ul style="list-style-type: none"> • Day-ahead spot market; • intra-day market 	Continuous trading; Open auction. In continuous trading period ending transactions in real time for each second order compatible, respecting the rule -the competitive price (highest purchase price or the lowest price for sale). During the auction is opened conclude transactions only once at the end of the tender period, at a price determined by the unique trading system according to the rules of the exchange. Enter the market - daily transactions are settled only by way of continuous trading.
APX Gas NL, Netherlands	<ul style="list-style-type: none"> • Day-ahead spot market; •Market Intra - daily; • Contracts block 	Spot market transactions are settled through open auction method for ordering and realization correlating result once the end of the tender period.

		Market intra - daily transactions are concludes by continuous trading, in real time, throughout the tender period according to the prices offered. Market contracts also block transactions ending by way of continuous trading.
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Source: OPCOM, 2014

European Federation of Energy Traders (EFET) is an organization that promotes and facilitates trading European energy wholesale markets open, transparent, durable and liquid, unhindered by national borders or other undue obstacles. The purpose of this organization is to improve the functioning of wholesale energy markets in Europe and enhance the performance of traders and their support functions in these markets. EFET operates by providing standard solutions to repetitive aspects of wholesale energy transactions, such as contracting and data sharing; advocating for policy and regulatory measures; and encourage probity, good risk management practices, responsible corporate governance and proper accounting among energy traders.

Standardization and harmonization of energy contracts and electronic data are prerequisites for optimizing the potential benefits of liberalization of the European energy industry.

EFET results obtained for each of the centers of gas sold in Europe, including emerging hubs are shown in Table No. 3.

Table. 3: Evaluation of gas hubs in the European Union

Hub	2014	2015
NBP	20	20
TTF	19	19½
NCG	15½	19
GPL	16	19
ZEE	18	18
ZTP	16	17½
PEGs	16	16½
PSV	10½	15
VTP	14	14
GTF	9	11½
VOB	8	8½
AOC	7	7
SK	3½	7
MGP	5	6½
GR	5	6
VPGS	4½	5½
UDN	5½	5
RO	2½	1½

BG	1½	1
MIBGAS	2	0

Source: EFET, 2015

From the results it is mentioned that the two nodes in Europe are the dominant British and Dutch TTF NBP. Assessment of natural gas hubs in the European Union, EFET believes that the two most important hubs in Germany and Belgium are the Zeebrugge. There are then five hubs with a score greater than 10: Virtual Belgian Hub ZTP, French, Italian PSV, Austrian and Danish GTF VTP; the 11 remaining nodes all have score less than 10: These hubs are mainly developing or hubs that were operational very quickly.

3.3. Exchange natural gas in Romania

In Romania, in July 2013, the Regulatory Committee of the National Regulatory Authority for Energy (ANRE) approved a set of documents for competitive markets natural gas development. Specifically, it approved the establishment of two scholarships gas whose platform will be managed by the Electricity Market Operator OPCOM and Gas S.A. and the Romanian Commodities Exchange. The intention of establishing gas trading platforms has been difficult to enforce because of the rivalry between the companies and because of the opposition of the market players.

Romanian Commodities Exchange is a private company public, founded in November 1992, the first trading session took place on 10 December 1992. At present, BRM has developed, in accordance with Law no. 357/2005, several public interest markets, its main activity being focused on the Cash Market and Auction Market.

In 2014, it established the obligation of trading through scholarships quantities of natural gas for all domestic producers obligation to grow in 2015 and then to decline in coming years, ANRE considering that at the time manufacturers will be accustomed to trading through scholarships and not wanting to impose an obligation which could be interpreted as an implicit export ban (Table no. 4).

According to ANRE Order no. 118/2014 approving the methodology for establishing the obligation of manufacturers and suppliers of natural gas to enter into transactions on centralized markets natural gas in Romania (either directly or through an affiliate operator), they are obliged to conclude transactions on centralized markets natural gas from Romania, transparent and non-discriminatory manner, to sell a percentage of the annual quantity of natural gas from its own domestic production for domestic consumption as follows:

Table 4: Obligation trading

Year	2014	2015	2016	2017	2018
Obligation trading (%)	20	35	30	25	20

Source: ANRE, Order 118/2014

At first, in 2013, wholesale gas market was still immature and volumes traded on exchanges were reduced.

This had a direct impact on the retail market. By the summer of 2014, with some exceptions of transactions concluded on the RCE, all contracts were concluded bilateral wholesale market, apart from a centralized platform,. In the second half of 2014, transactions reached nearly 7-8% of the total consumption of natural gas at an average price very close to the price of gas for industrial consumers regulated (85-86 RON / MWh at BRM compared with 89.4 in the calendar).

From October 2013 until July 2015 were registered and activated 144 participants (34 producers / suppliers / traders and 110 consumers non-household), the total volume traded amounting to about 5 million. MWh, conducted over 315 sessions auctions.

Of the total quantity awarded, 1.3 mil. MWh of natural gas accounted for included services (transport, distribution, storage) purchased by end customers (consumers of natural gas) and 3.7 mil. MWh - without natural gas service, which subject to the sale-purchase between producers, suppliers and traders working in the trading market, under license from ANRE.

Regarding the gas market, we can talk about a success story of BRM. This company obtained a license to operate as a centralized trading platform for gas in 2013 and has already managed to get discounts on natural gas traded on centralized, market-relevant volumes traded by BRM (Figure 1).

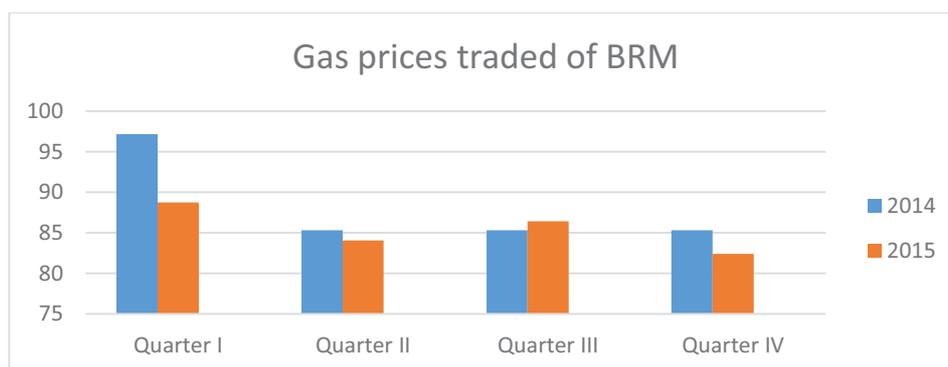


Figure 1: Evolution quarterly weighted average price resulting from transactions on centralized markets, 2014-2015 (lei/MWh)

Source: Results obtained by the author based on data ANRE

According to the Regulation (EU) no. 312/2014 establishing a network code on balancing the gas transmission networks managed by SC Transgaz SA, the implementation of provisional measures, the Romanian Commodities Exchange notes that to increase the level of liquidity of the wholesale market for gas in the short term as operator licensed in administration of centralized markets natural gas, holds an electronic platform for trading natural gas, including standardized products intended for the short term. Therefore has the capability to process in real time, and offers of sale - purchase volumes of gases that may be imbalances in the National Transmission System.

STEGN platform (Electronic Trading System Natural Gas) is a modern computer application, complex and robust, easy to use and has been designed to adapt to

the needs of the free market, competition, and market-specific energy requirements of the legislation.

Meanwhile, the Transmission System Operator (TSO) can post offers and conclude, in turn, its stock trades in order to achieve specific commercial balancing of the National Transmission System.

4. In conclusion

In order to establish an internal market in natural gas, Member States of the EU have promoted the integration of their national markets and the cooperation of system operators at Community and regional level, also incorporating isolated systems formed gas islands.

First country in Europe, UK, was the state in which there was competition on the free interplay of supply and demand after deregulation of the energy industry (gas, electricity) in the 90s. Gas is trading at the National Balancing Point (NBP), which is a virtual shopping center. Similar arrangements are made in Northwest Europe as the European Union are moving towards a gas trading system in virtual shopping centers such as Zeebrugge in Belgium and Netconnect (NCG) and Gaspool in Germany.

The most developed part of Europe in terms of trading hubs is liberalized northwest. It is also the highest discrepancy: the hubs British and Dutch fully mature at the hubs French mediocre, German, Belgian and north to illiquid finally, Ireland, which it has created its gas hub.

Central Europe is showing promise for further development over the coming years in both infrastructure and market development. Traded Austrian market really began in 2013 with the creation of a virtual center, but is well placed in the center of Europe and hopes to be part of a regional center for Central Europe. Other countries in this region are still at different levels of development of the market, but there seems to be a general desire for progress towards a single internal gas market fully liberalized.

In Romania, the Romanian Commodities Exchange (BRM) has obtained the license to operate as a centralized trading platform for gas in 2013 and already has remarkable results. This is due to launch a trading platform completely new market of Romania, developed by specialists BRM, which can achieve a continuous trading under extremely flexible buyer and seller. Research conducted in this paper contributes to scientific knowledge regarding regulatory issues and policy, and adopted solutions can be applied to other markets natural gas which face similar problems because the markets for natural gas are almost liberalized and liquidity problem and wholesale market transparency is still a problem in some countries.

References

ANRE Order no. 86/2015 amending and supplementing the Regulation on organized trading market natural gas-run centralized electricity market operator and Gas OPCOM SA, approved by ANRE Order no. 52/2013.

ANRE Order no. 18/2015 amending and supplementing the Regulation on organized trading on centralized markets natural gas company managed by the Romanian Commodities Exchange (Romanian Commodities Exchange) - SA, approved by ANRE Order no. 51/2013.

ANRE Order no. 6/2015 for the amendment of the General Rules on the centralized market of natural gas approved by ANRE Order no. 50/2013.

ANRE Order no. 1/2015 on the establishment of the national register of wholesale energy market participants and approving the procedure for registration of participants in the wholesale energy market.

ANRE Order no. 68/2014 amending and supplementing the Regulation on organized trading market natural gas-run Central Electricity Market Operator and Gas OPCOM - S.A.

ANRE Order no. 67/2014 amending and supplementing the Regulation on organized trading on the centralized market natural gas-run Romanian Commodities Exchange - Romanian Commodities Exchange S.A.

ANRE Order no. 66/2014 amending Central Market Rules, approved by ANRE Order no. 50/2013.

ANRE Order no. 54/2014 on measures for the development of gas market.

ANRE Order no. 53/2014 amending and supplementing Network Code for the National Transmission System natural gas.

ANRE Order no. 118/2014 approving the methodology for establishing the obligation of manufacturers and suppliers of natural gas to enter into transactions on centralized markets natural gas in Romania.

ANRE Order no. Regulation 52/2013 on the organized trading markets managed by centralized natural gas market operator OPCOM electricity and natural gas;

ANRE Order no. Regulation 51/2013 on the organized trading markets natural gas centralized managed by the Romanian Commodities Exchange - Romanian Commodities Exchange S.A.

ANRE Order no. 5/2013 regarding the methodology for monitoring gas market in Romania.

Directive 2009/73 / EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55 / EC.

Directive 2003/55 / EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30 / EC.

Law electricity and no gas. 123/2012 with subsequent amendments and additions.

Law no. Law 357/2005 regarding the commodities exchanges, published in the Official Gazette, Part I no. 1115 of 09/12/2005.

Regulation (EU) no. 1227/2011 regarding the integrity and transparency of wholesale energy market which seeks to ensure fair trade practices are European energy markets.

The general rules on the centralized market for natural gas approved by ANRE Order no. 50 / 12.07.2013.