

A Critical Overview of The Liberalization Process of The Turkish Natural Gas Market

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Abstract

Natural gas is finding its place at the heart of the energy discussion. At the heart of these debates is the development process of a liberal natural gas market. The main theme of this study was determined as the formation process of the natural gas market in Turkey. Natural gas is important in many sectors of the Turkish economy. In this context, Turkey's liberal natural gas market process and the 4646 Natural Gas Market Law are important for this study. Study also continues with the difficulties, conclusions and recommendations in this process. Generally in this paper seeks to inform discussion about the liberalization process of natural gas market in Turkey. Lastly, the liberalization process of the Turkish natural gas market has been criticized from the main directions.

Keywords: Natural Gas Market, Liberalization Process, Turkey, Energy Trade

1. Introduction

The need for better management of institutions lies in the backdrop of the need to regulate and liberalize energy markets. The way in which liberalization energy markets are handled varies among states. In some periods, the energy issue, which has become the main agenda of the states, has sometimes been turned into a subdivision of different politics (Thomas S. Kuhn, 1970).

In Turkey, where energy markets are in the process of development, the energy issue is becoming more and more important every day. Turkey is highly dependent on the outside, especially in natural gas and oil. The need for a natural gas market in Turkey, which meets most of its electricity production from natural gas, is increasing day by day. Among the sectors where natural gas is most used in Turkey are electricity, industry, building and transportation. As it is known, Turkey wants to be the central country in energy trade. Turkey will be able to reach its target faster with a liberal gas market that has been stripped of Petroleum Pipeline Company (BOTAS) monopoly.

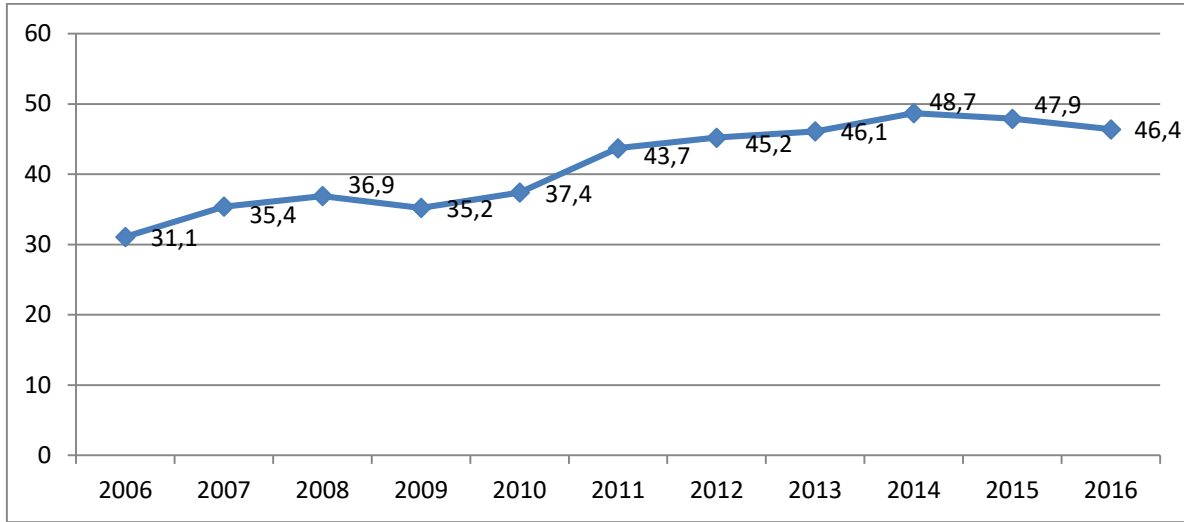
Consequently, the role of natural gas is likely to continue to expand, and its relative importance is likely to increase liberal gas market are constrained. The evolution of global gas markets is clear. There are many countries with liberal gas market like Austria, Netherland, United Kingdom and Italy.

In this paper, I address the three main aspects of the liberal process of Turkey's natural gas market, namely the Turkey's natural gas outlook, liberalization process of natural gas market and challenges-expectations in the liberalization process.

2. Turkey's Natural Gas Outlook

Natural gas, which is a cleaner source than the coal, has begun to take an important place in meeting the increasing energy need. Natural gas dependency, which is increasing in usage rate and fields, is increasing every year. In the global energy market, Turkey is an important country in the consumption of natural gas. The consumption of natural gas in Turkey is increasing every year.

Turkey imports the natural gas demand with pipelines from Russia, Azerbaijan and Iran. Along with this, LNG has started to be imported in order to secure energy supply security. BOTAS has imported LNG from Algeria since 1994 and from Nigeria since 1999. Natural gas has increased its share of energy consumption by oil and coal since the 1990s. Natural gas, which has significantly increased its share in total demand for energy, became the most used resource in 2010 by passing oil and coal in 2011 (BOTAS, 2016).



Source: BP, 2017

Graph 1. Natural Gas Consumption, 2006-2016 (Billion Cubic Metres)

Turkey's natural gas consumption increases by a year. Between 2006-2016 natural gas consumption has increased over the years. With the increase in economic growth, natural gas consumption has also increased. Nearly 50 billion cubic meters of natural gas were consumed in 2016 (Graph 1).



Source: BOTAŞ

Map 1. Turkey's Natural Gas Transmission Map

Turkey is also on the way to become a commercial center in the natural gas market, increasing the importance of the world energy market. Parallel to the growing economy, rising energy demand is expected to continue in the future. Turkey's domestic resources are also limited.

Natural gas, which has a high share in total energy consumption, is imported with four pipelines and two LNG regasification terminals (Map 1).

On the other hand, Turkey has begun to use alternative sources to reduce its high dependency on natural gas imports. In line with the targets, it is planned to reduce the share of natural gas in electricity production. In this context, institutions are concentrated on renewable energy, domestic coal and nuclear energy. However, it is also known that the necessity of natural gas in short and medium-term is not going to be right.

Moreover, natural gas, which is in the golden age, is still an important source not only for Turkey but also for all countries. In this context, Turkey can turn its geostrategic position into a natural gas trading center. The operation of the Natural Gas Market Law, announced in 2001, will be an important step in this direction.

3. Liberalization Process of Natural Gas Market and Turkey

Liberalization is a process of market opening, which, at a minimum, removes legal barriers to trade. Other hand this process involves creation of an industrial structure in which competitive forces can work and a competitive ethos can be stimulated. Generally, in the liberalized market, customers are able freely to choose suppliers. Entry of new suppliers and producers to the market is also possible. In this context, liberal gas market should be achieved by national regulation authorities, not liable to receive orders from the governments.

The first examples of liberal natural gas market are seen in European countries. However, creating free market prices in the European gas market is still insufficient. For that reason, growing spot trade at gas hubs such as the National Balancing Point (NBP) in United Kingdom, Zeebrugge in Belgium and the Title Transfer Facility (TTF) in the Netherlands.

The process of liberalization of the gas market, which was launched in late 1990s, officially began with the publication of the Law but year of 2001 is important step for this process. The Natural Gas Market Law (4646) issued in 2001 is an important threshold for the Turkish natural gas market. Article 1 of the Law is include: "This Law concerns with liberalization of the natural gas market and thus formation of a financially sound, stable and transparent markets along with institution of an independent supervision and control mechanism over the same, so as to ensure supply of good-quality natural gas at competitive prices to consumers in a regular and environmentally sound manner under competitive conditions."

As of 2001, Turkey has been in the process of liberalization in the energy market and is in the center of the countries that supply and demand energy resources. Supply and demand security is very important for these countries. In this way, the existence of a liberal gas market is most importance. The deficiencies in the liberalization of the market need to be well identified. In this context, the examination of international markets will lead to liberalization.

In addition, the structure of BOTAŞ needs to be examined in detail. As it is known, it is necessary to have many companies on the market in the name of liberalization. Besides, increasing energy source import markets, use of domestic resources and the development of its

technological infrastructure is an important step in becoming a liberal market (Accenture, 2013).

When the 4646 Natural Gas Market Law is briefly considered, it requires the market to be audited independently by the Energy Market Regulatory Authority (EMRA). It is necessary to access the information of the supplier company. In addition, with this Law, the concept of "free consumer" has emerged.

Transmission, distribution, import, export, wholesale, storage, transport of Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG) are defined as the activities of the market. Some of those;

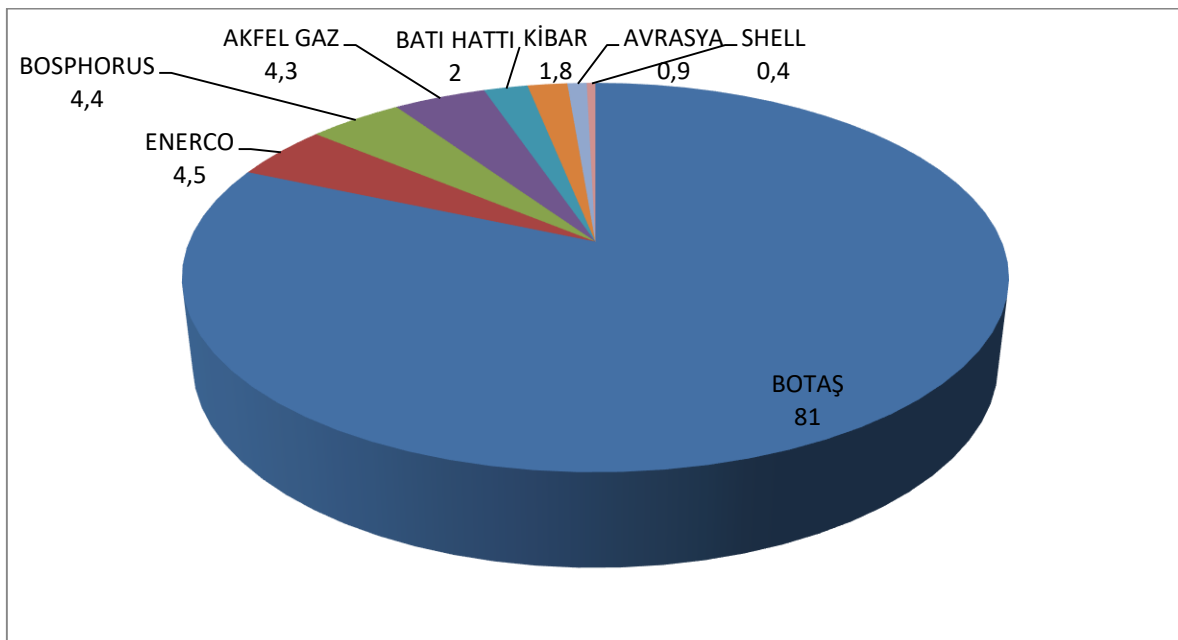
- a. BOTAŞ's share in the natural gas market will be reduced to 20 percent
- b. BOTAŞ will not make new import / export contracts
- c. New gas import contracts will not be signed with the contracting countries
- d. BOTAŞ will be fully separated by 2009. But it is seen that BOTAŞ is still dominant in the natural gas market.

Table1. Comparison of Energy Hub and Stock Exchange

Energy Hub	Energy Stock Exchange
The Energy Hub is called the theoretical delivery sites where standardized trade activities are supported. The energy base, which represents more than one delivery point, also supports liquidity on behalf of the continuation of trade and investment activities.	The Energy Exchange represents a trade site that was organized before market participants realized their meeting and had contracts to trade.
The energy grid, which does not include designated delivery points in the contract negotiations, helps to provide market-wide pricing in this context. Moreover, energy bases do not represent the actual physical transmission network.	Energy market contracts, each of which is pre-defined; futures, futures, swaps and options.
Besides the spot market where gas trading is done on behalf of short-term deliveries the futures market, where the delivery date can be extended for a few years at the energy base, can be realized through the national common delivery point.	In the energy market, where natural gas base is chosen as the common reference point, the place where contracts are delivered is usually linked to the physical market.
Determination of the price of natural gas at the energy base is done within the scope of over-the-counter trade and energy exchange transactions.	In the energy market, trade between a buyer and a seller is usually concluded anonymously. In this context, the clearing

	bank eliminates the risk of counterparty for all buyers and sellers.
Thanks to the competitive environment created by the participation of many players, support of the energy base to the market; transparency, flexibility, balancing, futures trading and risk management.	The market liquidity of the energy exchanges, which succeeded in attracting industry, commerce, as well as investor circles, takes place with wide participation. Energy exchanges also often support market and credit risk management transactions with forward / future transactions.

Importantly, it is necessary to establish an *energy stock exchange* in Turkey, where natural gas prices are determined. Turkey, which is among the largest oil and natural gas supply and demanding countries in the world, has the power to be an energy hub in this respect. However, it is important in this context to examine in detail the concepts of energy stock exchange and energy hub (Table 1), (Accenture, 2013).



Source: EMRA

Graph 2. Shares Of Companies in Natural Gas Imports in Turkey (2016, %)

Looking at the experience of the liberalization of the day-to-day market in 2001, progress in the natural gas market was slower than in the electricity sector. The Law envisaging the restructuring of BOTAŞ has not yet been implemented. In this way, companies are allowed to participate in gas import and export without any restrictions. BOTAŞ is still the largest natural gas importer with almost 80 percent market share. Seven private sector companies share the remaining share (Graph 2), (World Bank, 2015).

The need for a liberal natural gas market is inevitable in meeting the energy needs of Turkey's growing economy and growing population. The process which started in 2001 but cannot be completed requires further transparency after that. In this context, authorities need to act more determinedly in the face of difficulties. Especially Energy Exchange Istanbul (EXIT-EPIAŞ), which is a pioneer in the electricity markets, is expected to take important steps in the natural gas market in the coming periods. The difficulties and expectations that the natural gas market faces during the liberalization process need to be prioritized.

3.1. Challenges and Expectations in the Liberalization Process

- a. Balancing and reconciliation mechanisms must be established in the natural gas market.
- b. More advanced markets should be established with EPIAŞ. The establishment of an effective trading platform will also support the "energy trade center" concept.
- c. In order for a well-functioning natural gas market to be established, its physical infrastructure must be sufficient.
- d. The high prices resulting from natural gas over-dependence in electricity generation must be balanced with the natural gas market.
- e. Instead of subsidizing all consumers, a transparent subsidy mechanism targeting low-income groups should be implemented.

In order for the natural gas market to be able to occur in Turkey, it is also necessary to import and store more than the country consumes. As is known, Turkey's natural gas storage capacity is lower than many countries. It is necessary to make investments that can save increasing imports in order to become a center in natural gas trade. In addition, Russia, Azerbaijan and Iran, which import natural gas through pipelines, can be added to Northern Iraq and Eastern Mediterranean region. It is also possible to import more natural gas from Qatar and the US with LNG, which has been on the agenda recently (PWC, 2014).

4. Conclusion

The widespread effects of the natural gas market make liberalisation a vital issue. In the EU and Turkey, the natural gas market makes liberalisation a vital issue. The developments experienced since 2001 are promising for the Turkish natural gas market. The steps taken to become the main actor in natural gas trade are an important opportunity for the formation of a natural gas market in the country. Along with these developments in natural gas, recent developments in renewable energy, domestic coal and nuclear energy have strengthened Turkey's position in the energy market.

However, if Turkey wants to strengthen its supply security in natural gas, it needs to fulfill its reforms in the energy sector. Energy supply security is most important issue for Turkey. For that reason natural gas market liberalisation is key to ensuring supply security. In this context, the 4646 Natural Gas Market Law should be updated and put into practice. According to this;

- a. Acceptance of changes in the 4646 Natural Gas Market Law,
- b. BOTAŞ's wholesale gas price adjustments are made transparently,

- c. Developing a social security mechanism for low-income energy consumers,
- d. As the last and most important, a natural gas market should be established under the EPIAŞ.
- e. In the gas trading regulatory constraints and the bureaucratic burden should be eliminated.

Within the framework of structural reforms, fundamental changes required for the Turkish economy need to be implemented in the energy sector as well. The natural gas market should start to implementing, which the MENR stressed in the latest 2015-2019 Strategy Paper, as soon as possible.

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