

**LIBERALIZATION OF  
THE TURKISH NATURAL GAS MARKET**  
*TÜRK DOĞAL GAZ PİYASASININ SERBESTLEŞTİRİLMESİ*

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**Öz**

*Doğal gaz endüstrisi dinamik, karmaşık ve günümüz zaman diliminde gösterdiği önemli değişim nedeniyle gözlemlenmesi heyecan verici olan bir endüstridir. Doğal gaz endüstrisi, aramadan üretime, pazarlamadan ticarete, iletimden tüketime her alanda hız kaybetmeden büyümekte ve dünya çapında milyonlarca kişiye istihdam imkânı yaratmaktadır. Endüstriyelmiş ülkeler yanında Türkiye gibi ekonomisi ve dolayısıyla enerji tüketimi her geçen yıl artan ülkeler, doğal gaz aramayı ve en geniş biçimde iletim ağlarının kurulmasını teşvik ederek birincil enerji tüketim kompozisyonlarını farklılaştırmaktadır. Bu bağlamda doğal gaz, son yıllarda birincil enerji tüketimi içerisindeki payı en hızlı artan enerji kaynağı olmuştur. Yurtiçi doğal gaz üretiminin, Türkiye'nin ulusal tüketiminin %3'ünden daha azını karşıladığı bir ortamda ulusal tüketim, 1987 yılındaki yarım milyar metreküplük tüketimden 2008 yılında otuz yedi milyar metreküp seviyesine çıkmıştır. 2008 yılında yaşanan ekonomik krizin etkilerinin hafiflemesinden sonra, tüketim miktarının daha da artması beklenmektedir. Türkiye doğal gaz ihtiyacının büyük bir kısmını Rusya Federasyonundan, kalan kısmını ise Azerbaycan, Cezayir, Nijerya ve İran'dan karşılamaktadır. Konumu itibariyle oldukça elverişli bir durumda bulunan Türkiye'nin, doğal gaz piyasasını serbestleştirmesinin altında yatan neden, sadece Avrupa Birliği'ne katılım süreci değil aynı zamanda bu elverişli pozisyondan mümkün olduğunca yararlanmaktır.*

**Anahtar Kelimeler:** Doğal Gaz, Doğal Gaz Politikaları, Serbestleştirme, BOTAŞ.

**Abstract**

*The natural gas industry is a dynamic, complex, and exiting place to observe at the current time. Employing millions of people across the globe, the market continues to grow due to ever-increasing opportunities from explorations and*

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*production, to marketing and trading, to transportation and consumption. Many emerging countries, including Turkey and even more industrialized nations have been diversifying their primary energy consumption by encouraging the exploration for natural gas and the development of transmission systems to distribute natural gas throughout their countries for its many uses. In this context, natural gas consumption has become the fastest growing primary energy source in Turkey. Domestic gas production in only Turkey meets less than 3% of the domestic demand. Natural gas consumption levels in Turkey have witnessed a dramatic increase, from 0.5 billion cubic meters (bcm) in 1987 to 37 bcm in 2008. Turkish natural gas demand is projected to increase once the languished momentum of growth comes back after recovering from the economic crisis happened in 2008. Turkey has supplied its main natural gas need from Russian Federation, Azerbaijan, Iran, Nigeria and Algeria. Turkey is in a strategically advantageous position in terms of its natural gas market. It can import gas from a number of countries and diversify its sources. Thus, Turkey's motivation to liberalize its energy markets stems not only from fulfilling the European Union (EU) accession prerequisites in the energy sector but also its desire to utilize this advantageous location.*

**Keywords:** *Natural Gas; Natural Gas Policy, Turkey, Liberalization, BOTAS*

## **INTRODUCTION**

Natural gas is rapidly gaining importance in global energy markets. Thus, natural gas policy is a subject of vital world-wide interest. Many nations seek ways to extend the benefits of cheap and clean-burning natural gas to industrial users of energy, power generators and houses with heating and cooking needs. In nations with significant natural gas reserves, governments seek ways both to attract private investment for the development of the natural gas industry and capture the economic benefits of those resources.

In the next few years, gas is expected to surpass coal to become the world's second most importance energy source; by 2050 gas could even surpass oil to occupy the number one slot<sup>1</sup>. A high proportion of the most prolific gas resources are concentrated in areas that are remote from the areas where demand and demand growth is expected to be strongest. Admittedly, the technological hurdles to moving large volumes of gas over long distances are falling rapidly. Already today, one quarter of the world gas consumption is the result of

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<sup>1</sup> VICTOR, JAFFE and HAYES (2006), *Natural Gas and Geopolitics: From 1970 to 2040*, Cambridge University Press, Unites States of America (USA), p.3.

international trade<sup>1</sup>. Pipelines account for 78 % of that trade; while ocean going tankers carrying liquefied natural gas (LNG) convey the rest.<sup>2</sup>

After examining the features of natural gas industry, this study considers the regulatory and competitive efforts in the natural gas industry that have been going on in the world in order to find the answers of above mentioned questions and transfer the industry from monopolistic structure towards a competitive structure. Liberalizing the natural gas industry, which is one of the network industries with competitive and non-competitive parts, is a major challenge for every country as well as Turkey because of its unique features which are different from the ordinary product and services.

The Turkish natural gas market is one of the most rapidly growing-and is therefore becoming one of the most important- markets in Europe. However, during the process, it was experienced setbacks in terms of anticipated demand growth and the anticipated development of liberalization and competition. Plans for rapid liberalization and reducing the market share of incumbent Petroleum Trading Company (BOTAS) encounter harsh practicalities and legal obligations in relation to long term contracts signed with external suppliers. This article describes the back ground and rationale of Turkey for pursuing liberalized natural gas markets, explains why this policy goal has not achieved yet, and discusses recent developments and some of the future challenges faced by political decision makers.

## **1. THE TURKISH NATURAL GAS INDUSTRY**

### **1.1. Strategic Location of Turkey and Primary Energy Consumption**

Turkey has a unique geographic position at the crossroads between Europe and Asia<sup>3</sup>. The country covers an area of 779,452 km<sup>2</sup>. Turkey is situated at the meeting point of three continents (Asia, Europe and Africa) and stands as a bridge between resources rich Asia, the Middle East and Europe as is shown in Figure 1. With its inestimable location, Turkey will certainly play a significant role in the world's energy sector during the first decades of the 21st century.<sup>4</sup>

As it can also be seen from the Figure 1, Turkey can import gas from number of countries and to be able to diversify its own natural gas resources. This situation may also provide an appropriate climate for having a competitive gas market since, wholesale competition with multiple suppliers is the number

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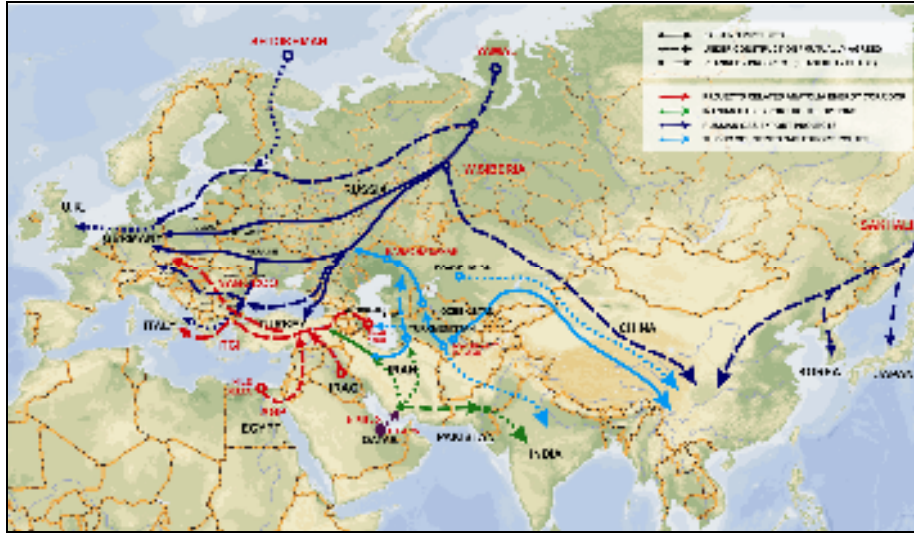
<sup>2</sup> BP (2004), *Statistical Review of World Energy*, <http://www.bp.com> Date Accessed: 09.11.2009

<sup>3</sup> Federal Research Division (FRD) (2006). *Country Profile: Turkey*, Federal Research Division of the Library of Congress, Washington D.C., USA.

<sup>4</sup> EDIGER, V.S., AKAR, S. (2007) *ARIMA forecasting of primary energy demand by fuel in Turkey*, Energy Policy 35, p. 1701-1708.

one precondition to achieve a competitive gas market. The recent reform in the Turkish gas market, which began in 2001, was an attempt to strengthen the natural gas market to this end.

**Figure 1: A natural gas map for the region<sup>5</sup>**



Even though it is closely located to resources rich regions, Turkey has no large oil and natural gas reserves.<sup>6</sup> The main indigenous energy resources in Turkey are lignite, hydro, biomass and geothermal as opposed to oil or natural gas resources like its neighbors which is still a contentious issue whether Turkey really has oil and gas reserves but is not able to extract them or it has not.

The primary energy<sup>7</sup> consumption trend between 1970 and 2007 is shown in Figure 2. It is clear that the reserves of fossil fuels, except coal, are very limited; oil and natural gas constitute a large amount of the energy consumption. Large share of oil and natural gas is the basis of the fact that Turkey imports more than half (60%) of the net energy consumption which also conveys one of the largest external payment item in the national budget. Moreover, energy import of Turkey is expected to become larger as the

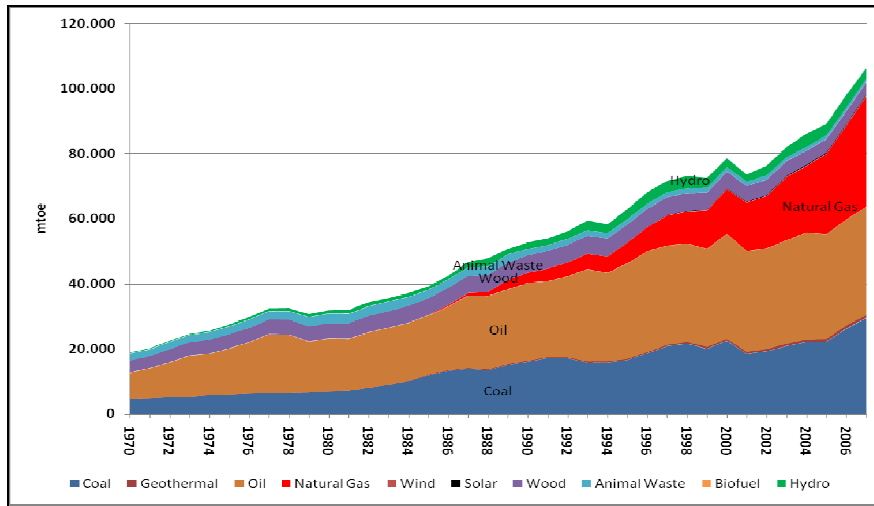
<sup>5</sup> International Energy Agency (IEA) (2005b) *Natural Gas Information 2005*, IEA/OECD Paris.

<sup>6</sup> SALVARLI, H. (2006), "Some aspects on hydraulic energy and environment in Turkey", *Energy Policy* 34, p. 3398-3401.

<sup>7</sup> Primary energy is the energy embodied in natural resources prior to undergoing any human-made conversions or transformations. Examples of primary energy resources include coal, crude oil, sunlight, wind, running rivers, vegetation, and uranium.

economy grows as a result of industrialization, rapid population growth, and urbanization.<sup>8</sup>

**Figure 2: Primary Energy Consumption (1970-2007)<sup>9</sup>**



### 1.2. Demand Structure

According to the Ministry of Energy and Natural Resources (MENR), the natural gas consumption rate in primary energy resources was 3% in 1990, 6.2% in 1995, 18.33% in 2000 and 29.4% in 2006, when the European average was reached in terms of natural gas consumption in primary energy resources<sup>10</sup>. MENR predicts that this rate will reach 29% in 2010 and 25% in 2020<sup>11</sup>.

Due to concerns about the environment and security of supply after the 1979 energy crisis, natural gas became important in the early 1980s in the primary energy consumption mix. In 1986, Turkey began the construction of a pipeline to carry Russian natural gas from the Bulgarian border to Ankara; the line was completed in 1987. Turkey's natural gas consumption started with 0.5 bcm in 1987 and reached 37.8 bcm in 2008<sup>12</sup>. Turkey's natural gas

<sup>8</sup> SOZEN A. and NALBANT, M. (2007) *Situation of Turkey's energy indicators among the EU member states*, Energy Policy 35, p. 4993-5002.

<sup>9</sup> Ministry of Energy and Natural Resources (MENR) (2007), *Energy statistics of Turkey*, Ankara, Turkey. [http://www.enerji.gov.tr/EKLENTI\\_VIEW/index.php/raporlar/raporVeriGir/7148/2](http://www.enerji.gov.tr/EKLENTI_VIEW/index.php/raporlar/raporVeriGir/7148/2), Date Accessed: 04.09.2009

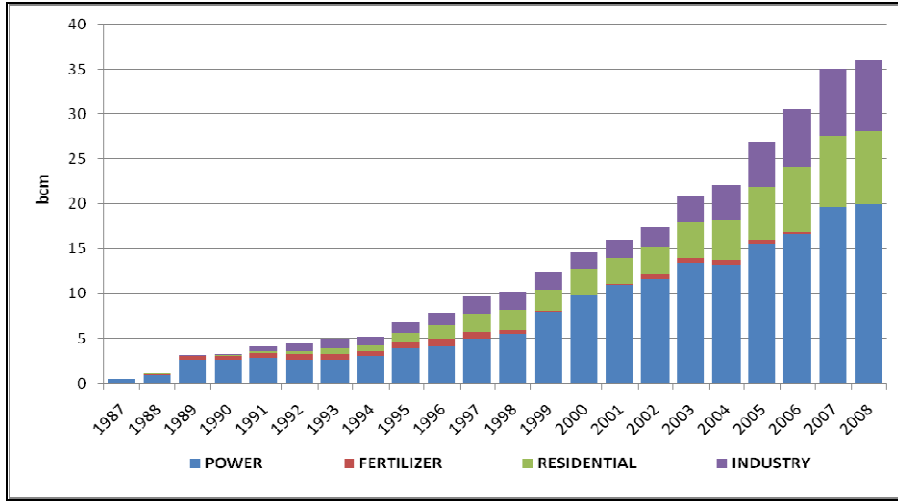
<sup>10</sup> BALAT, M. (2008) "Energy consumption and economic growth in Turkey during the past two decades", *Energy Policy* 36, p. 118-127.

<sup>11</sup> MENR (2007), *Energy statistics of Turkey*, Ankara, Turkey. <http://www.enerji.gov.tr>, Date Accessed: 03.23.2009

<sup>12</sup> <http://www.botas.gov.tr/index.asp>, Date Accessed: 04.06.2009

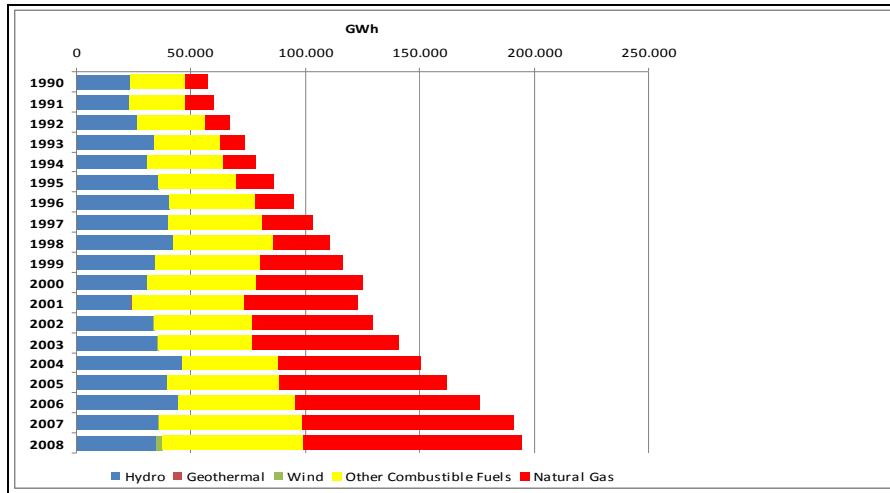
consumption has increased 2.6 times since 1998. The breakdown of this striking increase by sectors is shown in Figure 3.

**Figure 3: Natural Gas Demand by Sector (1987-2008)<sup>13</sup>**



The increasing weigh of natural gas in the Turkish electricity generation since 1990 can also be observed from the Figure 4.

**Figure 4: Fuel Mix in Electricity Generation (1990-2007)<sup>14</sup>**



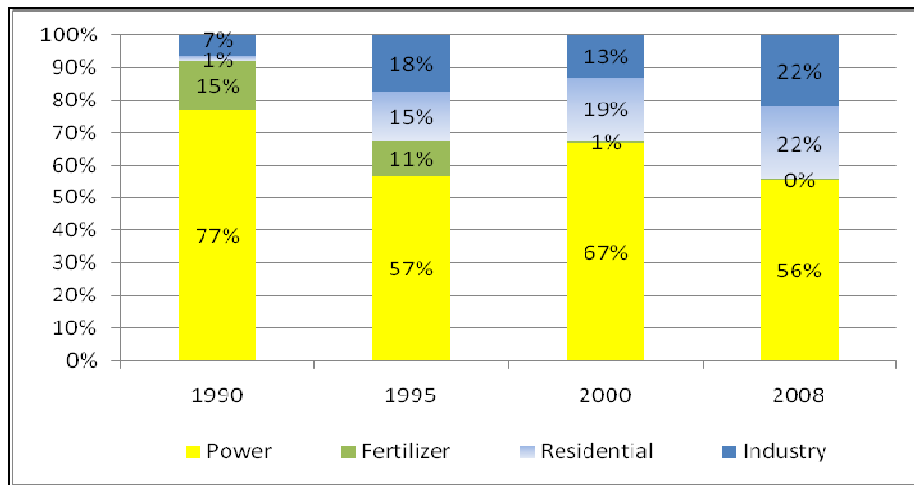
<sup>13</sup> <http://www.botas.gov.tr/index.asp>, Date Accessed: 01.04.2009

<sup>14</sup> <http://oberon.sourceoecd.org/vl=4348476/cl=31/nw=1/rpsv/ij/oecdstats/16834283/v325n1/s30/p1>, Date Accessed: 06.05.2009

Natural gas has become the preferred fuel for electricity generation not only in Turkey as shown in Figure 4, but also worldwide because of its environmental appeal, lower capital cost, shorter gestation period, higher efficiency and the modular technology that challenges ‘the bigger the beautiful’ notion of the past<sup>15</sup>. This trend has started with the ‘dash for gas’ in the English and Wales system after liberalization of the electricity market and has been followed in many other jurisdictions<sup>16</sup>. Yet, a high share of natural gas in power generation could raise issues of security of supply and as natural gas and electricity converge country could become economically vulnerable<sup>16</sup>.

As illustrated in Figure 5, although the power generation market has been through several economic crisis in 1995, 1999, 2001 and 2008; generation has been constantly increasing with the exception of 2001. In line with this trend, natural gas consumption in generation has also been increasing continuously since 1994. Natural gas consumption is still concentrated in the power generation industry, which accounted for 56 percent of gas demand in 2008. The share of residential and industrial use has been increasing gradually, while the share of the fertilizer industry fluctuated around 1%.

Figure 5: Structure of Gas Consumption in Turkey<sup>17</sup>



### 1.3. Supply Structure

According to International Monetary Fund’s (IMF) forecasts, Turkey is the 17th largest economy in the world<sup>18</sup>. In conjunction with its economic performance,

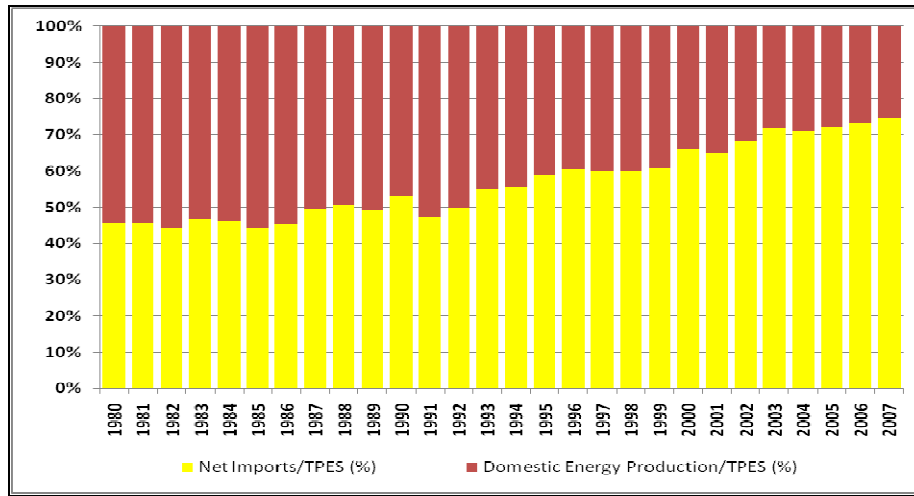
<sup>15</sup> IEA (1995), *The IEA Natural Gas Security Study*, IEA/OECD, Paris.

<sup>16</sup> IEA (2004), *Security of Gas Supply in Open Markets*, IEA/OECD, Paris.

<sup>17</sup> <http://www.botas.gov.tr/index.asp>, Date Accessed: 02.04.2009

Turkey's energy consumption has been growing and will continue to grow along in line with its economy. However, even though Turkey's energy consumption is gradually growing, the production of domestic primary energy sources is low. Total primary energy production met only approximately 25.2% of the total primary energy demand in 2007.

**Figure 6: Turkey's Primary Energy Production and Imports (1980-2007)<sup>19</sup>**



Likewise, if the domestic natural gas production of Turkey is examined, it can be seen that Turkey's remaining recoverable natural gas reserves were only estimated at 6.83 bcm<sup>20</sup> in 2008 compared with the demand of 36 bcm in 2008. Given the annual production in Turkey is roughly 1 bcm<sup>21</sup>, gas reserves of Turkey will be exhausted almost in 7 years. In this manner, Turkey is overwhelmingly dependent on gas imports. In 2007, Turkey's total indigenous natural gas production was only able to meet 2.43% of domestic demand while natural gas imports reached 97.57%, as illustrated in Figure 7.

<sup>18</sup> <http://www.turkishweekly.net/news/30348/imf-turkey-is-world-s-17th-largest-economy.html>, Date Accessed: 04.11.2009

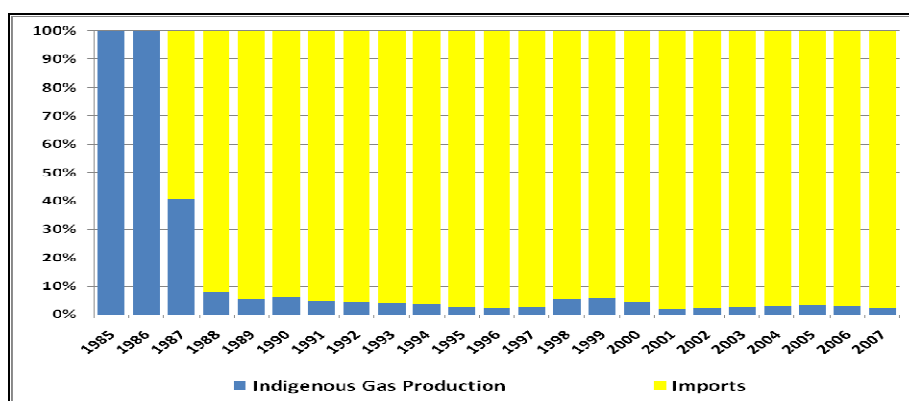
<sup>19</sup> <http://oecd-stats.ingenta.com/OECD/TableView/tableView.aspx>, Date Accessed: 04.11.2009

<sup>20</sup> Turkish Petroleum Corporation (TPAO) (2008), *Petroleum and Natural Gas Industry Report*, Ankara, Turkey,

[http://www.tpao.gov.tr/v1.4/condocs/petrol\\_sektor.pdf](http://www.tpao.gov.tr/v1.4/condocs/petrol_sektor.pdf), Date Accessed: 04.15.2009, p.8.

<sup>21</sup> The major market player in terms of gas production is the Turkish Petroleum Corporation (TPAO) which owns the majority of the gas fields along with several private companies.



**Figure 7: Indigenous Gas Production and Imports (1985-2007)<sup>22</sup>**

Turkey imports its natural gas from Russia, Azerbaijan, Iran, Algeria, and Nigeria under eight long term take-or-pay (ToP) contracts. Long-term ToP contracts link sellers and buyers for a long period, generally 20-25 years and even up to 30 years during which both of them have strictly defined obligations. In particular, the ToP clause requires that gas has to be paid for whether taken or not, and specifies an obligation for the seller to make available defined volumes of gas (though make-up provisions allow carrying forward to a later year gas paid for in one year but not taken)<sup>23</sup>. Seven of Turkey's ToP contracts have been operational except for the Turkmenistan contract, which appears unlikely to be put into force in the near future<sup>24</sup>. The Russia, Azerbaijan, and Iran contracts are for dry gas delivery while the remaining contracts with Algeria and Nigeria are

<sup>22</sup> <http://oecd-stats.ingenta.com/OECD/TableView/tableView.aspx>, Date Accessed: 04.10.2009

<sup>23</sup> CRETÏ, A. and Villeneuve, B. (2003), *Long-term contracts and take-or-pay clauses in natural gas markets*, University of Toulouse, France,

<http://www2.toulouse.inra.fr/lerna/cahiers2003/0310116.pdf>, Date Accessed: 21.12.2009, p. 1.

<sup>24</sup> This contract would be a part of another major pipeline project called "Trans-Caspian Pipeline Project. The Trans-Caspian Gas Pipeline project if built would transport natural gas from Kazakhstan and Turkmenistan to central Europe, circumventing both Russia and Iran. The projected capacity of the pipeline is 30 bcm of natural gas a year. at an estimated cost of US\$5 billion. In Baku, it would link to the South Caucasus Pipeline (Baku-Tbilisi-Erzurum pipeline), and through this with the planned Nabucco Pipeline (Turkey-Bulgaria-Romania-Hungary-Austria pipeline). The project is heavily criticized by Russia and Iran, current transit countries for Turkmen gas. Russia has taken environmental and legal positions against the project by requiring the consent of all five Caspian littoral states in order to proceed which also brings about the demarcation problem of the Caspian Sea. Iran has pointed out that treaties signed by Iran and the Soviet Union in 1921 and 1940 are still in force and that any action taken without the consent of all the littoral states would be illegal

([http://www.sras.org/geopolitics\\_of\\_oil\\_pipelines\\_in\\_central\\_asia](http://www.sras.org/geopolitics_of_oil_pipelines_in_central_asia), Date Accessed: 20.11.2009).

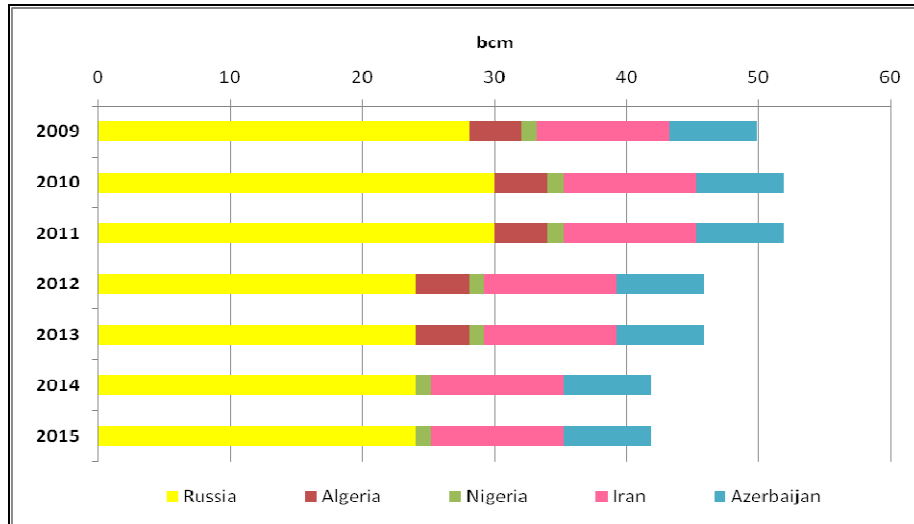
for LNG delivery to the LNG terminal in Istanbul, which belongs to BOTAS. Table 2 summarizes the import contracts signed between 1986 and 2001.

**Table 1: Turkey’s Existing Natural Gas Contracts<sup>25</sup>**

| <b>Agreements</b>               | <b>Volume (bcm/year)</b> | <b>Date Of Signature</b> | <b>Duration (Years)</b> | <b>Status</b> |
|---------------------------------|--------------------------|--------------------------|-------------------------|---------------|
| <b>Russian Fed. (Westward)</b>  | 6                        | 14 February 1986         | 25                      | In operation  |
| <b>Algeria (LNG)</b>            | 4                        | 14 April 1988            | 20                      | In operation  |
| <b>Nigeria (LNG)</b>            | 1.2                      | 9 November 1995          | 22                      | In operation  |
| <b>Iran</b>                     | 10                       | 8 August 1996            | 25                      | In operation  |
| <b>Russian Fed. (Black Sea)</b> | 16                       | 15 December 1997         | 25                      | In operation  |
| <b>Russian Fed. (Westward)</b>  | 8                        | 18 February 1998         | 23                      | In operation  |
| <b>Turkmenistan</b>             | 16                       | 21 May 1999              | 30                      | On Hold       |
| <b>Azerbaijan</b>               | 6.6                      | 12 March 2001            | 15                      | In operation  |

Based on the contracted supply scheme above, the share of gas exporting countries in Turkish import until 2015 is summarized in Figure 8.

<sup>25</sup> <http://www.botas.gov.eng>, Date Accessed: 03.28.2009

**Figure 8: The Share of Supplier Countries (2009-2015)<sup>26</sup>**

Except Nigeria and Algeria which are the LNG suppliers of Turkey, Russia, Iran and, Azerbaijan will keep retaining more than 90% of market share in the Turkish natural gas imports.

## 2. RISE OF LIBERALIZATION IN TURKEY

*“Interesting times. Challenging times. Confusing times. The natural gas industry and its regulators are now inextricably meshed in a tangle of interconnected reforms. There is no going back. Okay, but which way is forward?”<sup>27</sup>*

### 2.1. Liberalization in General

Public utilities in air transportation, energy, telecommunications, banking, ports, railroads, food service, and various other activities were state enterprises all over the world including Turkey until the 1990s. Fiscal crises, inadequate investment, poor quality of service, negative effects of rent seeking and external pressures provided an impetus for reform in the last decade. In this manner, the same forces also played a crucial role in reforming the natural gas market.

<sup>26</sup> World Bank (2007), *Turkey: Gas Sector Strategy*, ESMAP Technical Paper 114/007, Washington D.C., USA, [http://www.esmap.org/filez/pubs/6192007115243\\_Turkey\\_Gas\\_Sector\\_Strategy\\_Note\\_Technical\\_English\\_114-07.pdf](http://www.esmap.org/filez/pubs/6192007115243_Turkey_Gas_Sector_Strategy_Note_Technical_English_114-07.pdf), Date Accessed: 21.12.2009, p. 56.

<sup>27</sup> HAWDON, D. and STEVENS, N. (2003), *Regulatory Reform of the UK Gas Market-The Case of Storage auction*, UK, <http://www.econ.surrey.ac.uk/Research/WorkingPapers/seed98.pdf>, Date Accessed: 21.12.2009, p.13.

In many countries, particularly in parts of continental Europe, the same gas company owns both the transmission and distribution networks (non-competitive functions) and storage facilities along with the trade functions (competitive functions). These kinds of companies are called vertically-integrated companies. They occupy a position of market dominance, particularly when the company is, in effect, a “national champion”. In this regard, for liquid gas markets to evolve and function effectively, it is crucial that new market entry is made possible and that there are a sufficient number of participants able to compete with each other. This can only be achieved through providing retail and wholesale market entrants with solid guarantees that they will have unimpeded access to the grid and to customers on a non-discriminatory basis. The independence of transmission system operators ranks high among the guarantees required from a new market participant’s perspective<sup>28</sup>.

To ensure independence of a network operator it is important to prevent situations where it may face a conflict of interests and incentives. Separation of activities proves to be the most efficient way of solving the problem of entanglement of production and supply (as activities susceptible to competition) on the one hand, with transmission and distribution functions (which tend to be natural monopolies) on the other, within vertically integrated energy entities. Unbundling is the term normally used to refer to such structural solution. This structural solution can take of three forms<sup>29</sup>:

- i. full structural separation by law;
- ii. functional separation; or
- iii. separation by accounting purposes.

**(i) Full structural separation by law:** A full legal separation of the various operations is one possibility. In the gas industry, for example, a separation of production and retailing from transmission and distribution is likely to encourage competition to develop in production and wholesale parts of the industry. Asset from integrated company would be divided up among several newly formed legal entities that have no common ownership, management, control, or operations.

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<sup>28</sup> European Federation of Energy Traders (EFET) (2009), *Unbundling as a crucial factor in the completion of European Electricity and Gas Market Liberalization*, Holland, [www.efet.org/GetFile.aspx?File=1549](http://www.efet.org/GetFile.aspx?File=1549), Date Accessed: 23.11.2009, p.2.

<sup>29</sup> CAMERON, D.C. (2002), *Competition in Energy Markets: Law and Regulation in the European Union*, Oxford University Press, New York, USA, p.26-27.

**(ii) Functional separation:** Alternatively, there may be an unbundling according to functions. Functional unbundling allows for the same ownership of the elements that may be subject to competition and monopoly infrastructure elements, but their operation is placed in the hands of separate management structures. These disaggregated entities will be managed independently but will not be legally separate companies.

**(iii) Separation for accounting purposes:** Finally, there is the option of arranging unbundling by ring-fencing the accounts of the different types of business in the entity. The idea is that this promotes transparency and in so doing it will expose cross-subsidies and so prevent an entity from discriminating in favor of itself and against competitors.

## **2.2. Liberalization in the Turkish Gas Market**

In conjunction to this global liberalization trend started late 80s, Turkey always aimed a very big improvement in energy supply as its economy expands, especially via electricity and natural gas, and has approved a policy of supporting and encouraging foreign investment in power plants and natural gas industry to meet the expected demand<sup>30</sup>. In this manner, from the time being, both electricity and gas sectors in Turkey have been the key elements in the “state led development” of the economy<sup>31</sup>. Currently, both sectors remain dominated by state owned entities. The first serious emergence of regulation in natural gas market coincided with the approval of the three year stand-by arrangement between the Turkey and the IMF, amounting to 19 billion United States Dollar (USD) on May 15, 2001 as a part of recovery program from 2001 economic crisis in Turkey. Therefore, Turkey passed new electricity and natural gas market laws in 2001 as a prerequisite for the IMF’s support<sup>32</sup>.

The Natural Gas Market Law (NGML), as part of this legislation, covers import, transmission, distribution, storage, marketing, trade and export of natural gas and the rights and obligations of all real and legal persons relating to these activities. The NGML aims for liberalization of the natural gas market and thus formation of financially sound, stable and transparent markets along with establishment of an independent supervision and control mechanism over them, so as to ensure supply of high quality natural gas at competitive prices to

<sup>30</sup> KILIC, F.C. and KAYA, D. (2007), *Energy production, consumption, policies, and recent developments in Turkey*, Renewable and Sustainable Energy Reviews 11, USA, p.1312-1320.

<sup>31</sup> OECD (2002), *Regulatory Reform in Electricity, Gas And Road Freight Transport*, Reviews of Regulatory Reform, Paris, <http://www.oecd.org/dataoecd/40/11/1840779.pdf>, Date Accessed: 18.10.2009, p. 7.

<sup>32</sup> Commission of the European Communities (2001), *2001 Regular Report on Turkey’s Progress Towards Accession*, SEC 1756, Brussels, p. 70.

consumers in a regular and environmentally sound manner under competitive conditions. Additionally, it aims to ensure the existence of Energy Market Regulatory Authority (EMRA) in the natural gas industry.

The objectives of the NGML are;

- Expand natural gas use,
- Apply strong leadership to develop a coherent, comprehensive strategy promoting efficient development and use of the nation's natural gas resources,
- Restructure the vertically integrated incumbent BOTAS, which has been enjoying the monopoly rights to natural gas imports, trade, transmission and storage, by 2009.

The impetus behind these requisite reforms for Turkey is to harmonize its energy policy with that of the EU, to increase efficiency and to attract foreign investment. Turkey's motivation for restructuring its natural gas ownership and markets stems from its desire to fulfill the EU accession prerequisites in the energy sector.

### **3. CHALLENGES AND THE OPTIONS IN THE TURKISH MARKET LIBERALIZATION**

In 2001, Turkey passed the NGML, with the intent to end government control of the natural gas sector, in order to eliminate inefficiencies, harmonize its energy policy with that of the EU and attract foreign investment in the energy infrastructure. However, many unexpected problems have emerged and prevented the progress in liberalization of Turkish natural gas market. These problems are supply overhang problem, stranded costs, wholesale competition and gas release program, expansion of transmission network, lack of storage capacity, lack of unbundling, and insufficient coordination between the political actors in the Turkish gas market.

#### **3.1. Supply Overhang Problem and Stranded Costs**

Supply overhang issue mainly based on politically driven and misleading supply and demand projections of MENR and BOTAS in the past. Even though gas-to-gas competition in the upstream level is one of the underpinning premises of liberalization, policy makers in Turkey are trying to cover those mistakes of past by making the ones and banning the new imports until the problem of supply overhang problem and its inevitable by product stranded costs are going to be solved. According to IMF, “...*The prospects for a supply overhang pose a*

*major challenge to the gas sector in Turkey. In recent years, this threat has been widely debated, following two economic crises which raised uncertainty about Turkey's future economic situation. While in general, supply shortages are also important due to their potential impact on economic growth. Therefore, Turkey's immediate concern is to maintain its supply/demand balance in terms of the possibility for supply overhang in the years ahead... ”<sup>33</sup>*

Stranded costs incurred within the previous market structure that cannot be economically recovered within a competitive natural gas market structure, include long-term ToPs with high prices, removal of production subsidies, and high staffing (payments of redundancies resulting from transfer of operations to the private sector, including pension liabilities for workers eligible to retire). Stranded costs create uncertainty for new investors and risk stifling competition<sup>34</sup>. The long-term Treasury-guaranteed ToP contracts and associated stranded costs have important implications in the Turkish natural gas market. Therefore, a key reform challenge is to mitigate and accurately measure stranded costs and to provide for their recovery in a way that is “fair” and does not impede efficient entry or the emergence of competition<sup>35</sup>. Prospects for competition among upstream players are poor for the immediate future unless there is new entry from new sources. However, new entry may exacerbate the problem of stranded costs<sup>36</sup>, since excess supply of gas is already expected to be substantial. However, on the other hand, by delaying the import/upstream competition with the import ban provision in the NGML, Turkish policy makers bind themselves and Turkish consumers with the high prices in those contracts.

Turkey does not have sufficient domestic production to meet its annual gas demand. Therefore, it is a net importer country. In this context, the NGML prevents BOTAS and other importers from making new purchase agreements with the current supplier countries with which BOTAS already have import contracts. The objective of that provision was the protection of BOTAS from facing stranded costs and paying potential penalties due to take-or-pay obligations. However, as oppose to the stranded cost concerns, relevant provision of the NGML was loosened with the adoption of an amendment in

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<sup>33</sup> World Bank (2007), p. 5.

<sup>34</sup> HANDFIELD, R.B. (2004), “The Impact of Energy Deregulation on Sourcing Strategy”, The Journal of Supply Chain Management, Vol. 40, p. 38-48, USA

<sup>35</sup> OECD (2002), p. 39.

<sup>36</sup> HOEKMANN, B. and TOGAN, S. (2005), *Turkey: Economic Reform and Accession to the European Union*, The International Bank for Reconstruction and Development / The World Bank, USA,

[http://siteresources.worldbank.org/INTRANETTRADE/Resources/Pubs/Turkey\\_BHoekman&SToگان\\_book.pdf](http://siteresources.worldbank.org/INTRANETTRADE/Resources/Pubs/Turkey_BHoekman&SToگان_book.pdf), Date Accessed: 22.12.2009, p. 197.

July 2009 which grants BOTAS and other private sector players an ability to import LNG.<sup>37</sup>

According to IEA<sup>38</sup>, global gas markets have evolved from a seller's market, driven by tight supply and demand, to a buyer's market as demand weakens while new supply comes on stream as a result of the global economic crisis. Equally important is an unexpected boom in North American gas production, due to new drilling techniques, which is expected to contribute to a glut in supplies. Pursuant to this current situation in the global gas market, LNG importers in the Turkish market have been able to find cheap LNG to import and compete with BOTAS's retail prices by decreasing their average prices which consists of the price of pipeline gas and liquid gas. Domestic demand contraction along with the competitive pressure of the LNG imports increase the threat of stranded costs which BOTAS has already faced with since the second half of the 2008. In addition to that, BOTAS is likely to fall under a "take or pay" clause with the supplier companies, mainly Gazprom, further boosts the cost of global economic crisis to the Turkish gas consumers. As a result of this, prospective improvements in the liberalization process such as foster the upstream competition by lifting the import ban have been severely damaged.

### **3.2. Wholesale Competition and Gas Release Program**

In the wholesale market of Turkish natural gas market, BOTAS still retains 90% of market share as a result of being an import monopoly at the upstream level and having captive customers at the downstream level. Therefore, an important milestone for Turkish market liberalization will be the reduction BOTAS's market share of imports to 20 percent of the national consumption by 2009 with

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<sup>37</sup> "Electricity Market Law No. 5784 and to make some changes in the law" was accepted on 9 July 2009 and went into effect after published in the 26 July 2009 Official Gazette No. 26948. This law partially lifted the import ban by allowing the LNG import into Turkey while still holding the ban for new gas contracts as it is shown below.

*ARTICLE 20 - Law No. 4646 of the first paragraph of Article 2 of the provisional sentence of the first modified in the following manner and to come after the third paragraph the following paragraphs have been added. BOTAŞ of this Act after the date of publication of the rate of twenty per cent of imports to national consumption until the fall, liquefied natural gas (LNG) imports excluding natural gas purchase agreement is not new. However, these provisions, liquefied natural gas (LNG) imports will not be applied for. In addition, the spot LNG imports of this Act in Article 4 of the fourth paragraph (a) of paragraph (2), (3) and (4) number lower bent and (4) The first paragraph following the numbered sub-paragraph is not specified in the conditions. LNG import license for the second paragraph of Article 4 of this Act in the sixty-day period will be applied in thirty days.*

<sup>38</sup> [http://www.rferl.org/content/International\\_Energy\\_Agency\\_Predicts\\_Natural\\_Gas\\_Prices\\_To\\_Fall/1874095.html](http://www.rferl.org/content/International_Energy_Agency_Predicts_Natural_Gas_Prices_To_Fall/1874095.html)

Date Accessed: 23.12.2009



a gas release program in order to promote wholesale competition in the Turkish market.

Release programs can be designed to overcome the problem of inadequate access to supplies or capacity, particularly in the early stages of market opening<sup>39</sup>. Those programs have an important 'catalytic' role in the context of developing sustainable competition in the natural gas market. Why does Turkey need such a program? Freely traded gas markets, with diverse supply routes and many upstream players, are unlikely to require any form of release program. On the other hand, in the case of few supply routes (such as in Turkey), deliveries might be under the control of an incumbent (BOTAS) through long term contracts with no secondary trading, it would be unlikely that a competitive market could develop until some form of a release program is provided to new entrants<sup>40</sup>.

If we examine the Turkish gas release program, it seems to be fairly ambitious that no other country has so far succeeded in decreasing the incumbent gas company's market share from 100% to 20% in 8 years. Besides, as of 2009, BOTAS has only been able to transfer 4 bcm of gas to private companies. It is almost impossible to achieve such high volume gas releases by the end of 2009.

If the price structure in the wholesale level is to be examined, it can be seen that wholesale gas prices are to be freely negotiated within a framework of principles approved by the EMRA. Since there are only four new players (Shell Gas, Bosphorus Gas, Enerco Gas and Avrasya Gas) in the wholesale market with 10% market share against BOTAS that holds the remaining 90%, EMRA and Turkish Competition Authority are going to play an important role to prevent BOTAS abusing its dominant position until a healthy and sustainable competition emerges (as a result of operational gas release program) in the Turkish gas market.

### **3.3. Transmission**

Even though BOTAS has not yet legally unbundled, it has been subjected to separation of accounts after the approval of NGML, which means that the transmission business has its own separate accounts. However, the ownership separation of transmission business and establishment of an independent transmission system operator (TSO) has not been achieved yet. Independent

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<sup>39</sup> European Federation of Energy Traders (EFET) (2003), *Implementation of Gas Release Programmes for European Gas Market Development*, Holland, <http://www.efet.org/Download.asp?File=943>, Date Accessed: 23.11.2009, p.1.

<sup>40</sup> EFET (2003), p. 2.

TSOs along with the Natural Gas Market Transmission Network Operation Regulation (TNOR), which ensures the fair, transparent and undiscriminatory third party access (TPA) to the transmission network, and tariff regulations are the most important elements of promoting competition in the transmission level. Therefore, it is an important challenge to be handled for the sake of gas liberalization in Turkey in conjunction with the NGML provisions.

In the current market structure, transmission tariffs (and tariffs for the supervision of conveyance, which appears to contemplate separate system operation tariffs) and connection tariffs are to be determined or approved by the EMRA. Multi-part, distance based tariffs are envisaged. Connection tariffs to the distribution system are to be set by the EMRA. Tariffs are to be proposed by licensees (including BOTAS) and approved each year by the EMRA. The NGML is not specific as to whether rate of return of incentive based regulation (such as a CPI-X framework) is to be applied for tariff approval. Therefore, this would seem to be a matter for the EMRA to determine the general tariff principles along with the TPA regulations to the transmission network.

TNOR was accepted on 26 October 2002 and went into effect on 17.08.2004. First amendment in this regulation has been done on 22.11.2007 and second amendment has been done on 17.10.2008. TNOR, in accordance with the EU regulations, mainly covers the network operation related principles and procedures to be included in the network operation rules to be determined by transmission companies engaged in the activity of transmission through natural gas pipeline network; such principles and procedures concerning issues such as system access, notification of transportation amount and scheduling of the transportation service, determination of transportation amount, service interruptions, dispatch, system balancing, communication system, capacity allocation, natural gas delivery and metering.

The second amendment on the TNOR particularly aimed to bring several safeguards in terms of preventing BOTAS from direct or indirect discrimination by offering different terms for capacity allocations and obstructing private companies from reaching the gas network.

### **3.4. Storage**

There is only one operational storage facility which only has 1.6 bcm of capacity exist in Turkey. The lack of storage capacity deters the opportunity of better coordination between supply and demand so that a constant (and contracted) supply of Turkey can be better fitted to a varying daily and seasonal demand.

Even though there are three potential storage projects under construction, there is only one operational storage facility in Turkey. It is located close to Istanbul and only has 1.6 bcm of capacity. In this regard, Turkey's storage capacity is clearly insufficient for a country that is trying to be an energy hub between the Caspian, Middle East, and Europe.

In addition to this underground storage facility, there are two LNG terminals which can be used as storage facilities as well. One of the LNG is operated by BOTAS in accordance with seasonal gas demand and contracted supply deliveries from Algeria and Nigeria. The other terminal belongs to a private Turkish company, Ege Gas Corporation. BOTAS has been receiving service from this terminal based on a negotiated service contract between the two companies. As of yet, there is neither any legal provision nor any secondary legislation in effect to regulate the capacity allocation issues or TPA to those LNG terminals.

Until the privatization of storage services of BOTAS occurs by the end of 2011 in accordance with the Temporary Article 2/4 in the NGML, BOTAS will be the major supplier of storage services. In addition to this, the storage tariffs shall be determined freely between the companies involved in storage business (BOTAS and Ege Gas) and the legal entities receiving the storage services. Thus, BOTAS as a major player could hamper the competition by making access to storage difficult for a variety of allegedly technical reasons in favor of its own trade business. In order to prevent such discriminatory behaviors, the NGML placed BOTAS under an obligation to render storage services in an unbiased and equal way in so long as the system is available. Beyond this general requirement, storage tariffs are not regulated. Even though EMRA shall have the authority to verify the basis of any refusal of access to storage facilities, this could still permit a range of subtle discriminatory actions by BOTAS until its storage business would be privatized, at which time its incentive to discriminate against new entrants should cease.

### **3.5. Unbundling**

In addition to the separation of accounts among the different activities of BOTAS, ownership unbundling of BOTAS's activities such as trade, transmission, and storage is necessary and of crucial importance to increase transparency, eliminates cross subsidies, and promote competition in the Turkish natural gas industry.

According to the provisions of the NGML, except for the distribution activities, the vertically integrated legal entity<sup>41</sup> nature of BOTAS shall continue until the year 2009 which is still the case. After this date, BOTAS would be restructured into a horizontally integrated legal entity<sup>42</sup>. Among the legal entities to be formed as a result of restructuring, only the company which has the gas purchase and sale contracts and which will perform import activities shall represent BOTAS and shall be called BOTAS. Among the companies to be formed as a result of restructuring, the companies, other than the one involved in transmission activities, shall be privatized by the end of 2011. The separation of accounts of BOTAS regarding the transmission, storage, sales and import activities was completed by the end of 2003.

From the provisions about unbundling, only separation of accounts was foreseen obligatory for BOTAS and other private companies involve in license tenders for city natural gas distribution. However, it is also possible to put a wider interpretation on these provisions and claim that they also indicate an obligation of legal unbundling of BOTAS based on different activities of which BOTAS nestles in a single company. In any case, it is very unfortunate to ascertain that no progress has been made in terms of legal unbundling since 2001, which is one of most vital pillar of the natural gas market liberalization.

#### **4. WHAT DID SIMILAR ENTITIES DO?**

##### **4.1. Supply Overhang Problem**

Based on the analyses above, it is very clear to see that a supply overhang problem will be an important issue for gas market liberalization. One of the main reasons why the supply overhang problem has not been solved is the re-export ban (destination) clause in its ToP contracts with natural gas supplier countries except Azerbaijan. The reason for this re-export ban clause is the unwillingness of suppliers' to create a new competitor with their own gas which they sold to Turkey. From the supplier's point of view, this approach seems reasonable.

However, from the buyer's stand point, the situation is more complex. Turkey consumed 36 bcm of natural gas in 2008. Besides, Turkey only has 1.6 bcm of storage capacity, which is less than 5% of its annual consumption. Therefore, in case of any demand contraction which is likely to happen due to

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<sup>41</sup> Vertically integrated legal entity: A legal entity that involves in two or more of the following activities: natural gas generation, transmission, distribution, import, export, storage or sale

<sup>42</sup> Horizontally integrated legal entity: A legal entity that conducts at least one the following activities natural gas generation, transmission, distribution, importation, exportation, storage or sale and at the same time conducts another activity excluding the natural gas sector.

the financial crisis that the Turkish economy has been experiencing since September 2008, Turkey has neither any place to store the surplus gas nor any permission to re-export it to the EU.

If the relevant examples in Europe are to be examined, it can be ascertained that Gazprom used to have the same contract strategy with its European customers. Whilst the EU shows considerable amount of dependency to Russian gas<sup>43</sup> as like as Turkey, they are also enjoying the advantage of being Russia's number one customer. Therefore, Gazprom agreed to delete the territorial sales restrictions (re-export ban clause) from their contracts with several buyers in Europe. In return, Gazprom will no longer be bound by a "most favored customer" provision with its suppliers in Europe and can sell gas to those markets where it already has a supply contract<sup>44</sup>.

<sup>43</sup> In 2008, Russia supplied 42% of EU gas imports, **down** from 49.6% in 2000. On the other hand, Russia supplied more than two thirds of Turkish gas imports in 2008. (Andrew, M. (2009), *Gas Market & Storage: Prospects for short-term and long-term security of supply*, POYRY Consulting, Prague, p.2-11.)

<sup>44</sup> "...The European Commission has reached a landmark agreement with Nigerian gas company Nigeria LNG Ltd (NLNG), which agreed to delete a clause preventing one of its European customers to re-sell the gas outside its national borders. NLNG also undertook not to introduce this clause in future contracts with European companies and also confirmed that its existing contracts do not contain profit-splitting mechanisms (PSM), nor will it introduce them in new contracts. Both the so-called territorial sales restrictions and profit splitting mechanism violate European Union competition rules..."

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/02/1869&format=HTML&aged=1&language=EN&guiLanguage=en>, Date Accessed: 11.11.2009

"...The European Commission's competition services have reached a settlement with the Italian oil and gas company ENI and the Russian gas producer Gazprom regarding a number of restrictive clauses in their existing contracts. Under the settlement, ENI will no longer be prevented from reselling, outside Italy, the gas it buys from Gazprom. The latter will be free to sell to other customers in Italy without having to seek ENI's consent. ENI also committed to offer significant gas volumes to customers outside Italy, which will be beneficial for gas competition in Europe. Finally, ENI agreed to increase capacity on the pipeline that transports Russian gas to Italy via Austria. It will also support the introduction of a regime, which will facilitate access to this pipeline for third parties. The settlement marks an important milestone towards the enforcement of competition rules in the sector and the creation of a European gas market..."

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/03/1345&format=HTML&aged=0&language=EN&guiLanguage=en>, Date Accessed: 11.11.2009

"...In the light of improvements made to the gas supply contracts between Austrian oil and gas company OMV and Russian gas producer Gazprom to remove clauses that infringed EC Treaty rules on restrictive business practices (Article 81), the European Commission has decided to close its investigation. In particular, OMV will no longer be prevented from reselling, outside Austria, the gas it buys from Gazprom, and Gazprom will be free to sell to other customers in Austria without having to first offer the gas to OMV..."

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/05/195&format=HTML&aged=1&language=EN&guiLanguage=en>, Date Accessed: 11.11.2009

Can Turkey do that? It depends upon the negotiations between Turkey and Gazprom. If the problems Russia is having with Ukraine are to be taken into account, Russia might realize that they need a more reliable partner to transmit their gas into Europe. If the potential North and South Stream Gas Pipeline projects are excluded, which were exclusively designed to solve this issue, Russia and Turkey may agree upon increasing cooperation between the two countries in terms of natural gas transmission to European markets. In return, Russia may remove those re-export ban clauses to allow Turkey to solve its supply overhang problem until Turkey builds enough storage capacity to store the surplus gas they are not able to consume. If this scenario is not the case, Turkey has no other option than to negotiate to reduce the amount of gas that would be purchased under the terms of existing ToP contracts in order to avoid paying penalties and reduce the excess supply in the Turkish market.

#### **4.2. Gas Release Program**

Release programs (of which there can be various types) can be designed to overcome the problem of inadequate access to supplies or capacity, particularly in the early stages of market opening<sup>45</sup>.

The NGML provisions mandate BOTAS to reduce its market share to 20 percent of the national consumption by 2009 inside the frame of a gas release program. The aim of this provision was to promote wholesale competition in Turkish market which is very unlikely to be fulfilled before the deadline.

If the international examples in Europe are to be examined, it can be observed that the proportion of supply controlled by the largest supplier ranges from about 50% in Germany and the United Kingdom to 75% in Italy, Spain and 90% in France<sup>46</sup>. Therefore, there is no country that has attempted to reduce the incumbent's market share by this much and so fast.

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*"...In the light of improvements made to gas supply contracts between German gas company Ruhrgas and Russian gas producer Gazprom to remove clauses that infringed EC Treaty rules on restrictive business practices (Article 81), the European Commission has closed its investigation. Ruhrgas will no longer be contractually prevented from reselling outside Germany the gas it buys from Gazprom. Gazprom will no longer be bound by a "most favored customer" provision with Ruhrgas..."*

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/05/710&format=HTML&aged=0&language=EN&guiLanguage=en>, Date Accessed: 11.11.2009

<sup>45</sup> EFET (2003), p.1.

<sup>46</sup> DUZYOL, S. (2007), "Gas Market Developments In Turkey", Black Sea Oil And Gas Summit, Turkey, <http://www.authorstream.com/presentation/Arkwright26-30091-Black-Sea-Summit-05-09-07-GAS-MARKET-DEVELOPMENTS-TURKEY-Strategic-Objective-Turkeys-Natural-Law-No-4646-Wha-blackseasummit-as-Entertainment-ppt-powerpoint/>, Date Accessed: 05.05.2009, p.7.

In this regard, Turkey should revise its assertive gas release program, which has already fallen behind the targets, in terms of the timeline and/or the market share of BOTAS. It is conceivable to keep BOTAS's market share of supply around 50% in accordance with the European examples. There is no need to rush to hand over the supply contracts of BOTAS (or market share) to private companies as long as Turkey has no upstream competition. It is essential to have upstream competition (in this case it is an import competition which means competition among the importers such as Russia, Iran, Iraq, Azerbaijan, Turkmenistan or Egypt) to foster the wholesale competition among the current (Shell Gas, Enerco Gas, Avrasya Gas and Bosphorous Gas) or prospective wholesale gas companies. However, upstream gas competition can not be achieved in the short term since it depends upon many international, political, economical and strategic variables to be realized consecutively. Therefore, without having a proper competitive background at the upstream level, handing over the supply contracts (or market share) of BOTAS to private sector will only help transferring the profit of BOTAS to private sector without transferring its risks stemming from these contracts whilst creating an artificial and very limited competition which is far behind what is expected from a competitive gas market.

One of the essential ways of solving the upstream competition problem is to realize adequate numbers of international transit pipeline projects which can contribute to foster the competition at the upstream level. While realizing this international transit pipeline projects to secure the upstream gas competition, Turkey but particularly BOTAS should also pursue developing Turkey's domestic gas reserves along with TPAO at least up to 10% of annual consumption as oppose to its current level which is below 3%. To bring this target one step forward, TPAO and BOTAS should think about the option of merging their exploration operations in order to create an internationally reputable energy company in terms of oil and natural gas exploration and trade.

#### **4.3. Storage**

Storage has been playing an important role in the natural gas market restructuring efforts since the 80's. Storage enables better coordination between supply and demand so that a constant supply can be better fitted to a varying demand especially in peak times<sup>47</sup>. In Europe, where most countries have shown progress in natural gas market liberalization, there exists 1.9 trillion cubic feet of storage capacity<sup>48</sup> which is approximately equal to 10% of total

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<sup>47</sup> HAWDON and STEVENS, p.8.

<sup>48</sup> <http://247wallst.com/2009/03/16/us-and-europe-two-sides-of-the-natural-gas-storage-coin-chk/>, 04.13.2009

consumption<sup>49</sup> in 2008, while Turkey only has 1.6 bcm operational (Silivri) and 1 bcm under construction (Salt Lake) capacity of storage except the additional capacity stems from LNG terminals<sup>50</sup>.

On the other hand, in Turkey, excluding the 1.6 bcm Silivri gas storage facility, there are also 2 LNG terminals which can be used as a storage facility. Izmir Aliaga LNG Terminal, which belongs to Ege Gas Corporation, has 7.2 bcm gasification and 0.28 bcm LNG storage tank capacity<sup>51</sup>. Likewise, BOTAS's LNG terminal at Marmara region has 6 bcm gasification and 0.25 bcm LNG storage tank capacity<sup>52</sup>. Therefore, without adding the LNG terminals, Turkey only has 2.1 bcm of storage capacity which is approximately equal to 6% of total consumption in 2008.

In Europe, storage services are mostly unbundled from transmission or merchant activities of incumbent gas companies<sup>53</sup>. Storage services are being provided by private companies under the negotiated terms between the storage company and the customers or under the regulated terms of the market regulatory authority. The vital point for the liberalization of Turkish gas market is privatization of BOTAS's storage facilities might not be enough to solve the TPA problem for those facilities, especially if the capacity of storage would be scarce like in Turkey. Therefore, TPA regulation along with a price cap might be used together instead of negotiated access to storage facilities until the total capacity of storage reaches a certain level that allows fair competition among storage facilities to emerge.

#### **4.4. Unbundling**

It is the underpinning and an indispensable element of the market liberalization process as long as there is a network industry to deal with. Therefore, there is no way of compromising when the unbundling element is concerned if competition is to be promoted. This is valid for natural gas markets regardless of where they are located. Hence, unbundling is going to be inevitable for BOTAS. It is only a matter of time. If this is the issue government of Turkey wants to play with, it is

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<sup>49</sup> <http://www.eia.doe.gov/emeu/international/gasconsumption.html>, Date Accessed: 04.13.2009

<sup>50</sup> <http://www.todayszaman.com/tz-web/news-187625-underground-gas-storage-a-necessity-for-turkeys-future.html>, Date Accessed: 11.26.2009

<sup>51</sup> [www.egegaz.com.tr](http://www.egegaz.com.tr), Date Accessed: 11.26.2009

<sup>52</sup> <http://www.polng.com.tr/temin.aspx>, Date Accessed: 11.26.2009

<sup>53</sup> HIRSCHHAUSEN, v. C. (2008), "Infrastructure, regulation, investment and security of supply: A case study of the restructured US natural gas market", *Utilities Policy*, Vol. 16, Issue 1, USA, p.9.



hard to say whether Turkish customers will ever enjoy the benefits of competition.

## **CONCLUSION**

It is very classical to signpost a liberalization prescription for Turkish government as it is easily and widely seen in many articles' conclusion part. Thus, this prescription of successful liberalization tells us that yet competition to be effective, the number of natural gas supply sources must be increased, a market for physical and financial trading of natural gas has to be developed, the link between gas and oil pricing has to be severed, new entrants to the gas market must be permitted, and governments have to become more supportive of liberalization and less willing to shield their championed companies from competition.

Apart from this prescription, there are several other important issues needed to be dwelled upon. In the EU, there has not been a regulatory regime similar to that of the United States except the UK to some extent. European nations carried out their respective energy policies through "championed" energy companies like BOTAS, even though BOTAS is fairly small and operates only in limited areas compared to these European national champions.

Championed energy companies had the support of their respective governments to dominate nation's electricity and natural gas business. Governments' exercised control over these companies by either having seats on the board of directors and/or appointing the top executives like in BOTAS. This comfortable relationship resulted in European governments being assured of a secure supply delivered in a dependable and reliable manner, in championed companies that operated profitably in a secure and business environment, and in consumers who paid a high price for energy. However, this truth is somewhat different in Turkish gas market in terms of profitability of BOTAS, the Turkish national champion.

BOTAS, even though holds almost 90% of market share, is not a profitable company as much as its peer companies' across the Europe. There are several reasons to be discussed. But the main two reasons are the operational inefficiencies and noteworthy amount of uncollectable receivables from client companies, mainly publicly owned generators and municipalities. On top of these drawbacks, incertitude of former and current governments about taking the necessary steps also impedes the liberalization process of Turkish natural gas industry.

Therefore, Turkish policy makers should first decide which path to choose in order to carry the liberalization process forward or terminate it. By remaining the uncertainty about the liberalization process of Turkish gas market, policy makers only creates further problems rather than solving them. So far, liberalization of gas market is not heartily endorsed by policy makers who might have preferred security of supply rather than cost. That policy should be assessed as reasonable and discussable as oppose to the “pure liberalization choir” in the gas market. The problem is to be able to say this policy preference loud to all market players and the EU. Once this choice is to be made whether Turkey prefers to keep and/or further strengthen the BOTAS by keeping it as a vertically integrated company or merging it with Turkish Petroleum Corporation in order to create a internationally competitive energy company, or pursue a full liberalization path in accordance with the EU directives, the rest of the process and the implementation will be far more easier than it is expected to be.

In this context, one of the main weaknesses of Turkey in the international energy arena is not having a supra-governmental energy policy which is independent from individuals, the ruling parties of Turkish government or the EU/USA. It is judicious to fine tune the ongoing energy policy of Turkey in accordance with the EU perspective, the economic and social policy and/or the targets of the ruling government. However, what has been done so far is to alter everything radically whenever a new government has entered upon the office or whenever Turkey was prescribed to do so. This lack of national energy policy from past to the present has caused many severe structural problems which needs to be discussed in a separate article.

Apart from public supervision of the energy markets which are crucial and can not be discarded for the sake of national economies and security of supply, publicly owned entities should always be in the energy market. However, this presence should not be used to dominate the market, rather to enhance the competition like rabbit pace makers in the long range running races. Another advantageous of having publicly owned companies is that they also have supply security consciousness rather than private companies behave by profit-driven motives. Thus, if the balance between risk and return can not be counterweighted among the publicly owned companies and private participants, than handing over BOTAS’s contracts to private sector will only cause transferring double-jointed profits to private sector without transferring its associated risks. In this case, private companies would always rely upon the gas supply of BOTAS in case of an emergency (such as halt in the supply due to political crisis or pipeline maintenance, sharp price movements, weather conditions, etc.) and not reflect any risk premium to their retail prices, this means they will always be able to go under BOTAS’s price, since BOTAS

needs to take these risks into account while calculating its retail price as a prudent seller, given the assumption that BOTAS is an effective public company as like as its private counterparts and subjected to any governmental interference not to reflect them to its prices.

Therefore, keeping the BOTAS as a vertically integrated gas company or even creating an internationally reputable national champion by merging it with the Turkish Petroleum Corporation or fully liberalize the market by unbundling the BOTAS and force its market shares to drop below 20% are all policy preferences which one can defend up against the others. The important point is not to make these energy policy choices due to our political ideology or under the pressure of the USA or the EU but to make it independently for the sake of our future generations to inherit them environmentally livable, economically sustainable, strategically less external dependent and politically influential country.

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