

GLOBAL TURKEY  IN EUROPE

The Potential Role of Turkey in a Globalising Gas Market

Mehmet Dođan Üçok

December 2013

POLICY BRIEF 09



Stiftung
Mercator



IPC

ISTANBUL POLICY CENTER
SABANCI UNIVERSITY
STIFTUNG MERCATOR INITIATIVE

The Potential Role of Turkey in a Globalising Gas Market

Mehmet Doğan Üçok*

Executive Summary

In a changing global energy landscape, Turkey and the EU could have more opportunities to enhance their energy security, benefiting from the developments in the global LNG scenario and of the energy fields in Shah Deniz, the Eastern Mediterranean, and Iraq. Especially the recent TANAP agreements show that Turkey is starting to play a significant role in the transportation of the region's resources to the west, and become a "geographically natural" gas bridge, or a possible energy hub. To facilitate this further, Turkey's main policy objective in the governance of natural gas should be the formation of a transparent, liberal and competitive gas market. Turkey's energy market is entering a new, liberal era, and if the liberalisation of the Turkish natural gas market is also successfully accomplished in the following years, Turkey would attract more investors to her energy stock market and to the surrounding gas rich regions, paving the way for gas-to-gas competition. Turkey would then have a stronger potential to develop into a regional energy trade hub, providing a bridge to the European energy exchange markets.

The global energy landscape is changing rapidly and evolving towards a more globalised market. New connections between the regionalized markets in North America, Europe and industrialized Asia are anticipated as demand for gas grows strongly and new trade routes and flows emerge. The continued rise in the supply of unconventional gas plays an important role in the global picture, accounting for nearly half of the growth in global gas production. This is taking place first and foremost in North America, but has implications worldwide.

Conventional gas output has long been in decline in the US, but this is being more than compensated by a surge in unconventional gas. US liquefied natural gas (LNG) exports could be strong enough to scale down the difference in gas price in regions importing US LNG. This changing outlook for gas production, in addition to developments in global LNG, have already started to redefine the global economic and geopolitical balances.

US natural gas imports of 76 billion cubic metres (bcm) in 2010 are projected to switch to exports of 34 bcm in 2035, due to increasing US unconventional gas production, which over the last five years has

been comparable to the annual gas exports of Russia in 2012.¹ As John Deutch of MIT remarks, "A United States hopelessly dependent on imported oil and natural gas is a thing of the past. Most energy experts now project that North America will have the capacity to be a net exporter of oil and natural gas by the end of this decade."² And as Robert Cekuta puts it, "If someone had suggested that just five years ago, they probably would have been laughed at."³ The most significant question that still remains unanswered is the possible global geopolitical reach of this silent revolution and its implications.

In addition to the excess in the US, supply could be further extended by producing shale gas in Europe or China, if several difficulties such as the public's reluctance in the EU and water scarcity in China were resolved. If the success continues, unconventional gas production could help to accelerate the process of globalisation of gas markets, putting pressure on conventional gas suppliers.

International Trade in LNG

In addition to the developments in the US and the surge in unconventional gas, the volume of international LNG trade has grown exponentially during the 2000-2013 period,⁴ as shown in Annex 1.

Although there was an unexpected 2 percent fall in the global LNG trade in 2012, largely driven by supply-side issues,⁵ a significant expansion in global LNG trade is currently under way, and sources of

1 Fatih Birol, *Global Energy Markets & Economic Competitiveness*, presentation at the IICEC 4th Annual Energy Forum, Istanbul, 10 May 2013. Birol's opening address is available at <http://iicec.sabanciuniv.edu/events/4th-Annual-Energy-Forum-10-May-2013-IICEC>.

2 John Deutch, "The U.S. Natural-Gas Boom Will Transform the World", in *The Wall Street Journal*, 14 August 2012, <http://online.wsj.com/article/SB10001424052702303343404577514622469426012.html>.

3 According to Cekuta: "The United States Energy Information Administration projects that, due to increased domestic production, the U.S. will be almost completely self-sufficient in natural gas by 2035. Not that long ago, analysts maintained the U.S. would be importing 65% of our natural gas by 2035. We have granted export licenses already for two facilities to export liquefied natural gas (LNG) from the United States, exports which could begin as early as 2014 or 2015. If someone had suggested that just five years ago, they probably would have been laughed at." See Robert F. Cekuta, *Unconventional Natural Gas: The U.S. Experience and Global Energy Security*, Address to the 2nd U.S.-Indonesia Energy Investment Roundtable, Jakarta, 6 February 2012, <http://www.state.gov/e/enr/rls/rem/2012/183875.htm>.

4 Volume of LNG trade as a share of natural gas trade has also grown exponentially during the mentioned period. See Source: International Gas Union (IGU), *World LNG Report 2013*, p. 8, http://www.igu.org/gas-knowhow/publications/igu-publications/igu_world_LNG_report_2013.pdf.

5 International Energy Agency (IEA), *Medium-Term Gas Market Report 2013. Market Trends and Projections to 2018. Executive Summary*, Paris, IEA, 2013, p. 3, <http://www.iea.org/w/bookshop/add.aspx?id=446>.

* Mehmet Doğan Üçok, PhD, is Coordinator of the Sabancı University Istanbul International Center for Energy and Climate (IICEC). The author hereby would like to acknowledge that this paper benefited from several presentations and publications of, and from discussions with, Dr. Fatih Birol, IEA Chief Economist.

LNG supply are becoming more diverse globally. The International Energy Agency (IEA) predicts, “[i]nter-regional natural gas trade increases by 2% per year, to reach nearly 1.1 tcm [trillions of cubic meters] in 2035. LNG accounts for nearly 60% of the increase in trade and, in combination with new sources of supply (conventional and unconventional) and evolving contractual structures, boosts the flexibility of global gas supply.”⁶

Looking ahead, price relationships between regional gas markets are set to strengthen as the liquefied natural gas trade becomes more flexible and contract terms evolve, meaning that changes in one part of the world will be felt more quickly in other parts. At its lowest level in 2012, natural gas in the United States traded at around a fifth of import prices in Europe and an eighth of those in Japan⁷ (Annex 2). Due to the increasing unconventional gas supply, US LNG exports could scale down the difference in gas prices in regions importing US LNG, and not surprisingly, this could cause gas exporting countries to suffer a decline in trade revenues.

Within this changing global energy landscape, Turkey and the EU could have more opportunities to enhance their energy security, benefiting from the developments in the global LNG scenario, and development of the energy fields in Shah Deniz, the Eastern Mediterranean, and Iraq.

Considering that two thirds of the current contracts will expire in both Turkey and the EU within the next ten years, “there will be important leverage in the hands of European governments and European companies in order to negotiate the new contracts, which can reflect the market realities better than the existing contracts, which may be a way of Europe narrowing the gap between European and American gas prices. When those contracts were made, it was the market of sellers. Now the market is going to be a market of buyers.”⁸

Altogether, these developments could provide Turkey and the EU with better chances when signing new contracts. To facilitate this, and to bridge East and West, Turkey’s main policy objective in the governance of natural gas should be the formation of a transparent, liberal and competitive gas market. The following sections will elaborate on this issue.

Energy Overview of Turkey

Turkey is projected to be the fastest growing energy market in the OECD in the next 10 years, with the main drivers of the growth in demand linked to economic growth, industrialisation and urbanisation. Energy consumption in Turkey, 1.5 toe/capita is still less than one-third the OECD average, reflecting a significant potential for growth, especially for electricity and natural gas demand. Turkey’s electricity demand has increased four-fold since 1990 and is estimated to almost double by 2020. In 2011, Turkey’s natural gas consumption showed a significant increase of about 18 percent with respect to the previous year, in which it had consumed 37.7 bcm; in 2012, gas consumption increased to 45.3 bcm.⁹

Overall natural gas provides approximately one third of Turkey’s total primary energy supply, which is the largest share of its energy supply mix, followed by oil, coal and renewables, and provides 43 percent, the largest share, of power generation, followed by coal, hydro and other

renewables.¹⁰

The Turkish Petroleum Pipeline Corporation (BOTAŞ) announced that the expected demand for gas will reach 70 bcm in 2020.¹¹ While this growth in demand appears to be the highest rate among European countries, Turkey has limited domestic energy resources and imports approximately 75 percent of its total energy requirements. Since 99 percent of natural gas comes from imports, it constitutes an important energy security element for Turkey (Annex 3). Total energy imports constitute approximately 70 percent of Turkey’s current account deficit.

According to the Turkish Energy *Strategic Plan (2010-2014)*, Turkey is geographically close to two thirds (~72 percent) of the world’s oil and gas reserves located in the Middle East, Russia, North Africa, the Caspian area and Central Asia¹² (see Annex 4). Current exploration and production activities in the Mediterranean will increase this figure. Utilizing this geostrategic proximity to the world’s proven gas reserves to become an energy corridor (or a possible hub) between East and West, Turkey could enhance both its own energy security and contribute to EU’s energy security.

Development of the Shah Deniz gas field in Azerbaijan will be significant for the establishment of the Southern Gas Corridor - via the Trans-Anatolian (TANAP) and Trans-Adriatic (TAP) pipelines - which will bring gas to Europe from the Caucasus as an alternative to Russian gas. In the future, gas coming from Iraq and the Mediterranean could also be tied in. Indeed, the arrival of Iraq with its plans to increase its natural gas production rapidly is important.

These developments, especially the recent TANAP agreements,¹³ show that Turkey is starting to play a significant role in the transportation of the region’s resources to the west, and become a “geographically natural” gas bridge, or a possible energy hub. If the Turkish energy market is liberalised with a strong legal base, and if a competitive environment – where supply and demand transparently creates a floating price delivering signals to investors – is created, then creation of gas-to-gas competition would be enhanced via attracting more companies to invest in the gas rich regions surrounding Turkey, enabling Turkey to become a regional hub. Hence, moving from a government-centered system to a market-based system emerges as an urgent need for Turkey, which is presented in the next section.

Structure of the Turkish Natural Gas Industry and the Need for Reform in the Governance of Gas

BOTAŞ was established in 1974 as a subsidiary of TPAO (Turkish Petroleum Corporation) for transporting crude oil through pipelines and importing natural gas, and was put in charge of the utilization of natural gas in 1990. Since then, BOTAŞ has had the monopolistic right to import natural gas (including LNG), transport, distribute, and sell it

10 Grand National Assembly of Turkey, *Hearing of Taner Yıldız, Turkish Minister of Energy and Natural Resources, before the Plan and Budget Committee*, 14 November 2013 [in Turkish], http://www.tbmm.gov.tr/develop/owa/dosya_p.indir?pDosyaAdi=F-1689806633/pbk14112013.pdf.

11 Speech by Mehmet Konuk, BOTAŞ Acting General Manager, at the *Istanbul Energy and Economic Summit 2012*, Istanbul, 15 November 2012, <http://www.atlanticcouncil.org/news/in-the-news/istanbul-energy-and-economic-summit-2012-realizing-shah-deniz-and-southern-gas-corridor-11-15-12-transcript>. The demand for gas 70 bcm (by 2020) is in line with IICEC calculations of 66.42 bcm, based on compound annual growth rate (CAGR) of 5% until 2020 and 3.6% in 2020-2030.

12 Turkish Ministry of Energy and Natural Resources, *Strategic Plan (2010-2014)*, April 2010, p. 29, http://www.enerji.gov.tr/yayinlar_raporlar_EN/ETKB_2010_2014_Stratejik_Planı_EN.pdf. However, Russia has little interest in utilising Turkey as a transit country and Iran is heavily sanctioned. Russia and Iran together hold almost 50 percent of world’s proven conventional gas reserves.

13 On 25 October 2011, an agreement for the purchasing and conveyance of gas from Azerbaijan in the context of the Trans-Anatolia pipeline project (TANAP) has been signed as a result of the negotiations which have been carried out between Turkey and Azerbaijan for about 3 years. On 28 November 2012 President of Azerbaijan İlham Aliyev has signed a series of law that the National Assembly of Azerbaijan sent him regarding the agreement for the purchasing and conveyance of gas.

6 IEA, *World Energy Outlook 2013*, Paris, IEA, November 2013, p. 78.

7 *Ibidem.*, p. 46.

8 Fatih Birol quoted in: Sarah Kent, “Expiring Gas Contracts Offer Europe Chance to Renegotiate Prices”, in *The Wall Street Journal*, 3 April 2013, <http://online.wsj.com/news/articles/SB10001424127887323646604578400671019683206>.

9 Turkish Energy Market Regulatory Authority (EMRA), *Natural Gas Market 2011 Sector Report*, August 2012 <http://www.emra.org.tr/index.php/naturalgas-market/naturalgas-publishtments>. See also IEA, *Oil and Gas Security Emergency Response of IEA Countries. Turkey 2013 update*, 2013, <http://www.iea.org/publications/freepublications/publication/name,38110,en.html>; EMRA, *Turkish Energy Market: An Investor’s Guide 2012*, 2012, <http://www.emra.org.tr/index.php/epdk-yayinrapor/energy-investors-guide>.

in Turkey at the price it sets. In 1995 BOTAŞ was restructured as a state-owned enterprise, but continued the activities of import, wholesale, transmission and distribution of natural gas until the Natural Gas Market Law No. 4646 was passed in 2001.¹⁴

This law was created to introduce competition into the Turkish gas market, legally unbundling the market activities and eliminating the market's monopolistic structure, and creating a market open to new entrants in all areas. Accordingly, the aim was to reduce BOTAŞ' market share to 20 percent by 2009. However, with the exception of the successful implementation of the distribution services transfer, certain provisions set out in the law, such as the contract release process and the restructuring process, have not yet been implemented. BOTAŞ is still responsible for the construction and operation of gas pipelines, and imports¹⁵ and transports gas to consumers (power producers, large industrial customers and local distribution companies).

Furthermore, BOTAŞ sets the Turkish gas wholesale price each month and this is currently well below the average cost of imports. This artificially low gas price acts as a barrier to the entry of any potential participant in the wholesale gas market. While BOTAŞ pricing methodology provides stability for consumers, the lack of price responsiveness to market conditions does not offer companies the commercial basis to enter, compete and invest in essential infrastructure such as gas storage and LNG re-gasification.

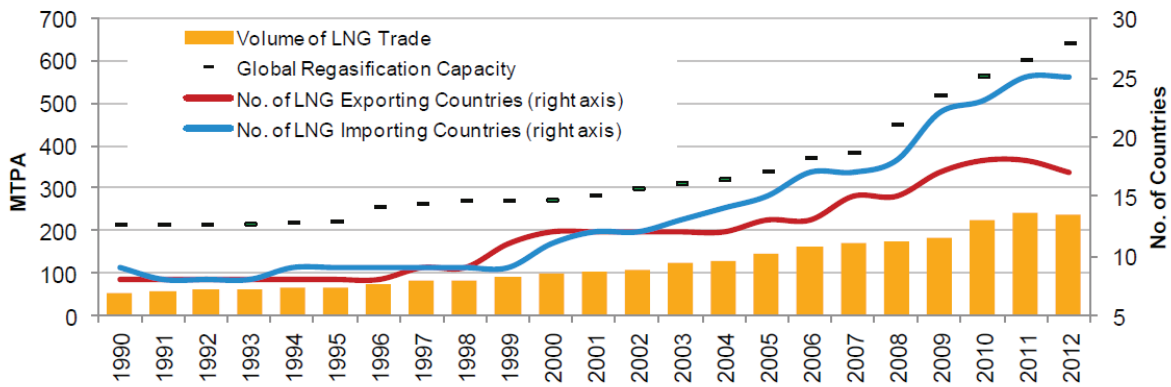
14 Law No. 4646, *Natural Gas Market Law (Law on the Natural Gas Market and Amending the Law on Electricity Market)*, 18 April 2001, <http://www.erranet.org/index.php?name=OE-eLibrary&file=download&id=262>.

15 At the end of 2012, 92.25 percent of the gas imports to Turkey has been realized via BOTAŞ.

As of 2013, however, Turkey's energy market is entering a new, liberal era with a strong breakthrough, the establishment of EPIAŞ (*Enerji Piyasaları İşletme Anonim Şirketi*, Energy Markets Operating Corporation) with the new law regulating the Turkish electricity market (Electricity Market Law No. 6446, enacted by the Turkish Grand National Assembly on 14 March 2013). The new law – replacing all provisions of the previous one (Electricity Market Law No. 4628 of 3 March 2001) – establishes the legal grounds for a competitive, transparent, liquid and liberal electricity market. However, a comprehensive revision of the Natural Gas Market Law No. 4646 remains unrealized.

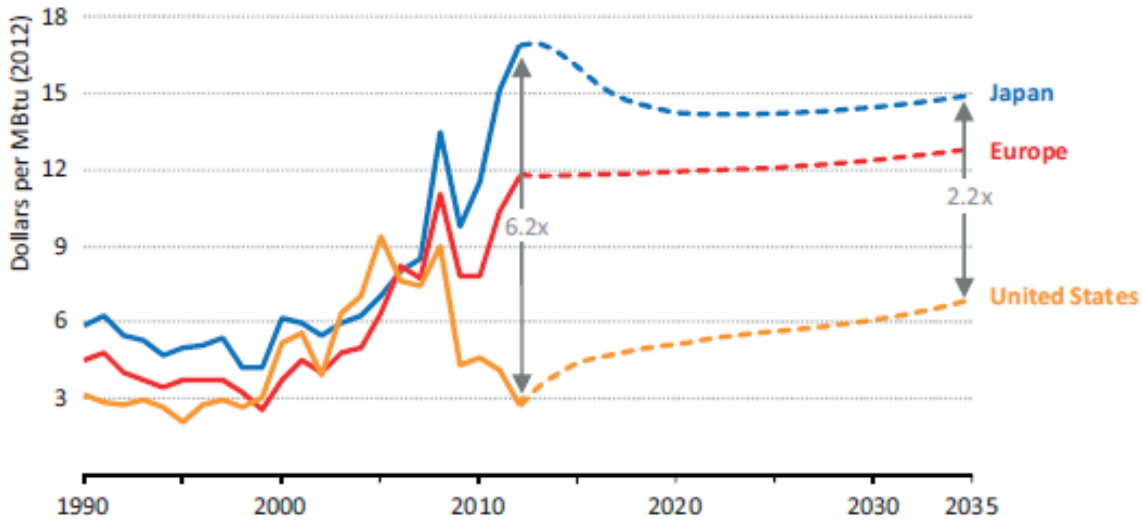
The establishment of EPIAŞ also opens up the possibility of extending the stock exchange to natural gas, oil and coal markets, carbon certificates and other related derivatives, upon the authorization of the Energy Market Regulatory Authority (EMRA). If the liberalisation of the Turkish natural gas market is also successfully accomplished in the following years, Turkey would then attract more investors to her energy stock market and to the surrounding gas rich regions, paving the way for gas-to-gas competition. Turkey would then have a stronger potential to develop into a regional energy trade hub, providing a bridge to the European energy exchange markets.

• Figure 1 | International Trade in LNG, 1990-2012



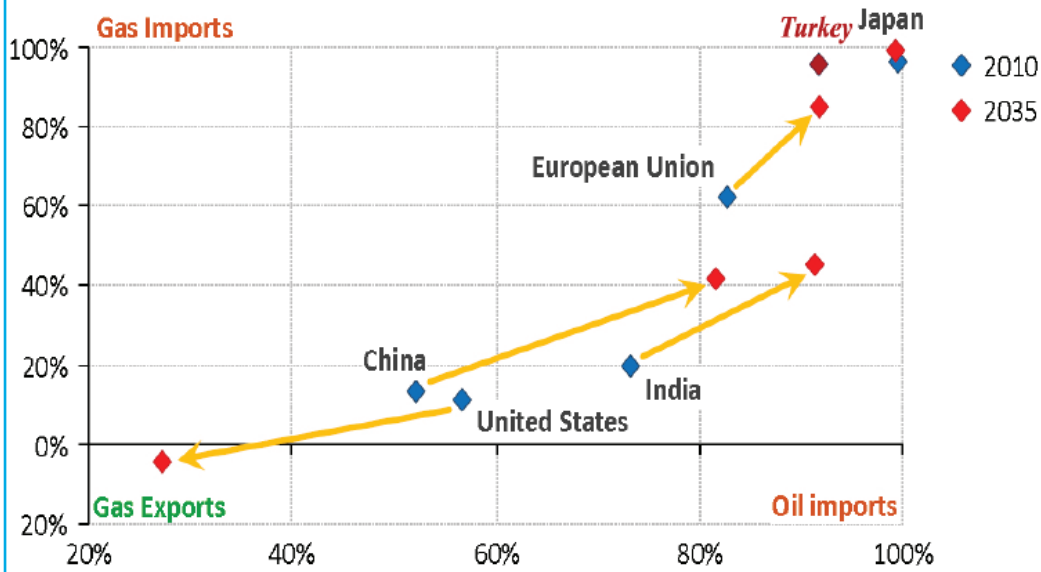
Source: International Gas Union (IGU), *World LNG Report 2013*, cit. p. 8.

• Figure 2 | Natural Gas Prices by Region (US, Japan and Europe, 1990-2013-2035)



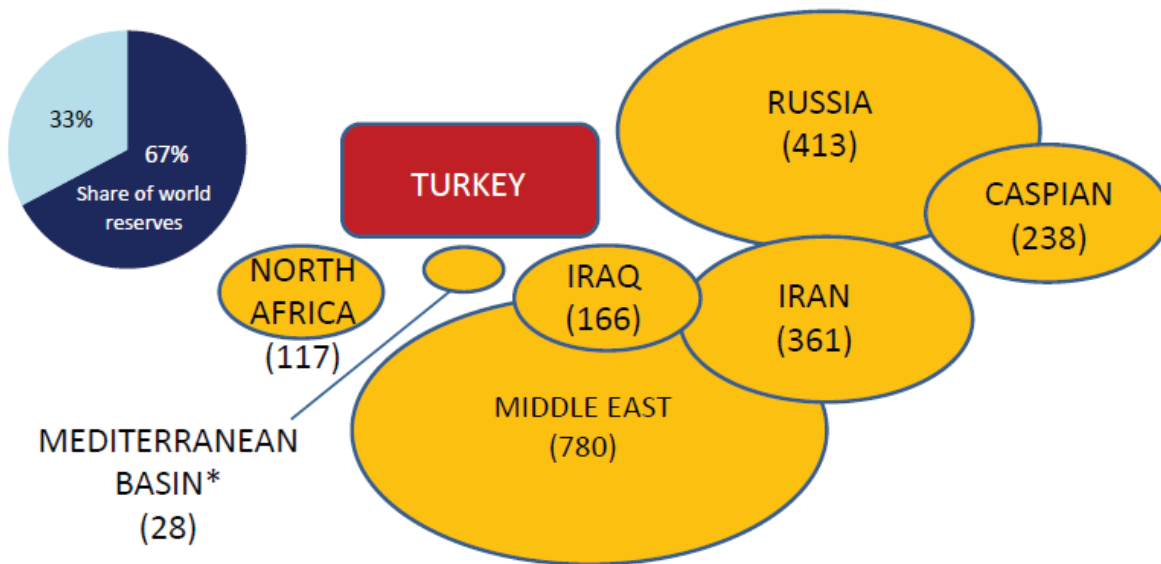
Source: IEA, *World Energy Outlook 2013*, cit., p. 46.

• **Figure 3 | Net Oil And Gas Import Dependency in Selected Countries (2010-2035)**



Source: IEA, *World Energy Outlook 2012 - Presentation to the press*, London, 12 November 2012, p. 8, <http://www.worldenergyoutlook.org/media/weowebiste/2012/PresentationtoPress.pdf>.

• **Figure 4 | Global Oil and Gas Reserves close to Turkey (billion boe)**



Source: Fatih Birol, *Global Energy Markets & Economic Competitiveness*, cit.