

# TURKEY

**On the Path to Become an Energy Hub**  
*Just Rhetoric or a Realistic Strategy?*



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## **Introduction**

Turkey possesses few indigenous natural resources, especially for the leading fossil fuels: Oil and natural gas. However, the country is blessed with its advantageous geographic position that she is located between the Middle East on the South and the Caspian Region on the East that these two regions hold the majority of the world's oil and gas resources. Thus, clearly, the country serves as natural energy bridge between major energy producing actors and the big consumers of Europe.<sup>1</sup>

Thanks to its geographic location, Turkey stands at the crossroad of the main East-West and North-South energy routes. Thus, she hosts major regional oil-gas pipelines also possess its own LNG (Liquefied Natural Gas) infrastructure. In addition to the existing energy infrastructure, the new pipelines and energy projects, for example TANAP (Trans-Anatolian Natural Gas Pipeline) which is the first step of Southern Gas Corridor is scheduled to be operational by 2019. With respect to this significant progress, many authors have already described Turkey as a physical energy hub<sup>2</sup>. However, it should be kept in mind that being an “energy transit state” and “energy hub” are wholly two different phenomena and a clear reference is required to have a better understanding. For instance, locating on transit and transport crossroads will not be sufficient for being an energy hub in long term and in addition a liquid gas market where a transparent trading environment or point should be provided for all actors.

As a result of last contemporary discussions, this brief note aims to analysis Turkey's strengthens and weaknesses on the path to become an energy hub, especially for natural gas. In that context, in order to provide the background information, the concept of “energy hub” will be tackled firstly. Secondly, Turkey's internal natural gas market (supply-demand, infrastructure, market regulations) will be examined. Thirdly, the existing or planning energy infrastructure projects and pipelines will be

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<sup>1</sup> Necdet Pamir, “Turkey: A Case of a Transit State”, Gal Luft and Anne Korin(Eds.), *Energy Security Challenges for the 21st Century: A Reference Handbook*, (U.S.A, Praeger Security International, 2009), p.250

<sup>2</sup> John Roberts, “Turkey as a Regional Energy Hub”, *Insight Turkey*, Vol.12, No. 2, 2010, p. 39.

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discussed. Lastly the international conjuncture will be presented by making a special emphasis on European Union's energy strategy

### **1. Being a Transit, Hub or Center: Stressing the Differences**

Turkey has already showed a great progress in achieving its role as an energy bridge especially for oil thanks to over 10.000 tankers passing through the Bosphorus Strait every year. Besides, pipelines that transport Iraqi and Azerbaijani oil to port of Ceyhan and finally with the planning TANAP and TAP Projects will likely to consolidate Turkey's reliable energy partner role.<sup>3</sup> Even though, the information on tariffs, payments and revenues from oil and gas transit is not publicly available,<sup>4</sup> as a transit state, Turkey also receives certain transit fees from the existing pipeline projects (according to BP contract on BTC- Baku-Tbilisi-Ceyhan Crude Oil Pipeline-, 0.55 \$ per mcm).

Nevertheless, in the energy hub puzzle, there are significant points which are worth to be stressed. For a better understanding, the "hub" concept should be addressed first. As a beginning, for instance, rather than only locating on transit and transport crossroads, being a hub is required to have a more liquid market where a transparent and reliable trading environment or point is provided for market players. Additionally, a trade hub should be associated with a pricing point. In that respect, Ceyhan Oil Terminal could be mentioned as a "best practice" that the terminal stands at the terminus point of BTC and has already become a price formation center by creating a regional "benchmark" for oil prices.<sup>5</sup>

For establishing a natural gas hub, a spot market where multiple consumers meet multiple customers should be provided with competitive prices. Nevertheless, competitive prices could be provided only by diversifying gas suppliers. Furthermore, being a gas hub requires a successful liberalization process by handling physical constraints and ensuring a better accessibility for third parties. Finally, on the path to

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<sup>3</sup> Fatih Özgür Yeni, "Thinking Beyond TAP: Turkey's Role in Southern Energy Corridor", IAI Working Papers, No. 1332, November, 2013, p.2

<sup>4</sup> Revenue Watch Institute, **The Level of Transparency of Oil and Gas Transit Operations through Bulgaria, Georgia, Turkey and Ukraine**, September, 2012, p.22

<sup>5</sup> Roberts, *ibid.* p. 42

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become an energy hub, besides receiving transit fees, Turkey could be able to re-export some amount of oil and natural gas in line with the compatibility between international agreements and domestic needs.<sup>6</sup>

## **2. On the Path to Become an Energy Hub: Natural gas Market in Turkey**

### **a. A Pre-Condition: Responding the Growing Domestic Demand**

On to path to become an energy hub, one of the first pre-conditions for Turkey's energy hub strategy is meeting firstly country's domestic gas needs.<sup>7</sup> In fact, Turkey's demand for natural gas has been growing since 1980's and finally it has reached 45.9 bcm in 2012. Future forecasts show that due to the increasing penetration and rise of the usage of natural gas in electricity generation, it is expected that Turkey's natural gas demand could reach 73-75 bcm by 2030.<sup>8</sup> According to the recent data released by Turkish Foreign Ministry, in country's energy mix, Russian Federation has the largest share in Turkey's natural gas imports with %55,3 in 2015 (this number was %54,76 in 2014)<sup>9</sup> and the country is the second largest buyer of Russian gas after Germany.<sup>10</sup>

### **b. Diversifying Energy Suppliers:**

Before being an energy hub, the primary concern of Turkey should be to satisfy its own energy needs. However, the country has poor energy endowment and produces a negligible domestic amount, thus the country will have to import almost all of its natural gas needs, especially in short run. Turkey supplies most its gas needs via long-term agreements (also buys spot LNG mainly from Qatar in case of necessity) with

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<sup>6</sup> Bilgin, *ibid.*, p. 115

<sup>7</sup> Belfer Center, "The Geopolitics of Natural Gas: Turkey's Energy Policy and the Future of Natural Gas", *Harvard University's Belfast Center and Rice University's Baker Institute for Energy Studies*, December, 2013, p. 7

<sup>8</sup> Ministry of Foreign Affairs of Turkey, "Turkey's Energy Profile and Strategy", Access: <http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa>

<sup>9</sup> Ralf Dickel, Elham Hassanzadeh, James Henderson, Anouk Honoré, Laura El-Katiri, Simon Pirani, Howard Rogers, Jonathan Stern, Katja Yafimava, "Reducing Dependence on Russian Gas: Distinguished Natural Gas Security from Geopolitics", *The Oxford Institute for Energy Studies*, 2014, p.3

<sup>10</sup> Foreign Ministry of Turkey, "Turkey's Energy Profile and Strategy", Accessed: <http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa>

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Russia, Iran, Azerbaijan, Algeria and Nigeria. In that regard, reducing the dependence on Russian gas should be regarded as an important priority.

With the recent developments and opportunities, Turkey seems to find alternative resources which could contribute the country to achieve its “hub” strategy. Firstly with the completion of Southern Gas Corridor including TANAP and TAP (Trans-Adriatic Pipelines), Turkey will start to buy 6 bcm from Shah Deniz II. Via the same corridor, TAP will transport 10 bcm to Europe via Greece, Albania and Italy. Additionally after the construction of Interconnector Greece-Bulgaria, TAP could become more significant for Southeastern Europe Region which is highly dependent on Russian natural gas.

Southern Gas Corridor is not limited only with Azerbaijani gas. The capacity of the corridor is willing to be expanded to 100 bcm per year whether there are opportunities to transport Eastern Mediterranean, Northern Iraqi and Turkmen gas. Especially, the recent developments in Eastern Mediterranean Region is promising for future gas supplies, mainly in Israel, that the country announced that around 735 bcm located in Tamar and Leviathan fields which will be commercially available<sup>11</sup>. In such context, according to many experts, Turkey comes to forefront as the most economic destination to transport the gas to Europe.

Another natural gas supply option has occurred in Northern Iraq. In that regard, The Iraqi Kurdistan Regional Government has already agreed to export 4 bcm of gas per year to Turkey and this amount could be raised 10 bcm per year by 2020, potentially 20 bcm per later.<sup>12</sup> Turkmenistan also ranks one of the largest natural gas owners in the world that BP’s recent statistical review in June 2016 ranks the country with its 9.4% share in global gas reserves. However, due to substantial difficulties, political and legal disputes currently, mainly due to the disputes over the construction of Trans-Caspian Pipeline and the different approaches regarding legal status of Caspian

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<sup>11</sup> Hakim Darbouche, Laura El-Katiri and Bassam Fattouh, “East Mediterranean Gas: What Kind of a Game Changer?” The Oxford Institute for Energy Studies, December, 2012, p.5

<sup>12</sup> Simone Tagliapietra, “Turkey as a Regional Gas Hub: Myth or Reality?”, Hurriyet Daily News, Accessed : 23.04.2014, Access: <http://www.hurriyetdailynews.com/turkey-as-a-regional-natural-gas-hub-myth-or-reality-.aspx?pageID=238&nID=65041&NewsCatID=396>

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Sea, Ashgabat's orientation seems to be mostly towards to its Eastern neighbors (as China's largest natural gas supplier) and not yet towards Europe.<sup>13</sup> However, according to some projections, in the future, Turkmenistan and even Iran could also feed Southern Gas Corridor with its vast and still developing reserves.<sup>14</sup>

When the discussion comes to natural gas diversification strategy, Turkish Stream Project, considered as the alternative of South Stream Project, should be also mentioned in the list. In order to realize this project, Russian energy giant Gazprom and Turkish Botaş has firstly signed a Memorandum of Understanding in December 2014. Similar to South Stream, the offshore part of Turkish Stream will follow 910 km under the Black Sea then the pipeline will go through 260 km direction towards the European Part of Turkey. According to the estimations, the pipeline has a large capacity and will likely to carry 63 bcm of natural gas annually. In total gas amount, Turkey will be receiving 14 bcm and the rest of gas will flow to Europe.<sup>15</sup> More recently, Russian side shows its strong willingness to realize this project and expressed that they have received the required permissions through diplomatic channels to conduct researches in Turkey's territorial waters in September 30, 2016.

### **Main Natural Gas Suppliers of Turkey in 2015<sup>16</sup>**

<b>Country</b>	<b>Share</b>
Russian Federation	%55,31
Iran	%16,16
Azerbaijan	%12,74
Algeria	%8,09

<sup>13</sup> Michael Ratner, Paul Belkin, Jim Nichol and Steven Woehrel, "Europe's Energy Security: Options and Challenges to Natural Gas Supply Diversification", *CRS Report for Congress*, August 2013, p. 22.

<sup>14</sup> PWC, "Liberalising Natural Gas in Turkey", 2014, p. 5.

<sup>15</sup> NTV, "Türk Akımı ve Güney Akımı Projesi Nedir?", 10.08.2016, Access:

<http://www.ntv.com.tr/ekonomi/turk-akimi-ve-guney-akimi-projesi-nedir,6SPX69IWSkaL6pBji9F3EA>

<sup>16</sup> Foreign Ministry of Turkey, "Turkey's Energy Profile and Strategy", Access:

<http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa>

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**c. Overwhelming the Market Barriers: Liberalizing Turkish Natural Gas Market**

The “energy hub” concept should be easily associated with a more liquid market which operates in a reliable price mechanism based on a simple and internationally accepted legislation. In that regard, if Turkey desires to become an energy trading hub, it should firstly establish an open natural gas market where various and numerous actors could meet simultaneously. Also, there is no doubt that this ambition should be followed by a liberalization trend in the gas market.

In that sense, in Turkish market, when Law 4646 on the gas market adopted, market liberalization which means a market with many players with free pricing and gas-to-gas competition,<sup>17</sup> also has set as a main goal. The law has separated each activity in natural gas market and foresees a license for each player obtained from EMRA (Turkish Energy Market Regulatory Authority). However, many of these policy targets could not yet be achieved.

As one of the main outcomes of the law, the end of the monopoly of Botaş in market is desired. This purpose also includes unbundling of Botaş, increasing the share of private actors in import competition, ensuring the competition between wholesale suppliers, providing a cost-based pricing for Botaş, determining eligible customer limits, establishing a natural gas spot market and exchange, ensuring the third-party access. However, until now, unbundling for Botaş is not realized yet. Despite the efforts in competition in imports, Botas continues to hold the largest share in gas imports with its 83.84% share, while the rest of gas imports are varying among different private companies.

Finally, the law 4646 foresees the implementation of an Energy Markets Operation Company (EPIAS) to operate day-ahead and intra-day market operations with the

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<sup>17</sup> Roberts, *ibid.* p. 45

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cooperation of Borsa İstanbul. In that regard, on June 5, 2012, the state-owned Turkish Electricity Transmission Company (TEIAS) signed an agreement with the European Energy Exchange to set up energy exchange.<sup>18</sup> However, EPIAS might be not enough to create appropriate environment for being a trading hub. Additionally, establishing a market mechanism which allows to create the real prices based on market dynamics seems as a must.

Clearly, a more competitive and liberal market for natural gas will absolutely strengthen Turkey's hand in bargaining for prices with its suppliers. As an important example, it could be mentioned that, Gazprom is able to charge higher prices to Southeastern European companies which are fully dependent on Russian gas imports, however, the Western Europe, especially UK could easily show greater resilience in bargaining and obtain less prices thanks to their more liberalized markets.<sup>19</sup>

### **3. A Favorable International Conjuncture: Diversification Ambitions in European Union**

European Union which is the one of the world's major energy consumers became also a major natural gas importer as well. It is important to remind that despite the declining domestic production in the continent, Europe's gas consumption is projected to grow significantly. Also, with respect to the targets aiming to reduce CO<sub>2</sub> and greenhouse emission, Union's member states continues to rely on natural gas with an increasing trend. It is anticipated that the share of natural gas in EU's primary energy mix will increase to up to 30% by 2030. As a consequence, EU will likely to import 80% of its natural gas by 2030.<sup>20</sup>

Even though, the member countries' use of gas and their dependency on import levels varies significantly, Russian Federation obtained a 34% share in 2012 and preserved its dominant role with 37.5% share in 2014 which makes the country as Europe's major gas supplier. In addition to this overreliance, the gas crisis and unexpected gas disruptions resulted from the Russian-Ukrainian crisis created an anxiety over

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<sup>18</sup> Gareth Winrow, "The Southern Gas Corridor and Turkey's Role as an Energy Transit State and Energy Hub", *Insight Turkey*, Vol. 15, No. 1, p. 155

<sup>19</sup> PWC, *ibid.*, p. 8.

<sup>20</sup> Ratner, Belkin, Nichol and Woehrel, *ibid.*, p. 5

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European dependence on Russian natural gas imports. Also Union's growing natural gas demand led to idea that EU should immediately diversify its energy routes and resources and secure its energy policy with alternative and reliable supplies.

In such context, South Stream and following Turkish Stream has emerged as an alternative pipeline options by passing Ukraine, however, in such option, the main supplier will remain same. In that regard, with the opening up to 4<sup>th</sup> energy route to Europe, Southern Gas Corridor comes to forefront as a strategic and common interest project that the project is considered as a "priority corridor".<sup>21</sup>

Under such circumstances, it could be noted that international conjuncture offers a unique opportunity to Turkey to host strategic and critical energy projects. While Turkey has already proved itself that she is a reliable energy partner in joint energy projects such as realization of BTC; European's strong ambition for diversification could continue to consolidate Turkey's energy hub strategy. If Turkey could be able to improve its energy markets' structure and consolidate its energy infrastructure by pursuing pro-active energy diplomacy, it seems obvious that county could finally achieve its ambitions goals in terms of its energy policy.

### **Conclusion: Converting Strengths into Sustainable Advantages**

On the path to become an energy hub, an analytic elaboration for Turkey could be presented as by stressing country's strengths and weaknesses. As a result of this analysis, the immediate policy agenda could be outlined.

<b>Strengths</b>	<b>Weaknesses</b>
An attractive and rapidly growing natural gas market and demand	A strong need for energy investments
Unique location at the crossroad of East-West, North-South Energy Corridors	A more comprehensive and transparent legislation

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<sup>21</sup> Union List of Projects of Common Interest, *European Commission*  
[http://ec.europa.eu/energy/infrastructure/pci/doc/com\\_2013\\_6766\\_en.pdf](http://ec.europa.eu/energy/infrastructure/pci/doc/com_2013_6766_en.pdf)

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Increasing Number of Suppliers and Favorable International Conjuncture	Lack of infrastructure investments, weak storage capacities
A Mature Banking and Financial System	Slow path in market liberalization, dominance of Botaş, Non-market prices

Source: Author's own elaboration

As the chart describes above, Turkey's energy hub strategy could be supported by various important advantages. The strong parts could be classified as *conjuncturel* (due to contextual advantages such as international area), *structural* (institutional factors such as financial system) and *permanent* (non-changeable advantages such as geographic location) factors. However, the weaknesses mainly seem to be related to the other factors like the structural problems in internal energy market and the need for a comprehensive legislation.

If Turkey could be able to convert its strengths into sustainable advantages, she could easily overwhelm its weaknesses by targeting the structural barriers. In addition, immediate problems like insufficient natural gas storage capacity should be addressed as priority by policy makers. In that regard, if Turkey takes into consideration its unique opportunities and the country will be able to pursue the appropriate energy diplomacy, becoming energy hub strategy seems achievable and realistic in the near future.

### **Footnotes**

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