

EVALUATION OF TANAP AND TAP PROJECTS EFFICIENCY: “DIVERSIFICATION OF THE GAS SUPPLY FOR THE EUROPEAN UNION’S ENERGY SECURITY – CASPIAN AND CENTRAL ASIAN GAS”

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ABSTRACT

In contemporary period, the EU’s current concern is to reduce dependency on Russian gas that its whole gas supply and over the region increases political and economic threats for member countries. The EU’s concern about Russia’s dominance in its gas market make consider non-Russian gas projects through Turkey - the closest neighbor after Russia. The EU sees Turkey as a crucial partner to diversify routes for the EU’s energy security. From this perspective, the purpose of this paper is to define possibility and geopolitical reasons behind changing EU’s shifting priorities from Russian to Turkish dependence for gas supply.

Keywords: *Energy security, EU, TANAP, TAP, Turkey, Russia*

1. INTRODUCTION

Energy security is the key issue in contemporary period for the highly industrialized countries. The risk of energy markets depends mainly on cheap, reliable and consistent energy supplies. Within union, a situation becomes even more difficult because of many players having different interests on energy issues that complicate decision-making process to sign a common agreement. As a union of many developed countries, the European Union (EU) has high dependence on external energy supply, especially gas supply. However, the EU also is well aware that a new supply will not be as cheap as Russian gas to diversify its gas supply by signing several agreements with different countries. On the other hand, EU tries to maintain its diversification of the energy sources by initiating several projects including South Stream, Nord Stream 2, TANAP & TAP. From this perspective, the paper will define the economic efficiency, financial-supply risk and chances on the EU’s risk diversification strategy on the gas supply.

2. EU’S INCREASING DEMAND ON GAS

The EU’s main source of the energy supply is provided by Russia. However, this is not same and common for all member states of the EU. According to the Gazprom’s statistics after Ukraine crisis in comparison with 2013, there was 15 billion cubic meter reduction in the volumes of exported natural gas from Russia to Europe in 2014 (in 2013-162 bcm, in 2014-147.2 bcm). This is approximately 10 percent reduction of the gas supply to Europe. This combination means, that the small and medium sized entrepreneurs, also in some cases the big companies will suffer on the increasing prices of gas in EU’s energy market by any other crisis on transfer country like Ukraine. On the other hand, the increasing energy costs will increase also the product costs and electricity costs in each part of the economy and especially in

households (Mammadova, 2015, pp. 34-39). The German Federal Institute for Geosciences and Natural Resources (Die Bundesanstalt für Geowissenschaften und Rohstoffe – BGR) has in one of own research published about the countries with largest natural gas resources on the world. Figure 1 shows the capacity of the countries with gas resources billion cubic meters. In Top 8 of the graphic, Russia is on the first place. Turkmenistan and Iran are the nearest alternative gas resources to EU for each country with amount of 15.000 bcm and 10.000 bcm gas capacity. USA and Brazil are also the future partners of EU for liquid natural gas. However, current conditions the transport cost for LNG from the USA and Brazil is high in long term projects (BGR Energiestudie, 2017, p.130).

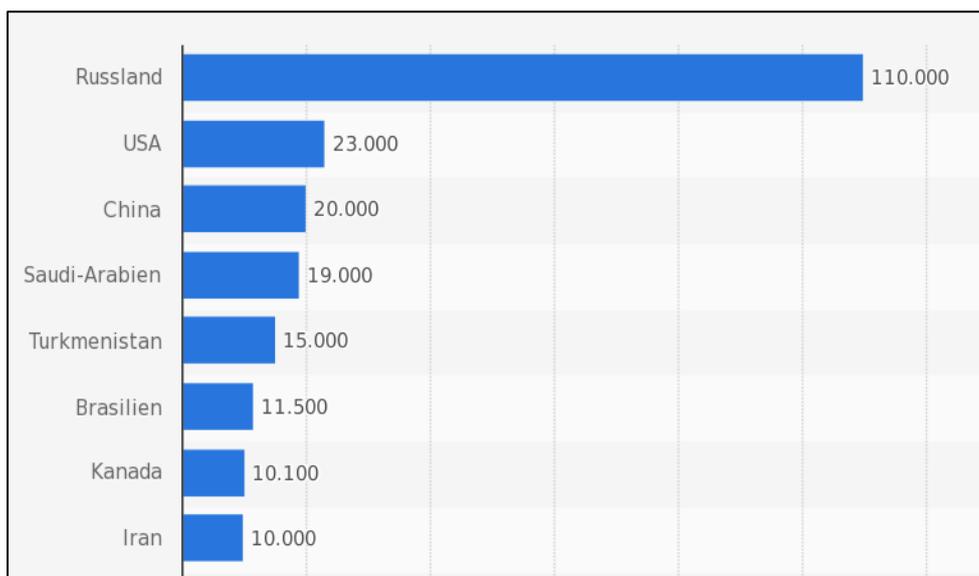


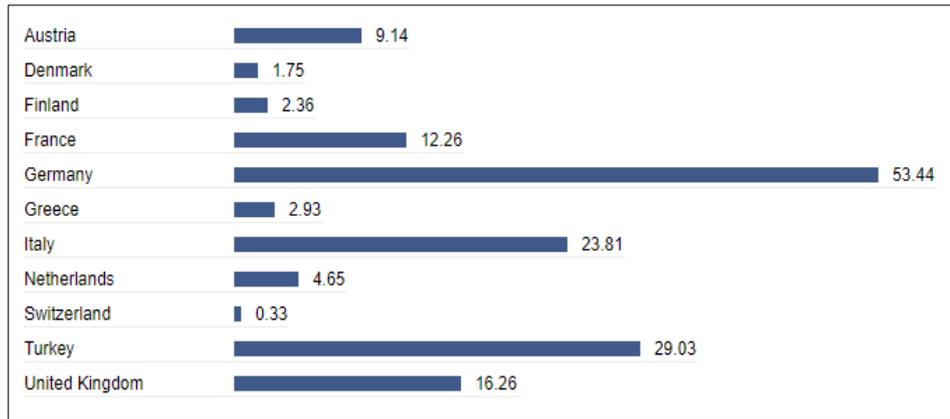
Figure 6: The Countries with Largest Natural gas Resources. (Statista.de)

The condition of the dependence of gas in EU lets categorize the countries into three type of the Member States for supply-risk:

1. First, some member states do not import Russian gas through Ukraine. They have either their own resources, or they import gas from other gas sources such as Netherlands, Norway.
2. Second group of countries are more secure in terms of Russian supply through Ukraine. This security mainly is related to different arguments, including economic alliance with neighbor countries of EU, having quite diversified energy supply-risk system in case of unexpected occasion.
3. Third group of countries are heavily and/or completely dependent on Russian gas supply through Ukraine. These countries do not have enough storage capacity as well. Therefore, they might be called as “financial risk regions of any gas supply reduction” in terms of financial risks on the market (Chyong, 2015).

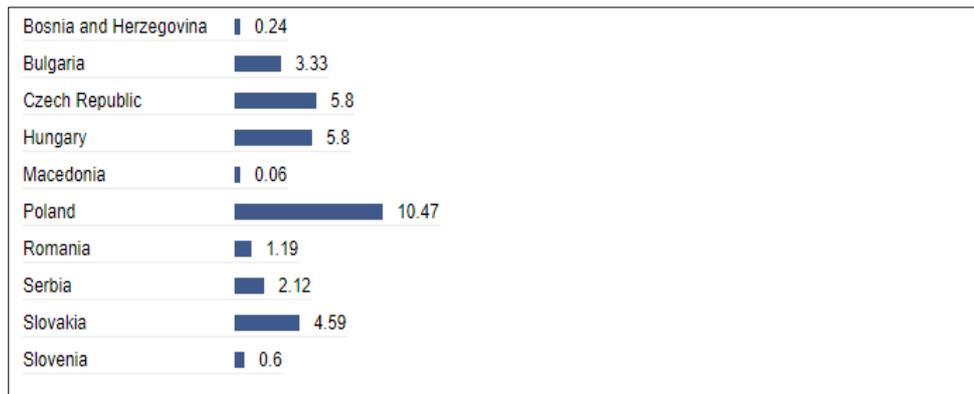
According to the BP’s “Statistical Review of the World Energy 2018” from 2010 till 2016 European gas consumption changes roughly between 470-520 bcm in year. The maximal consumption of gas in EU from 1980 to 2016 was in 2010 (BP, 2018, p.29).

Figure following on the next page



*Figure 7: Gas Consumption of Western European countries
 (Gazprom Annual Report 2017)*

Gazprom Annual Report in 2017, company supplied a total of 194.4 billion cubic meters of gas to European Union, 192.2 bcm being supplied under Gazprom export contracts. Western European countries accounted for approximately 81% of the company’s exports from Russia through Ukraine as transit country for supply, while Central European states took 19%. (Gas supplies Europe, 2017). Figure 2 and Figure 3 indicate each country’s consumption of Russian gas in 2017 per percentage.



*Figure 8: Gas consumption of Eastern & Central European countries
 (Gazprom Annual report 2017)*

Zeyno Baran, the director of the Center for Eurasian Policy at the Hudson Institute in Washington, considers that, Russia, the European Union’s main oil and gas provider, has taken advantage on the EU’s energy market and the increasing demand of the European countries on gas increases Russian supplies. Moscow aims to have a good relationship with member states. The diversification of the energy supplies to European countries is the main point for energy security in EU’s gas supply. EU wants to construct transport routes for Caspian and Central Asian oil and gas to minimize the risk of supply according to diversification (Baran, 2007, pp. 131-144). According to the IEA’s 2014 report, Russian gas supply will be the largest portion of the EU market for at least a few decades from now on. Figure 4 precisely shows that Russia was the largest supplier of natural gas to the EU in 2016 and 2017. “The EU is set to be dependent on Russian gas for some time and that’s the reality” says, IEA executive director Maria van der Hoeven (Energy Policies of IEA Countries, 2014). One of the projects proposed by the EU for the diversification of the gas supply was Nabucco gas project. The Nabucco gas pipeline is one of the central infrastructure projects for the diversification of Europe's natural gas supplies (Davidovic, 2009).

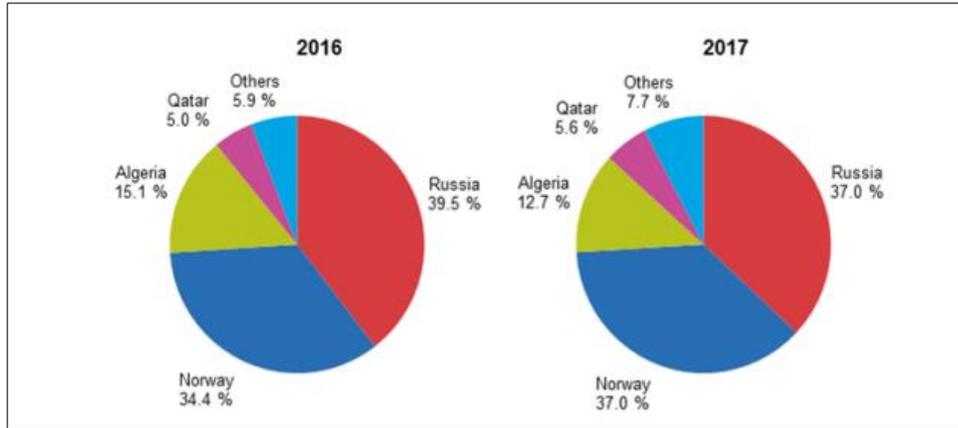


Figure 4: EU imports of natural gas 2016 – 2017 (Eurostat 2017)

In terms of the EU and Caspian Region relations, energy issues are stable and the countries on the Caspian Region, especially Azerbaijan seems a key partner for future cooperation. Energy is one of the key interest in the Economic relations of the both Regions. Also, Turkey seems as the future partner to diversify of the routes for the EU’s energy security due to TANAP project. Given its strategic location as transit country in the region, Turkey is one of the future partners for Europe’s risk diversifications strategy for energy security (EU and Turkey strengthen energy ties, 2016). To define financial and geopolitical reasons behind the EU’s risk diversification to Caspian and Central Asian Region for gas supply, the following chapter will discuss 3 hypotheses:

1. Due to the Projects TANAP and TAP, the Caspian and Central Asian Countries has been more reliable partner, because of its intention of the countries on the region to have a good relation to the EU and the lower costs than the the other big projects like Nabucco.
2. Turkey can play “bridge” role to transport Central Asian gas through direct pipelines Caspian Sea-Azerbaijan-Turkey-Italy for potential projects like TAP. Transit Country will earn by transport of the gas.
3. Azerbaijan, Shah Deniz II, plays one of the main roles on the projects TANAP & TAP. Because, Azerbaijan starts the Project and is the first supplier to EU on the Project. It is expected, that Iran and Turkmenistan will also join to the Project after some period of time.

On the figure 5, according to the statistical information of the Statista.de it Is easy to determine the cost and capacity of the pipeline projects for the gas supply to EU. The capacity of the South Stream is 63 bcm per year, but the costs 20 billion euros. TANAP & TAP projects have together the gas capacity in amount of 26 bcm, but the cost of the both projects is in amount of 6,5 billion euros. Nabucco has a capacity of 31 bcm per year but the cost basis of the project is 7,9 billion of euros. Reality is that, the TANAP and TAP project have the chances to increase the supply to EU on 90 bcm per year. On these conditions, the most attractive project for future gas supply-risk diversification for EU’s energy security are the TANAP and TAP projects.

Pipeline and Consortium	Capacity in billion cubic meters	Costs in billion euro
South Stream	63	20
Nabucco	31	7,9
TANAP	16	5
TAP	10	1,5

Table 1: Pipeline projects for gas supply to EU

3. DISCUSSION

Depending on energy imports, predominantly of oil and gas causes policy concerns relating to the security of energy supplies. There are two main sources of the energy insecurity of the EU faces: (a) gaps in the integration of the EU energy market; and (b) import disruptions (Chyong, 2015). In response to the possible import disruptions, the EU has fortified its supply law with the adoption of the new Security of Gas Supply Regulation in 2017. (New Security of Gas Supply Regulation, 2017). Russia is main supplier of the crude oil and gas to the European countries. To reduce the risk factor on gas supply, the EU seeks new alternative sources for diversification of the supply-risk:

1. Russian gas will not be able to satisfy both internal and external needs for oil and gas in the long-run. Demand in Non-EU energy market also own demand of Russia and Post-Soviet-Countries increases day by day.
2. As major exporter, Russia takes the high supply-risk on oil and gas business by supplying to the EU in the EU's energy market and Non-EU energy markets. That's why the oil and gas companies of Russia takes part also on the other supply projects to EU.

Finding alternative sources might seem realistic for the EU; however, the EU needs to solve several economic challenges to import gas from following alternative sources:

- Import from the Middle East and North Africa;
- The Southern Gas Corridor, this project will supply in first period the Azerbaijani gas and the expectations are Turkmenistan and Kazakhstan also Iran and Iraq will join on the gas supply through this pipeline in future.
- Import LNG from the U.S, Australia, and Eastern Africa (Chyong, 2015).

Azerbaijan might play significant role on this issue to become route of the major pipeline projects to Europe and reliable political and economic partnership with the EU. The efforts to get the gas from Middle and Central Eastern countries through Azerbaijan is realistic and beneficial. Security is the key issue on the any energy projects of EU. The Middle East and Caspian and Central Asian countries with massive oil and gas resources might be considered as a potential supplier for EU. Azerbaijan as a very important regional country has implemented successful energy policy by securing immense volumes of hydrocarbons and attracting large number of investments to the prospective energy and energy transportation projects of the region. Let's remember that "Shah Deniz II" in Azerbaijan is the birth-place of the TANAP and TAP projects. However, the Azerbaijani and Central Asian gas transportation have the importance. To improve the security and diversity for the supply-risk of EU's energy market, the Southern Gas Corridor is being built on the combination of three pipelines:

- South Caucasus Pipeline (SCP) – Azerbaijan, Georgia
- Trans Anatolian Pipeline (TANAP) – Turkey
- Trans Adriatic Pipeline (TAP) – Greece, Albania, Italy (Mammadova, 2015, pp.34-39).

The corridor is intended to bring natural gas from Caspian Sea (Azerbaijan) to Europe. The overall length of corridor is 3.500 km which 1.850 km of the pipeline go through Turkey (Why TANAP). This is the possible shortest route from Caspian to Europe in existing conditions. In this project, Azerbaijan's location plays an important role in EU's energy security. The possibility of supply of Turkmenistan gas in the future increases the importance of the Southern Gas Corridor and involved countries. These three Projects have the total project value in 45 billion dollars and through the pipelines will get the EU's energy market at first only the Azerbaijani gas (Gas from Azerbaijan for Europe, 2016). The participants which invested in this project are the big companies such as SOCAR – State Oil Company of Azerbaijan Republic, BP, Total, Statoil, Botas, E.ON, EGL and others.

Expectations of the EU on this Project is to meet 10 to 20 percent of the demand, it means 45 to 90 bcm per year. And this big amount helps to reduce the risk on energy supply to EU (Stefan, 2014, p.3). Secondly, gas transportation from any country is not main subject for the EU, as long as it is cheap (DG Energy, 2015). It seems that Russian gas will lead on the energy market of the EU for the long time. The EU wants to involve Ukraine in energy politics because of the geography. Ukraine gets 2 billion USD annually for the transiting gas from Russia to Europe (Pinchuk, 2014). The gas transit contract between Ukraine and Gazprom also very important for the supply. Gazprom & Ukraine's contract depends also on the approval of Nord Stream-2. The new transit contracts will increase Gazprom's market share on European gas supply and distribution. Obviously, the European Union are mutually interested in routing the Azerbaijani gas to Europe through Turkey and Italy as an alternative. Though that, Azerbaijan has a big gas capacity, indeed it plays an important role in the EU's diversification efforts and is rather realistic partner among others. Among other alternatives, even though the Northern Iraq fields and Iran have potential gas reserves, both seem fairly unrealistic today, because of security issues, internal and external threats. After lifting sanction, Iran would become another important source for energy supply of the EU. However, today Iran is not interested in the South Gas Corridor. Because, Iran does not want to be dependent on Azerbaijan or any other country for gas transit and plans to sell its gas as LNG. The production of LNG is costly and Iran still prefers this option as the total production cost of Iranian gas is cheap since the gas fields are onshore. It seems, the EU's all efforts to find other sources of oil and gas supply clearly indicate that it aims for the diversification of the gas supply-risk for the EU's gas market. Briefly it includes increase in supply from Central Asia and Azerbaijan through Southern Gas Corridor, EU's diplomatic initiatives in the Middle East region to create stable, as well as secure environment for gas projects that runs through Azerbaijan to Europe. On the other hand, the EU states have several times showed their high interest in the Central Asian fields to encapsulate this reduction in natural gas import. Cooperation with other regional states, particularly with Turkmenistan through Southern Gas Corridor might be less costly for Europe. However, several political factors say that Turkmenistan's presence in the European energy market through Southern Gas Corridor will give high benefits on gas supply to EU.

4. CONCLUSION

To sum up, significantly diversifying the gas supply-risk to EU is the important part of the EU's energy strategy. The projects like TANAP and TAP increases the importance of the Caspian and Central Asian countries as the supplier. The birthplace of TANAP and TAP Projects, Shah Deniz II locates in Azerbaijan. Also, Azerbaijan has an importance as the future's transit country of the Iran and Turkmenistan gas. However, Azerbaijan is the energy security partner of EU in the region. The energy demand of the European countries increases day by day. At the end of 2018 the one of the biggest European cruise company Aida presented its first cruise with gas engine in Germany. We have to take in account that, Germany has the biggest gas market in EU and gas to produces much more environment-friendly energy as the other conventional energy sources. It is imaginable that the start-point of the diversification on the risk of the gas supply of EU's strategy for the energy security is Azerbaijan, with the Projects TANAP & TAP & SCPX. Dr. Stefan Meister, on his publication in 2014 searched also about the enormous potential in the Caspian Region and Middle East for gas supply. EU's Nabucco project are extremely great projects with higher risk factor on it. Therefore, the projects like SCP, TANAP and TAP have been chosen by the participants. Caspian region has huge energy potential for the EU, because of the gas capacity of Iran, Iraq and Caspian gas (DGAP).

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