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## Article

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## Economic and Strategic Expectations from Trans Anatolian Natural Gas Pipeline Project

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**Abstract** *Following the successful implementation of the oil strategy, Azerbaijan began to define strategic objectives in relation to gas export policy. Currently, Azerbaijan is the only country in the region exporting gas to the international markets (Turkey, Russia, Georgia). For this reason, it is seen as “the provider and participant” of Southern Gas Corridor by EU. In this direction, Azerbaijan aims to be the country of an important and strategic natural gas exporter. From Shahdeniz field to the end European user, it targets to take part in the every ring of the value chain. These assumptions bring Azerbaijan to the position of a remarkable natural gas supplier for the export of large amount of gas to the European markets through Nabucco West. The implementation of the project with financial and technical capabilities of Azerbaijan and Turkey has made it a project to be realized between Turkey-Azerbaijan. TANAP means Turkey and Azerbaijan will emerge together in the European market for energy transportation. Along with Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzurum, TANAP has reinforced Turkey’s position as a necessary energy corridor in delivering the energy resources of the Caspian Sea to the Western markets. In this paper, expected strategic and economic outcomes of TANAP are analyzed.*

**Key words** TANAP, Azerbaijan economy, energy, natural gas pipeline

**JEL Codes:** P28, L95, Q48

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### 1. Introduction

Following the successful implementation of the oil strategy, Azerbaijan began to define strategic objectives in relation to gas export policy. Currently, Azerbaijan is the only country in the region exporting gas to the international markets (Turkey, Russia, Georgia). For this reason, it is seen as “the provider and participant” of Southern Gas Corridor by EU. In this direction, Azerbaijan aims to be the country of an important and strategic natural gas exporter. From Shahdeniz field to the end European user, it targets to take part in the every ring of the value chain (Aras, Suleymanov, Huseynov,

2013). Gas is a strategically product and if it is used effectively, Azerbaijan can reach a substantial geostrategic and financial position with SOCAR. Managing possible future relations assumes great importance day after day. With the growth of South Caucasus Pipeline Project, Azerbaijan will be able to maintain its interests by controlling the gas volume from its source to the end user. However, this arrangement will not provide a country aiming to popularize gas export. Such a step taken by SOCAR can be explained by 2 reasons. The first one is the transportation of Shahdeniz gas after 2017; the second one is to increase Azerbaijan's oil production to 50 billion cubic meters per year together with the gas that will be produced by new discoveries after 2025 Aras, Suleymanov, Hasanov, 2013). In case of the implementation of these projects, in order for SOCAR to maintain its interest in the lower rows of the value chain in Turkish territory, the development of the above mentioned strategy has become a necessity. Trans Anatolian Pipeline (TANAP) "suddenly came up" for the first time in October, 2011 during Turkey Azerbaijan transit discussions and was guaranteed by "an additional item" of Intergovernmental Agreement (IGA) on October 25, 2011. Later on, Memorandum of Understanding (MOU) on December 24, 2011 and a special IGA on June 26, 2012 were signed for TANAP. As accepted by both parties, adding the condition of 6 billion cubic meters of gas export to the Turkish market via TANAP to the text was significant for SOCAR. Without 6 billion cubic meters of gas, it is not possible to conduct TANAP, because the pipeline in the capacity of 56 inches and 31 billion cubic meters can be economically effective with only the start volume of 10 billion cubic metres. That's why, IGA's part of "transit" title approved by the Turkish Parliament on October 25, 2011 and Gas Transit Agreement (GTA) signed between SOCAR and BOTAS on the same date has the authority of "application" for TANAP project in an informal sense. TANAP is being supported by the governments of Azerbaijan and Turkey. TANAP is also seconded by England, the USA, the EU and even Nabucco with Trans Adriatic Pipeline (TAP). BP backs up both TANAP and BOTAS for different approaches. There are four stages in the period of decision-making on TANAP and the start of its construction. These four stages will be discussed separately below.

## **2. TANAP project and its perspective**

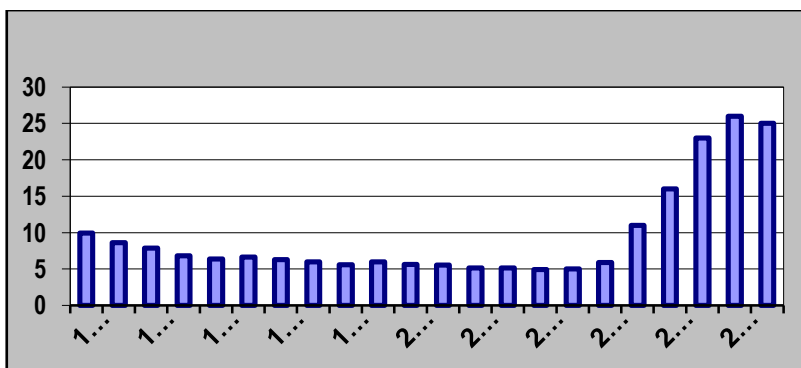
Increasing in the amount of the investments directing to the development of the oil and non – oil sectors of our republic by the government for the development of this area, and useful economy atmosphere creating in Azerbaijan Republic. This increasing shows itself not only in theoretically and also in practical statistical indicators. Paying attention to the last prognosis indicators, we'll see that, in its payment period in the result of exploitation of the pipe pump BTC forming a part of "Agreement of the Century" signed on September 20, in 1994, in 2008-2015 years the incomes is expected to be 40-50 billion USD. If one barrel of oil is 50-80 dollar till the last period of

the project, exactly till 2029-2030 years, the total income amount taking from this area is expected to be in the amount of 140-180 billion USD. The use of oil incomes indicating with the big figures is more important and actual than getting them. Taking into consideration of the not finding of the new oil deposits in our republic in 1940-1960 years, and taking into consideration of oil being the finishing riches that, our aim is to vivify the areas with development potential in correct and expedient form each oil manta entering to our budget nowadays. The geographical situation and natural condition, surface and underground riches of our republic gives opportunity for the forming and development of any areas of agriculture. Nowadays taking into consideration of the development by the specialists and classifying of the areas of industry, trade and service, construction, transport, connection as antecedence areas is not accidental. Generally, present and perspective development characters of the above mentioned main areas of main areas in the frame of area analysis are interesting. So that, machine building and metal processing industry, ASK, electro-energetic, light and food industry, tourism industry in the areas of non – oil industry with development potential of Azerbaijan Republic and the development of the economy development speed. The latest Azerbaijan Oil & Gas Report from BMI forecasts that the country will account for 1.53% of Central and Eastern European (CEE) regional oil demand by 2015, while providing 9.45% of supply. CEE regional oil use of 5.42 mn barrels per day (b/d) in 2001 will rise to an estimated 6.05mn b/d in 2010. It should increase to around 6.89mn b/d by 2015. Regional oil production was 8.89mn b/d in 2001 and in 2010 will average an estimated 13.82mn b/d. It is set to rise to 15.08mn b/d by 2015. Oil exports are growing steadily, because demand growth is lagging the pace of supply expansion. In 2001, the region was exporting an average of 3.47 mn b/d. This total will rise to an estimated 7.76mn b/d in 2010 and is forecast to reach 8.19mn b/d by 2015. Azerbaijan and Kazakhstan have the greatest production growth potential, although Russia will remain the most important exporter. In terms of natural gas, the region in 2010 will consume an estimated 636.3bn cubic meters (bcm), with demand of 747.7 bcm targeted for 2015, representing 17.5% growth. Production of an estimated 787.9 bcm in 2010 should reach 954.2bcm in 2015, which implies net exports rising from an estimated 151.6bcm in 2010 to 206.5bcm by the end of the period. Azerbaijan's share of gas consumption in 2010 will be an estimated 1.27%, while its share of production is put at 2.22%. By 2015, its share of gas consumption is forecast to be 1.55%, with the country accounting for 2.20% of supply. Azeri real GDP is assumed to have risen by 4.0% in 2010. We are forecasting average annual growth of 6.1% in 2010-2015. Domestic oil consumption, having tumbled since the 1990s, should now have resumed a growth tack, and is estimated at an average of 7% per annum. Between 2010 and 2020, we are forecasting an increase in Azeri oil and gas liquids production of 2.2%, with volumes reaching a peak of 1.45mn b/d in 2016/17,

before falling to 1.30mn b/d by the end of the 10-year forecast period. Oil consumption between 2010 and 2020 is set to increase by 96.7%, with growth averaging an assumed 7.0% per annum towards the end of the period and the country using 147,000 b/d by 2020. Gas production should rise from the estimated 2010 level of 17.5bcm to 32.0 bcm by 2020, providing export potential increasing to at least 17.2 bcm. Azerbaijan now holds second place, behind only Kazakhstan, in BMI's composite Business Environment (BE) ratings table, which combines upstream and downstream scores. Oil accounts for 70% of the country's exports and half of state revenues. Volume growth was steady in the early part of the decade, but has faltered of late, because of technical problems, planned maintenance and delays relating to new projects. In 2009, crude oil and gas liquids output was 1.03mn b/d as new field production rose to fill the Baku-Tbilisi-Ceyhan (BTC) export pipeline. BMI expects there to have been a further modest increase in volumes during 2010, to an estimated 1.06mn b/d. Azerbaijan has three oil export pipelines: the Baku-Novorossiysk line (northern route) that sends oil to the Russian Black Sea; the Baku-Supsa link (western route) to Georgia's Black Sea coast; and the Baku-Tbilisi-Ceyhan (BTC) pipeline, which is owned by IOCs and the state. This third pipeline exports Azeri oil along a route from Baku via Georgia to the Turkish Mediterranean port of Ceyhan, allowing oil to bypass the increasingly crowded Bosphorus Straits.

Azerbaijan has historically been a net importer of gas, largely from Russia. However, a major gas field development project (Shah Deniz, led by UK-based BP) and infrastructure investment is now resulting in growing gas exports. Proven gas reserves are estimated at 1,310 bcm, and the country should be exporting up to 12bcm per annum from 2011. Gas exports take place through three major gas pipeline routes: south to Iran via the Kazi Magomed-Iran pipeline, north to Russia via the reversed Mozdok-Makhachkala-Kazi Magomed pipeline, and west to Georgia and Turkey through a range of pipelines including the Baku-Tbilisi-Erzurum (BTE) route, which opened in 2006. Competition to gain access to Azerbaijan's gas reserves has been fierce. Russian state-owned gas export monopoly Gazprom has announced plans to double gas imports from Azeri national oil and gas company Socar to 2 bcm from 2011, according to a report by Reuters. The news follows a statement by Gazprom, cited by Reuters on January 11 2010 that Russia would be willing to buy 'all gas exported by Azerbaijan'. Gazprom has been looking to secure gas supplies from Azerbaijan's state-owned energy group Socar ostensibly to stop competitors from snapping up Azeri output that could be used to feed gas pipeline projects, such as Nabucco, that are aimed at diversifying European gas imports away from Russia. The EU's flagship Nabucco project has been eager to finalize a gas sales agreement with Azerbaijan. Turkey and Azerbaijan will sign binding commercial agreements on bilateral gas trade by April 2011.

After gaining independence, oil and gas contracts with international companies and joint activities with them allow Azerbaijan to inflow of modern technology and therefore re-establishment of the infrastructure of the energy sector. The natural gas sector lagged considerably rather than the oil sector of Azerbaijan during the Soviet Union (Suleymanov and Zeynalov, 2009). In the history of natural gas production/extraction, the record was 17 billion m<sup>3</sup> in 1981. The extraction of the natural gas was on average 14 billion m<sup>3</sup> per year in 1980s. However, by significantly declining since 1990s the extraction was the same as it was in 1960s. Domestic production/extraction could only meet 40 percent of total natural gas demand of the country until 2007 and therefore other 60 percent of the demand has been met by import (Aras, 2008; 159). Due to a decline in the production of the natural gas by the amount of 5-6 billion m<sup>3</sup>, Azerbaijan, exporting natural gas to Armenia and Georgia during the former Soviet Union, had to import it from Turkmenistan and Iran since 1990 (Aslanli, 2004). However, this import was stopped in 1995 and an agreement was made on import from Russia in 2000. Import of natural gas from Russia continued until the end of 2006. Azerbaijan's natural gas demand is met by domestic production after extracting it from "Shah Deniz" (SD) oilfield in 2007 (Aras and Suleymanov, 2010). In 2007, natural gas production in Azerbaijan by increasing 81 percent compared to the previous year was 15 billion m<sup>3</sup>. According to calculations, by 2015, per year 30 billion m<sup>3</sup> of natural gas will be extracted from SD. The Baku-Tbilisi-Erzurum Natural Gas Pipeline started to export natural gas since 2007 (Sucayev, 2003). Thus, Azerbaijan by exporting natural gas to Turkey and European countries became a competitor to Russia, North Africa and other natural gas producers/exporters.



Source: <http://new.socar.az/socar/az/home/2015>

Figure 1. Azerbaijan's Natural Gas Production (billion m<sup>3</sup>)

Natural gas has day-by-day expanding share in all energy predictions scenarios, especially in electricity generation. It is expected that the share of natural gas used in electricity generation will be about 33 percent of total natural gas consumption (Suleymanov and Aras, 2012). Moreover, one of advantages of natural gas is that it has the less negative effect to environment (Sucayev, 2003). The world's natural gas reserves have increased more than 100 percent in the last 20-25 years. These new natural gas reserves have discovered in the former Soviet Republics, the Middle East, South and Central America and the Asia Pacific regions. Natural gas is extracted in all continents except Antarctica. Distribution of natural gas resources has larger area over the world than oil reserves. For example, the Middle East has 65 percent of oil reserves, but only 35 percent of natural gas resources (Suleymanov and Aras, 2012). At the same time, some regions with limited oil reserves have larger portion of natural gas reserves.

*Table 1. World Natural Gas Reserves (Tcf)*

Region	2011	2012	2013	2014
<b>North America</b>	378.541	412.387	393.826	393.826
<b>Central and South America</b>	268.541	270.047	268.917	275.127
<b>Europe</b>	153.822	146.942	145.520	142.151
<b>Eurasia</b>	2,164.800	2,164.800	2,177.800	2,1
<b>Middle East</b>	2,686.373	2,799.977	2,823.234	2,828
<b>Africa</b>	518.551	510.357	514.811	605.95
<b>Asia</b>	537.562	504.750	521.464	539.203

**Source:** Energy Information Administration

In 1938, while coal and oil shares in primary energy consumption were about 3/4 and 21 percent respectively, that of natural gas was only 5.6 percent and rose to 9.7 percent in 1950. This share gradually increased 16 percent in 1965, 17 percent in 1970, 19.1 percent in 1980, 22.2 percent in 1990 and 23.3 percent in 1996. It is 25 percent today. On the one hand, natural gas consumption in the world increases, on the other hand, the share of natural gas consumption in the consumption of world's energy resources rises. For example, world's natural gas consumption was 53 trillion cubic feet (Tcf, 1 cubic foot = 28.32 cm<sup>3</sup>; 1m<sup>3</sup> = 35.3 cubic feet) in 1980 and increased from 73 Tcf in 1990 to 85 Tcf in 2000. This number is expected to reach 167 Tcf (4.72 billion m<sup>3</sup>) in 2020. Russian Federation, Central Asia and Middle East will be the main regions of natural gas in the first quarter of the 21<sup>st</sup> century. Central Asia and Africa will meet the growing demand in the world markets. Turkey will be a bridge to transport the Central Asia's natural gas resources to the European markets. After Baku-Ceyhan-Tbilisi oil pipeline and Baku-Tbilisi-Erzurum natural gas pipeline, in 27 June 2012,

Azerbaijan and Turkey governments have signed an agreement on constructing Trans-Anatolian Natural Gas Pipeline Project (TANAP). TANAP aims at transferring natural gas of the second stage of Shahdeniz oilfield settled the Caspian Sea to Turkey and European markets. In this study, firstly presents pre-TANAP period, main features and stages of the project and then analyzes its economic and strategic outcomes by different considered countries.

### **3. Way to TANAP**

After successful implementation of oil strategy, Azerbaijan has identified strategic objectives related to the gas exports policy. Azerbaijan is the only country in the region which exports natural gas into international markets (Turkey, Russia, Georgia). Therefore, European Union considers the country as "provider and participant" of the Southern Gas Corridor. In this framework, Azerbaijan aims to become important and strategic exporter of natural gas. SD II which is developed based on the Project Support Agreement (PSA) is valid until 2036. However, SOCAR's rapidly growing financial reserves and strategic location make it possible to purchase more share in the value chain of the project. This situation will provide SOCAR to control infrastructure. In this stage Azerbaijan does not satisfy by only importing raw materials (crude oil and gas) in Turkey-European border. Natural gas is a strategic resource and if it used wisely, Azerbaijan with SOCAR can obtain geo-strategic and financial privilege. Manage the potential future connections are becoming more and more important day by day. This situation prevents SOCAR from dependence on natural gas companies and therefore, from undergo of economic and political manipulation for the next 20 years (Rzayeva, 2012). By expanding the South Caucasus Pipeline (SCP) project, Azerbaijan will be able to control the processes from extraction to final consumers and thereby to protect its interests. However, this arrangement will not satisfy a country that has the objective of diversification of the gas exports.

Two reasons induce SOCAR to take such kind of measures. First one is the target for extraction of 50 billion m<sup>3</sup> natural gas per year after 2017 (Rzayeva, 2012). Idea of TANAP project first time suddenly raised in Azerbaijan-Turkish transit negotiations in October, 2011 and was guaranteed by adding a point to the intergovernmental agreement in 25 October 2011. Then memorandum of Understanding and the IGA were signed on 25 December 2011 and 26 June 2012 respectively. As both sides agreed, inclusion of the condition that 6 billion m<sup>3</sup> natural gas will be imported to Turkish market was very important for SOCAR, otherwise TANAP cannot be realized. Because the 56-inch pipeline with a capacity of 31 billion m<sup>3</sup>, and only with an initial volume of 10 billion cubic meters will not be economically viable TANAP strongly supported by both the Azerbaijani and Turkish governments as well as by UK, US, EU and even the Nabucco consortium. Due to the different approaches, BP supports both



BOTAS and TANAP projects. There are four stages related to final decision on TANAP and starting its construction. Each of these stages is separately discussed below.

### 3.1. Preliminary agreement

TANAP project, which intends transportation of natural gas, extracting in the second stage of Shah Deniz field, to Turkey and European markets through Turkey, was signed by the Azerbaijani and Turkish governments on 25 October 2011 in Izmir. Two different alternatives are taken into consideration in this project. The first one is national natural gas transmission system of Turkey while the second is construction of this pipeline. The intergovernmental agreement was the foundations of the road leading to TANAP project.

### 3.2. The first publicly announcement of the project

TANAP, as a project was publically announced by SOCAR in Third Black Sea Energy and Economic Forum taking place in Istanbul on 17 November 2011. President of SOCAR stated that in order to transport Azeri natural gas to Turkey and European markets, the pipeline from eastern border to western border of Turkey started to construct.

### 3.3. Memorandum of Understanding (MOU)

After nearly two months of the preliminary agreement, on 26 December 2011, the Ministry of Energy and Natural Resources of Turkey one side and the Ministry of Industry and Energy of Azerbaijan another side have signed memorandum of understanding on construction TANAP in Ankara. SOCAR and BOTASH (Company of Petroleum Pipeline Transportation from Turkey) as shareholders of TPAO (Turkish Petroleum Anonym Shareholders) are decided. MOU also considers involving other international petroleum and gas companies in consortium. Thus, with this MOU, agreement which is signed on 26 October 2011 became more concrete.

### 3.4. Final agreement

The final agreement was signed by the Azerbaijani and Turkish officials on June 27, 2012 in Istanbul which covers intergovernmental agreement on the project, the host country agreement and MOU for the pipeline.

*TANAP Intergovernmental Agreement:* This agreement signed on 27 June 2012 intends transportation of natural gas from Shah Deniz-2 filed to Europe via Turkey.

*Host Country Agreement:* The agreement is signed by Tanel Yildiz, minister of Energy and Natural Resources of Turkey and Rovnag Abdullayev, President of SOCAR.

*Memorandum of Understanding:* The MOU is signed by Rovnag Abdullayev, SOCAR President and Mehmet Konuk, Deputy of General Manager of BOTAS and witnessed by the energy ministers of the two countries.

TANAP pipeline will transport Azerbaijan natural gas through Georgia and Turkey. Entry point of the pipeline in Turkey is Turkgoz while expect points are Eskishehir and Trakya. Entry points in Europe are Greece and/or Bulgaria. So, entry points in Europe are not ultimately decided yet.

The investment cost of TANAP is estimated about 7 billion USD. It is projected that the project will be finished within six years and its capacity will be riches to 31 billion cubic meters.

#### **4. Projected project phases**

The recent TANAP Intergovernmental Agreement was signed on June 27, 2012 in Istanbul and it envisages conveying the natural gas to be obtained from Shahdeniz-2 field, which is one of the world's most important gas fields in terms of the reserve amount, to Europe via Turkey.

TANAP pipeline that passes through Georgia aims to sell and transport Azerbaijan's natural gas via Turkey. The entry point of the line is Turkgozu of Turkish border, the exit points will be Eskishehir and Trakya areas. The borders of Greece and Bulgaria will become the entry point to Europe from Turkey. This part of the new line has not been decided fully, also the one side of it is thought to reach Greece, while the other to Bulgaria.

The investment made on the Trans Anatolian Natural Gas Pipeline Project is presumed to be 7 billion dollars. The first stage of the project, annual capacity of which is planned to reach 31 billion cubic meters, is meant to be completed in 6 years.

In the consortium created for TANAP, SOCAR from Azerbaijan, BOTAS and TPIC from Turkey take part as the first partners. In the consortium BOTAS of Turkey owns 20% share, while SOCAR of Azerbaijan has 80% share. In 2015, Azerbaijan sold 12% of its share to BP making the environment more multinational and adding the world's energy giant to this project. Currently the shares of Azerbaijan, TPIC and BP in the project are 68%, 20%, 12% respectively.

The project is planned to be implemented in 4 stages.

##### *1. The operation stage of the pipeline*

The first of the 4 stages meant for the project will be conducted in 2018 with the flow of the first natural gas. In the first stage, Shahdeniz gas is planned to be sold to Turkey after passing through Georgia. It means in the first stage of the operation of the pipeline in 2018, Turkey will buy 6 billion cubic meters of natural gas per year.

*2. The stage of the first increase in the pipeline's capacity*

In the second stage that is in 2020, the capacity of the line is considered to reach 16 billion cubic meters annually. In this stage, 6 billion cubic meters' part of yearly 16 billion cubic meters of natural gas to be extracted by Shahdeniz-2 consortium will be sold to Turkey, while the portion of 10 billion cubic meters will be exported to Europe.

*3. The stage of the second increase in the pipeline's capacity*

In the third stage, the yearly capacity of the line is planned to reach 23 billion cubic meters in 2023.

*4. The final stage*

Eventually, in the final stage the annual capacity of the pipeline is scheduled to be 31 billion cubic meters. In the following stages, the natural gas export of the TANAP project is aimed to reach 50 billion cubic meters due to the changes in the resources and need for the natural gas.

**5. The economic consequences of TANAP**

Four different alternative projects are suggested for transporting Shah Deniz-2 natural gas to the European market. They are "Great Nabucco", "Trans-Adriatic", ITGI (Turkey-Greece-Italy) and SEEP (Southern East Europe). The European Union and the United States supported the "Great Nabucco" project. The problems related to the financing as well as the strategic uncertainty influences led to some countries to be opposed and some countries to be inconclusive. Even the position of Azerbaijan, one of the leading countries being ready to finance on the project was unclear. After the final agreement between Turkey and Azerbaijan on TANAP, Nabucco Consortium had to revise "Great Nabucco" to "Nabucco Western Project". As a result of the revision, Turkish part of "Great Nabucco" project was replaced by TANAP and therefore the project was shortened. The projected length of the Nabucco Western natural gas pipeline is 1300 kilometers. Azerbaijan accepted "Nabucco Western Project" because Nabucco Consortium advocated TANAP and suggested "Nabucco Western Project" as addition to TANAP to export Shah Deniz-2 natural gas to European markets. Thus, Azerbaijan will receive income from both sale and transportation of the Shah Deniz-2 natural gas.

This project is very useful in terms of employment opportunities in Turkey. The Azerbaijani and Turkish cooperation led to starting one of the big refinery projects in Petkim. In the framework of these two big projects, SOCAR will invest about 17 billion USD in Turkey. Therefore, Azerbaijan and SOCAR will be the first country and company in terms of an amount of investment in the investment history of Turkey.

With the Baku-Tbilisi-Ceyhan, Baku-Tbilisi-Erzurum Pipelines and then TANAP and Petkim projects Azerbaijan became main strategic energy partner of Turkey. By the implementation of the project, which possesses various economic importance, 6-10

billion cubic meter of whole transportation will be oriented into Turkish markets and other 10-25 billion cubic meter will be sold in the European markets.

Given the exit points in Turkey, TANAP by supporting Turkey's National Transmission Pipeline can be also considered as a project, which ensures energy security of the western regions of Turkey.

## **6. Strategic outcomes of TANAP**

Partition of Great Nabucco project into Nabucco West and TANAP has also some strategic outcomes among with economic reasons. TANAP has a big importance for first Azerbaijan and region countries as well as European countries.

Given the relevant price and capacity of natural gas transportation, TANAP has a great importance in terms of energy security of European Union and Turkey.

The European Union and the United States always supported Great Nabucco project, while Russia was opposite side. Therefore, it was difficult for Azerbaijan to manage the processes. It was difficult for Azerbaijan to decide what should do. However, by signing TANAP project, Azerbaijan gave preference to the western side and therefore Europe and Turkey got strategic advantage in the region and Russian pressure is somewhat eliminated by this way. At the same time, Azerbaijan placated Russia by accepting Nabucco West instead of Nabucco Great. Thus, neither the European Union could not be one of the decision makers on transportation of Shah Deniz-2 natural gas, especially in the Turkish area, nor Russia could prevent realization of TANAP project. Indirectly, breaking Nabucco Great into TANAP and Nabucco West did not allow realization of targets of either the European Union and US or Russia. Contrary, in the case of launching transportation of Shah Deniz-2 natural gas, Azerbaijan and Turkey will be in superior position. Moreover, TANAP is a potential alternative pipeline for transporting Turkmen natural gas to Turkey and Europe in future and this will make it possible for Azerbaijan and Turkey to possess of a strategic position in the energy security issues of the region.

It is targeted that the natural gas demand of all the Eastern European countries will be met by Nabucco West pipeline. Reserve of Shah Deniz together with other natural gas sources amounted 1.2 trillion cubic meters is estimated around 2.6 trillion cubic meters. Potential 1.2 million cubic feet of natural gas from the Shah Deniz deposit in Azerbaijan, which have the potential to be approximately 2.6 million cubic meters of natural gas from other sources. Deposits of natural gas from the Shah Deniz deposit, as well as other existing and possible considering the potential of Azerbaijan's natural gas production in 2020-2025 is expected to reach 50 billion cubic meters. These estimates are greater amounts of natural gas to European markets via Nabucco West for the issuance of a major gas supplier to Azerbaijan brings. By taking into consideration other reserves, natural gas production of Azerbaijan is estimated to be 50

billion cubic meter over the period 2020-2025. This will make Azerbaijan one of the main natural gas suppliers for European markets through Nabucco West pipeline. Since TANAP is technically and financially supported by Azerbaijan and Turkey, it can be considered as their own project for transporting natural gas to European markets. TANAP in addition to Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzurum makes Turkey important alternative energy corridor in transporting Caspian energy resources to the Western markets.

There are some strategic outcomes of TANAP for Turkey. The main strategic outcome is related to the European Union accession. By supporting realization of Nabucco Great and therefore supporting in meeting European countries natural gas demand, Turkey became important country and therefore it could accelerate the European Union accession. However, by supporting TANAP instead of NABUCCO Great, the mentions opportunities in some sense were cancelled. Moreover, the resent financial-economic crisis and its continuation negative effects on EU countries decreased Turkey's desire of accession. Furthermore, by supporting TANAP project, Turkey also indirectly preferred getting more close cooperation with Russia. So that, Turkey supported the East Stream project of Russia and in its turn, Russia obliged to support TANAP. In the consortium created for TANAP, SOCAR from Azerbaijan, BOTAS and TPIC from Turkey take part as the first partners. In the consortium BOTAS of Turkey owns 20% share, while SOCAR of Azerbaijan has 80% share. In 2015, Azerbaijan sold 12% of its share to BP making the environment more multinational and adding the world's energy giant to this project. Currently the shares of Azerbaijan, TPIC and BP in the project are 68%, 20%, 12% respectively.

## **7. The effect of TANAP on Nabucco**

Intergovernmental agreement on TANAP's construction affected realization of Nabucco Great. Supporting TANAP by countries led to breakdown of Nabucco Great into two projects as mentioned above.

Nabucco West project, supported by OMV (Austria), RWE (Germany), MOL (Hungary), BOTAS (Turkey), Bulgarian Energy Holding (BEH) (Bulgaria) and Transgaz (Romania) is offered to Shah Deniz Consortium on 16 May 2012. On 16 June 2012, the consortium announced that Nabucco West is relevant pipeline to transport Shah Deniz natural gas to Europe. BOTASH is one of the partners of Nabucco West project.

Nabucco West with the length of 1300 kilometer will transport natural gas to Europe starting from Turkey-Bulgaria borderline through Bulgaria, Romania and Hungary to Austria.

The financial problem of Nabucco Great project may be repeated with Nabucco West project as well. For transporting its natural gas into European markets, Azerbaijan supports Nabucco West, a shortened version Nabucco Great project. For solving

financial issues, Nabucco Consortium has made a preliminary agreement with the European Investment Bank (EIB), the European Development Bank (EBRD) and International Finance Corporation (IFC). Nabucco West and TANAP together form natural gas supply line. They are complementary to each other and in this regard, both of them are very important in meeting natural gas demand of the European countries. It is targeted that 23 billion cubic meters natural gas will transport to the European countries through Nabucco West in the long-run. The consortium accounts for this fact in its projection. In order to obtain its target in terms of export capacity, Nabucco West Pipeline has to add the Central Asia and the Middle East natural gas resources into its supply chain among with Azerbaijan. In this regard, natural gas resources expected to be discovered in Northern Iraq and Turkmen resources should be taken into consideration. In case of discovering natural gas in Northern Iraq, a new pipeline will be needed to transfer this gas to Europe via Turkey.

## **8. Conclusions**

In short, exports of the energy resources of the Caspian Basin, Central Asia and the Middle East to world markets and required pipelines for that significantly affect economic and strategic positions and visions of the countries. TANAP has a great importance in this aspect. Especially, transportation of the energy resources of the Caspian Basin leads to weakening independence of one country from another. Russia (Gazprom) aggressively is trying to implement Southern Stream Project as an alternative to Nabucco West. Southern Stream Project as a potential competitor of Southern Corridor project is rushing to sign the purchase and sale agreements with Central and Eastern European countries. There may be agreements between the Central Europe countries and Southern Stream. These countries do not want to increase their dependence on Russia with South Stream. Bulgaria has obtained 11% of natural gas discount over the period April to December 2012. Obviously, Russia will get Bulgarian vote on First Stage Engineering Design. Serbia has signed an agreement with Gazprom on purchase and sale of 5 billion cubic meters natural gas for 10 years. As a result, European market is informally split between Gazprom and a Shah Deniz consortium: Central Europe will be supplied by Gazprom; the Western Balkans and Italy will be supplied by BP and SOCAR. 6 billion cubic meters of natural gas of Shah Deniz II will not be sufficient for rapidly growing demand of Turkey. Turkey is concerned about this situation and aims to diversify its natural gas supply from Russia and Iran. In this situation, Northern Iraq can play a key role in Turkish natural gas market. Although the Iraqi gas cannot be transported to Turkey or Europe by TANAP, Turkey is currently concentrating on gas fields of Northern Iraq and Turkish energy companies are investing in these fields considerably. Following the successful implementation of the oil strategy, Azerbaijan began to define strategic objectives in

relation to gas export policy. Currently, Azerbaijan is the only country in the region exporting gas to the international markets (Turkey, Russia, Georgia). For this reason, it is seen as “the provider and participant” of Southern Gas Corridor by EU. In this direction, Azerbaijan aims to be the country of an important and strategic natural gas exporter. From Shahdeniz field to the end European user, it targets to take part in the every ring of the value chain. Gas is a strategically product and if it is used effectively, Azerbaijan can reach a substantial geostrategic and financial position with SOCAR. Managing possible future relations assumes great importance day after day. With the growth of South Caucasus Pipeline Project, Azerbaijan will be able to maintain its interests by controlling the gas volume from its source to the end user. However, this arrangement will not provide a country aiming to popularize gas export. Such a step taken by SOCAR can be explained by 2 reasons. The first one is the transportation of Shahdeniz gas after 2017; the second one is to increase Azerbaijan’s oil production to 50 billion cubic meters per year together with the gas that will be produced by new discoveries after 2025. In case of the implementation of these projects, in order for SOCAR to maintain its interest in the lower rows of the value chain in Turkish territory, the development of the above mentioned strategy has become a necessity. Trans Anatolian Pipeline (TANAP) the investment made on the Trans Anatolian Natural Gas Pipeline Project is presumed to be 7 billion dollars.

The first stage of the project, annual capacity of which is planned to reach 31 billion cubic meters, is meant to be completed in 6 years. In the consortium created for TANAP, SOCAR from Azerbaijan, BOTAS and TPIC from Turkey take part as the first partners. In the consortium BOTAS of Turkey owns 20% share, while SOCAR of Azerbaijan has 80% share. In 2015, Azerbaijan sold 12% of its share to BP making the environment more multinational and adding the world’s energy giant to this project. Currently the shares of Azerbaijan, TPIC and BP in the project are 68%, 20%, 12% respectively. Azerbaijan’s natural gas potential in the Shahdeniz field is 1.2 trillion cubic meters and in other sources it is more than roughly 2.6 trillion cubic meters. Given the potential in the other natural gas fields beyond Shahdeniz, Azerbaijan’s gas production is projected to reach 50 billion cubic meters in between 2020-2025. These assumptions bring Azerbaijan to the position of a remarkable natural gas supplier for the export of large amount of gas to the European markets through Nabucco West. The implementation of the project with financial and technical capabilities of Azerbaijan and Turkey has made it a project to be realized between Turkey-Azerbaijan. TANAP means Turkey and Azerbaijan will emerge together in the European market for energy transportation. Along with Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzurum, TANAP has reinforced Turkey’s position as a necessary energy corridor in delivering the energy resources of the Caspian Sea to the Western markets. In this paper, expected strategic and economic outcomes of TANAP are analyzed.

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