Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.5, No.12, 2014


# Energy Relations between Turkey and Russia: Conflict In Energy Projects

Burcu Yavuz Tiftikçigil[1*] Çağla Gül Yesevi[2]

1. Faculty of Economics and Administrative Sciences, Gedik University
Cumhuriyet Mah. İlkbahar Sok. No.1 A Blok 34876 Yakacık Kartal, İstanbul, Turkey

2. Faculty of Economics and Administrative Sciences, Istanbul Kültür University
E5 Karayolu üzeri Bakırköy 34156 İstanbul, Turkey

* E-mail of the corresponding author: burcu.tiftikcigil@gedik.edu.tr

**Abstract**

Energy is the most strategic sector which necessitates long term decisions that highly affect the economy, development, internal security and foreign policy of a country. Continuing significance of oil and gas in geopolitics affects the positions and strategies of actors. The Middle East and Eurasia controls the most a significant portion of hydrocarbons that are yet to be discovered. Russia holds the world's largest natural gas reserves, the second-largest coal reserves, and the ninth-largest crude oil reserves. Turkey has concentrated its efforts for the transportation of Caspian oil and gas reserves to Western markets on the realization of the East-West Energy Corridor, and North-South Corridor. Turkey will inevitably contribute to Europe's energy supply security. Turkey's objective is to become Europe's fourth main artery of energy supply. New pipelines will enhance Turkey's role as an important transit country on the Eurasia energy axis and energy hub in the region. In this study, the history of Turkish and Russian energy policies and main principles of their energy strategies. Main aim of this study is to investigate Russian-Turkish energy cooperation and conflictual energy projects.

**Key Words:** Energy, Security of energy supply, Enery co-operation, Energy Policies

## 1. Introduction

Energy is one of the most important factors of economic growth and development. The energy factor, which has a strategic importance, affects the positions, policies, and practices of states in international political economy. The wealthiest oil and natural gas reserves of the world are located in Russia, Central Asia, and Middle East. The energy in Turkey has a dual importance since its economic growth above the world average and its geographical proximity to these oil and natural gas rich regions.

As a developing country, Turkey is expected to be one of the biggest ten economies of the world in 2023; and the goods and services exports, which are the locomotive of the Turkish economy, are targeted to be 500 billion dollars. The demands of Turkey for energy is rapidly increasing, which is one of the most important inputs since it follows a manufacturing strategy based on RD intense sectors, and the pioneer goods of their own sectors. However, the supply of energy can not meet the demand for energy in Turkey. Turkey also targets to be a safe energy corridor between manufacturer and consumer countries in the East-West and North-South axis by using its strategically important location and to be the fourth biggest artery after Russia, Norway, and Algeria in Europe. In this context, Turkey makes agreements with several countries and develops new policy strategies to decrease the energy supply deficiency in Turkey and to eliminate the possible supply security problems.

Turkey's dependence to Russia is very high especially for the natural gas. Turkey has been trying to provide internal and external energy supply security by making several agreements with Russia since 1984. The most important agreement is the Blue Stream Project, which was signed in 1997 and became operational in 2002. In Energy and Natural Resources Strategic Plan for 2010-2014, Turkey put the Blue Stream 2 Project on to agenda to transfer the energy of Russia to the EU. In addition to this, Turkey has let the use of the exclusive economic zone in Black Sea in the scope of the South Stream project. Another area that Turkey and Russia have been cooperating in energy is related to the nuclear energy production. The construction of the Mersin Akkuyu Nuclear Power Plant will be realized by Russia.

## 2. The Energy Outlook of Turkey

According to "Vision 2023 Technology Foresight Project-Energy and Natural Resources Panel Report" of TÜBİTAK (2003), when the current economic growths and developments are analyzed, the primary energy supply of the world is expected to increase more than 40% by 2023 and 85% of this increase has to be covered by the fossil fuel. It is predicted that the share of the Middle Eastern countries of OPEC will increase to 75% by 2023, which provides 50% of the world oil export currently (TÜBİTAK, 2003: 33).

Turkish economy has experienced the growth rates of 9.2% in 2010; 8.8% in 2011 and 2.2% in 2012. The energy consumption of Turkey rapidly increases in parallel with its economic growth. The annual increase in the energy demand of Turkey is 4.6% since 1990 as the second country after China for the increase of the natural gas and electricity energy demand. The annual increase in the energy demand is around 5.5-6%. In recent years, this increase has been exceeded 8% (TUİK, 2013 and Yazar, 2010: 4). According to International Energy Agency, the energy demand of the Turkey is expected to be doubled within the next ten years. Energy Ministry also predicts that the annual energy consumption of Turkey will reach 222mtep by 2020. Current energy policies target a 3% decrease in the external dependency within the next 10 years by 2020. (U.S. Energy Information Administration - U.S. EIA, 2013; Yazar, 2010: 4-5) (Figure 1).

The inadequacy of the local resources for the increasing demands especially for oil and natural gas cause increases in the importation. Currently, 26% of the energy demand of Turkey is provided by local resources. Turkey is dependent to external resources above the rates of 70%. The lack of primary energy resources except lignite and external dependency in oil and natural gas create risks for energy security (2013 Program, 2012). In 2011, Turkey imported 90% of its liquid fuel oil consumption. According to IEA, energy import of Turkey will be doubled in 10 years (IEA, 2013) (Figures 2 and 3).

According to 2011 data, Turkey has been conducting its natural gas import 58% from Russia and 19% from Iran. Iran follows Russia with a share of 19%. According to January-September 2012 data, Turkey provides 10% of its raw oil import from Russia. The rate is 12% for 2011 (Figure 4 and Figure 5).

## 3. Energy Strategies and Policies in Turkey

In the pre-Republican era, the underground energy resources had been opened to foreign country and private persons because of the lack of capital. Neither Izmir Economy Congress of 1923 nor I. and II. Industry Plans (1930-1938) could form a clear energy policy since there was not enough knowledge on the energy resources of the country. After the establishment of the Republic, the existence of the foreign country and persons in Turkish energy business continued but local enterprises also started to take part in the energy sector. In addition to the French Eregli Company, Is Bank also entered the business in the area of hard coal. In 1935, MTA, Etibank and EIE; and in 1941 Petrol Ofisi were established. Hard coal mines in 1940; and all of the foreign financed electricity ventures had been nationalized between 1938 and 1944 (MÜSİAD 1996: 7-9).

The developments in energy sector which had been disrupted with the Second World War, started to accelerate after 1950. Energy policies had been implemented in accordance with that period's mixed economy policies. It was aimed to concentrate on the private sector in the energy sector; and to attract foreign investment while public enterprises were being developed at the same time. Major projects started to be materialized in this period. It was planned to build hydraulic and thermic plants based on local resources, and privileged electricity enterprises were restored. ÇESAŞ, KERPEZ, Northwest Anatolia and Aegean Electricity Companies were established in the area of electricity. In the area of coal, Turkish Coal Enterprises was established in 1957. Another important development in this era is the establishment of State Hydraulic Works (SHW) in 1953 (MÜSİAD, 1996: 9-11).

In 1960s, development was tied to Five Years Development Plans that were started to be implemented; a statist energy policy based on protectionism was adopted. In 1963, several energy agencies under different ministries and other institutions were united under the Energy and Natural Resources Ministry. In 1970, Turkish Electricity Institution (TEI) was established. In this period, the importance of the energy had been deeply realized and so many major projects had been made. Also, initiations for establishing nuclear power plants were taken in this period (MÜSİAD, 1996: 11-13).

Before 2000, while OPEC was playing a dominant role in the world oil market; inward oriented, distant from the developments of world energy markets, short-termed, import oil based energy policies, on which public sector had the monopoly role in investment, production and pricing decisions in energy markets, were implemented in Turkey. After 2000, policies related with liberalizing energy markets and increasing the competitiveness; replacing public sector with private sector; providing coherence and integration with EU and world energy

markets; diversifying energy; being an energy corridor; and total energy reform were started to be implemented in order to support the export based outward oriented economy policies (Bilginoğlu, 2012: 12).

In this context, in the study that made by TÜBİTAK in 2003 for stating 2023 vision for Turkey; energy and natural resources vision of Turkey was underlined as; "*Turkey which can prioritize national resources in free, transparent and stable market conditions; develop and use high technologies for searching these resources and for their quality, safe and economic production; produce, transport, stock and use the energy it needs in a safe, reliable, economic, efficient, and environment friendly technologies; develop high technologies which can compete in the international energy market and play a more effective role in the international energy investments*" (TÜBİTAK, 2003: 36).

Strategic themes specified by the Strategic Plan (2010-2014) by TR Energy and Natural Resources Ministry for providing internal and external energy supply security of Turkey in international energy market are as follows:

**Strategic Theme 1:** Energy Supply Security

**Strategic Theme 2:** Regional and Global Efficiency of Turkey in the Area of Energy

**Strategic Theme 3:** Environment

**Strategic Theme 4:** Natural Resources

**Strategic Theme 5:** Institutional Development

One of the major targets of the Energy and Natural Resources Ministry Strategic Targets is to decrease external dependency especially in the natural gas and oil. According to the International Energy Agency, the primary energy resources consumption in Turkey was 4.95162 quadrillion Btu, while the production was 1,4095 quadrillion Btu (Figure 1). Thus, diversifying the resources by prioritizing local resources and decreasing the import dependency, which is around the level of 70%, are the main aims of the Plan.

In the Strategic Plan, beginning to the construction of nuclear energy plant and having the level of 30% for the share of the renewable energy within the electricity energy production in 2023 are stated as targets until 2014. In the scope of the Ministry projects, it is aimed to decrease the primary energy density of 282 (calculated through kg equivalent of oil/1000 dollar, according to 1998 GDP level, dollar prices of 2000) in 2008 to 254 in 2014, thus achieving a decrease of 20% until 2023.

In the base year of 2008, natural gas production in Turkey (total domestic and foreign production) was realized approximately at the level of 1 $m^3$, and the consumption was at the level of 36 $m^3$. External dependency rate in natural gas is at the level of 97.3%. In 2008, oil production in Turkey (total domestic and foreign) was approximately 19.3 million barrels, and the consumption was 32.3 million tones. External dependency in oil is at the level of 93%. Therefore, it is aimed to double the external crude oil and natural gas production until 2015 according to 2008 base year production levels (Table 1).

The second strategic target of the Energy and Natural Resources Ministry is providing regional and global efficiency of Turkey in the area of energy. One of the aims for this strategy "*Making Turkey an energy corridor and terminal by using the geostrategic location of Turkey efficiently through the regional cooperation processes in the area of energy".*

Turkey is located in an important geography that owns 72% of the proven oil and natural gas reserves of the world. According to British Petroleum (BP) expectations, the consumption of the primary resources in the world will be increased by 39% in 2030 (BP Energy Outlook 2012). This situation makes Turkey an energy corridor between west and east. In this perspective, one of the targets that Turkey determined under the title of Strategic Theme 2 *"Realization of the projects for increasing the oil and natural gas supply security of Turkey and Europe by 2015".*

Turkey aims to be the fourth artery of Europe after Russia, Norway and Algeria. To realize this aim, Turkey undertakes initiations for being a safe energy corridor in the axis of East-West and North-South, between the producer and consumer countries; and participate several projects in addition to the existent oil pipeline projects (Note 1) (Table 2) (TR Foreign Affairs Ministry, 2013).

In the energy policy of Turkey, in order to meet the increasing demand and decrease the external dependency, four main subjects have been underlined; to diversify its energy supply routes, to increase the share of renewable energy and include the nuclear in its energy mix, to use energy efficiently and to contribute to Europe's energy security. As a result, energy strategies of Turkey under the 2023 targets can be summarized as; providing internal supply security by diversifying resource countries and routes; contributing to internal and external security especially to European continent by efficiently using geopolitical strategic position; increasing the share of renewable energy in the use of energy and beginning to benefit from nuclear energy thus, decreasing the import dependency; conducting RD studies for increasing energy efficiency.

## 4. Energy Outlook of Russia

Russia has the world largest natural gas reserves; the second largest coal reserves and the ninth largest crude oil reserves. Thus, Russia is one of the major energy producer and exporter countries. In 2011, Russia exported 4.8-million bbl/d crude oil. The greatest share of the Russian crude oil export belongs to Europe with 78% especially Germany, England, and Poland. This rate is followed by Asia with 16% and North and South America with 6%. 80% of the Russian export has been delivering through the Transneft pipeline. Russia has been using 8 pipelines, 8 ports, and railways for oil export (U.S. EIA, 2012).

### *4.1. Energy Policies of Russian Empire*

The first oil was drilled in Caspian Basin in Baku at 1594. Russia achieved to established dominance over Baku with the Gulistan Agreement of 1813 and started to control oil production (Bilgin, 2005: 151). The first paraffin operating system was established to operate Baku oil in 1823. The first mechanical oil drilling system was established in 1848, the first refinery in the region was established in 1863 by Russians. Until 1873, around 80 refineries were built by Russians around Baku. However, Russia started to lose its dominance after a while. Most important reasons were the political instability and inability to keep up with modern technological developments (Bilgin, 2005: 152). At the beginning of the 1870s, Russian government abolished the monopolistic system and opened the market to free competition. Swedish chemist Robert Nobel came to Baku and bought a little refinery, and Nobel family entered the oil business (Yergin, 1992: 58). The oil production started in Baku in Russian Empire. The development of the oil industry was provided by the foreigners (Reinsch vd., 1992: 5). The first oil was produced by Nobels and reached to St. Petersberg in 1876. In 1910, Russia was producing more than half of the world total oil (Yergin, 1992: 58-59).

In 1886, Rothschilds became the most important rival of Nobels by establishing a new oil company and owned the second biggest oil company of Russia. In 1890, Baku oil constituted 97.7 % of the total oil drilled in Russia. In spite of the increases in the share of the Russia in the oil trade, the USA was still the leader of the sector. Technological inadequacies, labor riots, ethnic and political problems caused troubles in the Russian oil industry. In this period, Royal Dutch/Shell entered the Russian market again and became the most important economic power of Russia (Yergin, 1992: 60-62, 133).

The oil industry of Russia around Baku started to decline 10 years before the First World War. 1905 Revolution deepened the social, political, economic, and ethnic problems. Thus, between the years of 1904 and 1913, the share of Russia in the world export declined from 31% to 9% (Yergin, 1992: 133). Another important aspect to be focused is that the share of the foreign companies in Russian oil market was increasing despite the problems. In this period, Nobel, RoyalDutch/Shell and Russian General Petroleum Company provided 51% of the production (Reinsch vd.,1992: 5).

### *4.2. Energy Policies of Soviet Union*

While discussing the oil policies of the Soviet Union, the most important development to emphasize is the nationalization of the oil fields in 1918. Therefore, the control of the oil industry passed completely to Russians. According to Rasul Gouliev (1997: 32-33), one of the most important reasons of the Bolshevik Revolution was the oil. Moreover, as Bögüt stated (1997:3)Baku oil revenues played an important role in the success of the Russian Revolution

Bolshevik Revolution started a new era for the Russian oil industry. In this period, Nobel family fled the country. They wanted to sell their oil assets however; they no longer owned those assets after the nationalization (Yergin, 1992: 237).

After the declaration of independent Azerbaijani Republic, Azeri government ended the nationalization and gave the investments back to their owners (Bagirov, 1996: 22). However, Bolsheviks regained Baku in 1920 and nationalized the oil fields again (Yergin, 1992: 237). Until 1930, all foreign companies lost their privileges

except Standard Oil in Batumi and Japan companies in Sakhalin. Standard Oil achieved to keep oil production rights until 1935, and Japan companies stayed in Sakhalin until 1944 (Gouliev, 1997: 36). Oil industry grew during the first and second 5 years plans. Most of the production had been provided by Baku and Caucasia region (Gökay, 1998: 51).

During the Second World War, Azerbaijan was the largest reserve providing the oil demands of Soviet Union and Soviet army. Azerbaijan was providing 70-75% of the oil production of the country. 80-90% of the aircraft oil production was also provided by Azerbaijani oil (Gouliev, 1997: 36). In this period, Russians continued to oil production. Since the early 1940s to mid-1950s, oil was exported to China and to eastern allies of Russia. After the death of Stalin, they wanted to export oil to the West again but the Western countries rejected this offer. The reason for that Western countries were avoiding to be dependent to the Soviet Union. As a result, Western countries felt they could be harmed politically and militarily. Before the war, Caucasian region, Baku and Northern Caucasian oil fields became the major fields of the Soviet Union. In 1950, this role was passed to Volga-Ural region. As Rasul Gouliev stated, when Volga-Ural region showed exhaustion signals, this role was passed to Western Siberia field. The first oil was drilled in 1959 from there (Gouliev, 1997: 39-40).

As Marshall Goldman (1977: 93) stated, in 1975, Soviet Union became the biggest oil producer in the world, and a major exporter after Saudi Arabia and Iran. On the other hand, Soviet Union was the second biggest oil consumer in the world. As a result, internal oil demand exceeded the production levels.

In 1970s, natural gas exportation from Soviet Union to Western Europe has been started. The first biggest natural gas pipeline arrived to Germany in 1973. In the reform era and during the dissolution of the Soviet Union both natural gas and oil exportations were declined (Shaffer, 2009:118).

The first nuclear power plant built to produce electricity is Obninsk Reactor of 1954. In the mid-1980s, Soviet Union had 25 nuclear power plants. However, Chernobyl nuclear accident of 1986 caused disruption in the nuclear activities (World Nuclear Association, 2012:1).

The Soviet Union faced an oil crisis in 1980. The Council for Mutual Economic Assistance (COMECON) members were purchasing Soviet oil below the world price with 60% discount. This situation was changed in 1986. It was claimed that this change was effective in the dissolution of the COMECON. In 1987, Gorbachev passed an “Entrepreneurship Law”. With this law, liberties were given to international companies (Reinsch vd., 1992: 63-66).

As a result, if the similarities and differences between the Soviet Union and the Russian Empire are analyzed, at first it can be said that they followed similar oil policies. Both administrations made more oil production to increase the revenues. In this context, so many oil fields were opened. However, inadequate techniques were employed. Low quality equipment was the problem of both administrations. Oil used as a raw material. They exported crude oil. They failed to refine the oil. The Russian Empire and The Soviet Union could not regulate the oil prices sufficiently. The most important difference was that the Russian Empire let foreign capital but the Soviet Union prevented that. This implementation was finalized in 1987.

*4.3. Energy Policies of the Russian Federation*

Russian Federation has the largest proven natural gas reserves of the world by having one fourth of the proven natural gas reserves of the world. Russia makes 35% of its natural gas exportation to the members of the CIS (Commonwealth of Independent States). Except the CIS countries, 70% of the natural gas export is being made to Europe mainly to Germany, Turkey and Italy (Figure 6). Russia uses 8 natural gas pipelines for natural gas export. The pipeline, which passes through Ukraine and Belarus and used to transport to Europe had been shut down because of the political conflicts that Russia experienced with these countries. Because of the transportation problems to the Europe, some of the European countries have been searching for alternative natural gas suppliers and pipelines (IEA, 2012).

Russia has been implementing more statist policies in order to preserve its monopoly power in natural gas and to provide its energy security. Russia has the 25% of the natural gas reserves of the world and its natural gas monopoly Gazprom provides 35% of the natural gas consumption of Eastern Europe. Gazprom obtains two thirds of its income from its European exports. In this respect, Russia has an important position in the European energy supply security. While the EU tries to diverse resource and export countries for decreasing its dependence to Russia, it seems as the most important provider country for European countries (Bayraç, 2009: 127).

After the dissolution of the Soviet Union, Russian Federation created policies with the consciousness of its importance on fossil fuel economy and policies. Russian Federation developed its economy by using these raw materials and used them as a foreign policy tool. Russian Federation has the world's largest energy supply. According to 2020 Strategy Document of Russia (2003), Russian Federation has the one third of the world's natural gas reserves, one fifth of the coal, one tenth of the oil and fourteen percent of the uranium. The aim of the Russian Federation is the efficient and effective use of energy resources. Russia's 2020 Strategy Document, which was prepared by the Energy Ministry, signifies a liberal approach. Russia aims to have better oil and energy complexes with new technologies. Accordingly, Russia plans to limit the role of the state in the energy sector and restructure the energy market. It is emphasized that the state has to play a regulatory role in trade relations.

According to 2030 Energy Strategy Document of Russia (2010: 24-29), the main aim is to provide efficient use of natural resources, to decrease the dependency of economy to the energy sector, and to make energy sector more developed and efficient. According to 2030 Energy Strategy Document (2010: 19), Russian energy sector directly affects the social situation of the country. The main problems in the energy security are the attrition rates of the fixed assets in the energy sector and the low levels of investments made to this sector. The attrition rates in the electricity and a natural gas sector is 60%; in the oil refinery sector, it is 80%. Another problem about the energy security is the high dependence of Russian economy and energy sector consumption to the natural gas. This rate is equal to 53% of the total energy consumption. Another problem about the energy security is the non-compliance to international scientific, technical, and environmental standards at the international levels. Energy infrastructure plants in East Siberia and Far East develops very slowly. According to IEA 2011 Report (World Energy Outlook 2011 Executive Summary, 2011:6), the production in the West Siberia oil and natural gas fields will decline and in connection to this, need for developing fields with higher expenses in the regions of West Siberia, East Siberia and Northern Pole will rise.

According to the World Factbook (2012), the natural gas reserves of Russia is at the first place in the world with 44.8 quadrillion $m^3$. Its closest rival Iran has 29,6 quadrillion $m^3$. The USA has 7,7 quadrillion $m^3$ of natural gas reserves and Turkmenistan has 7,54 quadrillion $m^3$. In the production of natural gas, Russia comes just after the USA. In the 2030 Energy Strategy Document (2010: 21,55), it was stated that the crude oil production of Russia constitutes 12% of the world production; 4/5 of that is being exported to Europe; and Russia holds the 30% of the European market. Also, Russia holds 23% of the world natural gas reserves and its share in the world natural gas trade is 25%. Russia provides 30% of the energy needs of Europe (including Turkey). The coal reserves of Russia are 19% of the world reserves and covers 5% of the world coal production. The nuclear electric energy industry constitutes 5% of the world nuclear energy market. Also, Russia has 15% of the world nuclear plant market, 45% of the uranium enrichment market, 8% of the world natural uranium production.

Russian Federation is one of the most important energy producers with 60 billion barrels oil and 150 quadrillion $m^3$ reserves. Russia is also an influential country in the European natural gas with its pipelines in addition to its energy production capacity. Its influential position in energy is advantageous for it to lay political control in former Soviet Union borders. The instability of economic situation played a role in the dissolution of the Soviet Union. After the dissolution, with the effects of the 1998, oil and natural gas prices seriously declined. This crisis led a decline in Russian economy, which is dependent to energy prices. Then, with the increase in the oil and natural gas prices, growth rate was caught up again. Global crisis of 2009 caused a decline in the oil and natural gas prices and this led to financial crisis in the Russian economy. The main aims of Russia energy policy are to protect its monopoly position in the Central Asian energy supply and distribution; to provide energy to Europe with new pipelines without any transit countries, and also to prevent alternative projects to Russian projects by owning distribution systems in Europe by Gazprom (Sevim, 2012:174-175).

## 5. Cooperation and Conflict in Turkey-Russia Relations in Energy

Energy input is positioned in the first place of the international political agenda. Especially, Russia's relations with its neighbours, entrance to Georgian border, closing down the pipeline which transports natural gas to Turkey when it had a conflict with Ukraine; moved the energy supply security issue back into the agenda in Turkey and in the world (Yazar, 2010: 17). Russia is one of the most important countries providing energy needs of Turkey, especially for the natural gas. Turkey is the third biggest customer of Gazprom after Germany and Italy with 7% of total natural gas export of Russia.

According to TMMOB The Chamber of Mechanical Engineers Energy Outlook of Turkey Report, Turkey covered it energy consumption 39.9% from natural gas, 26.7% from oil, 16.6% from coal, and 14.1% from lignite. In 2011, Turkey imported the natural gas 57.9% from Russia; 18.67% from Iran; 8.68% from Azerbaijan;

9.4% from Algeria; and 2.84% from Nigeria. Also, in 2011 Turkey imported the oil 51% from Iran, 17% from Iraq, 12% from Russia, 11% from Saudi Arabia, and 7% from Kazakhstan (EPDK, 2012: 70).

According to temporary foreign trade data prepared by Turkish Statistical Institute (TÜİK) and Customs and Trade Ministry, on May 2012, the greatest exportation had been made with Iran, Germany, Iraq, and the UK. These countries were followed by Russia with 575 million dollars of exports. Russian Federation had the first place in import and it had been realized as 2196 million dollars. According to TÜİK 2010 data, the rate of fuel oil in Russian goods export is 64.4%; and the rate of fuel oil in Turkish export is 14.7%. The rate of fuel oil in Russian goods import is 1.5%. The rate of manufacturing in Turkish goods export is 79.2%; and the rate of manufacturing in Russian goods export is 14.7%.

The economic dimension is at the forefront for Turkey-Russia relations. Turkey imports energy raw materials from Russia. Also, it exports ready goods to Russia. Russia is at the first place for the imports, and at the sixth place for the exports of Turkey. Turkey makes 9.9% of its total import from Russia, and 4.4% total export to Russia (TÜİK, 2011).

### *5.1. Cooperation Areas in Energy*

The energy relations of Russia and Turkey started in 1984 with the signature of the natural gas agreement. Turkey started to take Russian natural gas from a pipeline through Ukraine, Romania and Bulgaria (Özbay, 2011: 41). On 12-13 January 2010, Prime Minister Recep Tayyip Erdoğan made a working visit to Russia as a guest of the Russian Federation Prime Minister Vladimir Putin. In this scope, South Stream, Nabucco Projects, Samsun-Ceyhan Crude Oil Pipeline, Blue Stream II, Ceyhan port refinery projects, and the visa liberalization were discussed. In this meeting, the removal of the condition of "buy or pay" or at least its alleviation was also discussed. Cooperation in the construction of nuclear power plants, the construction of the Tuz Lake natural gas storage facility and development of energy cooperation in Iraq were also evaluated (Çemrek, 2010: 96).

### *5.2. Cooperation in the Oil*

The external dependency of Turkey in solid fuels like wood and coal is 41.2%, external dependency in oil is 92.3%, external dependency in natural gas is 71.4%. The general external dependency is 71.4% (Sanlı, 2011:5). The producible oil reserve of Turkey for 2011 is 310.4 million barrels and if new discoveries will not be made, domestic total crude oil reserves have 19.2 years to extinction with current production levels (TPAO, 2012:13). Like it was stated, Turkey obtained 12% of the oil it needed from Russia in 2011 (EPDK 2011 Activity Report, 2012: 70).

### *5.3. Cooperation in the Natural Gas*

Middle East has the 40.5% of the world's total natural gas reserves; Russian Federation has 23.9% of it (BOTAŞ, 2012: 13). Natural gas is the major imported goods from Russia to Turkey. The dependency of Turkey to Russia is very high in natural gas. Turkey makes several agreements with Russia for providing its internal and external energy supply security. The first agreement between Russia and Turkey in the area of energy had been signed in 1984. According to the Natural Gas Agreement that was signed on 18 September 1984 between Russia and Turkey, Russia guaranteed to provide natural gas to Turkey under trade standards for 25 years starting from 1987; Turkey also guaranteed to import this gas. Turkey receives 6-billion $m^3$ gas annually through the pipeline passing Ukraine, Romania, and Bulgaria with the 1984 agreement. In addition to this agreement, a second agreement was signed with Russia on 1996 for 8 billion $m^3$.

#### *5.3.1. Blue Stream Project*

"Blue Stream Natural Gas Pipeline" agreement was made between two countries on 15 December 1997 because of the growing need of Turkey to natural gas. Pipeline was opened at the end of 2002. 25 years Blue Stream Project is the third natural gas purchase agreement with Russian Federation. It was decided to transport 16-billion $m^3$ natural gas to Turkey annually with a pipeline starting from Russian lands with the agreement signed between Botaş and Gazeksport for the duration of 25 years, and it was planned to purchase a total of 365-billion $m^3$ natural gas from Russia (http://www.rusya.ru/TurkiyeRusya.htm).

Blue Stream Project was built to transfer natural gas from Turkey to Russia directly. Blue Stream consists of 65 km long line between İzobilnoye-Djubga in Russian lands, 392 km long two different lines between Djubga-Samsun, and 501 km long line between Samsun-Ankara in Turkish lands. This agreement is for 25 years and was made to realize a gas purchase, which would gradually increase to 16 billion $m^3$. The opening of the line was realized on 17 November 2005 (Özbay, 2011: 60).

The realization of the Blue Stream Project was beneficial for the Russian interests. The main problem for Turkey was the incompatibility of the condition of "buy or pay" to the national interests. The other issue was that this project prevented the energy system of Turkmenistan to be separated from Russia. With the Blue Stream line, the construction process of the Trans-Caspian Pipeline was disrupted. Trans-Caspian project, which would make Baku-Tiflis-Ceyhan line more effective, was given up when the Blue Stream project was preferred. As a result, Turkmenistan continues to sell its gas through Russia unlike its wishes (Bilgin, 2005:312-318).

#### *5.3.2. South Stream Project*

With the South Stream Project, it is expected to transport 63-billion m³ natural gas annually from Caspian region to Europe and it will be active in 2015. According to South Stream Agreement signed by Russian Company Gazprom and Italian Company ENI, the pipeline which starts from Beregovaya Terminal, also the starting point of Blue Stream line, will be in length of 900 km under the 200 m depth of Black Sea and the northern line will reach to Bulgaria. The line will be divided into two in Bulgaria and northern line will reach to Austria through Romania and Hungary; southern line will reach to Italy through Greece (Örmeci, 2012). Turkey let the use of the exclusive economic zone in Black Sea in the scope of the South Stream Project (Koç, 2012). Since South Stream Project will follow the same route with Nabucoo, it is seen that the race between these competitive projects will result in Russian benefits. This project has no problems with supply. The support of Turkey to the South Stream Project is meaningful for Turkey-Russia energy cooperation. By the help of this project, Russia can bypass Ukraine which it experiences troubles with natural gas transport and can be more effective in the gas transport to Europe.

### *5.4. Cooperation in Nuclear*

The cooperation between Russia and Turkey is a popular subject for both countries. On 12 May 2010, "Agreement on Construction and Management of a Nuclear Power Plant in Akkuyu Field" was signed with Russia (Official Newspaper No: 27721).

The main issue that has to be emphasized here is the fact that the owner of the Mersin Akkuyu nuclear power plant will be Russia. Russia will finance the whole project. If the Russian project company would like to sell its shares, it will hold the 51% of the shares and Turkish side will only have 49% of the shares. Mersin Akkuyu nuclear plant will be the first nuclear plant, which will be owned by a foreign country in a sovereign country. If Russia cannot carry out the project successfully, it will be able to choose to company that will replace it. Russia will bring personnel and labour from Russia for the plant it will build and perform. Also, the model units that Russia will build in Akkuyu have been newly developed and not been tried yet. Researches showed that no cheap electricity could be produced in Akkuyu. Accordingly, in response to the guarantee of 15 years of electricity purchase, 12.35 cent will be paid for kilowatt-hour. This number is 6-7 cents in European countries (Künar, 2011: 72-81).

### *5.5. Conflict in Energy Projects*

Turkey and Russia have been cooperating for developing oil, natural gas and nuclear energy. The problems had been experienced after the dissolution of the Soviet Union in the transport of energy resources from the newly independent countries to energy consumer countries. The ownership of the energy pipelines by Russian Federation caused the continuity in dependency to Russia for the use of routes. In the scope of the Peace Pipelines Project, it was supported to transfer of the resources of the newly independent energy rich countries to Europe with Baku-Ceyhan-Tiflis, Nabucco and Trans-Caspian Projects. In this part, Baku-Tiflis-Ceyhan and Nabucco projects will be discussed which causes problems for Turkey-Russia relations.

#### *5.5.1. Baku-Tiflis-Ceyhan Oil Pipeline*

Turkey and Russia had been presented as rivals during the construction process of Baku-Tiflis-Ceyhan Oil Pipeline; thus 1990s had been noted as the conflict years between Turkey and Russia by the construction of this project and the alternative pipeline suggestions of Russia. Turkey supported the construction process of Baku-Tiflis-Ceyhan oil pipeline since this pipeline would make it easier for Turkey to reach the raw materials in the long run. In addition to this, the construction of the process would provide employment opportunities and transition fees would contribute to the economy (Bremmer, 1998: 28). Another point to be emphasized is that Turkey believed that the construction of the pipeline would provide support for the elimination of PKK. In this way, Turkey would become a hub for oil (Özkan, 1997; Taşpınar, 1999). In this period, especially military experts underlined that the PKK terror was supported by the countries, which did not want Baku-Tiflis-Ceyhan pipeline (Özfatura, 1996). Baku-Tiflis-Ceyhan Oil Pipeline would also enable to decrease the dangerous tanker traffic in the straits. Providing security of the straits was a primary issue for Turkey. Turkey had also been

interested in the protection of the ecological balances in Black Sea, Mediterranean and open seas (Ottoman, 1995).

Oil was a strategic element for Russia. Russia did not want to lose the power of controlling oil and natural gas pipelines. The fact that the entrance of the Caspian oil to the world market would decrease the prices and profits had an importance for world energy policies. The actors of the oil market aim to control the pipelines. 1990s passed by discussing the advantages of Baku-Tiflis-Ceyhan Oil Pipeline. For the ones who did not want to leave their future in Russian hands, Turkey was a good alternative. It was appropriate for the countries of the region, which wanted to sell their oil and natural gas, be self-sufficient, and get rich (Akgün, 1997). Eurasian energy alternative was a necessity for the Western energy consumer countries (Öğütçü, 1995). US policies were supporting Turkey to be an energy and communication corridor. In this way, Iran was supposed to be bypassed and Russia was supposed to be left outside in the energy game (Çandar, 1997).

Turkey opposed to passage of oil through the straits with environment and security concerns and the energy transport interests of Russia and Turkey were conflicted. As a result, Baku-Tiflis-Ceyhan Oil Pipeline became operational in 2006 with the support of the USA and the countries of the region. However, the next periods proved that Baku-Tiflis-Ceyhan Project could not be that influential in the decision-making process with respect to interests of Turkey in the region. This line served as a sub-transport system after the restructured energy regime in the period after the dissolution of the Soviet Union (Bilgin, 2005: 292).

### *5.5.2. Nabucco Project*

Nabucco Project is a natural gas pipeline project, which is announced as the new gas bridge from Asia to Europe. This project aims to transfer gas from Caspian region and Middle East to European markets. This pipeline aims to bring gas to Austria through Turkey, Bulgaria, Romania and Hungary. The primary aim of the projects is to provide the gas to the countries on its route. The other aim is to bring the natural gas to Western Europe by taking advantage of the importance of Austria as a natural gas distribution point. According to BOTAŞ (2012) data, it had been planned that 2512 km of the line would pass through Turkey. Total length of the pipeline is 3825 km. In the official website of Nabucco Project, it is stated that 10-23 billion $m^3$ natural gas would be transported through 1300 km long line, when the project is completed. The part in Turkey is not included in the total length of the line. According to BOTAŞ Sector Report of 2011 (2012:9), the capacity of the line is expected to be 25,5-31 billion $m^3$ and it would become operational in 2016.

In July 2009, an agreement had been signed in Ankara to constitute the legal structure and equal access conditions of the pipeline with an intergovernmental agreement. Şahdeniz field in Caspian was accepted as the starting point of the project. This project had been signed by BOTAŞ from Turkey, Bulgargaz from Bulgaria, Transgaz from Romania, MOL from Hungary, and OMV companies from Austria. In April 2012, MOL Company from Hungary declared that it would leave the consortium. According to Nabucco Gas Pipeline official website, Hungarian company FGSZ replaced MOL company 100%. Şahdeniz II consortium declared in June 2013 that it would choose between Nabucco West and Trans Atlantic Pipeline (TAP) to carry the Azerbaijan natural gas to Europe. TAP foresees the transport of Azeri natural gas to Europe through Greece. Nabucco West aims to transport Azerbaijan natural gas to Europe through Eastern Turkey and Bulgaria (Dalga, 2012). However, Şahdeniz II Consortium decided in favour of Trans Atlantic Pipeline (TAP) and Nabucco West Project had been racked.

## 6. Conclusion

It is expected that the energy demand of Turkey will increase in the forthcoming period. Turkey can only cover 26% of its energy demand with local resources. It is on the agenda to diversify resource countries and routes to cover the increasing demand. The most important dimension of the relations between Turkey and Russia is the issue of energy. According to International Energy Agency 2011 data, Turkey is dependent to Russian in natural gas import with 58%. According to Eurostat 2012 data, Russia provides 10% of the crude oil import. The cooperation between Russia and Turkey in energy was moved into a different level when Russia undertook the construction of the nuclear plant. Turkey is also a very important transit country for Caspian basin and Central Asian oil and natural gas. One of the most important aims of the Turkey Energy Strategy is to contribute to European energy security. European Union countries are dependent to Russia in energy. In order to overcome this dependency, they have been searching for new resource countries and new routes. In this context, it is aimed to reach Caspian basin and Central Asian oil and natural gas through Turkey. Turkey has the features to be the transit country to transfer Azerbaijan natural gas and oil, and Turkmenistan natural gas to Europe. In this context, two countries had confronted in the past in the scope of the Baku-Tiflis Ceyhan and Nabucco projects.

However, when the energy resources of Russia are compared with the other countries, it becomes clear that Russia is energy giant. With the implementation of North Stream and South Stream projects, the position of Russia in the European market will be strengthened. The reason for not realizing Nabucco project was the lack of sufficient energy supply and finance. In the energy relations of Turkey and Russia; one-sided dependency of Turkey to Russia is observed, not a mutual one. Mutual dependency in energy relations will be a determinant factor in the shape of the Turkish foreign policy. Turkey needs to find long-term solutions to its energy problems and to rule out future tendencies that could be caused by dependency. In this context, it is necessary to increase the share of the renewable energy resources and concentrate on the production of local resources. It is crucial to follow the technological developments and to use them in the production of energy resources. It is necessary to provide state support to increase the capacity of Turkey to produce high technology products. It is suggested to prepare long-term energy policies by considering environment, security and foreign policy repercussions.

## BIBLIOGRAPHY

Akgün, M. (1997, November 27). Bakü-Ceyhan Çok mu Önemli. *Yeni Yüzyıl*.
Bagirov, S. (1996). Azerbaijani Oil: Glimpses of a Long History. *Perceptions: Journal of International Affairs,* 1(2), 21-35.
Bayraç, H. N. (2009). Küresel Enerji Politikaları ve Türkiye: Petrol ve Doğalgaz Kaynakları Açısından Bir Karşılaştırma. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi, 10* (1), 115-142.
Bilgin, M. (2005). *Avrasya Enerji Savaşları*. İstanbul: IQ Kültür-Sanat Yayıncılık.
Bilginoğlu, M. A. (2012). Türkiye'nin Enerji Sorunları ve Çözüm Arayışları. Erciyes Üniversitesi Stratejik Araştırmalar Merkezi. Avaliable: http://www.erusam.com/images/dosya/Turkiyenin_Enerji_Sorunlari_ve_Cozum_Arayislari.pdf (July 20, 2013).
BOTAŞ, (2012). Uluslararası Projeler. Avaliable: http://www.botas.gov.tr/icerik/tur/projeler/yurtdisi.asp (July 8, 2013).
BOTAŞ, (2012). 2011 Yılı Sektör Raporu.
Bögüt, Ş. (1997). Caspian Oil Perspectives. *Türkistan Newsletter, 1(10),* Avaliable: http://www.euronet.nl/users/sota/turkistan.htm. (May 12, 1999).
Bremmer, I. (1998). Oil Politics: America and the riches of the Caspian Basin. *World Policy Journal, 15(1),*27-35.
BP (2012). Energy Outlook 2030. London.
Çandar, C. (1997, November 16). Amerika-AB-Türkiye. *Sabah*.
Çemrek, M. (2010). *Rusya-Türkiye İlişkileri*. Ankara: Yeni Rusya, Stratejik Düşünce Enstitüsü.
Dalga, Ö. (2012). Doğalgaz Boru Hatları Tatlı Rekabette. Avaliable: http://www.bloomberght.com/ht-yazarlar/ozlem-dalga/1178336-dogalgaz-boru-hatlari-tatli-rekabette (May 10, 2013).
EPDK, (2012). EPDK 2011 Faaliyet Raporu.
Eurostat. İstatistiki Veriler. 2013.
Goldman, M. (1977). The Soviet Union as a World Oil Power. In Frank Trager (Ed.) *Oil, Divesture and National Security.* New York: National Strategy Information Center Inc.
Gouliev, R. (1997). *Petrol ve Politika : Petrol Üreten Ülkeler Arasındaki Yeni İlişkiler: Azerbaycan, Rusya, Kazakistan ve Batı Ülkeleri.* New York: Liberty Publishing House Inc.
Gökay, B. (1998). Caspian Uncertainities: Regional Rivalries and Pipelines. *Perceptions: Journal of International Affairs,* 1(2), 50-58.
HABERFX (2012). Enerji Bakanı Yıldız: Nükleer Santrallerin Riski, Yıldırımdan Ölme Riski 5'te Biri. Avaliable: (http://www.haberfx.net/enerji-bakani-yildiz-nukleer-santrallerin-riski-yildirimdan-olme-riskinin-5te-biri-haberi-531334/ (June 21, 2012).

Industrial Revolution in Baku and the foundation of the Azerbaijan Republic. (1999, January 23) Avaliable http://www.ab.az/texts/hist4.htm (January 30, 1999).
IEA (2012). World Energy Report. Avaliable: http://www.iea.org/publications/freepublications/publication/IEA_Annual_Report_publicversion.pdf (August 20, 2013)
IEA (2013). Countries-Turkey, (Notes).
IEA (2012). Countries-Russia, (Full Report).
IEA (2013). Oil and Gas Emergency Policy-Turkey, (Full Report).
Koç, M. E. (2012). Güney Akım Projesi ve Suriye Hengamesi. *Yeni Mesaj,* Avaliable: http://www.yenimesaj.com.tr/?artikel,12002293/guney-akim-projesi-ve-suriye-hengamesi/mehmet-emin-koc (July 12, 2012).

Künar, A. (2011). Nükleer Yanlışlıktan Vazgeçelim. Enerjimizi ve Geleceğimizi, Rusya'ya Teslim Etmeyelim. (72-81). *Avrupa'da Türkiye: Türkiye ve Avrupa Birliği'nde Enerji Güvenliği,* Istanbul: Heinrich Böll Stiftung.
MÜSİAD (1996). 2000'li Yıllarda Türkiye'nin Enerji Politikası. *MÜSİAD Araştırma Raporları.* Ankara: MÜSİAD
Nabucco Gaz Boru Hattı Resmi Sitesi (2012). Avaliable: http://www.nabucco-pipeline.com/portal/page/portal/en/Home/the_project (July 19, 2012).
Netzer, N. ve Steinhilber, J. (2012). Krizi Hiçbir Zaman Iskalama, Sürdürülebilir Enerji için Yeşil Işık. *Nükleer Enerjinin Sonu mu*?. İstanbul: Friedrich Ebert Stiftung Derneği.
Ottoman, A. (1995, October 9). Karadeniz'de Petrol Taşımacılığı Yapılamaz. *Yeni Yüzyıl.*
Öğütçü, M. (1995, October 15). Avrasya Petrolü Dünyanın Gözbebeği Olacak. *Yeni Yüzyıl.*
Örmeci, O. (2012, March 28). Nabucco Projesi. Avaliable: http://www.tuicakademi.org/index.php/yazarlar1/97-ozan-ormeci-tum-yazilari/2875-nabucco-projesi (Jul7 12, 2013).
Özfatura N. (1996, December 5). Türkiye Zengin Kaynaklarını Kullanmalıdır. *Türkiye.*
Özkan, Y. (1997, October 22). PKK : Terör Taşeronu. *Cumhuriyet*.
Reinsch, A. E. & Lavronsky, I., Considine, J. I. (1992). *Oil in the Former Soviet Union: Historical Perspectives – Long Term Outlook*. Alberta: Canadian Energy Research Institute.
Resmi Gazete (2010, Ocotber 6) No.27721.
Rusya'nın Sesi (2012, July 3). Nabucco'nun Türkmen Hayalleri. Avaliable: http://turkish.ruvr.ru/2012_07_03/Nabucco/ (July 14, 2012).
Rusya.Ru. (2012). Türkiye-Rusya. Avaliable: http://www.rusya.ru/TurkiyeRusya.htm (November 5, 2013).
Sanlı, B. (2012). Türkiye'de Enerjide Dışa Bağımlılık ve Risk İncelemesi. Avaliable: http://www.barissanli.com/calismalar/2011/bsanli-arzrisk.pdf (August 7, 2012).
Schaffer, B. (2009). *Energy Politics*. Philedelphia: University of Pennsylvania.
Sevim, C. (2012). *Küresel Enerji Stratejileri ve Jeopolitik.* Ankara: Seçkin Yayıncılık.
T.C. 2013 Yılı Programı. (2012).
T.C. Dışişleri Bakanlığı. (2013). "Türkiye'nin Enerji Stratejisi", Avaliable: http://www.mfa.gov.tr/turkiye_nin-enerji-stratejisi.tr.mfa (March 20, 2013)
T.C. Enerji Piyasası Düzenleme Kurumu. (2012). Doğalgaz Piyasası 2011 Yılı Sektör Raporu. Ankara.
T.C. Enerji ve Tabii Kaynaklar Bakanlığı (2010). 2010-2014 Dönemi Stratejik Planı.
Taşpınar, S. (1999, February 20). Rusya, Apo'yu Petrolle Değişti. *Sabah*.
The Ministry of Energy of Russian Federation (2003). Energy Strategy of Russia for the Period up to 2020. (2011). Avaliable: http://ec.europa.eu/energy/russia/events/doc/2003_strategy_2020_en.pdf (May 5, 2011)
TMMOB Türkiye Maden Mühendisleri Odası (2012). *Türkiye'nin Enerji Görünümü*. 588. Ankara: TMMOB
TPAO (2012*). Ham Petrol ve Doğalgaz Sektör Raporu.*
TÜBİTAK (2003). *Vizyon 2023 Teknoloji Öngörü Projesi Öngörü Projesi-Enerji ve Doğal Kaynaklar Paneli Raporu*, Ankara.
TÜİK (2012). Ulusal Göstergeler. Avaliable: http://tuikapp.tuik.gov.tr/ulusalgostergeler/degiskenlerUzerindenSorgula.do, (July 16, 2012).
TÜİK (2012). Haber Bülteni. Avaliable: http://www.tuik.gov.tr/PreHaberBultenleri.do?id=10848. (July 16, 2012).
TÜİK (2014). İstatistiki Veriler. 2010-2013.
EIA (2012). Turkey. Avaliable: http://www.eia.gov/countries/country-data.cfm?fips=TU&trk=pl. (
Woehrel, S. (2009). *Russian Energy Policy Toward Neighbouring Countries.* Congressional Research Service.
World Bank. İstatistiki Veriler. 2013.
World Factbook (2012). Russia. Avaliable: https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html (November 12, 2012).
World Nuclear Association (2012). Russia's Nuclear Cycle. http://www.world-nuclear.org/info/Country-Profiles/Countries-O-S/Russia--Nuclear-Fuel-Cycle/ (August 20, 2012).
Yazar, Y. (2010). *Türkiye'nin Enerjideki Durumu ve Geleceği*. Ankara: Seta
Yergin, D. (1992). *The Prize: The Epic Quest for Oil, Money & Power*. New York: Simon & Schuster Publication.

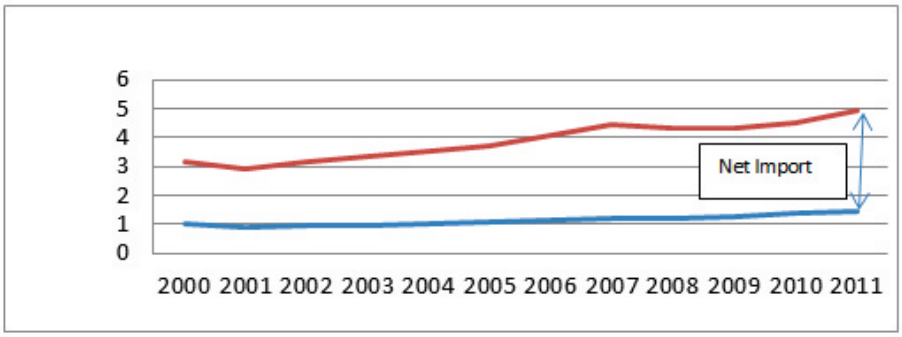
**Notes**

Note 1.

Existent Oil Pipelines (OP): Iraq-Turkey OP, Batman-Dörtyol OP, Ceyhan-Kırıkkale OP, Şelmo-Batman Ham OP, Baku-Tiflis-Ceyhan OP

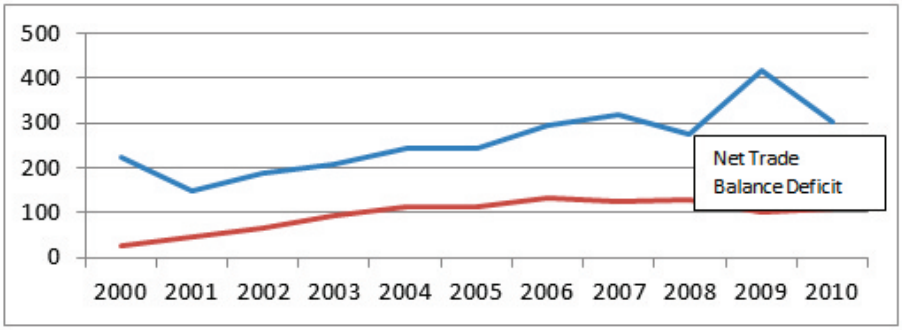
Existent Natural Gas Pipelines (NGP): Russia-Turkey NGP (Main Line), East Anatolia NGP (Ana hat), Russia-Turkey NGP (Blue Stream), Turkey-Greece NGP, Azerbaijan-Turkey (Şahdeniz) DGBH, Karacabey (Bursa)-İzmir NGP, Çan-Çanakkale NGP

Figure 1. Primary Energy Production and Consumption of Turkey; 2000-2011 (Quadrillion Btu)



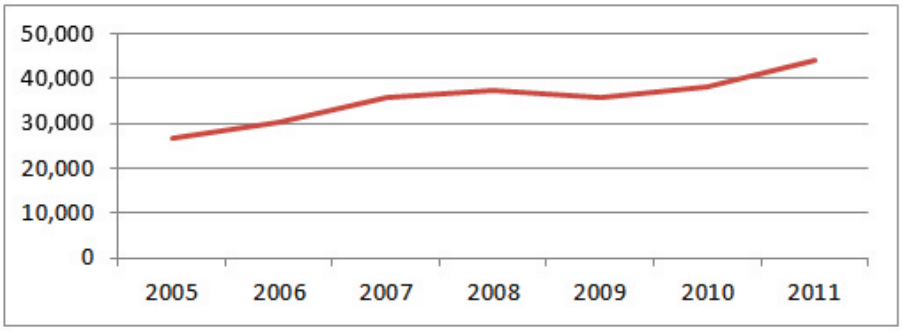

Source: World Bank, IEA

Figure 2: Total Import and Export of Refined Oil of Turkey; 2000-2010 (Thousand Barrels per Day)




Source: World Bank; IEA.

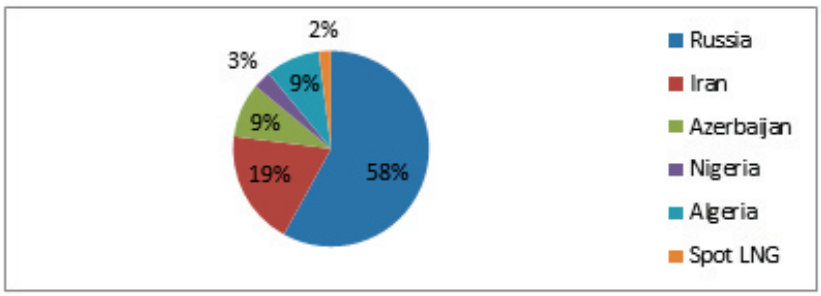
Figure 3. Total Natural Gas Import of Turkey; 2005-2011 (million $Sm^3$)




Source: TR Energy Market Regulatory Authority, Natural Gas Market 2011 Sector Report, Ankara 2012.

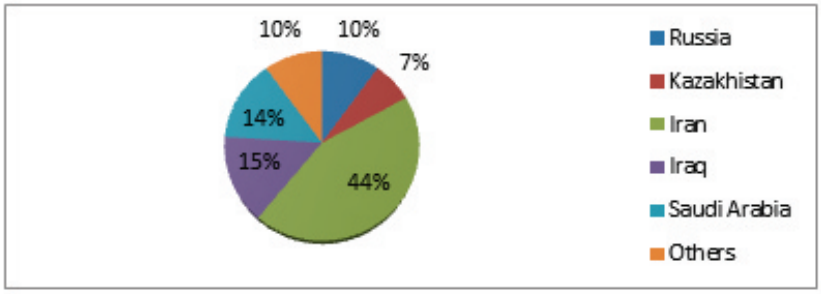
 

Figure 4. The Shares of the Countries in the Natural Gas Import of Turkey (2011;%)



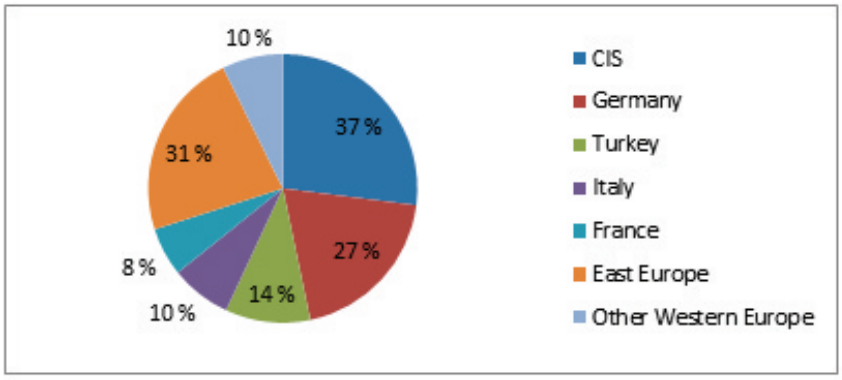

Source: U.S. IEA.

Figure 5. Share of the Countries in the Crude Oil Import of Turkey (January-September2012; %)




Source: Eurostat.

Figure 6. Natural Gas Import of Russia According to Countries, 2010 %




Source: U.S. IEA, Russia-Analysis, 2012.

Table 1. Performance Indicators for Oil and Natural Gas

| | Foreign Crude Oil Production Amount (thousand barrels) | Foreign Natural Gas Production Amount (thousand barrels) |
|---|---|---|
| Base Year 2008 | 9000 | 474 |
| Target Year 2014 | 20.000 | 1.000 |

Source: TR Energy and Natural Resources Ministry-Strategic Plan (2010-2014).

Table 2. International Projects Planned to be Realized until 2015

| **International Projects** |
|---|
| Iraq-Turkey Crude Oil Pipeline (COP) |
| Nabucco Natural Gas Pipeline (NGP) |
| Turkey-Greece-Italy Natural Gas Pipeline Project |
| Interlocking Turkey and Syria Natural Gas Networks Project |
| Iraq-Turkey Natural Gas Pipeline Project |
| Turkmenistan-Turkey Natural Gas Pipeline Project |
| Qatar-Turkey Natural Gas Pipeline Project |
| Turkey-Israel Multiple Pipelines Project |
| Blue Stream 2 Natural Gas Pipeline Project |
| South Stream Natural Gas Pipeline Project |
| Samsun-Ceyhan Crude Oil Pipeline Project |

Source: TR Energy and Natural Resources Ministry-Strategic Plan (2010-2014).

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

## CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: http://www.iiste.org/book/

### IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar