Eurasian
Research
Journal
July 2019
Vol. 1, No. 2

HISTORY OF THE ENERGY SECTOR DEVELOPMENT AND KAZAKHSTAN'S ENERGY POTENTIAL

Zhuldyz KANAPIYANOVA[1]

ABSTRACT

Kazakhstan has the largest oil resources in Central Asia mainly concentrated in the Caspian Sea region. Revenues from oil exports is the primary source of income for the state budget of Kazakhstan and essentially important for the entire economy of Kazakhstan. Europe is the major market for Kazakhstan's crude oil. However, the fact that pipelines connecting Kazakhstan and European consumers go through Russia and other countries poses certain political and economic risks on Kazakhstan. In this light, China appears to be an alternative for Kazakhstan's oil exports. The aim of the study is to examine Kazakhstan's major energy deposits, their capacities, oil and gas pipelines and projects, and to investigate the energy policy within the framework of neoliberal theory. The results show that Kazakhstan is pursuing an energy policy dependent on Russia and seeks to strengthen cooperating with China. However, there are certain pitfalls and obstacles that Kazakhstan needs to overcome.

Key Words: Kazakhstan, energy policies, pipelines, oil and gas resources, neoliberal theory.

1 PhD Candidate, Uludag University, Bursa, 16059, Turkey, e-mail: juldyz777@hotmail.com

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

INTRODUCTION

After gaining its independence in 1991, Kazakhstan started to take its energy resources in its own hands and to take steps towards its production and export. The energy sector is decisive for the economy of Kazakhstan and is the main factor of participation in the global economy and socio-economic development. The control over energy resources is very critical in defining the geopolitical importance of each country. Kazakhstan with its enormous oil reserves has a considerable influence on the foundation and requirements of the world energy market.

Given the fact that the initial pipelines of Kazakhstan were built during the Union of Soviet Socialist Republics (USSR), Kazakhstan exported its oil primarily through Russia to Europe. This fact makes Kazakhstan and Russia interdependent when it comes to oil exports and energy policy. The interdependence relation of Kazakhstan with Russia is asymmetrical due to the fact that Russia is much powerful economically and in terms of political influence, which makes Kazakhstan more dependent on Russia. During Boris Yeltsin's presidency in 1990s, the political attention of Russia was largely concentrated on establishing friendly relations with the West and the policy of "near abroad" was practically abandoned. The situation has changed drastically when Vladimir Putin took the office and Russia began to reclaim its political interest in Central Asia. Furthermore, President Vladimir Putin declared Russia as a major energy actor in the region and started to seek ways to secure control over energy transport from Central Asia.

During a long period of time the first President of Kazakhstan Nursultan Nazarbayev has been defining his foreign policy as multi-vector. This policy allowed Kazakhstan to maintain balanced relations with all major global and regional powers. Therefore, this policy of Kazakhstan was immediately extended to the energy policy and its intentions perfectly matched with the interests of China, which was seeking ways to diversify its energy suppliers. The new direction in energy exports required new pipeline infrastructure. The energy infrastructure inherited from the USSR was an asset and an impediment at the same time since it was initially designed for redistribution of crude oil among various regions of the USSR. Oil exports through these pipelines were feasible but it was very risky and costly to deliver oil to foreign markets. The government of Kazakhstan continues to face problems concerning how to export its energy resources and to protect its independence from foreign energy interests. This situation brings a negative effect on the competitiveness of Kazakhstan's oil exports in international markets.

In this study, energy policies of Kazakhstan will be examined from the neoliberal point of view and will be supported by hypothesis and assumptions of neoliberal theorists. The main aim of the study is to examine the energy policies and position of Kazakhstan and to determine the energy potential of the country, to identify energy deposits and pipeline systems and to determine their potential for energy exports. The research question is what are the main countries that could be markets for Kazakhstan's oil exports, outside Russia, and what are the ways of accomplishing this task.

The main thesis of the study is that, Kazakhstan, which has a big energy potential, and other countries, which are ready to cooperate with each

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

other, are rational actors and will negotiate in order to reach a relative gain rather than the absolute gain. The relationship that develops with the principle of interdependence will be profitable and long lasting for both parties. Kazakhstan, which is in an asymmetric relationship with Russia, wants to develop interdependence cooperation and develop a more independent policy while, the alternative buyers, such as China and the Western world, especially Europe and USA cooperating with Kazakhstan in energy field, will reduce their energy dependence on the Middle East and OPEC. The huge natural resources of the country, growing production and export of goods give Kazakhstan a chance to use energy reserves as an instrument, to support and reach country's interests and foreign policy goals. Kazakhstan can accomplish its difficult foreign policy position and forestall too much dependence on any country, especially Russia.

In the first part of the study, the conceptual and theoretical framework will be analyzed with the assumptions of the neoliberal theorists. The historical background of Kazakhstan's energy policies will be investigated in the second part of the study. The energy deposits of Kazakhstan are discussed in the third part final fourth part of the study tackles the issue of pipeline in Kazakhstan.

CONCEPTUAL AND THEORETICAL FRAMEWORK

In the international system, neoliberal theory, which prevailed in the 18th and 19th centuries, is differed from realism and it focuses on peace and cooperation rather than international conflict. Unlike realists who consider the main actor of the international system as a state, neoliberals argue that there are other actors besides the state in the system. Neoliberal theory has been distinguished from the previous liberal theories by criticizing realist theory and occasionally participating in some of its assumptions. For example, according to neoliberals, the anarchic structure of the system does not interfere with the cooperation between states (Wendt, 1999).

Neoliberals also argue that there is a "reciprocity" mechanism that prevents the realists' assumption "international politics is the basis for the gain of a state but the loss of the other and therefore deception is common, that they see as a zero-sum situation" (Cakmak, 2014). This reciprocity mechanism, which envisages both parties to win, will enable Kazakhstan and the other states to co-operate with Kazakhstan and to have easier access to their common interests. In addition, according to neoliberal theory, interdependence is increasing among states, especially in economic matters (Viotti and Kauppi, 1999). According to Robert Keohane and Joseph Nye, who contributed significantly to neoliberalism, interdependence is a set of conditions that shape the interaction between countries and the actors in countries. In other words, it is a complex of conditions of connections and relations, which creates interaction channel among the states, actors and societies in the international system (Keohane and Nye, 2001). According to interdependence, the relationship between the two actors occurs when one of the two is more important than the other. Particularly, one actor is always more in need of another and this means an important bargaining power for the other actor. However, regardless of whether they have interests, the relation-

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

ship between the parties is mutually beneficial. In the interdependence relationship, there is a desire and effort to maintain the relations of both parties, which are at different levels, instead of the asymmetric power relations dominated by one of the actors. There should be no cost for the parties to talk about interdependence and this cost should limit the freedom of movement of the parties (Keohane and Nye, 2001).

The interdependence between Kazakhstan and other countries will be realized by marketing rich energy resources of Kazakhstan to countries with energy problems. At the end of this cooperation, Kazakhstan will improve its political relations with its economic power, while the states with energy problems will solve the energy demand and, thus, both parties will benefit from the cooperation. As Kazakhstan and other states that can cooperate with it are rational actors, it will be easier to enter into cooperation. Moreover, according to Arthur Stein, states give importance to economic power because of their military power and therefore cooperation in the economic field is accomplished more intensively and successfully (Stein, 1993). Therefore, cooperation in the economic and energy spheres between the states, which cooperate with Kazakhstan, will proceed successfully. Moreover, according to the neoliberal theory, the "welfare state" aims to increase the welfare of its citizens. "The welfare state" model for Kazakhstan consists in reducing unemployment in the country and inflation, strengthening the economic situation and increasing the standard of living of the people. For these purposes, Kazakhstan aims to diversify its energy policy by cooperating with other states. Consequently, the government of Kazakhstan will seek to cooperate in energy, which will increase the economic well-being of its citizens. In order to become a leader in the economy and energy sector, Kazakhstan will deal with "absolute gain" instead of "relative gain". Nonetheless, this situation will be more successful in the economic issues that are defined as "low policy" instead of realists "high policy" which is related to the military and security issues (Keohane and Nye, 2001), because the cost of deception in military matters is more costly than economic issues (Lipson, 1993). Kazakhstan will try to take part in oil and natural gas projects, which are considered as "low policy", instead of more costly military issues which are defined as "high policy".

HISTORICAL BACKGROUND

The Central Asian countries, including Kazakhstan, which gained independence with the collapse of the USSR in 1991, stepped into a new era at the export of their energy resources. Kazakhstan, an oil-rich country, has been producing oil for more than 100 years and the first energy discovery was made very long ago. For example, the first Kazakh oil was found in Karashungul oil field (Atyrau region) in November 1899 and the Kazakh oil production started from that period. After that, a high-quality oil deposit in Dossor was discovered in 1911; the Makat oil deposit (Guryev region) in 1913 etc. In 1914, the oil production from Dossor and Makat deposits exceeded 200 thousand tons (Uyzbayeva, Tyo, and Ibrayev, 2015).

After the October Revolution in 1917, it was decided to nationalize all productions, because of a big role in the development of the country's economy. After that, developments in the oil field continued at full speed.

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

For instance, "Embaneft" were established in 1922 to organize management of Ural Emba region oil fields. In 1926 rotary drilling and geophysical research methods began to be used. Further, the Guryev-Dossor railway was opened enabling transportation of oil. In 1930, Aktobe region started developing in terms of energy. As a result, the rapid development of the Guryev region continued. In order to foster the energy policy in the region, laboratories and petroleum technical colleges were opened and the "Embanefteproekt" office was established. Within the framework of these developments, the Guryev-Emba-Orsk oil pipeline construction started in 1932 and Baychunas, Koschagil, Shubarkuduk and Kulsary oil fields were opened.

Kazakh oil production, which experienced a great pause in the years of World War II, started to revive after the 1960s. For example, higher speed turbine drilling used, instead of rotary drilling. In addition, oil exports increased, and the emergence of cheap Soviet oil has led other oil companies to lower their prices. Similarly to the old fields, new oil fields, such as Karsak, Prorva, Martishi, Tanatar, Kenkiyak and Ozen have been opened and oil production has started. During 1960-1965, Kazakhstan had a capacity to produce 2 million tons of oil annually. With the opening of Ozen and Jetibay deposits in the Mangishlak region in 1969, Kazakhstan's proven reserve being up to 20 times and annual revenue increased up to 14 times and annual production exceeds 10 million tons (Hardin, 2012).

In 1970, several oil fields such as Karazhanbas, Severnie Buzachi and Kalamkas were discovered. Additionally, the construction of the Ozen-Guryev-Kuybishev railway pipelines was completed. In 1974, the oil production in Mangishlak reached 21 million tons, and Kazakhstan became the second in the oil production in the Soviet Union after Russia.

In 1990, the year of independence, Kazakhstan experienced a decline in oil production due to an economy's instability and begun to attract foreign investment. In the context of developing energy, KIOGE International Petroleum and Natural Gas Fair was organized for the first time in Almaty in 1993 and the Ministry of Oil and Natural Gas Industry of the independent Republic of Kazakhstan was opened. The "Petroleum law" was adopted and a contract was signed for the operation of Karachaganak oil deposit between Agip, British Gas, Gazprom, Kazakhgaz and Kazakhstan's government. National companies such as, "Kazakhoil" and "Kaztransoil" were established and they were given the opportunity to participate in energy projects on behalf of the Kazakhstan government. In 1998, an agreement was signed between Kazakhstan and the Russian Federation on the northern border of the Caspian Sea and the construction of the Aktau port was completed. In 2000, the national Kaztransgaz Company was established. The largest Kashagan deposit was opened in the last 30 years in the world and national company "KazMunayGaz" was established in the same year. Kazakhstan's annual oil production reached 76 million tons in 2010. As can be seen from the numbers, oil production is an important budget source and economic income for the Kazakhstan government. For example, in 2017, half of the country's budget came from the oil sector. 80% of the oil production in the country is exported to other countries. Approximately 70% of the country's annual exports comprise energy resources. According to British Petroleum (BP) 2017 data, Kazakhstan's proven oil reserves were 30 billion barrels. This ratio constitutes 1.8% of the world's oil reserves and ranks 12th in the world.

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

According to 2017 data, daily oil production was 1 million 835 thousand barrels and daily consumption was 311 thousand barrels. At the end of 2017, the natural gas reserve comprised 1 trillion cubic meters. It consists of 0.5% of the world natural gas reserves and ranks 20th in the world. While natural gas production in 2017 was 27.1 billion cubic meters, daily consumption was 16.3 billion cubic meters (BP Statistical Review, 2017).

ENERGY FIELDS OF KAZAKHSTAN

Kazakhstan's energy deposits are located in the west of the country and the Caspian Sea region contains about 223 oil and 58 natural gas deposits. One of the three largest oil fields such as Tengiz and Karachaganak are on land whereas Kashagan is under the sea bottom and 50% of the country's energy reserves are located in these deposits (Hays, 2016).

Tengiz natural gas and oil field was discovered in 1979 with its 26 billion barrels of oil reserves in Atyrau region and the production capacity is over 25 million tons and it is considered as the second largest field after Kashagan deposit. The field which started production in 1988 is still operated by "Tengizshevroil" (joint venture between Chevron 50%, Exxon Mobil 25%, KazMunayGaz 20% and LukArko (a subsidiary of the Russian oil company Lukoil) and US's "Chevron" company in 1993. Today, the field is operated by KazMunayGaz by 20%, Chevron Overseas with 50%, Exxon Mobil with 25% and Lukoil with 5%. As can be seen, 75% of Tengiz is operated by US's Chevron and Exxon Mobil, Kazakhstan with 20% and Russia with 5%. Here we can see the dominance of the US in the operation over the field compared to Russia. Tengiz's oil production reached 26 million tons in 2010. Since 2001, Tengiz's oil has been exported to Novorossisk (Russia) through the Caspian Pipeline Consortium. Since November of 2008, Kazakhstan has increased its exports with the Baku-Tbilisi-Ceyhan (BTC) pipeline. In addition, after August 2008, transfer of oil via the Baku-Batumi rail recommenced (Kenter et al. 2010). As it can be seen, the oil produced in Kazakhstan is mainly exported through Russia via oil pipelines contributing to an asymmetric power relationship between the two countries. Therefore, Kazakhstan that wants to diversify its energy policy needs a new pipeline system, capital to build it and to solve the Caspian Sea property rights problem by following an independent policy in order to transport its oil to foreign markets. In terms of diversification of Kazakhstan's energy policy, the BTC pipeline is an alternative market. However, the amount of oil transported through the BTC pipeline and the amount of oil exported to Russia cannot be compared.

Karachaganak oil and natural gas deposit, which is located near Aksay city of Western Kazakhstan, opened in 1979. The production started with Russia's "Orenburg Gazprom" company in 1980. The deposit is estimated to contain 1.22 million cubic meters of natural gas and 1.2 billion tons of oil. "Karachaganak Petroleum Operating" (KPO) company was founded in 1984 to operate the so-called field. KPO is operated by Italy's ENI, England's British Gas, US's Chevron, Russia's Lukoil and is expected to operate until 2038. Natural gas produced from the company is exported to Orenburg, Russia (Elliot et al., 1998). The produced natural gas here is also transferred to Russia through existing infrastructure and the field is operated by Russian and western companies. Therefore, Kazakhstan's policy of diversification is limited by the fact that the field is not only

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

operated by Russian companies but also with participation of western companies.

Kashagan oil and natural gas deposit is one of the largest and most operationally difficult fields in the sea which is located at a 75km*45km area, with 36.6 billion barrels of oil and 1 trillion cubic meters of natural gas reserves. The difficulty of the field depends on the physical properties of the reservoir, the high pressure in the reservoir and the high hydrogen sulfide content, as well as the geographic location of the reservoir, which is frozen in winter. In order to overcome the technical and financial difficulties, an agreement on operating the field was signed in 1997 between the government of Kazakhstan and the Offshore Kazakhstan International Operating Company N.V (OKIOC), international oil company with vast experience in development of similar types of oil and gas fields. In 2001, the rights of OKIOC were passed to AgipCo and in 2008 to North Caspian Operating Company (NCOC). Currently NCOC comprises of the following partners: Eni (Italy), Total (France), Exxon Mobil (USA), Shell (Holland), CNPC (China), Inpex (Japan) and KazMunayGaz (Kazakhstan). As can be seen, Kashagan field is operated by western companies as well as with the contribution of Chinese and Japanese companies, disabling Russia. Kashagan field was opened with Vostok 1 well in 2000. The start of oil production was postponed several times and it was announced that it would be launched in 2012, but the first production was made in 2013 and the pipeline was stopped again due to the fault in the pipeline. The studies did not give the expected result and the opening of the field was postponed until 2016. The first production started in November 2016 and 8.35 million tons of oil was produced in 2017 (Hays, 2016). Produced oil from this field is transported to an export terminal near Novorossiysk (Russia) through Caspian Pipeline Consortium (CPC). Kashagan became the second largest source of CPC, overtaking Karachaganak.

Kazakhstan, which has similar oil and natural gas deposits, has to solve two important problems in order to increase the existing oil production, diversification of energy policy and carrying out an interdependence relationship with other countries which will be based on absolute gain principle. First, the "property rights" issue related to resources that are contained in this sea between the countries bordering the Caspian Sea. If this issue is resolved, potential deposits will be put into operation and Kazakhstan will be able to diversify its energy policy by producing more oil. Another important problem shared by all countries in the region is the development of routes that will carry Kazakh oil to the world market. Because the region, which is surrounded by land from all sides, needs new pipelines and new routes to transport the oil and natural gas to the world markets.

PIPELINES OF KAZAKHSTAN

Energy-rich Kazakhstan built 10715 km of oil and gas pipelines to transfer its natural resources abroad. Nevertheless, the Astana government faces a number of problems to move its energy either domestically or abroad. With regards to the problem within the country, as mentioned above, the rich resources of the country are in the west, but the country's major and industrial cities are located in the north and south-east. As a legacy of the Soviet economic system, oil exports to the West is transported to

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

the world markets through Russia, while the domestic demand in the eastern region is imported from Russia's Siberian region. Furthermore, most of the existing pipelines were built long ago and were intended to achieve the goals of the USSR, and not of independent Kazakhstan. Today, various projects such as Caspian Pipeline Consortium are under development to improve the current situation. The Kazakh natural gas sector has often been faced with a significant lack of infrastructure, especially pipelines. Although Kazakhstan is connected to other Central Asian countries by 6 natural gas pipelines and to Russia, there is no connection between gas production areas located in the west of the country and consumption areas such as relatively densely populated southeast and industrialized north.

Oil Pipelines of Kazakhstan

The first Pipeline Consortium agreement was signed on the islands of Bermuda between Kazakhstan and the Sultanate of Oman on June 17, 1992, then the Russian Federation was included in the agreement. The agreement foresaw that Russia and Kazakhstan would transfer all pipeline shares to the Consortium and the Sultanate of Oman would finance pipelines. In order to make the agreement functional in 1994, Tengiz-Atyrau-Astrakhan-Novorossiysk (with other name CPC) construction of the export pipeline system was adopted by the Ministry of Kazakhstan (Hardin, 2012).

The CPC, which has changed its shareholder a few times since its establishment, is now operated by companies such as "Mobile", "Shell", "British Gas", "British Oil", "Rosneft" and "Lukoil", except Russia, Kazakhstan and Sultanate of Oman. The cost of the CPC pipeline, which is important in the transfer of Kazakhstan's oil, was at $2.5 billion. The consortium, which started its construction in May 1999, unloaded its first tanker in October 2001. The 1510 km long CPC pipeline is targeted to carry 28 million tons of oil annually in the first stage and then is planned to carry 67 million tons of oil annually. It has reached a capacity of 32 million tons by 2012 (Dellecker, 2008). Together with BTC pipeline, CPC, is transported the oil from Caspian Sea to the world market. These two pipelines were made to diversify the new transfer routes to the world market in the post-Soviet period independent from Russia. Since the BTC pipeline does not have any connection to the Kazakhstan deposits, Kazakh oil is transported by tankers. CPC passes through Russian territory to bring Kazakh oil into the world market. In order to bring Kazakhstan resources to the world market as an alternative to CPC, Kazakhstan-Caspian Sea-Azerbaijan route (this can also be connected to the BTC pipeline), Kazakhstan-Caspian Sea-Iran-Turkey or Kazakhstan-Turkmenistan-Iran-Turkey (this route is longer than CPC, and therefore more costly, and may also lead to political obstacles for Turkmenistan, which pursue a neutral policy) route can be improved. However, the construction of submarine pipelines is costly as well as CPC, and is unlikely to be possible until the property rights issue is resolved. Kazakhstan, which has most of its natural resources in the vicinity of the Caspian Sea, is obliged to transfer to the West by submarine pipelines or through Russian territory but in interdependence policy.

The first agreement on operating fields and the construction of oil pipelines between the government of Kazakhstan and the national oil and gas

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

company CNPC of China, was signed on September 24, 1997. On May 17, 2004, Kazakhstan President Nursultan Nazarbayev and China President Hu Tzintao signed a framework agreement on the development of bilateral cooperation between the Republic of Kazakhstan and the People's Republic of China in the field of oil and natural gas. KazTransOil and the China National Oil and Gas Exploration and Development Cooperation (CNODC) with equal share requirement established the "Kazakh Chinese Pipeline" company on 30 June 2004. As a result of the cooperation, the construction of the Atasu-Alashankou oil pipeline was started on September 28, 2004. The first export oil pipeline (Atasu-Alashankou) of independent Kazakhstan with 962 km long (2 km in Chinese territory), which has an annual capacity of 10 million tons, was inaugurated on December 15, 2005. The construction of the Kenkiyak-Kumkol pipeline, which is the first stage of the Kazakhstan-China pipeline, was announced at the Kenkiyak station of the Aktobe region of Kazakhstan on 11 December 2007. The pipeline is designed to transport Kazakhstan's oil to China. Construction of the 794 km long pipeline was completed in September 2009. In the first stage, annual oil carrying capacity of the pipeline was 10 million tons and it is aimed to increase to 20 million tons in the next stage (Hardin, 2012). Though the current Chinese Five-Year Plan targets oil imports meeting no more than 61% of demand by the end of 2015, it is projected that actual import dependence will be over 66% and China's primary oil demand will rise to 12.2 barrels per day by 2020, as demand is expected to grow faster than domestic crude supply. Meanwhile, total natural gas demand will reach 400 billion cubic meters (bcm) annually by 2020, and may be as high as 420 bcm (Wang, 2015, s. 12). Considering that China's demands and natural gas and oil deposits are limited, it is understood that China wants to diversify its energy policy as much as Kazakhstan in interdependence relationship, where absolute gain is more important than relative gain. So the Atasu-Alashankou pipeline is one of the most important projects in meeting the needs of the two countries.

An agreement was signed between Kazakhstan and Russia to transport at least 15 million tons of Kazakh oil to Russia in the direction of "Atyrau-Samara" on June 7, 2002. The "Ozen-Atyrau-Samara" oil pipeline, which is 1380 km long (1232 km in Kazakhstan) and was constructed between 1968 and 1970, is a heated pipeline starting from the field of Ozen and extending to Samara, Russia. 15.75 million tons of oil is currently being transported through the pipeline which has an annual transportation capacity of 30 million tons of oil (Chow and Hendrix, 2010). Putin's Russia is trying to control its role as a leader in Central Asia and keeps historical and cultural ties, plus active relationships with political authorities. Russia's pipeline policy is concentrated on controlling direct exports routes from Central Asia to Europe by joining to all energy projects in the region or by transferring these routes through its territory in asymmetric power relationship.

Natural Gas Pipelines of Kazakhstan

The natural gas transportation system in the former Soviet Union was built in the mid-20th century. At that time, development of the natural gas sector in Central Asia was dependent on Turkmenistan. The fourth largest natural gas reserve in the world was discovered in this part of the Soviet Union. In the following years, no major changes were made

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

to the natural gas pipeline map. Today, two of the three longest natural gas pipelines in the world pass through the territory of Kazakhstan. These are 7 thousand km long "Turkmenistan-China" and 5 thousand km long "Central Asia-Center" (CAC) pipeline. The longest natural gas pipeline in the world is 8704 km long Chinese "West-East" pipeline. The "Turkmenistan-China" railway natural gas pipeline passes through the territory of Turkmenistan, Uzbekistan, Kazakhstan (1900 km) and China (4500 km). The Kazakhstani section of the route is called the "Kazakhstan-China" natural gas pipeline. The total cost of the pipeline is 7 billion dollars and annual capacity of pipelines is 55 billion cubic meters (Chow and Hendrix, 2010). This natural gas pipeline is a great advantage for countries that want to diversify their energy policies by transferring Central Asian gas to another country outside Russia. Kazakhstan and other Central Asian countries may consider the Eastern as well as the Western route in order to diversify their energy policy. In this context, China, which necessitates much energy, is a good alternative. Kazakhstan and China can easily cooperate in the field of energy, which is an essentially important commodity and factor for any economy, on the basis of development of mutual interdependence.

The "Central Asia-Center" is the third largest natural gas pipeline in the world and an important source for the Russian gas company "Gazprom". The route of this natural gas transfer passes through the territory of four countries. According to a number of agreements signed between all the participants of this project, the pipeline is filled by Turkmenistan's and Uzbekistan's natural gas; Kazakhstan and Russia serve as transfer countries. Today, the pipeline is considered one of the oldest pipelines in the world. The first phase of the pipeline was completed in 1967 and the 3000 km long pipeline was defined as the longest pipeline in the world. The "Central Asia-Center" with an annual capacity of 80 billion cubic meters was turned into a multi-line pipeline system in 1985. Russia used to be practically a monopolist purchaser of the Central Asian natural gas, which was transported via five lines of the Russia controlled CAC pipeline. Russia needed Central Asian gas to compensate its responsibility to the western consumers as a result of gas crises with Ukraine. The 25-year agreement which was signed between Turkmengaz and Gazprom in 2003 was stopped in 2016 due to the deterioration of the agreement conditions and Russia experienced a gas shortage. However, on April 15, 2019, after a three-year period, the parties met again and agreed to transfer Turkmen gas to Russia.

Apart from these two major pipelines, in order to transfer the Uzbek natural gas to Russia via Kazakhstan, the Bukhara-Ural pipeline with capacity of 8 billion cubic meters was constructed in the 1960s. Russia has been buying Uzbek gas since 2003 and in 2006, Gazprom and the Uzbekneftegaz, National Holding Company signed an agreement on the basic principles for conducting a geological survey of the subsoil of investment blocks of the Ustyurt region of the republic. In May 2016, the gas-chemical complex in Ustyurt was opened, allowing for the first time in the countries of Central Asia to launch a block of polypropylene and other gas-chemical products. In turn, Kazakhstan in Aktobe due to the gas shortage will build a new line of the Bukhara-Ural gas pipeline. Thus, transportation of Uzbek-Kazakh gas again goes for the Russian market and its further transportation through Russia. In order to deliver natural gas to the world market, suitable infrastructure and new routes are need-

Eurasian Research Journal
July 2019
Vol. 1, No. 2

ed as in case with oil.

In addition, "Bukhara-Tashkent-Bishkek-Almaty" natural gas pipeline is designed to transfer Uzbek natural gas to Kyrgyzstan's North and South of Kazakhstan. The railway pipeline originates from Bukhara and passes through the territory of Uzbekistan, Kazakhstan, is twice in Kyrgyzstan and again sends blue fuel to Kazakhstan, Almaty. The total length of the gas pipeline is 1585 km and capacity is 12 billion cubic meters per year. The current gas pipeline was built over 40 years ago. Since then, the site passing through Kyrgyzstan has never been reconstructed, although it is technically designed for 30 years (Petersen and Barysch, 2011). Therefore, the primary tasks were the construction and reconstruction of 111 kilometers of the railway. Reconstruction work was carried out within the framework of bilateral cooperation between Russia and Kyrgyzstan and Russia is understood as the leader in these gas projects of Central Asia.

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

CONCLUSION

With the discovery of the first energy field in 1899, Kazakhstan became one of the energy leaders in the region after gaining independence. Kazakhstan, which has most of its energy deposits in Western Kazakhstan and Caspian Sea, has managed to take advantage of natural gas and oil deposits of Tengiz, Karachaganak and Kashagan and has made a great economic use of them. Currently, large amounts of its natural resource exports provide make a great share of its budget income. When transferring energy resources to other countries, it primarily prefers the pipeline to land transport and tankers.

The basis of the pipelines was laid in Soviet times and the energy transfer is exported firstly to Russia then through territory of Russia to other countries. Russia, who a hegemonic energy actor in the region tries to control all energy routes in Central Asia. Russia's pipeline policy is concentrated on controlling direct exports routes from Central Asia to Europe by joining to all energy projects in the region or by transferring these routes through its territory. For instance, the oil from Tengiz is transported to Russia and as an alternative Baku-Tbilisi-Ceyhan pipeline provides diversity in this subject. The natural gas from Karachaganak is also transferred to Russia, but the field is operated by western companies with participation of Russia. However, Kashagan field is operated by western companies as well as with participation of Chinese and Japanese companies, disabling Russia. This field makes a major contribution to the diversification of Kazakhstan's energy policy. CPC and Atyrau-Samara oil and CAC natural gas pipelines pass through Russian territory to deliver Kazakhstani oil and gas to the world markets.

Kazakhstan, which has most of its natural resources in and around the Caspian Sea, in order to transfer them to the West directly needs to develop alternative ways, such as subsea pipeline or the Turkmenistan-Iran-Turkey route. However, firstly, Kazakhstan has to solve the issue related to "property rights" on resources that are deposited in the subsoil of this sea between the countries around the Caspian Sea. Secondly, it needs to develop new routes in order to increase the existing oil production and diversification of energy policy in interdependence relationship that would be more symmetric, and less asymmetric, like in case with Russia.

At present, the global energy sector passes through dramatic changes and the world's demand for energy resources increases. Kazakhstan, as an energy rich country, wants to diversify its energy transfer and to carry out its own independent energy policy. In this light, Kazakhstan has preferred to cooperate with PRC and western international oil companies in operating energy fields within the country. Considering that China's demands and natural gas and oil deposits are limited, China also wants to diversify its energy policy. In this sense, the Atasu-Alashankou pipeline is one of the most important projects in meeting the needs of the two countries. The Central Asia-China natural gas pipeline is a great advantage for countries that want to diversify their energy policies by transferring Central Asian gas to other countries outside Russia in the principles of the absolute gain.

As we have seen, Kazakhstan has an energy policy dependent on Russia due to historical ties and existing infrastructure. At the same time, it cooperates with China and western oil and natural gas companies in diversifying its energy policy. Kazakhstan aims to become an independent energy supplier by transferring its natural resources to other countries directly, not through territory of Russia, which necessitates energy, like Europe and China.

Eurasian Research Journal
July 2019
Vol. 1, No. 2

REFERENCES

British Petroleum. "Statistical Review of World Energy". June 2018. Available at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2018-full-report.pdf. (Accessed 26.04.2019).

Chow, Edward. C., and Hendrix, Leigh. E. (2010). Central Asia's Pipelines: Field of Dreams and Reality. NBR Special Report, No. 23.

Cakmak, Haydar (2014). *Uluslararasi Iliskiler: Giris, Kavramlar ve Teoriler*. Istanbul: Dogu Kitabevi.

Dellecker, Adrian (2008). Caspian Pipeline Consortium, Bellwether of Russia's Investment Climate? *Russie Nei Visions*, No. 31.

Elliott Steve, Hsin-Wei Hsu, Terry O'Hearn, Sylvester Y. F., & Ricardo Vercesi (1998). "The Giant Karachaganak Field, Unlocking its Potential". *Oilfield Review* (Autumn, 1998): 16-25.

Hardin, Katherine (2012). Kazakhstan's Energy Sector since Independence: Two Decades of Growth and Challenges Ahead? Atlantic Council Issue Brief.

Hays, Jeffrey (2016). Oil and Gas Fields in Kazakhstan. Facts and Details, May 3, 2019. Available at http://factsanddetails.com/central-asia/Kazakhstan/sub8_4e/entry-4677.html. (Accessed: 03.05.2019).

English Russia. "History of Kazakhstan Oil Industry". Available at https://englishrussia.com/2011/09/26/history-of-kazakhstan-oil-industry/. (Accessed: 03.05.2019).

Kenter, Jeroen, Skalinski Mark, Tankersley Terrell, Mark Skalinski, Paul (Mitch) Harris, Marge Levy, Tony Dickson, Gary Jacobs (2010). "Tengiz Field (Republic Of Kazakhstan) Unit 1 Platform Static Model: Using a Hybrid Depositional –Diagenetic Approach". *SPE International* SPE-139935: 1-9.

Keohane, Robert O., and Nye, Joseph S. (2001). *Power and Interdependence*. New York: Addison Wesley Longman.

Lipson, Charles (1993). International Cooperation in Economic and Security Affairs. Chapter in David A. Baldwin, *Neorealism and Neoliberalism: The Contemporary Debate*. New York: Columbia University Press.

Petersen, Alexandros and Katinka Barysch (2011). Russia, China and the Geopolitics of Energy in Central Asia. Center for European Reform. Available at https://www.cer.eu/sites/default/files/publications/attachments/pdf/2011/rp_010-4118.pdf. (Accessed: 03.05.2019).

Stein, Arthur A. (1993). Coordination and Collaboration: Regimes in an Anarchic World. Chapter in David A. Baldwin, *Neorealism and Neoliberalism*. New York: Columbia University Press.

Uyzbayeva, Aigerim, Tyo Valeriya, and Ibrayev, Nurlan (2015). Towards Achieving Energy Efficiency in Kazakhstan. *International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering* 9(2): 77-85.

Viotti, Paul R., and Kauppi, Mark. V. (1999). International Relations Theory: Realism, Pluralism, Globalism and Beyond. USA: Boston: Allyn and Bacon.

Eurasian Research Journal
July 2019
Vol. 1, No. 2.

Wendt, Alexander (1999). *Social Theory of International Relations.* Cambridge: Cambridge University Press.