



ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΙΡΑΙΩΣ

UNIVERSITY OF PIRAEUS

**Energy and Environmental Policy Laboratory**

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**NAGORNO-KARABAKH CONFLICT**

**Importance of the region and relevance to energy  
security of Europe**

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**Stefan Stankovic**

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# 1. Introduction

The war in Nagorno-Karabakh was an ethnic and territorial conflict that took place in the late 1980s to May 1994, in the enclave of Nagorno-Karabakh in southwestern Azerbaijan, between the majority ethnic Armenians of Nagorno-Karabakh backed by the Republic of Armenia, and the Republic of Azerbaijan. Although the war is officially over, the crisis in this area is still active, and it has a different historical background, and many impact on stability today. As the war progressed, Armenia and Azerbaijan, both former Soviet Republics, entangled themselves in a protracted, undeclared war in the mountainous heights of Karabakh as Azerbaijan attempted to curb the secessionist movement in Nagorno-Karabakh. The enclave's parliament had voted in favor of uniting itself with Armenia and a referendum, boycotted by the Azerbaijani population of Nagorno-Karabakh, was held, whereby most of the voters voted in favor of independence. The demand to unify with Armenia, which began anew in 1988, began in a relatively peaceful manner; however, in the following months, as the Soviet Union's disintegration neared, it gradually grew into an increasingly violent conflict between Armenians and Azerbaijanis, resulting in claims of ethnic cleansing by both sides.

In most of the conflict researches, topics are mainly related to the one in regions closer to Europe and Mediterranean. However, Nagorno-Karabakh is an example of international conflict between two neighboring countries, Armenia and Azerbaijan, but the impact of the war can be considered both regional and international. Despite not being a popular topic of research in the beginning of twenty first century, analyzing the data we can conclude that the Nagorno-Karabakh conflict is one of the most violent war fought in the end of twentieth and beginning of the twenty first century. Moreover, it was fought in a region of essential importance for participants, neighbor countries, but also European Union, due to the diversification of energy sources, and achieving energy stability.

## 2. Historical background

Although the roots of modern Nagorno-Karabakh conflict were formed in the last century, both sides have their origins deep into antiquity, competing with each other with ever more ancient claims over the land. The Armenians, considered a historically Christian people speaking a unique Indo-European language, first appeared in history in the sixth century B.C., when they migrated to the southern Caucasus area and established a kingdom under King Tigran in the first century B.C. Armenian ideologues, however, claim to trace their history to a period hundreds or even thousands of years earlier.

As for the Azerbaijanis, who are traditionally Shiite Muslim in religion and Turkic-speaking people, they can claim roots from the Turkic tribes that settled into this area after the invasion of the Seljuk Turks, in eleventh century. Azerbaijani ideologues, however, trace their ancestry, and their claim to Karabakh, to their linguistically unrelated predecessors in the region, the Albanians (unrelated to modern Albanians), whose presence predated the Armenians. All of these claims are further complicated by changes in borders over time. Ancient and medieval Armenia, for example, was centered in what is now eastern Turkey; modern Armenia and Karabakh were then, at best,

peripheral Armenian lands. However, Azerbaijan traditionally refers not only to the contemporary state, but also to the adjacent land in northwestern Iran that is also inhabited by Turkic-speaking Shiite Muslims. Thus the older kingdoms mentioned by Armenian and Azerbaijani ideologues may not even have included Karabakh. The modern history of the Karabakh conflict begins with the 1813 Treaty of Gulistan and the 1828 Treaty of Turkmenchai, under which the Russian empire annexed the territories that later formed the Armenian and Azerbaijani countries. The second treaty also launched a century-long process of migration that turned Armenia and Karabakh from predominantly Muslim into majority-Armenian lands.

A century later Armenians suffered a series of massacres organized by the Ottoman government in 1895–1896, followed by the 1905–1906 Armeno-Tatar war, a series of battles and massacres between Armenians and (mostly Azerbaijani) Muslims in Russian-controlled lands in which Armenians were both victims and victimizers. The peak of horror was reached in the genocide of 1915, during which the Ottoman government ordered a murder of over a million Armenians, virtually the entire population of the Armenian land, a tragedy that still dominates the consciousness of the Armenian people. Armenia and Azerbaijan emerged from the Russian revolution as independent states in 1918 and quickly started a war for control over Karabakh and other areas. Annexed by Soviet Russia in 1920, the two countries were made constituent republics of the Soviet Union, with Joseph Stalin fixing their borders and assigning Nagorno-Karabakh to Azerbaijan, as an autonomous area (NKAO). The decision of giving this area to Azerbaijan caused tensions between these two countries.

Since forming of USSR, this area was populated predominantly by Armenians (94% in 1923.) but the percent of Armenian citizens decreased to 75% in 1988. This can be viewed as so called “Azerification” of the region, during the age of USSR. Nagorno-Karabakh Republic (NKR) proclaimed independence from Azerbaijan, and unification with Armenia. This decision caused Azerbaijani government to dissolve the autonomous area and form Azerbaijani districts. The conflicts started to enlarge, and caused many ethnic, territorial, and some religious clashes. After the decision of proclaiming independence, many massacres and ethnic cleansing of Armenians occurred, as one when 100 000 Armenians were banished from Baku. On December the 10<sup>th</sup>, voting for independence happened, under the observance of international community. Total number of 82.2% citizens voted, and 99.9% of them were for the independence.

The war not only revolved around control over the territory of Nagorno-Karabakh, but also over some territories of Azerbaijan core areas, occupied by Armenian forces since from 1988 to 1994. Ethnic cleansing was also committed by both sides, not only in the Nagorno-Karabakh region, but also on the territories which were not considered disputable before the conflict. Thousands of people were killed and wounded, and more over a million were forced to displace, and leave their homes. The area of Nagorno-Karabakh is marked in the *picture 1*.



Picture 1: Nagorno-Karabakh region, source: [www.rferl.org](http://www.rferl.org)

As the war was going, this territory established independent political institutions, military and government, which does not recognize the authority of Azerbaijan. However, the goal of unification with Armenia has changed, and became willingness to gain complete independence from both countries. Nevertheless, the Republic of Nagorno-Karabakh is not recognized by the world community. Moreover, it has featured numerous rounds of negotiations related to its status including OSCE mediation. Despite the effort, no significant results were accomplished. The only meaningful result was a ceasefire, bracketed by Russia in 1994, without sending military forces to enforce peace. Until the ceasefire, the conflict had resulted in the deaths of some 20,000 people, the occupation of 20 percent of Azerbaijani territory by Karabakh Armenian forces, and ethnic cleansing on a scale wide enough to produce a million refugees and displaced persons. The ceasefire caused a series of negotiations under the sight of OSCE, without important results. Any politician who tried to raise awareness, stop the war and negotiate, would lost most of his support in the home country.

### 3. The flow of the conflict

Emboldened by the situation in 1986-1987, Armenians from Nagorno-Karabakh region started an initiative for the transfer of region to Armenian SSR. Moscow rejected the petitions in February 1988, which caused Armenians to try again. After the second rejection, massive protests in Armenia began. The opposition side managed to gather more than a million participants to attend the rally on February the 26<sup>th</sup>. They have used Armenian nationalist symbols, genocide and other emotions to mobilize significant amount of people. As their message resonated, Gorbachev agreed to examine the possible solutions in order to end the rallies. Despite the consideration, encouraged by orators and reports of killings of Azerbaijanis by Armenians, mobs of Azerbaijanis in Sumgait killed hundreds of Armenians, raped and injured many more. The local police, instead of trying to

prevent the crime, ignored the riots, and even released the few arrested participants of riots. The riots continued until Soviet Interior Ministry troops occupied the city. However, most Armenians left it forever. Thousands of troops in the city of Erevan were the only reason another riot was prevented. Moscow tried to introduce a packages of concessions for Nagorno-Karabakh, but it was already too late for such decisions.

The political conflict and violence continued to rise. Armenia's legislature, in response to another mass street rally, voted to accept Karabakh's request to join Armenia. However, Azerbaijan's legislature denied the request. Meanwhile, Azerbaijanis protested punishment for participants of Sumgait riots, whom they called "heroes". Moreover, Karabakh became a symbol of Armenian hostility. By the end of year 1988, 180 000 Armenians were forced to flee from Azerbaijani cities, and 160 000 Azerbaijanis to leave villages in Armenia and Karabakh. Trying to calm the situation, the government of Soviet Union set up a commission to rule Karabakh, with Arkady Volsky as a leader. He was reporting directly to Moscow. However, it was not efficient, and it was disbanded until the end of the year. Karabakh was returned to Azerbaijani sovereignty. This was a trigger to war, and Armenia annexed Nagorno-Karabakh. Furthermore, a massive anti-Armenian riot started in Baku, the capital of Azerbaijan, on January the 12<sup>th</sup>, 1990. Ethnic cleansing was the result of the riot. Soviet government sent troops to Baku, in order to suppress the Azerbaijani nationalist who controlled the city, which caused another bloodbath. Moreover, Azerbaijanis began attacking across the Armenia-Azerbaijan border and around Karabakh. Soviet troops were often aiding them.

As a result, in the summer, population of Armenia elected Nationalist Movement to take control of the country. Levon Ter-Petrosian became the president. The new government quickly formed an army but never acquired control of the fighting, due to an autonomous Karabakh Armenian army. The government of Azerbaijani was relying on Soviet Army. Due to the boycott of Armenia on referendum for preserving the Soviet Union, USSR launched operation "Ring", which caused ethnic cleansing of Armenian villages in Nagorno-Karabakh, and around it. Frightened by the massacre, Karabakh Armenian leaders began searching for a way to submit to Baku again. However, in August 1991, coup in Moscow announced the end of Soviet Union. Soviet troops withdrew from the region, and both Armenia and Azerbaijan declared independence. This reunited Armenians, and strengthened the motivation for fighting. The disintegration of the Soviet army made heavy weapons available to both sides, which led to a further escalation of the fighting in the beginning of 1992. Azerbaijani forces launched artillery attacks on Stepanakert, the capital of Nagorno-Karabakh, which caused response of Armenians and capturing the bases from where attacks were launched. Moreover, they have ethnically cleansed the town of Khojaly, and killing hundreds of Azerbaijani civilians. Azerbaijani president Mutalibov was forced to resign for not protecting the civilians. However, the newly selected government also failed to organize a successful defense, and Shusha, the largest ethnically Azerbaijani town in Nagorno-Karabakh was occupied by Armenians in April, and population was expelled. Furthermore, they have captured the town of Lachin in May, which allowed them to open a supply corridor between Karabakh and Armenia.

The new nationalist leader of Azerbaijan was elected in June 1992, Abulfaz Elchibei. Counteroffensive in northern Karabakh followed, and his forces performed successful actions. However, this victory caused big problems, as the hero of the operation, colonel Surat Husseinov, wanted to create an army loyal to himself, rather than government. When Elchibei tried to fire him,

he ordered his troops to withdraw, which left the space for Armenians to launch counterattack, in which they managed to retake the territory, and expand to Azerbaijani town of Kelbajar, in April 1993. This move completed the occupation of all Azerbaijani territory between Karabakh and Armenia. As Elchibei was pro-Turkish orientated, Moscow wanted him removed from the president position. Directed by Russia, Husseinov led a coup of the government in June, and the new president Heidar Aliev was appointed as a president. Husseinov became a prime minister. Although this brought stability to Azerbaijan, offensives of Armenians continued to reduce Azerbaijani territory east and south of Karabakh, which opened a direct link to Iran. Russian incentive to stop the conflict resulted a ceasefire in May 1994. After the ceasefire, the following borders were established:



Picture 2: Situation after the ceasefire in 1994, source: <https://www.tasnimnews.com>

## 4. Geopolitics

This conflict is of importance beyond the Caucasus region mainly because the Republic of Azerbaijan concerned is of particular strategic and economic interest for Europe, Russia and the USA, due to Azerbaijan's proximity to Iran and Russia, its wealth in crude oil reserves and its pipelines carrying crude oil and natural gas around Russia<sup>1</sup>. However, despite the local character of the war, the conflict involved other countries to take side, and participate indirectly. In April 1993, Turkey closed its border with Armenia, in response to the Armenian occupation of Azeri lands. Moreover, Israel supported the Azeri side in this conflict by sending military equipment to Azerbaijani troops during the war. Azerbaijan joined the entente between the two regional powers, Israel and Turkey. In the last twenty years, the relationship between Azerbaijan and Israel has developed and changed.

<sup>1</sup> Heiko Krüger (auth.)-*The Nagorno-Karabakh Conflict - A Legal Analysis* - -Verlag Berlin Heidelberg (2010)

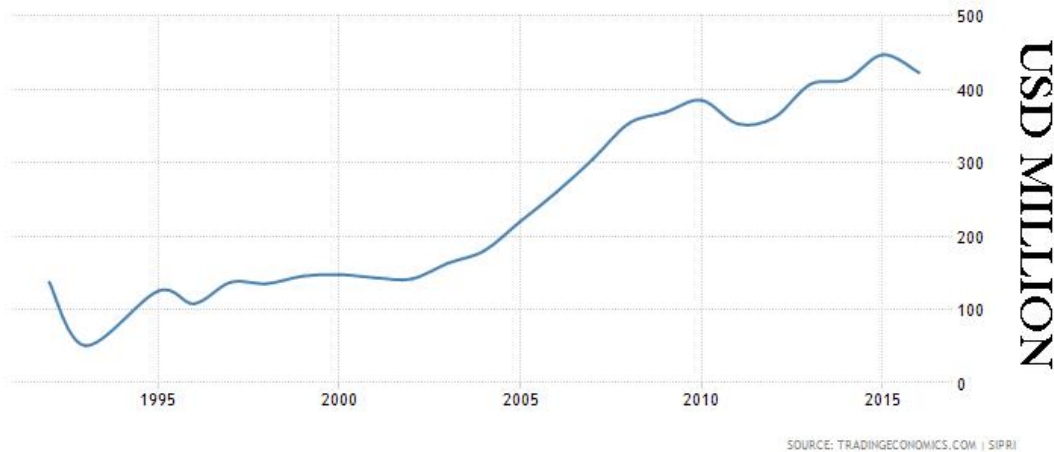


Despite the fact that Turkey was considered a most reliable ally of Azerbaijan, some uncertainties were experienced when Turkey started to shift position towards Armenia, whose forces were occupying Nagorno-Karabakh region. Armenia, as a member of the Collective Security Treaty Organization, enjoys security guarantees from Russia since 2002, which is using Armenia to increase the influence and project power in the region of South Caucasus. The west, and the US recognizes Russia and Iran as the main challengers to their interests in the region. The counter-measure for Russian influence was the decision of USA to grant Azerbaijan 4,4 million dollars for purchase of military equipment from USA. This was a way to increase the influence of the West in that region, and make it a market for home-made weapons. The task of becoming a military deterrent in South Caucasus, became a priority for Azerbaijan’s government. From 2010 to 2011, military expenditures of Azerbaijan increased from 1.59 (3.95% of GDP) to 3.1 billion dollars (6.2% of GDP). Moreover, besides direct military expenditures, 1.36 billion dollars were spent for the defense industry, bringing the total number of expenditures to 4.46 billion dollars (8.9% of GDP). In order to understand the motivation of Azerbaijan to become a military deterrent, it is important to mention that USA, according to the Stockholm International Peace Research Institute data from 2017, spent 3.3%, and Russia 5.5% of GDP for military expenditures in 2016.



On the other hand, amount of money invested into military in Armenia is significantly lower, in comparison to their neighbors.

## MILITARY EXPENDITURE ARMENIA

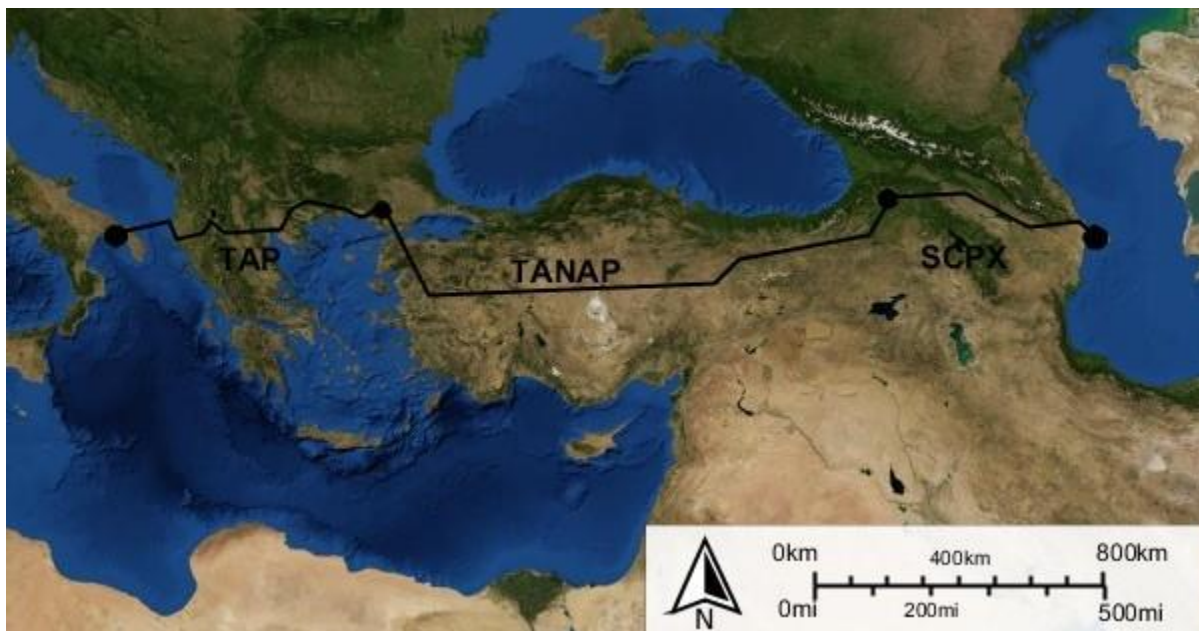


### 5. Importance of the region

The conflict over Nagorno-Karabakh played a major role in spurring the breakup of the Soviet Union, creating new countries, and establishment of diplomatic relations. The South Caucasus region, previously seen as Soviet backyard, is now seen as a region of great strategic significance. The U.S. and other Western nations have become much more involved in the affairs of the region, which has abundance of oil. European countries have been trying to use the oil from Caspian sea as a counterbalance to Russian gas, and reduce Iranian and Russian economic and military dominance in the region. Russian specialists claim that the pipelines built from Azerbaijan will weaken the Russian influence in the Caucasus. The Russian Parliament Foreign Affairs Committee chairman Konstantin Kosachev stated that the United States and other Western countries are planning to station soldiers in the Caucasus, in the countries through which the pipelines passes, and use instability in regions as an excuse.

Several strategic factors are the reason for Israel – Azerbaijani good relations for more than twenty years. One factor is an Israeli interest in receiving reliable oil supplies from the Caspian region. Azerbaijan is not only an important supplier of oil to the West and Israel, but also as an important transportation link. With the implementation of an international energy project, the Baku-Tbilisi-Ceyhan (BTC) pipeline, Azerbaijan has become a significant oil and gas producer and the share of Azerbaijani oil shipped to Israel has steadily increased. The BP-operated pipeline, which began exporting in July 2006, has a capacity of 1.0 million bbl/d. For Israel, the oil transported via the BTC is strategically important. Since 2009, when BTC reached its full capacity, the share of Azerbaijani oil shipped to Israel has steadily increased. Moreover, Israel serves as one of the important suppliers of advanced weapon systems to Azerbaijan. Azerbaijan also needs Israel's support in harnessing the American Jewish lobby in the US Congress to promote a friendly foreign policy towards Azerbaijan

The Caspian's strategic importance is related to its abundance of energy resources. The sea contains large reserves of oil and natural gas, both in offshore deposits and in onshore fields in the region. It is estimated that the Caspian contains **48 billion barrels of oil and 8.7 trillion cubic meters of gas** in proven or probable reserves. Importance for the interest of Europe in the energy supplies from the Caspian region is related to diversification from Russia's energy influence in Europe. In particular, energy exploited by Azerbaijan and Turkmenistan and transported via the strategic **Southern Corridor**, which is an initiative of the European Commission for the natural gas supply from Caspian and Middle Eastern regions to Europe route, is seen as a solution for diversification. The pipeline from Azerbaijan to Europe consist of the **South Caucasus Pipeline**, the **Trans-Anatolian Pipeline**, and the **Trans-Adriatic Pipeline**. The total investment of this route is estimated 45 billion US dollars. The main supply source would be **the Shah Deniz** gas field, located in the Caspian Sea.



Picture 3: Southern Corridor plan, source: [www.wikipedia.org](http://www.wikipedia.org)

Caspian Sea is the place where the world's first offshore wells and machine-drilled wells were built. In 1873, exploration and extraction of oil began in some of the largest fields known to exist in the world at that time. Total recoverable reserves were more than 500 million tons. By the beginning of 20<sup>th</sup> century, Baku had more than 3,000 oil wells, 2,000 of which were producing at industrial levels. Baku became known as the "black gold capital", and many skilled workers and specialists moved to the city to prospect.

By 1941, Azerbaijan was producing a record 23.5 million tons of oil per year, and the Baku region supplied nearly 72% of all oil extracted in the entire USSR. In 1994, so called "Contract of the Century" was signed, launching the international development of the Baku oil fields. Following the Contract, 31 international contracts related to other fields in the Azerbaijani sector of the Caspian Sea were signed with the world's leading oil companies. Three pipelines exploiting Azerbaijani oil to world markets were designed. **The Baku-Tbilisi-Ceyhan oil pipeline** launched

a revolution in oil export from Caspian Sea to the international market. Azerbaijani Government extended “Contract of Century” until 2050 with **British Petroleum** Company, based on the amended contract for extension of Production Sharing Agreement (PSA) on development of Azeri–Chirag–Gunashli block of oil and gas fields by 2050. The new contract was signed on September the 14<sup>th</sup> 2017.

Azerbaijan’s oil diplomacy continues successfully today. The priority is diversification of energy exports, which will increase the country’s importance in ensuring **Europe’s energy security**. This emphasizes the importance of **Sangachal Terminal**. Azerbaijan is the leading state in the Southern Caucasus and only with its cooperation is will possible to implement any global project within the region. The “Contract of the Century” provided the opportunity for Azerbaijan to become a major producer and exporter of gas. Until 2007, Azerbaijan was importing around 4.5 billion cubic meters of gas per year. The petroleum industry in Azerbaijan today produces about 873,260 barrels (138,837 m<sup>3</sup>) of oil per day and 29 billion cubic meters of gas per year as of 2013. The sources of huge production are **Azeri – Chirag – Gunashli and Shah Deniz** fields, reservoirs of oil and gas.

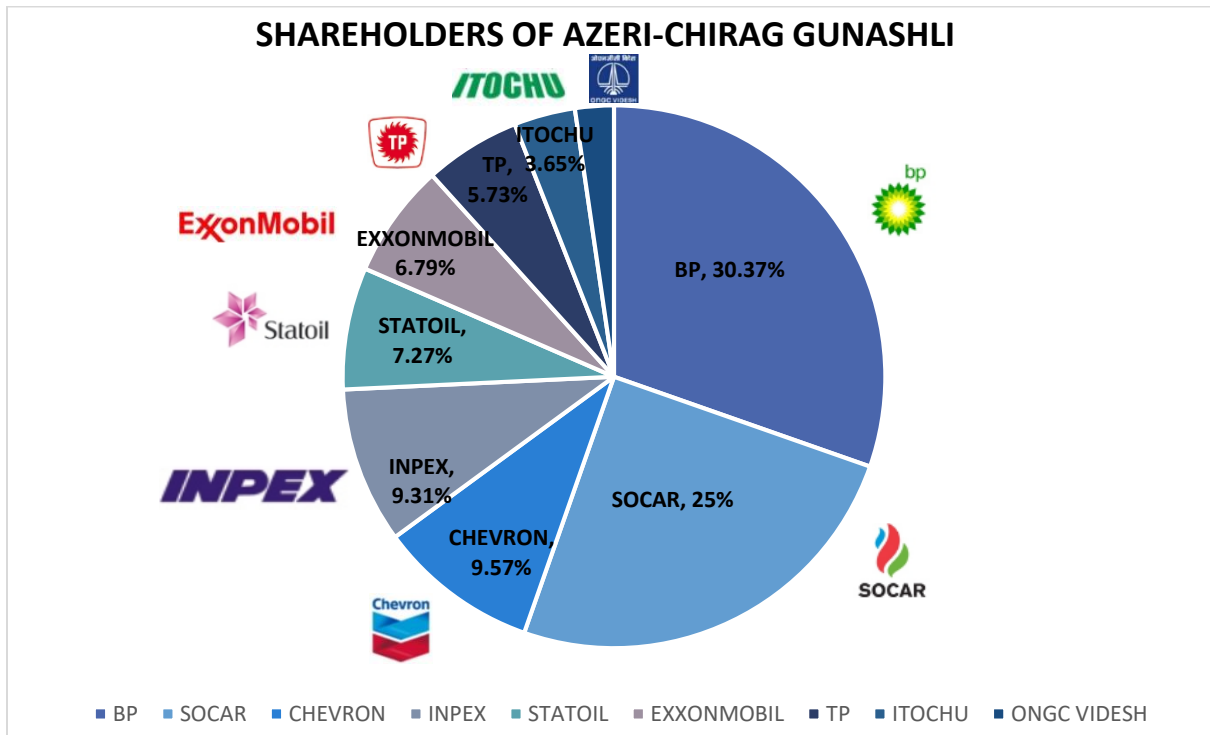
### **5.1. Azeri–Chirag–Gunashli field**

Azeri–Chirag–Gunashli (ACG, Azerbaijani: Azəri-Çıraq-Günəşli) or Azeri–Chirag–Deepwater Gunashli is a complex of oil fields in the Caspian Sea. It is located about 120 kilometers off the coast of Azerbaijan. It consist of Azeri and Chirag oil fields, and the deep-water part of the Gunashli oil field. It is estimated that area of the development is 432.4 square kilometers. It is developed by the Azerbaijan International Operating Company, and a consortium of international oil companies. Operations are run by BP, on behalf of the consortium. The recoverable reserves of ACG fields are estimated to about 5 to 6 billion barrels (790 to 950 million cubic meters) of petroleum. As of the end of 2005, eight pre-drilled wells are operating, and the production rate then was approximately 240,000 barrels per day (38,000 m<sup>3</sup>/d). The peak of oil production, 835,000 barrels per day (132,800 m<sup>3</sup>/d), was reached in the end of 2010.

According to BP reports, crude oil from ACG is exported through three pipelines: **Baku–Tbilisi–Ceyhan** pipeline to the Mediterranean Sea, **Baku-Supsa** Pipeline to Supsa in Georgia, and through the **Baku-Novorossiysk** Pipeline to Novorossiysk in Russia. Moreover, it is also believed that there are large untapped gas reserves under ACG oilfields. Some reports indicate that the Azeri–Chirag–Gunashli is the third largest oil-field development out of 20 listed, according to American Consulting Association IHS CERA (Cambridge Energy Research Associates). Total amount of money invested is estimated at 20 billion US dollars.

The development of this field started in the beginning of 1990s. In June 1991, a consortium of Amoco, Unocal, British Petroleum, Statoil, McDermott, and Ramco was formed, in order to continue development of Azeri field. SOCAR was representing Azerbaijani side in the consortium. However, with Heydar Aliyev became President of Azerbaijan in 1993, negotiations were stopped. He was favorable with Russia, so instead of western companies, Russian Lukoil was invited to the consortium. Oil production started in November 1997. However, Lukoil left the project in 2003, and sold all of its interests to INPEX, for 1.354 billion US dollars.

Shareholders of the Azeri-Chirag-Gunashli development include several partners, with BP having the biggest share of 35.78% of stakes, and is a leader the AOIC consortium. Other partners are presented in the *chart 1* below.



*Chart 1: Shareholders of Azeri-Chirag-Gunashli field*

As development continued, the new platforms and upgrades were necessary. Today, the following platforms operate in the ACG field:

- Chirag
- East Azeri
- Azeri-Chirag-Deepwater Gunashli
- Central Azeri
- West Azeri
- West Chirag

### 5.1.1. Chirag platform

Chirag operates since 1997. It is an offshore production, drilling and quarters (PDQ) platform. It is located 120km east of Baku in the Caspian Sea, at a water depth of 120 meters. Because it was among the first platforms in ACG field, it is considered as a producer of “Early Oil”. The average yearly production of Chirag is 51,000 barrels per day. Chirag facilities include:

- 24-slot PDQ platform with water injection equipment
- 176km long 24-inch oil pipeline to the receiving terminal at Sangachal
- 48km long 16-inch gas pipeline to the Oil Rocks
- 12km long 18-inch gas pipeline to Central Azeri

The Chirag platform has both producing and water injection wells to handle water injection to increase oil recovery.



Picture 4: Chirag platform, source: <http://www.oilrig-photos.com>

### 5.1.2. East Azeri platform

Representing the offshore production, drilling and quarters (PDQ), East Azeri (EA) is a platform located 100km off Baku coast in the Caspian Sea, at 152 meters of water depth. This platform has started production four months ahead of schedule, and it has been operational since 2006. It produce oil from the eastern part of the ACG field.

East Azeri facilities include:

- 48-slot Production, Drilling and Quarters (PDQ) platform.
- 22-inch gas pipeline from EA directed to Central Azeri platform.
- 30-inch oil pipeline tied in Phase 2 (from Central Azeri to Sangachal terminal).
- Total EA production in 2017 was on average 82,000 barrels per day.



Picture 5: East Azeri platform, source: <https://azer.com>

### 5.1.3. Central Azeri platform

Central Azeri (CA) is an offshore production, drilling and quarters (PDQ) platform located 100km east of Baku in the Caspian Sea. The water depth at the location of platform is 128 meters. The operation of platform started in February 2005. Oil is extracted from the central area of the ACG field. Beside the PDQ, a compression and water injection platform (C&WP) is installed in this platform, and bridge-linked to the PDQ in order to create an offshore complex providing accommodation, drilling, production, processing, and compression and re-injection facilities. C&WP provides water and gas injection services to the Central, West and East Azeri platforms, manage associated gas export. Moreover, it provide electrical power using 10 Rolls Royce turbines.

Central Azeri facilities include:

- 48-slot PDQ platform
- 30-inch oil pipeline from CA to the Sangachal terminal
- 28-inch gas pipeline from CA to the Sangachal terminal
- Expansion of the existing onshore terminal at Sangachal
- Total CA production in 2017 was on average 137,000 barrels per day.



Picture 6: South Azeri platform, source: <https://www.offshoreenergytoday.com>

### 5.1.4. West Azeri platform

West Azeri (WA) is an offshore production, drilling and quarters (PDQ) platform located 100km off Baku in the Caspian Sea at a water depth of 120 meters . The platform has been in operation since December 2005. It is producing oil from the western area of the ACG field. So far, Total ACG production for the year was on average 588,000 barrels per day (b/d) (about 215 million barrels or 29 million tons in total)

West Azeri facilities include:

- 48-slot PDQ platform
- 30-inch oil pipeline from WA to Sangachal terminal
- Total WA production in 2017 was on average 124,000 barrels per day.



Picture 7: West Azeri platform, source: <https://www.azernews.az>

### 5.1.5. Deepwater Gunashli complex

Deepwater Gunashli (DWG) complex represents the third phase of development of the ACG field in the Azerbaijan sector of the Caspian Sea. It is located on the east part of the Gunashli field, and the depth of the water at that location is 175 meters. The platform has been in operation since April 2008. The complex is formed of two bridge-linked platforms: 48-slot drilling, utilities, and quarters (DUQ) platform, and process, gas compression, water injection and utilities (PCWU) platform. The product is exported from the complex using oil pipeline (30 inch) and single gas pipeline with diameter of 28 inch, to the Sangachal Terminal. Furthermore, uniquely for the ACG project, three subsea water injection wells have been installed in the DWG development. Production from there is boosted by subsea water injection, whose role is to increase oil production by injecting seawater into DWG reservoir and increase its pressure.

DWG DUQ facilities include:

- 48 slot DUQ platform
- 30-inch oil pipeline from DWG to Sangachal terminal
- 28-inch gas pipeline from DWG to Sangachal terminal
- Total DWG production in 2017 was on average 117,000 barrels per day.



Picture 8: Deepwater Gunashli complex, source: <https://www.bp.com>



### 5.1.5. West Chirag platform

On 9 March 2010, the Steering Committee for the development of the Azeri, Chirag and deep-water portion of the Gunashli (ACG) fields approved investment in the new Chirag Oil Project (COP). The \$6 billion in total was approved for development of the ACG field in the Azerbaijan sector of the Caspian Sea. Of the total amount, 4 billion US dollars were spent on construction and the pre-drill program. The remaining 2 billion are meant for development well-drilling. The project is planned to increase oil production and recovery from the ACG field through a this offshore facility. It is designed to fill a critical gap in the field infrastructure between the existing Deepwater Gunashli (DWG) and Chirag platforms. The depth of the water is about 170 meters. The design oil capacity of this platform is 183 thousand barrels per day, with the gas export capacity is 285 million standard cubic feet per day. The production began on January the 28<sup>th</sup>, 2014, from one of the pre-drilled wells - J05. The oil first passed through the newly installed processing facilities on the platform. Furthermore, it was exported to the Sangachal Terminal using a new in-field pipeline linked to an existing 30 inch subsea export pipeline. Production increased as the other pre-drilled wells were brought on line. In the year of 2017, the average production of this platform was about 77 000 barrels per day.



Picture 8: West Chirag platform, source: <https://www.bp.com>

To sum up, total ACG production for the year of 2017 was about 215 million barrels or 29 million tons in total, or average of 588,000 barrels per day. On September the 14<sup>th</sup>, 2017, The Azerbaijan Government and the State Oil Company of the Republic of Azerbaijan (SOCAR), together with the partners, have signed an agreement to extend the PSA for ACG fields until 2049. This implies that the interest of SOCAR will increase to 25%, and interests of other partners will decrease.

## 5.2. Shah Deniz gas field

Shah Deniz gas field is also located in Caspian Sea, in Azerbaijani waters. It was discovered in 1999, and the production was launched in 2006. The estimation of reserves are between 1.5 billion barrels (240,000,000 m<sup>3</sup>) to 3 billion barrels (480,000,000 m<sup>3</sup>) of oil. Moreover, it contains gas condensate in excess of 400 million cubic meters. It is located around 70 kilometers southeast of Baku, and considered to be the largest natural gas field in Azerbaijan. The depth of the water is around 600 meters, and the field covers approximately 860 square kilometers. The interesting fact is that it has a similar shape to Manhattan Island. The exploitation of this field is essential for EU member countries, as it is seen as a potential for diversification of energy imported to Europe. Moreover, it is considered to be a link for the **Southern Gas Corridor**. Shareholders of the Shah Deniz field are presented below:

### SHAREHOLDERS OF THE SHAH DENIZ FIELD

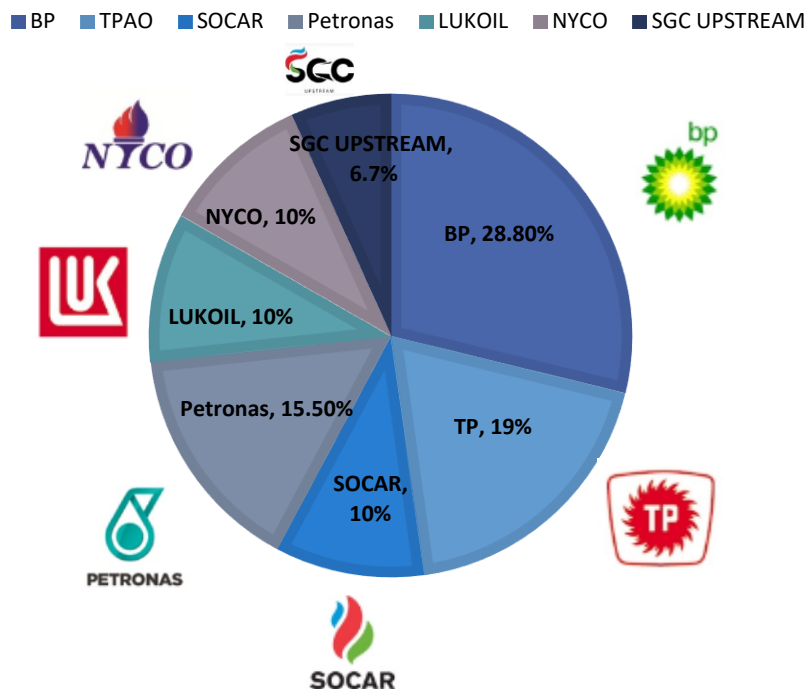


Chart 2: Shareholders of the Shah Deniz field

The resources from the Shah Deniz field are transported via South Caucasus Pipeline (which began operation in the end of 2006) to Turkey, through Georgia, along the Baku – Tbilisi – Ceyhan pipeline. Exploitation of gas started three months later than planned, and the production was stopped for a short time in January 2007 due to technical issues. This shutdown forced Georgia to buy gas from Russia, at a market price. This event confirmed the dependence on Russian exports.

Increase of the exploitation capacity is projected for the Phase 2 of Shah Deniz. It is a giant project that will add a further 16 billion cubic meters per year of gas production to the approximately 10 bcma produced by Shah Deniz Stage 1. Around \$28 billion in capital investment will be required to produce the gas and transport it to the Georgia-Turkey border. From there, additional pipeline systems will deliver 6 bcma of gas to Turkey and a further 10 bcma of gas to markets in Europe, in a route known as the Southern Gas Corridor. Shah Deniz gas will travel 3,500 kilometers, to elevations of over 2,500 meters, and over 800 meters below the sea. The current concept for Shah Deniz Stage 2 includes:

- Two new bridge-linked offshore platforms.
- 26 gas production wells which will be drilled with 2 semi-submersible rigs.
- 500 km of subsea pipelines will link the wells with the onshore terminal.
- upgrade of the offshore construction vessels
- Expansion of the Sangachal terminal to accommodate the new gas processing and compression facilities.

Shah Deniz 2 first gas scope is now 99 per cent complete, in terms of engineering, procurement, construction and commissioning. During 2017, the construction of both Shah Deniz 2 platform topside units was completed. They safely sailed away and were installed offshore with commissioning work currently ongoing. At the peak of project activities, over 24,000 people were involved in construction works across all main contracts in Azerbaijan and over 80% of them were Azerbaijani nationals.<sup>2</sup>

Shah Deniz Stage 2, one of the largest gas developments in the world, will help increase European energy security by bringing Caspian gas resources to markets in Europe for the very first time. The overall cost of Phase 2 expansion, including upstream and midstream stages (TANAP and TAP pipelines) is estimated to be around \$45 billion. It will help reduce the dependence on Russian gas, which is one of the major EU goals. The resources from Shah Deniz will be transported via SCPX, TANAP and TAP to Europe. The map of the transportation project is presented in the *picture 9*.

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<sup>2</sup> [https://www.bp.com/en\\_az/caspian/operationsprojects/Shahdeniz](https://www.bp.com/en_az/caspian/operationsprojects/Shahdeniz) - 2018, title: *Shah Deniz Stage 2*



Picture 9: CSPX, TANAP, TAP, source: <https://www.bp.com>

### 5.3. Pipelines in the region

Both Shah Deniz and Azeri – Chirag – Gunashli fields are essential for Azerbaijani, region and Europe. The exploration and exploitation of oil and gas in Caspian Sea is essential step to diversification of natural resources imported in Europe. Stability in this region is necessary in order to achieve security of the pipelines. Nagorno-Karabakh region, and Armenia had to be bypassed, to avoid any potential instability. Pipelines must be secured in order to operate properly. Today, resources extracted from Caspian Sea are delivered to Russia, Georgia and Turkey via **4 different pipelines**:

- Baku–Novorossiysk pipeline
- Baku–Supsa Pipeline
- Baku– Tbilisi–Erzurum
- Baku–Tbilisi–Ceyhan pipeline

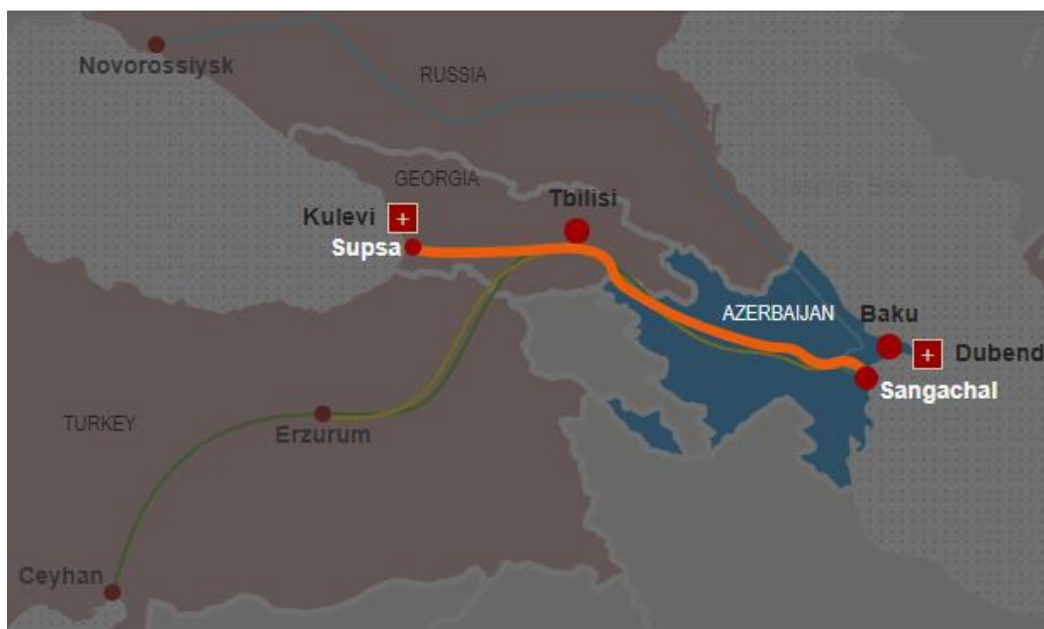
Moreover, one more project is currently being considered, the **Trans-Caspian Oil Transport System**.



Picture 10: Pipelines from Sangachai Terminal, source: <https://en.wikipedia.org>

### 5.3.1. The Baku–Supsa Pipeline

The Baku–Supsa Pipeline (also known as the Western Route Export Pipeline and Western Early Oil Pipeline connects the Sangachal Terminal near Baku with the Supsa terminal in Georgia. ) The length of the pipeline is 833 kilometers (518 miles) and it transports crude oil from the Azeri-Chirag-Guneshli field. The pipeline is operated by BP Company. Partners of the projects are State Oil Company of Azerbaijan and Azerbaijani International Operating Company. The capacity of transport is 145,000 barrels (23,100 m<sup>3</sup>) per day. The pipeline is marked with red line on the picture presented below. This pipeline was constructed 1994-1998, and it was added on old Baku–Batumi pipeline route.



Picture 11: Baku-Supsa pipeline, source: Source: <http://www.socar.az>

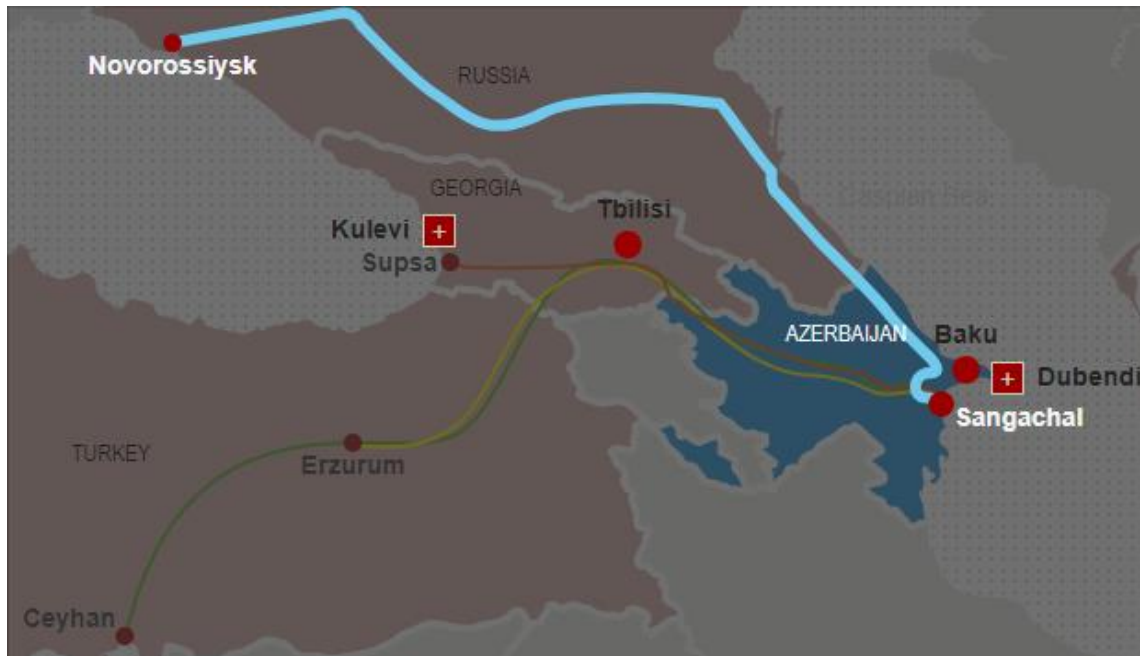
The oil transportation by the pipeline was temporarily stopped on 21 October 2006, after damages were discovered during the inspections on the pipeline. The large scale repair and replacement included was done, including replacement and re-routing of pipeline sections near Zestaponi in Georgia and Kura River crossing in Azerbaijan. Moreover, several defects of the Soviet times sections were repaired. In total, the repair works cost 53 million US dollars. The transportation of oil was launched again in June 2008.

### 5.3.2. Baku-Novorossiysk pipeline

**Baku-Novorossiysk** is oil pipeline in northern direction from Caspian Sea. It is 1,330 kilometers long, and the diameter of the pipeline is 530 mm. SOCAR is the operator of Azerbaijani part of the pipeline which is 231 kilometers long. The Russian section is operated by Transneft. This pipeline is also known as the Northern Route Export Pipeline and Northern Early Oil Pipeline. It connects the Sangachal Terminal near Baku to the Novorossiysk terminal at the Black Sea coast in Russia.

The contract for transportation was signed on 18 February 1996, and it started operating on 25<sup>th</sup> of October, 1997. There were several minor issues related to stopping of transportation. SOCAR temporarily stopped oil supplies through the pipeline in February 2008 due to a pricing disagreement with Transneft, but the issue was solved the same year, and the transport was launched again. The sabotage in Turkey, in addition to the conflict in Georgia, caused the shutdown of the Baku-Ceyhan and Baku-Supsa pipelines. This was the reason for the increase in transportation of the Baku-Novorossiysk pipeline. Moreover, during the Second Chechen War, the part of the section in Russia (Chechen section of the pipeline) was closed, causing Transneft to build a Chechnya- bypass loop, in order to avoid that region. From 2013, this pipeline remains operational. However, the volume of oil transported through it is relatively low, and it is using only small part of the full capacity.

The security issues related to this pipeline only emphasize the importance of pipeline security, and its vulnerability to military conflicts. For same reasons, Nagorno-Karabakh region was by-passed by all pipelines transporting oil and gas from Caspian Sea.



Picture 12: Baku-Novorossiysk pipeline, source: <http://www.socar.az>

### 5.3.3. Baku-Tbilisi-Erzurum

Baku-Tbilisi-Erzurum Gas Pipeline (also known as **South Caucasus Pipeline**) has been constructed to transport the gas from the Shah Deniz field located in Azerbaijani sector of the Caspian Sea, to Georgia and Turkey. It is built parallel to the Baku–Tbilisi–Ceyhan pipeline, with the total length of 980 kilometers. The diameter of the pipeline is 42 inches, with total capacity of 20 billion cubic meters per year. The first deliveries through the pipeline commenced on 30 September 2006. However, on 12<sup>th</sup> of August 2008, the pipeline operator BP closed the pipeline for the safety reasons because of the South Ossetia conflict. Russia largely destroyed the Georgian army, which protected the oil pipelines, as well as the main commercial port (Poti), which included an oil terminal and which was crucial to the East-West corridor (only the Baku–Novorossiysk Oil Pipeline was fully operational throughout the war.<sup>3</sup> Gas supplies were resumed on 14 August 2008m when situation stabilized. This pipeline is important to Georgia. However, as a transit country, Georgia has rights to take 5% of the annual gas flow through the pipeline, and can purchase 0.5 billion cubic meters of gas a year at a discounted price. In the longer term, it will supply Europe with Caspian natural gas through the planned Southern Gas Corridor pipelines, such as the Trans Adriatic Pipeline (TAP) and Trans-Anatolian gas pipeline (TANAP).



Picture 12: Baku-Tbilisi-Erzurum pipeline, source: <http://www.socar.az>

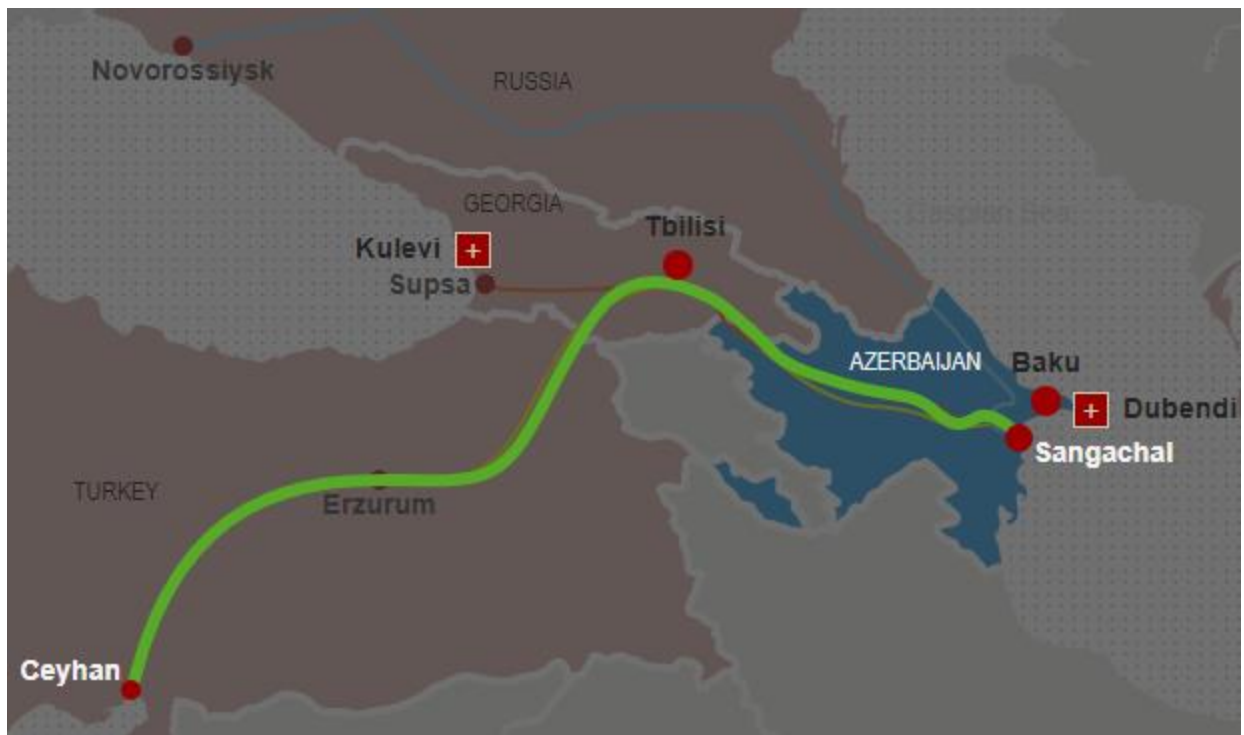
### 5.3.4. Baku–Tbilisi–Ceyhan pipeline

The Baku–Tbilisi–Ceyhan (BTC) pipeline is a 1,768 kilometers long crude oil pipeline from the Azeri–Chirag–Gunashli oil field in the Caspian Sea to the Mediterranean Sea. It connects Baku, the capital of Azerbaijan and Ceyhan, a port on the south-eastern Mediterranean coast of Turkey, via Tbilisi, the capital of Georgia. It is the second-longest oil pipeline in the former Soviet Union, after the Druzhba pipeline. The price of total project is 3 billion US dollars. There are eight pump stations, two in Azerbaijan, two in Georgia, four in Turkey. The operator of the pipeline is BP. The operation began

<sup>3</sup> José A. Peña-Ramos, Universidad Pablo de Olavide, Spain - *The Impact of Russian Intervention in Post-Soviet*

at the end of 2005, after performing a series of tests and the gradual filling process. The BTC became fully operational in 2006 and given that crude oil takes six months to traverse the full length of the pipeline flow rates through the pipeline have steadily increased to around 700,000 barrels of oil per day to the world market.

The pipeline traverses 176 sensitive areas, through the politically unstable Caucasus region. Due to this, Georgian government decided to prepare around 2000 soldiers, trained by the US military Special Forces, and specialize them for anti-terrorism combat. The goal was to protect the pipeline from saboteurs. The training program value was 64 million US dollars. Moreover, BP and the consortium, granted 25 million US dollars to non-governmental organizations, to support environmental programs development.



Picture 13: Baku–Tbilisi–Ceyhan pipeline, source: <http://www.socar.az>

### 5.3.5. The Trans-Caspian Oil Transport System

**The Trans-Caspian Oil Transport System** is a project designed to transport oil from Kazakhstani Caspian oilfields to Baku in Azerbaijan, and from there to the Mediterranean or Black Sea coast. The main options under consideration are an offshore oil pipeline from Kazakhstan to Azerbaijan, and construction of oil terminals and oil tankers. The pipeline would be 700 kilometers long, and would run from Kashagan field to Baku. Work for the pipeline is still in the development stage according to an official statement from the oil company Total S.A. The shuttle tankers system considers usage of oil tankers to transport oil from Kuryk terminal in Kazakhstan to Sangachal Terminal in Azerbaijan. The capacity of this system would be 500,000 barrels per day (79,000 m<sup>3</sup>/d) in the beginning stage, rising later up to 1.2 million barrels per day (190×10<sup>3</sup> m<sup>3</sup>/d).



The partners of the Kashagan oilfield project strongly support the project. They have estimated that the cost of a project would be around 4 billion dollars. However, the project is not supported from Iran and Russia, which are alternatives for Kazakhstan's oil and gas, and they would not encourage building of competition pipelines.



Picture 14: The Trans-Caspian Oil Transport System project, source: [www.wikipedia.org](http://www.wikipedia.org)

## 6. Geopolitical Situation today

Russia has distanced the South Caucasus region from the United States (and from NATO), which possesses its own geo-energy interests in the region. Finally, with the 2008 war in Georgia, Russia indirectly warned those states with territorial tensions within its sphere of influence that collaborating with NATO or the EU could harm Russian geo-energy interests (underlined in 2014 by Russia's annexation of Crimea). Furthermore, in recognizing South Ossetia and Abkhazia as sovereign states, Russia indirectly informed Armenia and Azerbaijan that the Nagorno-Karabakh conflict will follow Russian interests and signaled Azerbaijan that Russia may also recognize Nagorno-Karabakh. Russia holds significant geo-energy interests in Armenia's current and future participation in gas transportation projects and transport, electricity generation and the use of NGVs. Gazprom owns the Armenian gas transportation system, and Russia has even managed to involve Armenia in some way in the Russian - Georgian conflict.

Finally, concerning the territory of Nagorno-Karabakh, by maintaining the present scenario, Russia has managed to acquire another ally within the South Caucasus. Although Russia has not recognized the territory as an independent state or expressly supported its annexation by Armenia, Russia tolerates its current de facto independence. At the same time, Russia has also conveyed to the authorities of Ngoro- Karabakh that a conflict resolution agreement favorable to the territory's

interests (becoming a sovereign state or incorporation into Armenia) will only be possible if it does not harm Russian geo-energy interests.<sup>4</sup>

Although Russia managed to enforce peace 1994 without deploying military forces, the region remained unstable until today. Since then, negotiations are in progress, in order to achieve stability. Significant progress was reported at talks between the leaders in May and November 2009, but progress stalled, and since then there have been a number of serious ceasefire violations. In the summer of 2014, a conflict occurred, with casualties and skirmishes on both sides. Furthermore, another conflict occurred in November the same year. However, Azerbaijan's military had shot down an Mi-24 combat helicopter near the breakaway territory of Nagorno-Karabakh and reports said three people were killed, in what Armenia's Defense Ministry called an “unprecedented” provocation. He also said Azerbaijani troops returned fire and brought down the helicopter.<sup>5</sup> It is yet unclear what actually happened, due to the lack of evidences. The most serious escalation so far occurred in April 2016, when dozens of soldiers on both sides died in a fresh flare-up of hostilities.<sup>6</sup> Although this conflict is considered to be officially stopped, deadly conflicts are reported frequently.



Picture 15: Azerbaijani soldiers, source: <https://www.rferl.org>

Notwithstanding the Russian support of Armenian Karabakh, according to Tofiq Zulfugarov, politician from Azerbaijani, Armenia is dissatisfied with Russia's improving relations with Iran.

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<sup>4</sup> José A. Peña-Ramos, Universidad Pablo de Olavide, Spain - *The Impact of Russian Intervention in Post-Soviet / Secessionist Conflict in the South Caucasus on Russian*

<sup>5</sup> *Radio Free Europe / Radio Liberty* - <https://www.rferl.org/a/armenia-azerbaijan-karabakh-helicopter-down/26687375.html>

<sup>6</sup> *BBC article* - <http://www.bbc.com/news/world-europe-18270325>

However, they perceive that the political realities in the region will eventually make Armenia a less important partner for Russia.



Picture 16: Armenian soldiers, source - <https://news.az>

Despite the ongoing conflicts, Foreign Ministers of Azerbaijani and Armenia, Elmar Mammadyarov and Edward Nalbandian had a meeting in September, 2017. Members of the OSCE Minsk Group and the Personal Representative of the OSCE Chairperson-in-Office, Ambassador Andrzej Kasprzyk observed the meeting. Both sides had broad exchange of views on the conflict in Nagorno-Karabakh. In this context, steps were defined by Armenia, Azerbaijan and Co-Chairs. Furthermore, the issues related to the organization of meeting of Presidents of Armenia and Azerbaijan were also discussed. Minister Elmar Mammadyarov reiterated that Azerbaijan always stands ready for logical negotiations to achieve the soonest resolution of conflict.<sup>7</sup>

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<sup>7</sup> AZERNEWS article: “Substantial negotiations on Nagorno-Karabakh conflict settlement discussed in New York”, 06.03.2018

## 7. Conclusion

The region of South Caucasus is a region of potential conflicts, but also, of significant importance for the EU strategic goals related to diversification of energy sources. The conflict in Nagorno-Karabakh is a security problem which affects the oil and gas transport. Vulnerability of the pipelines was confirmed in many cases, and some of them were mentioned in this text. Peace negotiations and observer missions are the keys to sustainability of the region. It is reasonable to assume that Armenian national identity in Nagorno-Karabakh should have integrity, and it must not be suppressed by Azerbaijan. The fundamental rights of Karabakh Armenians to security, freedom, self-control and justice must be respected and accepted by Azerbaijan in order to resolve the conflict, and increase stability in the region. Moreover, governments of all the transit countries should ensure the security of the pipelines. Caspian Sea is the important reservoir of resources. Furthermore, importance of the region involves both the regional and countries from other continents diplomatically, and by supplying weapons and military equipment.

From geopolitical aspect of view, this region is a place of conflicting interests of Turkey, Israel, Iran, Russia and Europe. Influence in this region can provide strategic advantages, and abundance of oil and gas resources. Due to the significance of the area, various projects are being developed in order to exploit its oil and gas. Trans Adriatic Pipeline is the last segment of the Southern Gas Corridor, ensuring diversification of energy sources for Europe. This is essential by virtue of the increase of gas export from Russia to Europe, for around 8% (according to many sources), despite efforts to alter energy dependence and rise competition. These projects will enable the delivery of Caspian gas to destinations throughout South Eastern, Central and Western Europe.

Nevertheless, Russia does not support new pipelines transporting oil to Turkey and Europe, as they want to remain the key supplier of the Europe, and use this advantage in political purposes. For Israel, the oil imported from Azerbaijani is strategically important. Both sides have benefits from this friendship, as Israel provides them with advanced weapon systems. Azerbaijan also needs Israel's support for boosting the American Jewish lobby in the US Congress, which results with a friendly foreign policy between the countries.

The energy strategy of the region is affected by the conflict, and this area must be widely avoided in every project. Examining the pipeline projects, we can conclude that none of them goes through the risky areas. Nagorno-Karabakh has been bypassed like Chechnya, to reduce possible damages and sabotages from the conflicted sides. Oil and gas reserves in Caspian Sea make this area crucial source of energy, not only for the region, but also for Europe and the global oil and gas markets. Although the war has officially ended in 1994, conflicts occur every day, with casualties on both sides. This is the indicator of unstable situation and unresolved disputes, even though Azerbaijan and Armenia are formally in peace for almost 30 years.

In conclusion, it is certain that many issues need to be solved by negotiations and diplomacy. Moreover, military security of pipelines is essential, due to the instability in broader region. Additionally, European Union must assure its presence and mediation, as this region is crucial for diversification of energy sources for EU.

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