

IICEC Energy Market Newsletter Issue 18: 1 October 2018

Special Issue: Focus on Azerbaijan

Focus on Azerbaijan

IICEC is providing this Special Issue on Azerbaijan because of its increasing importance to Turkish, European and world energy markets. Azerbaijan's critical geographical location, linking the Caspian Sea's hydrocarbon resources with Turkey and Europe are making Azerbaijan a rising star in global energy markets and a key resource with which to develop the Southern Corridor. The Southern Gas Corridor, will make, for the first time, Caspian natural gas available to European markets and significantly increase Europe's natural gas security by diversifying its sources of supply. Turkey is also relying on Azerbaijani gas to realize its national energy policy goals and to diversity its sources of energy imports.

The State Oil Company of the Azerbaijan Republic (SOCAR) is responsible for bringing about these benefits. It is greatly expanding its

capacity to export natural gas to Turkey with the recently inaugurated Trans-Anatolian Natural Gas Pipeline (TANAP) project. TANAP is a visionary project that can not only meet Turkey's natural gas needs but provide significant quantities of natural gas to Europe via the Trans Adriatic Pipeline (TAP) Project, the Southern Gas Corridor (SGC)'s key connection. SOCAR is also Turkey's largest foreign investor (\$19.5 billion by 2020) including, beyond TANAP, major petrochemical and refinery projects.

This Special Issue contains:

1. A report on the visit by Dr. Fatih Birol, IEA's Executive Director, to Azerbaijan
2. An update on Azerbaijan's energy profile.
3. An interview with the CEO of SOCAR Turkey, Mr. Zaur Gahramanov.



Minister of Energy Parviz Shahbazov and Dr. Fatih Birol met in Baku to deepen the IEA relationship with Azerbaijan

Official Visit to Azerbaijan by IEA Executive Director, Dr. Fatih Birol

Meeting with Minister Shahbazov: On 12-13th of September, Dr. Fatih Birol, Executive Director of the International Energy Agency (IEA)¹, visited Azerbaijan for strategic discussions. Dr. Birol met with HE Parviz Shahbazov, Energy Minister of the Republic of Azerbaijan, and discussed the Southern Gas Corridor and its role in improving energy security by increasing the diversity of sources and delivery routes of gas to Europe.

Before Dr. Birol's press briefing, HE Shahbazov and Dr. Birol also discussed other critical topics such as global oil and gas markets, plans by Azerbaijan to boost the deployment of solar and wind, improve energy efficiency, and to strengthen institutional ties between the IEA and Azerbaijan. In addition, they discussed the EU4Energy Programme. EU4Energy is a regionally-focused programme, implemented by the IEA and the EU, that concentrates on the eleven countries in the Caucasus, Eastern Europe and Central Asia.

At the press briefing in Baku, Dr. Fatih Birol mentioned the significant gas production increase in Azerbaijan saying that "annual gas production in Azerbaijan will grow within 20 years from the present 18 bcm to 55 bcm. This is very important both for the Azerbaijani economy and for the status of the country as a natural gas exporter." Regarding the European Union's energy security decisions, Dr. Birol said "the main issue here is diversification of sources and routes for natural gas. I think TANAP and

TAP projects implemented by Azerbaijan are of great importance, and the TANAP pipeline has already been put into operation. I believe that the work on TAP will be implemented on time".

Meeting with Mr. Abdullayev, President of SOCAR: Dr. Birol also met with Mr. Rovnag Abdullayev, President of SOCAR to discuss SOCAR's plans for the Southern Gas Corridor and other global energy investments, especially in the petrochemical industry. Dr. Birol previewed the forthcoming IEA report, "The Future of Petrochemicals" that was of particular interest to Mr. Abdullayev. As the world energy market matures, Dr. Birol, pointed out, the worldwide growth oil and natural gas demand will increasingly come from the petrochemical sector compared to the use of oil and natural gas as fuels.

Completing Dr. Birol's mission to Azerbaijan, he also met with the representatives of the World Bank, the Islamic Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development (EBRD) to discuss the financing needed to meet region's growing demand for energy infrastructure. (An important feature of the IEA *World Energy Outlook* series has been to estimate future infrastructure requirements by sector and region, bringing to the world's attention the importance of global energy infrastructure financing).



Dr. Fatih Birol met with SOCAR President Rovnag Abdullayev and his staff

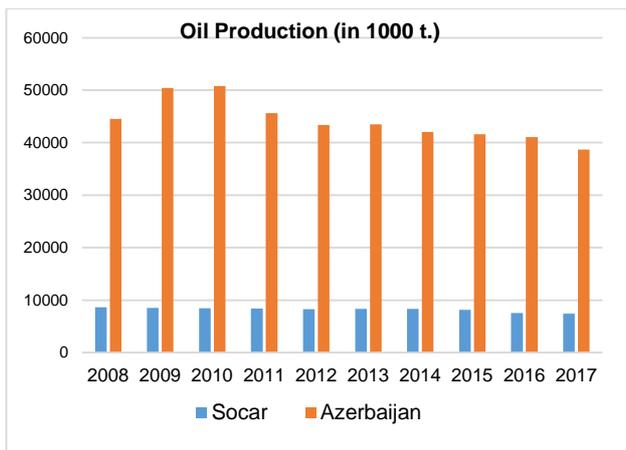
¹ Dr. Birol is also IIEEC's Honorary Board Chairman

Azerbaijan's Growing Importance in the Global and Regional Energy Market: Oil & Natural Gas

Located in the southeast of the Caucasus, the Republic of Azerbaijan borders Russia, Georgia, Turkey, Iran and Armenia. It's capital, Baku, is located on a natural harbor of the Caspian Sea, an area endowed with vast oil and natural gas resources.

Caspian Sea's oil and gas resources have been important to Azerbaijan and its economy even in its early history. As early as the 10th century, historians mentioned Baku's oil resources and later, even Marco Polo noted Baku's oil trade during his extensive travels. The famous Turkish traveller Evliya Çelebi (17th century) reports that "the Baku fortress was surrounded by 500 wells, from which white and black acid refined oil was produced". A German diplomat and traveller Adam Oleary Elshleger (also 17th century) gave a description of Baku oil wells and remarked that some of them were gushers.

Oil: Azerbaijan is a major crude oil producer (26th in the world ranking) with total crude oil reserves of approximately 7 billion metric tons. As shown below, of the 38.7 million tons produced in Azerbaijan in 2017, 7.4 million tons were produced by SOCAR (as seen in the graph below)². SOCAR produced 3.7 million tons of oil in the first half of 2018.³ The remainder is produced by a variety of other oil companies.⁴



² <http://www.socar.az/socar/en/economics-and-statistics/economics-and-statistics/oil-production>

³ <http://www.socar.az/socar/en/news-and-media/news-archives/news-archives/id/11232>

⁴ Other companies operating in Azerbaijan include Exxon, Lukoil, Shell, BP, Statoil, CONOCO and TPAO.

Azerbaijan oil exports fell to 33 million tons in 2017 from 33.9 million tons a year earlier, due to reduced oil production at the Azeri-Chirag-Güneşli (ACG) block of oil fields. Almost all oil from the ACG block is exported by the Baku-Tiflis-Ceyhan (BTC) crude oil pipeline (1,768 km). BTC crude oil pipeline links the Caspian Sea to the Mediterranean Sea, carrying Azeri oil to the Ceyhan Port of Turkey (seen in the map below), with a throughput capacity of approximately one million barrels per day. The first oil that was pumped from the Baku end of the pipeline reached Ceyhan in 2006. BTC has celebrated its 3 billion barrels transported milestone in 2018.



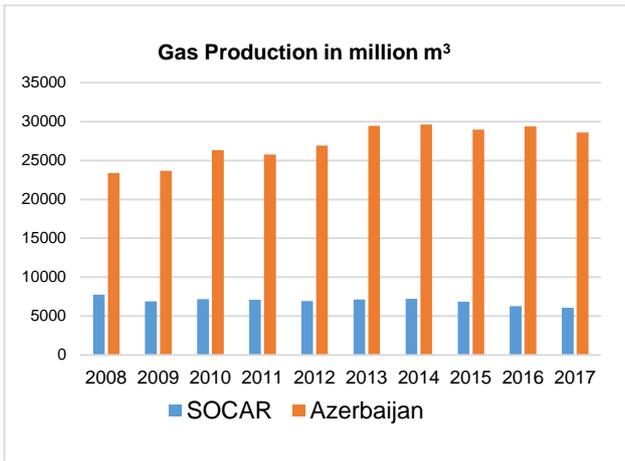
The BTC and the BTE start in Azerbaijan, passes through Georgia into Turkey. While the BTC transports oil since 2006, the BTE transports natural gas since 2007.

Natural Gas: Azerbaijan's has 1,277 bcm of proven natural gas reserves. One of the most important natural gas deposits in the world, the Shah Deniz field, is Azerbaijan's largest natural gas deposit. Azerbaijan's produced 28.6 bcm of production in 2017. Of this, 6 bcm/year was produced by SOCAR as can be seen in the figure below⁵. During the first six months of 2018, SOCAR produced 3.2 bcm of gas⁶. Azerbaijani gas is exported directly by SOCAR to Iran and Georgia, and by the Shah-Deniz consortium⁷ via the BTE gas pipeline to Georgia and Turkey.

⁵ <http://www.socar.az/socar/en/economics-and-statistics/economics-and-statistics/gas-production>

⁶ <http://www.socar.az/socar/en/news-and-media/news-archives/news-archives/id/1123>

⁷ Shah Deniz Consortium: BP, SOCAR, TPAO, SOCAR, Petronas, LUKoil, Russia, NIOC



The BTE⁸ pipeline became operational in 2007 delivering gas from the Shah Deniz field of the Caspian Sea to Georgia and Turkey. BP is BTE’s technical operator and SOCAR is its commercial operator. In 2013, a final investment decision on the South Caucasus Pipeline Expansion (SCPX) project was taken, coincident with Shah Deniz Stage 2 development, that will triple the gas volumes exported through the pipeline to over 20 bcm per year.⁹

Stage 2 of the Shah Deniz field (Shah Deniz 2) will be the main source for the Southern Gas Corridor. Additional discoveries, in 2010-2011, of the Umid, the Babek and the Absheron gas fields, and the off-shore Shafaq Asiman also pave the way for additional gas exports. Overall, the IEA predicts that annual natural gas production in Azerbaijan will grow to 55 bcm/year over the next 20 years. Additionally, the expansion of the capacity of TANAP to 24 bcm/year, and then to 31 bcm/year with additional investments, is also being planned in line with the expected production from Shah Deniz 2.

TANAP, The Backbone of Southern Gas Corridor: TANAP, one of the world’s biggest energy transport pipeline projects with the length of 1,850 km, came into the picture after the previously planned Nabucco was cancelled in 2013. The TANAP Project, along with the South Caucasus Pipeline (SCP) and the Trans-Adriatic Pipeline (TAP) form the elements of the Southern Gas Corridor (SGC).

Linking East-to-West, TANAP serves as the critical bridge; running through 20 cities in Turkey, it forms the backbone of the SGC. The implementation of the SGC, one of the priority energy projects for the European Union, is important for Azerbaijan, Turkey and Europe. TANAP will deliver 6 bcm/year of Caspian gas to Turkey and 10 bcm/year to Europe¹⁰. BOTAŞ, Turkey’s natural gas pipeline distributor, will buy 2 bcm of gas until June 2019, increasing to 6 bcm by 2021.



Map of TANAP

Gas through TANAP will be consumed in Turkey as well as in European markets. First deliveries to Turkey have started in mid-2018. Exports to Europe will be through an expansion of the South Caucasus gas pipeline and completion of the TAP pipeline. Two-thirds of the TAP (total of 878 km) have been completed as of February 2018. First delivery to Europe via TAP is slated for early 2020. TAP connects to TANAP on Turkey’s İpsala border and through Greece, Albania and, under the Adriatic Sea, to Italy’s gas transportation network.

About SOCAR Turkey: SOCAR is the icon of growing economic collaboration between Azerbaijan and Turkey. With its total investment volume of USD 19.5 billion to be realized by 2020, SOCAR will be standing as the biggest foreign investor of Turkey. SOCAR defines its main investment fields in Turkey as natural gas trade and distribution, oil refinery and distribution, production and trade of petrochemicals and relevant operations to support these areas. Additionally, SOCAR is the principal partner of the TANAP Project.¹¹

⁸ Also known as the South Caucasus Pipeline -SCP- or the Shah Deniz Pipeline

⁹ https://www.bp.com/en_az/caspian/operations/projects/pipelines/SCP.html

¹⁰ http://www.tanap.com/content/file/tanapnedir_for_web_TR.pdf

¹¹ <http://www.socar.com.tr/en/about-us/socar-turkey>



Presidents of Turkey, Azerbaijan, Ukraine, Serbia, Republic of Northern Cyprus attended the Opening Ceremony. SOCAR President Abdullayev (on the left) and Former Energy Minister Berat Albayrak (on the right) were present at the Ceremony.

In July 2018, at the opening ceremony on the commencement of commercial gas flow in TANAP, attended by Turkey's President, SOCAR President, Mr. Abdullayev highlighted the importance of the Southern Gas Corridor: "The delivery of first commercial gas via TANAP marks an important milestone in the realization of the Southern Gas Corridor. Notwithstanding the complexity of this mega scale project, we managed to simultaneously coordinate and launch the Southern Gas Corridor segments in Azerbaijan, Georgia and Turkey on schedule and under budget. The construction of the Shah Deniz 2 platforms, both topside units and jackets, fully in Azerbaijan by SOCAR's affiliate companies is a great track record not only for Azerbaijan but also for the whole region."¹²

Interview with Mr. Gahramanov, CEO of SOCAR Turkey¹³:

'SOCAR has been in Turkey for 10 years now'

"2018 has been an important year for us. We are celebrating our 10th year in Turkey as SOCAR, and we have been starting to transition from primarily an investing company to more of an operating company. Since we first acquired Petkim from the Privatization Administration in 2008, we have invested 14.2 billion USD so far into the Turkish economy and energy sector. We will have invested 19.5 billion USD when our current plans are completed in 2023. When we first came to Turkey, our objective was to grow in the petrochemicals industry and become a

fully integrated company. Today, I am proud to say that we have reached that goal. SOCAR has now become an integrated company in petrochemicals, refining, logistics and storage, and is Turkey's largest foreign investor. Turkey and Azerbaijan have strong cultural and social ties, and thanks to SOCAR, these ties are now economic as well.



Mr. Zaur Gahramanov, CEO of SOCAR Turkey

'STAR Refinery will reduce Turkey's current account deficit by 1.5 billion USD each year'

STAR Refinery, built with an investment of 6.3 billion USD will begin operating soon, in October of this year, and can process 10 million tons of crude oil annually. STAR will reduce Turkey's current account deficit by 1.5 billion USD each year, with its production of naphtha, jet fuel, diesel and LPG.

'First phase of TANAP inaugurated'

The 1,850-km TANAP pipeline is the largest Project undertaken by Turkey and Azerbaijan, and forms the longest piece of the Southern Gas Corridor, which will transport Azerbaijan gas to Europe. We inaugurated the first phase of the

¹² <http://www.socar.com.tr/en/corporate-communication/news/2018-news/2018/07/02/shah-deniz-2-begins-gas-deliveries-to-turkey-with-tanap-project>

¹³ Mr. Zaur Gahramanov, CEO of SOCAR Turkey, is a Member of IIEEC Board of Directors.

pipeline this year. TANAP's capacity of 16 billion cubic meters annually (bcm/yr) can be expanded to 24 and 31 b bcm/yr in the future. The Petlim Container Terminal, with a capacity of 1.5 million TEU, is Turkey's third-largest port, can easily handle all of the İzmir region's maritime commerce on its own. Our Petkim wind energy plant is producing and has a capacity of 51 megawatts.

'We believe in Turkey's Economy'

As SOCAR, we strongly believe in Turkey's economy and have confidence in its stability. We will continue to invest for the mutual future of Turkey and Azerbaijan, creating employment and contributing to the economy. We expect to take a final investment decision next year on a

new petrochemical facility. With this investment, we will not only increase Petkim's 20% market share but also help reduce Turkey's current account deficit."



Follow us on Twitter:

twitter.com/sabanciu_iicec