

AN IENE RESEARCH NOTE



THE CASPIAN BASIN  
THE SUCCESS STORY OF AZERBAIJAN: PRESENT SITUATION AND FUTURE  
PERSPECTIVES IN THE OIL AND GAS EXPLORATION

A CASE STUDY

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## Introduction

### The Caspian Basin

The Caspian Basin is one of the oldest established oil and gas producing areas of the world. The presence of oil and gas in the Caspian has been recorded since the 13<sup>th</sup> century A.D.<sup>1</sup> In 1900, Baku oil production ranked first in the world, while the operation of the first transnational oil pipeline in 1905 – the Baku-Batumi route – brought for the first time Azeri oil to the Black Sea shores for export.<sup>2</sup> In real (not legal) terms, the Caspian can be described as both a lake and a closed sea. It has a surface area of 436,000 km<sup>2</sup>; it is 1,440 km long and 980 meters deep at its deepest point; it has a volume of approximately 77,000 km<sup>3</sup>; and it has an average salinity of 13,000 ppm, or roughly 1/3 of an ocean's salinity. Being at a crossroads between Europe and Asia, its strategic and economic significance rose dramatically following the dissolution of the FSU (Former Soviet Union), the emergence of five new independent states – Azerbaijan, Kazakhstan, Turkmenistan, Russia and Iran, instead of the previous two, the Soviet Union and Iran – and in the aftermath of the 9/11 events due to its geographic proximity with the Middle East and Afghanistan.

Regarding the Caspian littoral countries, and particularly Azerbaijan and Turkmenistan, it is both difficult and risky to make an overall assessment of their reserves for the following reasons: first, because there can be no official and final account due to ongoing new discoveries; second, there is a big disparity between the reserves and the resources in place<sup>3</sup>; and third, due to the different national positions on the division of the seabed.

Three major field discoveries have contribute to the increase of the economic importance of the Caspian over the past decade: Shah Deniz in Azerbaijan, Kashagan in Kazakhstan and South Iolotan-Osman in Turkmenistan. The development process, together with regional

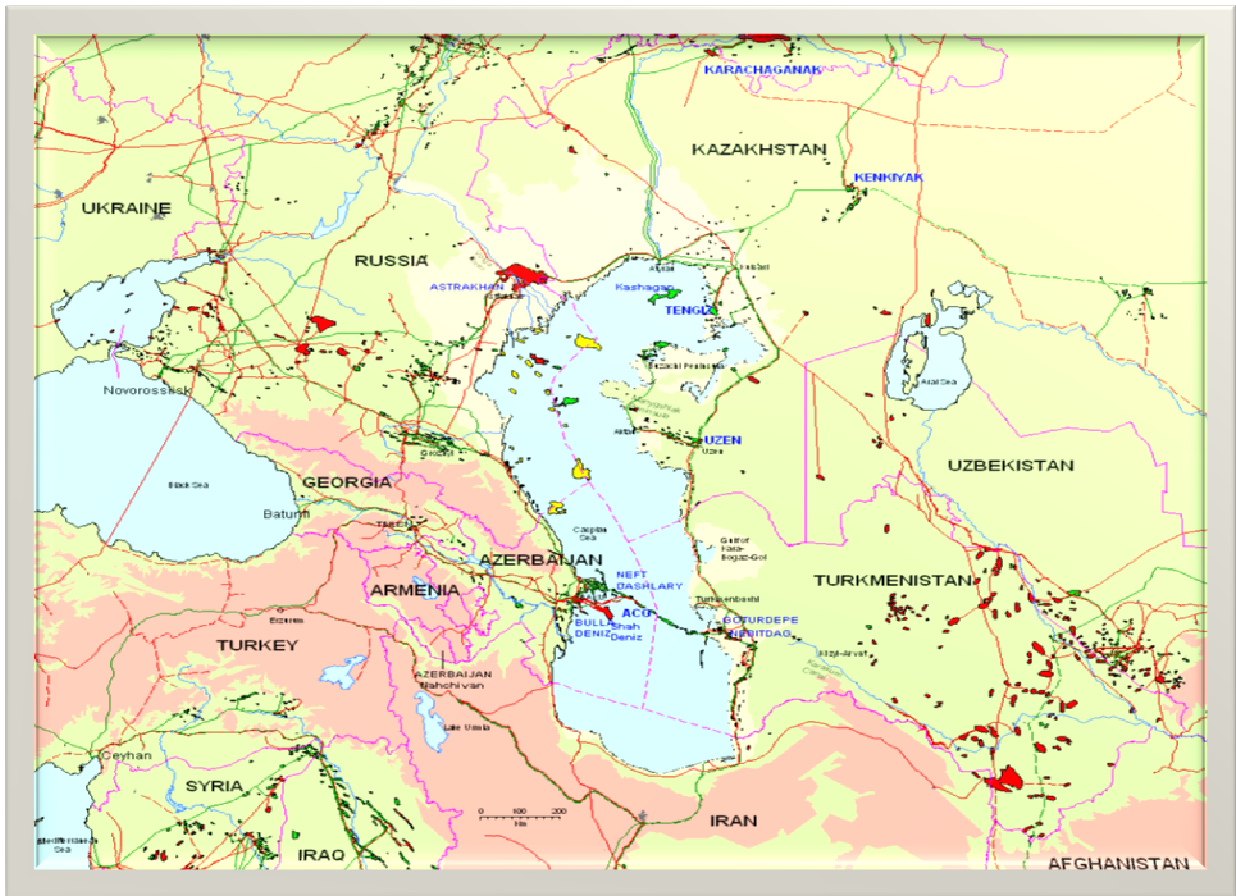
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<sup>1</sup> *Petroleum Economist* "Milestones in the Russian Gas Industry," special edition, 2002.

<sup>2</sup> Terence Adams, "Caspian Energy Development," in *The Caspian: politics, energy and security* ed. Shirin Akiner (London: RoutledgeCurzon, 2004), 90.

<sup>3</sup> With the term "*resources*" we identify the hydrocarbons in place, without knowing whether they can be extracted and produced, whereas with the term "*reserves*" we identify the hydrocarbons that are in place and can be produced and traded commercially. As a result, the term "*resources*" is inclusive of the term "*reserves*".

surveys, has shown that the Central and South Caspian Basins contain most of the reserve



Total recoverable reserves are estimated at approximately 50-70 bn barrels of oil, or 4-6% of proved world oil reserves, and 10-15 tcm of gas, or 7-10% of proved world gas reserves.<sup>4</sup> In particular, with regard to natural gas, Azerbaijan holds proved reserves of 1.3 tcm with a substantial potential to increase its future gas production owing to Phase II of Shah Deniz and the recent new discoveries in the offshore sector of the Caspian (see below). Kazakhstan holds established reserves of 1.9 tcm, however, its production is expected to rise dramatically, when Kashagan becomes fully operational. The case of Turkmenistan is rather interesting, as the asserted reserves of 2.7 tcm correspond only to the present-day situation, since the discoveries of the structures of South Yolotan, Osman, South Gutlyayak and Yashlar- Minara could bring the total Turkmen reserves to more than 20 tcm, thus reaching the same levels held by Iran and Qatar. More in particular, the low estimate of the British auditing company Gaffney & Cline Associates for the South Yolotan- Osman structure is 13,1 tcm and the high estimate ranges up to 21,2 tcm.

<sup>4</sup> John Roberts, "Caspian oil & gas: how far have we come and where are we going?" in *Oil, Transition and Security in Central Asia*, ed. Sally Cummings (London: RoutledgeCurzon, 2003), 143

## Historical Background

### The issue of the legal status of the Caspian

The legal history of the Caspian can be divided into two major periods: the early period, starting from the time of Peter the Great in 1722 until the dissolution of the FSU in 1991, and the contemporary period, running from 1991 until present-day.

Since the 17<sup>th</sup> century, the Caspian has been divided between the Russian Empire and Persia (Iran). Peter the Great established the first Russian naval base in the Caspian in Astrakhan, where it remains today as the base of the 4<sup>th</sup> Caspian Flotilla of the Russian Federation. Peter the Great saw in the Caspian the creation of the North-South trade corridor for gaining access to Iran's territories. With the Treaty of Rasht (1729) Russia established its naval and maritime supremacy in the Caspian, which it retained throughout the Soviet times until the collapse of the USSR in 1991. However, with the Treaty of Golestan (Oct. 12, 1813), which ended the Russo-Iranian wars in the 19<sup>th</sup> century, Russia ceded equal navigation rights and privileges to Iran (article 5). Nevertheless, Russia retained for itself the exclusive right for its warships to sail in the Caspian. With the Treaty of Turkmanchai (Feb. 22, 1828) Iranian warships were also permitted to sail in the Caspian on an equal basis with Russian ones, thus establishing for the first time the principle of Russo-Iranian condominium in the Caspian.<sup>5</sup>

The current legal status, as it stands, is regulated by two treaties concluded between the Soviet Union and Iran and accepted by all five littoral states, on the basis of which current negotiations are taking place on the future legal status: the Treaty of Friendship (Feb. 26, 1921) and the Treaty of Commerce and Navigation (March 25, 1940). The first treaty deals mainly with political issues concerning the normalization of relations in the post-World War I era, since it endorses the principle of equality of rights concerning bilateral relations between the Soviet Union and Iran without addressing the issue of the legal regime of the Caspian. The sole exception is article 11, which replaced the content of the Treaty of Turkmanchai between the Soviet Union and Iran, thus restoring Iran's equal right of navigation. The second treaty addresses navigation and fishing rights only, prohibits navigation and fishing of ships under the flags of non-Caspian countries and establishes a 10-nautical-mile coastal zone

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<sup>5</sup>Ali Grammayeh, "Legal history of the Caspian Sea," in *The Caspian: politics, energy and security*, ed. Shirin Akiner (London: RoutledgeCurzon, 2004), 17-19.

for each littoral state. The governing principle in both treaties is the “exclusivity of the rights” of the two signing parties, thus defining the Caspian as an exclusively Russo-Iranian sea.<sup>6</sup> The Caspian is understood to be a “closed” sea to third countries; however, the term “closed” does not refer to the legal term “closed sea”, stipulated in the Treaty on the International Law of the Sea (UNCLOS, Montego Bay, 1982).<sup>7</sup>

Following the dissolution of the FSU and the declarations of independence of Azerbaijan, Kazakhstan and Turkmenistan, the emergence of the five littoral states in the Caspian brought to the surface the need to adopt a new legal status that would define the sea boundaries – international waters, territorial waters, exclusive economic zones and fishery zones – among the five countries, and subsequently the need to regulate the ownership status of all offshore fields. The legal vacuum in these two treaties is evident. The Caspian has never been delineated by the littoral states and has remained in their common and exclusive possession as a condominium. No maritime boundary was ever established between the two contracting parties. As a result, the question of the sovereignty and rights of exploitation of the offshore fields in the Caspian remains unanswered. Nevertheless, the Treaties of 1921 and 1940 are still in force, and the five littoral states have accepted that they are legally bound by their clauses until a consensus has been reached on a new legal status (Almaty Declaration, Dec. 21, 1991).

Although usually referred to as a sea, the Caspian cannot be regarded as a *stricto sensu* closed sea, because it has no natural outlet to an ocean or at least to an open sea. According to article 122 of the UNCLOS (United Nations Convention on the Law of the Sea), “an enclosed sea is defined as a gulf, basin or a sea surrounded by two or more states and connected to another sea or ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal states”.<sup>8</sup> It is evident that currently the Caspian does not fall under this article unless the five littoral states agree on its delineation and set the boundaries for their territorial waters, continental shelf and exclusive economic zones. It is not easy however to define the Caspian as a lake either, primarily due to its size. Neither the UNCLOS nor any other international conventions provide rules for the

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<sup>6</sup> Grammayeh, “Legal history of the Caspian Sea,” 17-19.

<sup>7</sup> Sergei Vinogradov, “The legal status of the Caspian Sea and its hydrocarbon resources,” paper presented at Int’l Conference “Boundaries and Energy: problems and prospects,” Int’l Boundaries Research Unit, Univ. of Durham, July 1996 (Taylor & Francis Publishing Co., 1997), 140-142. [I wish to thank author for sending me a copy of this paper.]

<sup>8</sup> Nikolaos Poulantzas, *The Law of the Sea* (Athens: Stamoulis Publications, 1998), 173.

definition of international lakes or at least for their delimitation. There is however international case law deriving from the practice of other lakes in the world, which have been divided between two or more littoral countries on a parity basis, with the agreement that whatever resources are or will be found in each sector will be owned and exploited by the adjacent littoral state. This is the case for Lake Victoria, divided into three sectors by Uganda, Kenya and Tanzania, and Lakes Lugano and Maggiore, divided into two parts between Italy and Switzerland.<sup>9</sup>

Whether sea or lake, it is evident that ongoing negotiations indicate a division of the Caspian among the five littoral states, thus abandoning the condominium principle of the Soviet-Iranian treaties. In any case, realizing the impasse, Russia together with Azerbaijan and Kazakhstan proceeded with the signature of two bilateral protocols (Russia- Azerbaijan and Russia- Kazakhstan in 2002) and one trilateral protocol (2003), whereby the three littoral States divided on a 50- 50 basis the offshore structures located in the sectors between two adjacent States on the principle “common water- seabed divided” and at the same time acknowledging that the protocols do not represent a solution to the legal status of the Caspian, which still has to be decided unanimously by all five countries. As a result, today Azerbaijan and Kazakhstan have made substantial progress in developing their offshore deposits, either by using PSA is (Production Sharing Agreements) in the case of Azerbaijan or through the use of JV (Joint Venture) in Kazakhstan<sup>10</sup>.

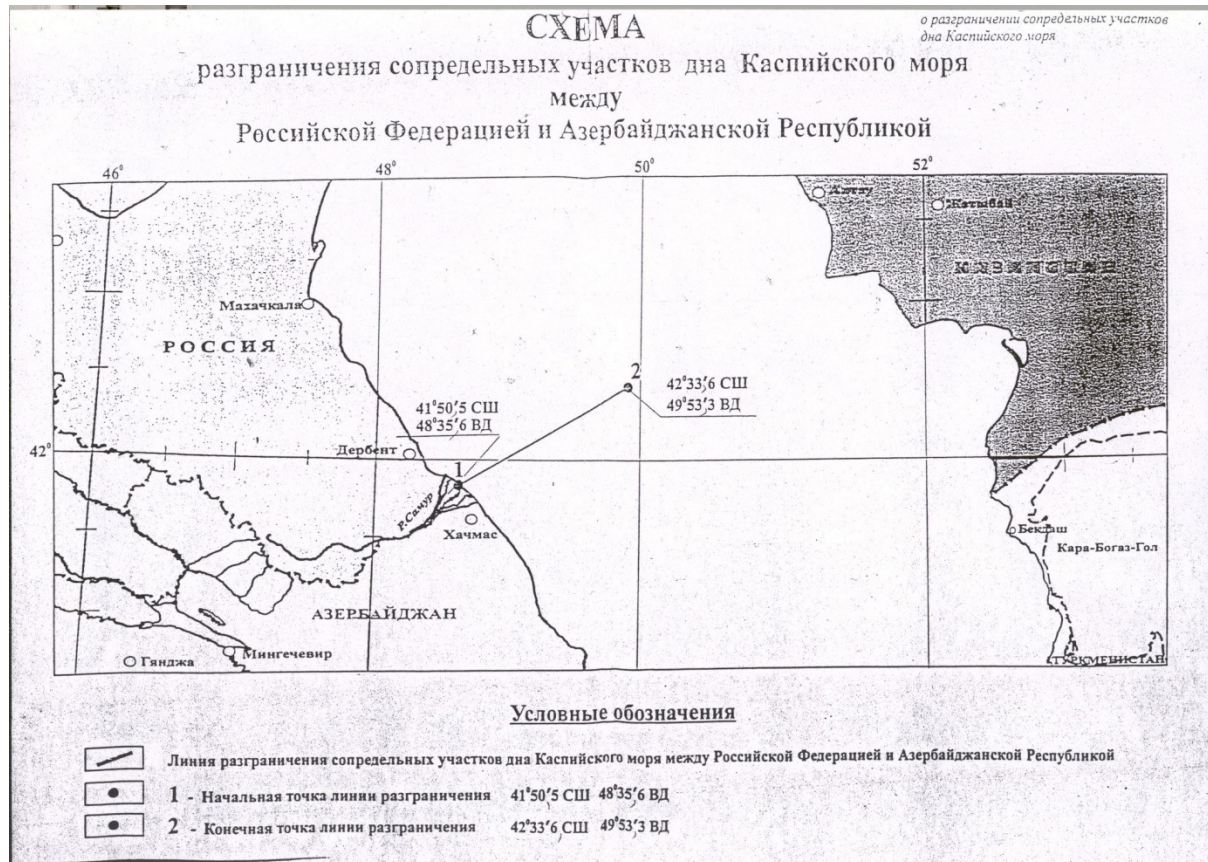
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<sup>9</sup> Vinogradov, “The legal status of the Caspian Sea and its hydrocarbon resources,” 146-147.

<sup>10</sup> Marika Karayianni, “*PSAs and National Oil Funds*” p. 148, in *The Caspian, Politics, energy and security*, edited by Shirin Akiner, RoutledgeCurzon, Taylor and Francis Group, London, 2004.



## Azerbaijan



Azerbaijan is emerging as the Caspian's most important strategic export outlet to the West and is increasingly becoming an important producer and exporter of oil and natural gas. Azerbaijan's proven crude oil reserves are estimated at 7 billion barrels in 2010<sup>11</sup>. The country's largest hydrocarbon basins are located offshore in the Caspian Sea, particularly the Azeri Chirag Guneshli (ACG) structure, which accounted for about 80% of Azerbaijan's total oil output in 2009. The State Oil Company of Azerbaijan Republic (SOCAR) is responsible for producing oil and natural gas in Azerbaijan, operating the country's two refineries, running the country's pipeline system, and managing the country's oil and natural gas imports and exports. Although the Ministry of Industry and Energy handles exports as well as exploration and production agreements with foreign companies, SOCAR is party to all of the international consortia developing oil and gas projects in Azerbaijan. On its own, SOCAR produces less than 20% of Azerbaijan's total output, with the rest (about 80%) being produced by the Azerbaijan International Operating Company. The Azerbaijan International

<sup>11</sup> BP Statistical Review of World Energy, June 2011.



Operating Company (AIOC) is a consortium of 10 energy companies that have signed in 1994 the so-called “Contract of the Century” for the development of the ACG structure. The AIOC is led by BP, but also includes Chevron, Statoil, TPAO, ExxonMobil and SOCAR and is the operator consortium of the ACG oil fields in the offshore sector of Azerbaijan, which provide with oil the Baku- Tbilisi- Ceyhan pipeline.



## Oil

Oil production in Azerbaijan increased from 283,000 barrels per day (bbl/d) in 1999 to more than 1, 37 million bbl/d in 2010. The ACG fields are Azerbaijan's largest, located 62 miles east of Baku in the Caspian Sea. Total peak production reached 1, 1 million bbl/d in 2010<sup>12</sup>. The ACG fields have an estimated 9 billion barrels of reserves. There were a number of projects in Azerbaijan's offshore that seemed promising, but were deemed disappointing after they turned out to be either dry holes or the oil discovered was deemed non-commercial, resulting in closure of several projects, the most prominent of them being the INAM offshore field, operated by BP. In addition to the lack of new producing oil fields, political complications related to boundary disputes further dampened exploration and ceased field exploration, like in the case of the ARAZ- ALOV- SHARG field between Iran and Azerbaijan. In any case, as it will be analysed below, the focus of the future Azeri production will be on the newly discovered giant natural gas fields in the offshore sector of Azerbaijan in the Caspian. All in all, in the oil sector, SOCAR has so far signed 10 PSAs with international companies, all of which are currently active, for the development of onshore and offshore oil structures, namely: Balakhany, Kurovdagh, Kursengi Karabaghli, Mishovdagh Kelameddin, Neftchala, Padar, Pirsahhat, Surakhany, Zih Hovsan and ACG<sup>13</sup>.

Azerbaijan exported an estimated 876,000 bbl/d in 2009, according to EIA, an increase of more than 16% compared with 2008 and nearly tripling since 2005<sup>14</sup>. Most of Azerbaijan's oil is exported via pipeline, but small amounts are shipped by truck and railway. Azerbaijan has 3 major export pipelines: The majority of oil exports pass through the Baku-Tbilisi-Ceyhan (BTC) pipeline system, which runs 1,110 miles from the ACG fields in the Caspian Sea, via Georgia, to the Mediterranean port of Ceyhan, Turkey. From there the oil is shipped by tankers mainly to European markets. The BP-operated pipeline began exporting in July 2006 and currently has a capacity of 1,2 million bbl/d. The BTC pipeline is also used to export Kazakh oil, which travels by tanker across the Caspian to the Sangachal Terminal, near Baku. The Baku-Novorossiysk pipeline is 830 miles long and has a capacity of 100,00 bbl/d. The pipeline runs from the Sangachal Terminal to Novorossiysk, Russia on the Black Sea. SOCAR operates the Azeri section and Transneft operates the Russian section, which has at

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<sup>12</sup> Same.

<sup>13</sup> <http://new.socar.az/socar/en/company/production-sharing-agreements>

<sup>14</sup> EIA, Country analysis brief, Azerbaijan, November 2010, [www.eia.doe.gov](http://www.eia.doe.gov)

times complicated the operation of the pipeline, as there is a dispute between SOCAR and Transneft concerning transportation tariffs on the pipeline. There are proposals to increase the capacity on the pipeline to between 180,000 and 300,000 bbl/d, a key transportation addition as production grows in the ACG oil fields and throughput from Kazakhstan increases in the future. The Baku-Supsa pipeline has an estimated capacity of 145,000 bbl/d and runs 520 miles from Baku to Supsa, Georgia on the Black Sea. It is operated by BP and is owned by AIOC members. The pipeline is used by ExxonMobil Company to export its share of oil from the ACG fields because ExxonMobil, although it is a participant in AIOC, is not a participant in the BTC pipeline. In November 2010, Azerbaijan and Kazakhstan reached a preliminary agreement on maritime transport, which covers transport of Kazakh oil via the Caspian Sea and Azerbaijan through the BTC pipeline.

Azerbaijan has a crude oil refining capacity of 399,000 bbl/d as of January 2010, according to the *Oil and Gas Journal (Jan 2010)*. Azeri crude oil is refined domestically at two refineries: the Baku refinery, with a capacity of 239,000 bbl/d, and the New Baku refinery, with a capacity of 160,000 bbl/d. Domestic consumption of oil approximated 100,000 bbl/d in 2009, falling by about 5,000 bbl/d compared with the year prior.

## Natural Gas

In the natural gas sector, Azerbaijan has proven natural gas reserves of roughly 2,55 tcm<sup>15</sup>. With the startup of the SHAH DENIZ natural gas and condensate field in 2007, Azerbaijan became a natural gas net exporter. During the period 2004- 2011, natural gas production increased 5,2 times, from 5,0 bcm/y to 25,86 bcm/y<sup>16</sup>. In 2010, Azerbaijan produced 15,1 bcm/y of natural gas. Almost all of Azerbaijan's natural gas is produced from offshore fields. Apart from the SHAH DENIZ, the GUNESHLI field, part of the ACG structure, provides associated gas to the Azerigaz system for domestic use via an undersea gas pipeline to Sangachal Terminal at Baku. The Sangachal Terminal, located south of Baku, is one of the world's largest integrated oil and gas processing terminals. It receives, stores, and processes both crude oil and natural gas from the ACG fields and from SHAH DENIZ, then ships these hydrocarbons through the BTU and South Caucasus Pipeline (SCP) pipelines for export. Azerbaijan's natural gas production increases in the future are expected to come from the continuing development of the SHAH DENIZ, Phase II. According to BP, SHAH DENIZ contains estimated reserves of roughly 1,2 tcm of natural gas and 240 mn tons of condensate. The field is located offshore in the Caspian Sea, approximately 60 miles southeast of Baku. Phase I of the SHAH DENIZ field's development was completed in 2007 and includes a fixed offshore platform, 2 subsea pipelines to bring the hydrocarbons ashore, and a new onshore gas-processing terminal adjacent to the existing oil terminal at Sangachal, near Baku. The SHAH DENIZ consortium members (BP, STATOIL, TOTAL, LUKOIL, NICO, SOCAR, TPAO) began producing natural gas for export during spring 2007. According to IHS Global Insight, the field is expected to eventually yield around 25 bcm/y for export. Phase II of the SHAH DENIZ development is expected to produce the said volume of natural gas and its startup is announced for 2017. All in all, it is expected that by 2015 natural gas production will amount to 20 bcm without any gas injection in the AZERI field, whereas by 2025 it will increase up to 40 bcm.

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<sup>15</sup> BP Statistical Review of World Energy, June 2011.

<sup>16</sup> "SOCAR: *investments in future*" in Caspian Energy, International Analytical Journal, May- June 2012, No 2 (71), p. 40.



In 2009, Azerbaijan exported an estimated 209 bcf, mainly shipping it via the South Caucasus Pipeline (SCP). However, limited volumes of natural gas- 2 bcm/y- are also exported to Russia via the Gazi-Magomed-Mozdok pipeline to cover local demand of North Caucasus Republics and a small volume of natural gas is shipped to Iran via the Baku-Astara pipeline- 1 bcm/y. In exchange, Iran supplies gas to Nakhchivan, Azerbaijan's exclave situated between Iran and Turkey.

## The New Discoveries

Apart from SHAH DENIZ, the interest of global energy companies is now focused on the new natural gas discoveries, announced by SOCAR in 2011, which are to be found in the offshore sector of Azerbaijan in the Caspian, with most of them adjacent to SHAH DENIZ. More specifically:

- (a) In November 2010 SOCAR announced the discovery of UMID, a natural gas field right next to SHAH DENIZ, with estimated reserves at present time around 200 bcm of natural gas and 40 mn tons of condensate. SOCAR is conducting all drilling and exploration activities on its own, i.e. construction of a fixed sea platform at a water depth of 58m, drilling of UMID-8 well at a depth of 6,006m and drilling of a second well (UMID-10) at a depth of 6,400m. Hydrocarbons were discovered in the formations of productive stratas V and VII horizons<sup>17</sup>. As a result, the field will not be subject to a PSA agreement in the future.



<sup>17</sup> “Azerbaijan sector of Caspian Sea counts several tens perspective structures” in Caspian Energy, International Analytical Journal, May- June 2012, No 2 (71), p. 44.



- (b)** The BEBEK field, adjacent to UMID, seems also promising, with estimated reserves of 400 bcm in place and 80 mn tons of condensate. These two fields are currently in the phase of drilling and exploration and have not yet reached actual development<sup>18</sup>.
- (c)** In September 2011, SOCAR together with TOTAL announced the discovery of a major gas condensate field offshore at the ABSHERON peninsula, 100 km off Baku at a depth of 500m. The well ABX2 discovered the FASILA formation and VI, VII and VIII horizons of the BALAKHANY suite. At present, a drilling at a depth of 5,200m is underway using the HEYDAR ALIYEV Drilling Rig. Preliminary estimates give the field 350 bcm of gas in place and 45 mn tons of condensate<sup>19</sup>. In February 2009, an Exploration, Development and Production Sharing Agreement was signed for the ABSHERON field, which entered into force in June 2009, with the following contracting parties: SOCAR (40%), TOTAL (40%) and GDF SUEZ (20%)<sup>20</sup>. Apart from the ABSHERON field, foreign energy companies have expressed interest in the shallow water area around the peninsula. As a result, another PSA was signed between SOCAR (20%) and BAHAR ENERGY LTD (80%) for the exploration and development of the BAHAR- GUM DENIZ fields.
- (d)** The most recent PSA was signed in October 2010 and ratified by Melii Majlis in May 2011, by SOCAR with BP on a 50%- 50% basis for the exploration and development of the SHAFAG- ASIMAN field. SHAFAG- ASIMAN is located at a depth of 600-800m, 60 km from the SHAH DENIZ field, with very deep reservoirs at approximately 7.000m and holds estimated reserves of 300 bcm in place<sup>21</sup>. BP completed recently the 3-D seismic survey at SHAFAG- ASIMAN. The analysis of the seismic data is expected to take 18 months, in preparation for the drilling of the first well by 2016. SOCAR announced that data processed by the 2-D seismic survey indicates that the field may be an extension of the ACG structure, located nearby<sup>22</sup>.

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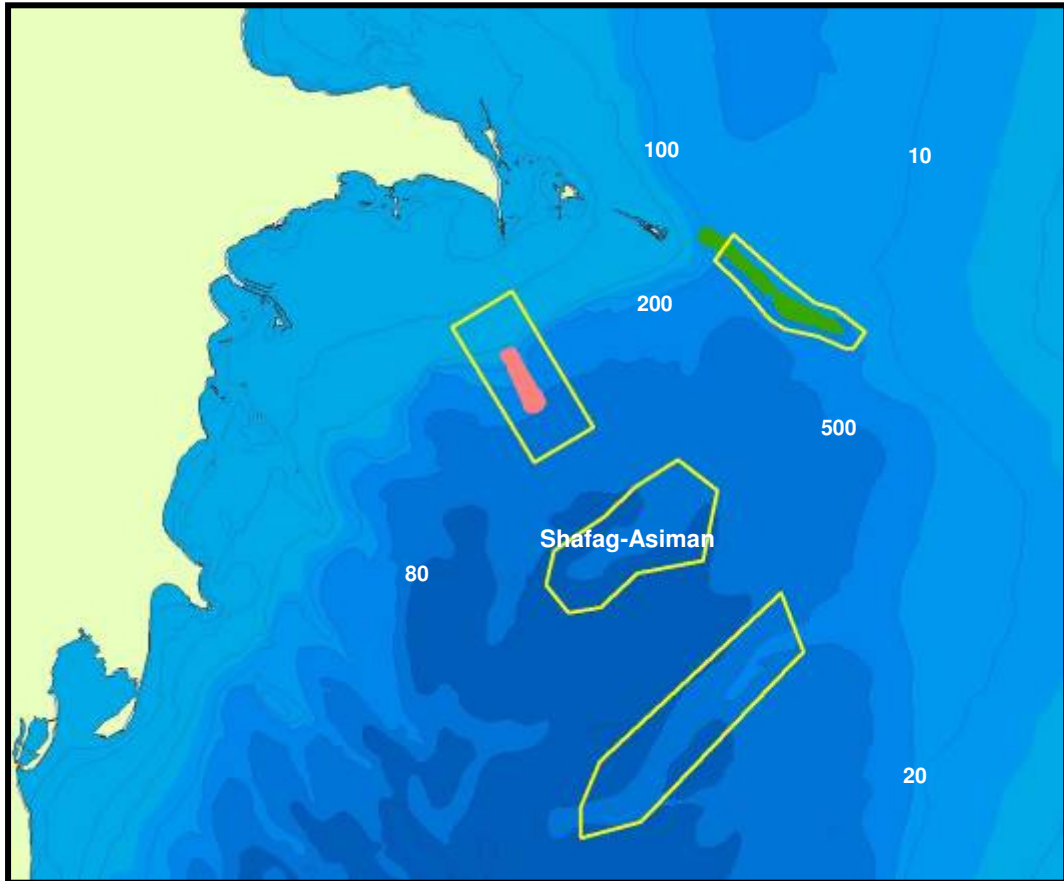
<sup>18</sup> Presentation by KHOSHBALT YUFSIZADE, 1<sup>st</sup> Vice- President of SOCAR, at the Baku Summer Energy School, ADA, Baku, 12/07/2011.

<sup>19</sup> "Azerbaijan sector of Caspian Sea counts several tens perspective structures" in Caspian Energy, International Analytical Journal, May- June 2012, No 2 (71), p. 44.

<sup>20</sup> <http://new.socar.az/socar/en/activities/exploration/absheron>.

<sup>21</sup> Azerbaijan and BP operated projects in the region, presentation by BP Azerbaijan, Sangachal Terminal, Baku, 06/07/2011.

<sup>22</sup> Middle East Economic Survey, Vol LV No 22, 28/05/2012, p. 17 "BP completes Shafag- Asiman seismic".



(e) Moreover, SOCAR is also pursuing exploration activities on its own, through the commissioning in 2011 of two fields discovered in 1998, in partnership with foreign companies, namely the GARABAGH and ASHRAFI fields. Last but not least, together with RWE in the framework of the respective PSA, SOCAR is pursuing the development of the NAKHCHIVAN natural gas field, also offshore in the Caspian, with estimated reserves at 300 bcm in place.

## Concluding Remarks

All in all, Azerbaijan and SOCAR have undertaken a 25 year investment programme of exploration and development of new oil and gas fields in the offshore sector of Azerbaijan in the Caspian, within its territorial waters. From all the above mentioned data, it is clear that SOCAR remains committed in attracting investments from global energy companies in its oil and gas sector by means of PSAs, which have proved a success story in Azerbaijan. The government of Azerbaijan has to date granted by far the largest number of PSAs to multi-national oil and gas consortia.

### *A PSA is defined as follows:*

“A PSA is a contractual agreement under which the State awards an investor the exclusive right to search, prospect and extract mineral resources from a specific natural resource for a certain period of time. The investor undertakes the obligation to carry out these works for the said period of time, at its own expense and bearing all risks. As a consequence, the foreign oil & gas company acts as a contractor for the host country in developing its oil & gas resources and receives a share of the production at rates specified in a contract to recoup its costs and make a profit”<sup>23</sup>.

Each PSA, once agreed and finalized, takes the form of a separate law, which establishes contractual relations between the foreign company and SOCAR. SOCAR then acts in a dual capacity, as the representative of the country’s government and as a full member of the consortium foreseen in the contract. The law subsequently through from the Azeri Parliament for ratification and after a while it is published. The fact that each PSA receives the form of a law, voted and ratified by the Parliament represents a major incentive, as it provides a stable legal and tax framework for international oil companies, investing a huge amounts of money and resources in Azerbaijan<sup>24</sup>. Furthermore, it is stipulated that PSAs take priority over prevailing future legislation, in the case where PSAs would be adversely affected by legislation. The parties to the PSA are subject only to negotiable profit taxes and bonuses, and social charges for local employees. Parties are exempt from all other taxes, including royalties<sup>25</sup>.

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<sup>23</sup> *FSU Oil and Gas Monitor*, 10 April 2002, ‘Foreign investment in the Russian oil industry: Part II, PSAs’, by A. Heinrich and H. Pleines.

<sup>24</sup> Marika Karayianni, “*PSAs and National Oil Funds*” p. 150, in *The Caspian, Politics, energy and security*, edited by Shirin Akiner, RoutledgeCurzon, Taylor and Francis Group, London, 2004.

<sup>25</sup> *How to Deal with Azerbaijan’s Oil Boom? Policy strategies in resource-rich transition economies*, IMF Working Paper, 98/6, European II Department.

Bearing in mind the work which is currently being conducted in the offshore fields, as well as the outlook for natural gas production in Azerbaijan which is estimated at 40 bcm/y by the year 2025, it is evident that should this scenario come true, Azerbaijan will become a valuable net gas exporter and supplier of gas for the EU market, in parallel with Russian gas. Namely Azerbaijan will be able to export 6 bcm/y of SHAH DENIZ-II gas to Turkey and 10 bcm/y to Europe with incremental gas quantities coming online between 2020-2025<sup>26</sup>. Hence, the issue of the gas pipelines to be constructed in order to accommodate future needs. An issue to be settled and decided upon by the SHAH DENIZ consortium, however bearing in mind not only the gas to be produced by the SHAH DENIZ field, but also from all other gas fields offshore in the Caspian as mentioned above. As a result, it may prove necessary to construct more than one gas pipelines to Europe<sup>27</sup>, in order to cover (a) the increased natural gas demand of both South East Europe and Central Europe and (b) the abundant anticipated gas production likely to come from SHAH DENIZ, UMID, BEBEK, ABSHERON, SHAFAG- ASIMAN, NAKHCHIVAN and other fields.

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<sup>26</sup> “Azerbaijan and Kurdistan, Gas to Turkey and Europe: Trajectory and outlook, June 2012” by Dr. Jennifer Coolidge, CMX Caspian and Gulf Consultants, presentation at the Baku Oil and Gas Conference, Baku, 07/07/2012.

<sup>27</sup> At the moment, there are three gas pipeline proposals to Europe: TAP, NABUCCO WEST and SEEP. Decision by the SHAH DENIZ consortium is expected by the end of 2012.

## About the Author

### Maria Karayianni

Marika Karayianni is a lawyer and a political scientist specialized in European and international energy issues, particularly on Russia, the Caspian and Central Asia. She holds a University degree in Law from the University of Athens, a Master/ D.E.A. in European Political and Administrative Studies from the College of Europe/ Bruges and is currently completing her PhD on “The legal status of the Caspian and the off-shore Production Sharing Agreements in Azerbaijan” at the Dimokriteion University of Thrace. She speaks and writes Greek, English, French and Russian. She has received a stage- award R. Schumann at the European Parliament, Athens Representation Office (1999), a full scholarship by the Diplomatic Academy of the Ministry of Foreign Affairs of the Russian Federation in Moscow for special training on Caspian energy issues (2002) and a partial scholarship by the Azerbaijan Diplomatic Academy and SOCAR for training on Caspian energy issues at the Baku Summer Energy School in Azerbaijan (2011). She was an Adjunct Fellow at the Western Policy Center and Woodrow Wilson Center (2004-2005), Washington DC, and is a visiting lecturer at the Demokriteion University of Thrace, Department on Black Sea countries history, culture and language. She has served as a special advisor to the Minister and Deputy Minister of Foreign Affairs of the Hellenic Republic at the MFA (2000- 2006) and is currently working as a permanent expert on European and international security at the Hellenic Ministry of Public Order (2006-today). She has travelled extensively in the CIS area and the Caspian and has participated in several conferences and seminars on Russia/ CIS energy security.