

COUNTRY ANALYSIS BRIEFS

Azerbaijan

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Background

Azerbaijan is an important current and future supplier of both oil and natural gas. The conflicting claims over the maritime and seabed boundaries of the Caspian Sea between Azerbaijan and Iran cause continued uncertainty, with Iran insisting on an even one-fifth allocation of the Caspian Sea and challenging Azerbaijan's hydrocarbon exploration in disputed waters. Its importance continues to grow, particularly as it becomes an increasingly important supplier of natural gas to Europe.

Oil and gas development and export is central to Azerbaijan's economic growth and the country is one of Caspian region's most important strategic export openings to the West.



Oil

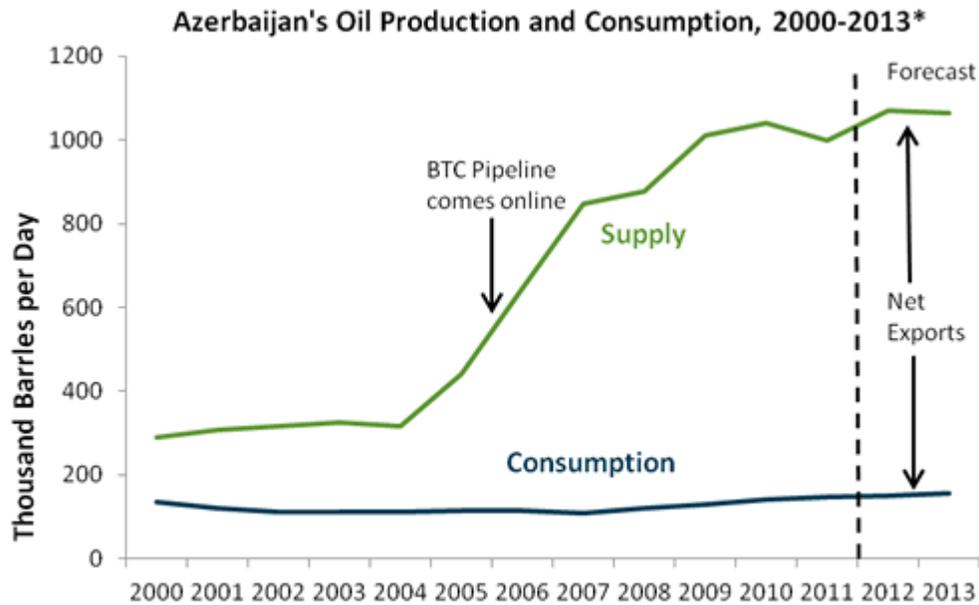
Azerbaijan's proven crude oil reserves are estimated at 7 billion barrels in January 2012, according to the *Oil and Gas Journal (OGJ)*. The country's largest hydrocarbon basins are located offshore in the Caspian Sea, particularly the Azeri Chirag Guneshli (ACG) field, which accounted for nearly 80 percent of Azerbaijan's total oil output in 2010.

Sector Organization

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 participates in all of the international consortia developing oil and gas projects in Azerbaijan. On its own, SOCAR produces less than 20 percent of Azerbaijan's total output, with the remaining 80 percent being produced by the BP-operated Azerbaijan International Operating Company (AIOC).

AIOC is a consortium of 10 petroleum companies that have signed extraction contracts with Azerbaijan. The AIOC is led by BP and includes Chevron, Statoil, Türkiye Petrolleri, ExxonMobil, and SOCAR. BP and a number of other AIOC consortium members have made significant direct investments in the development of the ACG field, with some AIOC member companies also investing in the construction of the Baku-Tbilisi-Ceyhan (BTC) pipeline. BP is the largest foreign investor and has been involved in Azerbaijan since 1992.

Oil production in Azerbaijan recorded an increase over the last few years and remained above the 1 million bbl/d mark in 2011.



Source: U.S. Energy Information Administration, Short-Term Energy Outlook
 * 2012-2013 data are EIA forecasts

Exploration and Production

Oil production in Azerbaijan increased from 288,000 barrels per day (bbl/d) in 2000 to 1.1 million bbl/d in 2010. Monthly data through December 2011 show that this year's production thus far has decreased slightly. The Azeri government and BP expect that Azerbaijan's total oil production will peak by 2012.

The ACG field covers 167 square miles and located 62 miles east of Baku in the Caspian Sea. Peak production was expected to reach 1 million bbl/d. The ACG field has an estimated 5 billion barrels of reserves and is operated by BP on behalf of AIOC. ACG produced mostly Azeri Light, a medium-light and sweet crude that is valued for its high middle-distillate yield.



Source: SOCAR

Azerbaijan also has some onshore oil production, although it is modest compared to the offshore. The currently producing onshore projects account for only a fraction of total oil production.

Oil Exports

Azerbaijan exported an estimated 777,000 bbl/d in 2010, falling by about 8 percent compared with 2009. Although Azerbaijan has three export pipelines, most (about 80 percent) of its oil is exported via the BTC. In addition, small amounts are shipped by truck and railway.

The BTC pipeline system runs 1,110 miles from the ACG field in the Caspian Sea, via Georgia, to the Mediterranean port of Ceyhan, Turkey. From there the oil is shipped by tanker mainly to European markets. The BP-operated pipeline began exporting in July 2006 and has a capacity of 1.2 million bbl/d. According to BP, since mid-2006, 1447 tankers were loaded at Ceyhan with a total of about 1,129 million barrels of crude oil transported via the pipeline. Since it began operating, Azeri exports have nearly tripled. The BTC pipeline is also used to export small volumes of 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 100,000 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 times complicated the operation of the pipeline as there is an ongoing dispute between SOCAR and Transneft concerning transportation tariffs. 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 field and throughput from Kazakhstan increases in the future. In 2010, Baku-Novorossiysk transported approximately 45,500 b/d.

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 on behalf of AIOC members.



Source: Stratfor

Downstream/Refining

Azerbaijan has a crude oil refining capacity of 399,000 bbl/d as of January 2012, according to the OGJ. 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.

Both refineries need modernization, which the Azeri Government estimated will cost between \$600 million and \$700 million.

Natural Gas

With the startup of According to the OGJ, Azerbaijan has proven natural gas reserves of roughly 30 trillion cubic feet

the Shah Deniz natural gas and condensate field in late 2006, Azerbaijan became a natural gas net exporter.

(Tcf) as of January 2011.

Sector Organization

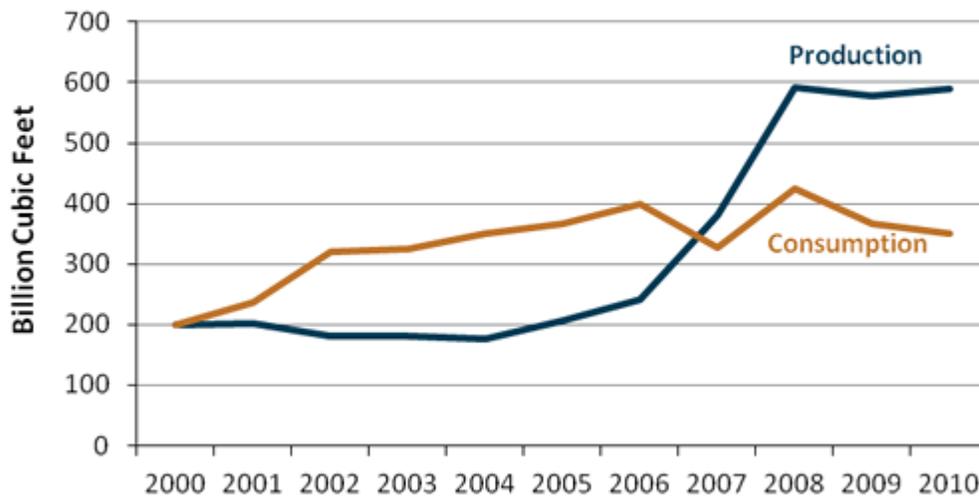
Azerigaz, a SOCAR subsidiary, is responsible for natural gas processing, transport, distribution, and storage, mainly in the domestic market. Azneft, another SOCAR subsidiary, is responsible for exploration, development, and production from the older onshore and offshore natural gas fields owned directly by SOCAR.

AIOC is the largest foreign joint venture in association with SOCAR, and is involved in the development of the ACG oil and gas fields and the Shah Deniz gas field. Statoil and BP operate the Shah Deniz gas field, and are the largest shareholders in the Shah Deniz consortium, each holding 25.5 percent. Other shareholders include Total, LUKoil, SOCAR, OIEC of Iran, each at 10 percent, while TPAO holds 9 percent.

Exploration and Production

In 2010, Azerbaijan produced 589 billion cubic feet (Bcf) of natural gas and consumed 350 Bcf. Almost all of Azerbaijan's natural gas is produced in two offshore fields, the ACG complex and Shah Deniz. The Shah Deniz natural gas and condensate field started producing in late 2006, tripling total production and made Azerbaijan a net gas exporter. The ACG field 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 South Caucasus Pipeline for export.

Azerbaijan's Natural Gas Production and Consumption, 2000-2010



Source: U.S. Energy Information Administration

Azerbaijan's future natural gas production increases are expected to come from the continued development of the Shah Deniz field. According to BP (the project's technical operator) Shah Deniz contains potential estimated reserves of roughly 30 Tcf of natural gas. Shah Deniz is located offshore in the Caspian Sea, approximately 40 miles southeast of Baku.

Phase 1 of the Shah Deniz field's development began producing in 2006 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 field produced approximately 243 Bcf of gas and 15 million bbl of condensate in 2010 and continued to deliver gas to the markets in Azerbaijan, Georgia, and Turkey.

According to BP, since the start of Shah Deniz production in late 2006 till the end of 2010 about 49.7 million barrels of Shah Deniz condensate were exported to world markets. Phase 1 output is expected to peak at 315 Bcf as well as 50,000 bbl/d of condensate.

Shah Deniz Full Field Development (FFD) is expected to have peak capacity of 560 Bcf in addition to the 315 Bcf in Phase 1, making it one of the largest gas development projects anywhere in the world. It is expected to start producing in 2017 and will eventually supply European markets with natural gas. Various proposals for the transportation of gas from the

Caspian to Europe are under consideration, including bids submitted by the Nabucco consortium, the Trans-Adriatic Pipeline, and the IGI-Poseidon.

Azerbaijan and Turkey signed several gas export-related agreements in October 2011, including those related to transit of Azeri gas to Europe through Turkey, as well as purchase agreements between Turkey and Azerbaijan.

Natural Gas Exports

Azerbaijan became a net exporter of natural gas in 2007 with the startup of the Shah Deniz field; in prior years it imported natural gas from Russia. In 2010, Azerbaijan exported an estimated 239 Bcf, mainly shipping it via the South Caucasus Pipeline (SCP). Volumes of natural gas are also exported to Russia via the Gazi-Magomed-Mozdok pipeline. A small volume of natural gas is shipped to Iran via the Baku-Astara pipeline. In exchange, Iran supplies Nakhchivan, Azerbaijan's exclave situated between Iran and Turkey.



Source: Central Asia Caucasus Institute

South Caucasus Pipeline (SCP)

The main conduit for Azerbaijan's natural gas exports is the SCP, also known as the Baku-Tbilisi-Erzurum pipeline, which runs parallel to the BTC oil pipeline for 429 miles most of its route, before landing in Erzurum, Turkey. The pipeline began exporting in 2007, and has the capacity to transport about 770 MMcf of natural gas, according to IHS Global Insight. In 2010, SCP daily throughput averaged 490 MMcf of natural gas, according to BP.

Gazi-Magomed-Mozdok Pipeline

This 150-mile pipeline transports natural gas from Azerbaijan to Russia under an agreement signed by SOCAR and Gazprom in 2009. Prior to 2007, this pipeline used to transport natural gas from Russia to Azerbaijan, but the agreement allowed for the pipeline flow to be reversed, making Azerbaijan an exporter of natural gas to Russia. Gas exports to Russia began in 2010 at approximately 35 Bcf per year.

Baku-Astara Pipeline

Due to tensions with Armenia, Azerbaijan began a swap deal with Iran that provides natural gas to Azerbaijan's geographically separate Nakhchivan exclave in late 2006. Azerbaijan ships natural gas into Iran via the Baku-Astara Pipeline and Iran then delivers the gas via a new 30-mile pipeline into the exclave. Iran receives a 15 percent commission on transit fees. In early 2010, Iran and Azerbaijan signed an additional gas supply deal for increased volumes of gas from Azerbaijan to be delivered to Iran for its own consumption, and volumes are likely to increase with the renovation of the pipeline and upgrades to the Astara gas compressor.

In late November 2010, Azerbaijan and Iran signed a memorandum of cooperation on natural gas supplies and electricity swaps, which likely will expand energy trade between the two countries.

Future Pipeline Projects

A number of pipeline projects have been proposed and announced over the past few years, each of which will almost completely depend on gas supplied from Shah Deniz. These pipeline

proposals were consistent with the "Southern Corridor" declaration, which was signed in May 2009 by the presidents of the European Council, the European Commission, Azerbaijan, Georgia, Turkey, and a representative from Egypt, which established the basis for cooperation among the countries for development of pipelines.

The proposed pipelines include:

- The much-talked about **Nabucco Pipeline** projected to carry 1.1 Tcf of gas per day through Turkey, Bulgaria, Romania, Hungary, and on to Austria.
- **The Trans-Adriatic Pipeline (TAP)** would run from northern Greece through Albania and to Italy is planned to transport more than 350 Bcf per day, with the possibility of an expansion to about 700 Bcf per day.
- Expansion of the **Interconnector Turkey-Greece-Italy Pipeline (ITGI)**. The Turkey-Greece section has been operational since 2007. The remaining Greece-Italy section would transport about 350 Bcf per day of natural gas.
- **South East European Pipeline (SEEP)** was proposed by BP, although details on the proposal are a bit scarce. SEEP would require the construction of only 1,300 kilometers of pipeline as it would rely on existing infrastructure and may exceed Nabucco's planned capacity.

Links

EIA Links

[EIA: Country Information on Azerbaijan](#)

U.S. Government

[CIA World Fact Book - Azerbaijan](#)

[U.S. Department of State](#)

[Azerbaijan International](#)

[World Bank](#)

Associations and Institutions

[ABC.az](#)

[British Petroleum Caspian](#)

[Nabucco Gas Pipeline](#)

[SOCAR](#)

Sources

Azeri Times

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CIA World Factbook

Eastern Bloc Research

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