International Journal of Progressive Sciences and Technologies (IJPSAT)
ISSN: 2509-0119.
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https://ijpsat.org/

Vol. 59 No. 2 October 2026, pp. 929-932

Georgian Technical University. Brief Overview Of The Georgian Oil And Gas Industry

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Abstract: This article provides a historical and contemporary overview of the oil and gas industry in Georgia, examining its development, production trends, refining infrastructure, regulatory framework, and strategic role in international energy transportation. The study traces the evolution of petroleum exploration and extraction through three major historical periods, highlighting the expansion of oil production following the discovery of significant fields in 1974. Georgian oil production increased from 260,000 tons in 1975 to approximately 3.3 million tons annually in the early 1980s, before declining due to resource limitations, production challenges, and political instability. The article also examines the development of oil refining facilities, including the historical Batumi refinery and more recent investments in refining capacity. Particular attention is given to the institutional and legal framework governing petroleum activities, notably the role of the State Agency of Oil and Gas and the Georgian Oil and Gas Corporation. Furthermore, the study highlights Georgia's strategic geographical position as an energy transit corridor connecting the Caspian region with European and international markets through major oil and gas pipelines. The article emphasizes the importance of infrastructure development, international cooperation, and investment in strengthening Georgia's petroleum sector and its contribution to regional energy transportation.

Keywords: Georgian oil and gas industry, Petroleum exploration, Oil production, Petroleum refining, Energy infrastructure, Oil and gas pipelines, Energy transit, Petroleum industry development, Energy regulation, Georgia.

The extraction of petroleum in Georgia has a long history, which can be broadly divided into three periods: the first—an early phase—stretching from time immemorial until 1929; the second, spanning from 1929 to 1974; and the third, beginning in 1974 and continuing to the present day. These periods differ significantly from one another in terms of practical outcomes, duration, as well as the scope and quality of the work carried out [1]. In the early 19th century, prospects for rapid economic development emerged in Georgia within the oil industry sector. At that time, significant quantities of petroleum products—such as gasoline, kerosene, and lubricating oils—were being imported into Georgia from Azerbaijan. Imports grew due to the widespread consumption of these products within Georgia. In the second half of the same century, as a result of active operations by Walter Siemens, numerous wells were drilled, oil extraction increased, and primitive oil refineries were established; their product range was primarily limited to gasoline, kerosene, and oils. Later, gas oil and light machine oils were also produced, while asphalt was manufactured from the residual byproducts. Following the outbreak of the First World War, the oil industry sector in Georgia weakened significantly [1, 2].

At the beginning of the 20th century, petroleum products were primarily used as fuel for internal combustion engines (gasoline and diesel) and as lubricating oils. Following the establishment of Soviet power, all oil wells came under state control, and the land was nationalized.

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In 1927, the Batumi Oil Refinery was constructed, entering operation around 1931. The refinery was supplied with crude oil from Western Siberia, Baku, Libya, and local oil fields. The facility housed units for primary oil processing, atmospheric-vacuum distillation, catalytic reforming, hydrotreating of gasoline and diesel fuel, and bitumen production [1]. The oil refining depth reached 62.3%, with a processing capacity of 5 million tons per year.

By the late 1990s, the Batumi Oil Refinery ceased production. At present, the refinery's equipment and machinery have been completely dismantled and removed from the site, with the exception of several storage tanks, loading and unloading racks, the associated railway lines, and a gantry for loading road tankers. Currently, the site of the former factory is used for the receipt and dispatch of imported petroleum products.

In 1929, the USSR Ministry of the Petroleum Industry established the "Saknavtobi" (Georgian Oil) trust to facilitate the systematic exploration and extraction of oil in Georgia. This initiative led to the discovery and development of new oil fields; for instance, the Mirzaani and Norio fields were opened in 1939, the Satskhenisi field in 1956, and the Taribana field in 1962, among others. Between 1955 and 1974, the volume of deep exploratory drilling increased, aimed at defining field boundaries and establishing exploitable reserves. Drilling depths also increased, reaching 4–5 km (at sites such as Samgori, Khirsa, Taribana, Supsa, etc.). In 1974, during drilling operations in the Sartichala area, a powerful oil gusher was struck at a depth of 2,750 meters. The oil was of high quality, which prompted an accelerated drilling program at the Samgori-Patardzeuli field.

That same year, high-yield fields were discovered in the vicinity of Tbilisi (Samgori-Patardzeuli, Teleti, and the Southern Arch of Samgori). Their development led to a rapid increase in total oil production in Georgia—from 260,000 tons in 1975 to 3.2 million tons by 1980. Over the following three years, the republic's annual oil production reached 3.3 million tons [1, 2].

In 1985, oil production dropped sharply, falling to just 0.6 million tons. It was later determined that this decline was caused by delays in the development of the Samgori-Patardzeuli field—which accounted for 90% of total production—as well as inaccuracies in the reserve estimates made during the initial exploration of the field. Although five additional fields (Rustavi, West Rustavi, Mtsarekhevi, Nazarlebi, and Baida) were discovered during the exploitation period of the aforementioned fields, bringing them into production failed to compensate for the natural decline in oil volumes from the existing fields. These fields were characterized by small reserves and low productivity. Between 1986 and 1991, annual oil production stood at approximately 180,000 tons. Consequently, oil exports also declined.

Following the restoration of Georgia's independence, the unstable situation within the republic caused oil production to drop to 100,000 tons in 1992–1993, and further to between 67,000 and 45,000 tons in 1994–1995.

Over the last 10 years, annual oil production in Georgia has amounted to approximately 40,000 tons.

Currently, there are 16 oil fields and 2 gas fields in Georgia. The global consumption of petroleum products has expanded significantly, driven by the development of the chemical industry, various other industrial sectors, and jet aviation. Today, oil is regarded as a vital resource for nations; there is no industrial sector that does not consume oil or petroleum products.

Equally important is the fact that oil serves as an inexhaustible source of primary raw materials for the chemical, petrochemical synthesis, pharmaceutical, perfumery, and other manufacturing industries [2,3,4].

Modern quality standards for petroleum products drive technical progress in their production—specifically, the development of advanced technological units and production complexes designed to facilitate thermal, thermo-catalytic, and thermo-hydro-catalytic processes [2,4].

In Georgia, the regulation of oil and gas operations—including oil refining, gas processing, and/or transportation—is carried out by the "State Agency of Oil and Gas," a Legal Entity of Public Law operating under the Ministry of Economy and Sustainable Development of Georgia.

The Agency is primarily governed by the Law of Georgia "On Oil and Gas," which entered into force on April 16, 1999.

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Georgia is divided into various licensing blocks. For these blocks, the Agency—acting on behalf of the State—conducts tenders; following the conclusion of a Production Sharing Agreement with the winning investor company, the Agency issues a general license for the use of oil and gas resources. In cases provided for by law, it is also possible to issue separate, specific licenses for oil and gas prospecting/exploration and for oil and gas extraction.

Operational and commercial rights and obligations are exercised by the Joint Stock Company "Georgian Oil and Gas Corporation," which collaborates with investors to plan and execute operations.

The Corporation owns state-owned assets specific to the sector (such as wells, specialized machinery, railway sidings, oil gathering systems, storage facilities, etc.) and grants their temporary use to the relevant investors—who hold the necessary licenses—for the purpose of conducting oil-related operations.

The Corporation also engages in economic activities within the sector; specifically, it operates a primary oil processing facility equipped with a 50,000-ton tank farm. This facility provides services to prepare extracted crude oil for commercial sale and stores it until it is sold.

Georgia participates in various international oil and gas transit projects.

JSC "Georgian Oil and Gas Corporation," as the owner of Georgia's main gas pipeline system, facilitates the operation of cross-border oil and gas transportation systems located within Georgian territory.

In gas projects, the operator is "Georgian Gas Transportation Company" LLC. All projects are implemented in cooperation with foreign companies.

Transit projects in Georgia include:

1 – The Baku-Tbilisi-Ceyhan (BTC) oil pipeline, which is designed to transport oil from the Caspian Sea—specifically from the Azeri-Chirag-Gunashli oil field in Azerbaijan—to the port of Ceyhan. The pipeline passes through Baku and Tbilisi, terminating in Ceyhan, a port on the Mediterranean coast of Turkey. It is one of the longest oil pipelines in the world, spanning 1,768 km. Of this, 443 km passes through the territory of Azerbaijan, 249 km through Georgia, and 1,076 km through Turkey;

2 – The Baku–Supsa oil pipeline runs from Baku, the capital of Azerbaijan, to the village of Supsa, delivering oil to the Supsa oil terminal. The pipeline is 833 km long;

3 – The Shah Deniz—or Baku-Tbilisi-Erzurum—gas (SCP) pipeline transports natural gas from Azerbaijan, through Georgia, to Turkey. This gas pipeline was constructed within the same corridor where the Baku-Tbilisi-Ceyhan oil pipeline had been laid a few years earlier. The gas pipeline is 971 km long: 443 km in Azerbaijan, 248 km in Georgia, and 280 km from the Georgian-Turkish border to Erzurum;

4 – The Russia-Georgia-Armenia main gas pipeline, which runs from north to south and has a total length of 612.5 km. Of this, 137 km passes through the territory of the Russian Federation, 263 km through Georgia, and 212.5 km through Armenia. 5 – Georgia also facilitates the transit of crude oil and petroleum products from Azerbaijan, Kazakhstan, Turkmenistan, and other countries, utilizing the republic's railway network and the oil terminals at the ports of Batumi, Poti, and Kulevi.

The procedure for obtaining a Business license is as follows: the applicant submits an application to the Agency; the Agency reviews the documentation provided by the applicant and, provided that the documentation complies with the requirements of Georgian legislation, issues the relevant Business license.

The State Agency of Oil and Gas exercises supervision and control over its licensees. The Agency monitors whether oil products and the gasoline and diesel fuel produced by the licensees comply with the standards established by the Government of Georgia.

In 2015, the Agency issued Business licenses for oil refineries, following which two oil refineries began operations in Georgia.

Both refineries are located in Tbilisi, one has an annual capacity of 130,000 tons, while the other has an annual capacity of 80,000 tons.

In 2024, a Business license was issued for a third plant which is located in Kulevi and upon completion of construction, its capacity will reach 2,910,000 tons per year, with the potential for further increases in the future.

These plants process crude oil to produce various petroleum products, including naphtha, gasoline, jet fuel, diesel, fuel oil, and other oil products.

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