

# 2017–2018 Minerals Yearbook

## **AZERBAIJAN [ADVANCE RELEASE]**

### THE MINERAL INDUSTRY OF AZERBAIJAN

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Note: In this chapter, information for 2017 is followed by information for 2018.

Azerbaijan produced a wide range of metals and industrial minerals, including aluminum, bentonite, copper, gold, iodine, limestone, silver, and steel. The Government was making concerted efforts to use proceeds from hydrocarbon exports to develop its industry, particularly ferrous metallurgy, the chemical sector, and production of petrochemicals. Azerbaijan's importance as a world mineral producer, however, was based on its crude petroleum industry and, more recently, its natural gas industry. Oilfield and gasfield developments were concentrated in two projects—the Azeri-Chirag-Guneshli (ACG) offshore oilfield complex and the Shah-Deniz offshore gasfield (table 1; U.S. Energy Information Administration, 2019).

#### Minerals in the National Economy

In 2017, the real gross domestic product (GDP) of Azerbaijan increased by 0.1%. The nominal GDP amounted to \$40.75 billion, and industrial production contributed 40.1% to the GDP. Mining and quarrying accounted for 73.9% of the country's industrial output, whereas the rest of the industrial output was produced by manufacturing (20.4%) and electricity, heating, and water production and distribution (5.7%). In 2017, industrial production decreased by 3.4% and production by the extraction sector decreased by 3.9% compared with that of 2016 (State Statistical Committee of the Republic of Azerbaijan, 2018, p. 17–25, 449–456).

In 2017, Azerbaijan exported about \$15.5 billion worth of goods and services; this was an 18.1% increase compared with export revenues in 2016. Of that amount, about 77.5% came from exports of petroleum; 8.64%, from exports of natural gas; 2.46%, from exports of petroleum products; 0.85%, from exports of aluminum and products made of aluminum; 0.60%, from exports of ferrous metals and products made of ferrous metals; and 0.58%, from exports of chemicals. The main export partners of Azerbaijan were Italy (which received 31.9% of Azerbaijan's total exports), Turkey (9.9%), Israel (4.6%), Russia (4.3%), Czechia (4.0%), Canada (3.9%), Georgia (3.4%), Germany (3.3%), China and Portugal (3.2% each), and Indonesia (3.0%) (Regnum.ru, 2018a; State Statistical Committee of the Republic of Azerbaijan, 2018, p. 633–674).

Azerbaijan's total imports in 2017 were valued at about \$8.78 billion, which was a 3.5% increase compared with that of 2016. The country's major import partners during the year were Russia (which provided 17.7% of Azerbaijan's imports), Turkey (14.5%), China (9.7%), the United States (8.2%), Ukraine (5.2%), Germany (5.1%), and Italy (3.6%) (Regnum.ru. 2018a;

State Statistical Committee of the Republic of Azerbaijan, 2018, p. 633–674).

#### **Production**

In 2017, Azerbaijan's production of mined silver and gold increased by 972% and 94%, respectively. Bentonite production increased by 357%; construction sand, by 156%; cement, by 28%; raw steel, by 12%; lime, by 8.55%; steel rebar, by 7.0%; salt, by 6.3%; mined copper, by 6.0%; and crushed limestone, by 5.8%. Gypsum production decreased by 70%; aluminum metal, by 23%; steel pipe, by 16%; refined petroleum products, by 15%; and crude petroleum, by 5.7%. Production of iron ore stopped. These and other data on mineral production are in table 1.

#### **Structure of Mineral Industry**

Table 2 is a list of major mineral industry facilities.

#### **Commodity Review**

#### Metals

Aluminum and Bauxite and Alumina.—In 2017, Azerbaijan produced 28,500 metric tons (t) of primary aluminum, which was a 23% decrease compared with production in 2016. In September, the State Committee on Property Issues and the Ministry of Economy prepared a set of measures to assist companies in making improvements to and further developing aluminum production in the country. The measures included assistance to OJSC Azerbaijan Aluminum (Det. Al. Aluminum)—in particular, a postponement in the payoff of its loans to the Government and temporary elimination of customs tariffs on imports of aluminum oxide and anode blocks. Other measures included Government assistance to the Det. Al. Aluminum project involved in the processing of alunite ore and the one involved in domestic production of anode blocks as well as assistance toward completion of the second stage of the Det. Al. Aluminum plant in Ganja, which would increase the capacity of the aluminum complex to 100,000 metric tons per year (t/yr). The Government acquired the aluminum company from private companies to coordinate aluminum production in the country but was considering privatizing it again (Metaltorg. ru, 2017).

In November, Det. Al. Aluminum and Tajikistan's aluminum producer Tajik Aluminum Co. (Talco) signed several agreements. First, beginning in December 2017, Det. Al. Aluminum would ship petroleum coke to Tajikistan, and Talco would supply Det. Al. Aluminum with anodes, cryolite, fluorite, and secondary aluminum. Second, Talco promised to help attract international investors to restart the Ganja alumina plant in 2018 for operations on a tolling basis and, in exchange,

<sup>&</sup>lt;sup>1</sup>Where necessary, Azerbaijani manats (AZN) were converted to U.S. dollars (US\$) at an average annual exchange rate of 1.721AZN=US\$1.00 for 2017 and to euro area euros (EUR) at an average annual exchange rate of EUR0.923=US\$1.00 for 2017.

Det. Al. Aluminum would eventually supply some of the produced alumina to Talco (Sputniknews.ru, 2017).

In March 2017, Azerbaijan began importing alumina from Iran Alumina Co. of Iran, receiving 20,000 t between March and November. In 2017, Iran Alumina produced 154,000 t of alumina and expected to increase production to 254,000 t in 2018, which would allow Azerbaijan to continue importing alumina from Iran (Abbasova, 2017b).

Gold, Silver, and Copper.—In 2017, Azerbaijan produced 3,667 kilograms (kg) of gold; 3,429 kg of silver; and 2,063 t of copper. Compared with that of 2016, silver and gold output increased significantly, by 972% and 94%, respectively; copper production increased by 6.0%. In 2017, two companies—Anglo Asian Mining PLC (Anglo Asian) of the United Kingdom and Azerbaijan's ZAO AzerGold—mined both gold and silver; copper was mined only by Anglo Asian (tables 1, 2).

In 2009, Anglo Asian began gold production at the Gedabek gold, silver, and copper mine, which is located about 55 kilometers (km) from the city of Ganja. At the end of 2013, the Gosha Mine, which was located within 50 km of Gedabek, started production, and in the summer of 2015, the Gadir underground gold mine entered the industrial production stage. In October 2016, Anglo Asian announced that it had discovered a new predominantly gold deposit, which was named Ugur, in immediate proximity to the Gedabek deposit, and in September 2017, the company began development of the Ugur deposit (Abbasova, 2017a, 2018a).

In 2017, ZAO AzerGold, which was a subsidiary of Azerbaijan International Mineral Resources Operating Co. (AIMROC), began mining at the Chovdar gold mine in the Dashkesan region to the west of Ganja and, in May, exported the first 1,283 kg of gold-silver alloy. The alloy was refined into gold and silver in Switzerland. AzerGold was created by the decree of the President of Azerbaijan in 2015. In the future, the company planned to begin production at other deposits, particularly Filizchai and Mazymchai, which are located in the Balaken region, and at the Gekdag sector located in the Nakhchivan Autonomous Republic. The schedule of production was not disclosed (Evgrashina, 2017; Sputnik.az, 2017; Trend.az, 2017).

Iron and Steel.—In 2017, OOO Baku Steel Co. (Baku Steel) was the only steel producer in the country and produced about 387,000 t of raw steel, which was a 12% increase compared with production in 2016. As of 2017, Baku Steel had a total production capacity of 1.1 million metric tons per year of steel. In December 2016, Baku Steel announced a new mega project, which would include construction of a metallurgical complex in the city of Sumqayit. The complex was to have five plants, and the total cost for construction of the complex was estimated to be EUR1,225 million (about \$1.3 billion) (table 1, 2; Worldbuild.az, 2016; Hasanli, 2017).

In January 2017, the Government announced that the state-owned ZAO Azerbaijani Complex for Steel Production was being liquidated. The ZAO Azerbaijani Complex for Steel Production was created by the Decree of the President of Azerbaijan in April 2013 with the goal of creating and overseeing the entire steelmaking industry in the country. The complex was to encompass all stages of production, from the mining of iron ore to the production of steel and steel products.

Between 2013 and 2018, the complex was expected to build plants for the production of iron pellets, for direct-reduced iron steelmaking, and for the production of steel products (rebar, railroad rails, pipe, and wire) in Azerbaijan (Hasanli, 2017).

**Iron Ore.**—In 2017, Azerbaijan did not produce iron ore. In 2016, the President signed a decree regarding privatization of the OAO Dashkesan Filizsaflashdirma complex (Dashkesan complex), which was the only producer of iron ore in the country. In August 2017, the State Committee on Property Issues announced an investment tender for 99.22% of the shares of the iron ore complex. Both domestic and international investors were invited to participate. The participants were invited to present an investment program aimed at creation of a production cluster that would include extraction and beneficiation of iron ore. According to the tender rules, the investment program would have to be for a period of 5 years with an investment amount of at least \$600 million. At yearend, the results of the tender were not yet known. The Dashkesan complex is located 40 km south of the city of Ganja. The resources of the deposit were estimated to be 270 million metric tons (Mt), with iron content of between 35% and 40% (Abbasova, 2016; Isazade, 2016; Metalinfo.ru, 2017).

#### Mineral Fuels

Petroleum.—In 2017, crude petroleum production in Azerbaijan decreased to 38.7 Mt [281.3 million barrels (Mbbl)], or by 5.6% compared with that of 2016. In Azerbaijan, petroleum production had been much lower than in 2010, when the country produced 50.8 Mt. The major source of crude petroleum in the country was the ACG field, which had been in operation for more than 15 years. The ACG field is located about 100 km east of Baku in the Caspian Sea and covers 430 square kilometers. The ACG field had an estimated 5 billion barrels of reserves; it produced mostly Azeri Light, which is a medium-light and sweet crude that is valued for its middle-distillate yield (table 1; Abbasova, 2018b; Regnum.ru, 2018b; U.S. Energy Information Administration, 2019).

The ACG petroleum project was developed by a consortium of companies led by BP p.l.c. of the United Kingdom. The original contract of the consortium was signed in 1994, and in September 2017, a new contract for ACG's development was signed that would be in effect through 2050. According to the new contract, BP had a 30.37% share in the project. Other participants included State Oil Co. of the Azerbaijan Republic (SOCAR) (25.0%), Chevron Corp. of the United States (9.57%), Inpex Corp. of Japan (9.31%), Statoil ASA of Norway (7.27%), Exxon Mobil Corp. of the United States (6.79%), Türkiye Petrolleri A.O. (TPAO) of Turkey (5.73%), Itochu Corp. of Japan (3.65%), and Oil and Natural Gas Corporation Ltd. (ONGC) of India (2.31%). In 2017, Azerbaijan produced 29 Mt of Azeri Light compared with 31.1 Mt in 2016. According to BP Azerbaijan's annual report, production was 588,000 barrels per day (bbl/d), including 137,000 bbl/d at the Central Azeri platform, 117,000 bbl/d at the Deep Water Guneshli platform, 124,000 bbl/d at the Western Azeri platform, 82,000 bbl/d at the Eastern Azeri platform, 77,000 bbl/d at the Western Chirag platform, and 51,000 bbl/d at the Chirag platform (Regnum.ru, 2018b; U.S. Energy Information Administration, 2019).

#### **MINERAL INDUSTRY HIGHLIGHTS IN 2018**

In 2018, Azerbaijan's real GDP increased by 1.4%. The nominal GDP amounted to \$46.9 billion, and industrial production contributed 44.2% to the GDP. Mining and quarrying accounted for 73.3% of the country's industrial output, whereas the rest of the industrial output was produced by manufacturing (21.9%) and electricity, heating, and water production and distribution (4.8%). In 2018, industrial production increased by 1.5% and production by the extraction sector increased by 0.2% compared with that of 2017 (State Statistical Committee of the Republic of Azerbaijan, 2019, p. 18–29; 448–452).

In 2018, raw and processed hydrocarbons dominated Azerbaijan's exports. In particular, the country exported \$15.7 billion worth of crude petroleum, which amounted to 80.9% of all exports; \$1.5 billion worth of natural gas (5.2%); \$330 million worth of fuel oil (1.7%); \$175 million worth of jet fuel (0.9%); \$71.4 million of unfinished aluminum (0.37%), and \$65.6 million worth of electric power (0.34%) (State Statistical Committee of the Republic of Azerbaijan, 2019, p. 634).

In 2018, Azerbaijan's production of aluminum metal increased by 67%; steel rebar, by 23%; cement, by 17%; refined petroleum products, by 12%; steel pipe, by 5.9%; and natural gas, by 5.6%. Gypsum production decreased by 73%; mined copper, by 20%; limestone, by 17%; salt, by 16%; bentonite, by 11%; iodine, by 6.6%; silver, by 5.8%; and gold, by 5.2%. These and other data on mineral production are in table 1.

In 2018, Azerbaijan Industrial Corp. (AIC) was in the process of preparing a strategy for expansion of aluminum production. As of 2018, the Ganja Aluminum plant had produced between 50,000 and 55,000 t/yr of aluminum products, most of which included aluminum sheets and aluminum ingots. The strategy was to include development of the Ganja Alumina plant, construction of a plant for production of anode blocks, and an increase in the annual production of aluminum to between 100,000 and 110,000 t/yr of aluminum. AIC was formed in November 2017 and included several state-owned enterprises in the areas of agriculture, metallurgy, and tourism. The goal of AIC was to improve management and increase profitability and transparency of operations. In 2018, Azerbaijan exported \$48.6 million worth of unwrought aluminum, which was a 110% increase compared with that of 2017 (Shafiyev, 2018; Rustambekov, 2019).

In 2018, Azerbaijan increased natural gas production by 5.6% compared with that of 2017. Crude petroleum production remained practically unchanged at about 282 Mbbl but, between 2014 and 2018, petroleum production decreased by about 7.5%. Most petroleum production in Azerbaijan took place at the ACG complex. Azerbaijan planned to keep production of crude petroleum unchanged and to increase production of natural gas by 12.5% in 2019 (Savosin, 2019).

In June 2018, the Southern Gas Corridor (SGC), which would provide transportation of the Shah-Deniz natural gas from Azerbaijan to Europe, started operations. The SGC project included three pipelines—the Trans-Adriatic Pipeline (TAP), the Trans-Anatolian Pipeline (TANAP), and the South Caucasus Pipeline. The SGC project attracted a \$750 million syndicated loan through the World Bank for construction of the TANAP. The chain of pipelines is expected to become fully operational in 2020 and would carry about 10 billion cubic meters per year of gas.

Albania, Azerbaijan, Bulgaria, Georgia, Greece, Italy, and Turkey were participants in the SGC project (Lenta.ru, 2018; Thomson Reuters, 2018).

#### Outlook

In 2017 and 2018, Azerbaijan continued to focus its attention on petroleum and natural gas production but also made efforts to reinvest the proceeds from exporting hydrocarbons in other economic sectors, such as products of ferrous and nonferrous metallurgy. In the next few years, it is likely that petroleum production will decrease because reserves in Azerbaijan are currently limited. Gold, copper, and steel production is likely to increase when the Chovdar, the Gedabek, and the Gosha Mines reach their production capacities and perhaps some other polymetallic deposits enter the production stage and the ferrous metal production capacity is increased.

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### $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{AZERBAIJAN: PRODUCTION OF MINERAL COMMODITIES}^1 \\$

(Metric tons, gross weight, unless otherwise specified)

Comn	nodity	2014	2015	2016	2017	2018
MET	TALS					
Aluminum, metal, primary		50,357 <sup>r</sup>	53,303 <sup>r</sup>	36,811 <sup>r</sup>	28,500	47,487
Copper, mine, concentrates, Cu	content	675	969	1,947	2,063	1,650
Gold, mine, Au content	kilograms	1,873	2,229	1,895	3,667	3,476
Iron ore, mine:						
Gross weight		91,400	127,600	25,500		
Fe content, 48% Fe		43,800	61,200	12,200		
Iron and steel:						
Raw steel		324,100	302,015	345,340	387,258	381,617
Products:						
Pipe		35,883	29,787	53,772	45,089	47,752
Rebar		251,500	223,413	235,033	251,418	309,118
Silver, mine, Ag content	kilograms	239	133	320	3,429	3,229
INDUSTRIAI	LMINERALS					
Cement, hydraulic		2,941,000	2,683,000	2,310,000	2,954,600	3,444,800
Clay, bentonite		81,900	53,958	49,328	225,288	201,539
Gypsum, mine		145,457	130,284	110,501	33,013	9,067
Iodine		221	210	208	198	185
Lime, construction		14,100	16,500	27,448	29,795	30,800
Salt, marketable		5,173	4,743	4,690	4,985	4,208
Stone, sand and gravel, construc	tion:					
Sand and gravel, sand		1,420,158	752,659	367,821	942,645	972,892
Stone, crushed, limestone		694,996	345,092	553,138	585,229	485,878
MINERAL FUELS AND	RELATED MATERIALS					
Natural gas <sup>2</sup>	million cubic meters	18,827	19,236	18,718	18,186	19,207
Petroleum:						
Crude <sup>3, 4</sup>	thousand 42-gallon barrels	305,000	302,000	298,000	281,000	282,000
Refinery <sup>5</sup>	do.	45,600	46,600 <sup>r</sup>	49,800 <sup>r</sup>	42,200	47,300
Davigad do Ditto Zano						

<sup>&</sup>lt;sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through September 17, 2019. All data are reported unless otherwise noted.

<sup>&</sup>lt;sup>2</sup>Only gas sold as a commodity; includes associated gas.

<sup>&</sup>lt;sup>3</sup>Only marketable; includes gas condensate.

 $<sup>^{4}</sup> Production \ reported \ in \ metric \ tons \ as \ follows: 2014 - 41,953,400; 2015 - 41,569,500; 2016 - 40,999,100; 2017 - 38,688,400; and 2018 - 38,814,300.$ 

<sup>&</sup>lt;sup>5</sup>Production reported in metric tons as follows: 2014—5,330,000; 2015—5,450,000; 2016—5,829,200; 2017—4,935,600; and 2018—5,534,500.

### ${\it TABLE~2}$ AZERBAIJAN: STRUCTURE OF THE MINERAL INDUSTRY IN $2018^1$

#### (Metric tons unless otherwise specified)

	Major operating companies and		Annual
Commodity	major equity owners	Locations or deposit names	capacitye
Alumina	Ganja refinery [Azeraluminum (Azeral), Government, 100%]	Ganja <sup>2</sup>	450,000
Aluminum	OJSC Azerbaijan Aluminum [Azeraluminum (Azeral), Government, 100%] (Det. Al. Aluminum)	Sumqayit plant <sup>2</sup>	60,000
Do.	do.	Ganja Aluminum plant	50,000
Cement	Norm sement (Norm LLC)	Gyzyldash, Karadagly region	5,600,000
Do.	Qazax sement (Akkord Corp.)	Dash Slahli villaga, Gazakh region	NA
Do.	Holcim (Azerbaijan) OJSC (LafargeHolcim Ltd.)	Baku	NA
Clays, bentonite	NA	Dash-Salakhlinskoye deposit	250,000
Copper ore	Anglo Asian Mining plc [R.V. Investment Group Services, 49%, and Government, 51%]	Gedabek, Gosha, and Gadir deposits	NA
Gold kilograms	do.	do.	2,000
Do.	ZAO AzerGold [Azerbaijan International Mineral Resources Operating Co. (AIMROC)]	Chovdar deposit, near Ganja	NA
Iodine	OOO Azer-Yod	Plant in Neftchala	NA
Iron ore, marketable, Fe content	OAO Dashkesan Filizsaflashdirma complex <sup>2</sup>	Dashkesan region	70,000
Lime	AAC Co.	Plant in Baku region	65,000
Natural gas, processing	NA	Plant in Karadagly region	NA
Petroleum and natural gas:  Crude petroleum and gas condensate thousand 42-gallon barrels  Natural gas	Azerbaijan International Operating Co.,  (AIOC) in conjunction with BP p.l.c. (30.37%), State Oil Company of Azerbaijan Republic (SOCAR) (25.00%), Chevron Corp. (9.57%), Inpex Corp. (9.31%), Statoil ASA (7.27%), Exxon Mobil Corp. (6.79%), Türkiye Petrolleri A.O. (TPAO) (5.73%), Itochu Corp. (3.65%), Oil and Natural Gas Corporation Ltd. (ONGC) (2.31%)  International consortium consisting of BP p.l.c., Statoil ASA, OAO Lukoil, Oil Industries' Engineering and Construction (OIEC), State Oil Company of Azerbaijan Republic (SOCAR), Total S.A., and Türkiye Petrolleri A.O. (TPAO)	Azeri-Chirag-Guneshli (ACG) offshore oilfields in the Caspian Sea  Shah-Deniz gas condensate field  Hewdar Alivey Baku refinery	400,000 NA
Refined petroleum	State Oil Company of Azerbaijan Republic (SOCAR)	Heydar Aliyev Baku refinery	
Rock salt	NA	Hehram and Pusyan deposits, Naxcivan region	NA
Silver	Anglo Asian Mining plc [R.V. Investment Group Services, 49%, and Government, 51%]	Gedabek, Gosha, and Gadir deposits	NA
	ZAO AzerGold [Azerbaijan International Mineral Resources Operating Co. (AIMROC)]	Chovdar deposit, near Ganja	NA
Steel:			
Raw	OOO Baku Steel Co.	Baku steel mill	1,100,000
Pipe, tubes	do.	Sumqayit pipe plant	150,000
i ipe, tubes			

<sup>&</sup>lt;sup>e</sup>Estimated. Do., do. Ditto. NA Not available.

<sup>&</sup>lt;sup>1</sup>Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

<sup>&</sup>lt;sup>2</sup>The operation was inactive in 2017 and 2018.

<sup>&</sup>lt;sup>3</sup>Capacity estimates are totals for all enterprises that produce cement.

<sup>&</sup>lt;sup>4</sup>Capacity for crude petroleum distillation.