



# 2017–2018 Minerals Yearbook

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**KYRGYZSTAN [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF KYRGYZSTAN

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

Kyrgyzstan ranked sixth in the world in mercury production in 2017, accounting for 0.6% of total world production. Gold remained the primary mineral (in terms of value) mined in Kyrgyzstan. Other mineral commodities mined and produced in the country were clay, coal, copper, gypsum, lime, natural gas, crude petroleum, sand and gravel, silica, and silver. Kyrgyzstan's real gross domestic product (GDP) increased by 4.5% in 2017 compared with an increase of 3.8% (revised) in 2016. The nominal GDP was \$7.15 billion<sup>1</sup> in 2017. Industrial output increased in value by 11.8% in 2017 compared with a decrease of 5.2% in 2016 (table 1; National Statistical Committee of the Kyrgyz Republic, 2018, p. 79; George, 2019).

## Minerals in the National Economy

Mineral industry output increased in value by 78.4% to \$103.6 million (KGS 7.15 billion) in 2017 compared with an increase of 20.1% from \$65.78 million (KGS 4.54 billion) (revised) in 2016. Manufacturing output increased in value by 7.6% in 2017 compared with a decrease of 5.4% in 2016. Construction increased in value by 7.1% in 2017 compared with an increase of 7.4% in 2016 (National Statistical Committee of the Kyrgyz Republic, 2018, p. 79).

The value of exports totaled \$1.54 billion in 2017 compared with \$1.27 billion in 2016, and imports totaled \$4.06 billion in 2017 compared with \$3.62 billion, revised, in 2016. In 2017, the value of gold exports was \$590 million, which accounted for 38% of the total exports; exports of ores and concentrates of precious metals totaled \$128 million, which accounted for 8% of the total exports. In 2017, the major export partners were, by value of the exports received, Switzerland (which received 32% of Kyrgyzstan's exports), Kazakhstan (6%), and Uzbekistan (1%). In 2017, the value of natural gas imports was \$33.9 million; and coal, \$13.4 million. The country's major import partners were, in terms of the value of imports supplied, China (which supplied 33.9% of Kyrgyzstan's imports), Turkey (5.1%), and the United States and Uzbekistan (3.6% each) (National Statistical Committee of the Kyrgyz Republic, 2018, p. 125–128).

## Production

In 2017, production of gold (mine output, Au content) increased by an estimated 46.8%; sand and gravel (industrial), by 35.8%; gold (metal, refinery), by 30.6%; sand and gravel (construction), by 29.5%; crude petroleum, by 20.4%; silica, by 19.5%; cement (hydraulic), by 15.6%; and lime, by 15.9%. Production of natural gas decreased by 10.0%, and

silver (mine output, Ag content), by 7.1%. Data on mineral production are in table 1.

## Structure of the Mineral Industry

As of 2017, the country had 177 mining enterprises. Table 2 is a list of the major mineral industry facilities, their locations, and their annual capacities (National Statistical Committee of the Kyrgyz Republic, 2018, p. 170).

## Commodity Review

### Metals

**Antimony.**—The Kadamzhay complex, which was the sole antimony producer in Batken Province in Kyrgyzstan, did not produce antimony in 2017. Production was halted owing to the lack of raw materials and financial problems. Previously, raw materials were delivered to the Kadamzhay complex from the Novoangarskii processing plant in Russia and from Tajikistan (Manasova, 2015; Kostenko, 2017).

**Copper, Gold, and Silver.**—In 2017, Centerra Gold Inc. of Canada remained the leading gold mining company operating in Kyrgyzstan. The Kumtor Mine was operated by Kumtor Gold Co., which was jointly owned by Centerra Gold Inc. (67%) and JSC Kyrgyzaltyn (33%). The company produced 17,503 kilograms (kg) of gold and 9,331 kg of silver in 2017 compared with 17,136 kg of gold and 8,200 kg of silver in 2016. In 2017, the Parliament of Kyrgyzstan approved amendments to the Water Code that allowed Centerra Gold to mine at the Davydov and Lysyi glaciers. The bill was submitted to the President to sign. As of December 31, 2017, the Kumtor Mine's total proven and probable gold reserves were estimated to be 57.1 million metric tons (Mt) of ore at a grade of 2.4 grams per metric ton (g/t) gold and containing about 140,000 kg of gold (Centerra Gold Inc., 2017, p. 3; 2018a, p. x; 2018b; Interfax, 2017a, p. 9).

JSC Kyrgyzaltyn, which was owned by the Government of Kyrgyzstan, owned 33% of the Kumtor Mine and three other gold mines—the Makmal, the Solton-Sary, and the Tereksai Mines. In 2017, the Makmal and Solton-Sary Mines together produced an estimated total of 300 kg of gold and 31 kg of silver. In 2016, JSC Kyrgyzaltyn (25%) and Eti Bakyr Tereksai (75%) of Turkey formed a joint venture that was expected to work on developing gold mines, including the Terek, the Terekkhan, and the Pereval'noye Mines (Kul'nazarov, 2016; Vechernii Bishkek, 2016; Kudryavtseva, 2017a, b; Vasil'kova, 2017).

The Bozymchak copper-gold mine is located in the Ala-Buka region, Jalal-Abad Province, and was operated by Kaz Minerals plc of Kazakhstan (formerly Kazakhmys Gold Kyrgyzstan LLC). In 2017, Kaz Minerals produced 1.0 million metric tons (Mt) of ore containing 9,000 t of copper, 33,900 t of copper concentrates

<sup>1</sup>Where necessary, values have been converted from Kyrgyzstani soms (KGS) to U.S. dollars (US\$) at an annual average exchange rate of KGS69.02=US\$1.00 for 2017 and KGS69.84=US\$1.00 for 2018.

containing 8,300 t of copper, 1,300 kg of gold, and 8,600 kg of silver at the Bozymchak copper-gold mine. As of 2017, the deposit had total proved and probable reserves of 13.6 Mt of ore at grades of 0.73% copper, 1.2 g/t gold, and 7.5 g/t silver. The total of measured and indicated resources was estimated to be 15.7 Mt at grades of 0.84% copper, 1.4 g/t gold, and 8.6 g/t silver (table 1; Kaz Minerals plc, 2018, p. 162–163, 165–166).

In 2017, Chaarat Gold Holdings Ltd. of the United Kingdom was given a permit by the authorities of Kyrgyzstan to construct a heap-leaching complex at the Tulkubash gold field. The designed capacity of this heap-leaching complex was expected to be 3,100 kilograms per year (kg/yr) of gold. As of 2016 (the latest year for which detailed data were available), the total Tulkubash resources, including measured, indicated, and inferred, were estimated to be 28.8 Mt at a grade of 0.79 g/t gold and containing 23,000 kg of gold. Tulkubash reserves were estimated to be 15,000 kg of gold. The extensive exploration was expected to continue in 2018 through 2019, and the production of gold at the heap-leaching complex at Tulkubash was expected to start in 2020 (Chaarat Gold Holdings Ltd., 2017, p. 8–10; Interfax, 2017b, p. 6).

In 2015, the Government awarded a 20-year license to Alliance Altyn LLC, which was a subsidiary of Vostok-Geoldobycha Co. of Russia, to develop the Jerooy gold mine. The first gold production from Jerooy was expected to take place at the end of 2019. The recovery plant was expected to be commissioned in October or November 2019. The open pit mine production capacity was expected to be 1.3 million metric tons per year (Mt/yr) from 2018 through 2031 (AKIpress, 2017; Interfax, 2017c, p. 8; Ukraine Metal, The, 2017; Kudryavtseva, 2018).

**Rare Earths.**—In 2017, the Government of Kyrgyzstan announced a new tender for the subsoil rights at the Kutessay II and Kalesay properties to mine rare-earth elements and beryllium. Kyrgyzstan had 20 rare-earth deposits and areas of mineralization, of which Kutessay II, which is located in the central part of the Aktuz ore field in the Kemin region, is one of the largest rare-earth deposits (Ivleva and Pak, 2013, p. 2; Abylaev, 2017, p. 17, 18; Mining Journal, 2017).

## MINERAL INDUSTRY HIGHLIGHTS IN 2018

Gold remained the primary mineral (in terms of value) mined in Kyrgyzstan. Kyrgyzstan's real GDP increased by 3.5% in 2018 compared with an increase of 4.7% (revised) in 2017. The nominal GDP was \$7.98 billion in 2018. Industrial output increased in value by 5.5%. Mineral industry output increased in value by 8.1%. Manufacturing output in 2018 increased in value by 5.0%. The value of exports totaled \$1.53 billion, and that of imports totaled \$4.43 billion. Gold exports were valued at \$543.9 million and accounted for 35% of the total exports. As of 2018, the country had 606 mining enterprises (table 1; International Monetary Fund, 2019, p. 4; National Statistical Committee of the Kyrgyz Republic, 2019, p. 77, 78, 81, 126, 127).

In 2018, lime production increased by 29%; cement, by 28%; coal, by 23%; and crude petroleum, by 19%. Production of sand and gravel (industrial, silica) decreased by 13%, and that of sand and gravel (construction), by 11%. Data on mineral

production are in table 1 (table 1; National Statistical Committee of the Kyrgyz Republic, 2019, p. 124).

In 2018, Centerra Gold produced 16,627 kg (534,563 troy ounces) of gold in Kyrgyzstan. As of December 31, 2018, the Kumtor Mine's total proven and probable reserves were estimated to be 11.3 Mt of ore at a grade of 1.7 g/t gold. Total measured and indicated resources were estimated to be 18.0 Mt at a grade of 3.0 g/t gold (Centerra Gold Inc., 2017, p. 3; 2018a, p. x; 2018b; 2019; Interfax, 2017a, p. 9).

In September 2018, production at the Makmal Mine stopped owing to the depletion of the mineral resources. The Government was searching for investors to resume the operations at the Makmal Mine because of its social importance to the Toguz Torousk region. The Government suggested that investors conduct additional exploration, rework mine tailings, and process waste from the Makmalzoloto refinery. In December 2018, the winning bidder for the development of the Makmal gold field was Manson Group LLC of China (Kabar News, 2018; Radio Azatlyk, 2019).

In 2018, Kaz Minerals produced 7,600 t of copper (Cu content of concentrates), 1,230 kg of gold, and 7,500 kg of silver at the Bozymchak copper-gold mine. As of December 31, 2018, total (proved and probable) reserves were estimated to be 13.0 Mt of ore at grades of 0.71% copper, 1.2 g/t gold, and 7.2 g/t silver. The totals of measured and indicated resources were estimated to be 14.8 Mt at grades of 0.78% copper, 1.3 g/t gold, and 8.2 g/t silver (table 1; Kaz Minerals plc, 2019, p. 176, 182–183).

As of December 31, 2018, the total Tulkubash resources, including measured and indicated, were estimated to be 42.0 Mt at a grade of 1.20 g/t gold. Tulkubash inferred resources were estimated to be 2.3 Mt at a grade of 0.46 g/t gold. The production of gold at the heap-leaching complex at Tulkubash was expected to start in the fourth quarter of 2021, and the production was expected to be 2,960 kg/yr of gold (Chaarat Gold Holdings Ltd., 2019, p. 1, 11–13).

## Outlook

In 2017 and 2018, the Government of Kyrgyzstan continued to intensify its efforts to increase mineral production. It was holding mining tenders and trying to attract foreign investors for its mining and manufacturing industries. The country was trying to improve its mining industry by increasing transparency in the process of issuing licenses for exploration, prospecting, development, and mining of its natural resources in 2017 and 2018. Kyrgyzstan's production of copper and gold is expected to increase in the future when mining begins at Jerooy and Tulkubash. Gold production most likely will depend on foreign investment into existing mines and the start of operations at the glaciers.

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TABLE 1  
KYRGYZSTAN: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>	2014	2015	2016	2017	2018
<b>METALS</b>					
Antimony, refinery, metal and compounds	105	--	40	--	--
Copper, mine:					
Ore:					
Gross weight	426,000	449,000	1,034,000 <sup>r</sup>	1,009,000	1,002,000
Cu content	4,300	4,400	9,100 <sup>r</sup>	9,000	8,600
Concentrates:					
Gross weight	3,000 <sup>r</sup>	13,000 <sup>r</sup>	33,900 <sup>r</sup>	33,900	33,100
Cu content	780 <sup>r</sup>	3,100	8,300 <sup>r</sup>	8,000	7,600
Gold:					
Mine, Au content kilograms	18,000 <sup>e</sup>	18,000 <sup>r,e</sup>	19,000 <sup>e</sup>	27,900	27,400
Refinery, bullion do.	--	389	1,045	1,365	1,400
Mercury, metal do.	48,000	45,500	20,000 <sup>r,e</sup>	20,000 <sup>e</sup>	20,000 <sup>e</sup>
Silver, mine, Ag content do.	5,609 <sup>r</sup>	9,890 <sup>r</sup>	18,410 <sup>r</sup>	17,097	16,000
<b>INDUSTRIAL MINERALS</b>					
Cement, hydraulic	1,730,200	1,496,100	1,301,600 <sup>r</sup>	1,504,800	1,929,700
Clay, kaolin	1,121,800 <sup>r</sup>	1,332,600 <sup>r</sup>	1,332,600 <sup>r</sup>	1,322,600 <sup>e</sup>	1,400,000 <sup>e</sup>
Gypsum, mine thousand metric tons	39	40	40 <sup>e</sup>	40 <sup>e</sup>	42 <sup>e</sup>
Lime	3,100 <sup>r</sup>	5,000 <sup>r</sup>	6,300 <sup>r</sup>	7,300 <sup>e</sup>	9,400 <sup>e</sup>
Salt, rock salt <sup>e</sup>	1,600	1,600	1,600	1,600	1,700
Sand and gravel, industrial, silica	1,203,000	1,172,000	600,600 <sup>r</sup>	815,800	710,100
Stone, sand, and gravel, construction:					
Sand and gravel	1,165,000	1,313,600	1,123,400 <sup>r</sup>	1,454,700	1,298,700
Stone, size and shape unspecified:					
Granite, including sandstone	31,119 <sup>r</sup>	65,299	32,821	32,821 <sup>e</sup>	34,000 <sup>e</sup>
Marble, including limestone	74,400	97,000	97,000	97,000	102,000 <sup>e</sup>
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Coal:					
Bituminous	323,300	236,200	240,400	246,500	274,800
Lignite	1,506,600	1,702,500	1,611,300 <sup>r</sup>	1,628,900	2,031,600
Total	1,830,000 <sup>r</sup>	1,940,000 <sup>r</sup>	1,850,000 <sup>r</sup>	1,880,000	2,310,000
Natural gas thousand cubic meters	33,800	31,600	28,900	26,000	27,300
Petroleum, crude 42-gallon barrels	607,636	785,000	1,029,800	1,240,000	1,470,000
Uranium, mine, U content	1,700	1,500	--	--	--

<sup>e</sup>Estimated. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through August 21, 2019. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>In addition to the commodities listed, mined antimony, mercury, molybdenum, tin, fluorspar, and tungsten may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2  
KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names <sup>1</sup>	Annual capacity <sup>c</sup>
Antimony, metal	metric tons	ATF Invest (ATF Bank of Kazakhstan)	Kadamzhay metallurgical facility, Kadamzhayskiy region, Batken Province	105
Cement		China-Kyrgyz Co.	Aravan cement plant, Aravan Oblast, Osh Province	200
Do.		Osoo Ak-Sai Cement	Osoo Ak-Sai cement plant, Kyzyl-Kiya, Batken Province	400
Do.		United Cement Group	LLC TechnoLin cement plant, Kant, Ysykaty district, Chuy Province	360
Do.		do.	OJSC Kant cement plant, Kant, Ysykaty district, Chuy Province	1,680
Do.		Verny Capital	South Kyrgyz Cement CJSC, Kyzyl-Kiya, Batken Province	1,000
Coal		Kyrgyzkomur, 51%, and Bishkek CHP and local society, 49%	Seven underground mines and five open pits among the following deposits: Almalyk, Dzhergalan, Kok-Yangak, Kyzyl-Kiya, Sulyukta, and Tashkumyr in southwestern, central, and northeastern parts of the country	2,200
Do.		NA	Kara-Kiche Mine, Naryn Province	NA
<b>Copper:</b>				
Ore, gross weight		Kaz Minerals plc	Bozymchak copper-gold deposit, Ala-Buka region, Jalal-Abad Province	1,100
Mine output, concentrate gross weight		do.	do.	34
<b>Gold:</b>				
Ore, Au content		JSC Kyrgyzaltyn (Government, 100%)	Makmal Mine, Toguz-Toro region	NA
Do.		do.	Solton-Sary Mine, Naryn Province	NA
Do.		JSC Kyrgyzaltyn (Government, 25%, and and Eti Bakyr Tereksai LLC, 75%)	Tereksai Mine, Osh Province	NA
Do.		Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Jalal-Abad Province	NA
Do.	kilograms	Kumtor Gold Co. (Centerra Gold Inc., 67%, and JSC Kyrgyzaltyn, 33%)	Kumtor deposit, Jeti-Oguz district, Issyk-Kul Province	28,000
Smelter	do.	Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Jalal-Abad Province	1,500
Do.		JSC Kyrgyzaltyn (Government, 100%)	Makmalzoloto refinery	NA
Mercury, metal	metric tons	do.	Khaydarkan mining and metallurgical complex	50
Natural gas	million cubic meters	Kyrgyzazmunayat	Approximately 300 wells; Changyr-Tash, Chigirchik Pereval, Izbaskentskoye, Kara-Agach, Mayluu-Suu, Susahoye, and Togap- Beshkenskoye deposits	30 <sup>2</sup>
Petroleum	thousand 42-gallon barrels	Kyrgyz Petroleum Co. (Kyrgyzneftgaz)	Jalal-Abad Province	1,100

See footnotes at end of table.

TABLE 2—Continued  
 KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names <sup>1</sup>	Annual capacity <sup>2</sup>
Silver, mine output, Ag content	kilograms	JSC Kyrgyzaltyn (Government, 100%)	Makmal Mine, Toguz-Toro region	100
Do.	do.	Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Jalal-Abad Province	8,000
Do.	do.	Kumtor Gold Co. (Centerra Gold Inc., 67%, and JSC Kyrgyzaltyn, 33%)	Kumtor deposit, Jeti-Oguz district, Issyk-Kul Province	6,000
Uranium, processed		Renova Group	Kara-Balta ore processing plant JSC, Zarechnoye deposit, Chuy Province	4 <sup>3</sup>

<sup>2</sup>Estimated. Do., do. Ditto. NA Not available.

<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>2</sup>Capacity estimates are the total for all enterprises that produce that commodity.

<sup>3</sup>Production stopped owing to the lack of raw material.