



2016 Minerals Yearbook

KYRGYZSTAN

THE MINERAL INDUSTRY OF KYRGYZSTAN

By Karine M. Renaud

Kyrgyzstan ranked third in the world in mercury production in 2016, accounting for 2% of total world production. Gold remained the primary mineral mined in Kyrgyzstan, in terms of value. Other mineral commodities mined in the country were clay, coal, copper, gypsum, lime, natural gas, crude petroleum, sand and gravel, and silver. Kyrgyzstan's real gross domestic product (GDP) grew at a rate of 3.8% in 2016 compared with growth of 3.9% (revised) in 2015. The nominal GDP was \$6.61 billion¹ in 2016. Industrial output increased in value by 5.2% in 2016 compared with a decrease of 3.1% in 2015 (table 1; George, 2018).

Minerals in the National Economy

Mineral industry output increased in value by 20.1% in 2016 compared with an increase of 50.5% (revised) in 2015 owing to increases in the mining of metal ores and the extraction of crude petroleum and natural gas. Manufacturing output increased in value by 5.4% in 2016 compared with a decrease of 6.2% in 2015. Construction output increased in value by 7.4% compared with an increase of 16.3% in 2015. Domestic investment and foreign direct investment (FDI) combined totaled \$1.9 billion in 2016, of which 16% was invested in mining, and 7%, in manufacturing (National Statistical Committee of the Kyrgyz Republic, 2017, p. 80, 84, 89, 100).

The value of exports totaled \$1.27 billion in 2016 compared with \$1.30 billion in 2015, and imports totaled \$3.62 billion compared with \$3.68 billion (revised) in 2015. In 2016, the value of gold exports was \$574.3 million, which accounted for 45% of the total exports; coal, \$4.5 million; and silver, \$4.2 million. The major export partners were, by the value of the exports they received, Switzerland, which received 41% of Kyrgyzstan's exports; Kazakhstan, 15%; Russia, 10%; and Uzbekistan, 9%. In 2016, the value of coal imports was \$13.4 million, and those of natural gas, \$33.9 million. The country's major import partners were, by the value of the imports they supplied, China, which supplied 38% of Kyrgyzstan's imports; Russia, 23%; and Kazakhstan, 16% (National Statistical Committee of the Kyrgyz Republic, 2017, p. 130–132, 134).

Production

In 2016, copper metal (smelter) production increased by 227%; gold metal (smelter), by 204%; copper concentrate (Cu content), by 168%; mine production of copper (Cu content of ore), by 162%; copper ore (gross weight), by 108%; silver, by 63%; crude petroleum, by 31%; and gold mine production (Au content of ore), by 12%. Production of granite, including sandstone, decreased by 50%; cement, by 14%; construction

sand and gravel (unspecified) and mercury (Hg content), by 10% each; mine production of silica (unspecified) and natural gas, by 9% each; and lignite coal, by 8% (Kaz Minerals plc, 2017, p. 4, 23, 167, 168; National Statistical Committee of the Kyrgyz Republic, 2017, p. 89, 91, 156, 157, 162). Data on mineral production are in table 1.

Structure of the Mineral Industry

As of 2016, the country had 550 mining enterprises, of which 6 were owned by the Government, 1 was owned by a municipality, and 543 were privately owned. Table 2 is a list of the major mineral industry facilities, their locations, and their annual capacities. In 2017, the Government planned to auction the following deposits: the Kara-Keche (development) and Sulyukta (field 11) lignite deposits, and the Tuyuk Kargasha and Tenge bituminous coal deposits (Abylaev, 2017, p. 16, 17; National Statistical Committee of the Kyrgyz Republic, 2017, p. 81).

Commodity Review

Metals

Antimony.—The Kadamzhay complex in Batkenskaya Oblast', which was the sole antimony producer in Kyrgyzstan, produced 40 metric tons (t) of antimony in 2016. The country produced no antimony in 2015. The production in 2016 was a decrease of 62% from that of 2014 and 91% from that of 2012; the decrease was owing to the lack of raw materials and financial problems. Previously, raw materials had been delivered to the Kadamzhay complex from the Novoangarskii processing plant in Russia and from Tajikistan (Manasova, 2015; Kostenko, 2017).

Copper and Gold.—In 2016, Centerra Gold Inc. of Canada remained the leading gold mining company operating in Central Asia. The company produced 17,136 kilograms (kg) (550,960 troy ounces) of gold and 8,200 kg of silver in 2016 compared with 16,200 kg (520,694 troy ounces) and 5,500 kg of silver in 2015. As of 2016, the Kumtor Mine's total proven and probable reserves were estimated to be 63.1 million metric tons (Mt) at a grade of 2.5 grams per metric ton (g/t) gold (Centerra Gold Inc., 2016, p. 3, 24, 35; 2017, p. 3).

JSC Kyrgyzaltyn owned three gold mines, including the Makmal, the Tereksai, and the Solton-Sary Mines. In 2016, JSC Kyrgyzaltyn (25%) and Eti Bakyr Tereksai LLC (75%) of Turkey formed a joint venture that was expected to work on developing gold mines, including the Terek, the Terekkan, and the Pereval'noye Mines. The Makmal, Terek-Sai, and Solton-Sary Mines produced an estimated total of 290 kg of gold compared with 300 kg of gold in 2015. The decrease was attributed to the depletion of gold ore at the Makmal Mine. Mining at the Makmal Mine was expected to last until the first

¹Where necessary, values have been converted from Kyrgyzstani soms (KGS) to U.S. dollars (US\$) at an annual average exchange rate of KGS69.29=US\$1.00 for 2016 and KGS75.87=US\$1.00 for 2015.

quarter of 2018 (JSC Kyrgyzaltyn, 2016; Kul'nazarov, 2016; Kudryavtseva, 2017; Vasil'kova, 2017).

The Bozymchak copper-gold mine is located in the Ala-Buka region, Jalal-Abadskaya Oblast', and was operated by Kaz Minerals plc of Kazakhstan (formerly Kazakhmys Gold Kyrgyzstan LLC). As of 2016, the deposit had total (proved and probable) reserves of 14.8 Mt of ore grading 0.75% copper and containing 1.2 g/t of gold and 7.7 g/t of silver. The total of measured and indicated resources were estimated to be 16.4 Mt grading 0.85% copper and containing 1.4 g/t of gold and 8.8 g/t of silver. In 2016, Kaz Minerals produced 935,000 t of ore, 34,000 t of copper concentrate, 7,200 t of copper cathode, 1,050 kg of gold, and 8,800 kg of silver from the Bozymchak copper-gold mine (table 1; Kaz Minerals plc, 2017, p. 23, 30, 32, 167–168, 170–171).

In 2016, Manas Resources sold the Shambesai gold project in southwestern Kyrgyzstan. In 2015, Chaarat Gold Holdings Ltd. of the United Kingdom was conducting a feasibility study at its Chaarat gold project. As of 2016, the total resources, including measured, indicated, and inferred, were estimated to be 85.2 Mt containing 219,100 kg (reported as 7,043,000 troy ounces) of gold (Chaarat Gold Holdings Ltd., 2016; Manas Resources Ltd., 2016, p. 4).

In 2016, Alliance Alтын LLC (a subsidiary of Vostok-Geolodobycha Co. of Russia) and the Eurasian Development Bank (EDB) signed an agreement according to which EDB would help to raise financing for the Jerooy project. The cost of the project was projected to be \$200 million. In 2015, the Government awarded a 20-year license to Alliance Alтын to develop the Jerooy gold mine; development was expected to begin in 2020 (Interfax, 2016, p. 5; AKIpress, 2017; Ukrainian Metal, The, 2017).

Rare Earths.—Kyrgyzstan had 20 rare-earth deposits and areas of mineralization. One of the largest rare-earth deposits was Kutessay II, which is located in the central part of the Aktuz ore field in the Kemin region. In 2016, the Government announced a plan to develop the Kutessay II deposit and the Kalesai beryllium deposit (Ivleva and Pak, 2013, p. 2; Esenalieva, 2016; Abylaev, 2017, p. 17, 18).

Minerals Fuels and Related Materials

Uranium.—In November 2015, Kara-Balta Ore Processing Plant JSC (KOPP) stopped operations owing to the lack of raw material from Kazakhstan, and it remained closed throughout 2016. NAC Kazatoprom JSC of Kazakhstan terminated its agreement with KOPP for processing uranium concentrate. KOPP was one of the leading processors of uranium raw materials for the nuclear industry in Kyrgyzstan (Kudryavtseva, 2016).

Outlook

In 2016, the Government continued to intensify its efforts to increase mineral production. It was holding mining tenders and was trying to attract foreign investors for its mining and manufacturing industries. The country was trying to improve its mining industry by increasing transparency in its process for issuing licenses for exploration, prospecting, development,

and mining of natural resources. Kyrgyzstan started producing copper in 2014; production increased in 2016 and is expected to continue to increase for the near future. Antimony production decreased and the country's sole uranium company ceased operations in 2016 owing to the lack of raw materials. Gold production most likely will depend on the amount of foreign investment into existing mines and the startup of operations at new projects.

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TABLE 1
KYRGYZSTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Antimony, metal and compounds	924	422	105	--	40 ^e
Copper:					
Ore, gross weight	--	--	426,000	449,000	935,000
Cu content of ore	--	--	4,300	4,400	6,200
Mine output, concentrate	--	--	2,700	13,200	34,000
Concentrates, Cu content	--	--	700	3,100	8,200
Smelter	--	--	--	2,200	7,200
Gold:					
Mine output, Au content, of ore kilograms	10,332	19,000 ^e	18,000 ^e	17,000 ^{r,e}	19,000 ^e
Smelter do.	--	--	--	390	1,050
Mercury, metal do.	74,700	70,500	48,000	45,500	50,000 ^e
Silver, mine production, Ag content ^e do.	4,100	10,400	9,300	10,400	17,000
INDUSTRIAL MINERALS					
Cement, hydraulic	1,239,000	1,675,800	1,730,200	1,496,100	1,289,000
Clay, kaolin	113,900	294,300 ^r	212,900 ^r	212,700 ^r	213,000 ^e
Gypsum thousand metric tons	59	37	39	40	40 ^e
Lime ^e	3,000	5,700	5,800	5,600	5,600
Salt, rock	2,640 ^r	1,622 ^r	1,600 ^{r,e}	1,600 ^e	1,600 ^e
Stone, sand, and gravel:					
Sand and gravel, construction, unspecified	566,500	1,200,000	1,165,000	1,313,600	1,158,700
Silica, mine production, unspecified	1,328,000	1,550,000	1,203,000	1,172,000	1,062,000
Stone, size and shape unspecified:					
Granite, including sandstone	169,500	33,602 ^r	31,190 ^r	65,299 ^r	32,821
Marble, including limestone	NA	NA	74,400	97,000	97,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	132,600	167,800	323,300	236,200	240,400
Lignite	1,051,400	1,256,800	1,506,600	1,702,500	1,562,200
Total	1,184,000	1,424,600	1,829,900	1,938,700	1,802,600
Gas, natural thousand cubic meters	18,500	32,500	33,800	31,600	28,900
Petroleum, crude 42-gallon barrels	612,800	613,500	607,636	785,000	1,029,800
Uranium, processed, U content	1,500	1,300	1,700 ^r	1,500 ^r	--

^eEstimated. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through November 29, 2017. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, Kyrgyzstan was thought to have produced a number of other mineral commodities, including mined mercury, molybdenum, tin, fluorspar, and tungsten, but available information was inadequate to make reliable estimates of output.

TABLE 2
KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2016¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Antimony, metal and ore	metric tons	ATF Invest (ATF Bank of Kazakhstan)	Kadamzhay metallurgical facility, Kadamzhayskiy region, Batkenskaya Oblast'	105
Cement		United Cement Group	OJSC Kant cement plant, Kant, Ysykaty district, Chuyskaya Oblast'	1,680
Do.		China-Kyrgyz Co.	Aravan cement plant, Aravan Oblast, Oshkaya Oblast'	200
Do.		United Cement Group	LLC TechnoLin cement plant, Kant, Ysykaty district, Chuyskaya Oblast'	360
Do.		Verny Capital	South Kyrgyz Cement CJSC, Kyzyl-Kiya, Batkenskaya Oblast'	1,000
Do.		Osoo Ak-Sai Cement	Osoo Ak-Sai cement plant, Kyzyl-Kiya, Batkenskaya Oblast'	400
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, Narynskaya Oblast'	NA
Copper:				
Ore, gross weight		Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Jalal-Abadskaya Oblast'	940
Mine output, concentrate		do.	do.	34
Cathode		do.	do.	8
Gold:				
Ore, Au content	kilograms	Kumtor Gold Co. [Centerra Gold Inc., 67%, and JSC Kyrgyzaltyn (Government, 100%), 33%]	Kumtor deposit, Jeti-Oguz district, Issyk-Kulskaya Oblast'	22,000
Do.	do.	JSC Kyrgyzaltyn (Government, 100%)	Makmal Mine, Toguz-Toro region	27,000
Do.	do.	do.	Solton-Sary Mine, Narynskaya Oblast'	45,000
Do.		JSC Kyrgyzaltyn (Government, 100%), 25%, and Eti Bakyr Tereksai LLC, 75%	Tereksai Mine, Oshkaya Oblast'	NA
Do.		Talas Cooper Gold (Gold Fields, 100%)	Jerooy-Bashi, Pereval	NA
Do.		Vertex Gold Comp	Djamgyr Mine	NA
Smelter	kilograms	Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Jalal-Abadskaya Oblast'	2,000
Do.		JSC Kyrgyzaltyn (Government, 100%)	Makmalzoloto refinery	NA
Mercury, metal	kilograms	do.	Khaydarkan mining and metallurgical complex	50,000
Natural gas	million cubic meters	Kyrgyzazmunayat	Approximately 300 wells; Changyr-Tash, Chigirchik Pereval, Izbaskentskoye, Kara-Agach, Mayluu-Suu, Susahoye, and Togap- Beshkenskoye deposits	30 ²

See footnotes at end of table.

TABLE 2—Continued
KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2016¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ²
Petroleum	thousand 42-gallon barrels	Kyrgyz Petroleum Co. (Kyrgyzneftgaz)	Dzhalal-Abadskaya Oblast'	1,100
Silver, metal	kilograms	Kaz Minerals plc	Bozymchak gold deposit, Ala-Buka region, Dzhalal-Abadskaya Oblast'	8,000
Do.	do.	Kumtor Gold Co. [Centerra Gold Inc., 67%, and JSC Kyrgyzaltyn (Government, 100%), 33%]	Kumtor deposit, Jeti-Oguz district, Issyk-Kulskaya Oblast'	6,000
Do.	do.	JSC Kyrgyzaltyn (Government, 100%)	Makmal Mine, Toguz-Toro region	100
Uranium, processed		Renova Group	Kara-Balta ore processing plant JSC, Zarechnoye deposit, Chuyskaya Oblast'	4 ³

²Estimated. Do., do. Ditto. NA Not available.

¹Many 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.

²Capacity estimates are the total for all enterprises that produce that commodity.

³Production stopped owing to the lack of raw material.