



2015 Minerals Yearbook

TAJIKISTAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF TAJIKISTAN

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Tajikistan is a mountainous country that is encompassed by the Pamir and Tien-Shan Mountains and shares borders with Afghanistan to the south, China to the east, Kyrgyzstan to the north, and Uzbekistan to the north and west. Tajikistan has more than 400 known mineral deposits, including deposits of antimony, bismuth, crude petroleum, fluorspar, gold, lead, mercury, molybdenum, natural gas, tungsten, silver, and zinc. Some deposits have been explored and developed; however, many remained undeveloped owing to their location and depth. In terms of world production in 2015, Tajikistan ranked fifth in mercury production and accounted for 0.9% of the world's production (not including United States production). In addition, aluminum, antimony, cement, coal, crude petroleum, gold, gypsum, natural gas, salt, sand and gravel, silver, and zinc were produced (table 1; Embassy of the Republic of Tajikistan in Swiss Confederation—Permanent Mission of the Republic of Tajikistan to the United Nations Office at Geneva, 2009; Chorshanbiyev, 2015b; George, 2017).

Minerals in the National Economy

In 2015, the real gross domestic product (GDP) increased by 6.0% compared with a 6.7% increase in 2014 owing to a decline in private investments and exports and a decrease in the price of aluminum. The nominal GDP was \$7.9 billion. Industrial production increased by 11.2% in 2015 compared with a 13.3% increase (revised) in 2014 and accounted for 12.8% of the GDP compared with 12.0% in 2014. Within the industrial sector, mining production increased by 16.5% compared with that of 2014, and manufacturing increased by 10.2%. Construction accounted for 11.8% of the GDP in 2015 compared with 10.0% in 2014. The output value of the mineral sector increased to 1.6 billion somoni (\$229 million)¹ from 1.4 billion somoni (\$265 million) (revised) in 2014 and accounted for 13.5% of the output value of the industrial sector. The output value of the manufacturing sector increased to 8.0 billion somoni (\$1.1 billion) from 7.0 billion somoni (\$1.3 billion) in 2014 and accounted for 65.6% of the output value of the industrial sector. Mining and quarrying employment increased by 13% to 12,000 employees from 10,600 employees in 2014. According to the Agency on Statistics Under the President of the Republic of Tajikistan, the total value of investments in 2015, including government, private, and foreign, was 9.1 billion somoni (\$1.3 billion), of which 214 million somoni (\$31 million) was for mining and quarrying, and 996 million somoni (\$143 million) was for manufacturing (Agency on Statistics Under the President of the Republic of Tajikistan, 2015, p. 147, 150, 152–153, 174, 212; Asian Development Bank, 2015, p. 110; World Bank, The, 2015).

¹Where necessary, values have been converted from Tajikistani somoni (TJS) to U.S. dollars (US\$) at an annual average exchange rate of TJS6.98=US\$1.00 for 2015 and TJS5.28=US\$1.00 for 2014.

Tajikistan's total exports were valued at \$890.6 million in 2015 compared with \$977.3 million in 2014, and imports were valued at \$3.4 billion compared with \$4.3 billion in 2014. Exports of precious and semiprecious stones and metals increased by 42% to \$207.6 million from \$146.4 million in 2014 and accounted for 23.3% of total exports. The country's main export partners were Switzerland (which received 23.1% of Tajikistan's exports), Turkey (28.7%), Kazakhstan (16.4%), Iran (6.7%), Russia (6.4%), Afghanistan (6.3%), and China (3.3%) (Agency on Statistics Under the President of the Republic of Tajikistan, 2015, p. 239, 245; Asian Development Bank, 2015, p. 129; Chorshanbiyev, 2015b).

In 2015, imports of alumina oxide clay increased by 2% to \$133.8 million from \$130.6 million in 2014 and accounted for 4% of total imports; imports of precious and semiprecious stones and metals increased by 63% and accounted for 3% of total imports; and imports of petroleum products decreased by 45% to \$24.6 million. The country's main import partners were Russia (which supplied 30.5% of Tajikistan's imports), China (22.2%), Kazakhstan (16.2%), Turkey (3.9%), Iran (3.6%), and Turkmenistan and Switzerland (3.1% each) (Agency on Statistics Under the President of the Republic of Tajikistan, 2015, p. 124, 126, 240–241).

Production

In 2015, aluminum production increased by 40%; silver, by 33%; natural gas, by 28%; lead (mine output), by 27%; cement, by 23%; gold, by 21%; zinc, by 20%; and coal, by 19%. Coal was the major source of energy in the country, and the increase in coal production was related to the transformation of industrial enterprises from natural gas to coal (Chorshanbiyev, 2015a). The production of gypsum decreased by 33%, and mercury, by 14%. Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Aluminum.—In 2015, state-owned Tajik Aluminium Co. (TALCO) increased aluminum production by 40% to 175,000 metric tons (t) from 125,000 t in 2014. The company had expected to produce between 300,000 t and 400,000 t of aluminum; the actual (lower than expected) production of aluminum was a result of TALCO's need to adapt to an intermittent supply of raw materials, interruptions in energy supply, the lack of skilled workers, and low global prices for aluminum in 2015 (in December, according to Platts, the price for aluminum was \$1,478 per metric ton). In August 2014, the Government and Glencore plc of Switzerland discussed

Glencore's participation in modernizing TALCO facilities. As of yearend 2015, no additional information on the proposed modernization of TALCO by Glencore was available (Asia-Plus, 2014; Tajik Aluminium Co., 2014; Interfax, 2015b, p. 14; Platts, 2015, p. 11; Business World, 2016).

Gold.—In 2015, the Tajik Ministry of Industry and New Technology announced that data on mine production of gold and silver was classified and would be available only for a narrow group of specialists; the timing for implementation of this policy was not specified. Tajikistan's production of gold increased by 21% to 4,200 kilograms (kg) from 3,477 kg in 2014. The increase in gold production was attributed to increased gold production by such companies as "Aprelevka" LLC (a joint venture of the Government of Tajikistan and Gulf International Minerals Ltd. of Canada); Arteli Odina (a private company); China Nonferrous Gold Ltd. (CNG) (formerly Kryso Resources Corp. Ltd.) through its subsidiary Parkut LLC; JV Darvaz (a Tajikistan-United Kingdom joint venture); Tilloi Tochik [Tajik Gold] (Government-owned); Tajik-China Mining Co. Ltd. [owned by Zarafshon LLC (ZGC) (formerly known as Zeravshan), a joint venture of Zijin Mining Group Co. Ltd. of China (75%) and the Government of Tajikistan (25%)]]; as well as artisanal miners (East Time, 2015; Interfax, 2015a, p. 9; Mineral.ru, 2015c).

In 2015, ZGC (the country's leading gold producer) produced 3,106 kg of gold. In 2015, ZGC completed the infrastructure for open pit strip mining at the Jilau and the Taror Mines and the construction of the Jilau 10,000-metric-ton-per-year (t/yr) processing plant in Sughd Region. The licensed area was composed of the Jilau, the Khirskhona, the Olympic, and the Taror deposits and other small occurrences. In 2015, the Geological Survey of Tajikistan conducted an exploration survey at the Khirskhona deposit; the survey was financed by Zijin Mining Group. In 2015, production began at the Jilau and the Taror deposits; the mines had production capacities of 3.3 million metric tons per year (Mt/yr) and 660,000 t/yr of sulfide ore, respectively (Sedova, 2014, p. 14; Mineral.ru, 2015d; Minerjob.ru, 2015; Zijin Mining Group Co. Ltd., 2015a, p. 39; 2015b, p. 7; 2015c; 2015d, p. 12).

In 2015, CNG's ore-processing plant at Pakrut was commissioned with a production capacity of 700,000 t/yr. The Pakrut license area consisted of the Pakrut gold deposit and a 63-square-kilometer exploration area located in the metalliferous southern Tien-Shan Fold Belt. At a cutoff grade of 0.5 gram per metric ton (g/t) gold, Pakrut's measured resources (Joint Ore Reserves Committee compliant) were 18.57 million metric tons (Mt) at a grade of 3.16 g/t gold; indicated resources were 10.02 Mt at a grade of 2.05 g/t gold; and inferred resources were 41.19 Mt at a grade of 1.64 g/t gold (China Nonferrous Gold Ltd., 2013, p. 4; 2014, p. 7; 2015a, b; SRK Consulting China Ltd., 2013, p. ii–iii).

In 2015, the Government issued 25-year licenses to TALCO for development of the Konchoch and the Skal'noye gold deposits in the Ayni District of Sughd Region. The Konchoch deposit contains antimony, gold, lead, silver, and other minerals (Mineral.ru, 2015b).

Lead and Zinc.—In 2015, Tajikistan produced 28,000 t of lead ore (mine output) and 5,000 t of lead concentrate (gross

weight). Production of zinc (content of ore) increased by 20% to 42,000 t. In 2014, a memorandum of cooperation was signed by the Minister of Industry and New Technologies and Tachen International Resources Co. Ltd. of China for development of an industrial zone in the city of Istiklol. The zone would include a lead-zinc metallurgical complex, and cement, chemical, and construction material zones, and was projected to be completed at the end of 2017. According to the memorandum of cooperation, Tachen International was expected to invest \$400 million in the development of the Istiklol city industrial zone, including development of the north Zarnisor deposit (formerly the Altyn-Topkan project), which is located in the settlement of Zarnisor within the industrial zone.. The Zarnisor deposit would be operated by Tajik-China Mining Co. The construction of the lead-zinc complex began in 2015. The annual production capacity of the lead-zinc complex was projected to be 50,000 t/yr each for lead and zinc. The lead-zinc complex was to employ 1,300 people, of which 90% would be local (Chorshanbiyev, 2013; Ministry of Industry and New Technologies of the Republic of Tajikistan, 2013; Kazakhstan Today, 2014; Rafiyeva, 2014; Asian, The, 2016).

Silver.—In 2015, silver production in Tajikistan increased by 33% to 4,000 kg from 3,000 kg in 2014. A tender for Konimansuri Kalon (Bolshoi Konimansur) was announced in 2009, and the approximate cost to develop the deposit was estimated to be \$2 billion. In 2010, four companies submitted bids for development of Konimansuri Kalon; by 2014, the list was down to two companies. As of yearend 2015, the tender had not been completed. The reserves were 1 billion metric tons at grades of 49 g/t silver, 0.38% zinc, and 0.49% lead (Informational Agency Regnum, 2014; Kitco Metals Inc., 2015; Mineral.ru, 2015a).

Industrial Minerals

Cement.—In 2015, cement production in Tajikistan increased to 1.41 Mt from 1.15 Mt in 2014. Tajikistan was in the process of increasing its cement production capacity in order to resume exports of cement by 2020. The Ministry of Industry and New Technologies was expecting to open six new cement plants by 2017. In 2015, a Tajikistan-China joint venture constructed the Toj-China cement plant in Vahdat District; the plant had a production capacity of 1.2 Mt/yr and was expected to provide jobs to 400 local residents (Abbasova, 2015; Asia-Plus, 2015; Global Cement, 2015b).

In 2015, the Government signed an agreement with Huaxin Gayur Cement Co. Ltd. of China to construct two new cement plants—one in Bobojan Ghafurov District with a production capacity of 1 Mt/yr of cement and the other in the Dangara Free Economic Zone with a production capacity of 1.2 Mt/yr of cement. The Government was expected to hold a 30% stake in the plant in Bobojan Ghafurov District and a 45% stake in the plant in the Dangara Free Economic Zone (Global Cement, 2015a).

Outlook

Tajikistan relies heavily on foreign investments and loans for infrastructure development and mineral enterprises. At present,

foreign companies are engaged in the development of gold, lead, and zinc deposits, which most likely will increase production of these mineral commodities. Tajikistan also plans to increase cement production and to become a net cement exporter. The country plans to renovate old cement plants and construct new cement plants. Tajikistan is engaged in the development of its petroleum and natural gas reserves, which could help the country address energy shortages, stabilize energy supply to industries, and prevent long-term environmental problems associated with the use of coal. Production of coal will continue to increase as industrial enterprises continue to transform from natural gas to coal for their energy supply. The future of Tajikistan's mining industry highly depends on the economic strength of Russia and other trading partners, China's demand, private investments and exports, and commodity prices (Abbasova, 2015; Asian Development Bank, 2015, p. 129).

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TABLE 1
TAJIKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014	2015
METALS					
Aluminum, primary	277,600 [†]	272,500	216,369	125,000 [†]	175,000
Antimony, Sb content of ore	5,500 [†]	5,545 [†]	7,307 [†]	8,058	8,000
Gold, Au content of ore kilograms	2,240	2,400 [†]	2,774 [†]	3,477	4,200
Lead:					
Ore, mine output	10,000 [†]	15,000 [†]	19,000 [†]	22,000	28,000
Concentrate:					
Gross weight	7,000	8,000	16,000	--	5,000
Pb content	800	880	1,800	--	600
Mercury, Hg content of ore	30	32	30	35	30 [°]
Silver, Ag content of ore kilograms	1,764	1,767	1,800 [†]	3,000	4,000
Zinc, Zn content of ore	10,000	18,000 [†]	24,000 [†]	35,000 [†]	42,000
INDUSTRIAL MINERALS					
Cement, hydraulic thousand metric tons	299	232 [†]	384 [†]	1,150	1,410
Gypsum	11,000	14,000	12,200 [†]	12,455	8,339
Salt	27,000	27,954	30,971 [†]	34,553 [†]	35,554
Sand and gravel cubic meters	8,800	2,000	264,000 [†]	309,000	300,000 [°]
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	180,000 [†]	318,148 [†]	411,521 [†]	821,931 [†]	985,019
Lignite	56,800 [†]	93,641 [†]	103,954 [†]	56,200 [†]	57,472
Total	236,800 [†]	411,789 [†]	515,475 [†]	878,131 [†]	1,042,491
Natural gas thousand cubic meters	18,800	11,170	3,928 [†]	3,216 [†]	4,102
Petroleum, crude:					
In gravimetric units	28,000	29,918 [†]	27,319 [†]	24,508 [†]	24,630
In volumetric units [°] 42-gallon barrels	204,000 [†]	218,000 [†]	199,000 [†]	179,000 [†]	180,000

[°]Estimated; estimated data are rounded to no more than three significant digits. [†]Revised. -- Zero.

¹Table includes data available through August 17, 2016.

²In addition to the commodities listed, Tajikistan had produced a number of other mineral commodities, but available information was inadequate to make reliable estimates of output.

Source: Agency on Statistics Under President of the Republic of Tajikistan; ILZSG; World Mining Data 2016.

TABLE 2
TAJIKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Aluminum	Tajik Aluminum Co. (TALCO) (Government, 100%)	Tursunzade smelter	517,000
Antimony, ore	Anzob mining-beneficiation complex (Comsup Commodities Inc., 100%)	Dzhzhikrutskoye Sb-Hg deposit	326,000
Antimony, metal	Isfara hydrometallurgical plant (Government, 100%)	Isfara	500
Bismuth	do.	do.	500
Do.	Leninabad mining-beneficiation complex (Government, 100%)	Yuzhno-Yangikanskiy deposit	25
Cement	JSC Tajikcement Ltd.	Dushanbe	1,200,000
Do.	Huaxin Gayur Cement Co. Ltd., 75%, and Gayur LLC, 25%	Yovon Cement, Yovon, Khatlon Region	1,000,000
Do.	Ghayur-Sughd Cement (Tajik Ghayur Co. and Hauksin Central Asia Investment)	Ghafurov District	1,200,000
Do.	Chjuntsay-Taboshar Cement	NA	600,000
Do.	LLC Tojikiston	Kharangon village, Varzob District	70,000
Do.	Isfarinsky Cement	Isfarinsky region	1,000,000
Do.	Sarabansky Cement	NA	70,000
Do.	Toj-China cement plant, JV Tajikistan-China Co.	Vahdat District	1,200,000
Coal	Kaisun Energy Group Ltd.	UP Fong-Yaghnob, Pyandzh Region	50,000
Do.	Isfara hydrometallurgical plant	Isfara	300,000
Do.	OJSC Angisht	Shurob region	32,000
Do.	do.	Shurob brown coal deposit	NA
Do.	SP Anzob	do.	NA
Copper-lead-zinc, ore	Leninabad mining-beneficiation complex	Yuzhno-Yangikanskiy deposit	NA
Dolomite	Yavan electrochemical complex	Pashkharvoskoye deposit	NA
Fluorspar, concentrate	Takob mining-beneficiation complex	Takob and Krasnye Kholmy deposits	60,000 ²
Gold, in ore	Aprelevka LLC (Government, 51%, and Central Asia Minerals and Resources through subsidiary Gulf International Minerals Ltd., 49%)	Aprelevka deposit	NA
Do.	Arteli Odina	NA	NA
Do.	kilograms Darvaz (Tajik-United Kingdom JV)	Yak-Suyskoye deposit, Khatlon Region	2,000
Do.	OOO Takom Gold	NA	NA
Do.	Tilloi Tojik (Government-owned)	Khatlon Region	NA
Do.	kilograms Tajik-China Mining Co. Ltd. [Zarafshon LLC (Zijin Mining Co Ltd., 75%, and Government, 25%)]	Jilau, Khirskhona, Olympic, and Taror deposits, Sughd Region	4,000
Do.	do. China Nonferrous Gold Ltd., through subsidiary Pakrut LLC, 100%	Pakrut gold project, southern portion of the Tien Shan Fold Belt	700
Gold, ore processing	Kansayskaya factory	Aprelevka, Burgunda, Kyzyl-Chek, and Shkol'noye deposits	NA
Do.	Vostokredmet refinery	Qizfaquz	NA
Lead-zinc	Adrasman mining-beneficiation complex (Government, 100%)	Adrasman, Sughd Region	NA
Do.	Kansayskoye mining complex	Karamazor region	NA
Do.	Takaelyiskiyy metallurgical complex	NA	NA
Do.	Zarnisor Shimoli Mine (Tajik-China Mining Co. Ltd.)	Northern Altyn-Topkan and Pay Buloq	328,000
Do.	Tibet Summit Industry Co.	Altyn-Topkan	NA
Limestone	Dushanbe cement complex	Kharangonskoye deposit	NA
Clay (loam)	do.	Varzobskoye Ushchel'ye deposit	NA
Marble	Dal'yan Bolo deposit	Ganchinskiy Region	NA
Do.	Dashtak deposit	Darvaz region	NA
Do.	Jilikul deposit	Pendzhikentskiy Region	NA

See footnotes at the end of table.

TABLE 2—Continued
TAJIKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015¹

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Mercury		Anzob mining-beneficiation complex	Dzhzhikrutskoye deposit	150
Petroleum:				
Crude		Beshentyakskoye, Kichik-Belskoye, Shaambary, and Uzunkhorskoye deposits	Southern Tajik depression	25,000
Refined	42-gallon barrels	NA	Turshzoda town, Shahrinav district	456,000
Do.	do.	OJSC Nafrason	Kanibadam city, Sughd Region	513,000
Salt		Ashtskiy plant	Kamyshkurganskoye deposit	NA
Do.		Khoja-Sartez, Samanchi, and Tanabchi deposits	NA	NA
Do.		Voseyskiy plant	Khodzha-Muminskoye deposit	NA
Do.		Yavan electrochemical complex	Tut-Bulakskoye deposit	NA
Sand and gravel	thousand cubic meters	Anvar LLC	NA	36,000
Silver	kilograms	Tajik-China Mining Co. Ltd. [Zarafshon LLC (Zijin Mining Co Ltd., 75%, and Government, 25%)]	Jilau, Sughd Region	4,000
Do.	do.	do.	Taror deposits, Sughd Region	800
Do.		Adrasman mining-beneficiation complex	Adrasman, Sughd Region	NA
Do.		Aprelevka LLC (Government, 51%, and Central Asia Minerals and Resources through subsidiary Gulf International Minerals Ltd., 49%)	Aprelevka deposit	NA
Do.		Kanjol ore field (Nukrafom Co.) (Silverhill Resources Ltd.)	Gafurov District, Sughd Region	NA
Do.		Kytco BV	Akjlilga	NA
Strontium, ore		Chaltash, Chilkutan, and Davgir deposits	Khatlon Region	180,000

^cEstimated; estimated data are rounded to no more than three significant digits. 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 locations.

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