

2016 Minerals Yearbook

UZBEKISTAN

THE MINERAL INDUSTRY OF UZBEKISTAN

By Elena Safirova

Uzbekistan has substantial natural resources, which include more than 1,700 mineral deposits. In 2016, Uzbekistan was the world's fifth-ranked producer of rhenium (1.9% of world production) and the ninth-ranked producer of gold (3.3% of world production). In addition, Uzbekistan was one of the leading world producers of molybdenum, natural gas, nitrogen, petroleum, and uranium. Other valuable minerals produced included copper, gypsum, kaolin, silver, tungsten, and zinc. Many other mineral commodities, such as iron ore and lithium, had been identified but were not being mined. In the past several years, however, the country had made significant efforts to increase its mineral production, including through expansion of copper and gold production facilities, construction of new phosphate and potash plants, and development of shale oil and gas condensate deposits (table 1; Safirova, 2016, 2017; U.S. Energy Information Administration, 2016; Apodaca, 2018; George, 2018; Naesmi.uz, 2018; Polyak, 2018a, b; World Nuclear Association, 2018).

Exports of hydrocarbons, primarily natural gas, had provided the primary source of hard currency earnings in the past decade. In recent years, reduced output levels of petroleum and natural gas led to decreases in exports and, consequently, decreases in imports. At the same time, economic growth increased domestic demand for hydrocarbons, which reduced the amount of natural gas available for export. Between 2013 and 2016, Uzbekistan had made efforts to reduce domestic consumption and maintain exports (CaspianBarrel.org, 2016; U.S. Central Intelligence Agency, 2017).

Minerals in the National Economy

In 2016, Uzbekistan's real gross domestic product (GDP) increased by 7.8%, which was a slight decrease from the 7.9% rate of growth in 2015; the nominal GDP was 199.3 billion soums (\$67.2 billion).¹ During the year, the share of industrial production in the GDP was 55.8%. The share of mining and quarrying in overall industrial production was 9.6%; the share of manufacturing was 80.3%; production of chemicals, 8.9%; metallurgy, 7.2%; and production of other nonmetal mineral products, 5.7%. In 2016, industrial production increased by 6.2% compared with that of 2015, and production by all manufacturing sectors increased by 6.4%, including that of the chemical sector (increased by 34.4%) and the nonmetal mineral products sector (increased by 20.9%). Production by the coke and petroleum refinery products sector decreased by 2.9%, whereas that by the metallurgical sector increased by 1.6% (State Committee of the Republic of Uzbekistan on Statistics, The, 2017a; U.S. Central Intelligence Agency, 2017; CISstat.com, 2018).

¹Where necessary, values have been converted from Uzbek soums (UZS) to U.S. dollars (US\$) at an annual average exchange rate of UZS2,967=US\$1.00 for 2016.

Production

The Government did not report production of most mineral commodities for 2016, and most production figures in table 1 are estimated unless noted otherwise. Production of cadmium increased by 36%; zinc metal, by 16%; raw steel, by 15%; and mined zinc, by 10%. On the other hand, silicon metal production decreased by 40%, and that of gypsum, by 17%. These and other production data are in table 1.

Structure of the Mineral Industry

In 2016, 93.8% of all industrial enterprises were privately owned. Those enterprises produced 57.3% of overall industrial output. Table 2 is a list of the major mineral industry facilities (State Committee of the Republic of Uzbekistan on Statistics, The, 2017a).

Mineral Trade

In 2016, Uzbekistan had a positive trade balance of about \$40 million. The value of exports was reported to be \$12.18 billion, which was a decrease of 5.4% compared with that of 2015. The main export mineral commodities were energy and petroleum products, which accounted for 14.1% of all exports; chemicals, 6.9%; and ferrous and nonferrous metals, 5.8%. Uzbekistan's major exports partners were China, which received 16.4% of Uzbekistan's exports; Russia, 14.7%; Kazakhstan, 7.8%; Turkey, 5.6%; Afghanistan, 4.2%; Iran, 2.9%; the Republic of Korea, 1.7%; Tajikistan, 1.4%; and Kyrgyzstan and France, 1.0% each (State Committee of the Republic of Uzbekistan on Statistics, The, 2017b; U.S. Central Intelligence Agency, 2017).

The value of imports (revised) decreased to \$12.13 billion, or by 2.3% compared with that of 2015. The main mineral import commodities were chemicals, which accounted for 17.0% of all imports; ferrous and nonferrous metals, 7.6%; and energy and petroleum products, 4.8%). Uzbekistan's major imports partners were China, which supplied 22.2% of Uzbekistan's imports; Russia, 18.0%; the Republic of Korea, 10.5%; Kazakhstan, 10.0%; Turkey, 5.8%; and Germany, 5.2% (State Committee of the Republic of Uzbekistan on Statistics, The, 2017b; U.S. Central Intelligence Agency, 2017).

Commodity Review

Metals

Copper.—The only producer of copper in Uzbekistan was the Almalyk mining and metallurgical complex (Almalyk GMK), which was located in Toshkent Province (Toshkent Viloyati). Two large copper porphyry deposits, the Kalmakyr and the Sary-Cheku deposits, were the complex's sources of copper. An additional copper deposit, Dal'neye, was developed but was

not producing. The Kalmakyr and the Sary-Cheku deposits had initial total resources of 17 million metric tons (Mt) of contained copper, about 20% of which had been depleted. As of the beginning of 2016, Kalmakyr's capacity was 31.5 million metric tons per year (Mt/yr) of ore. The mineral deposits of Toshkent Viloyati are highly complex and contain more than 170 types of minerals. In addition to copper, the Almalyk GMK mined and processed lead-zinc-barite ores from the Uch-Kulach deposit located in Jizzax Viloyati and the Khandiza polymetallic deposit located in Qashqadaryo Viloyati. The Almalyk GMK facilities included eight mines, five mining and beneficiation plants, two metallurgical plants, a cement plant, a sulfuric acid plant, a mechanical plant, and a lime plant. The value of the annual output of the Almalyk GMK was estimated to be \$300 million (Safirova, 2016, 2017; Almalyk mining and metallurgical complex, 2018).

In 2016, the Almalyk GMK produced an estimated 100,000 metric tons (t) of refined copper and an estimated 100,000 t of copper in concentrate. The company was involved in several investment projects, including expansion, modernization, and construction of new production units. In January 2016, the Almalyk GMK announced the completion of a \$118 million project to modernize the beneficiation complex. The modernization involved the installation of three new ball mills and a new conveyor belt complex with a total length of 1.2 kilometers. The project was financed by loans from the Fund for Reconstruction and Development of Uzbekistan (FRRU) (\$80 million), the Ipotheka Bank of Uzbekistan (\$32 million), and the Almalyk GMK's own funds. As a result of the modernization, the beneficiation plant was expected to have the capacity to process 35 Mt/yr of ore (Kommersant.uz, 2016; Sputniknews-uz.com, 2016).

In December 2016, the Almalyk GMK expanded the Kalmakyr Mine to be able to increase annual production by 4 Mt/yr of ore. The total cost of the project was \$75.2 million, and it was financed by a \$28 million loan from the FRRU, loans from Uzbek banks, and the Almalyk GMK's own funds. It was expected that, because of the expansion, the Almalyk GMK would be able to increase copper production by about 3% in 2017 (1News.uz, 2016).

Gold.—In 2016, Uzbekistan produced an estimated 100,000 kilograms of gold and was the ninth-ranked gold producer in the world, with 3.3% of world output. The main gold producers in the country were two Government-owned mining and metallurgical complexes—the Almalyk GMK and the Navoi mining and metallurgical complex (Navoi GMK). The Muruntau deposit in the Central Qizilqum region had been mined by the Navoi GMK by open pit since 1969 and had relatively low extraction costs. The Navoi GMK was the main producer of gold and the only uranium producer in Uzbekistan. The Navoi GMK's share of total gold production in Uzbekistan was about 80%; it had control of 13 gold deposits, most of which were either already being mined or were planned to be developed in the near future. Refinery production at the Navoi GMK was conducted at four plants located in Navoi (GMZ-1), Zarafshan (GMZ-2), Uchkuduk (GMZ-3), and Zarmitan (GMZ-4) (Mineral.ru, 2015b; Safirova, 2016, 2017; Almalyk mining and metallurgical complex, 2018; George, 2018; Navoi Mining and Metallurgical Combinat, 2018).

In March 2016, it was announced that Uzbekistan had won the \$1.3 billion arbitration case against Oxus Gold PLC of the United Kingdom that had been ongoing since 2011; previously, in December 2015, the United Nations Commission on International Trade Law's international arbitration tribunal had also ruled against Oxus Gold in its claim against the Government of Uzbekistan. The claim was related to the loss of the Amantaytau Goldfields and Khandiza mining assets dating back to a dispute in 2011. In January 2011, the Government had decided to liquidate the Amantaytau Goldfields joint venture, in which Oxus Gold had a 50% share, because of slow progress in mine development and low gold production. The total size of Oxus Gold's claim was \$400 million, but the court awarded the company only \$10.3 million for breach of fair and equitable treatment standards outlined in the clause on investment protection between the United Kingdom and Uzbekistan. It was not clear if Oxus Gold planned to appeal the court's decision (Mineral.ru, 2015a; Unsted, 2015; Gazeta.uz, 2016; Uza.uz, 2016).

Iron Ore and Iron and Steel.—In 2016, the AO Uzbek metallurgical complex (Uzmetkombinat) located in Bekabad, Toshkent Viloyati, planned to begin mining iron ore from the Tebinbulak titanium-magnetite deposit, which is located in the northwest of the country. In addition, in the second half of 2016, the company expected to build a metallurgical plant in Toshkent Viloyati to produce 500,000 metric tons per year (t/yr) of steel products. The total cost of the mining and metallurgical project was estimated to be \$600 million, and the project was expected to be completed in 2021. Also in 2016, Uzmetkombinat invested \$52.6 million to begin new production of steel products. In particular, it built a new line with a capacity of 100,000 t/yr to produce wire rod, steel cord for automotive tires, and steel rope for machine-building applications (Anhor.uz, 2016; Metalinfo.ru, 2016).

In May, Tianjin Ring-Top Petroleum Manufacturing Co. of China announced that it planned to begin production of seamless steel pipe and steel rebar in Uzbekistan. OOO Run Tong Metal Industrial, which was located within the Angren Free Industrial Zone, was the Tianjin subsidiary in the country, and it had invested \$30 million in this project. It was announced that the production line would be constructed at the Uzmetkombinat site and would have a design capacity of 280,000 t/yr of steel pipe. The total cost of the project was estimated to be \$110 million, and the project was scheduled to be commissioned in 2020 (Podrobno.uz, 2016).

Industrial Minerals

Cement.—In 2016, Uzbekistan increased cement production to 8.3 Mt, or by an estimated 5.1% compared with that of 2015. In 2016, the country had a total of 12 cement plants with a total capacity of about 9.2 Mt/yr of regular cement and another 450 t/yr of white cement; the 5 leading plants were OAO Kyzylkumcement, which was located in the city of Navoiy and had the capacity to produce 3.5 Mt/yr of cement; OAO Akhangarancement, which was located in the city of Akhangaran and had the capacity to produce 1.74 Mt/yr; OAO Bekabadcement, which was located in the city of Bekabad and had the capacity to produce 1.25 Mt/yr of cement;

OAo Kuvasaycement, which was located in the city of Kuvasay and had the capacity to produce 1.08 Mt/yr; and the Almalyk GMK's Jizzax cement plant, which was located in the Zafarabad region of Jizzax Viloyati and had the capacity to produce 1 Mt/yr of regular gray cement and 450,000 t/yr of white cement. Seven other plants had a total (combined) capacity of about 640,000 t/yr (tables 1, 2; Uzsm.uz, 2017).

In 2016, the country's total cement production capacity increased by 880,000 t/yr compared with that of 2015 and total investment in cement-producing facilities increased by 24.8%. As of 2016, six more cement plants with a total (combined) capacity of about 3.5 Mt/yr were in either the construction or the engineering stage. In particular, the Almalyk GMK and AO Uzstroyaterialy were building a new cement plant with design capacity of 1.5 Mt/yr in the Sherabad region of Surkhandaryo Viloyati; the plant was expected to be commissioned in 2018. In addition, between 2017 and 2021, existing cement plants planned to increase their capacities by a total of 4.4 Mt/yr either by modernizing existing facilities or constructing new production lines (Uzsm.uz, 2017).

In 2016, cement consumption in Uzbekistan amounted to about 8.5 Mt. Two-thirds of all cement was consumed by civil construction projects, including individual residential construction; 26% was used in the production of construction materials; and the rest was used in infrastructure projects. In 2016, consumption of cement totaled 268 kilograms per capita (kg/capita), which was lower than in Western Europe (395 kg/capita), Russia (462 kg/capita), and Turkey (931 kg/capita). According to a Government forecast, consumption of cement in Uzbekistan will increase to 328 kg/capita by 2020 (Uzsm.uz, 2017).

Stone (Basalt).—In March, Mega Invest Industrial Co. announced that it was starting construction of a plant to produce basalt continuous fiber. The plant would be located in the city of Jizzax in Jizzax Viloyati and would have the capacity to produce 2,500 t/yr of basalt fiber. The project would cost about \$52 million and would be financed by Leigh Barrier LLP of the United Kingdom (\$15.3 million) and local Uzbek banks (\$36.5 million). Basalt for the project would be mined from the Asmansay deposit in Jizzax Viloyati, which had basalt resources of 98 Mt, and from the Gavasay basalt deposit in Namangan Viloyati, which had basalt resources of 20.2 Mt. The plant was expected to be commissioned in 2018. Basalt fibers would be used for production of insulation materials that can be used in construction. According to the Uzbek energy savings project, the country would need about 130,000 t/yr of basalt fiber just for insulation of buildings (Basalt Today, 2016; Novikov, 2016).

Mineral Fuels

Petroleum and Natural Gas.—In 2016, according to the Oil and Gas Journal, the country had proven crude petroleum reserves of 594 million barrels and natural gas reserves of 1.84 trillion cubic meters. Since 1992, Uzbekistan had maintained state control of the country's hydrocarbon resources through Uzbekneftegaz, a state company that manages the oil and gas sectors. According to the State Committee of the Republic of Uzbekistan on Statistics, in 2016, the country

produced 860,000 t of crude petroleum and 56,100 million cubic meters of natural gas. During the year, Uzbekistan did not export crude petroleum at all and exported only a small fraction of its natural gas output, with the bulk of the exports directed to China, Kazakhstan, and Russia (Katona, 2016; U.S. Energy Information Administration, 2016; Sputniknews-uz.com, 2018).

Outlook

In the past several years, Uzbekistan has intensified its efforts to grow the country's industry, including manufacturing and, especially, automobile production, chemical production, construction products, and machine building. In 2016, the share of the country's GDP produced by industrial enterprises was 55.8%. Increased industrial production and higher living standards in the country are expected eventually to increase the demand for energy goods. Facing competition for its hydrocarbon resources between domestic demand and export needs, Uzbekistan will likely seek to increase its production and export of hydrocarbons during the next decade by expanding the natural gas pipelines and modernizing the country's production facilities and infrastructure. The Government is also likely to continue to form partnerships with Asian and Russian firms to help achieve this objective.

Uzbekistan is likely to increase its production of coal, copper, gold, and uranium. In the past several years, Uzbekistan has made concerted efforts to modernize its Almalyk and Navoi GMKs and to ramp up their production. Barring unforeseen events in the world economy, Uzbekistan's production of metals and uranium is expected to increase in the next several years. The production of hydrocarbons and refined petroleum products, on the other hand, might require additional investments, and the future dynamics of these commodities is harder to predict.

References Cited

- 1News.uz, 2016, AGMK rasshiril mednyi kar'yer za \$75 mln s oborudovaniyem iz RF [AGMK expanded copper mine using RF equipment for \$75 million]: 1News.uz, December 18. (Accessed January 20, 2018, at <http://1news.uz/agmk-rasshiril-mednyy-kar-er-za-75-mln-s-oborudovaniyem-iz-rf/>.)
- Almalyk mining and metallurgical complex, 2018, Home page: Almalyk mining and metallurgical complex. (Accessed January 20, 2018, at <http://www.agmk.uz/index.php/en/>.)
- Anhor.uz, 2016, Bekabadskiy metallurgicheskiy kombinat pristupit k dobyche titanomagnetitovykh rud [Bekabad metallurgical complex will begin mining titanium-magnetite ores]: Anhor.uz, January 20. (Accessed January 20, 2018, at <https://anhor.uz/news/bekabadskiy-metallurgicheskiy-kombinat-pristupit-k-dobiche-titanomagnetitovykh-rud>.)
- Apodaca, L.E., 2018, Nitrogen (fixed)—Ammonia: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 116–117.
- Basalt Today, 2016, V Uzbekistane stroitsya zavod po vypusku nepreryvnogo bazal'tovogo volokna [A plant for producing continuous basalt fiber is being constructed in Uzbekistan]: Basalt Today, March 17. (Accessed January 20, 2018, at <http://basalt.today/ru/2016/03/3363/>.)
- CaspianBarrel.org, 2016, Dal'neyshaya sud'ba neftegazovogo sektora Uzbekistana—Ekspertnaya Otsenka [The future of Uzbekistan's oil and gas sector—Expert opinion]: CaspianBarrel.org, January 14. (Accessed January 20, 2018, at <http://caspianbarrel.org/az/2016/01/38347/>.)
- CISstat.com, 2018, Main macroeconomic indicators of [the] Republic of Uzbekistan: CISstat.com. (Accessed March 28, 2018, at www.cisstat.com/ru/macro/uzb.htm.)
- Gazeta.uz, 2016, Uzbekistan vyigral arbitrazhnoye razbiratel'stvo s Oxus Gold [Uzbekistan won arbitration case with Oxus Gold]: Gazeta.uz, April 15. (Accessed January 20, 2018, at <https://www.gazeta.uz/ru/2016/04/15/oxus-gold/>.)

- George, M.W., 2018, Gold: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 70–71.
- Katona, Victor, 2016, Uzbekistan prevrashaetsya v gazovogo giganta? [Is Uzbekistan turning into a gas giant?]: Eurasia.expert, October 17. (Accessed January 20, 2018, at <http://eurasia.expert/uzbekistan-prevrashchaetsya-v-gazovogo-giganta/>.)
- Kommersant.uz, 2016, AGMK uvelichit ob'em dobychi mednoi rudy na 4 mln tonn [AGMK will increase production of copper ore by 4 million tons]: Kommersant.uz, December 22. (Accessed January 20, 2018, at <http://kommersant.uz/news/agmk-4-mln-tonn>.)
- Metalinfo.ru, 2016, Uzmekombinat nachnet dobychu titanomagnetitovykh rud [Uzmekombinat will begin production of titanium-magnetite ores]: Metalinfo.ru, January 20. (Accessed January 20, 2018, at <http://metalinfo.ru/news/83466>.)
- Mineral.ru, 2015a, Mezhdunarodnyi arbitrazh otklonil isk Oxus k Uzbekistanu na 400 mln dollarov [International arbitration court rejected a \$400 million complaint by Oxus against Uzbekistan]: Mineral.ru, December 24. (Accessed January 20, 2018, at <http://www.mineral.ru/News/80541.html>.)
- Mineral.ru, 2015b, Uzbekskiy NGMK v 2015 godu napravil na modernizatsiyu 158 mln dollarov [In 2015, Uzbekistan's NGMK invested \$158 million in modernization]: Mineral.ru, November 29. (Accessed January 20, 2018, at <http://www.mineral.ru/News/80419.html>.)
- Naesmi.uz, 2018, Na territorii Uzbekistana otkryto 1717 mestorozhdeniy poleznykh iskopaemykh [Uzbekistan has 1717 discovered mineral deposits]: Naesmi.uz. (Accessed January 20, 2018, at <http://naesmi.uz/ru/site/page.html?id=8715>.)
- Navoi Mining and Metallurgical Combinat, 2018, Home Page: Navoi Mining and Metallurgical Combinat. (Accessed January 20, 2018, at <http://www.ngmk.uz/en>.)
- Novikov, V., 2016, AK Stroymaterialy sozdast dva novykh proizvodstva sovremennykh izolyatsionnykh materialov [AK Stroymaterialy will create two plants for production of modern insulation materials]: Nuz.uz, March 13. (Accessed January 20, 2018, at <https://nuz.uz/ekonomika-i-finsy/11824-ak-uzstroymaterialy-sozdast-dva-novykh-proizvodstva-sovremennyh-teploizolyatsionnykh-materialov.html>.)
- Podrobno.uz, 2016, Kitayskaya kompaniya organizuyet v Uzbekistane proizvodstvo stal'nykh besshovnykh trub [A Chinese company will organize production of seamless steel pipe in Uzbekistan]: Podrobno.uz, May 26. (Accessed January 20, 2018, at <http://podrobno.uz/cat/economic/kitayskaya-kompaniya-organizuet-pervoe-proizvodstvo-besshovnykh-stalnykh-trub-v-uzbekistane/>.)
- Polyak, D.E., 2018a, Molybdenum: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 110–111.
- Polyak, D.E., 2018b, Rhenium: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 134–135.
- Safirova, Elena, 2016, The mineral industry of Uzbekistan, in Area reports—International—Europe and Central Eurasia: U.S. Geological Survey Minerals Yearbook 2013, v. III, p. 50.1–50.9.
- Safirova, Elena, 2017, The mineral industry of Uzbekistan, in Area reports—International—Europe and Central Eurasia: U.S. Geological Survey Minerals Yearbook 2014, v. III, p. 50.1–50.10.
- Sputniknews-uz.com, 2016, AGMK moderniziroval obogatitel'nyi kompleks s oborudovaniyem iz RF [AGMK modernized its beneficiation complex with RF equipment]: Sputniknews-uz.com, January 14. (Accessed January 20, 2018, at <https://ru.sputniknews-uz.com/economy/20160114/1546210.html>.)
- Sputniknews-uz.com, 2018, Dobycha nefti v Uzbekistane v 2017 godu snizilas' na 6,7% [In 2017, petroleum production in Uzbekistan decreased by 6.7%]: Sputniknews-uz.com, January 12. (Accessed January 20, 2018, at <https://ru.sputniknews-uz.com/economy/20180112/7251031/Dobycha-neft-Uzbekistan.html>.)
- State Committee of the Republic of Uzbekistan on Statistics, The, 2017a, Promyshlennoye Proizvodstvo [Industrial production]: The State Committee of the Republic of Uzbekistan on Statistics. (Accessed January 20, 2018, at <https://stat.uz/ru/ofitsialnaya-statistika/vneshneekonomicheskaya-deyatelnost-i-torgovlya/vneshneekonomicheskaya-deyatelnost/433-analiticheskie-materialy-ru/2048-promyshlennoe-proizvodstvo>.)
- State Committee of the Republic of Uzbekistan on Statistics, The, 2017b, Statistika vneshney trgovli [Statistics of international trade]: The State Committee of the Republic of Uzbekistan on Statistics. (Accessed January 20, 2018, at <https://stat.uz/ru/ofitsialnaya-statistika/vneshneekonomicheskaya-deyatelnost-i-torgovlya/vneshneekonomicheskaya-deyatelnost/433-analiticheskie-materialy-ru/2044-statistika-vneshnej-torgovli>.)
- Unsted, Sam, 2015, Oxus Gold loses Uzbekistan arbitration case, future uncertain (ALLISS): Morningstar, December 23. (Accessed January 20, 2018, at [http://www.morningstar.co.uk/uk/news/AN_1450861402120832200/oxus-gold-loses-uzbekistan-arbitration-case-future-uncertain-\(alliss\).aspx](http://www.morningstar.co.uk/uk/news/AN_1450861402120832200/oxus-gold-loses-uzbekistan-arbitration-case-future-uncertain-(alliss).aspx).)
- U.S. Central Intelligence Agency, 2017, Uzbekistan, in The world factbook: U.S. Central Intelligence Agency. (Accessed January 20, 2017, at <https://www.cia.gov/library/publications/the-world-factbook/geos/uz.html>.)
- U.S. Energy Information Administration, 2016, Uzbekistan: U.S. Energy Information Administration, July. (Accessed January 20, 2018, at <https://www.eia.gov/international/analysis/country/UZB>.)
- Uza.uz, 2016, Respublika Uzbekistan vyigrala arbitrazhnoye razbiratel'stvo s kompaniyey "Oxus Gold plc" [The Republic of Uzbekistan won the arbitration case against Oxus Gold plc]: Uza.uz, April 15. (Accessed January 20, 2018, at <http://uza.uz/ru/programs/23-ya-godovshchina-nezavisimosti-strany/respublika-uzbekistan-vyigrala-arbitrazhnoe-razbiratelstvo-s-15-04-2016/>.)
- Uzsm.uz, 2017, Tsementnaya promyshlennost' respublikii Uzbekistan [Cement sector of the Republic of Uzbekistan]: Uzsm.uz. (Accessed January 20, 2018, at http://uzsm.uz/ru/press_center/mass_media/18156/.)
- World Nuclear Association, 2018, Uranium production figures, 2007–2016: World Nuclear Association. (Accessed January 19, 2018, at <http://www.world-nuclear.org/information-library/facts-and-figures/uranium-production-figures.aspx>.)

TABLE 1
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Cadmium, refinery production, primary, metal ^c	180 ^r	160 ^r	200 ^r	220 ^r	300
Copper:					
Mine production, Cu content	95,600 ^c	98,000 ^c	99,500 ^c	101,000	100,000 ^c
Refinery production, primary, metal, refined	95,600	98,000 ^c	99,000 ^c	100,000 ^c	100,000 ^c
Smelter production, primary, metal, blister	96,000	98,000	100,000	100,000 ^c	100,000 ^c
Gold, mine production, Au content ^c kilograms	93,000	98,000	100,000	100,000	100,000
Iron and steel:					
Raw steel	736,300	746,200	751,400	643,000	740,000 ^c
Products, rolled	710,500	718,000	725,200	680,000	715,000 ^c
Molybdenum, mine production, Mo content	522	490	450	450 ^c	450 ^c
Silicon, silicon metal ^c	1,700	6,000	5,000	5,000	3,000
Silver, mine production, Ag content kilograms	60,000	61,000 ^c	54,000 ^r	47,000 ^r	47,000 ^c
Tungsten, metal	131	98	83	80 ^c	80 ^c
Zinc:					
Mine production, Zn content ^c	20,000	40,000 ^r	50,000	50,000	55,000
Smelter production, primary	61,100	54,000 ^{r,c}	66,000 ^{r,c}	73,000 ^{r,c}	85,000 ^c
INDUSTRIAL MINERALS					
Cement, hydraulic	6,800,000	6,990,000	7,350,000 ^c	7,900,000 ^{r,c}	8,300,000 ^c
Clay and shale:					
Bentonite ^c	25,000	26,000	26,000	26,000	26,000
Kaolin	300,000 ^c	70,286	64,605	303,600	320,500
Gypsum ^c	50,000	50,000	40,000	42,000	35,000
Nitrogen, ammonia, N content	450,000 ^{r,c}	450,000 ^{r,c}	400,000 ^r	382,000 ^r	352,000
Phosphate rock:					
Gross weight ^c	800,000	850,000	800,000	800,000	800,000
P ₂ O ₅ content ^c	136,000 ^r	145,000	136,000 ^r	136,000 ^r	136,000
Potash, K ₂ O content	111,700	84,600 ^r	110,000	158,000	152,000 ^c
Rhenium, Re content ^c kilograms	1,200	900	900	1,000	1,000
Soda ash, synthetic	95,000	90,000	90,000	90,000	90,000 ^c
Sulfur compounds, sulfuric acid	900,000	900,000	900,000	900,000	900,000 ^c
Sulfur, byproduct, S content:					
Metallurgy ^c	131,000 ^r	131,000 ^r	131,000 ^r	125,000 ^r	130,000
Natural gas and petroleum ^c	360,000 ^r	330,000 ^r	340,000 ^r	340,000 ^r	350,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	19,800	20,100	20,000 ^c	20,000 ^c	20,000 ^c
Lignite	3,730,200	4,069,900	4,377,000	3,700,000	3,900,000
Natural gas, dry basis million cubic meters	62,911	55,200	57,200	57,700	56,100
Petroleum:					
Crude ³ thousand 42-gallon barrels	23,000	15,000 ^{r,c}	10,000 ^{r,c}	6,300 ^{r,c}	6,300 ^c
Refinery production do.	40,165	38,400 ^c	38,400 ^c	38,400 ^c	38,400 ^c
Uranium, mine production, U content	3,000	3,315	3,401	3,450	3,450 ^c

^cEstimated. ^rRevised. do. Ditto.

¹Table includes data available through January 26, 2018. 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, aluminum, cesium, caustic soda, feldspar, fluorspar, graphite, iodine, iron ore, lead, lithium, manganese, rubidium, selenium, tellurium, and vermiculite may have been produced in Uzbekistan, but available information was inadequate to make reliable estimates of output.

³Includes gas condensate.

TABLE 2
 UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2016¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Cement	OAQ Kyzylkumcement	Navoiy City	3,500,000.
Do.	OAQ Akhangarancement	Akhangaran City, Sirdaryo Viloyati	1,740,000.
Do.	OAQ Kuvasaycement	Kuvasay City, Farg'ona Viloyati	1,080,000.
Do.	OAQ Bekabadcement	Bekabad City, Toshkent Viloyati	1,250,000.
Do.	Jizzak Cement Plant [Almalyk mining and metallurgical complex (Almalyk GMK)]	Jizzax Viloyati	1,000,000 gray cement.
Cesium, lithium, rubidium	Shava-Say deposit	NA	NA.
Clay:			
Bentonite	Arab-Dasht and Khauldag deposits	NA	NA.
Kaolin	Angren deposit	Angren region	NA.
Coal:			
Bituminous	OAQ Shargun'kumir and OAQ Erosligaz	Baysun and Shargun deposits, Surxondaryo Viloyati	NA.
Lignite	OAQ Uzbekugol and OAQ Apartak	Angren deposit, Toshkent Viloyati	4,500,000.
Copper:			
Mine output, Cu content	Almalyk mining and metallurgical complex (Almalyk GMK)	Dal'neye, Kalmakyr, and Sary-Cheku deposits, Toshkent Viloyati	100,000.
Concentrate	Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	NA.
Metal	Almalyk refinery	Olmalik	130,000.
Feldspar	Karichasayskoye and other deposits	Deposits in Samarqand Viloyati, Toshkent Viloyati, and Qoraqalpog'iston Respublikasi	120,000. ²
Fertilizers (nitrogen, phosphate, potash)	Ammophos production association	Olmalik	NA.
Do.	Azot production association	Farg'ona area	NA.
Do.	Elektrokhimprom production association	Chirchiq	NA.
Do.	Kokand superphosphate plant	Qo'qon	NA.
Do.	Naviazot production association	Navoiy Viloyati	NA.
Do.	Samarqand chemicals plant	Samarqand Viloyati	NA.
Fluorspar	Agata-Chibargata, Aurakhmat, Kengutan, Kyzylbaur, Naugarzan, and Nugisken deposits	East of Toshkent Viloyati	150,000.
Do.	Syrpatash deposit	Namangan Viloyati	NA.
Gold	kilograms Various facilities and deposits, which include: Adzhi-Bugutty, Amantaytau, Balpantau, Bulutkan, Donguz-Tau, Muruntau, and Taurbay deposits Navoi mining and metallurgical complex (Navoi GMK) Navoi, Uchkuduk, Zarmitan, and Zarafshan gold refineries Kochbulak and Kyzyl-Al'ma-Say deposits Almalyk mining and metallurgical complex (Almalyk GMK)	Of which: Central Qizilqum region Muruntau deposit and 12 others Toshkent Viloyati Dal'neye, Kalmakyr, and Sary-Cheku deposits	100,000. ²
Graphite	Tadzhi-Kazgan deposit	Navoiy Viloyati	NA.
Iron ore ³	Syurenata deposit	Toshkent Viloyati	NA.
Lead, mine output, Pb content	Almalyk mining and metallurgical complex (Almalyk GMK)	Uch-Kulach deposit in Jizzax Viloyati	40,000.
Lime	do.	Toshkent Viloyati	NA.
Manganese	Dautashskoye deposit	Qashqadaryo Viloyati	40,000.
Molybdenum:			
Mine output, Mo content	Almalyk mining and metallurgical complex (Almalyk GMK); Kalmakyr and Sary-Cheku deposits	Toshkent Viloyati	900
Metal	Uzbek refractory and hard metals plant	City of Chirchiq	NA.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Natural gas	million cubic meters	Gazli, Kandym, Khauzak, Kokdumalak, Pamuk, and Shurtan-Say deposits (major)	Amu-Dar'ya Basin; Muborak region	70,000. ²
Do.		Itera-Lukoil (Russia), Uzbekneftegaz JSC	Kan-Dam field	NA.
Natural gas condensate		Trinity Energy	Ustyurt Platosi region	NA.
Natural gas liquids		Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	137,000.
Natural gas processing	million cubic meters	Mubarek gas-processing plant	Muborak region	40,000.
Petroleum:				
Crude		Kokdumalak and Mingbulak deposits (major)	Qashqadaryo and Namangan Viloyati	NA. ²
Refinery products		Fergana oil refinery	Farg'ona area	8,800,000.
Do.		Bukhara oil refinery	Buxoro area	2,500,000.
Phosphate rock		Kyzyl Kum complex	Dzheroy-Sardarin Moroccan type; Karaktay, Severnyy, and Dzhetyntau deposits	NA.
Polyethylene		Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	125,000.
Potash		Dekhkanabad potash fertilizer plant	Tubegatan Mine, Qashqadaryo Viloyati	200,000.
Rhenium		Almalyk mining and metallurgical complex (Almalyk GMK)	Toshkent Viloyati	NA.
Selenium		do.	do.	NA.
Silver		do.	do.	NA.
Do.		Kosmanachi, Okzhetpes, and Vysokovoltnoye deposits	Namangan Viloyati	NA.
Steel, crude		Bekabad steel mill	Bekobod region	1,100,000.
Sulfur		Almalyk mining and metallurgical complex (Almalyk GMK)	Sulfuric acid plant, Toshkent Viloyati	NA.
Do.		Mubarek gas-processing complex	Muborak region	2,000,000.
Tellurium		Almalyk mining and metallurgical complex (Almalyk GMK)	Toshkent Viloyati	NA.
Tungsten:		Deposits:	Locations:	1,200. ²
Mine output, W content		Koytash deposit Ingichka and Lyangar deposits Ugat deposit	Northeastern Uzbekistan Zirabulak Mountains Northern Uzbekistan	
Mine output, WO ₃ content (0.49%)		Sautbay wolframite deposit	Qizilqum region	NA.
Metal		Uzbek refractory and hard metals complex (UzKTZhM)	Chirchiq, Toshkent Viloyati	NA.
Uranium, U content		Navoi mining and metallurgical complex (Navoi GMK)	Four locations: Navoiy (GMZ–1) Zarafshan (GMZ–2) Uchkuduk (GMZ–3) Zarmitan (GMZ–4)	3,000.
Vermiculite	cubic meters	Tebin-Bulak deposit	NA	25,000.
Zinc:				
Mine output, Zn content		Almalyk mining and metallurgical complex (Almalyk GMK)	Khandiza deposit, Qashqadaryo Viloyati and Uch-Kulach deposit, Jizzax Viloyati	NA.
Concentrate, Zn content		Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	60,000.
Metal		Almalyk mining and metallurgical complex (Almalyk GMK)	Olmalik, Toshkent Viloyati	80,000.

^eEstimated; 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 that of locations.

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

³In 2016, no production took place at the mine.