



2014 Minerals Yearbook

UZBEKISTAN

THE MINERAL INDUSTRY OF UZBEKISTAN

By Elena Safirova

Uzbekistan has substantial natural resources, which include more than 1,800 known mineral deposits. Uzbekistan was one of the leading world producers of gold and uranium. The country also produced nitrogen, natural gas, petroleum, rhenium, and sulfur in significant amounts in terms of world production. Other valuable minerals produced included copper, gypsum, silver, tungsten, and zinc. Many other mineral commodities (such as iron ore and lithium) had been identified but were not being mined. During 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 (Apodaca, 2016a, b; Flanagan, 2016; George, 2016; Polyak, 2016a, b).

Uzbekistan is an arid, landlocked country with limited infrastructure. Exports of hydrocarbons, primarily natural gas, have provided the main source of hard currency earnings for the past decade. In recent years, output of petroleum and natural gas had decreased and reduced Uzbekistan's export revenue. At the same time, economic growth steadily increased domestic demand for hydrocarbons, which further reduced Uzbekistan's export potential and limited the country's ability to import goods. In 2013 and 2014, Uzbekistan began efforts to reduce domestic consumption and to preserve exports. The country was also making efforts to ramp up domestic coal production, but this measure alone is unlikely to improve the country's energy balance significantly (U.S. Central Intelligence Agency, 2015).

Minerals in the National Economy

In 2014, Uzbekistan's real gross domestic product (GDP) increased by 8.1%; the nominal GDP was 144,868 billion soums (\$62.79 billion).¹ The value of exports was reported to be \$13.32 billion, which was an increase of 3.8% compared with that of 2013. The main mineral export commodities were ferrous and nonferrous metals, gold, mineral fertilizers, and oil and gas. The country's main export partners were China (which received 26.8% of Uzbekistan's exports, by value), Russia (14.7%), Kazakhstan (14.6%), Turkey (13.1%), and Bangladesh (10.2%). The value of imports increased to \$12.5 billion, or by 9.4% compared with that of 2013. The main mineral import commodities were chemicals and ferrous and nonferrous metals. The country's major import partners were Russia (which supplied 22.8% of Uzbekistan's imports, by value), China (19.6%), the Republic of Korea (14.9%), Kazakhstan (10.2%), Germany (4.8%), and Turkey (4.4%) (Center for Economic Research, 2015; U.S. Central Intelligence Agency, 2015).

In 2014, the share of industrial production in the GDP was 51.9%. The main industries (as a percentage of the value

produced by all industries) were energy (20.1%), machine building and metal processing (19.7%), food processing (16.0%), textile manufacturing (14.0%), nonferrous mining and metallurgy (8.8%), construction material manufacturing (6.1%), and chemical and petrochemical products (5.5%). In 2014, the value of all industrial production increased by 8.3% compared that of 2013; ferrous metallurgy, by 16.5%; chemical and petrochemical products, by 8.9%; electric power production, by 2.2%; and nonferrous mining and metallurgy, by 1.7%. The value of fuel sector production decreased by 1.9% (Center for Economic Research, 2015).

Foreign direct investment (FDI) increased by \$2,310 million in 2014, or by 10.5% compared with that of 2013 and comprised 15.8% of the total investment in Uzbekistan's economy. The loans guaranteed by the Government increased to \$639.9 million, or by 10.2% compared with that of 2013. In 2014, the share of FDI in the fuel sector increased to about 60% from 35% in 2013, but the share of FDI in the chemical and petrochemical sector decreased to 0.8% in 2014 from 3.7% in 2013 (Center for Economic Research, 2015; U.S. Central Intelligence Agency, 2015).

Production

In 2014, estimated potash production increased by 30%; coal production, by 7.5%; and cement, by 5%. Estimated gypsum production decreased by 30%; tungsten, by 15%; nitrogen, by 11%; kaolin and molybdenum, by 8% each; and phosphate rock, by 6%. These and other production data are in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

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 on reserve. Kalmakyr and Sary-Cheku had initial total resources of 17 million metric tons (Mt) of copper, about 20% of which was depleted. 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, which is located in Jizzax Viloyati, and the Khandiza polymetallic deposit, which is located in Qashqadaryo Viloyati. The Almalyk GMK facilities included eight mines, five mining and beneficiation plants, two metallurgical plants,

¹Where necessary, values have been converted from Uzbekistani soums (UZS) to U.S. dollars (US\$) at an average annual exchange rate of UZS2,307=US\$1.00 for 2014.

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 (Almalyk Mining-Metallurgical Complex, 2015).

In 2014, the Almalyk GMK produced an estimated 99,000 metric tons (t) of refined copper and an estimated 99,500 t of copper in concentrate. The company was involved in several investment projects involving expansion, modernization, and construction of new production units. The total cost of the ongoing investment projects was estimated to be \$670 million. In 2014, the Almalyk GMK completed four major projects with a total cost of \$175 million, of which \$76.3 million was from the company's own funds, \$80.9 million was in the form of loans from the Fund for the Reconstruction and Development of Uzbekistan (FRRU), and the remainder was loans from Uzbek commercial banks. In particular, the Almalyk GMK built a new mine—which had the capacity to produce 80,000 metric tons per year (t/yr) of ore—at the Kairagach deposit, finished the construction of a 760,000-t/yr cement plant, and completed modernization of its zinc plant (Mineral.ru, 2014f).

The Almalyk GMK continued various activities directed at improvement and expansion of existing production. In particular, it planned to invest \$45 million between 2014 and 2016 to expand the Kalmakyr Mine and to develop additional resources. The Almalyk GMK started construction of a new section of the mine and planned to use the heap-leach method to extract copper. When the expansion is completed in 2017, the Almalyk GMK planned to extract and process an additional 4 million metric tons per year (Mt/yr) of ore and to increase copper production by between 2% and 3%. As of 2014, the capacity of the Kalmakyr Mine was 31.5 Mt/yr of ore. The Almalyk GMK planned to expand Kalmakyr using its own funds. Until the end of 2014, the Almalyk GMK planned to start developing the Dal'neve deposit, which for years was considered a reserve that would eventually replace the Kalmakyr and Sary-Cheku Mines (Mineral.ru, 2014a, e; CA-dialog.org, 2015).

In 2014, the Almalyk GMK was modernizing its copper-processing facilities. In January, the Almalyk GMK installed a new high-speed thickener with central drive, which was more energy efficient and easier to load and unload, operate, and maintain than the old peripheral-drive thickener. As a result, the beneficiation plant would realize additional savings on labor and would reduce the production costs for the metal concentrates. At the second stage of modernization, the Almalyk GMK would install new pressure filters to replace old vacuum filters and drying drums. The new equipment would reduce operating costs, including energy costs, simplify technological processes, and improve working conditions (MinerJob.ru, 2014b, f).

Another element of modernizing the beneficiation facilities was the installation of new equipment for preprocessing of ores. At the end of 2013, the company installed equipment for preprocessing 800,000 t/yr of ore as the first stage of modernization. At the second stage, the Almalyk GMK planned to install equipment to handle another 7 Mt/yr of ore. The total cost of the project was \$118 million, and its financing came from FRRU (\$80 million), AKIB Ipotekabank (\$32 million), and the Almalyk GMK's own funds. The project would increase the Almalyk GMK's total ore-processing capacity by 6 Mt/yr of ore,

to 37 Mt/yr. As a part of the modernization effort, obsolete equipment (1.8 Mt/yr of capacity) would be replaced with new equipment (Mineral.ru, 2014d; MinerJob.ru, 2014d).

The Almalyk GMK was also engaged in the construction of a new submerged-tuyere-style furnace, which would have the capacity to produce 17,000 t/yr of copper. The project would cost \$97.7 million and was scheduled to be completed in September 2016. The company also started a program to improve the energy efficiency of the production process, including the use of solar power, primarily in the transportation department and for heating water. As of June 2014, three solar power installations had been assembled and put in operation (MinerJob.ru, 2014a, c).

At the end of 2013, the Almalyk GMK started production of copper pipe, and in March 2014, the plant started operating at full capacity. UP Angren Kuruv Zavodi would produce copper pipe from copper cathodes produced at other Almalyk GMK facilities. Previously, all copper cathodes produced by the Almalyk GMK were exported. The estimated cost of the investment in pipe production was about \$35.5 million and was financed from the Almalyk GMK's own funds (\$10.3 million) and by loans from the AKIB Ipotekabank (\$25.2 million). The new plant was located in the Angren industrial zone, and the expected capacity was about 8,000 t/yr. The plant would produce a variety of pipe with diameters between 4.5 and 50 millimeters. The output of the pipe plant would be used for household appliances and for transporting gases and liquids in heating, natural gas, and water facilities. The plant's products would be sold domestically and exported. As of March 2014, export contracts were signed with companies in China, Switzerland, and Turkey (Advis.ru, 2014; Azovpromstal.com, 2014; MinerJob.ru, 2014h).

Gold.—The main gold producers of 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 has been mined by the Navoi GMK by open pit method since 1967 and had relatively low extraction costs. According to the State Committee on Geology and Mineral Resources (Goscomgeo), as of the end of 2011, Uzbekistan had 63 identified gold deposits with total proven resources of about 2,500 t of gold. According to Goscomgeo, Uzbekistan was planning to increase gold production in the period between 2015 and 2019 by between 20% and 30%. During these years, the Almalyk GMK and the Navoi GMK were to invest \$1.1 billion in gold mining (Dudkin, 2014; Sannikov, 2014; Almalyk Mining-Metallurgical Complex, 2015; Navoi Mining and Metallurgical Combinat, 2015).

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 to be developed in the near future. The Navoi GMK had four production plants that were located in Navoi (GMZ-1), Uchkuduk (GMZ-3), Zarafshan (GMZ-2), and Zarmitan (GMZ-4). At the Karakutan deposit, which was located in Navoi Viloyati, the Navoi GMK planned to combine open pit and underground mining into one complex

and, by doing so, to double the mine's capacity. In 2014, the Navoi GMK planned to invest \$41 million in modernizing the Karakutan complex and to complete the modernization by the end of the year (Mineral.ru, 2014g).

In February, the Navoi GMK started operations at the new open pit mine at the Bessopantau deposit, which is located in the Central Qizilqum region. Total investment in the mine was estimated to be about \$60 million, and the full production capacity of 15 million cubic meters per year (about 23 Mt/yr) of ore was to be reached in 2015. According to the Navoi GMK, gold resources at Bessopantau suggest that similar resources were likely present in the Muruntau Mine, which was the major operating mine of the complex (Mineral.ru, 2014h).

In 2014, the Navoi GMK was also planning to increase its investment in exploration for gold and uranium by 10%, to \$25 million. In 2014, exploration was planned in the western part of the country, in the east, and in Karakalpakstan. The goal of the exploration was to replace diminished mineral resources and to increase the knowledge about presently identified resources. As a result of exploration, the Navoi GMK expected to increase its gold and uranium resources by between 10% and 12%. In 2011, the Navoi GMK created a new division—a scientific production center (NPC) called the NPC Geology of Precious Metals and Uranium. The center replaced two science and technology centers that had operated under the auspices of Goscomgeo—the NPC Geology of Precious and Nonferrous Metals and the NPC Geology of Uranium and Rare-Earth Metals (Mineral.ru, 2014i).

In 2012, the Almalyk GMK started construction of three new gold mines—the Kairagach Mine, the Kochbulak Mine, and the Samarchuk Mine. All the deposits are located in Toshkent Viloyati, and the total cost of construction was expected to reach \$132 million. The construction of the three mines was expected to increase the Almalyk GMK's gold production by between 25% and 30% and to reach about 33 t/yr of gold. The Samarchuk Mine was to be constructed at the Kyzyl-Alma deposit. The new mine was expected to have an annual capacity of 100,000 t/yr of ore. Construction of the Samarchuk Mine would cost \$66.3 million, and it was to be financed by the FRRU (\$14.2 million), Uzbek banks (\$25.1 million), and the Almalyk GMK's own funds. In March 2014, Western Ural Machine Building group (ZUMK) of Russia began construction of the vertical shaft of the mine. The mine was expected to be completed by the end of 2015 (Mineral.ru, 2014c).

The construction of the Kairagach Mine was completed in December 2014. The total production capacity of the new mine was expected to be 80,000 t/yr of ore. The mine's construction cost a total of \$30.6 million, which was financed by Uzbek banks, which loaned \$13.2 million; the FRRU, which loaned \$6.7 million; and the Almalyk GMK's own funds (Mineral.ru, 2015).

Tungsten.—In 2014, the production of tungsten metal decreased to 83 t, or by 15.3% compared with that of 2013. The decrease was owing to reduced demand on international markets. The only producer of tungsten metal in Uzbekistan was the Uzbek refractory and hard metals complex (UzKTZhM). Reportedly, the plant was operating at about 20% of its

capacity and produced tungsten metal from imported tungsten concentrates (Regnum.ru, 2015).

In June 2013, Goscomgeo and Shindong Resources of the Republic of Korea created a joint venture, SP Uzbekistan-Korea Tungsten. The joint venture planned to develop and mine the Sautbay tungsten deposit, which is located in Navoi Viloyati. The joint venture planned to complete the resource estimate in the first half of 2014 and to prepare the technical and economic assessment during the second half of the year. If the project is confirmed, mine construction would start in 2016. According to preliminary estimates, the \$145 million project would include the construction of a mining and beneficiation complex with the capacity to produce 1,500 t/yr of tungsten concentrate. Previously, the company had planned to start mine construction as early as 2014. The joint venture anticipated mining three deposits—the Butgut, the Sagynkan, and the Sautbay. According to Goscomgeo, the C1-category resources (similar to the indicated resource category in U.S. Geological Survey terminology) of the Sautbay deposit were 4 Mt containing 19,900 t of tungsten trioxide (MinerJob.ru, 2014e, g).

The Government decided to postpone indefinitely the project to restore tungsten production at the Ingichke deposit in Samarqand Viloyati owing to overproduction and low prices on the world market. The first phase of the project was to include restoration of the tungsten mine at a cost \$50 million. The mine was expected to have the capacity to produce at least 300,000 t/yr of ore. The second stage would include construction of a new mining and beneficiation complex; the cost and capacity of the complex were yet to be determined. During the past 2 years, Goscomgeo had been in talks with several Chinese and South Korean companies but was unable to find project participants. Tungsten had been mined previously at Ingichke between 1941 and 1996. The mine was mothballed in 1996 owing to low tungsten prices on the world market (UzDaily.uz, 2014c).

Industrial Minerals

Cement.—In 2014, Uzbekistan increased cement production by 5.1% (to 7.35 Mt) compared with that of 2013. At the beginning of the year, the country had four significant cement plants—OAO Akhangarancement, OAO Bekabadcement, OAO Kuvasaycement, and OAO Kyzylkumcement. OAO Kyzylkumcement had the capacity to produce 3.1 Mt/yr of cement; OAO Akhangarancement, 1.74 Mt/yr; OAO Kuvasaycement, 1 Mt/yr; and OAO Bekabadcement, 820,000 t/yr (Raduzhnaya, 2015).

In March 2014, the Almalyk GMK opened a new cement plant in the Zafarabad region of Jizzax Viloyati. The new plant had the capacity to produce 760,000 t/yr of regular portland cement and another 350,000 t/yr of white portland cement. The total cost of the project was about \$114 million. Out of this amount, \$46.1 million came from the Almalyk GMK's own funds and \$74.2 million was provided by the FRRU. The Almalyk GMK had a plan to spend another \$35.8 million to expand the plant's production capacity for regular portland cement to 1 Mt by 2016. Of the total cost, \$9 million would come from the Almalyk GMK's own funds, \$14 million

would be provided by the FRRU, and the remainder would be provided by Uzbek commercial banks in the form of loans. The company was also planning to build another cement plant in the Sherabad region of Surxondaryo Viloyati by 2019. The plant would have the capacity to produce 1.5 Mt/yr of cement. The preliminary cost estimate for the project was \$225 million; \$24.4 million would come from the Almalyk GMK's own funds, \$90 million would be provided by the FRRU, and the remainder would come as loans from Uzbek commercial banks (Raduzhnaya, 2015; Review.ru, 2015a, b).

Between 2014 and 2016, cement plants in Uzbekistan planned to invest about \$50 million in modernization of equipment and to increase production capacity. OAO Kyzylkumcement was to invest \$39.6 million in three projects over 3 years, mostly from the company's own funds, including construction of a new 500,000-t/yr mill, modernization of the clinker production line, and construction of a new central power substation. OAO Bekabadcement planned to modernize its milling division by investing \$5.5 million. OAO Kuvasaycement had two modernization projects with a total cost of \$2.07 million. According to Government forecasts, cement production in Uzbekistan during the next 5 years would increase by 3.5% per year on average and would reach 8.9 Mt/yr in 2020 (UzDaily.uz, 2014a, b; ITE-Uzbekistan.uz, 2015; Review.ru, 2015a).

OAO Akhangarancement was part of the ZAO Eurocement Group of Russia (Eurocement) and produced 1,700,500 t of cement in 2014. The plant was acquired by Eurocement in 2006, and since then, Eurocement had invested about \$21.5 million in the plant. In July, the Economic Court of Toshkent Viloyati seized the property and bank accounts of Eurocement following the court's decision to find in favor of the Government Agency for Competition and to invalidate the plant's privatization, which had taken place 20 years ago in accordance with the Government's decision. The company estimated Eurocement's losses from the decision to be \$900 million, and it planned to appeal the court's decision in higher courts and international organizations. Earlier, Eurocement had planned to expand the plant, and in June, it signed a \$128 million contract with China CAMS Engineering for the construction and the supply of equipment to build a new cement plant with a total capacity of 2.4 Mt/yr. The new plant was expected to be commissioned in 2016. It was not clear if the company would continue with the modernization plans amid court appeals (Eurocement.ru, 2014; RapsiNews.ru, 2014; Vedomosti.ru, 2014; Ut.uz, 2015).

Potash.—In March, the Dekhkanabad potash plant commissioned its second production line, which had a total capacity of 400,000 t of potassium chloride. The plant was located in Qashqadaryo Viloyati, close to the border with Turkmenistan. Total resources of the Tyubetagan deposit were estimated to be 400.2 Mt grading 36.8% potassium chloride. About 200 Mt was estimated to be located in the Uzbek part of the deposit. Construction of the new production line cost \$254.5 million, of which \$110.5 million was financed by the Eximbank of China, \$128.1 million was a loan from the FRRU, and the remainder came from GAK Uzkiyosanoat, which was the operator of the potash complex. The construction was performed by CITIC International Cooperation Co. Ltd. of

China, and the equipment was provided by ZUMK Russia. In addition to processing facilities, an important element of construction was a 33-kilometer-long aerial ropeway with the capacity to transport 2.1 Mt/yr of ore. The ropeway would be used to connect the Tyubetagan potash mine with the complex of processing facilities. The aerial ropeway was designed by the Engineering Division of ZUMK and was scheduled to be commissioned in the third quarter of 2014; until then, trucks would transport ore to the processing facilities (Trend.az, 2014).

The first production line of the Dekhkanabad plant had been commissioned in September 2010. The project cost was \$123.7 million, and the production line capacity was 200,000 t/yr of potassium chloride. FRRU and Eximbank of China provided \$61.9 million and \$41.7 million, respectively, in loans, and the remainder of the financing came from GAK Uzkiyosanoat's own funds. The Dekhkanabad potash plant expected to produce 280,000 t of potassium chloride and to export 208,000 t in 2015 (UzDaily.uz, 2013; Infoindustria.com.ua, 2015).

Mineral Fuels and Related Materials

Natural Gas and Petroleum.—In 2014, Uzbekistan produced an estimated 55 billion cubic meters of natural gas and an estimated 2.9 Mt of petroleum. The Government of Uzbekistan did not report the country's production of hydrocarbons for 2013 or 2014. The hydrocarbon industry employed only about 1% of the country's employed population (about 125,000 people), but it produced 16% of the country's GDP and 20% of Government revenues (OilNews.com.ua, 2014b).

National Holding Company (NHC) Uzbekneftegaz, which was the sole operator of the oil and gas complex in Uzbekistan, reported that it was planning to increase all hydrocarbon production by 1.9% by 2019 compared with the production level of 2014, including a 2% increase in the production of natural gas. The new Government program sought to increase hydrocarbon production in order to increase the country's natural gas identified resources by 365 billion cubic meters, and its liquid hydrocarbon resources, by 31.7 Mt. Uzbekistan's proven petroleum reserves as of 2013 were 100 Mt (or 600 million barrels), and the reserves of natural gas were 1.1 trillion cubic meters. According to the Government program, Uzbekistan planned to increase hydrocarbon exports by 20% by 2020 through conserving decreasing domestic natural gas use and energy consumption. In particular, by 2020, natural gas consumption by industrial users was expected to decrease by between 5% and 7% compared the 2013 consumption, and natural gas consumption by residential customers was expected to remain unchanged from the 2013 level. The Government program also sought to increase oil refining by about 30%, by increasing the refining of locally produced petroleum and condensate, by increasing the production of shale oil, and by importing crude oil for refining (NHC Uzbekneftegaz, 2015; RIANovosti, 2015).

According to Uzbekneftegaz, Uzbekistan had 211 identified hydrocarbon deposits, of which 108 contained natural gas and gas condensate, and others contained petroleum, petroleum and natural gas, or petroleum and gas condensate. About

50% of them were in development, 35% were prepared for development, and the others were in development stages (NHC Uzbekneftegaz, 2015).

In March 2013, Uzbekistan announced the beginning of drilling at the Sangruntau shale oil deposit, which is located in northern Navoi Viloyati. The total cost of the project was estimated to be \$600 million, and it was expected that shale oil production would be able to offset the decrease in conventional oil production in the country. The project was expected to produce 8 Mt/yr of shale oil and about 1 Mt/yr of refinery products. Total resources of shale oil in Uzbekistan were estimated to be 47 billion metric tons. It was not clear whether the project was affected by the reduction in oil prices in 2014 (Rosbalt.ru, 2013).

NK Lukoil of Russia was actively participating in various projects in Uzbekistan and, during the past 10 years (between 2004 and 2014), it had invested about \$3 billion in the country. Lukoil signed a production-sharing agreement (PSA) for the Kandym-Khauzak-Shady-Kunrad group of gas condensate deposits in 2004, and in 2007, production started at the Khauzak sector. In 2007, Lukoil signed a PSA for the South-Western Gissar project. Production at the Gissar project, which started in 2011, was 4.2 billion cubic meters per year of natural gas, and the total investment was \$1.2 billion. Lukoil was also a participant in a PSA for the development of hydrocarbons in the Aral license block, which is located in Uzbekistan's Aral Sea waters. In 2014, Lukoil's cumulative production in the country reached 25 million cubic meters of natural gas. By 2020, Lukoil planned to produce between 17 billion and 18 billion cubic meters per year of natural gas (Mineral.ru, 2014b; VestiFinance.ru, 2014).

In 2014, Uzbekistan had three oil refineries—Alty-Aryk NPZ, Bukhara NPZ, and Fergana NPZ—with a total annual capacity of 11.2 Mt/yr, but they were working well below capacity. All three refineries were owned and operated by AK Uznefteprodukt, which was a subsidiary of NHC Uzbekneftegaz. In 2014, the Government planned to improve the financial condition of Bukhara NPZ and Fergana NPZ by reducing production costs, reducing unpaid debt by the refineries' customers, and increasing capacity utilization by importing petroleum. The problems faced by the refineries were partly owing to a reduction in crude petroleum production in the country, a significant reduction in capacity utilization, and the refineries' need for modernization (OilNews.com.ua, 2014a).

Outlook

During the past several years, Uzbekistan has intensified its efforts to increase the country's industrial production, especially, automobile, chemical, construction products, and machine-building manufacturing. In 2014, the share of the country's GDP produced by industrial enterprises was 51.9%. Eventually, increased industrial production and higher living standards in the country are expected to increase the demand for energy products. Although the country's hydrocarbon export sector faces competition from domestic demand, Uzbekistan will likely seek to increase its production and export of hydrocarbons during the next decade by expanding its pipelines and modernizing its 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 copper, gold, and uranium. During the past several years, Uzbekistan has made concerted efforts to modernize the Almalyk and the 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 during the next several years. The production of hydrocarbons and refined petroleum products might require additional investments.

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TABLE 1
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2010	2011	2012	2013	2014 ^c
METALS					
Copper:					
Mine output, Cu content	90,000	91,500	95,600	98,000 ^r	99,500 ³
Metal:^c					
Blister	92,000	92,000	93,000	96,000	97,000
Refined	90,000	91,500 ³	95,600 ³	98,000 ³	99,000
Gold ^c kilograms	90,000	91,000	93,000	98,000	100,000
Molybdenum, mine output, Mo content	500 ^c	557	522	490	450 ³
Rhenium ^c kilograms	1,200 ^r	1,200 ^r	1,200 ^r	900 ^r	900
Silver, mine output do.	59,097	60,000	60,000	61,000	61,000
Steel:					
Crude	731,373	733,400	736,300	746,200	731,000 ³
Rolled	691,910	709,900	710,500	718,000	703,000
Tungsten, metal	--	48	131	98	83 ³
Zinc, metal, smelter, primary	40,000 ^c	54,900	61,100	61,500 ^c	62,000
INDUSTRIAL MINERALS					
Cement	6,872,000 ^r	6,698,000	6,800,000	6,990,000	7,350,000
Clays:^c					
Bentonite	20,000	25,000	25,000	26,000	26,000
Kaolin	500,000 ^r	300,000 ^r	300,000 ^r	70,286 ^{r,3}	64,605 ³
Gypsum ^c	44,000 ³	48,000	50,000	50,000	35,000
Nitrogen, N content of ammonia ^c	1,344,029 ³	1,294,300 ³	1,300,000	1,350,000	1,200,000
Phosphate rock:^c					
Gross weight	800,000	800,000	800,000	850,000	800,000
P ₂ O ₅ content	187,000	187,000	187,000	198,000	187,000
Potash, K ₂ O equivalent	33,000	110,000	111,700 ^r	84,600 ^r	110,000
Sulfur:^c					
Byproduct:					
Metallurgy	170,000	170,000	170,000	175,000	170,000
Natural gas and petroleum	350,000	350,000	370,000	380,000	370,000
Total	520,000	520,000	540,000	555,000	540,000
Sulfuric acid	1,192,600	950,000 ^r	900,000 ^r	900,000 ^r	900,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	198,000	244,000	19,800	20,100	20,000
Lignite	3,102,000	3,600,000	3,730,200	4,069,900	4,377,000
Total	3,300,000	3,844,000	3,750,000	4,090,000	4,397,000
Natural gas, dry million cubic meters	65,937	63,036	62,911	55,200	55,000
Petroleum:⁴					
Crude:⁴					
In gravimetric units	1,866,000	3,600,000	3,165,000	2,900,000 ^c	2,900,000
In volumetric units 42-gallon barrels	13,600,000	26,200,000	23,000,000	21,200,000 ^c	21,200,000
Petroleum refinery products:					
In gravimetric units	3,296,000	5,000,000	5,000,000	4,800,000	4,800,000
In volumetric units 42-gallon barrels	26,480,000	40,165,000	40,165,000	38,400,000	38,400,000

See footnotes at end of table

TABLE 1—Continued
 UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2010	2011	2012	2013	2014 ^e
MINERAL FUELS AND RELATED MATERIALS—Continued					
Uranium:					
U content	2,400	3,000	3,000	3,315 ^r	3,401 ³
U ₃ O ₈ content	2,830	3,540	3,540	3,880 ^r	3,979 ³

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through September 24, 2015.

²In addition to the commodities listed, Uzbekistan was thought to produce a number of other mineral commodities, including aluminum, cadmium, caustic soda, cesium, feldspar, fluorspar, graphite, iodine, iron ore, lead, lime, lithium, manganese, rubidium, selenium, tellurium, and vermiculite, but available information was inadequate to make reliable estimates of output.

³Reported figure.

⁴Includes gas condensate.

TABLE 2
UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2014^{1,2}

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e	
Cement	OAO Kyzylkumcement	Navoi City	3,100,000	
Do.	OAO Akhangarancement	Sirdaryo Viloyati	1,740,000	
Do.	OAO Kuvasaycement	Farg'ona Viloyati	1,000,000	
Do.	OAO Bekabadcement	Toshkent Viloyati	820,000	
Do.	Jizzak Cement Plant (Almalyk mining and metallurgical complex (Almalyk GMK))	Jizzax Viloyati	760,000	
Cesium, lithium, rubidium	Shava-Say deposit	NA	NA	
Clays:				
Bentonite	Arab-Dasht and Khaudag deposits	NA	NA	
Kaolin	Angren deposit	Angren region	8,000,000	
Coal:				
Bituminous	OAO Shargunkumir and OAO Erostigaz	Baysun and Shargun deposits, Surxondaryo Viloyati	700,000 ³	
Lignite	OAO Uzbekugol and OAO 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	100,000 ³	
Concentrate	Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	NA	
Metal	Almalyk refinery	Olmaliq	130,000	
Feldspar	Karichasayskoye and other deposits	Deposits in Samarqand Viloyati, Toshkent Viloyati, and Qoraqalpog'iston Respublikasi	120,000 ³	
Fertilizer	Ammophos production association	Olmaliq	NA	
Do.	Azot production association	Farg'ona Viloyati	NA	
Do.	Elektrokhimprom production association	Chirchiq	NA	
Do.	Kokand superphosphate plant	Qo'qon	NA	
Do.	Naviazot production association	Navoiy Viloyati	NA	
Do.	Samarkand 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) (Uzbekistan State Committee for Geology and Mineral Resources) 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 ³
Graphite	Tadzhi-Kazgan deposit	Navoiy Viloyati	NA	
Iron ore	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 ³	
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 ³	
Metal	Uzbek refractory and hard metals plant	Chirchiq, Toshkent Viloyati	NA	

See footnotes at end of table.

TABLE 2—Continued
 UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2014^{1,2}

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Natural gas	million cubic meters	Gazli, Kandym, Khauzak, Kokdumalak, Pamuk, and Shurtan-Say deposits (major)	Amu-Dar'ya basin; Muborak region	70,000 ³
Do.		Itera/Lukoil (Russia), Uzbekneftegaz JSC	Kan-Dam field	NA
Natural gas condensate		Trinity Energy	Ustyurt Platosi region	NA
Natural gas liquids	million cubic meters	Mubarek gas processing plant	Muborak region	28,000
Do.		Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	137,000
Petroleum:				
Crude		Kokdumalak and Mingbulak deposits (major)	NA	9,000,000 ³
Refinery products		Fergana oil refinery	Farg'ona Viloyati	5,500,000
Do.		Bukhara oil refinery	Buxoro area	2,500,000
Do.		Alty-Aryk refinery	Farg'ona Viloyati	3,200,000
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	Tubeqatan Mine, Qashqadaryo Viloyati	600,000
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)	Dal'neye, Kalmakyr, and Sary-Cheku deposits	NA
Do.		Mubarek gas processing plant complex	Muborak region	2,000,000
Tellurium		Almalyk mining and metallurgical complex (Almalyk GMK)	Toshkent Viloyati	NA
Tungsten:				
Mine output, W content		Deposits: Koytash deposit Ingichke and Lyangar deposits Ugat deposit	Locations: Northeastern Uzbekistan Zirabulak Mountains Northern Uzbekistan	1,200 ³
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)	Central Qizilqum region	3,000
Vermiculite	cubic meters	Tebin-Bulak deposit	NA	25,000
Zinc:				
Mine output, Zn content		Almalyk mining and metallurgical complex (Almalyk GMK)	Khandiza and Uch-Kulach deposits, Jizzax Viloyati	NA
Concentrate		Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	60,000
Metal		do.	do.	80,000

^aEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

¹Table includes data and information available through September 24, 2015.

²Many 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.

³Capacity estimates are totals for all enterprises that produce that commodity.