



2019 Minerals Yearbook

BULGARIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF BULGARIA

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In 2019, the minerals mined in Bulgaria included barite, clay, copper, gold, gypsum, lead, lignite coal, limestone, manganese, salt, sand and gravel, silver, vermiculite, and zinc. The metallurgical sector processed cadmium, copper, lead, tellurium, and zinc and produced raw steel and steel products. The mineral fuels sector processed coal, crude petroleum, natural gas, and refined products. In 2019, Bulgaria ranked sixth in the world in the production of vermiculite and seventh in the production of tellurium (not including that of the United States), accounting for 3% and 1% of world production, respectively (table 1; Anderson, 2021; Hatfield, 2021).

Minerals in the National Economy

In 2019, Bulgaria's real gross domestic product (GDP) increased by 3.7% compared with an increase of 3.1% in 2018; the nominal GDP was \$68.5 billion. The total value of industrial production accounted for 66% of the GDP in 2019 compared with 69% of the GDP in 2018. The output of the mining industry accounted for about 3.7% of the total value of industrial sector production, and the production of the manufacturing sector, 84.9%. Production of basic metal and fabricated metal products (except machinery and equipment) accounted for 17.3% of the total value of industrial sector production in 2019. The value of mining industry production (at constant 2010 prices) increased by 3.9% in 2019 compared with a decrease of 2.8% in 2018. The value of manufacturing sector production (at constant 2010 prices) increased by 2.2% following an increase of 2.6% (revised) in 2018 (National Statistical Institute, 2020a; 2020b, p. 189, 192; World Bank Group, The, 2020).

Government Policies and Programs

In 2017, the Law for the Underground Resources was amended by the Ministry of Energy. The amendment requires more transparency in the procedures for granting prospecting and exploration permits and concessions for underground resources. This amendment was followed by the discussion of possible amendments to the Subsurface Resources Act (SG No. 19/8.03.2011) and the Concessions Act (SG No. 103/28.12.2017) in 2019, which provide specifications on the length and conditions of mining concessions (Sirleshtov and Dudevska, 2019; Sofia Globe, The, 2020).

Production

In 2019, natural gas production increased by 155%; aluminum (metal, secondary), by 152%; mined lead (Pb content), by 34%; refined petroleum, by 25%; copper (smelter, secondary), by 19%; and mined gold (concentrate, Au content), by 10%. Stone (size and shape unspecified, including granite, sandstone and other building materials) production decreased by 31%; refined tellurium, by 25%; nitrogen (ammonia, N content), by 23%; copper (smelter, primary), by 18%; mined silver (Ag content),

by 15%; steel products (rolled), by 14%; industrial sand, raw steel, and sulfuric acid, by 11% each; and crushed chalk (including dolomite) and refined copper (primary), by 8% each. These and other data on mineral production are in table 1. The decrease in the production of primary smelted copper was due to the shut down for maintenance at the Pirdop site from May through June (Tanev, 2019a).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2019, the value of Bulgaria's exports was \$33.4 billion¹ compared with \$32.8 billion (revised) in 2018. Mineral fuels, lubricants, and related materials contributed 9.5% to the total value of exports, and crude materials (inedible, excluding fuels) contributed 6.8%. The country's major export trade partners were Germany (which received 14.8% of Bulgaria's total exports), Romania (8.7%), Italy and Turkey (7.3% each), Greece (6.7%), and France (3.8%). The value of Bulgaria's imports was \$37.2 billion in 2019 compared with \$36.8 billion (revised) in 2018. Mineral fuels, lubricants, and related materials accounted for 13.9% of total imports, and crude materials (inedible, excluding fuels) accounted for 7.6%. Bulgaria's major import trade partners were Germany (which supplied 12.2% of Bulgaria's total imports), Romania (9.9%), Italy (7.5%), Russia (7.2%), and Turkey (6.5%) (National Statistical Institute, 2020b, p. 161, 162, 164, 165).

Commodity Review

Metals

Copper, Gold, and Silver.—Dundee Precious Metals Inc. of Canada (Dundee) owned and operated the Chelopech underground copper mine, which is located about 70 kilometers (km) east of Sofia, through its 100%-owned subsidiary Chelopech Mining EAD. In 2019, the Chelopech Mine produced 2.2 million metric tons of copper ore, 3,730 kilograms (kg) of gold in gold-copper concentrate, 4,910 kg of silver, and 16,900 metric tons (t) of copper in copper concentrate; the mine also produced 1,663 kg of gold in 252,582 t of pyrite concentrate (Dundee Precious Metals Inc., 2019, p. 1, 18).

Dundee continued to develop its wholly owned Krumovgrad open pit gold project, also known as Ada Tepe. The project was located at Ada Tepe about 3 km south of the town of Krumovgrad in southeastern Bulgaria. In 2019, the project produced 430,384 t of ore, 1,779 kg of gold, and 700 kg of

¹Where necessary, values have been converted from Bulgarian Levs (BGN) to U.S. dollars (US\$) at the annual average exchange rates of BGN1.71=US\$1.00 for 2018 and BGN1.75=US\$1.00 for 2019.

silver in concentrate. Dundee expected to produce between 2,920 and 3,550 kg of gold in concentrate in 2020. By 2022, annual production at the Ada Tepe was expected to increase to between 3,270 and 4,040 kg of gold in concentrate (Dundee Precious Metals Inc., 2019, p. 1, 2, 5, 15, 21).

Lead and Zinc.—At the end of 2019, the European Investment Bank agreed to provide an investment loan worth 65 million euro area euros (EUR) (\$72.8 million)² to KMC AD for a technological upgrade program taking place in 2020-23. KMC, which was a producer of refined lead and zinc, was planning to increase its production capacity by 25% to 200,000 metric tons per year (t/yr) from 150,000 t/yr of lead and zinc. The loan included expenses for construction of a new lead-refining plant and a zinc electrolysis unit, replacement and modernization of old equipment, and a production increase in the recycling of waste materials (European Investment Bank, 2019; Petrova, 2020).

In 2018, the Ministry of Economy and Industry presented four Class A investment certificates that were issued under the Investment Promotion Act of 2020. Class A certification includes financial support for development of the technical infrastructure in an industrial zone and for training new employees. One of the certificates was for the investment project of Harmony 2012 Ltd. This project was worth EUR23 million (\$25.8 million) and would process zinc-containing materials in the town of Kardzhali (KPMG Bulgaria OOD, 2018; Bulgaria National Radio, 2020; Invest Bulgaria Agency, 2020; Ministry of Economy and Industry, 2020).

Industrial Minerals

Sand and Gravel, Industrial.—In December 2019, Devnya Cement AD requested that the Government of Bulgaria terminate the concession contract for the Selski Nivi quartz deposit owing to market conditions. The deposit was located in the Varna region and had been awarded to Devnya Cement in 2009 (Tanev, 2019b).

Outlook

The increase in Bulgaria's production of mineral commodities continued to be moderate in 2019, and future increases will most likely depend mainly on the domestic and European economic outlook in the future. Owing to new projects, the mining of copper, gold, lead, silver, and zinc are likely to increase modestly in the near future (International Monetary Fund, 2020, p. 20).

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²Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at the annual average exchange rates of EUR0.923=US\$1.00 for 2017 and EUR0.848=US\$1.00 for 2018.

TABLE 1
BULGARIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²		2015	2016	2017	2018	2019
METALS						
Aluminum, metal, secondary		8,620	8,050	7,150	7,112	17,887
Bismuth, refinery, metal ^e		42	47	50	50	50
Cadmium, refinery, primary		344	362	333	313	315
Copper:						
Mine, concentrates, Cu content		71,748	70,573	73,003	69,841	70,927
Smelter:						
Primary		292,200	245,000	322,700	316,800 ^r	260,600
Secondary		56,200	51,800	52,500	41,800 ^r	49,600
Refinery, electrolytic:						
Primary		204,700	197,300 ^r	203,500	199,000 ^r	182,000
Secondary		25,000	19,200	25,000	25,000 ^r	25,000
Gold, mine, concentrate, Au content	kilograms	7,914	7,918	8,682 ^r	8,995 ^r	9,924
Iron and steel:						
Raw steel	thousand metric tons	543	493	652	666	595
Products, rolled, flat	do.	840	921	993	1,131 ^r	968
Lead:						
Mine, Pb content		18,700	23,600	21,100	26,532 ^r	35,453
Refinery, primary and secondary		96,900	100,817	103,105	102,808	102,473
Manganese, mine, crude ore:³						
Gross weight		190,900	67,000	33,000	-- ^r	--
Mn content		53,400	19,000	9,000	-- ^r	--
Silver, mine, Ag content	kilograms	37,955	52,526	53,053	41,315	35,145
Tellurium, refinery	do.	4,046	4,479	5,095	3,931	2,944
Zinc:						
Mine, Zn content		16,300	19,200	20,600	21,700	22,500
Smelter, primary		75,095	75,811	73,715	75,150	75,000 ^e
INDUSTRIAL MINERALS						
Barite ^{e,4}		59,000	50,000	67,000	70,000	70,000
Cement, hydraulic	thousand metric tons	2,114	1,994	2,117	2,331	2,456
Clay:^c						
Bentonite	do.	41	43	52	44	44
Kaolin	do.	210	190	220	230	220
Fluorspar ⁴		20,000 ^e	2,000 ^e	--	--	--
Gypsum, mine, including anhydrite	thousand metric tons	99	41	41	46 ^e	46 ^e
Lime, industrial	do.	1,474	1,518	1,503	1,545	1,457
Nitrogen, ammonia, N content	do.	390	410 ^e	400 ^e	300 ^e	230 ^e
Sand and gravel, industrial:						
Quartz	do.	947	947	947 ^e	947 ^e	947 ^e
Sand	do.	7,640	6,289	6,300 ^e	6,660	7,375
Stone, sand, and gravel, construction:						
Sand and gravel, unspecified	do.	3,833	3,833	6,091	6,100 ^{r,e}	6,100
Stone:						
Crushed:						
Chalk, including dolomite	do.	149	74	236	199	183
Limestone, flux for cement production	do.	7,000	5,286	5,175	5,883	5,642
Other, size and shape unspecified, including granite, sandstone, and other building material	do.	4,118	1,874	1,604	3,007	2,063
Sulfur, compounds, sulfuric acid, S content	do.	1,341	1,210	1,532	1,450	1,295
Vermiculite, concentrate		10,000 ^e	10,000 ^e	10,000 ^e	10,500	10,500 ^e
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous, marketable	thousand metric tons	2,066	--	--	--	--
Lignite	do.	35,863	31,229	34,412	30,000	27,972
Natural gas, marketable	million cubic meters	82	94	74	11	28

See footnotes at end of table.

TABLE 1—Continued
 BULGARIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2015	2016	2017	2018	2019	
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum:						
Crude	thousand 42-gallons barrels	186 ^e	179 ^e	178 ^e	178 ^e	NA
Refinery	do.	29,000	42,400	42,400	41,300	51,400

^eEstimated. ¹Revised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through November 10, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, calcinate sodium carbonate, feldspar, perlite, refractory clays, silver metal, tin, and zeolites may have been produced, but available information was inadequate to make reliable estimates of output.

³Reported by the International Manganese Institute.

⁴Estimated based on trade data.

TABLE 2
BULGARIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Aluminum, secondary	Alcomet JSC	NA	40
Do.	ETEM Bulgaria JSC	NA	22
Barite, concentrate	Barite Mining EOOD Co. (Nonmetallic Mineral Mining & Quarrying Industry)	NA	100
Bismuth	Gorubso AD (KCM 2000 Group and and Minstroy Holding AD)	Metallurgical plant at Kardzhali	NA
Cadmium	KCM A.D. (KCM 2000 Group)	Smelter at Plovdiv	NA
Do.	Lead and Zinc Complex Plc. (LZC) (Harmony 2012 Ltd., 50%)	Metallurgical plant at Kardzhali ¹	NA
Cement	Devnya Cement AD (Italcementi Group)	Plant at Devnya	1,500
Do.	LafargeHolcim (Bulgaria) AD (LafargeHolcim Ltd., 100%)	Plant at Beli Izvor	650
Do.	Vulkan Cement S.A. (Italcementi Group)	Grinding center at Dimitrovgrad	500
Do.	Zlatna Panega Cement AD (Titan Group)	Plant at Zlatna Panega	1,000
Clay:			
Bentonite, mine	Imerys S.A.	Mine at Kardzhali	50
Kaolin:			
Mine	Kaolin EAD	Quarries at Kalinovo Municipality, Shume District	NA
Processing plant	do.	Processing plant at Kaolinovo Municipality, Shume District and at Senovo, Ruse District	NA
Coal:			
Bituminous	Balkan 2000 Mines EAD	Southeast of Tvarditsa, Sliven District	400
Lignite	Mini Maritsa Iztok EAD (state-owned Bulgarian Energy Holding EAD)	East Maritsa coal basin near Radnevo	35,000
Do.	Other small producers	Beli Breg, Chernomore Mines in the Black Sea coalfield, Chukurovo, and Stanyantsi Mines and Vitren Mine in Katrishte deposit	NA
Do.	Otkrit Vagledobiv Mines EAD	Pernik coal basin, southwest of Sofia	NA
Do.	Vagledobiv Bobov Dol EOOD	Bobov Dol coalfield	NA
Copper:			
Concentrate, Cu content	Assarel-Medet JSC	Asarel Mine, Panagurishte, Pazardzhik District	50
Do.	NA	Propada Mine at Malko Turnovo	2
Do.	Burgaskii Mines Ltd.	Zidorovo Mine at Burgas, near the Black Sea	1
Do.	Chelopech Mining EAD (Dundee Precious Metals Inc., 100%)	Chelopech Mine, 70 kilometers east of Sofia	21
Do.	Ellatzite-Med AD (Geotechmin Co.)	Mine 8 kilometers south of Etropole, and concentrator near Mirkovo village	45
Metal:			
Smelter	Aurubis Bulgaria AD (Aurubis AG, 99.8%)	Pirdop, Srednogorie region	400
Refinery	do.	do.	230
Fluorspar	Chiprovtsi Mine (Solvay S.A.)	Chiprovtsi Mine, Montana Province ²	50
Gold, concentrate, kilograms	Chelopech Mining EAD (Dundee Precious Metals Inc., 100%)	Chelopech Mine, 70 kilometers east of Sofia	6,000
Au content	do.	Mine 8 kilometers south of Etropole and concentrator near Mirkovo village	NA
Do.	do.	KCM AD (KCM 2000 Group)	NA
Gypsum	Gips AD	Mine near the village Koshava	NA

See footnotes at end of table.

TABLE 2—Continued
BULGARIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Iron and steel, steel:				
Raw steel		Stomana Industry S.A. (Sidenor S.A., 100%)	Plant at Pernik	600
Manufactured products		Helios Metallurg Ltd.	Plovdiv	140
Do.		PIH Industry JSC	Eastern part of the city of Ruse	NA
Do.		Promet Steel JSC	Rolling mills at Delbet village, Burgas region	860
Do.		Stomana Industry S.A. (Sidenor S.A., 100%)	NA	1,100
Lead-zinc:				
Ore, gross weight	metric tons	Rudmetal JSC	Dimov Dol Mine, near Rudozem	778
Concentrate,	do.	Gorubso AD (KCM 2000 Group and and Minstroy Holding AD)	Mine at Kardzhali	NA
Pb-Zn content				
Metal:				
Lead, smelter		Lead and Zinc Complex Plc. (LZC) (Harmony 2012 Ltd., 50%)	Smelter at Kardzhali ¹	33
Lead, refined:				
Primary		KCM AD (KCM 2000 Group)	Refinery at Plovdiv	72
Secondary		Elbat JSC	Refinery at Dolna Banya	15
Do.		Monbat Recycling Plc.	Recycling plant, Town of Montana	16
Zinc, smelter		KCM AD (KCM 2000 Group)	Smelter at Plovdiv	80
Do.		Lead and Zinc Complex Plc. (LZC) (Harmony 2012 Ltd., 50%)	Smelter at Kardzhali ¹	28
Lime		Ognyanovo K AD (Plena Holding SA)	Pukina plant, between Slivnitsa and Dragoma; Ognyanovo plant, Ognyanovo village	NA
Manganese, ore		Euromangan AD	Obrochishte mine at Tsarkva village, 10 kilometers west of Balchik ³	200
Natural gas	million cubic meters	Melrose Resources Bulgaria EOOD (Petroceltic International Plc.)	Galata, Kaliakra, and Kavarna fields, in the Black Sea off the coast of Varna	NA
Do.	do.	Oil and Gas Exploration and Production Plc.	Bhutan, Bulgarevo, Dolni Dubnik, Durankulak, Marionov Geran, Selanovtzi, and Staroseltzi fields	NA
Perlite, mine output		Imerys S.A.	Mine at Kardzhali	NA
Petroleum:				
Crude	thousand 42-gallon barrels	Oil and Gas Exploration and Production Plc.	Bardarski Geran, Dolni Dubnik, Dolni Lukovit, Gorni Dubnik, Tjulenovovo, Selanovtzi, Staroseltzi, and other oilfields	200
Refined	do.	LUKOIL Neftochim Burgas AD (LUKOIL Oil Co.)	Refinery at Burgas	70,000
Sand and gravel, industrial		Devnya Cement AD	Selski Nivi deposit, Varna region	NA
Silver:				
Concentrate,	kilograms	Chelopech Mining EAD (Dundee Precious Metals Inc., 100%)	Chelopech Mine, 70 kilometers east of Sofia	18,000
Ag content				
Metal	do.	KCM AD (KCM 2000 Group)	Smelter at Plovdiv	55,000
Sulfuric acid		Aurubis Bulgaria AD (Aurubis AG, 99.8%)	Plant at Pirdop, Srednogorie region	1,200
Tellurium		Gorubso AD (KCM 2000 Group and and Minstroy Holding AD)	Metallurgical plant at Kardzhali	NA
Vermiculite, crude		Wolff and Muller Minerals Bulgaria OOD	Mine near Sofia	20
Zeolites, mine output		Imerys S.A.	Mine at Kardzhali	NA

^eEstimated. Do., do. Ditto. NA Not available.

¹Suspended since 2012; the company received an investment to modernize the plant.

²Suspended since 2016; no information was available for 2019.

³The company halted production at the mine because of accumulated debt.