



2013 Minerals Yearbook

BOSNIA AND HERZEGOVINA

THE MINERAL INDUSTRY OF BOSNIA AND HERZEGOVINA

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Bosnia and Herzegovina's mineral sector was dominated by the mine output of bauxite, iron ore, and lead-zinc ore. The metallurgy sector produced aluminum and steel. Mineral fuels produced in the country included coke, lignite, and subbituminous coal. Other mineral commodities produced included barite, crushed stone, limestone, salt, and sand and gravel.

Minerals in the National Economy

In 2013, Bosnia and Herzegovina's gross domestic product (GDP) was \$17.8 billion.¹ The real rate of growth was 2.48%. Mining and quarrying made up about 2.19% of the country's total GDP compared with 2.28% in 2012. In 2013, the values of the country's exports and imports were \$5.8 billion and \$10.3 billion, respectively. Mining and quarrying accounted for about 11.2% of the total imports and about 1.4% of the total exports. Imports of crude petroleum and natural gas were valued at \$917 million and made up about 79.6% of the total value of mining and quarrying imports. Exports of metal ores were valued at \$38.5 million and made up about 48.5% of the total value of mining and quarrying exports. Imports of coke and refined petroleum products were valued at \$784 million and made up about 7.6% of the country's total value of imported goods, and exports of basic metals (predominately steel and aluminum) were valued at \$769 million and made up about 13.5% of the total value of exported goods (Agency for Statistics of Bosnia and Herzegovina, 2014a, p. 22, 23; 2014b, p. 2, 3).

Government Policies and Programs

The country has two political entities: the Republika Srpska and the Federation of Bosnia and Herzegovina. In the Republika Srpska, the Ministry of Industry, Energy, and Mining is responsible for drafting the laws and overseeing the mining sector. Relevant regulations governing the mining sector included the Law of Mining of 2005 (Amendments and Supplements in 2010), Law on Energy of 2009, Law on Geological Survey of 2004, and Law on Concessions of 2002 (Amendments and Supplements in 2006 and 2009). In the Federation of Bosnia and Herzegovina, relevant regulations governing the mining sector included the Law of Mining of 2010, Law on Geological Survey of 2010, and Law on Concessions of 2002 (Amendments and Supplements in 2006) (United Nations Environment Programme, 2015a, 2015b).

Production

In 2013, limestone (crushed and powdered) production increased by 31% to 2.4 million metric tons (Mt) compared with

that of 2012; construction sand production, by 25% to 625,509 metric tons (t); crushed stone production, by 14% to 4.2 Mt; and sodium compounds and sodium bicarbonate production, by 13% to 66,340 t. Production of ecaussine and other calcareous stone decreased by 79% to 48,827 t; crude kaolin production, by 70% to 44,940 t; crude dolomite production, by 53% to 59,851 t; marble and travertine production, by 41% to 411 t; lead, secondary metal, by 27% to 2,400 t; lead, mine output, metal content, by 25% to 3,000 t; bauxite production, by 18% to 657,115 t; salt, by 16% to 727,894 t; alumina production, by 13% to 175,961 t; and zinc, mine output, metal content, by 13% to 7,000 t. Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of the major mineral industry facilities.

Commodity Review

Metals

Bauxite and Alumina, and Aluminum.—"Alumina" d.o.o. Zvornik was the only producer of alumina in the country. It was located in the industrial zone of Zvornik. Bauxite for alumina production was supplied from the mines in the vicinity. The company entered bankruptcy in April, citing financial difficulty owing to high gas prices and low alumina and aluminum prices in the world markets. The Government appointed a new management team to implement complete rehabilitation and maintain normal production during the bankruptcy procedure. The plant had a production capacity of 600,000 metric tons per year (t/yr) and produced 175,961 t of alumina in 2013 compared with 202,416 t in 2012 ("Alumina" d.o.o. Zvornik, 2013, 2014; Zuvela, 2013).

Aluminij d.d. Mostar (Mostar) was Bosnia and Herzegovina's only aluminum producer and its leading exporter. The company had about 900 employees in the Mostar region and produced about 160,000 t/yr of aluminum between 2011 and 2013. In June 2013, Aluminij d.d. shut down production owing to an outstanding debt payment to the state-owned power company Elektroprivreda Hrvatske Zajednice Herceg Bosne (EPHZHB) d.d. Mostar. Production resumed after the Government agreed to take a 44% stake and promised further subsidies. On October 15, Aluminij d.d. started a gradual shutdown owing to unpaid electricity bills to EPHZHB. On October 22, the company resumed production under a debt-settlement deal with EPHZHB that obliged Aluminij d.d. to start repayment in February 2014 (Dimitrievska, 2013; Sito-Sucic, 2013).

Iron and Steel.—ArcelorMittal Prijedor was an iron ore mining operation that was a joint venture by ArcelorMittal S.A.

¹Where necessary, values have been converted from Bosnian convertible marks (BAM) to U.S. dollars (US\$) at an average rate of BAM1.47=US\$1.00 for 2013.

of Luxembourg (51%) and Rudnici Zeljezne Rude “Ljubija” a.d. Prijedor (49%). The company held mining rights for a 20-square-kilometer area. As of December 31, 2013, the probable iron ore reserves were 29 Mt with a grade of 45.8% iron. The 2013 run-of-mine production was 2.9 Mt and the salable production was 2.1 Mt. The estimated mine life was 10 years. There were two ore bodies: Jezero and Buvac. Production at Jezero stopped in 2011; ore had been produced only at the Buvac pit since then (ArcelorMittal S.A., 2014a, p. 210, 215, 216; 2014b).

Iron ore concentrates produced by ArcelorMittal Prijedor were supplied to ArcelorMittal’s subsidiaries in Europe, including ArcelorMittal Zenica, which was a steelmaking operation located 243 kilometers south of Prijedor. ArcelorMittal Zenica had a full capacity of 1 million metric tons per year and produced about 722,050 t in 2013. The company also produced hot-rolled products, rebar, wire rod, and wire products (such as mesh and lattice girders). In 2012, about 60% of the total output was exported. In March 2013, ArcelorMittal Zenica announced plans to invest \$25 million in environmental projects from 2014 to 2017, in addition to the \$51 million it invested in environmental projects from 2008 to 2013 in order to comply with relevant emissions laws and standards (Georgiev, 2013; ArcelorMittal S.A., 2014a, p. 210; 2014b).

Lead and Zinc—The Sase lead and zinc mine is located in Srebrenica, Republika Srpska. It was owned by Gross d.o.o. Gradiska, which was a subsidiary of Mineko Ltd. of the United Kingdom and METEKS Ltd. of Cyprus. The company extracted and processed lead and zinc ore in the Kazan, Srebrenica, Srebrenica II, and Vitlovac deposits, which are located near the municipality of Srebrenica. In 2013, the company had 524 employees and produced 280,000 t of lead-zinc ore (gross weight) compared with 240,000 t in 2012 (Gross d.o.o. Gradiska, 2014a–c).

Mineral Fuels

Coal—As of 2013, Bosnia and Herzegovina’s reserves of lignite were 1,272 Mt, and subbituminous coal, 827 Mt. The largest deposits were located in the Kreka-Banovici coal basin. In 2013, the country produced about 11.8 Mt of subbituminous and lignite coal compared with 12.3 Mt in 2012. Subbituminous and lignite coal were produced in roughly equal quantities. About two-thirds of the coal output was from underground mines and one-third from opencast mines. In 2011, subbituminous and lignite coal together accounted for 67% of the country’s primary energy supply. The country’s total power capacity was 3,824 megawatts (MW), and coal-fired powerplants accounted for 46% of the capacity. In 2012, the coal industry in Bosnia and Herzegovina employed 11,500 people compared with 13,000 in 2010. Most of the coal mines belonged to state-owned utility companies, such as Elektroprivreda Republike Srpske and Elektroprivreda Bosne i Hercegovine (EPBH) d.d. Sarajevo (table 2; European Association for Coal and Lignite, 2013, p. 20, 70).

In 2013, EPBH invested more than \$78 million in new excavation equipment and related machinery as well as settled obligations to miners. The investment plan, which had been partially implemented by 2013, had total funds of \$139 million

including \$46 million for the Kakanj Mine, \$36 million for the Kreka Mine, \$22 million for the Breza Mine, \$17 million for the Zenica Mine, \$11 million for the Durdevik Mine, \$3.8 million for the Gracanica Mine, and \$2.4 million for the Abid Lolic Mine. The purpose of the investment was to increase mine productivity by increasing production volume and efficiency and by reducing injuries to miners. The increase in coal production was needed to meet the demand from proposed new thermal powerplants. There were eight potential construction projects for new powerplants and expansion of existing capacity, which would add 3,280 MW of capacity. Bosnia and Herzegovina’s electricity exports would increase if some of these projects were to materialize (eKapija.BA, 2013; European Association for Coal and Lignite, 2013, p. 70).

Outlook

Bosnia and Herzegovina’s mineral industry will most likely continue to be a relatively minor producer of mineral commodities. Metals are expected to remain valuable export commodities for the country. In the short run, high gas and power prices will continue to present challenges to alumina and aluminum production, and Government subsidies will remain necessary for sustained operation. Coal production is expected to increase in the coming years owing to the modernization projects at mines and the demand from proposed new thermal power generation capacity. The country’s dependence on crude petroleum and gas imports will likely continue and no domestic production is expected in the short term.

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TABLE 1
BOSNIA AND HERZEGOVINA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013
METALS					
Alumina	191,792	269,414	261,874	202,416	175,961
Aluminum:					
Primary	96,000	118,000	130,875	126,000 ^e	126,000 ^e
Unwrought aluminum, including alloys	130,042	150,488	163,954	159,660	157,191
Bauxite	555,820	844,027	707,712	800,316	657,115
Iron and steel:					
Ore and concentrate:					
Gross weight	1,614,890	1,401,000	1,891,000	2,075,732	2,121,908
Fe content ^c	678,000	588,000	794,000	872,000	899,000
Metal:					
Crude steel	519,000	590,757	648,560	700,341	722,155
Ferroalloys, ferrosilicon ^c	470	870	1,800	--	--
Pig iron	482,469	620,935	684,734	749,539	759,100
Lead:					
Mine output, Pb content	3,000 ^r	3,000 ^r	4,000 ^r	4,000 ^r	3,000
Metal, smelter, secondary ^c	35,000	4,500	3,400	3,300	2,400
Silicon, metal ^c	11,000	17,300	17,500	15,900	16,700
Zinc, mine output, Zn content	3,000 ^r	6,000 ^r	7,000 ^r	8,000 ^r	7,000
INDUSTRIAL MINERALS					
Barite	30	57	13	28	28 ^e
Cement	1,073,762	948,513	893,017	845,657	881,580
Clays:					
Bentonite	16,042	314	--	--	18,808
Kaolin, crude	148,384	41,808	232,147	149,495	44,940
Dolomite, crude	79,104	199,757	87,635	127,774	59,851
Graphite	133,819	45,079	-- ^e	-- ^e	-- ^e
Gypsum and anhydrite	74,302	64,570	71,870	73,665	73,300
Lime	280,939	339,429	488,577	397,802	386,907
Salt, all sources	556,089	662,631	833,734	862,017	727,894
Sand and gravel:					
Gravel	938,253	979,472	913,129	1,126,176	1,089,402
Sand, construction	156,128	572,452	1,095,486	499,916	625,509
Silica sand	524,752	227,721	118,978	121,491	113,576
Sodium compounds, sodium bicarbonate	21,944	35,986	47,847	58,620	66,340
Stone:					
Dimension:					
Marble and travertine	6,358	2,674	1,836	692	411
Ecaussine and other calcareous stone	64,186	66,133	141,245	234,120	48,827
Granite	18,755	--	--	--	8,413
Porphyry, basalt and other building stone ^e	2,000,000 ^r	2,000,000 ^r	2,000,000 ^r	2,000,000 ^r	2,156,256 ³
Slate ^e	85,000 ^r	85,000 ^r	85,000 ^r	85,000 ^r	87,201 ³
Crushed	3,577,927	3,776,726	4,369,575	3,711,065	4,216,610
Limestone, crushed and powdered	1,829,989	1,916,642	1,850,140	1,834,677	2,399,580

See footnotes at end of table.

TABLE 1—Continued
BOSNIA AND HERZEGOVINA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013	
MINERAL FUELS AND RELATED MATERIALS						
Subbituminous coal and lignite	thousand metric tons	11,515	10,976	12,738	12,312	11,765
Coke		609,377	919,962	886,911	696,231	748,834
Petroleum refinery products ⁴	42-gallon barrels	8,240,000	8,920,000	9,880,000	8,590,000	8,950,000

⁶Estimated; estimated data are rounded to no more than three significant digits. [†]Revised. -- Zero.

¹Table includes data available through November 25, 2014.

²In addition to commodities listed, calcined gypsum, common clay, crude ceramic clay, magnesite, manganese ore, soda ash, and steel semimanufactures may have been produced, but available information is inadequate to make reliable estimates of output.

³Reported figure.

⁴Data were converted to barrels from metric tons and were reported as follows: 2009—1,029,585; 2010—1,114,669; 2011—1,235,519; 2012—1,073,292; 2013—1,118,758.

TABLE 2
BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity	Location of main facilities	Annual capacity
Alumina	"Alumina" d.o.o. Zvornik (Utko Bankas Investment Group)	Plant at Zvornik	600. [†]
Aluminum	Aluminij d.d. Mostar (Federation of Bosnia and Herzegovina Government, 44%, and Government of Croatia, 12%)	Smelter at Mostar	150.
Bauxite	A.D. Boksit Milici	Mine at Milici, west of Srebrenica	1,500.
Cement	Tvornica Cementa Kakanj d.d. (Heidelberg Cement AG)	Plant at Kakanj	400.
Do.	Fabrika Cementa Lukavac d.d.	Plant in Lukavac	800 cement, 600 clinker.
Coal:			
Brown	RMU Banovici (Government, 69.3%, and workers, 30.7%)	Opencast mines at Cubric, Grivice, and Turija, and underground mines Omazici and Separacija at Banovici	1,500.
Do.	Zenica Group (Elektroprivreda BiH, 100%)	Stara Jama, Raspotocje, and Stranjani Mines at Zenica	NA.
Do.	Durdevik Group (Elektroprivreda BiH, 100%)	Potocari and Visca II opencast mines and Durdevik underground mine south of Zivinice	NA.
Do.	Kakanj Group (Elektroprivreda BiH, 100%)	Vrtliste opencast mine at Kakanj	NA.
Do.	do.	Haljinici underground mine about 5 kilometers southeast of Kakanj	NA.
Do.	Breza Group (Elektroprivreda BiH, 100%)	Sretno and Kamenice underground mines 20 kilometers northwest of Sarajevo	NA.
Do.	Abid Lolic Group (Elektroprivreda BiH, 100%)	Grahovcici underground mine 10 kilometers west of Zenica	NA.
Do.	Tusnica	Drage opencast mine at Livno	NA.
Do.	Rudnik i Termoelektrana Ugljevik (Elektroprivreda Republike Srpske, 100%)	Opencast mine at Ugljevik	NA.
Lignite	Kreka Group (Elektroprivreda BiH, 100%)	Opencast mine at Dubrave	NA.
Do.	do.	Opencast mine at Sikulje	NA.
Do.	do.	Underground mines at Mramor, about 5 kilometers northeast of Lukavac, and Bukinje, located between Tuzla and Lukavac	NA.
Do.	EFT Rudnik i Termoelektrana Stanari d.o.o. (EFT Group)	Stanari opencast mine 20 kilometers west of Doboj	1,100. ^e
Do.	Rudnik I Termoelektrana Gacko (Elektroprivreda Republike Srpske, 100%)	Opencast mine at Gacko	NA.

See footnotes at end of table.

TABLE 2—Continued
BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity	Location of main facilities	Annual capacity
Coal—Continued:			
Lignite—Continued	Gracanica Group (Elektroprivreda BiH, 100%)	Dimnjace opencast mine at Gornji Vakuf-Uskoplje	NA.
Do.	Tusnica Mine	Opencast mine at Livno	NA.
Coke	Global Ispat Koksa Industrija d.o.o. Lukavac (Global Steel Holdings and Coke and Chemical Conglomerate)	Lukavac	700.
Do.	ArcelorMittal Zenica (ArcelorMittal S.A.)	Plant at Zenica	NA.
Ferroalloys, ferrosilicon	Steelmin Ltd., 80%	Plant at Jajce	25.
Do.	B.S.I. d.o.o. (Metalleghe S.p.a.)	do.	20.
Iron ore	ArcelorMittal Prijedor (ArcelorMittal S.A., 51%, and Rudnici Zeljezne Rude "Ljubija" a.d. Prijedor, 49%)	Buvac open pit mines at Ljubija	2,100.
Lead-zinc ore	Gross d.o.o. Gradiska	Sase Mine and mill at Srebrenica	280. ²
Petroleum, refined	thousand 42-gallon barrels Rafinerija nafte Brod a.d. (OAO "NefteGazInkor," 80%)	Oil refinery at Bosanski Brod	30,000.
Do.	Rafineriji ulja Modriča a.d. Modriča (OAO "NefteGazInkor," 77%)	Oil refinery at Modriča	NA.
Pig iron	ArcelorMittal Zenica (ArcelorMittal S.A.)	Blast furnace at Zenica	NA.
Salt	Rudnik Soli Tuzla d.d.	Tuzla	NA.
Steel, crude	ArcelorMittal Zenica (ArcelorMittal S.A.)	Plant at Zenica	1,000.
Steel, crude, secondary	Jelsingrad Livar Steel Foundry a.d.	Banja Luka	NA.
Steel, semi-manufactured products	ArcelorMittal Zenica (ArcelorMittal S.A.)	Plant at Zenica	NA.

⁶Estimated. Do., do. Ditto. NA Not available.

¹The company entered bankruptcy in 2013.

²Gross weight of ore.