



# 2009 Minerals Yearbook

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**BOSNIA AND HERZEGOVINA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF BOSNIA AND HERZEGOVINA

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Bosnia and Herzegovina was not a major world or regional producer of minerals or mineral products. Aluminum, coal, petroleum products, and steel were the most significant mineral products in the country in terms of their production value and the number of people employed in producing them.

## Minerals in the National Economy

Bosnia and Herzegovina's gross domestic product (GDP) decreased in real terms by 2.9% compared with the GDP in 2008. The value of mining and quarrying output decreased by about 8% and accounted for only about 2% of the GDP. Manufactured basic metals made up about 13.7% of the value of exports and was the single largest export category; mining and quarrying made up about 1.9% of the value of exports. Imports of petroleum and natural gas made up 6.5% of the value of all imports, and imports of coke and refined petroleum products, about 6.1% (Agency for Statistics of Bosnia and Herzegovina, 2010a, p. 6-7; b, p. 1, 7).

## Production

In 2009, significant decreases in production took place for most mineral commodities in Bosnia and Herzegovina compared with production in 2008. Production decreases were mainly the result of lower demand for mineral commodities owing to the world economic crisis. Also, in January, some mineral production facilities were forced to suspend operations for a short period of time when supplies of natural gas were halted owing to the dispute between Russia and Ukraine over gas payments and the resulting suspension of natural gas transit through Ukraine. The natural gas crisis had only a small effect compared with that of general economic conditions, however. Bauxite production decreased by 45%; lead ores and concentrate, by 37%; alumina, by 35%; ferroalloys and zinc ores and concentrate, by 28% each; aluminum, by 22%; and crude steel, by 15%. Production of barite, bentonite, dolomite, graphite, gypsum and anhydrite, kaolin, and some categories of dimension stones decreased by more than 40% each, and production of cement, crushed stone, gravel, granite, and limestone, and silica sand decreased by over 20% each. Production of refined petroleum products increased by 866% and production of pig iron increased by 99% as production facilities for these two products operated for their first full year after restarting production in 2008 (table 1; Mudeva and Tanner, 2009).

## Structure of the Mineral Industry

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

## Commodity Review

### Metals

**Bauxite and Alumina and Aluminum.**—In 2009, production of aluminum declined significantly owing to the drop in demand for metals as a result of the world economic crisis. In 2007, a consortium led by Glencore International AG of Switzerland was selected as the winning bidder for the 88% share of primary aluminum producer Aluminij d.d. Mostar (Aluminij) that was one-half owned by the Government of Bosnia and Herzegovina and one-half owned by Aluminij. Throughout 2009, the sale of the shares continued to be delayed by the consortium's condition that the Government guarantee a reduced rate for the supply of electricity, and the sale was still being negotiated at yearend (Zuvela, 2010).

**Iron and Steel.**—Production data for iron ore in table 1 have been significantly revised. In previous reports, iron ore production for the years 2005 through 2007 represented both nonagglomerated iron ores and agglomerated iron ores produced from the nonagglomerated iron ores, which resulted in double counting of iron ore products produced. Production data for years before 2005 did not have this problem. The production series in this report shows only nonagglomerated iron ores.

The iron and steel industry in Bosnia and Herzegovina was negatively affected by the world economic crisis and the resulting reduction in demand for steel products. In the beginning of April, iron ore miner ArcelorMittal Prijedor announced that it would suspend all its 700 employees at 55% of their regular pay and ArcelorMittal Zenica announced that it would suspend 40% of its 3,850 employees. Iron ore production reported by the Government did not decrease significantly, so ArcelorMittal Prijedor may have decided not to suspend operations, but information was not available to confirm the company's final decision. The doubling of pig iron production was a result of the first full year of production at ArcelorMittal Zenica's blast furnace after it restarted operations in July 2008 (Sagolj and Sito-Sucic, 2009; ArcelorMittal S.A., 2010).

### Mineral Fuels

Production of petroleum refinery products increased by almost 10 times because the reconstructed oil refinery Bosanski Brod operated for its first full year after restarting production on November 27, 2008, following nearly 3 years of inactivity. Russian state-owned company JSC Zarubezhneft had purchased the Bosanski Brod refinery in February 2007 and invested approximately \$60 million<sup>1</sup> to restart production. The crude

<sup>1</sup>Where necessary, values have been converted from European Union euros (€) to U.S. dollars (US\$) at the rate of €0.68=US\$1.00.

oil processing capacity was initially 1.2 million metric tons per year (Mt/yr), and Zarubezhneft intended to make further investments to increase the processing capacity to 4.2 Mt/yr (JSC Zarubezhneft, 2008).

## Outlook

Bosnia and Herzegovina's mineral industry will probably continue to be a relatively small producer of minerals and mineral products, and aluminum, steel, and petroleum products are expected to remain important export products for the country. Increases in the production of mineral commodities will most likely depend on the recovery of the world economy.

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TABLE 1  
BOSNIA AND HERZEGOVINA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2005	2006	2007	2008	2009	
<b>METALS</b>						
Alumina	447,260	393,580	303,799	294,455	191,792	
Aluminum:						
Primary	120,000	121,000	121,750	123,000	96,000	
Unwrought aluminum, including alloys	131,232	136,190	147,193	155,903	130,042	
Bauxite	1,031,618	854,047	866,933	1,018,333	555,820	
Iron and steel:						
Ore and concentrate:						
Gross weight	1,670,697 <sup>r</sup>	1,888,091 <sup>r</sup>	1,613,963 <sup>r</sup>	1,481,730 <sup>r</sup>	1,614,890	
Fe content <sup>e</sup>	702,000 <sup>r</sup>	793,000 <sup>r</sup>	678,000 <sup>r</sup>	622,000 <sup>r</sup>	678,000	
Metal:						
Ferroalloys, ferrosilicon	15,000 <sup>e</sup>	14,747	13,305	14,216	10,290	
Pig iron <sup>e</sup>	-- <sup>r</sup>	-- <sup>r</sup>	-- <sup>r</sup>	243,000 <sup>3</sup>	482,469 <sup>3</sup>	
Crude steel	289,000	490,000	533,000	608,000	519,000	
Lead:						
Ores and concentrate, gross weight	2,309	1,152	4,677	6,029	3,781	
Pb content <sup>e</sup>	1,300	600	2,600	3,300	2,100	
Metal, smelter, secondary	79	33	1	46	35	
Zinc:						
Ores and concentrate, gross weight	4,759	902	4,799	8,595	6,228	
Zn content <sup>e</sup>	2,600 <sup>r</sup>	500 <sup>r</sup>	2,600 <sup>r</sup>	4,700 <sup>r</sup>	3,400	
<b>INDUSTRIAL MINERALS</b>						
Barite	160	190	37	54	30	
Cement	1,025,540	1,226,319	1,283,357	1,406,373	1,073,762	
Clays:						
Bentonite	24,882	24,645	32,912	30,504	16,042	
Ceramic clay, crude <sup>e</sup>	14,553 <sup>3</sup>	15,000	15,000	15,000	15,000	
Kaolin, crude	14,500	69,643	188,033	259,325	148,384	
Dolomite, crude	128,639	109,693	154,518	134,991	69,705	
Graphite	--	387,838	393,762	272,084	133,819	
Gypsum and anhydrite	152,939	131,936	154,294	150,039	74,302	
Lime	186,000	218,121	237,190	215,787	280,939	
Nitrogen, N content of ammonia <sup>e</sup>	500	500	500	500	500	
Salt, all sources	392,240	416,305	502,487	555,122	556,089	
Sand and gravel:						
Gravel	1,471,857	1,593,553	1,790,913	1,475,433	938,253	
Sand, construction	574,490	20,835	98,267	175,527	156,128	
Silica sand	119,831	711,399	671,336	702,018	501,175	
Sodium compounds:						
Caustic soda <sup>e</sup>	11,424 <sup>3</sup>	12,156 <sup>3</sup>	12,200	12,200	12,000	
Sodium bicarbonate	9,616	9,288	13,287	19,441	21,944	
Stone:						
Dimension:						
Marble and travertine	2,552	2,664	6,049	5,785	6,358	
Ecaussine and other calcareous stone	88,364	145,666	96,943	181,493	64,186	
Granite	18,181	20,741	24,512	23,764	18,755	
Porphyry, basalt and other stone	27,709	12,196	188,822	188,410	95,498	
Slate	3,092	5,735	2,572	2,181	3,561	
Crushed	3,049,920	3,035,727	2,901,891	4,370,598	3,444,518	
Limestone, crushed and powdered	1,343,896	1,724,879	1,639,430	2,403,270	1,829,989	
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Brown coal and lignite	thousand metric tons	9,144	9,965	9,765	11,244	11,515
Coke		456,221	468,443	592,471	576,785	609,377
Petroleum refinery products <sup>e,4</sup>	42-gallon barrels	878,000	86,400	91,000	853,000 <sup>r</sup>	8,240,000

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>r</sup>Revised. -- Zero.

<sup>1</sup>Table includes data available through September 30, 2010.

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

<sup>3</sup>Reported figure.

<sup>4</sup>Figures were converted to barrels from production in metric tons, which was reported as the following: 2005—109,782; 2006—10,797; 2007—11,379; 2008—106,568 (revised); and 2009—1,029,585.

TABLE 2  
BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 2009

(Thousand metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina	Alumina Factory Birac a.d. (Ukio Banco Investment Group)	Plant at Zvornik	600
Aluminum	Aluminij d.d. Mostar	Smelter at Mostar	135
Bauxite	A.D. Boksit Milici	Mine at Milici, west of Srebrenica	NA
Do.	Rudnici Boksita Jajce d.d.	Mine at Jajce	NA
Cement	Tvornica Cementa Kakanj d.d. (Heidelberg)	Plant at Kakanj	NA
Do.	Fabrika Cementa Lukavac, d.o.o.	Plant in Lukavac	NA
Coal:			
Brown	RMU Banovici	Opencast mines at Cubric, Grivice, and Turija; underground mines at Omazici and Separacija	NA
Do.	Zenica Group	Stara Jama, Raspotocje, and Stranjani Mines at Zenica	NA
Do.	Durdevik Group	Potocari and Visca II opencast mines and Durdevik underground mine south of Zivinice	NA
Do.	Kakanj Group	Vrtliste opencast mine at Kakanj	NA
Do.	do.	Haljinic underground mine about 5 kilometers southeast of Kakanj	NA
Do.	Breza Group	Sretno and Kamenice underground mines 20 kilometers northwest of Sarajevo	NA
Do.	Abid Lolic Group	Grahovcici underground mine 10 kilometers west of Zenica	NA
Do.	Tusnica Mine	Drage opencast mine at Livno	NA
Do.	Elektrokrajina a.d.	Opencast mine at Ugljevik	NA
Lignite	Kreka Group	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 Dobož	NA
Do.	Elektrokrajina a.d.	Opencast mine at Gacko	NA
Do.	Gracanica Group	Dimnjace opencast mine at Gornji Vakuf-Uskoplje	NA
Do.	Tusnica Mine	Opencast mine at Livno	NA
Coke	Global Ispat Koksa Industrija doo Lukavac	Lukavac	700
Do.	ArcelorMittal Zenica (ArcelorMittal S.A., 92%)	Plant at Zenica	680
Ferroalloys, ferrosilicon	Elektrobosna, Elektrohemijska i Eletrotermijska Industrija	Plant at Jajce	NA
Do.	B.S.I. d.o.o. (Metalleghes p.a.)	do.	15
Iron ore	ArcelorMittal Prijedor (ArcelorMittal S.A., 51%)	Jezero and Buvac open pit mines at Ljubija	NA
Lead-zinc ore	NA	Mine and mill at Srebrenica	NA
Manganese ore	Rudnik Mangana Buzim (LM IMPEX)	Mine and concentrator at Buzim	NA
Petroleum, refined	Bosanski Brod refinery (JSC Zarubezhneft)	Oil refinery at Bosanski Brod	1,200
Do.	do.	Oil refinery at Modrica	NA
Pig iron	ArcelorMittal Zenica (ArcelorMittal S.A., 92%)	Blast furnace at Zenica	NA
Salt, rock	Hemijski Kombinat "Sodaso," Rudnik Soli i Solni Bunari	Mines at Tusanj	NA
Do.	do.	Production from brine at Tuzla	NA
Steel, crude	ArcelorMittal Zenica (ArcelorMittal S.A., 92%)	Plant at Zenica	1,000
Steel, crude, secondary	Jelsingrad Livar Steel Foundry a.d.	Banja Luka	NA
Do., do. Ditto.	NA	Not available.	