

MACEDONIA

*By Walter G Steblez
US Geological Survey*

The economy of the Former Yugoslav Republic of Macedonia continued to recover in 2003 in the aftermath of the ethnic conflicts and social tension two years earlier. GDP grew by 3.1% and industrial production rose by 4.7%. Output by the mining and quarrying sector, however, declined by about 39% in terms of value.

Copper and lead-zinc ores are Macedonia's main nonferrous metal ores, lead-zinc ores having a more significant economic role. Lead-zinc resources amount to some 44 Mt with average grades of about 5.8% Pb, 4.3% Zn and 37 g/t Ag. Total mining capacity is rated at about 2.5 Mt/y. In 2003, there were proposals to develop mining operations sufficient to provide about 78% of the concentrates needed to feed existing smelters. The concentrate feedstocks (lead, zinc and lead-zinc) shipped to the smelter would yield about 54,000 t/y of lead, and about 38,000 t/y zinc. Smelting and refining facilities (Imperial process) at MHK Zletovo in Veles, apart from lead-zinc production, also produced such associated metals as cadmium, gold, and silver. Other nonferrous metals included antimony, arsenic, manganese and nickel.

In 2003, Macedonia's lead-zinc mining and processing industry faced several stoppages stemming from pollution-related closures, raw material shortages, and financial difficulties. In March 2003, the government closed Zletovo's smelter/refinery and chemicals facilities, citing these facilities as major point sources of pollution, especially with respect to cadmium and sulphur dioxide. The closure of Zletovo's production facilities not only had a negative impact on the three mines that were producing the feedstock but also disrupted the battery production in Veles. After reopening in August, Zletovo closed again in October, largely as a result of financial problems and raw materials shortages.

In 2003 and 2004, the Government of Macedonia included its lead-zinc mines in the national privatisation programme. Located close to the border with Bulgaria, the Rudnici Zletovo (Probistop), Toranica (Kriva Palanka) and Sasa (Makendonska Kamenica) mines have rated annual ore production capacities of 600,000 t, 450,000 t and 750,000 t, respectively. Total reserves of contained lead at the three mines were reported to be about 385,000 t, and those of zinc about 310,000 t. The mines provided their ore and concentrate to the Zletovo smelter/refinery. The government has indicated that past environmental liabilities will be the responsibility of the state. The privatisation process, which was launched in 2003, stipulated that bids were to be accepted by April 2004.

Copper is produced by Semc-Corp at the Bucim mine in Radovis. Porphyry copper ore averaging 0.3% Cu is mined by open pit based on a total reserve of about 85 Mt. In 2003, copper production declined by about 50% to some

4,000 t and exports of concentrate were halted. Bucim was listed among the major 'environmental hot spots' in Macedonia by the United Nations in 2000.

The production downturns for copper, lead and zinc, affected the performance of the entire metals-mining sector, which registered an overall output reduction of 81% compared with 2002. Exports of nonferrous metals amounted to about US\$40.7 million, which represented a year-on-year decline of some 44%. Imports of nonferrous metals amounted to about US\$21 million - a decline of some 12%. Total exports of metal ores and scrap declined by about 28%, whereas total imports more than tripled.

Macedonia's steel production is based entirely on scrap-fed EAFs at the Makstil AD steel mill in Skopje (a Duferco subsidiary). Makstil's slab output in 2003 amounted to 291,354 t, an increase of 30%, and approached the enterprise's full capacity of 300,000 t/y. Output of steel plate increased by about 16% to 305,111 t. Exports of steel in 2003 were valued some US\$251 million, and were more than 60% higher than in 2002. A study for raising scrap delivery efficiency was undertaken in 2003 under the IFC's Southeast Europe Enterprise Development Programme (SEED). Best practices (environmental and financial) were to be assessed for collecting scrap.

Macedonia continued to produce bentonite, feldspar, gypsum, sand and gravel, stone (carbonate and silicate), as well as cement and other construction materials mainly for export. In 2003, the industrial minerals mining sector increased production by more than 53%, and industrial minerals and steel should increase in importance to Macedonia's economy as they will be needed in reconstruction projects covering infrastructure and housing.

Lignite mining and petroleum refining were the only industries in Macedonia's mineral fuels sector. Lignite production in 2003 amounted to about 8.4 Mt. Imports of coal, coke and coal briquettes in 2003 were valued at about US\$23.4 million, which was an increase of about 87% compared with imports during the preceding year. Domestic mining supplies about 70% of the fuel for the Bitola coal-fired electric power station, which supplies about 70% of the country's electricity needs. Lignite resources, however, could be exhausted by 2010 at the present rate of production.

Table following page.

Table over two pages**Macedonia: Estimated mineral production ^{1/}****(t unless stated otherwise)**

Commodity	2001	2002	2003
Metals			
Copper, mine/concentrator output:			
Concentrate, Cu content	9,000	5,600	4,000
Gold (kg)	500	500	400
Iron and steel:			
Metal:			
Ferroalloys:			
Ferronickel (30% Ni), gross weight	10,300	17,000	17,000
Ferrosilicon	60,000	60,000	60,000
Silicon	--	--	--
Total	60,000	77,000	77,000
Steel, crude	217,758	224,601	291,354
Semimanufactures	296,279	261,886	305,111
Lead:			
Mine output:			
Ore gross weight (Pb-Zn ore)	600,000	200,000	40,000
Concentrate, Pb content	20,000	15,000	2,600
Primary and secondary			
Refined	19,700	19,800	6,400
Nickel, metal, Ni content of FeNi	3,100 ^r	5,100	5,000
Silver	Kg 15,000	12,000	10,000
Zinc:			
Concentrate, Zn content	20,000 ^r	10,000	--
Metal:			
Refined, primary and secondary	52,000 ^r	38,000	15,100
Industrial Minerals			
Cement	'000 t 630	600	630
Clays, bentonite	3,000	3,000	3,000
Diatomite	5,000	5,000	5,000
Feldspar	20,449	21,000	21,000
Gypsum:			
Crude	20,000	20,000	20,000
Calcined	3,000	3,000	3,000

Mining Annual Review 2004

Pumice and related materials, volcanic tuff	50,000	50,000	50,000	
Talc:				
Crude	800	800	800	
Washed	557	550	550	
Mineral Fuels				
Lignite	'000 t	8,106	8,640	8,360
r/ Revised. -- Zero.				
1/ Table includes data available through May 2004.				