

THE MINERAL INDUSTRY OF

SLOVAKIA

By Walter G. Steblez

By European standards, Slovakia's production of ferroalloys, iron and steel, nonferrous metals, and mineral fuels, such as coal and petroleum, was modest. The country, however, was a significant regional producer of a broad range of industrial minerals for domestic and export markets. In 1994, the transformation of Slovakia's economy from a system of central economic planning to a market-based system continued with attendant elements, such as declining employment, industrial production, and volume of foreign trade. On the other hand, a substantial number of the country's enterprises reportedly had been privatized. Foreign investment in Slovakia's commercial operations in 1994 reportedly also was significant. The Government of Slovakia continued to implement policies and programs concerned with denationalizing and rationalizing the economy, but some reforms were implemented at a generally slower pace than that adopted in the neighboring Czech Republic. Apart from the domestic privatization program through the Government's State Property Fund, the Government of Slovakia continued to encourage foreign investment in the country's mineral and other industrial projects by allowing joint ventures and the full acquisition of former state-owned properties.²

Industry-generated environmental pollution, including that associated with the minerals sectors, remained an important issue for the country in 1994. As in other former centrally planned economy countries of Europe, severe air pollution in Slovakia has been caused by the use of high-sulfur, low-grade coal and lignite to power the country's thermal electric power stations and by the country's chemical and metallurgical industries. According to sources in the Ministry of the Environment (MoE), efforts were to continue to further reduce the emission of sulfur dioxide into the atmosphere. Data, made available by the MoE, indicated that from 1980-92 the emission of sulfur dioxide had been reduced by 45% to 50%.³

Despite the division of former Czechoslovakia into separate countries, legislation adopted since 1990 to protect the environment has remained operative. CSFR (Federated Republic of Czechoslovakia) Law No. 309/91 on the Protection of the Atmosphere from Polluting Substances (9/91) codified regulations concerning air pollution; defined sources of pollution and set pollution limits; defined legal obligations of pollution source operators; and defined air pollution control authorities and fees and penalties associated with atmospheric pollution. Czechoslovak Law on

Environment of 12/91 established the basic definitions and principles regarding environmental protection as well as the obligations of "legal and physical persons (bodies)" for protecting the environment during the use of natural resources.

In 1994, a consortium of German and Slovak companies formed Ekospol Ltd., an environmental engineering joint venture, to work in the field of waste water purification, waste incineration, and related environmentally remedial activities. During the year, an agreement also was reached between Slovakia and Austria to exchange monitored radiation data obtained in each country as part of an effort to gauge radiation levels in the region.

Following major economic adjustments to market economy requirements in 1992, the drop in output of most mineral commodities in Slovakia appeared to have slowed considerably by 1994. The reduced rate of production in 1993-94 also was partially the outcome of a more cautious approach to implementing market economy reforms by the country's political leadership. (*See table 1.*)

Despite the increasing orientation of the country's foreign commerce toward Western European market economy countries in recent years, Russia and other former member-countries of the Council for Mutual Economic Assistance (CMEA) remained Slovakia's chief partners in mineral commodity trade. Russia remained Slovakia's principal supplier of natural gas and petroleum, and Hungary and Ukraine, respectively, were major suppliers of bauxite and iron ore to Slovakia's metal industries. Table 2 lists the administrative bodies as well as subordinate production units of the main branches of the country's mineral industry in 1993.

Major activities and issues in the metals sector of Slovakia's minerals industry in 1994 included an initial installment of funds from the European Bank for Reconstruction and Development (EBRD) for Slovakia's aluminum works at Ziar nad Hronom, Zavod Sloven- skeho Narodneho Povstania (ZSNP), to complete the construction of a new 132,000-metric-ton-per-year (mt/a) smelter. The entire amount of the loan for this project was to be US\$110 million. Additionally, the EBRD and Norsk Hydro of Norway agreed to directly invest US\$30 million in ZNSP for equity shares in the company amounting to 10% for each investor.⁴

Reportedly, Keylock Resources Inc. of Canada continued

to perform survey work for gold at the Banska Rozalia Mine in the Banska Hodrusa-Hamre region. In 1993, Hodrusa Ore Mines (Hodrusa), the state-owned mining operation in central Slovakia, announced plans to form a joint venture with Keylock Resources Inc. (Keylock) of Calgary, Canada, to mine gold in the central part of the country. Hodrusa, a producer of copper, gold, and silver, upon achieving full privatization in 1994, intended to sell 50% of its shares to Keylock. Reportedly, Keylock already had financed experimental drilling at the Rozalia Mine at Banska Bystrica that produced about 66 kilograms (kg) of gold in 1992. During the first quarter of 1994, Keylock's exploratory workings at the Banska Rozalia Mine apparently was yielding between 10 and 15 kg of gold per month.⁵

To ensure secure long-term supplies of iron ore, the VSZ Kosice integrated steelworks agreed to complete the construction of the Dolinskaya iron ore mining and processing complex at Krivoy Rog in the Ukraine. The agreement, signed in February 1994, was to allow as many as 1,500 workers and specialists from Slovakia to take part in the Dolinskaya project.

Industrial minerals and construction materials continued to have a significant role in the country's domestic and export markets. Slovakia's chief industrial mineral products included cement, gypsum, lime, magnesite, perlite, and stone. The trend in Central Europe of denationalizing and allowing foreign ownership of cement plants continued in Slovakia in 1994 as the Povazske Cement Works in Ladce reportedly sold 67% of its shares to Muska Zement of Germany (Muska).⁶ Muska was selected from among a number of bidders by setting the highest purchasing price offer at about US\$12 million and promising to raise output at Povazske Cement Works from 450,000 mt/a to 600,000 mt/a. The demand for cement, industrial minerals, and construction materials appeared to be increasing because of growing large-scale projects involving both infrastructural modernization and proposed new projects, such as a new highway to Western Europe; a major land port near Kosice, which would include railway reloading and storage facilities, and associated services; and a new truck terminal in Bratislava.

In 1993, the Government approved a plan for the country's coal mining industry. Under the provisions of this plan, the Ministry of Industry would oversee the privatization of the coal mining sector beginning in 1994, but would impose stricter regulations requiring compliance with environmental regulations by industry than had been previously the case. It was envisaged that annual coal production would be maintained at slightly more than 4 million metric tons (Mmt), but that the country's annual consumption of coal would eventually decrease from about 11 Mmt to slightly more than 6 Mmt.

Taking into account Slovakia's transition to a market economy, the country's mineral reserves would have to be reevaluated under market economy conditions. As defined in market economy countries, reserves are those mineral deposits that can be mined at a profit under existing conditions with existing technology. In former CMEA countries, including Slovakia, the prior policies for centrally planned industrial development often had more to do with political than economic considerations.

Slovakia's mineral industries were expected to continue to supply the country with steel, industrial minerals, and mineral fuels that gain importance during the modernization of the infrastructure and the transition of the economy to a market system.

¹Text prepared Aug. 1995.

²BBC SWB. EEW/0323, Mar. 10, 1994, p. WA/2; from Press Agency of the Slovak Republic 1355 gmt, Feb. 28, 1994.

³———. EEW/0338, June 23, 1994, p. WA/6; from TASR News Agency, Bratislava, 1004 gmt, June 13, 1994.

⁴Mining Magazine. (London), Sept. 1994, p. 169; and, AluNews (Hydro Aluminium). No. 3, Oct. 1993, p. 2.

⁵BBC SWB. EEW/0324, Mar. 17, 1994, p. WA/4; from TASR News Agency, Bratislava, 1949 gmt, Mar. 7, 1994.

⁶———. EEW/0321, Feb. 24, 1994, p. WA/2; from Slovakia 1 radio Bratislava, 1900 gmt, Feb. 17, 1994.

Major Source of Information

GEOFOND, Bratislava, Slovakia

TABLE I
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity		1990	1991	1992	1993	1994	e/
METALS							
Aluminum:							
Alumina		175,000	187,000	143,000	140,000	75,000	
Aluminum ingot, primary		30,100	49,400	60,400	60,000	30,000	
Antimony, mine output, Sb content e/		400	450	450	450	400	
Cobalt metal		59	60	68	--	--	
Copper:							
Mine output:							
Ore, gross weight		339,000	225,000	340,000 r/	310,000 r/	290,000 3/	
Concentrate:							
Gross weight		13,500	11,300	2,210	2,000	2,000	
Cu content e/		3,100	2,600 3/	537	500	500	
Metal:							
Smelter, primary e/		4,300	3,500	3,000	3,000	3,000	
Refined, primary and secondary		24,600	25,300	28,100	28,000	25,000	
Gallium metal	kilograms	1,350 e/	1,400 e/	1,300	1,300	600	
Gold metal e/	do.	18	18	18	18	15	
Iron and steel:							
Iron ore:							
Gross weight	thousand tons	1,730	1,630	1,220 r/	920 r/	860 3/	
Fe content	do.	480 e/	460 e/	330 r/	250 r/	230	
Metal:							
Pig iron	do.	3,560	3,160	3,020	3,210 r/	3,330 3/	
Ferrous alloys, total electric furnace	do.	169	162	122	120	120	
Ferromanganese		37,200 r/	41,200 r/	52,500 r/	50,600 r/	48,500 3/	
Crude steel	thousand tons	4,780	4,110	3,600 r/	3,770 r/	3,790 3/	
Semimanufactures	do.	3,520	3,280	3,130 r/	3,320 r/	3,380 3/	
Lead, mine output:							
Concentrate, gross weight		3,850	4,630	3,500	3,500	3,500	
Pb content e/		2,000	2,400	1,800	1,800	1,800	
Mercury		124	75	60	50	50	
Nickel metal, primary		2,970 e/	2,400	1,620	--	-- 3/	
Tin-tungsten ore, gross weight	thousand tons	120 e/	120	160	190	190 3/	
Zinc:							
Mine output:							
Ore, gross weight		212,000	250,000 r/ e/	370,000	300,000	280,000 3/	
Concentrate, gross weight		5,160	6,850	6,900	6,500	6,500	
Zn content e/		2,300	3,100	3,100	2,900	2,800	
Metal, secondary		978	811	1,070	1,000	1,000	
INDUSTRIAL MINERALS							
Barite		87,000 e/	85,000	31,300	30,000	25,000	
Cement, hydraulic	thousand tons	3,780	2,680 e/	2,500	2,500	2,500	
Clays:							
Bentonite e/		29,000	25,000	25,000	25,000	25,000	
Kaolin		26,000 e/	25,000 e/	25,000	25,000	2,500	
Diamond, synthetic e/	carats	5,000	5,000	5,000	5,000	5,000	
Dolomite	thousand tons	4,650 e/	4,500 e/	4,500	4,500	4,000	
Fertilizer, manufactured:							
Nitrogenous, N content		269,000	175,000	175,000	170,000	170,000	
Phosphatic, P ₂ O ₅ content		111,000	122,000	120,000	120,000	120,000	
Potassic, K ₂ O content		54,500	11,500	11,000	10,000	10,000	
Mixed		247,000	55,700	50,000	50,000	50,000	
Gypsum and anhydrite, crude		102,000	75,000	75,000	75,000	70,000	
Lime, hydrated and quicklime	thousand tons	1,070	1,080	1,070	1,070	1,000	
Magnesite, crude		561,000	328,000	1,270,000	1,200,000	1,200,000	
Nitrogen: N content of ammonia e/		250,000	200,000	250,000	263,000	250,000	
Perlite		54,000 e/	50,000	50,000	50,000	45,000	
Pyrite, gross weight e/		100,000	100,000	100,000	100,000	100,000	
Salt		93,000	74,000	70,000	70,000	70,000	
Stone:							
Limestone and other calcareous stones	thousand tons	6,490	4,210	4,500	4,500	4,500	
Quarry stone, not further described	thousand cubic meters	8,390	5,200	5,000	5,000	5,000	
Zeolite		26,000 e/	25,000 e/	25,000	25,000	25,000	
MINERAL FUELS AND RELATED MATERIALS							
Coal, brown and lignite	thousand tons	4,770	4,150	4,000	3,500	3,800	
Coke:							
Metallurgical	do.	2,010	1,840	1,800	1,880 r/	1,900 3/	
Unspecified	do.	335	331	300	300	200	
Gas, manufactured, coke oven	million cubic meters	981	912	900	900	900	
Petroleum:							
Crude:							
As reported	thousand tons	73	72	70	70	70	
Converted	thousand 42-gallon barrels	495	488 e/	475	475	475	

See footnotes at end of table.

TABLE 1--Continued
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1990	1991	1992	1993	1994	e/
MINERAL FUELS AND RELATED MATERIALS--Continued						
Refinery products e/	do.	40,000	40,500	40,500	40,500	40,500

e/ Estimated.

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits.

2/ Table includes data available through July 1995. In addition to the commodities listed, arsenic, diatomite, feldspar, illite, sodium compounds, sulfur, sulfuric acid, and talc are produced, but information is inadequate to make reliable estimates of output.

3/ Reported figure.

4/ May include some FeCrSi and FeNi, if any was produced.

TABLE 2
SLOVAKIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand of metric tons unless otherwise specified)

Commodity	Major operating companies 1/	Location of main facilities 2/	Annual capacity
Aluminum	SNP Aluminum Works	Ziar and Hronom, central Slovakia	60
Antimony, ore	Liptovska Dubrava	Central Slovakia	50
Do.	Pezinok	West Slovakia	50
Smelter	Vajska	Central Slovakia	2
Cement	Lietavska Lucka, Stupava, and Turna	Slovakia	5,400
Coal:			
Brown	ULB administration	Prievidza, central Slovakia	6,800
Copper:			
Ore	Slovinky, Hodrusa-Hamre, and Rudnany	Central Slovakia	500
Refinery	Krompachy	Central Slovakia	27
Galium	kilograms SNP Aluminum Works	Ziar and Hronom, central Slovakia	4,000
Iron:			
Ore	Nizana Slana and Rudnany	Central Slovakia	1,600
Concentrate	do.	do.	1,300
Lead-zinc, ore	Banska Stiavnica	Central Slovakia	200
Magnesite	SMZ administration	East Slovakia	550
Mercury	metric tons Dubnik, Malachov, and Rudnany	Central Slovakia	150
Nickel, smelter	Niklova Huta	Sered, south Slovakia	5
Petroleum:			
Refinery	Bratislava, Strazske, and Zvolen	Slovakia	NA
Steel, crude	Vychodoslvenske Zeleziarne sp (East Slovak Iron and Steel Works)	Slovakia, Kosice	4,000
Do.	Svermove zeleziarne	Slovakia, Podbrezova	600

NA Not available.

1/ All mining companies are Government owned.

2/ Names and locations of mines and crude oil refineries are identical.