

THE MINERAL INDUSTRY OF

SLOVENIA

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Slovenia was a modest producer of minerals within the framework of the minerals industry in the former Yugoslavia. Although industrial minerals and fossil fuels were produced to meet Slovenia's industrial requirements, the country was a net importer of many of these commodities. Reportedly, Slovenia had the most modern and technologically advanced fabricating industry among the republics of the former Yugoslavia and a per capita national income equal to about twice the average of the former Yugoslavia.

Following the dissolution of the Republic of Yugoslavia in 1991, the Government of Slovenia focused its efforts to limit economic dislocations, in terms of employment, production, and foreign commerce. Concurrently, the Government sought to limit the rate of inflation and to bring the country's economy in line with Western European market practices. Enterprises in the country's mineral industries no longer were required to produce at all costs, as many of them did under central planning in the former Yugoslavia. Closure of unprofitable operations reportedly would be continued as had been the case with mercury and uranium mining. Also, the Government reportedly attempted to create financial incentives for foreign investors relative to the country's steel industry.

Major concern over environmental issues in Slovenia reportedly had warranted the inclusion of provisions for protecting the environment in the country's new constitution. The constitution stressed the importance of protecting the environment and defined the Government's role in controlling the quality of the country's environment. In 1993, a draft of the Environmental Protection Law outlined the Government's general policies for protecting the environment and specified systems for commercial natural resource use, the establishment of an inspection directorate, and the establishment of provisions for monitoring, environmental impact assessments, and research. The Slovenian Ministry of Environmental Protection and Physical Planning was established to undertake this work. Major sources of pollution included the use of lignite and brown coal, nonferrous metals processing, and the petrochemical sectors.

The production table for Slovenia was compiled from data presented in "Statistichni Letopis Republike Slovenije" (The Statistical Abstract of the Republic of Slovenia) for 1993 and in a variety of earlier statistical publication of the former Yugoslavia through 1991. (*See table 1.*)

The former domestic Yugoslav market was an important element in Slovenia's mineral trade. With the dissolution of

Yugoslavia, commerce with the country's former domestic trading partners became classified as foreign trade. Moreover, most trade with Slovenia's former trading partners in the former republics of Yugoslavia had become untenable because of the civil wars in the Republics of Bosnia and Herzegovina and Croatia in 1991-93. Additionally, international trade embargoes were levied against Serbia and Montenegro of the former Yugoslav federation, which also were Slovenia's traditional commercial partners. Consequently, Slovenia oriented its trade to a greater degree toward markets in the European Union.

Table 2 lists the apparent administrative bodies as well as subordinate production units of the main branches of the country's mineral industry in 1993. (*See table 2.*)

Aluminum and steel were the major metal commodities produced in Slovenia. Slovenia produced alumina and aluminum at the refinery and smelter operated by Unial, Tivonica Glinice i Aliminija Boris Kidric in Kidricevo. Lacking a domestic bauxite mining industry, Slovenia in past years relied on other republics of the former Yugoslavia as suppliers of bauxite and other major minerals. Consequently, the need to obtain new sources of bauxite continued to be a concern for the country's aluminum industry.

Slovenia's steel industry consisted of three steel mills operated by Združeno Podjetje Slovenske Željezare at Jesenice, Ravna na Kuroskem, and Štore. The combined capacity at these facilities was about 800,000 metric tons per year (mt/a) of steel. Although open-hearth steel capacity at the Jesenice steel mill amounted to about 300,000 mt/a, only a small portion of this capacity had been utilized in recent years. More than 90% of the steel produced in the country was at electric furnaces at the three steel mills that used steel scrap as a feedstock. Ferroalloys were produced at the Tovarna Dusika Ruse ferroalloys plant. In recent years, the production of ferrosilicon was reported to have been reduced by 75% to about 4,000 mt/a; that of ferrochromium was reduced by about 50% to about 8,000 mt/a, one-half of which has been designated for export. The company reportedly also produced very small quantities of low-carbon ferrochromium and ferrosilicomanganese. Most of the company's ferrochromium production has been sold directly to the country's stainless steel producer, Slovenia Steel; some reportedly has been exported to Austria. On the other hand, the country's entire output of ferrosilicon has been consumed by its domestic steel producers.

Apart from being a substantial producer of glass sand (about 400,000 mt/a), Slovenia was a modest producer of clays, gypsum, ornamental stone, and other industrial minerals, mostly for domestic uses.

Slovenia was the only republic in the former Yugoslav federation to have produced all forms of commercial energy: coal, lignite, natural gas, petroleum, and uranium. The production of uranium, however, was discontinued in 1991. The country generated electricity by means of hydroelectric power stations and conventional as well as nuclear thermal electric power stations. In December 1993, the management of Elektrogospodarstvo Slovenije reportedly announced plans to close the country's nuclear power station at Krsko owing to a shortage of capital to operate the facility and the lack of a suitable location to store radioactive waste.

The transformation of Slovenia's economy to a market-based system will involve a reevaluation of the country's mineral resources from a market perspective. For a detailed description of the system that was used to measure reserves in the former Yugoslavia, see the chapter on the Mineral Industry of Russia in this series.

Slovenia had not been severely affected by the civil war that occurred in the former Yugoslavia, and the country's industries and infrastructure remained mostly intact. Because

of Slovenia's relatively advanced industry and infrastructure, the country has been adapting more easily to Western European economic practices than most other former centrally planned economy countries in Central Europe. The country's mineral industries, apart from the steel industry, will likely have even a smaller profile in the economy than in previous years.

¹Text prepared in Apr. 1995.

Major Sources of Information

Mining Institute of Ljubljana
Ljubljana, Slovenia

Major Publications

Rudarsko-Metalurški Zbornik (Mining and Metallurgy Quarterly for geology, mining, and Metallurgy) Ljubljana, Slovenia.

Statistični Letopis Republike Slovenije (Statistical Abstract of the Republic of Slovenia) Ljubljana, Slovenia.

TABLE 1
SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity 3/	1990	1991	1992	1993	1994 e/
METALS					
Aluminum:					
Alumina	83,000	48,000	45,000	40,000	40,000
Metal, ingot; primary and secondary	99,500	90,200	85,000	80,000	80,000
Iron and steel:					
Metal:					
Ferroalloys:					
Ferrochromium	16,700	12,500	17,100	9,000	9,000
Ferrosilicocalcium	835	500	400	200	200
Ferrosilicon	16,900	16,000	14,000	12,000	12,000
Crude steel:					
From electric furnaces	504,000	287,000	300,000	300,000	300,000
Semimanufactures e/	300,000	200,000	100,000	100,000	100,000
Lead:					
Mine and concentrator output:					
Ore, gross weight (Pb-Zn ore)	137,000	162,000	152,000	--	--
Pb content of ores	2,240	2,600	2,000	--	--
Concentrate, gross weight	2,740	2,500	1,770	--	--
Metal:					
Smelter, primary and secondary	23,700	15,000	6,000	6,000	6,000
Refined, primary and secondary	12,200	9,570	4,000	4,000	4,000
Mercury e/ kilograms	37,000	9,000	7,000	--	--
Silver do.	1,430	800	400	--	--
Uranium:					
Mine output, gross weight ore	80,500	--	--	--	--
Concentrate	58	--	--	--	--
U3O8 content e/	40	--	--	--	--
Zinc:					
Zinc content of PbZn ore	4,100	2,500	1,550	--	--
Concentrate output, gross weight	6,260	6,000	5,570	--	--
Zn alloys from smelter e/	3,000	3,000	2,500	2,500	2,500
INDUSTRIAL MINERALS					
Cement thousand tons	1,140	973	950	950	1,000
Clays: 3/					
Ceramic clay, crude	2,940	2,500	2,500	2,000	2,000
Fire clay, crude	3,120	3,000	3,000	3,000	3,000
Kaolin:					
Crude	13,600	15,000	15,000	10,000	10,000
Washed e/	5,000	5,000	5,000	4,000	4,000
Gypsum, crude e/	16,000	12,000	10,000	10,000	10,000
Lime thousand tons	472	350	250	250	300
Pumice and related materials, volcanic tuff e/	100,000	90,000	50,000	40,000	40,000
Quartz, quartzite, glass sand:					
Quartz and quartzite	11,400	12,000	10,000	10,000	10,000
Glass sand	390,000	350,000	300,000	200,000	200,000
Total	401,400	362,000	310,000	210,000	210,000
Salt, all sources e/	3,500	8,000	8,000	8,000	8,000
Sand and gravel, excluding glass sand thousand cubic meters	2,520	2,300	2,000	2,000	2,000
Stone, excluding quartz and quartzite: e/					
Dimension: Crude:					
Ornamental cubic meters	359,000	382,000	300,000	300,000	300,000
Other do.	3,500	3,000	3,000	3,000	3,000
Crushed and brown, n.e.s. thousand cubic meters	1,700	1,500	1,000	1,000	1,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Brown coal thousand tons	1,370	1,250	1,100	1,100	1,100
Lignite do.	4,210	3,910	4,000	4,000	4,000
Natural gas, gross producing million cubic meters	24	19	20	20	20
Petroleum:					
Crude:					
As reported thousand tons	2,550	2,400	2,400	2,400	2,400
Converted thousand 42gallon barrels	19,000	18,000	18,000	18,000	18,000
Refinery products e/ do.	4,700	3,800	3,800	3,500	3,500

e/ Estimated.

1/ Table includes data available through Apr. 1995.

2/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits; may not add to totals shown.

3/ In addition to commodities listed, common clay also was produced, but available information is inadequate to make reliable estimates of output levels.

TABLE 2
SLOVENIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Alumina	Unial, Tvoronica Glinice in Aluminija Boris Kidric	Plant at Kidricevo, Slovenia	120
Aluminum	Unial, Tvoronica Glinice in Aluminija Boris Kidric	Smelter at Kidricevo, Slovenia	72
Coal:			
Brown	SOZC, Rudarsko Energetski Kombinat E. Kardelj, Trobovlje, Slovenia	Mines: Sasavski Rudnici at Trbovlje, Hrastnik, Ojstro, Senovo, and	1,300 2/
Lignite	Rudarsko Energetski Kombinat Velenje, RO Rudnik Lignita-Velenje	Kanizarnica Mine at Velenje, Slovenia	5,000 2/
Cement	Salonit Anhovo	Plant at Anhovo, Slovenia	1,120
Lead metal	Rudnik Svinca in Topilnica, Mezica	Smelter at Mezica, Slovenia	35
Do.	do.	Refinery at Mezica, Slovenia	30
Mercury	Rudnik Zivega Srebra, Idrija	Mine and smelter in Idrija, Slovenia	15,000 1/
Petroleum:			
Refined	Industrija Nafte (INA): Rafinerija Nafte Lendava	Refinery at Lendava, Slovenia	16 2/
Pig iron	Združeno Podjetje Slovenske Železarne	2 blast furnaces at Želazara Jesenice, Slovenia	300
Do.	Želazara Store	Electric reduction furnaces at Store pri Celju, Slovenia	290
Steel, crude	Združeno Podjetje Slovenske Železarne	Plant at Jesenica, Slovenia	500
Do.	do.	Plant at Ravne, Slovenia	162
Do.	do.	Plant at Store, Slovenia	140

1/ Flasks per year.

2/ Thousand barrels per day.