



2012 Minerals Yearbook

SLOVAKIA

THE MINERAL INDUSTRY OF SLOVAKIA

By Harold R. Newman

In 2012, Slovakia continued to produce a modest range of mineral products but was not a significant world producer of mineral commodities. Slovakia was dependent on foreign imports to meet most of its domestic demand for minerals. In 2012, the real growth rate of Slovakia's gross domestic product (GDP) was 2.0% compared with 3.2% in 2011. This decrease was primarily the result of the reduced demand for Slovakia's exports. Services amounted to 59.2% of the GDP and industrial production amounted to 37% of the GDP. Mining and quarrying of minerals made up about 0.6% of the GDP. Slovakia's exports were valued at \$81 billion and included machinery and electrical equipment (35.9% of the total), base metals (11.3%), and chemical and mineral products (8.1%). Slovakia's main export partners were Germany (22.4%), the Czech Republic (14.6%), Poland (8.6%), and Hungary (7.8%). Slovakia's imports of \$76 billion included mineral products (13%), base metals (9%), and chemicals (8%). Slovakia's main import partners were Germany (18.5%), the Czech Republic (17.9%), Russia (9.9%), and Austria (7.7%) (U.S. Central Intelligence Agency, 2013).

The State Geological Institute of the Slovak Republic is a Government organization supervised by the Ministry of Environment. In accordance with the Geological Act (Act No. 569/2007) and the Mining CT (Act No. 44/1988), the State Geological Institute is responsible for basic and regional geologic research, geologic mapping, the compilation and publishing of general geologic maps as well as specialized and thematic geologic maps; research and evaluation of mineral resource deposits; metallogenetic investigation and modeling of the deposits; mineral exploration; and geophysical works. The Ministry of Economy is responsible for mineral resource development and the issuance of mining permits. A total of 150 exploration licenses and 621 mineral deposits were registered with the State Geological Institute as of yearend 2011 (State Geological Institute of the Slovak Republic, 2012).

New Government energy regulations came into effect on September 1, 2012. The new regulations change the rules for the energy sector and implement relevant European Union (EU) directives. The principal aim of the new Energy Act is to implement the latest EU directives and regulations, which are aimed at achieving an internal energy market in Europe, increasing competition among market participants, and strengthening the rights of consumers. Also, the Energy Act facilitates stronger market liberalization (Power Engineering, 2012).

Production

In 2012, aluminum and steel were two of Slovakia's more valuable metal products. Some industrial minerals, including cement, dolomite, lime, and magnesite, were produced. Brown coal, including lignite, was also produced. The production levels of most of the country's mineral commodities in 2012 remained

steady. Production of construction materials and industrial minerals was sufficient to meet domestic demand (table 1).

Structure of the Mineral Industry

Table 2 lists the major mineral companies that were operating in Slovakia in 2012 and their respective mine and (or) plant locations and capacities. No significant changes in ownership took place in 2012.

Commodity Review

Metals

Antimony, Copper, and Silver.—In 2012, Global Minerals Ltd. of Canada was focused on developing its Strieborna antimony, copper, and silver deposit in Roznava in eastern Slovakia. Global Minerals' licenses covered about 135 square kilometers in the Strieborna project area. The Strieborna deposit is a high-grade vein-type deposit that occurs within a mineralized structure that is 1.2 kilometers (km) long and 600 meters (m) deep with an average thickness of 3.4 m. The mineralization is characterized by antimony, copper, and silver-bearing minerals, mainly tetrahedrite. According to a National Instrument (NI) 43-101 estimate, the Strieborna deposit contains an estimated measured and indicated resource of 2.3 million metric tons (Mt) with average grades of 0.85% antimony, 1.2% copper, and 266 grams per metric ton (g/t) silver. Copper and silver were the principal metallic minerals of economic interest. The project's existing infrastructure included electric power, railway access, and paved highways, and the local workforce was experienced in underground mining operations (Global Minerals Ltd., 2012a).

Global Minerals announced that the dewatering and rehabilitation of the Strieborna Mine had reached Level 6, which is located about 180 m below the surface, thereby allowing Global Minerals to re-establish underground drill stations, begin bulk metallurgical sampling, and, ultimately, prepare the deposit for mining. Dewatering was to continue to Level 8 (located about 280 m below the surface), which would allow inspection of the Maria vertical shaft. The Maria vertical shaft was intended to provide access between Level 6 and Level 13 located about 525 m below the surface. Global Minerals continued with other mine development activities, primarily metallurgical testing, process flow sheet design, and mine planning with the goal of completing a preliminary economic assessment by 2014 (Global Minerals Ltd., 2012b).

Gold.—The activities of United Kingdom-based EMED Mining Public Ltd. in eastern Europe were focused on exploring for gold deposits in Slovakia. EMED Mining's principal asset was the Biely Vrch gold project located within the Detva license. EMED Mining stated that a preliminary Joint Ore Reserves Committee (JORC) Code-compliant assessment

indicated the probable economic viability for development of the project. The Biely Vrch deposit was estimated to contain indicated resources of 17.7 Mt grading an average of 0.81 g/t gold and containing 14,340 kg of gold and inferred resources of 24 Mt grading an average of 0.77 g/t gold and containing 18,480 kg of gold (EMED Mining Ltd., 2012).

Ortac Resources plc of the United Kingdom's Sturec deposit is located 17 km west of Banska Bystrica. Total estimated resources were 25 Mt grading 1.44 g/t gold and 11.2 g/t silver. The main part of the Sturec zone is the Schramen vein, which is about 100 m wide along a 500-m strike section. The deposit accounts for about 90% of the gold contained in the JORC Code-compliant estimated measured and indicated mineral resources. Schramen, which is a massive-to-sheeted quartz vein, strikes almost due north and dips steeply to the east and thins at depth (Ortac Resources plc, 2012).

Mineral Fuels and Related Materials

Slovakia does not have significant indigenous primary energy reserves. Although mineral fuel resources were thought to be abundant, the majority of these resources were not exploited in 2012. Economic resources of mineral fuels were limited to brown coal and uranium. The country did not have significant reserves of hard coal, natural gas, and petroleum, and demand for these commodities was satisfied mainly by imports from Russia. Estimated exploitable coal reserves were about 100 Mt; estimated natural gas reserves, about 10 billion cubic meters; and estimated petroleum reserves, were about 2 Mt. A deposit of hard coal located in eastern Slovakia was considered by the European Association for Coal and Lignite to be insignificant and not exploitable (European Association for Coal and Lignite, 2012).

Uranium.—European Uranium Resources Ltd. (the name was changed from Tournigan Energy Ltd. in 2011) of Canada's Kuriskova deposit is located about 10 km northeast of Kosice. The deposit had indicated resources of 2.3 Mt at a grade of 0.555% U_3O_8 (commonly called uranium oxide) with a U_3O_8 content of 12,900 t (28.5 million pounds) and additional inferred resources of 3.1 Mt at 0.185% U_3O_8 with a U_3O_8 content of 5,760 t (12.7 million pounds) using a cutoff grade of 0.05% U.

European Uranium continued its efforts to define the structure, which would allow uranium production from Kuriskova license area. The project was thought to be able to be developed as an underground mine and processing facility from which uranium could be extracted using conventional alkaline (nonacid) processing (European Uranium Resources Ltd., 2012).

Outlook

No major increases in the production of mineral commodities are expected in Slovakia in the foreseeable future. Decreased coal production, however, is expected to take place during the next few decades as reserves are depleted. The country will likely continue to import the majority of its metallic ores and concentrates and to depend on imported mineral fuels for its domestic consumption.

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TABLE 1
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2008	2009	2010	2011	2012 ^e
METALS					
Aluminum ingot, primary	162,995	149,604	162,997 ^r	162,840	180,671 ³
Copper:					
Anode, primary	27,100	34,000	46,250 ^e	48,806 ^r	41,713 ³
Smelter, secondary	10,000 ^r	9,560 ^r	9,015 ^r	9,014 ^r	8,236 ³
Gold, Au content of concentrate kilograms	90 ^e	346	534 ^e	398 ^r	546 ³
Iron and steel:					
Iron ore: ⁴					
Gross weight thousand metric tons	392	--	--	-- ^r	--
Metal content ^e do.	130	--	--	-- ^r	--
Concentrate, gross weight do.	182	--	--	-- ^r	--
Pig iron do.	3,529	3,019	3,649	3,346	3,519 ³
Ferrous alloys:					
Ferromanganese	61,194	21,000	35,449 ^r	18,180 ^r	12,862 ³
Ferrosilicomanganese	59,940	32,000	34,960 ^r	25,023 ^r	50,089 ³
Ferrosilicon	8,622	10,844	26,419	31,845	36,869 ³
Silver kilograms	200	250	300	330	441 ³
Steel:					
Crude thousand metric tons	4,478	3,747	4,580 ^e	4,236	4,403 ³
Semimanufactures do.	4,477	3,740	4,567	4,223 ^r	4,391 ³
INDUSTRIAL MINERALS					
Asbestos	200	200	200	--	--
Barite: ^e					
Mine output	20,000 ³	30,000 ³	17,000	18,000	21,000
Concentrate	12,950 ³	8,000 ³	13,000	14,000	15,000
Basalt ^e	63,000 ³	101,000 ³	60,000	60,000	60,000
Cement, hydraulic thousand metric tons	4,157	3,021	2,888	3,219	2,915 ³
Clays:					
Bentonite	145,000	109,000	130,521	119,323	129,930 ³
Ceramic ^e	47,000	47,000	47,000	40,000	40,000
Kaolin ^e	44,000 ³	44,000	44,000	4,000	3,000
Refractory ^e	12,000 ³	12,000	12,000	--	--
Feldspar ^e	10,000 ³	10,000	10,000	--	--
Gypsum and anhydrite, crude	152,000	131,000	87,000 ^e	88,000 ^e	85,000
Lime, hydrated and quicklime thousand metric tons	1,082	867	986 ^r	971	903 ³
Magnesite, concentrate	807,000	800,000	800,000 ^e	751,700 ^r	618,400 ³
Nitrogen, N content of ammonia ^e	260,000	260,000	493,000 ^r	486,689 ^{r,3}	485,518 ³
Perlite	25,000	25,000	25,000 ^e	23,000 ^r	24,000
Salt	99,000	38,000	38,000 ^e	-- ^r	--
Sand and gravel thousand metric tons	9,300 ^e	8,500 ^e	6,932 ^r	6,479	4,238 ³
Silica sand (foundry and glass sands) do.	619	620	620 ^e	600 ^e	600
Stone:					
Dolomite do.	1,249	908	895	952	1,000
Limestone and other calcareous stones for cement do.	4,992	5,099	4,952	5,630	5,228 ³
Crushed stone do.	18,500 ^e	10,571	11,904	9,855	8,065 ³
MINERAL FUELS AND RELATED MATERIALS					
Coal, brown thousand metric tons	2,423	2,572	2,378	2,376	2,292 ³
Coke, unspecified	1,737	1,573	1,570 ^e	1,500 ^e	1,500
Natural gas million cubic meters	111	110	110 ^e	106 ^r	110
Petroleum:					
Crude ^e thousand 42-gallon barrels	100	130	130	125	105 ³
Refinery products:					
Fuel oil, distillate do.	21,863	21,718	21,389	21,000 ^e	21,000
Fuel oil, residual do.	3,066	3,759	3,577	3,600 ^e	3,600
Gasoline, motor do.	3,759	2,738	2,811	3,614	3,395 ³
Jet fuel do.	694	548	465	365	365
Liquid petroleum gas do.	1,168	949	1,022	1,000 ^e	1,000
Other products ^e do.	10,000	10,293 ³	10,326 ³	10,000	10,000
Total ^e	40,600 ^r	40,005 ^{r,3}	39,590 ^{r,3}	39,600 ^r	39,400

See footnotes at end of table.

TABLE 1—Continued
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES¹

⁶Estimated; estimated data are rounded to no more than three significant digits. ¹Revised. do. Ditto. -- Zero.

¹Table includes data available through October 31, 2013.

²In addition to the commodities listed, a small amount of silver occurs in concentrate produced by gold ore processing at the Banska Hodrusa deposit.

³Reported figure.

⁴Production ceased after 2008.

TABLE 2
SLOVAKIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners ¹	Location of main facilities	Annual capacity
Aluminum	Slovalco, a.s. (Norsk Hydro ASA, 55.3%, and ZSNP SCO, a.s., 44.7%)	Ziar nad Hronom, central Slovakia	165
Brown coal and lignite	Hornonitranse Bane Prievidza, a.s. (HBP)	Mines at Cigel, Handlova, and Novaky	2,200
Do.	Bana Dolina, a.s.	Mine east of V'lký Krtis, southern Slovakia	150
Do.	Bana Cary, a.s.	Mine at Cary, western Slovakia	500 ^e
Cement	Povazska Cementaren, a.s.	Ladce	NA
Do.	Cemmac a.s. (Asamer & Hufnagl Baustoff Holding Wien GmbH, 82.72%)	Horne Srnie	NA
Do.	Vychodoslovenske staeбne hmoty a.s.	Turna	1,300
Do.	Holcim (Slovensko), a.s.	Rohoznik	2,200
Coke	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	NA
Copper, smelter, secondary	Kovohuty, a.s. (Umcor Holding GmbH)	Krompachy, central Slovakia	90
Ferroalloys	Oravske Feroziliatinarske Zavody (OFZ), a.s. (ArcelorMittal S.A.)	Istebne	170
Gold in concentrate	Slovenska Banska, s.r.o.	Hodrusa-Hamre	NA
Iron:			
Ore	SIDERIT, s.r.o. Nizna Slana	Nizna Slana, central Slovakia	600 ^e
Concentrate	do.	do.	400 ^e
Magnesite	SMZ, a.s. Jelsava	Jelsava, eastern Slovakia	370 ^e
Do.	Slovenske Magnezitove zavody a.s.	Lubenik, central Slovakia	NA
Do.	GE.NE.S., a.s.	Mutnik, near Hnusta in central Slovakia	NA
Natural gas	million cubic meters NAFTA, a.s.	Oilfields and natural gas fields in western and eastern Slovakia	NA
Do.	do. ENGAS, s.r.o.	Brno	NA
Petroleum:			
Crude	NAFTA, a.s.	Oilfields and natural gas fields in western and eastern Slovakia	NA
Refinery	SLOVNAFT, a.s. (MOL Plc., 98.5%)	Bratislava	6,000
Do.	Petrochema, a.s.	Dubova	150
Pig iron	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	4,500
Salt	Solivary, a.s. Presov (Garantovana Group)	Presov, eastern Slovakia	NA
Steel, crude	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	4,900
Do.	Zelezniarne Podbrezova, a.s.	Podbrezova	600 ^e
Zeolites	Zeocem, a.s.	Quarry near Nižný Hrabovec and processing plant near Bystre	NA
Do.	VSK Pro-Zeo Ltd.	Humenne	NA

^eEstimated, Do., do. Ditto. NA Not available.

¹Abbreviations used for types of companies in this table include the following: a.s., joint stock company; s.r.o., limited company.