



2013 Minerals Yearbook

SLOVAKIA

THE MINERAL INDUSTRY OF SLOVAKIA

By Lin Shi

In 2013, Slovakia's gross domestic product (GDP) was about \$98 billion. The real GDP rate of growth was 1.4% compared with 1.6% (revised) in 2012. In 2013, industrial production was about 31% of the GDP compared with 37% in the previous year. The inflation rate was about 1.7%, and the unemployment rate was about 14%. Slovakia was the world's sixth-ranked producer of magnesite in 2013 (Statistical Office of the Slovak Republic, 2014; U.S. Central Intelligence Agency, 2014; Bray, 2015; World Bank, The, 2015).

Minerals in the National Economy

Slovakia's mining and quarrying sector was not a significant contributor to the country's economy, and it accounted for less than about 1% of the country's GDP. In 2013, the mineral industry produced a modest range of mineral products (table 1; Statistical Office of the Slovak Republic, 2014).

Government Policies and Programs

The State Geological Institute of the Slovak Republic is a Government organization under the Ministry of the Environment. In accordance with the Geological Act (Act No. 569/2007) and the Mining Act (Act No. 44/1988), the State Geological Institute is responsible for regional geologic research, compilation and publishing of geologic maps, investigation and evaluation of mineral deposits, mineral exploration, and geophysical work. The Ministry of the Economy is responsible for mineral resource development and the issuance of mining permits (State Geological Institute of the Slovak Republic, 2014).

Production

In 2013, Slovakia's metal production included aluminum, copper, ferrosilicon, pig iron, and crude steel. The country's industrial mineral production included cement, crushed stone, lime, and nitrogen. Coal and refined petroleum products were produced for the domestic energy supply. The country's 2013 mineral commodity production had no significant increases or decreases, except that secondary copper production decreased to about 18,000 metric tons (t) from about 42,000 t in 2012 (table 1).

Structure of the Mineral Industry

Table 2 is a list of Slovakia's major mineral industry facilities.

Mineral Trade

Slovakia's exports were valued at about \$83 billion in 2013 compared with about \$81 billion in the previous year. The exported mineral commodities included base metals and mineral products. The country's exports went mainly to Germany, which

received about 22% of Slovakia's total exports, by value; the Czech Republic, about 15%; Poland, about 9%; and Hungary, about 8%. Slovakia's imports were valued at about \$78 billion in 2013 compared with about \$76 billion in the previous year. The imported mineral commodities included mineral products and base metals. The country's imports were mainly from Germany, which provided about 19% of Slovakia's total imports, by value; the Czech Republic, about 18%; Russia, about 10%; Austria, about 8%; Hungary, about 7%; and Poland, about 6% (U.S. Central Intelligence Agency, 2014).

Commodity Review

Metals

Aluminum.—Slovalco, a.s. was a large company capable of producing about 200,000 metric tons per year of aluminum and aluminum products. Slovalco was owned by Hydro Aluminum of Norway (55.3%) and ZSNP, a.s. (44.7%). Hydro Aluminum was a subsidiary of Norsk Hydro ASA, which was based in Oslo, Norway. In 2013, Slovalco produced a total of 178,859 t of finished aluminum products, which included 110,844 t of aluminum ingot and 68,015 t of aluminum alloy. The company sold 179,870 t of finished aluminum products, which included 110,444 t of aluminum ingot and 69,426 t of aluminum alloy. Slovalco's 2013 aluminum exports accounted for about 83% of the total volume of the company's annual sales. In October 2013, Slovalco signed an extension agreement with Slovenske elektrarne to provide electric power to the company for the next 8 years, beginning at the end of 2013 (Slovalco, a.s., 2014a; 2014b, p. 5–6, 15).

Antimony, Copper, and Silver.—In 2013, Global Minerals Ltd. of Canada continued the development of its fully owned Strieborna antimony-copper-silver project in Roznava. Global Mineral's licenses covered about 135 square kilometers (km²) in the Strieborna project area. The Strieborna deposit is a high-grade vein-type deposit in eastern Slovakia that occurs within a mineralized structure 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 of Canada estimate, the Strieborna deposit contained measured and indicated resources 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. Global Minerals estimated that the Strieborna project's average annual production during its initial 5 years would be 43,500 kilograms (kg) (reported as 1.4 million troy ounces) of silver and about 1,950 t (reported as 4.3 million pounds) of copper. The silver-copper concentrate had average grades of 6,570 g/t silver and 27.8% copper.

The project's existing infrastructure included electric power, railway access, and paved highways. The company hired employees from the local workforce who had experience in underground mining operations. Global Minerals' development plan was to start with simple concentrate production (Global Minerals Ltd., 2014).

Global Minerals expected to mine 300 metric tons per day (t/d) of ore during the first 2 years of operation and then would increase its output to 500 t/d during the third year. The company planned to add extra workdays and shifts to meet production goals. Global Minerals continued with other mine development activities, such as preliminary metallurgical testing, process flow sheet design, and mine planning, with the goal of completing a preliminary economic assessment by 2014 (Global Minerals Ltd., 2012, 2014).

Gold.—EMED Mining Public Ltd. of the United Kingdom's activities 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 area, which is located 25 km east of the Stivnica-Hodrusa District that was considered to be a geologic setting of large porphyry and epithermal gold ore bodies. Through its diamond drilling program in Biely Vrch, the company discovered that mineralized materials in a number of drill cores covered the entire length from surface to a depth of 300 m and that the mineralization within the vertical pipe-shaped structure continued below this depth. EMED Mining stated that a preliminary Australian 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 at an average grade of 0.81 g/t gold, approximately 14,300 kg (reported as 461,000 troy ounces) of gold and estimated inferred resources of 24 Mt, at an average grade of 0.77 g/t gold, approximately 18,500 kg (reported as 596,000 troy ounces) of gold (EMED Mining Public Ltd., 2014).

Ortac Resources Ltd. of the United Kingdom owned the Sturec project, which is located 17 km west of Banska Bystrica in central Slovakia. Total estimated resources were 25 Mt grading 1.4 g/t gold and 11.2 g/t silver. After completing the prefeasibility study in April 2013, Ortac submitted its application for extracting bulk samples in the underground trial mining phase. The company then aimed to complete the biodiversity baseline study (BBS) for 50 km² surrounding the Sturec deposit (Ortac Resources Ltd., 2014b).

Mineral Fuels and Related Materials

Coal, Natural Gas, and Petroleum.—Slovakia depended on imports for more than 90% of its energy supply because the country lacks significant indigenous primary energy reserves and because most of the country's mineral fuel resources were not being exploited. Economic reserves of mineral fuels were limited to brown coal and uranium. The country imported natural gas, petroleum, and petroleum products from Russia. There was an insignificant deposit of coal located in eastern Slovakia that was not exploitable. The country produced about 2 Mt of coal in 2013 (European Association for Coal and Lignite, 2014).

Uranium.—European Uranium Resources Ltd. (EUU) of Canada's Kuriskova deposit is located about 10 km northeast of Kosice, Slovakia. The deposit was estimated to contain an indicated resource of 2.3 Mt grading 0.56% uranium oxide (U₃O₈) and additional estimated inferred resources of 3.1 Mt grading 0.18% U₃O₈. EUU continued its efforts to define the structure of the deposit, which would allow uranium production from the Kuriskova license area. The project was thought likely to be able to be developed as an underground mine and a processing facility from which the uranium would be extracted using conventional alkaline (nonacid) processing. On November 25, EUU received confirmation from the Geology Division of the Ministry of the Environment that the company was allowed to renew its Kuriskova exploration license. On December 9, EUU and Portex Minerals Inc. (PAX) announced that they had entered into a binding letter of intent to merge. EUU would acquire all the outstanding common shares of PAX in exchange for EUU common shares. The merged company would be named European Minerals Inc. and would be a Europe-focused company with a diverse, multicommodity portfolio of exploration and development projects (European Uranium Resources Ltd., 2013a, b).

Outlook

No major increases in the production of mineral commodities are expected to take place in Slovakia in the foreseeable future. Coal production is expected to decrease during the next few decades as the undeveloped coal deposits are not exploitable. The country will likely continue to import some metallic ores and concentrates to meet its domestic demand as well as mineral fuels for domestic consumption. In 2014, Slovalco is likely to increase its production of aluminum ingot and aluminum alloy, which are the company's two major export products, to increase the value of the company's exports. Ortac Resources Ltd. plans to start underground trial mining and to complete the BBS of the Kremnica area Sturec deposit with the permitted and extended mining license granted by the Slovak Mining Bureau (Ortac Resources Ltd., 2014a, b; Slovalco, a.s., 2014b, p. 15).

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TABLE 1
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2009	2010	2011	2012	2013
METALS					
Aluminum ingot, primary	172,478 ^r	190,029 ^r	187,138 ^r	180,671	192,090
Copper, smelter, secondary	24,759 ^r	46,531 ^r	48,806	41,713	18,500
Gold, Au content of concentrate	346	534	398	546	500 ^e
Iron and steel:					
Pig iron	3,019	3,649	3,346	3,519	3,617
Ferroalloys:					
Ferromanganese	21,000	35,449	18,180	12,862	12,000 ^e
Ferrosilicomanganese	32,000	34,960	25,023	50,089	50,000 ^e
Ferrosilicon	8,622 ^r	37,034 ^r	38,771 ^r	36,869	41,664
Steel:					
Crude	3,747	4,580	4,236	4,403	4,511
Semimanufactures	3,733 ^r	4,567	4,223	4,391	4,499
Silver	250	300	330	441	400 ^e
INDUSTRIAL MINERALS					
Asbestos	200	200	--	--	--
Barite:^c					
Mine output	30,000 ²	17,000 ²	18,000	21,000	21,000
Concentrate	8,000	13,000	14,000	15,000	15,000
Basalt ^e	101,000	60,000	60,000	60,000	60,000
Cement, hydraulic	3,011 ^r	2,888	3,219	2,915	3,121
Clays, bentonite	92,919 ^r	130,521	119,323	129,930	129,877
Feldspar ^e	10,000	10,000	--	--	--
Gypsum and anhydrite, crude ^e	131,000 ²	87,000 ²	88,000	85,000	85,000
Lime, hydrated and quicklime	867	986	971	903	813
Magnesite, concentrate	771,000 ^r	1,112,000 ^r	751,700	618,400	618,400
Nitrogen, N content of ammonia	500,575 ^r	493,018 ^r	486,689	485,518	480,329
Perlite ^e	25,000 ²	23,000 ^r	23,000	24,000	24,000
Salt	41,000 ^r	-- ^r	--	--	--
Sand and gravel	6,920 ^r	6,932	6,479	4,238	4,350
Silica sand (foundry and glass sands) ^e	620 ²	620	600	600	600
Stone:					
Dolomite	908	895	952	1,049 ^r	922
Limestone and other calcareous stones for cement	5,099	4,952	5,630	5,228	5,425
Crushed ^e	10,571	11,904	9,855	8,065	8,527

See footnotes at end of table.

TABLE 1—Continued
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2009	2010	2011	2012	2013
MINERAL FUELS AND RELATED MATERIALS					
Coal, brown thousand metric tons	2,572	2,378	2,376	2,292	2,353
Coke, unspecified	1,573	1,570	1,500	1,500	1,500
Natural gas million cubic meters	114 ^r	100 ^r	106	110 ^e	110 ^e
Petroleum:					
Crude ^e thousand 42-gallon barrels	130	130	125	105 ²	105
Refinery products:					
Fuel oil, distillate do.	21,718	21,389	21,000 ^e	21,000	21,000 ^e
Fuel oil, residual do.	3,759	3,577	3,600 ^e	3,600	3,600 ^e
Gasoline, motor do.	2,738	2,811	3,614	3,395 ²	3,400 ^e
Jet fuel do.	548	465	365	365	365 ^e
Liquid petroleum gas do.	949	1,022	1,000 ^e	1,000	1,000 ^e
Other products ^e do.	10,293 ²	10,326 ²	10,000	10,000	10,000
Total ^e	40,005 ^{r,2}	39,590 ^{r,2}	39,600 ^r	39,400	39,400

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. -- Zero.

¹Includes data available through December 3, 2014.

²Reported figure.

TABLE 2
SLOVAKIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(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. (Hydro Aluminum, 55.3%, and ZSNP a.s., 44.7%)	Ziar nad Hronom, central Slovakia	200
Brown coal and lignite	Hornonitrianske 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. (Umcors Holding GmbH)	Krompachy, central Slovakia	90
Ferroalloys	Oravske Feroziliatinarske Zavody (OFZ), a.s. (ArcelorMittal S.A.)	Istebne	170
Gold, in concentrate	Slovenska Banska, spol. s.r.o.	Hodrusa-Hamre	NA
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	Solvary, a.s. Presov (Garantovana Group)	Presov, eastern Slovakia	NA
Steel, crude	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	4,900
Do.	Zeleziarne Podbrezova, a.s.	Podbrezova	600 ^e
Zeolites	Zeocem, a.s.	Quarry near Nizny 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 include the following: a.s., joint stock company; s.r.o., limited company.