



# 2019 Minerals Yearbook

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**SLOVAKIA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF SLOVAKIA

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In 2019, Slovakia was ranked fourth globally in the production of natural zeolites (accounting for 10% of the world's production) and seventh in the production of magnesite compounds (accounting for 1.8% of the world's mine production and 1.4% of the world's reserves). The country's metallurgical sector produced aluminum, ferroalloys, gold, secondary copper, silver, and raw steel. The production of industrial minerals included barite, cement, clay, crushed stone, dolomite, feldspar, gypsum, lime, nitrogen, perlite, sand and gravel, talc, and zeolites. Slovakia also produced mineral fuels and related materials, such as coal, natural gas, metallurgical coke, crude petroleum, and refined petroleum products (table 1; Crangle, 2021; Merrill, 2021).

## Minerals in the National Economy

In 2019, Slovakia's real gross domestic product (GDP) increased by 2.4% compared with that of 2018. The GDP at current prices was \$105 billion (EUR 94.2 billion).<sup>1</sup> The industrial sector accounted for 23% of the total GDP, which was an increase of 1.9% compared with the percentage of the total GDP in 2018. Within the industrial sector, the manufacturing sector accounted for 20% of the total GDP (an increase of 0.7% compared with its share in 2018), and the construction sector accounted for 6.6% (a decrease of 2.1%). The country's mining and quarrying sector employed 8,500 people, or less than 1% of the total labor force in 2019, which was a decrease by 26% compared with the number employed in the sector in 2018. The manufacturing sector employed 587,200 people (about 27% of the total labor force), and the construction sector employed 136,700 people (6.2%) (Statistical Office of the Slovak Republic, 2020a–c).

Mining activities in the country are primarily regulated by the Act on Mineral Protection and Exploitation (SNR Act No. 44/1988 Col.) of April 1988, which is known as the Mining Act, as amended by Act No. 285/2014 Col.; the Act on Mining Activities, Explosives and on State Mining Administration (SNR Act No. 51/1988 Col.) of April 1988, as amended by Act No. 58/2014 Col.; and the Act on Geological Works (NR SR Act No. 569/2007), which is known as the Geological Act (Balaz and Kusik, 2015, p. 11).

In 2019, Slovakia's total exports were valued at \$89.1 billion, which was a decrease of 4.6% compared with the total exports in 2018. Exports of mineral products were valued at \$2.94 billion; of this amount, mineral fuels and products accounted for \$2.59 billion; and ores and concentrates, \$28.8 million. Slovakia's top five export partners for mineral products were Hungary (which received 35% of Slovakia's exports of mineral products), Czechia (22%), Austria (14%), Ukraine (9.2%),

and Poland (8.1%). Total imports were valued at \$90.0 billion, which was a decrease of 3.1% compared with those of 2018. Imports of mineral products were valued at \$7.63 billion; of this amount, mineral fuels and products accounted for \$6.90 billion; and ores and concentrates, \$547 million. In 2019, Slovakia's top five import partners for mineral products were Russia (which provided 59% of Slovakia's imports of mineral products), Czechia (7.4%), Austria (4.5%), Ukraine (3.7%), and the United States (2.3%) (United Nations Statistics Division, 2020).

In 2019, Slovakia's exports of base metals and articles thereof were valued at \$2.79 billion. Exports of iron, steel, and articles thereof were valued at \$5.42 billion. Slovakia's top five export partners were Czechia (which received 18% of Slovakia's exports of ferrous and nonferrous metals and articles thereof), Germany (16%), Poland (14%), Austria (11%), and Hungary (9.3%). In 2019, Slovakia's imports of base metals and articles thereof were valued at \$3.10 billion, and imports of iron, steel, and articles thereof were valued at \$4.91 billion. Slovakia's top five import partners for metals and articles thereof were Germany (which provided 22% of Slovakia's imports of ferrous and nonferrous metals and articles thereof), Czechia (13%), Poland (9.0%), Italy (7.6%), and Austria (5.0%). Slovakia's exports and imports of precious and semiprecious stones and metals were valued at \$347 million and \$385 million, respectively (United Nations Statistics Division, 2020).

## Production

In 2019, the production of ferromanganese increased by 44%; copper (smelter, secondary), by 35%; and industrial sand and gravel (silica), by 27%. The production of silicomanganese decreased by 30%; ferrosilicon, by 24%; bentonite and kaolin, by 22% each; aggregate crushed stone, by 20%; and limestone and metallurgical coke, by 12% each. Data on mineral production are in table 1.

## Structure of the Mineral Industry

The Mining Act defines two categories of deposits in the country. The reserved minerals category comprises naturally occurring or artificially accumulated (for example, waste piles of) minerals, as well as natural rock structures and underground spaces that could be used to store gases and liquids and those "suitable for geothermal energy use" (Balaz and Kusik, 2015, p. 9); these deposits are owned and regulated by the Government. The non-reserved category comprises materials that "are part of the land" and "especially building stone, gravel sands and brick clays" (Balaz and Kusik, 2015, p. 9); these deposits belong to the landowner. The Ministry of Environment oversees and manages mineral deposits and energy resources and issues exploration licenses in the country. The State Geological Institute of Dionyz Stur, which is under the Ministry of Environment, is responsible for geologic research

<sup>1</sup>Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at the annual average exchange rate of EUR0.893=US\$1.00 for 2019.

and exploration. The Main Mining Bureau, which is part of the Ministry of Economy, is responsible for monitoring mining activity, registration of mining licenses, and regulating mine safety. In 2019, a total of 198 mining and quarrying enterprises were registered in the country compared with 189 in 2018, and 195 of the registered firms were privately owned. Table 2 is a list of major mineral industry facilities in Slovakia (Balaz and Kusik, 2015, p. 9; Statistical Office of the Slovak Republic, 2020d, p. 340, 342; Auropean Ventures Inc., undated).

## Commodity Review

### Metals

**Copper and Nickel.**—European Cobalt Ltd. of Australia owned 100% interest in the Dobsina cobalt-nickel-copper project located in central Slovakia. In 2017, it acquired a new license, which expanded the project for further exploration. The Zemberg-Terezian vein system, which is located in the northern section of the Dobsina license, had lower extents that historically had average grades of 4% to 8% cobalt and 16% to 17% nickel, and upper levels that had average grades of 1% to 7% copper, 0.1% to 0.3% cobalt, and 0.1% to 0.6% nickel. The Georgi-Martini vein system, which is located in the southern section of the Dobsina license, had grades of up to 2% cobalt and 28% nickel. In 2019, further exploration and development of the Dobsina project was conducted, mainly through preliminary grab and channel sampling and installation of accessibility equipment (for example, rails) for future drilling (Nicholas, 2017; European Cobalt, 2019, p. 4; 2020).

**Gold.**—On November 20, Metalstech Ltd. of Australia announced that it would go through with its plan to acquire the Sturec project from Arc Minerals Ltd. of the United Kingdom, with plans to mine gold using modern processing technology piloted by Canadian company Barrick Gold Corp. in Nevada. According to a 2013 prefeasibility study conducted by SRK Consulting Inc., the Sturec gold project had estimated proven and probable Joint Ore Reserves Committee (JORC)-compliant reserves of 27 metric tons (t) of gold, and an ore grade of 1.90 grams per metric ton gold equivalent (Barich, 2019; Metalstech Ltd., 2019, 2020).

### Industrial Minerals

**Magnesite.**—In 2015 (the latest year for which data were available), SMZ, a.s. Jelsava produced 5.9% of the world's share of magnesite, and 12% of its production was for the domestic market. In 2019, Slovakia's exports and imports of crude magnesite totaled \$1.02 million and \$39,400, respectively. Major export partners for crude magnesite included Poland (which received 30% of Slovakia's exports of crude magnesite, by value) and Czechia (30%). In 2019, Slovakia exported 12,854 t of crude magnesite and imported 50 t (SMZ, a.s. Jelsava, 2015; United Nations Statistics Division, 2020).

### Outlook

Slovakia's GDP was forecasted to decrease by 6.3% in 2020 owing to global disruptions caused by the coronavirus disease 2019 (COVID-19) pandemic, followed by an uptick of

4.8% in 2021. Slovakia will likely continue to be a significant producer of magnesite. Production of mined base metals is contingent upon the successful development of the Dobsina cobalt-nickel-copper project. The production of gold is expected to increase in the medium term pending the successful incorporation of modern gold-extracting techniques, which do not use cyanide and are in conformance with the 2014 ban by the European Union on cyanide use for mining in European countries (Barich, 2019; European Cobalt, 2020; International Monetary Fund, 2020).

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TABLE 1  
SLOVAKIA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>	2015	2016	2017	2018	2019	
<b>METALS</b>						
Aluminum, primary, metal	171,328 <sup>r</sup>	173,643 <sup>r</sup>	173,492 <sup>r</sup>	173,721 <sup>r</sup>	174,794	
Copper, smelter, secondary	11,400	42,691	48,152	38,379	51,796	
Ferroalloys:						
Ferromanganese	25,376	35,589	42,115	32,364	46,513	
Ferrosilicon	45,961	38,030	52,436	50,392	38,060	
Silicomanganese	27,036	35,719	40,265	37,225	26,187	
Gold, mine, Au content	kilograms	603	492	500	500 <sup>e</sup>	500 <sup>e</sup>
Iron and steel:						
Pig iron	thousand metric tons	3,738	3,987	4,106	4,652	4,300
Steel:						
Raw steel	do.	4,562	4,808	4,974	5,225	5,300
Products, semimanufactured	do.	4,300	4,300	4,350 <sup>e</sup>	4,380 <sup>r</sup>	4,380 <sup>e</sup>
Silver, mine, Ag content	kilograms	440	449	460	460 <sup>e</sup>	460 <sup>e</sup>
<b>INDUSTRIAL MINERALS</b>						
Barite		20,000	25,000	15,690	16,000 <sup>r,e</sup>	16,000 <sup>e</sup>
Cement, hydraulic	thousand metric tons	3,466	3,518	3,782	3,913	4,031
Clay:						
Bentonite		163,877	128,681	159,272	171,478	134,524
Kaolin		10,502	11,923	13,584	21,209	16,620
Feldspar		4,000	8,400	15,800	17,000 <sup>r</sup>	18,000 <sup>e</sup>
Gypsum, mine, including anhydrite		67,000	53,000	45,700	46,000	46,000 <sup>e</sup>
Lime, hydrated and quicklime	thousand metric tons	778	801	774	791	747
Magnesite, concentrate		501,200	430,900	450,000 <sup>e</sup>	475,000 <sup>e</sup>	475,000 <sup>e</sup>
Nitrogen, ammonia, N content	thousand metric tons	350 <sup>r</sup>	350 <sup>r</sup>	350 <sup>r</sup>	434 <sup>r</sup>	434
Perlite		25,000	19,000	47,510	48,000 <sup>e</sup>	48,000 <sup>e</sup>
Sand and gravel, industrial, silica	thousand metric tons	500	500 <sup>e</sup>	500 <sup>e</sup>	400	507
Stone sand, and gravel, construction:						
Sand and gravel, unspecified	do.	5,031	5,319	6,746	8,245	8,606
Stone:						
Crushed:						
Aggregate	do.	13,701	12,571	12,488	12,033	9,672
Limestone, including other calcareous stone for cement	do.	4,913	5,221	5,745	5,702	5,041
Dimension, dolomite	do.	819	827	844	902	896
Talc		1,000	700	13,988	14,000 <sup>e</sup>	14,000 <sup>e</sup>
Zeolites <sup>e</sup>		117,000	117,000	117,000	117,000	117,000
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Coal, lignite	thousand metric tons	1,949	1,847	1,836	1,503	1,467
Coke, metallurgical	do.	1,637	1,635	1,582	1,592	1,398
Natural gas	million cubic meters	104	87	88	88 <sup>e</sup>	88 <sup>e</sup>
Petroleum:						
Crude	thousand 42-gallon barrels	73	66	37	37 <sup>e</sup>	37 <sup>e</sup>
Refinery, product	do.	44,642	43,190	42,612	38,741	37,223

<sup>e</sup>Estimated. <sup>r</sup>Revised. do. Ditto.

<sup>1</sup>Table includes data available through August 26, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

<sup>2</sup>In addition to the commodities listed, crushed basalt may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2  
SLOVAKIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners <sup>1</sup>	Location of main facilities	Annual capacity	
<b>Aluminum:</b>				
Metal, primary	Slovalco, a.s. (Hydro Aluminium, a.s., 55.3%, and ZSNP, a.s., 44.7%)	Ziar nad Hronom, central Slovakia	175	
Products	do.	Casthouse, Ziar nad Hronom	200	
Cement	Cemmac a.s. (Asamer & Hufnagl Baustoff Holding Wien GmbH, 82.72%, and Rieder Fertigteile GmbH, 11.76%)	Plant at Horne Srnie	600	
Do.	CRH (Slovensko), a.s. (CRH plc, 99.8%)	Plant at Rohoznik	2,200	
Do.	Povazska Cementaren, a.s. (Berger Slovakia a.s.)	Plant at Ladce	1,050	
Do.	Vychodoslovenske stavebne hmoty a.s. (CRH plc)	Turna, western Slovakia	985	
Do.	Zeocem, a.s. (CTR Group)	Plant at Bystre	180 <sup>e</sup>	
Coal, lignite	Bana Cary, a.s.	Mine at Cary, western Slovakia	170	
Do.	Hornonitrianske Bane Prievidza, a.s. (HBP)	Mines at Cigel, Handlova, and Novaky <sup>2</sup>	1,400 <sup>2</sup>	
Coke	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	2,000 <sup>e</sup>	
Copper, smelter, secondary	Kovohuty, a.s. (Umcors Holding GmbH)	Krompachy, central Slovakia	50	
Ferroalloys	Oravske Feroziliiatinarske Zavody (OFZ), a.s. (ArcelorMittal S.A.)	Istebne	170	
Gold, mine	Arc Minerals Ltd.	Šturec gold project, Kremnica	NA	
Do.	Slovenska Banska, spol. s.r.o.	Rozalia Mine, Hodrusa-Hamre	NA	
<b>Iron and steel:</b>				
Pig iron	U.S. Steel Kosice, s.r.o.	Kosice, eastern Slovakia	4,500	
<b>Steel:</b>				
Raw steel	do.	do.	4,500	
Products	Zeleziarne Podbrezova, a.s.	Steel tube production plant, Podbrezova	309 <sup>e</sup>	
Magnesite	Gemerska Nerudna Spolocnost, a.s.	Mutnik, near Hnusta in central Slovakia	NA	
Do.	Slovmag, a.s. Lubenik (Magnezit Group Ltd., 99.6%)	Lubenik, central Slovakia	NA	
Do.	SMZ, a.s. Jelsava	Jelsava, eastern Slovakia	370 <sup>e</sup>	
Natural gas	million cubic meters	NAFTA, a.s. (SPP Infrastructure, 56.15%, and Czech Gas Holding Investment BV, 40.45%)	Oilfields and natural gas fields in western and eastern Slovakia	NA
Nitrogen, ammonia, N content	Dulso, a.s. (Agrofert Group)	Safa, Nitra, southwestern Slovakia	584	
<b>Petroleum:</b>				
Crude	thousand 42-gallon barrels	NAFTA, a.s. (SPP Infrastructure, 56.15%, and Czech Gas Holding Investment BV, 40.45%)	Oilfields and natural gas fields in western and eastern Slovakia	NA
Refinery	do.	Petrochema, a.s.	Refinery in Dubova	1,100
Do.	do.	SLOVNAFT, a.s. (MOL Plc., 98.5%; others, 1.5%)	Refinery in Bratislava	44,000
Silver, mine	Arc Minerals Ltd.	Sturec gold project, Kremnica	NA	
Do.	Private local investor groups	Strieborná deposit, Roznava	NA	
Talc, mine, ore, gross weight	Eurotalc, s.r.o. (Schmid Industrial Holding, 100%)	Mine in Gemerska Poloma, Kosice	100	
Zeolites	Pro-Zeo Ltd. (VSK Mining Ltd., 65%, and MEB Migulator Entwicklung & Beteiligung GesmbH, 35%)	Kucin deposit, Nizny Hrabovec, Vranov nad Topľou District, Presov Region	NA	
Do.	Zeocem, a.s. (CTR Group)	Quarry near Nizny Hrabovec and processing plant near Bystre	NA	

<sup>e</sup>Estimated. Do., do. Ditto. NA Not available.

<sup>1</sup>Abbreviations used for types of companies include the following: a.s., joint stock company; s.r.o., limited company.

<sup>2</sup>Cigel Mine closed in October 2017.