

# **2007 Minerals Yearbook**

# **SLOVAKIA [ADVANCE RELEASE]**

# THE MINERAL INDUSTRY OF SLOVAKIA

#### By Mark Brininstool

In 2007, Slovakia continued to produce a modest range of mineral products but was not an important world producer of any minerals. Aluminum and steel were two of Slovakia's most significant metal products, and industrial minerals, such as cement, dolomite, lime, and magnesite, were also produced. Brown coal, including lignite, along with small amounts of natural gas and petroleum were produced, but Slovakia is dependent on foreign imports of gas and petroleum to meet its domestic demand for mineral fuels.

#### **Minerals in the National Economy**

In 2007, Slovakia's real gross domestic product (GDP) increased by 10.4%. Industrial production grew by 12.8%, mining and quarrying grew by 25.9%, and manufacturing grew by 15.3% (Statistical Office of the Slovak Republic, 2008a, b).

According to the Ministry of Economy of the Slovak Republic, mineral fuels were the most important mineral trade goods in terms of value in 2007; imports were valued at \$6,515 million<sup>1</sup> and exports were valued at \$2,802 million. Imports of mineral fuels were down by 9.4% compared with imports in 2006 and made up about 11.2% of the total value of imports in 2007. Iron and steel imports were valued at \$2,804 million (which was an increase of 27.4% compared with those of 2006) and exports were valued at \$4,071 million (a 2.5% increase); imports of aluminum and articles thereof were valued at \$589 million (a 7.5% increase) and exports were valued at \$929 million (a 0.4% increase); and imports of ores, slag, and ash were valued at \$504 million (a 0.5% increase) and exports were valued at \$26 million (a 12.8% increase) (Ministry of Economy of the Slovak Republic, 2009).

#### Production

#### **Metals**

Aluminum.—All primary aluminum production in Slovakia came from Slovalco a.s., which increased production by about 6% compared with production in 2006. Slovalco sold a total of 185,314 metric tons (t) of finished products, of which 76.9% was exported (Slovalco a.s., 2008, p. 13). Alcan Inc. opened Alcan Extruded Products (a \$35 million aluminum extrusion plant in Levice), which would likely lead to increased domestic aluminum consumption. The plant was expected to reach planned capacity of 25,000 metric tons per year of extrusion products within 3 to 4 years (Alcan Inc., 2007; Slovak Spectator, The, 2008).

**Copper.**—In 2007, copper smelter production decreased by 4.5%, but Kovohuty a.s. (Slovakia's only copper smelter) planned to expand production capacity to increase supplies of copper anodes to the Montanwerke Brixlegg copper refinery in Salzburg, Austria. Kovohuty and Montanwerke Brixlegg were owned by A-TEC Industries AG, which was headquartered in Vienna, Austria (A-TEC Industries AG, 2008, p. 10, 12).

**Iron and Steel.**—In 2007, Slovakia produced 4.8 million metric tons (Mt) of crude steel and a reported 3.627 Mt of iron ore. Before 2007, the Government of Slovakia kept iron ore production figures confidential; as a result, the production figures given for iron ore production and ore content in table 1 for the years 2003 to 2006 are estimates. Because of this, the 418% increase in iron ore production from 2006 to 2007 could be the result of erroneous estimates of iron ore production from 2003 to 2006, faulty data in 2007, or a genuine increase in production; at the time of this writing, the cause of the reported increase in production was unknown.

**Gold.**—Multiple gold exploration projects in Slovakia continued in 2007. Tournigan Energy Ltd. continued exploration work in central Slovakia near Kremnica, and EMED Mining explored near Biely Vrch near the Czech and Polish borders. Tournigan also explored for uranium near Kuriskova and Novoveska Huta in eastern Slovakia, and, in 2007, the company doubled its resource estimates at the Kuriskova site to 16,329 t (36 million pounds) of  $U_3 0_8$  (Tournigan Energy Ltd., 2008, p. 3; EMED Mining, 2009).

#### Outlook

Slovakia will likely continue to produce modest amounts of mineral commodities, but no significant increases in production are expected. Production of alumina, copper, and crude steel are expected to continue to be dependent on imports of ores and concentrate, and the country is likely to continue to import the majority of its mineral fuels.

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<sup>&</sup>lt;sup>1</sup>Where necessary, values have been converted from Slovakian koruna (SK) to U.S. dollars (\$) at the rate of SK 24.74=US\$1.00.

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

(Metric tons unless otherwise specified)

| Commodity <sup>2</sup>                              |                       | 2003                | 2004                   | 2005                | 2006                  | 2007                |
|---|-----------------------|---------------------|------------------------|---------------------|-----------------------|---------------------|
| METALS  |                       |                     |                        |                     |                       |                     |
| Aluminum:   |                       |                     |                        |                     |                       |                     |
| Alumina   |                       | 132,089             | 156,893                | 162,483             | 160,507               | 160,461             |
| Aluminum ingot, primary                             |                       | 165,290             | 175,000 °              | 158,400             | 179,512               | 190,237             |
| Copper:   |                       |                     |                        |                     |                       |                     |
| Metal:  |                       |                     |                        |                     |                       |                     |
| Smelter, primary and secondary                      | thousand metric tons  | 58 <sup>r</sup>     | 13                     | 16                  | 22                    | 21                  |
| Refined, primary and secondary                      |                       | 5,800               |                        |                     |                       |                     |
| Gallium, metal <sup>e</sup>                         |                       | 5 <sup>r</sup>      | 5 <sup>r</sup>         | 5 <sup>r</sup>      | 5 <sup>r</sup>        | 5                   |
| Gold, metal   | kilograms             | 50                  | 50 <sup>e</sup>        | 109                 | 100                   | 100 <sup>e</sup>    |
| Iron and steel:                                     |                       |                     |                        |                     |                       |                     |
| Iron ore: <sup>e</sup>                              |                       |                     |                        |                     |                       |                     |
| Gross weight  | thousand metric tons  | 930 <sup>r</sup>    | 850 <sup>r</sup>       | 850 <sup>r</sup>    | 700 <sup>r</sup>      | 3,627 3             |
| Metal content                                       | do.                   | 326 <sup>r</sup>    | 302 r                  | 259 <sup>r</sup>    | 250 r                 | 1,300               |
| Concentrate, gross weight                           | do.                   | NA <sup>r</sup>     | NA <sup>r</sup>        | NA <sup>r</sup>     | NA <sup>r</sup>       | NA                  |
| Metal:  |                       |                     |                        |                     |                       |                     |
| Pig iron  | do.                   | 3,892               | 3,765 <sup>r</sup>     | 3,681               | 4,145                 | 4,012               |
| Ferroalloys, total electric furnace <sup>e, 4</sup> | do.                   | 95                  | 95                     | 95                  | 95                    | 95                  |
| Ferrochromium                                       |                       | 1,924               | 1,634 <sup>r</sup>     | 894 <sup>r</sup>    | 19 <sup>r</sup>       |                     |
| Ferromanganese                                      |                       | 43,434              | 66,959                 | 43,458              | 59,128                | 60,000 <sup>e</sup> |
| Ferrosilicomanganese                                |                       | 52,773              | 64,842                 | 47,843              | 59,128                | 60,000              |
| Ferrosilicon  |                       | 41,539 <sup>r</sup> | 34,684 <sup>r</sup>    | 16,512 <sup>r</sup> | 16,155 <sup>r</sup>   | 16,000 e            |
| Steel, crude  | thousand metric tons  | 4,709               | 4,564                  | 4,242               | 4,848 <sup>r</sup>    | 4,800               |
| Semimanufactures                                    | do.                   | 4,115               | 3,995                  | 4,470 <sup>r</sup>  | 4,000 <sup>e</sup>    | 4,000 e             |
| INDUSTRIAL MINERALS                                 |                       |                     | - /                    | ,                   |                       | ,                   |
| Barite, concentrate <sup>e</sup>                    |                       | 12,000              | 27,100 <sup>r, 3</sup> | 12,000 r            | 15,000 <sup>r</sup>   | 13,000              |
| Cement, hydraulic                                   | thousand metric tons  | 3,147               | 3,158                  | 3,499               | 3,593                 | 3,718               |
| Clays:  |                       | 0,117               | 0,100                  | 0,000               | 0,070                 | 0,710               |
| Bentonite   |                       | 74,938              | 69,252                 | 75,752              | 93,373                | 121,347             |
| Kaolin  |                       | 31,000              | 89,420                 | 85,000              | 30,000                | 30,000 °            |
| Ceramic <sup>e</sup>                                |                       | 66,000 <sup>3</sup> | 50,000                 | 50,000              | 40,000                | 40,000              |
| Dolomite  | thousand metric tons  | 1,250               | 1,117                  | 1,021               | 990                   | 1,057               |
| Gypsum and anhydrite, crude                         | thousand metric tons  | 93,800              | 127,100                | 107,000             | 110,000               | 110,000 °           |
| Lime, hydrated and quicklime                        | thousand metric tons  | 847                 | 961                    | 946                 | 1,104                 | 1,123               |
| Magnesite, concentrate                              | thousand metric tons  | 397,259             | 404,776                | 447,700             | 555,710               | 457,763             |
| Nitrogen, N content of ammonia                      |                       | 288,000             | 275,223                | 236,040 r           | 241,383 <sup>r</sup>  | 524,536             |
| Perlite   |                       | 15,000              | 23,840                 | 13.000 r            | 20,000                | 20.000 °            |
| Salt  |                       | 133,100             | 121,600                | 150,850 r           | 150,000 r             | 150,000 e           |
|   | thousand cubic meters | 2,200 r             | 2,200 r                | 2.000 r             | 2,000 r               | 2,000               |
| Stone:  | mousand cubic meters  | 2,200               | 2,200                  | 2,000               | 2,000                 | 2,000               |
|   | thousand              | 2 452               | 4 501                  | 6.024               | 6 (11                 | 0 (15               |
| Limestone and other calcareous stones for cement    | thousand metric tons  | 3,453               | 4,501                  | 6,034               | 6,611                 | 9,615               |
| Crushed stone                                       | thousand cubic meters | 5,075               | 4,472                  | 6,541               | 8,727                 | 8,609               |
| Talc  |                       | 1,000 r             | 1,500 r                | 1,500 r             | 1,500 <sup>r, e</sup> | 1,500 °             |
| Zeolites<br>See footnotes at end of table           |                       | 28,000              | 37,000                 | 42,000              | 40,000                | 40,000 e            |

See footnotes at end of table.

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

#### (Metric tons unless otherwise specified)

| Commodity <sup>2</sup>         |                            | 2003             | 2004             | 2005             | 2006               | 2007                |
|--------------------------------|----------------------------|------------------|------------------|------------------|--------------------|---------------------|
| MINERAL FUELS AND RELAT        | ED MATERIALS               |                  |                  |                  |                    |                     |
| Coal, brown and lignite        | thousand metric tons       | 3,077            | 2,952            | 2,511            | 2,200 <sup>r</sup> | 2,111               |
| Coke: <sup>e</sup>             |                            |                  |                  |                  |                    |                     |
| Metallurgical                  | do.                        | 1,500            | 1,500            | 1,500            | 1,500              | 1,500               |
| Unspecified                    | do.                        | 200              | 200              | 200              | 200                | 200                 |
| Dry natural gas                | million cubic meters       | 198 <sup>r</sup> | 170 <sup>r</sup> | 142 <sup>r</sup> | 198 <sup>r</sup>   | 142 <sup>p</sup>    |
| Petroleum:                     |                            |                  |                  |                  |                    |                     |
| Crude:                         |                            |                  |                  |                  |                    |                     |
| As reported                    | thousand metric tons       | 48               | 42 <sup>r</sup>  | 35 <sup>r</sup>  | 28 <sup>r</sup>    | 25 °                |
| Converted <sup>e</sup>         | thousand 42-gallon barrels | 325 <sup>r</sup> | 285 r            | 237 <sup>r</sup> | 190 <sup>r</sup>   | 170                 |
| Refinery products <sup>e</sup> | do.                        | 40,000           | 44,500           | 44,500           | 44,500             | 40,700 <sup>3</sup> |

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>p</sup>Preliminary. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero. <sup>1</sup>Table includes data available through January 2009.

<sup>2</sup>In addition to the commodities listed, arsenic, diatomite, feldspar, illite, sodium compounds, sulfur, and sulfuric acid are produced, but available information is inadequate to make reliable estimates of output.

<sup>3</sup>Reported figure.

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

#### TABLE 2

#### SLOVAKIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

#### (Thousand metric tons unless otherwise specified)

| Commodity           | Major operating companies <sup>1</sup> | Location of main facilities <sup>2</sup> | Annual capacity |  |
|---------------------|--|--|-----------------|--|
| Aluminum            | ZSNP Aluminum Works (Slovalco a.s.)    | Ziar and Hronom, central Slovakia        | 195             |  |
| Antimony:           |  |  |                 |  |
| Ore                 | Liptovska Dubrava                      | Central Slovakia                         | 50              |  |
| Do.                 | Pezinok                                | Western Slovakia                         | 50              |  |
| Smelter             | Vajskova                               | Central Slovakia                         | 2               |  |
| Cement              | Lietavska Lucka, Stupava, and Turna    | Slovakia                                 | 5,400           |  |
| Coal:               |  |  |                 |  |
| Brown               | Hornonitranske Bane, a.s.              | Prievidza, central Slovakia              | 3,500           |  |
| Do.                 | Bana Dolina, a.s.                      | V'lky Krtis, southern Slovakia           | 500             |  |
| Lignite             | Bana Zhorie, a.s.                      | Holic, western Slovakia                  | 400             |  |
| Copper:             |  |  |                 |  |
| Refinery            | Kovohuty a.s.                          | Krompachy, central Slovakia              | 30              |  |
| Ferroalloys         | OFZ, a.s.                              | Istebne                                  | 150             |  |
| Gallium             | ZSNP Aluminum Works (Slovalco a.s.)    | Ziar and Hronom, central Slovakia        | 5               |  |
| Iron:               |  |  |                 |  |
| Ore                 | Nizna Slana and Rudnany                | Central Slovakia                         | 1,600           |  |
| Concentrate         | do.                                    | do.                                      | 1,300           |  |
| Lead-zinc, ore      | Banska Stiavnica                       | do.                                      | 200             |  |
| Magnesite           | SMZ a.s.                               | Jelsava, eastern Slovakia                | 370             |  |
| Do.                 | Slovmag a.s.                           | Lubenik, central Slovakia                | 150             |  |
| Petroleum, refinery | SLOVNAFT (MOL Plc., 98.5%)             | Bratislava                               | 6,000           |  |
| Do.                 | Petrochema a.s.                        | Dubova                                   | NA              |  |
| Salt                | Solivary a.s.                          | Presov, eastern Slovakia                 | 150             |  |
| Steel, crude        | U.S. Steel Kosice                      | Kosice, eastern Slovakia                 | 4,700           |  |
| Do.                 | Zeleziarne Podbrezova a.s.             | Podbrezova                               | 600             |  |
|                     |  |  |                 |  |

NA Not available.

<sup>1</sup>All mining companies are Government owned.

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