



# 2017–2018 Minerals Yearbook

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## HUNGARY

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# THE MINERAL INDUSTRY OF HUNGARY

By Sinan Hastorun and Loyd M. Trimmer III

**Note: In this chapter, information for 2017 is followed by information for 2018.**

In 2017, Hungary was the sixth-ranked producer of perlite in the world and accounted for about 1% of global production. Other industrial minerals produced in Hungary included alginate, various clays, diatomite, lime, nitrogen, sulfur, and zeolites. Among metals, the country produced alumina, steel, and minor amounts of bauxite. Mineral fuels produced were coal, crude petroleum, and natural gas (table 1; Bennett, 2019).

## Minerals in the National Economy

Hungary's real gross domestic product (GDP) increased by 4.1% in 2017 compared with that of 2016; the nominal GDP was \$134.3 billion<sup>1</sup> in 2017. Mining and quarrying employed 36,700 people in 2017 and contributed only 0.2% of the gross value added compared with 0.1% in 2016. Manufacturing accounted for 23.2% of the gross value added in 2017 compared with 23.5% in 2016. The quantity of mining and quarrying output increased by 23.9%, whereas total industrial output increased by 4.6% in 2017. The output of base metals and fabricated metal products increased by 12.1%; of nonmetallic mineral products, by 7.6%; and of coke and refined petroleum products, by 3.7%. The quantity of mining and quarrying exports, which increased by 1.2% in 2017, accounted for 0.03% of Hungary's total exports of goods and services, which were valued at \$109 billion. Exports of nonmetallic mineral products accounted for 4.7% of the value of total exports and they increased by 4.6% in terms of quantity; exports of base metals and fabricated metal products accounted for 4.4% of the value of total exports and increased in quantity by 11.5%; and exports of coke and refined petroleum products accounted for 1.3% of the value of total exports and increased in quantity by 13%. The value of imports of ores and metals increased by 27% to \$2.9 billion in 2017 from \$2.3 billion in 2016 (Hungarian Central Statistical Office, 2019a–g; 2020; World Bank Group, The, 2020).

## Production

The production amounts for several mineral commodities changed significantly in 2017. Among metals, the production of pig iron increased by 52%; that of raw steel, by 49%; and semimanufactured steel products, by 24%. The production of manganese ceased in 2017. The production of bauxite decreased by 77%. Among industrial minerals and mineral fuels and related materials, the production of marl increased by 123%; diatomite, by 67%; foundry sand, by 66%; bentonite, by 38%; cement, by 30%; alginate, by 26%; kerosene, by 22%; limestone, by 17%; nitrogen and diesel, by 16%; gravel, by 14%; and sandstone, by 12%. The production of kaolin ceased in 2017.

<sup>1</sup>Where necessary, values have been converted from Hungarian forints (HUF) to U.S. dollars (US\$) at an annual average exchange rate of HUF285.583=US\$1.00 for 2017.

The production of peat decreased by 36% (by weight); common sand, by 35%; and quartzite, by 29%. Among mineral fuels and related materials, fuel oil output decreased by 84%; bitumen, by 17%; and lignite coal, by 14% (table 1).

## Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

## Commodity Review

### Metals

**Bauxite and Alumina and Aluminum.**—Magyar Aluminium Ltd. (MAL), which had been Hungary's sole producer of bauxite and alumina, produced only small amounts of bauxite at its Bakony Mine in 2017. MAL's alumina assets had been acquired by IC Profil in October 2014 after legal action owing to a ruptured tailings dam. Production at the Ajka Timfoldgyar alumina plant stopped at that time. It was not known when, or whether, IC Profil would restart alumina production at the plant (NOL, 2015; Than, 2017).

**Iron and Steel.**—ISD Dunafer Co. Ltd., the sole steel-producing company in Hungary, employed 5,052 workers in 2017. In August, the company reported that it reached 48% of its full-year steel output target by the end of June by producing 769,676 metric tons of steel in the first half of 2017. ISD Dunafer began operating its renovated blast furnace in Dunaujvaros in July 2016. The new blast furnace allowed the company to fulfill smaller-size orders and to increase the quality of steel products. ISD Dunafer aimed to increase its crude steel production capacity to about 2 million metric tons per year (Mt/yr) from 1.7 Mt/yr (Daily News Hungary, 2016; Budapest Business Journal, 2017).

## Industrial Minerals

**Cement.**—Duna-Dráva Cement Kft., which was 50% owned by HeidelbergCement AG of Germany, operated two cement plants in Vac and Beremend, which produced various types of cement. In June 2016, the company had launched a \$25 million environmental investment to minimize dust emissions (International Cement Review, 2017, p. 164; HeidelbergCement AG, 2018).

## Mineral Fuels and Related Materials

**Coal.**—Hungary's production of coal, which consisted largely of lignite, decreased by 14% to about 7.89 million metric tons (Mt) in 2017. Hungary's coal imports in 2017 remained unchanged at 1.5 Mt compared with those of 2016. In December, RWE AG and EnBW AG, both of Germany,

sold for an undisclosed sum their shares of the 950-megawatt Mátrai Eromu lignite powerplant to a consortium of Energetický a průmyslový Holding, a.s. (EPH) of Czechia and Status Power Invest Kft. of Hungary. The powerplant was supplied by opencast coal mines at Visonta and Bukkabraný and employed about 2,000 workers. Also, in December, Veolia of France acquired the Bakonyi Erőmű Zrt heat and powerplant at Ajka in western Hungary. The powerplant was fueled by biomass and coal. Electricity generated from lignite coal accounted for about 17% of the electricity generated in Hungary (table 1; European Association for Coal and Lignite, 2018, p. 11).

#### **Natural Gas, Petroleum, and Petroleum Products.—**

Production of crude petroleum and condensate by Hungarian Oil and Gas Co. plc. (which was owned by the MOL Group) decreased by 4% to 12,800 barrels of oil equivalent per day (BOE/d) in 2017 (the production data in table 1 are in real volume of output, not BOE). The company produced about 26,300 BOE/d of natural gas (about 3.95 million cubic meters per day of natural gas) in 2017. In 2017, MOL drilled and tested three exploration wells; the Kunagota-5 and the Toalmas North-2 wells were proved to be dry, and an extended well test was ongoing at the Mezosas-SouthWest-2 well. MOL was awarded three new hydrocarbon exploration licenses in the fifth bidding round in the areas of Orseg, Somogybukkod, and Somogyvamos in western Hungary. In 2017, MOL continued its production optimization program, and achieved an annualized production increase of 2,100 BOE/d (MOL Group, 2018, p. 45–46).

## **MINERAL INDUSTRY HIGHLIGHTS IN 2018**

Hungary's real GDP increased by 5.1% in 2018 compared with that of 2017; the nominal GDP was \$157.9 billion<sup>2</sup> in 2018. Mining and quarrying contributed only 0.3% of the gross value added, whereas manufacturing accounted for 22.1% in 2018. Total industrial production increased by 3.5% in 2018. Nonmetallic mineral products output increased by 15.6%; that of base metals and fabricated metal products, by 7%; manufacture of chemicals and chemical products, by 5.7%; and coke and refined petroleum products, by 4%. The quantity of mining and quarrying exports decreased by 30.4% and accounted for 0.02% of the value of Hungary's total exports of goods, which was \$123.6 billion in 2018. Exports of nonmetallic mineral products accounted for 5.1% of the value of total exports and increased by 10.6% in terms of quantity; base metals and fabricated metal products accounted for 4.7% of the value of total exports and increased in quantity by 6.2%; and coke and refined petroleum products accounted for 1.5% of the value of total exports and decreased in quantity by 3.8% (Hungarian Central Statistical Office, 2019a–g).

In 2019, the most notable increases in mineral production were for, among metals, bauxite, which increased by 38%, and raw steel, by 5%. The production of semimanufactured steel products decreased by 4% compared with that of the previous year. Among industrial minerals, the production of common sand increased by 90% and gravel, by 13%. The production of bentonite clay was estimated to have decreased by 9% compared

with that of the previous year. Among mineral fuels and related materials, fuel oil output increased by 217%; bituminous coal, by 164%; kerosene, by 27%; bitumen, by 23%; naphtha, by 19%; crude petroleum, by 16%; liquefied petroleum gas, by 13%; motor gasoline, by 12%; and marketable natural gas, by 10% (table 1).

## **Outlook**

Hungary's bauxite output is likely to remain low, whereas alumina production may resume if new investment can be secured for the Ajka Timfoldgyar alumina plant. Raw steel and manufactures output are expected to continue their upward trajectory owing to ISD Dunaferr's ongoing capacity expansion. Petroleum and natural gas output are likely to remain at about the same levels. The production of cement and other construction materials may increase owing to new public infrastructure projects and the reactivation of idle cement plants.

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<sup>2</sup>Where necessary, values have been converted from Hungarian forints (HUF) to U.S. dollars (US\$) at an annual average exchange rate of HUF270.212=US\$1.00 for 2018.

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TABLE 1  
HUNGARY: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>  
(Thousand metric tons, gross weight, unless otherwise specified)

| Commodity <sup>2</sup>                                 |                      | 2014                   | 2015                   | 2016                   | 2017                 | 2018                 |
|--|----------------------|------------------------|------------------------|------------------------|----------------------|----------------------|
| <b>METALS</b>  |                      |                        |                        |                        |                      |                      |
| <b>Aluminum:</b>                                       |                      |                        |                        |                        |                      |                      |
| Bauxite  | metric tons          | 14,000                 | 8,000                  | 16,700 <sup>r</sup>    | 3,774                | 5,223                |
| Alumina, calcined                                      | do.                  | 61,000                 | 255,274 <sup>r</sup>   | 273,612 <sup>r</sup>   | 273,329              | 265,000              |
| Gallium <sup>e</sup>                                   | kilograms            | 260                    | --                     | --                     | --                   | --                   |
| <b>Iron and steel:</b>                                 |                      |                        |                        |                        |                      |                      |
| Pig iron   |                      | 801                    | 1,247                  | 863                    | 1,311                | 1,355                |
| <b>Steel:</b>  |                      |                        |                        |                        |                      |                      |
| Raw steel  |                      | 1,152                  | 1,675                  | 1,274                  | 1,901                | 1,988                |
| Products, semimanufactured                             |                      | 1,823                  | 1,714                  | 1,593                  | 1,972                | 1,900 <sup>e</sup>   |
| <b>Manganese, mine:</b>                                |                      |                        |                        |                        |                      |                      |
| Gross weight   | metric tons          | 51,000                 | 57,000                 | 18,460 <sup>r</sup>    | --                   | --                   |
| Mn content   | do.                  | 13,000                 | 15,000 <sup>e</sup>    | 5,000 <sup>e</sup>     | --                   | --                   |
| <b>INDUSTRIAL MINERALS</b>                             |                      |                        |                        |                        |                      |                      |
| Alginite <sup>3</sup>                                  | metric tons          | 3,983                  | 3,571                  | 3,415                  | 4,302                | 4,200 <sup>e</sup>   |
| Cement, hydraulic <sup>e</sup>                         |                      | 1,530 <sup>r</sup>     | 1,570 <sup>r</sup>     | 1,280 <sup>r</sup>     | 1,660                | 1,670                |
| <b>Clay:</b>   |                      |                        |                        |                        |                      |                      |
| Bentonite, raw   | metric tons          | 9,900 <sup>r</sup>     | 10,100 <sup>r</sup>    | 14,300 <sup>r, e</sup> | 19,673               | 18,000 <sup>e</sup>  |
| Kaolin, beneficiated                                   | do.                  | 330 <sup>r</sup>       | 1,900 <sup>r</sup>     | 1,400 <sup>r</sup>     | --                   | --                   |
| Refractory, chamotte                                   | do.                  | 196 <sup>r</sup>       | 200 <sup>r, e</sup>    | 200 <sup>r, e</sup>    | 200 <sup>e</sup>     | 200 <sup>e</sup>     |
| Diatomite  | do.                  | 524                    | 1,040                  | 703                    | 1,173                | 1,200 <sup>e</sup>   |
| Lime, calcined   |                      | 270 <sup>r, e</sup>    | 310 <sup>e</sup>       | 300 <sup>e</sup>       | 283                  | 282                  |
| Nitrogen, ammonia, N content <sup>e</sup>              |                      | 390 <sup>r</sup>       | 330 <sup>r</sup>       | 370 <sup>r</sup>       | 430                  | 430                  |
| Perlite <sup>3</sup>                                   | metric tons          | 67,800 <sup>r</sup>    | 64,700 <sup>r</sup>    | 75,400 <sup>r</sup>    | 71,400               | 71,000 <sup>e</sup>  |
| <b>Sand and gravel, industrial:</b>                    |                      |                        |                        |                        |                      |                      |
| Foundry sand   | do.                  | 63,018 <sup>3</sup>    | 62,400 <sup>3</sup>    | 66,400 <sup>r, 3</sup> | 110,000 <sup>3</sup> | 110,000 <sup>e</sup> |
| Glass sand   | do.                  | 57,630 <sup>3</sup>    | 65,600 <sup>3</sup>    | 68,500 <sup>r, 3</sup> | 66,400 <sup>3</sup>  | 66,400 <sup>e</sup>  |
| Other, unspecified                                     | do.                  | 75,405                 | 80,000                 | 80,000 <sup>e</sup>    | 80,000 <sup>e</sup>  | 80,000 <sup>e</sup>  |
| <b>Stone, sand, and gravel, construction:</b>          |                      |                        |                        |                        |                      |                      |
| <b>Sand and gravel:</b>                                |                      |                        |                        |                        |                      |                      |
| Common sand  |                      | 7,800 <sup>3</sup>     | 5,100 <sup>3</sup>     | 4,200                  | 2,748                | 5,219                |
| Gravel   |                      | 27,500 <sup>3</sup>    | 23,800                 | 22,858 <sup>r</sup>    | 26,032               | 29,288               |
| <b>Stone:</b>  |                      |                        |                        |                        |                      |                      |
| Crushed, quartzite <sup>3</sup>                        | metric tons          | 590 <sup>r</sup>       | 220                    | 407                    | 291                  | 290 <sup>e</sup>     |
| <b>Dimension:</b>                                      |                      |                        |                        |                        |                      |                      |
| Dolomite   |                      | 6,700 <sup>r, 3</sup>  | 7,400 <sup>r, 3</sup>  | 5,800 <sup>r, 3</sup>  | 6,111                | 6,100 <sup>e</sup>   |
| Limestone  |                      | 6,400 <sup>r, 3</sup>  | 6,700 <sup>r, 3</sup>  | 6,000 <sup>r, 3</sup>  | 7,041                | 7,000 <sup>e</sup>   |
| Marl   | metric tons          | 2,728 <sup>3</sup>     | 3,011 <sup>3</sup>     | 2,554 <sup>r, 3</sup>  | 5,683                | 5,500 <sup>e</sup>   |
| Sandstone  | do.                  | 37,494 <sup>3</sup>    | 43,609 <sup>3</sup>    | 2,747 <sup>r, 3</sup>  | 3,079                | 3,000 <sup>e</sup>   |
| Sulfur, byproduct, all sources, S content <sup>e</sup> |                      | 54 <sup>r</sup>        | 54 <sup>r</sup>        | 50                     | 50                   | 50                   |
| Zeolites   | metric tons          | 31,300 <sup>r, 3</sup> | 33,700 <sup>r, 3</sup> | 29,600 <sup>r, 3</sup> | 28,648               | 28,500 <sup>e</sup>  |
| <b>MINERAL FUELS AND RELATED MATERIALS</b>             |                      |                        |                        |                        |                      |                      |
| <b>Coal:</b>   |                      |                        |                        |                        |                      |                      |
| Bituminous   | metric tons          | --                     | 5,687 <sup>r</sup>     | 846 <sup>r</sup>       | 789                  | 2,083                |
| Lignite <sup>4</sup>                                   |                      | 9,554                  | 9,258                  | 9,170 <sup>r</sup>     | 7,890                | 7,844                |
| Coke, metallurgical                                    |                      | 923                    | 860                    | 900 <sup>e</sup>       | 900 <sup>e</sup>     | 900 <sup>e</sup>     |
| Natural gas, marketable                                | million cubic meters | 1,934                  | 1,887                  | 1,974                  | 1,885                | 2,074                |

See footnotes at end of table.

TABLE 1—Continued  
HUNGARY: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons, gross weight, unless otherwise specified)

| Commodity <sup>2</sup>                               |                            | 2014                | 2015                | 2016                | 2017                | 2018                 |
|--|----------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| <b>MINERAL FUELS AND RELATED MATERIALS—Continued</b> |                            |                     |                     |                     |                     |                      |
| Peat:  |                            |                     |                     |                     |                     |                      |
| Horticultural use:                                   |                            |                     |                     |                     |                     |                      |
| By volume  | cubic meters               | 166,234             | 302,298             | 218,624             | 269,490             | 250,000 <sup>c</sup> |
| By weight  | metric tons                | 78,685 <sup>r</sup> | 97,341 <sup>r</sup> | 89,981 <sup>r</sup> | 57,110              | 56,782               |
| Paludal mud  | do.                        | 11,200              | 20,300              | 20,000 <sup>c</sup> | 20,000 <sup>c</sup> | 20,000 <sup>c</sup>  |
| Petroleum:   |                            |                     |                     |                     |                     |                      |
| Crude  | thousand 42-gallon barrels | 3,875               | 4,640               | 5,295               | 5,170               | 6,000                |
| Refinery:  |                            |                     |                     |                     |                     |                      |
| Bitumen  | do.                        | 2,850               | 2,966               | 3,191               | 2,647               | 3,267                |
| Diesel fuel, including heating oil                   | do.                        | 27,330              | 23,172              | 22,828 <sup>r</sup> | 26,461              | 27,948               |
| Fuel oil   | do.                        | 76 <sup>r</sup>     | 87 <sup>r</sup>     | 38 <sup>r</sup>     | 6                   | 19                   |
| Gasoline, motor                                      | do.                        | 9,661               | 10,117              | 9,456               | 8,940               | 10,044               |
| Kerosene   | do.                        | 1,427               | 1,475               | 1,493               | 1,818               | 2,306                |
| Liquefied petroleum gas                              | do.                        | 930                 | 1,014               | 1,013               | 1,072               | 1,214                |
| Naphtha  | do.                        | 7,424               | 7,457               | 8,117               | 7,728               | 9,223                |
| Other fuels  | do.                        | 8,911               | 8,682               | 8,981               | 8,810               | 8,158                |
| Total  | do.                        | 58,600              | 55,000              | 55,100              | 57,500              | 58,900               |

<sup>c</sup>Estimated. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through December 11, 2019. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>In addition to the commodities listed, talc, urea, and a variety of other industrial minerals and construction materials may have been produced, but available information was inadequate to make reliable estimates of output.

<sup>3</sup>Converted from cubic meters to metric tons.

<sup>4</sup>Includes brown coal output.

TABLE 2  
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

| Commodity      | Major operating companies and major equity holders  |  | Location of main facilities   | Annual capacity   |                     |
|----------------|---|--|---|---|---------------------|
| Alumina        | IC Profil   |  | Ajka Timfoldgyar plant, about 120 kilometers southwest of Budapest, near Lake Balaton     | 300 <sup>e, 1</sup>                                     |                     |
| Aluminum       | Arconic-Köfém Kft (Arconic Inc., 100%)  |  | Szekesfehervar ingot plant  | 60 <sup>e</sup>   |                     |
| Bauxite        | Magyar Aluminium Ltd. (MAL) (Government, 100%)  |  | Bakony, 5 kilometers south of Ajka, northwest Hungary                                     | 20 <sup>e</sup>   |                     |
| Cement         | CRH Magyarorszag Zrt. (CRH plc., 100%)  |  | Plant at Miskolc  | 1,700 <sup>2</sup>                                      |                     |
| Do.            | Duna-Dráva Cement Kft. (HeidelbergCement AG, 50%, and Schwenk Zement KG, 50%)   |  | Plants at Beremend, 30 kilometers south of Pecs, and Vac, 35 kilometers north of Budapest | 2,500   |                     |
| Do.            | Lafarge Cement Magyarorszag Kft. (LafargeHolcim Ltd., 70%, and STRABAG SE, 30%)   |  | NOSTRA plant at Kiralyegyhaza, southwestern Hungary                                       | 1,000   |                     |
| Clay:          |   |  |   |   |                     |
| Bentonite      | Bentonit Hungaria Kft (S&B Industrial Minerals S.A., 100%)  |  | Mines and plant at Egyhazaskeszo  | NA  |                     |
| Unspecified    | Agyag-Asvany Kft.   |  | Two opencast mines at Felsopeteny   | NA  |                     |
| Coal, lignite  | Energetický a průmyslový Holding, a.s. (EPH), 36.3%; Status Power Invest Kft., 36.3%; Magyar Villamos Muvek Zrt., 25.5%; other shareholders, 1.9% |  | Thorez opencast mine at Visonta, 80 kilometers northeast of Budapest                      | 4,700 <sup>e</sup>                                      |                     |
| Do.            | do.   |  | Opencast mine at Bukkabran, 130 kilometers northeast of Budapest                          | 4,000 <sup>e</sup>                                      |                     |
| Do.            | Pannon Thermal Power Plant Inc.   |  | Pécs-Vasas opencast mine  | NA  |                     |
| Do.            | Vertes Power Plant Ltd. (Magyar Villamos Muvek Zrt., 96.59%)  |  | Markushegy Mine at Oroszlany, 55 kilometers west of Budapest                              | 1,400   |                     |
| Coke           | ISD Kokszolo Ltd. (ISD Dunaferr Co. Ltd.)   |  | Dunaujvaros, 60 kilometers south of Budapest  | 900   |                     |
| Iron, pig iron | ISD Dunaferr Co. Ltd. (Industrial Union of Donbass Corp.)   |  | do.   | 1,300   |                     |
| Natural gas    | million cubic meters  | Hungarian Oil and Gas Co. plc. (MOL Group) (Foreign investors, 25.2%; Government, 25.2%; CEZ MH B.V., 7.5%; OmanOil Ltd., 7.1%; others, 35%) |   | Oil and gas fields in southern and southwestern Hungary | 2,100 <sup>e</sup>  |
| Perlite        | Perlít 92 Kft   |  | Opencast mine and processing plant at Palhaza, northeastern Hungary                       | NA  |                     |
| Petroleum:     |   |  |   |   |                     |
| Crude          | 42-gallon barrels per day   | Hungarian Oil and Gas Co. plc. (MOL Group) (Foreign investors, 25.2%; Government, 25.2%; CEZ MH B.V., 7.5%; OmanOil Ltd., 7.1%; others, 35%) |   | Oil and gas fields in southern and southwestern Hungary | 30,000 <sup>e</sup> |
| Refined        | do.   | Duna Refinery [Hungarian Oil and Gas Co. plc. (MOL Group), 100%]   |   | Szazhalombatta, 25 kilometers southwest of Budapest     | 165,000             |
| Do.            | do.   | Tisza Refinery [Hungarian Oil and Gas Co. plc. (MOL Group), 100%]  |   | Tiszaújváros in northeastern Hungary                    | NA                  |
| Do.            | do.   | Zala Refinery [Hungarian Oil and Gas Co. plc. (MOL Group), 100%]   |   | Zalaegerszeg in western Hungary                         | NA                  |
| Silica         | Uveg-Asvany Banyaszati Ipari Kft.   |  | Mine and plant at Fehevaresugo  | NA  |                     |
| Steel, raw:    |   |  |   |   |                     |
| Primary        | ISD Dunaferr Co. Ltd. (Industrial Union of Donbass)   |  | Dunaujvaros, 60 kilometers south of Budapest  | 1,700 <sup>e</sup>                                      |                     |
| Secondary      | Dam 2004 Acel-es Hengermu Kereskedemi es Szolgaltato Ltd.   |  | Diosgyor, 145 kilometers northeast of Budapest  | 550   |                     |
| Do.            | OAM OZD Steelworks Ltd.   |  | 120 kilometers northeast of Budapest  | 360   |                     |

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

<sup>1</sup>Stopped most production activity in October 2014.

<sup>2</sup>Inactive since 2011.