



2013 Minerals Yearbook

HUNGARY

THE MINERAL INDUSTRY OF HUNGARY

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Hungary is a moderately developed country in eastern Central Europe that had successfully transitioned from a centrally planned economy in 1990 to an emerging market economy in 2013. Although the country has about 80 different identified mineral deposits, only a limited amount of those mineral resources could be extracted economically today. Since the fall of communism in Hungary at the end of 1989, many large state-owned industrial companies were either closed or had been transformed into smaller privatized companies. In particular, many large uneconomic coal mines had been closed. Mining operations continued for crude construction materials (including aggregates, crushed rock, dimension stone, gravel, and sand) and other industrial minerals (such as clays, diatomite, lime, peat, perlite, and quartzite). Although the country was historically an important iron and steel producer, downsizing continued among its remaining few producers in the wake of the global economic crisis of 2008. Metal ore production continued its recent decline (table 1; Katona and others, 2008, p. 139; Than, 2009; Komiljovics, 2014; Mining Journal, 2014).

In 2013, Hungary was estimated to be the fifth-ranked producer of perlite (mostly for use in construction) in the world and to have accounted for about 4% of global production. With respect to metallic minerals, bauxite was still mined in the country; alumina was produced from the bauxite, as was gallium (as a byproduct of alumina refining). Hungary accounted for about 1% of the world's production of gallium. Hungary continued to produce mineral fuels and related materials, but imports still accounted for about three-fourths of the country's total energy consumption (Hungarian Central Statistical Office, 2014a; Bennett, 2015; Jaskula, 2015).

The territory of Hungary lies within the Carpathian basin, whose pre-Tertiary geologic structure yields energy-rich minerals, ores, and raw materials, such as bauxite, coal, lignite, and limestone. The basin is made up of predominantly Palaeozoic, Mesozoic, and Paleogene sedimentary sequences and Tertiary igneous rocks. According to the National Cadastre of Resources as of 2007, there were 23.8 billion metric tons (Gt) of recoverable industrial and 37.7 Gt of "geological" resources at 3,600 locations in Hungary (Haas, 2008, p. 34; Katona and others, 2008, p. 139).

Minerals in the National Economy

In 2013, Hungary's real gross domestic product (GDP) increased by 1.1% compared with a decrease of 1.7% in 2012. The nominal GDP was 29,846 billion Hungarian forints (HUF) (\$133.4 billion),¹ which was up from HUF28,549 billion (\$126.7 billion) in 2012. The positive growth mainly was owing

¹Where necessary, values have been converted from Hungarian forints (HUF) to U.S. dollars (US\$) at an annual average exchange rate of HUF225.37=US\$1.00 for 2012 and HUF223.70=US\$1.00 for 2013. All values are nominal, at current prices, unless otherwise stated.

to higher domestic demand caused in particular by increased public spending on infrastructure and housing, increased production capacity in the automotive industry, and the recovery of the construction sector (European Bank for Reconstruction and Development, 2013; Hungarian Central Statistical Office, 2014b, p. 18; International Monetary Fund, 2014, p. 5).

The value of production by the mining and quarrying sector increased by 11% in 2013, accounting for 0.2% (HUF124,184 million, or about \$555 million) of the GDP compared with about the same percentage (HUF111,616 million, or about \$495 million) of the GDP in 2012. The value of output by the coke and petroleum refinery products manufacturing sector decreased by 8% to HUF1.7 billion (about \$7.4 billion), accounting for 2.8% of the GDP in 2013 compared with 3.1% (about \$8 billion) in 2012. In 2013, the value added to the GDP by the entire industrial sector accounted for 26.3% of the GDP compared with 26.6% in 2012, which was only a slight decrease. The bulk of the industrial sector's value added had to do with assembling manufactured products for export. The country was not a major consumer of nonfuel minerals. The value added to the GDP by the construction sector increased by 11.3% and accounted for 4.0% of the GDP compared with 3.8% in 2012. This sector appeared to use at least some domestically produced construction materials and was expected to grow significantly in 2014 owing to increased Government spending on infrastructure and housing loan programs (U.S. Department of Commerce, 2013, p. 43; Hungarian Central Statistical Office, 2014b-d).

Government Policies and Programs

In 2013, the main mining law was Act no. 48, which went into effect in 1993 and was amended multiple times (including by Ministerial Decree no. 81/2012, which was promulgated in 2012 and provides additional regulation of the country's mining concession tendering procedure). The mining law and related amendments, decrees, and codes apply to all mineral commodities, including mineral fuels and related materials. The mining law defines the Government's legal basis for regulating exploration, mine operation, and mineral processing; for providing the geologic and technical information needed to outline concession tender conditions; and for overseeing mine closures and mine site remediation. It also establishes the framework for estimating reserves, for determining environmental risks associated with mining, and for temporarily stopping mine production. According to the mining law, all mineral raw materials and geothermal energy are state-owned as long as they remain in their natural place of occurrence, but they become the property of the extractor upon extraction (and utilization). The mining law also sets up a schedule of royalty rates, including 12% on the value of production of oil, natural gas, and carbon black; 5%, on nonmetallic hard minerals (other than hard mineral fuels, such as coal); and 2%, on other hard

minerals and geothermal energy. In June 2013, the Parliament approved a bill to increase mineral royalty rates by one-third as part of a broader package of revenue-raising measures (Katona and Fodor, 1998; United Nations Department of Social and Economic Affairs, Division for Sustainable Development, 2009; Eddy, 2013; MTI Econews, 2013; Hungarian Office for Mining and Geology, undated).

A new national energy strategy was issued in February 2012. Under the new strategy, the Government provides various incentives to private companies to encourage greater use of domestic coal and lignite resources in an environmentally friendly manner for power generation, the maintenance and expansion of domestic nuclear capacity, the development of new petroleum and natural gas resources, and increased renewable energy generation (Hungarian Ministry of National Development, 2012; Molnár, 2013).

The Government planned to meet Hungary's 2020 renewable energy targets under the European Union (EU) Directive 2009/28/EC through feed-in tariffs, fiscal incentives provided to households and businesses, and promotion of pilot projects. Its overall target shares for renewable energy sources were 13% of gross final energy consumption and 10.9% of gross electricity demand. In 2010, Hungary's renewable energy share in its total energy supply was 8.8%, which exceeded the Government's first interim target of 6.0% (European Renewable Energy Council, 2011, p. 56; European Commission, 2013a, p. 15; International Energy Agency, 2014a).

Since 2010, the Government had implemented a series of tax changes affecting the energy and utilities sectors, including the imposition of special "crisis" sector-specific taxes in order to reduce its budget deficit in line with its obligations under the EU's excessive deficit procedure. Although these taxes were meant to be temporary, they became permanent in a modified form in June 2013. The Government also mandated three successive mandatory cuts in the regulated price of household utilities, including electricity, heating, and gas during the year. In January, a 10% reduction in household utility prices took effect. In November, a further 11.1% reduction in price was mandated for utility companies (European Bank for Reconstruction and Development, 2013; U.S. Department of State, 2014; Varga, 2014, p. 193).

Since 2010, the Government had reversed privatizations of previously state-owned enterprises in sectors that it regarded as strategically important, of which the minerals and energy industry were an important component. Various enterprises involved in the aluminum, iron and steel, and natural gas sectors were categorized as strategically important and partially or wholly nationalized (Balazs, 2013; Varga, 2014).

Production

The production of most minerals decreased and many showed substantial output decreases of at least 20%. Metal-ore production continued to decrease in 2013, plummeting a further 59% from 2012 levels. This decrease in metal-ore production was primarily a result of the closure of the Halimba bauxite mine in early 2013, where Hungary's most serious chemical and environmental accident took place in 2010.

Among metals, the production of aluminum decreased by 74%; alumina, by 26%; and bauxite and gallium, by 63%. Iron and steel output was also greatly reduced owing to downsizing by ISD Dunafer Co. Ltd. in response to a further decrease in demand for steel in Europe. Pig iron output decreased by 48.9%; crude steel, by 42.8%; and steel semimanufactures, by 42.0%. The production of manganese decreased by 31.4% owing to decreased demand from the steel sector (table 1; Gulyas, 2013; Mining Journal, 2014).

In 2013, total production of clays, not including bentonite, was estimated to have decreased by 59% compared with that of 2012. Detailed production information by type of clay was not available. Consequently, the 25% decrease in production of unspecified clays listed in table 1 could be at least partially attributable to decreases in the production of kaolin or refractory clays as well. Diatomite output decreased by 66.4%, and perlite output decreased by 12%, but the reasons for these declines were unknown (table 1).

Among industrial minerals, production increased only for peat (173%), quartzite (57%), sand (17%), gravel (5.4%), and various types of stone, such as sandstone (104.3%), dimension stone (9.0%), and marl (8.3%). The increase in the outputs of sand, gravel, and stone were primarily owing to the higher demand for raw materials by the construction industry. Stone mining increased by 9%, and aggregates mining increased by 24% in 2013. The reasons for the sizable increases in peat and quartzite output were unknown. Among mineral fuels and related materials, brown coal output decreased by 16.3% owing to the decline in production of the Markushegy coal mine. Natural gas output decreased by 9.4%, and crude petroleum, by 7.9%, because of the continued lack of development of any new sources in Hungary in recent years (table 1; International Energy Agency, 2014b; Mining Journal, 2014).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities. In December 2012, the Government categorized Magyar Aluminium Ltd. (MAL) as a company of strategic importance by decree. In February, the Ministry of National Development (NFM) announced that the Hungarian National Asset Management Agency (MNV) would establish a new state-owned company (Nemzeti Mal-A Aluminum Zrt.) that would take over the management and operation of MAL. MAL was in the process of liquidation after a Hungarian court ordered that MAL be liquidated to pay off company creditors and others who had sued for damages resulting from the collapse of a tailings dam on October 4, 2010. Further steps were considered by the Government for the full nationalization of MAL, but definitive information regarding a timeline was not available as of yearend 2013 (Associated Free Press, 2012; Dékány, 2013b; Szabó and Vitéz, 2013; Velkei, 2013).

In August, the Government also advanced plans to nationalize the steelmaker ISD Dunafer, after its owner, Industrial Union of Donbass (ISD) Group of Ukraine, announced plans to downsize by laying off 1,500 workers in response to continued financial losses the company had sustained owing to the ongoing effects of the global economic crisis in 2008.

The National Economy Ministry was engaged in talks with ISD Dunaferr in September on a possible Government buyout of the company to protect the jobs of the 7,500 steelworkers and ensure the survival of a strategically important industry. Layoffs were suspended, but no final agreement had been reached as of yearend (Landry, 2013; Rochan, 2013; Komiljovics, 2014).

In March, the state-owned energy company MVM Zrt. acquired gas storage units and gas distribution businesses from E.ON SE of Germany. This acquisition was interpreted as a step to restore state control over the gas sector by the Government and improve its bargaining position with the Government of Russia in the upcoming renegotiation of long-term gas purchase agreements in 2015. The Government also increased its share in the gas storage sector by acquiring a majority stake in the gas storage company MMBF Zrt. Hungarian Oil and Gas plc (MOL) Nyrt, the main natural gas and petroleum company in Hungary, sold its shares in the MMBG Zrt. to the state-owned Hungarian Development Bank. As of June 30, 2014, the Government held a 24.7% ownership interest in MOL (Balazs, 2013; Hungarian Oil and Gas Co. plc, 2014; Varga, 2014, p. 193).

Mineral Trade

Hungary's exports increased by 4.2% to HUF24,118 billion (\$107.8 billion) in 2013 from HUF23,143 billion (\$102.7 billion) in 2012, and its imports increased by 4.4% to HUF22,163 billion (\$99.1 billion) from HUF21,221 billion (\$94.2 billion). As a result, the country's trade surplus increased slightly to reach \$8.5 billion. European countries including Russia and Turkey, and in particular, other EU states, continued to be Hungary's main trading partners. Europe accounted for 85.3% of Hungary's exports and 69.4% of its imports in 2013, and the EU accounted for 77.1% of exports and 55.2% of imports. In terms of both exports and imports, Germany by far had the largest shares, with 25.9% and 21.6%, respectively. Austria was Hungary's second most important trading partner in terms of exports, accounting for 5.7% of Hungarian exports, followed by Italy with a 4.7% share. Russia was Hungary's second most important trading partner in terms of imports, accounting for 13.8% of Hungarian imports, followed by China with a 10.0% share. The United States accounted for only 3.0% of Hungarian exports and 2.7% of its imports (Hungarian Central Statistical Office, 2014e, f).

In 2013, Hungary's trade balance for crude materials (including nonfuel minerals) was HUF215.2 million (\$1.0 billion) compared with HUF253.8 million (\$1.1 billion) in 2012. For mineral fuels, related materials, and energy (including electricity), the trade balance was -HUF1,906.8 million (-\$8.5 billion) compared with -HUF1,824 million (-\$8.1 billion) in 2012. In 2013, the value of the country's imports of mineral fuels and related materials (including electricity) was HUF3,299 billion (\$14.7 billion) and accounted for 15% of the total value of all imports compared with about 13% in 2012 (Hungarian Central Statistical Office, 2014g).

In 2013, Hungary's exports to the United States totaled \$3.8 billion and its imports from the United States totaled \$1.7 billion. Hungary's exports to the United States included, in order of value, iron and steel advanced manufactures

(\$5.6 million), bauxite and aluminum (\$2 million), nonferrous metals (\$1.4 million), iron and steel products except advanced manufactures (\$788,000), and sulfur (\$558,000). Hungary's imports from the United States included, in descending order of value, iron and steel products (\$8.1 million), nonferrous metals (\$4.4 million), iron and steel mill products (\$2 million), petroleum products (\$1.2 million), copper (\$938,000), aluminum and alumina (\$570,000), and nuclear fuel materials (\$240,000) (U.S. Census Bureau, 2014a, b).

Commodity Review

Metals

Aluminum and Bauxite and Alumina.—In February, MAL announced plans to close the Halimba bauxite mine in northwestern Hungary, but the company planned to continue to process ore and concentrates produced at its nearby Bakony Mine, as well as to import ore and concentrates. The production of bauxite at the Halimba Mine had been decreasing, especially since the tailings dam failure in October 2010, and MAL reported that it was no longer possible to operate the mine profitably at the current lower scale of production. The closure of the Halimba Mine was likely to have been the main cause of the 63% decrease in bauxite production in Hungary in 2013 compared with that of 2012. In March, the National Development Ministry announced that MAL would be dismantled by state-owned liquidator Nemzeti Reorganizációs Nonprofit by court order (Budapest Times, 2013; European Monitoring Centre on Change, 2013; Mining Journal, 2014).

Industrial Minerals

Cement.—In 2013, production of cement was estimated to have increased by 8% compared with that of 2012 owing to increased construction activity. The Government was engaged in the construction of multiple stadiums and new motorway development. Furthermore, its support of housing loans also resulted in the recovery of the housing sector. The physical volume of production by the construction sector increased by 9.7%. STRABAG SE, one of the main cement producers in the country, reported that production from its facilities in Hungary, along with a minority stake in Slovakia, covered 26% of the cement needed for its construction projects around the world. In October, STRABAG announced that it was awarded the tender for building the third section of the Hungarian motorway M4 (Hungarian Central Statistical Office, 2014b, h; STRABAG SE, 2014, p. 4; U.S. Department of Commerce, 2014, p. 43).

Holcim Ltd. of Switzerland announced in October 2012 that it planned to close its plant at Labatlan. Holcim established a new company, Holcim Magyarorszag Kft., in Hungary during the same month, whose core business would be cement sales and ready-mix concrete production. In November 2013, Holcim Zrt. merged into Osteuropäische Zementbeteiligungs AG of Germany. Consequently, Holcim Magyarorszag Kft. became the only Holcim company operating in Hungary and Holcim ended cement production in the country. In October 2013, Alcufer Kft. was chosen to carry out the demolition of the Labatlan cement

factory, which was expected to take 2 years. Holcim originally planned to build a new plant, named Nyergesujfalu, to replace Labatlan, but owing to the continuing decline in European cement demand, the company indefinitely shelved any new plant plans at the end of 2011. It also postponed the construction of its planned cement distribution base in Dabas near Budapest (Global Cement, 2012; CEE Construction, 2013; Holcim Ltd., 2014).

Mineral Fuels and Related Materials

In 2012 (the latest year for which comprehensive data were available), Hungary's primary energy supply was provided by natural gas (34.5%), crude oil and petroleum products (24.3%), nuclear energy (17.3%), coal (12.3%), and renewable energy sources (8.8%). The country's power generation mix was dominated by nuclear energy (46%), gas-fired generation (31%), and coal and lignite (18%). More than 15% of the country's electricity supply was imported, mostly from neighboring Slovakia. The country was import dependent for about 55% of its energy and for 80% of its natural gas consumption (Organisation for Economic Co-operation and Development, 2011; Euracoal, 2013, p. 36; Honore, 2014, p. 112).

Coal.—Hungary's lignite resources were concentrated in the regions of Transdanubia and in northern and northeastern Hungary. In 2013, Hungary's total lignite output was about 8.8 million metric tons (Mt), and about 95% of coal output was used for heat and power generation. There were three main coal extraction sites in the country. About 10% of the total production came from the Markushegy underground mine belonging to Vértés Power Plant Ltd. in western Hungary, which supplied coal to the nearby Vértés powerplant. The remaining 90% of Hungary's coal production came from the Visonta and the Bukkabrány, opencast mines which belonged to Matrai Eromu Zrt., a joint venture of RWE AG of Germany (50.9%), Magyar Villamos Muevek Zrt. (25.5%), EnBW AG (21.7%), and others (1.9%). The Vértés powerplant was earmarked for closure in 2015 on the basis of the reorganization plan implemented by its owner, MVM Hungarian Electricity Ltd., following the company's bankruptcy in 2011 (Euracoal, 2013, p. 37; Mining Journal, 2014, p. 23; MVM Hungarian Electricity Ltd., undated).

The Farkaslyuk Mine in northeastern Hungary was reopened in the second half of 2013 after 20 years of being closed, but no production or employment data were available. Farkaslyuk's owner, Ózdi Szénbányák, first obtained a permit in November 2011 to reopen the mine, which was reported to contain 12 Mt of coal. Coal production at the Markushegy Mine had decreased steadily since 2008, and the mine had been found not to be profitable by the end of 2012. In January, the European Commission decided to authorize public funding to aid in the process of closing the Markushegy Mine by the end of 2014 and help mitigate any social or environmental effects from the mine closure. In December, the Ministry of National Development signed an agreement with the Borsod-Abaúj-Zemplén county authority to set up a coal mining cluster in Borsod (Fischer, 2011; MTI Econews, 2011; European Commission, 2013b; Mining Journal, 2014, p. 23).

Natural Gas and Petroleum.—MOL continued to be the only hydrocarbon producer in Hungary. The company reported average daily natural gas production of 27,200 barrels of oil equivalent (BOE) compared with 29,900 BOE in 2012, which was a decrease of 6.2%, and average daily crude petroleum production of 11,500 BOE compared with 12,200 BOE in 2012, which was a decrease of 5.6%. Overall Hungarian hydrocarbon production decreased by 7% as a result of natural depletion. MOL announced that it had put several wells into production in the mature Algyo field and accelerated other field development projects in 2013 to compensate for the decline in production (MOL Group, 2014, p. 47).

TXM (a subsidiary of Falcon Oil & Gas Ltd. of Ireland) held a 35-year hydrocarbon production license in the Mako Trough, which formed a part of the greater Pannonian basin of central Europe. The license covered an area of approximately 99,460 hectares located in the Mako Trough and close to the MOL Group-owned and operated Algyo field. In June, Falcon announced the first of three exploration wells, Kút völgy-1, in order to evaluate the gas potential of the Algyo Formation. Operations were undertaken in partnership with NIS (a company that was 56% owned by Gazprom Group of Russia). In July, initial drilling was completed at the well after reaching a total depth of 3,305 meters (m). Falcon reported that the well encountered the top of the Algyo Formation at 2,985 m and natural gas over a gross interval of 320 m to total depth. Further evaluation of the first well was undertaken in the fourth quarter; the drilling of a second well was planned for 2014 (Falcon Oil & Gas Ltd., 2013a, b; 2014).

In August, the Ministry of National Development announced its long-awaited tender for concessions for mineral fuels and energy. In October 2010, Hungary had been effectively converted into a "closed area" with regard to exploration and exploitation of hydrocarbons, geothermal energy, coal, and ores, as no calls for concession tenders were issued for the 3-year period and no mining-related research and exploration took place. With the 2013 bid round, the Ministry issued public invitations to tender for concessions for the prospection, exploration, and production of petroleum and natural gas in four areas and of geothermal energy in three areas, for a total of seven blocks in the country. The concessions would grant exclusive rights in the given areas for a duration of 20 years, which could be extended without another tender for up to 10 years. The 2013 bid round also provided a new system for awarding concession agreements and a new framework for evaluating applicants and their bids, by comparing proposed projects contemporaneously in terms of their financial capability as opposed to awarding concessions to the earliest bidder. Bidding was closed on November 15, and results were expected to be announced in February 2014 (Ferenczi and Csanadi, 2013; Conybeare, 2014; Mining Journal, 2014, p. 23).

MOL was a participant in multiple international natural gas pipeline projects in order to diversify Hungary's natural gas import sources. The company held a 16.7% stake in the Nabucco West natural gas pipeline development project that would provide Hungary with imports of gas from the Caspian Sea through Turkey, Bulgaria, and Romania. In January, the co-owners of Nabucco West proposed to give

Azerbaijan's Shah Deniz gas consortium a 50% stake in the pipeline project in order to boost the pipeline's prospects against the rival Trans Adriatic Pipeline (TAP) project as the export route to Europe. In June, however, Nabucco West was shelved indefinitely because the Shah Deniz consortium selected the 870-kilometer (km)-long TAP to connect with the Trans Anatolian Pipeline (TANAP) near the Turkey-Greece border and to transport gas from Azerbaijan to Europe through Greece, Albania, and southern Italy. MOL was in discussions to become a participant in the South Stream Pipeline project, which would transmit gas from Russia across the bed of the Black Sea to Bulgaria, and then through Bulgaria and Serbia to Central Europe. In December, an agreement was signed by South Stream Ltd., which was a joint venture of MVM (the state-owned electricity wholesaler), Gazprom of Russia, and an unnamed consortium, to prepare the technological groundwork for the Hungarian section of the pipeline. Plans included building a gas compression facility between Hercegszanto and Tornyszentmiklos, which were the two end points of the section. South Stream was expected to transport about 30 billion cubic meters of natural gas from Russia beginning in 2017 (RT.com, 2012, 2013; EurActiv, 2013a, b; Magyar Nemzet, 2013; Molnár, 2013; Nepszabadsag, 2013; Trans Adriatic Pipeline AG, 2013).

Uranium.—The Government announced in 2012 that it would enter into a joint venture with Wildhorse Energy Ltd. of Australia to develop a uranium mining project in the Mecsek Hills, which could include reopening an old uranium mine near Pecs. The renewed focus on nuclear energy was partly in response to decreasing coal reserves in the country (owing to a lack of development of new coal resources) and partly in response to substantial uncertainty concerning access to proposed international natural gas pipelines for gas imports. A special purpose vehicle (SPV) uranium entity was established in September 2012, and state-owned Mecsekerc and MVM signed agreements to join the uranium administrative SPV in the second quarter of 2013. Wildhorse Energy announced that the main objective of the SPV, in accordance with the Government resolution of June 2012, was to conduct due diligence assessments on the feasibility of the property. If successful, this project would feed the planned service-life extension project of MVM Paks Nuclear Power Plant Ltd. (Eddy, 2012; Makan, 2013; Mining Journal, 2013, 2014; Molnár, 2013; Wildhorse Energy Ltd., 2013, p. 6; Budapest Telegraph, 2014; MVM Paks Nuclear Power Plant Ltd., undated).

Outlook

Hungary may continue to produce alumina, bauxite, and gallium at about the same levels as in 2013, which were already substantially reduced from the amount produced in recent years, if MAL is kept in operation through nationalization by the Government or is liquidated through a sale to a new owner. The production of iron and steel output may stop decreasing if the Government nationalizes Dunaferr and shelves current downsizing plans for the plant. Coal production is expected to increase greatly with the reopening of the Farkaslyuk Mine and planned development of the Bukkabrány lignite mining facility at the Matra powerplant. Further exploration at Farkaslyuk

could increase its estimated reserves of coal to 25 Mt from 12 Mt. The production of cement and other construction materials may continue to increase if the Government continues to budget more stimulus funds for the sector. Also, if the South Stream Pipeline project moves forward, then the construction of the Hungarian section of the pipeline and of a new natural gas storage facility may increase demand for steel and construction materials in the country through 2017 (MTI Econews, 2011; Budapest Telegraph, 2013; Dékány, 2013a; Maheshwari, 2013; Szabó and Vitéz, 2013).

Crude petroleum and natural gas outputs in Hungary are projected to decrease further, with MOL, the country's only hydrocarbon producer, aiming to keep the decrease at 5% by accelerating field development projects. If wells planned in the Mako Trough by Falcon yield hydrocarbon reserves as anticipated and the new hydrocarbons and geothermal energy bidding rounds prove successful in 2014, then Hungarian natural gas and petroleum output may increase instead. Finally, uranium production may begin in the country in coming years if Wildhorse Energy's project in Mecsek Hills yields viable results. The nationalization of companies and the imposition of new taxes, however, may discourage foreign investment in the mineral sector (European Bank for Reconstruction and Development, 2013; MOL Group, 2014, p. 18; Varga, 2014, p. 202).

References Cited

- Associated Free Press, 2012, Plant managers on trial for Hungarian toxic mud spill: PhysOrg.com, September 25. (Accessed November 12, 2014, at <http://phys.org/news/2012-09-trial-hungarian-toxic-mud.html>.)
- Balazs, Edith, 2013, Hungary buys EON units as Orban vies to deliver on price cut vow: Bloomberg L.P., March 28. (Accessed November 17, 2014, at <http://www.bloomberg.com/news/print/2013-03-28/hungary-buys-eon-units-as-orban-vies-to-deliver-on-price-cut-vow.html/>.)
- Bennett, S.M., 2015, Perlite: U.S. Geological Survey Mineral Commodity Summaries 2015, p. 116–117. (Accessed February 1, 2015, at <http://minerals.usgs.gov/minerals/pubs/commodity/perlite/mcs-2015-perli.pdf>.)
- Budapest Telegraph, 2013, South Stream to start supplying gas to Hungary in 2017: Budapest [Hungary] Telegraph, December 13. (Accessed November 13, 2014, at http://www.budapesttelegraph.com/news/579/south_stream_to_start_supplying_gas_to_hungary_in_2017.)
- Budapest Telegraph, 2014, Lázár—Expansion of Paks plant can cut price of electricity: Budapest [Hungary] Telegraph, January 17. (Accessed November 13, 2014, at http://www.budapesttelegraph.com/news/608/lazar_expansion_of_paks_plant_can_cut_price_of_electricity.)
- Budapest Times, 2013, MAL to be liquidated: Budapest [Hungary] Times, March 7. (Accessed November 17, 2014, at <http://budapesttimes.hu/2013/03/07/mal-to-be-liquidated/>.)
- CEE Construction, 2013, Demolition of Holcim's cement factory in Labatlan to start soon: CEE Construction News, October 11. (Accessed November 13, 2014, at <http://www.ceeconstruction.com/news/197116/demolition-of-holcim-8217-s-cement-factory-in-labatlan-to-start-soon>.)
- Conybeare, Steven, 2014, Revisiting Hungary's latest oil and gas concessions bid round: Natural Gas Europe, July 15. (Accessed November 21, 2014, at <http://www.naturalgaseurope.com/hungary-oil-and-gas-bidding-round>.)
- Dékány, Lóránt, 2013a, Gazprom looks for Hungarian storage facility: Budapest [Hungary] Telegraph, November 13. (Accessed November 18, 2014, at http://www.budapesttelegraph.com/news/533/gazprom_looks_for_hungarian_storage_facility.)
- Dékány, Lóránt, 2013b, Hungarian Government determined to protect MOL—Prime minister says: Budapest [Hungary] Telegraph, October 16. (Accessed November 18, 2014, at http://www.budapesttelegraph.com/news/505/hungarian_government_determined_to_protect_mol_-_prime_minister_says_.)

- Eddy, Kester, 2012, Hungary prepares uranium mine: Financial Times [London, United Kingdom], June 27. (Accessed November 7, 2014, at <http://blogs.ft.com/beyond-brics/2012/06/27/hungary-prepares-uranium-mine/#axzz2rqSEeRAa>.)
- Eddy, Kester, 2013, Hungary—A little extra tax for the kitty: Financial Times [London, United Kingdom], June 17. (Accessed May 20, 2015, at <http://blogs.ft.com/beyond-brics/2013/06/17/hungary-a-little-extra-tax-for-the-kitty/>.)
- Euracoal, 2013, Coal industry across Europe (5th ed.): Euracoal, November 14, 78 p. (Accessed November 1, 2014, at <http://www.euracoal.com/pages/medien.php?idpage=1410>.)
- EurActiv, 2013a, EU-backed Nabucco project ‘over’ after rival pipeline wins Azeri gas bid: Brussels, Belgium, EurActiv, June 27. (Accessed April 6, 2015, at <http://www.euractiv.com/energy/eu-favoured-nabucco-project-hist-news-528919>.)
- EurActiv, 2013b, Nabucco to become ‘a real pipeline’ soon, owners say: EurActiv [Brussels, Belgium], January 11. (Accessed November 18, 2014, at <http://www.euractiv.com/energy/nabucco-real-pipeline-news-516970>.)
- European Bank for Reconstruction and Development, 2013, Transition report 2013—Country assessments—Hungary: European Bank for Reconstruction and Development Web page, November 18. (Accessed November 18, 2014, at <http://tr.ebrd.com/tr13/index.php/en/country-assessments/1/hungary>.)
- European Commission, 2013a, Renewable energy progress report: Brussels, Belgium, European Commission, March 27, 15 p. (Accessed November 12, 2014, at <http://eur-lex.europa.eu/legal-content/EN/TEXT/PDF/?uri=CELEX:52013DC0175&from=EN>.)
- European Commission, 2013b, State aid—Commission approves aid for closure of coal mine in Hungary: Brussels, Belgium, European Commission, January 23. (Accessed November 7, 2014, at http://europa.eu/rapid/press-release_IP-13-35_en.htm.)
- European Monitoring Centre on Change, 2013, Magyar Alumínium Termelő és Kereskedelmi (Mal): Eurofound Web page. (Accessed November 20, 2014, at <http://www.eurofound.europa.eu/observatories/emcc/erm/factsheets/magyar-aluminiu-termel-s-kereskedelmi-mal-0>.)
- European Renewable Energy Council, 2011, Mapping renewable energy pathways towards 2020—EU roadmap: Brussels, Belgium, European Renewable Energy Council, March, 104 p. (Accessed November 12, 2014, at http://www.erec.org/fileadmin/erec_docs/Documents/Publications/EREC-roadmap-V4_final.pdf.)
- Falcon Oil & Gas Ltd., 2013a, Hungary drilling update: Vancouver, British Columbia, Canada, Falcon Oil & Gas Ltd., June 13, 2 p. (Accessed December 31, 2014, at http://www.falcoilandgas.com/uploads/pdf/13-06-13_Hungary_Drilling_Update.pdf.)
- Falcon Oil & Gas Ltd., 2013a, Hungary drilling update: Vancouver, British Columbia, Canada, Falcon Oil & Gas Ltd., July 23, 2 p. (Accessed December 31, 2014, at http://www.falcoilandgas.com/uploads/pdf/13-07-23_Hungary_Drilling_Update.pdf.)
- Falcon Oil & Gas Ltd., 2014, Makó Trough—Hungary: Falcon Oil & Gas Ltd. Web page. (Accessed December 31, 2014, at <http://www.falcoilandgas.com/mako-hungary>.)
- Ferenczi, Kristof, and Csanadi, Zsolt, 2013, Long awaited—Public invitations to tender for new hydrocarbon and geothermal energy concessions in Hungary: Kinstellar Web page, August. (Accessed November 21, 2014, at <http://www.kinstellar.com/insights/detail/152/long-awaited-public-invitations-to-tender-for-new-hydrocarbon-and-geothermal-energy-concessions-in-hungary>.)
- Fischer, Patricia, 2011, Ózdi Szénbányák obtains permit to reopen coal mine—Paper: Budapest [Hungary] Business Journal, November 9. (Accessed December 31, 2014, at http://www.bbj.hu/business/ozdi-szenbanyak-obtains-permit-to-reopen-coal-mine---paper_61270.)
- Global Cement, 2012, Holcim to close down cement factory in Hungary: Global Cement, October 10. (Accessed November 10, 2014, at <http://www.globalcement.com/news/item/1190-holcim-to-close-down-cement-factory-in-hungary>.)
- Gulyas, Veronika, 2013, Hungary steel maker Dunafer to lay off 1,500 people: The Wall Street Journal, August 13. (Accessed November 7, 2014, at <http://online.wsj.com/article/BT-CO-20130813-703730.html>.)
- Haas, Janos, 2008, Geology, *in* Kocsis, Károly, and Schweitzer, Ferenc, eds., Hungary in maps: Budapest, Hungary, Geographical Research Institute of the Hungarian Academy of Sciences, 211 p.
- Holcim Ltd., 2014, Holcim Hungary—Our company’s past: Jona, Switzerland, Holcim Ltd. Web page. (Accessed November 18, 2014, at <http://www.holcim.hu/en/about-us/about-us/our-history.html>.)
- Honore, Anouk, 2014, The outlook for natural gas demand in Europe: Oxford, United Kingdom, The Oxford Institute for Energy Studies, June, 174 p.
- Hungarian Central Statistical Office, 2014a, Commodity pattern of external trade in HUF—2001–2013: Budapest, Hungary, Hungarian Central Statistical Office Web page, September 2. (Accessed November 10, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qkt006.html.)
- Hungarian Central Statistical Office, 2014b, Energy balance—1990–2013: Hungarian Central Statistical Office Web page, July 3. (Accessed November 10, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/iqe001.html.)
- Hungarian Central Statistical Office, 2014c, External trade in HUF by countries—2007–2013: Budapest, Hungary, Hungarian Central Statistical Office Web page, September 2. (Accessed December 31, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qkt009b.html.)
- Hungarian Central Statistical Office, 2014d, Imports by main countries of origin in USD and EU—2009–2013: Budapest, Hungary, Hungarian Central Statistical Office Web page, September 2. (Accessed December 31, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qkt015.html.)
- Hungarian Central Statistical Office, 2014e, National accounts of Hungary, 2013 (preliminary data): Budapest, Hungary, Hungarian Central Statistical Office, September 30, 17 p. (Accessed November 10, 2014, at <http://www.ksh.hu/docs/hun/xftp/idoszaki/gdpev/egdpevelo13.pdf>.)
- Hungarian Central Statistical Office, 2014f, Value and distribution of gross value added by industries—1995–2013: Hungarian Central Statistical Office Web page, September 30. (Accessed November 10, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qpt002c.html.)
- Hungarian Central Statistical Office, 2014g, Value of industrial production by subsections—2001–2013: Hungarian Central Statistical Office Web page, August 14. (Accessed November 10, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_oia006a.html.)
- Hungarian Central Statistical Office, 2014h, Volume indices of construction activities of the national economy by contractors—1990–2013: Hungarian Central Statistical Office Web page, September 16. (Accessed November 10, 2014, at http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_oe002.html.)
- Hungarian Ministry of National Development, 2012, National energy strategy 2030 published: Hungarian Ministry of National Development Web page, February 15. (Accessed November 10, 2014, at <http://www.kormany.hu/en/ministry-of-national-development/news/national-energy-strategy-2030-published>.)
- Hungarian Office for Mining and Geology, [undated], Law in English: Budapest, Hungary, Hungarian Office for Mining and Geology Web page. (Accessed November 7, 2014, at <http://www.mbfh.hu/home/html/index.asp?msid=1&sid=0&hkl=435&lng=1>.)
- Hungarian Oil and Gas Co. plc., 2014, Ownership structure: Hungarian Oil and Gas Co. plc. Web page, June 30. (Accessed November 7, 2014, at <http://ir.mol.hu/en/corporate-governance/ownership-structure/>.)
- International Energy Agency, 2014a, Energy supply security 2014—Emergency response systems of individual IEA countries: Paris, France, International Energy Agency, p. 228–243. (Accessed November 19, 2014, at http://www.iea.org/media/freepublications/security/EnergySupplySecurity2014_Hungary.pdf.)
- International Energy Agency, 2014b, Hungary—National renewable action plan (NREAP): Paris, France, International Energy Agency Web page, May 12. (Accessed November 19, 2014, at http://www.iea.org/policiesandmeasures/pams_hungary/name-40096-en.php.)
- International Monetary Fund, 2014, Hungary—2014 article IV consultation—Staff report; press release; and statement by the Executive Director for Hungary: Washington, DC, International Monetary Fund, June, 68 p. (Accessed November 2, 2014, at <https://www.imf.org/external/pubs/ft/scr/2014/cr14155.pdf>.)
- Jaskula, B.W., 2015, Gallium, *in* Metals and minerals: U.S. Geological Survey Minerals Yearbook 2013, v. I, p. 27.1–27.8.
- Katona, Gabor, and Fodor, Bela, 1998, Introduction of the mining royalty system in Hungary: Nonrenewable Resources, v. 7, no. 1, p. 3–5.
- Katona, T.J., Kovacs, Ferenc, Lakatos, István, and Kocsis, Károly, 2008, Mining and energy supply, *in* Kocsis, Károly, and Schweitzer, Ferenc, eds., Hungary in maps: Budapest, Hungary, Geographical Research Institute of the Hungarian Academy of Sciences, 211 p.
- Komiljovics, Mate, 2014, Controversy over downsizing at steel plant: Eurofound, June 10. (Accessed November 17, 2014, at <http://eurofound.europa.eu/observatories/eurwork/articles/industrial-relations-other/controversy-over-downsizing-at-steel-plant>.)

- Landry, David, 2013, Dunaferri layoffs suspended pending further talks: Budapest [Hungary] Business Journal, September 11. (Accessed November 18, 2014, at http://www.bbj.hu/business/dunaferr-layoffs-suspended-pending-further-talks_68953).
- Magyar Nemzet, 2013, South Stream—Hungarian government sides with Moscow over Brussels: Budapest [Hungary] Telegraph, December 13. (Accessed November 14, 2014, at http://www.budapesttelegraph.com/news/576/south_stream_%E2%80%93hungarian_gov%E2%80%99t_sides_with_moscow_over_brussels.)
- Maheshwari, Shushmul, 2013, CEE cement industry—Heading for a new dawn: Worldcement.com, January 10. (Accessed November 7, 2014, at http://www.worldcement.com/europe-cis/10012013/Cement_industry_Central_Eastern_Europe_Russia_1/.)
- Makan, Ajay, 2013, Azerbaijan gas decision to disappoint Brussels: Financial Times [London, United Kingdom], September 19. (Accessed November 6, 2014, via <http://www.ft.com/intl/cms/s/0/0f9a3c44-212a-11e3-a92a-00144feab7de.html>.)
- Mining Journal, 2013, Focus—Central Europe—Rising to the challenge: Mining Journal, May 17, p. 16–25.
- Mining Journal, 2014, Focus—Long road for central Europe: Mining Journal, May 2, p. 17–23.
- MOL Group, 2014, MOL Group annual report 2013: Budapest, Hungary, MOL Group, April 25, 271 p. (Accessed November 5, 2014, at http://molgroup.info/images/molgroup/pdf/investor_relations/financial_results_and_reporting/annual_reports/2013_book_MOL_AR_ENG_FIN.pdf.)
- Molnár, Kata, 2013, Security of gas supply and dependency on imports: Globe Business Publishing Ltd., International Law Office Web page, January 21. (Accessed November 6, 2014, at <http://www.internationallawoffice.newsletters/detail.aspx?g=22d1f290-544f-4a08-a5ac-32d37c593b34&redir=1>.)
- MTI Econews, 2011, Coal mine in NE Hungary could reopen after two decades: Budapest [Hungary] Business Journal, May 23. (Accessed December 31, 2014, at http://www.bbj.hu/business/coal-mine-in-ne-hungary-could-reopen-after-two-decades_57943.)
- MTI Econews, 2013, Parliament approves revenue-raising measures: Budapest [Hungary] Business Journal, June 27. (Accessed May 20, 2015, at http://www.bbj.hu/economy/parliament-approves-revenue-raising-measures_66483.)
- MVM Hungarian Electricity Ltd., [undated], Vértes Power Plant Ltd.: MVM Hungarian Electricity Ltd. Web page. (Accessed May 20, 2014, at <http://www.mvm.hu/en/group/vert/Lapok/default.aspx>.)
- MVM Paks Nuclear Power Plant Ltd., [undated], About us: MVM Paks Nuclear Power Plant Ltd. Web page. (Accessed January 29, 2014, at <http://paksnuclearpowerplant.com/about-us>.)
- Nepszabadsag, 2013, South Stream to start supplying gas to Hungary in 2017: Budapest [Hungary] Telegraph, December 13. (Accessed November 6, 2014, at http://www.budapesttelegraph.com/news/579/south_stream_to_start_supplying_gas_to_hungary_in_2017.)
- Organisation for Economic Co-operation and Development, 2011, Hungary—Inventory of estimated budgetary support and tax expenditures for fossil-fuels: Paris, France, Organisation for Economic Co-operation and Development, 4 p. (Accessed November 13, 2014, at <http://www.oecd.org/site/tadffs/HUN.pdf>).
- Rochan, M., 2013, Hungary plans to buy back ailing steelmaker Dunaferri in job rescue scheme: International Business Times, August 20. (Accessed November 18, 2014, at <http://www.ibtimes.co.uk/isd-dunaferr-ukraine-hungary-steel-budapest-mihaly-500291>).
- RT.com, 2012, Gazprom and partners kick off construction of South Stream pipeline: Autonomous Nonprofit Organization TV-Novosti, December 13. (Accessed November 6, 2014, at <http://rt.com/business/russia-south-stream-launch-506/>).
- RT.com, 2013, Russia launches South Stream gas pipeline in Serbia: Autonomous Nonprofit Organization TV-Novosti, November 25. (Accessed November 6, 2014, at <http://rt.com/business/serbia-gazprom-pipeline-launch-238/>.)
- STRABAG SE, 2014, Annual report 2013: Villach, Austria, STRABAG SE, April 30, 190 p. (Accessed November 5, 2014, at [http://www.strabag.com/databases/internet/_public/files.nsf/SearchView/EC55650735467255C1257CCA001E62BE/\\$File/STRABAG%20SE_GB%202013_englisch.pdf?OpenElement](http://www.strabag.com/databases/internet/_public/files.nsf/SearchView/EC55650735467255C1257CCA001E62BE/$File/STRABAG%20SE_GB%202013_englisch.pdf?OpenElement).)
- Szabó, Gábor, and Vitéz, I.F., 2013, It'll take time and ingenuity to nationalize the Hungarian Aluminum Company: March 16. (Accessed November 13, 2014, at http://www.budapesttelegraph.com/news/292/it'll_take_time_and_ingenuity_to_nationalize_the_hungarian_aluminum_company.)
- Than, Krisztina, 2009, In Eastern Europe, industries that survived communism now crumbling: Thomson Reuters L.P., July 23. (Accessed November 17, 2014, at http://www.nytimes.com/2009/07/23/business/global/23rust.html?_r=1&.)
- Trans Adriatic Pipeline AG, 2013, Shah Deniz Consortium selects the Trans Adriatic Pipeline (TAP) as European export pipeline: Trans Adriatic Pipeline AG Web page, June 28. (Accessed April 6, 2015, at <http://www.tap-ag.com/news-and-events/2013/06/28/shah-deniz-consortium-selects-the-trans-adriatic-pipeline-tap-as-european-export-pipeline>.)
- United Nations Department of Social and Economic Affairs, Division for Sustainable Development, 2009, Hungary—Mining: New York, New York, United Nations, July 22, 8 p. (Accessed November 7, 2014, at http://www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/hungary/Mining.pdf.)
- U.S. Census Bureau, 2014a, U.S. exports to Hungary by 5-digit end-use code 2004–2013: U.S. Census Bureau data. (Accessed November 12, 2014, at <http://www.census.gov/foreign-trade/statistics/product/enduse/exports/c4370.html>.)
- U.S. Census Bureau, 2014b, U.S. imports from Hungary by 5-digit end-use code 2004–2013: U.S. Census Bureau data. (Accessed November 12, 2014, at <http://www.census.gov/foreign-trade/statistics/product/enduse/imports/c4370.html>.)
- U.S. Department of Commerce, 2014, Doing business in Hungary: U.S. Department of Commerce country commercial guide for U.S. companies 2014, May 31, 114 p. (Accessed November 6, 2014, at http://www.export.gov/hungary/build/groups/public/@eg_hu/documents/webcontent/eg_hu_077150.pdf.)
- U.S. Department of State, 2014, Hungary: U.S. Department of State 2014 investment climate statement, 25 p. (Accessed November 6, 2014, at <http://www.state.gov/documents/organization/227351.pdf>.)
- Varga, Daniel, 2014, Energy law in Hungary, in Newbery, Mark, and Goldberg, Silke, eds., European energy handbook 2014: London, United Kingdom, Herbert Smith Freehills, March, p. 193–202.
- Velkei, Tamás, 2013, Ajka alumina plant accident—Three years on the courts are still out: Budapest [Hungary] Telegraph, October 5. (Accessed November 14, 2014, at http://www.budapesttelegraph.com/news/491/ajka_alumina_plant_accident_-_three_years_on_the_courts_are_still_out.)
- Wildhorse Energy Ltd., 2013, Annual report 2013: Perth, Western Australia, Australia, Wildhorse Energy Ltd., September 27, 88 p. (Accessed September 6, 2014, at <http://www.wildhorse.com.au/en/kozlemeny/letolt/2621>.)

TABLE 1
HUNGARY: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

| Commodity ² | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|---------------------|---------------------|---------------------|---------------------|--------------------|
| METALS | | | | | |
| Alumina, gross weight, calcined basis | 185 | 214 | 165 ^e | 110 ^r | 81 ^e |
| Aluminum, unwrought, including secondary | 184 | 234 | 185 ^e | 234 ^r | 62 |
| Bauxite, gross weight | 270 ^r | 307 ^r | 277 ^r | 255 | 95 |
| Gallium ^e kilograms | 3,400 | 4,000 | 5,000 | 4,600 | 1,713 ³ |
| Iron and steel, metal: | | | | | |
| Pig iron | 1,050 | 1,325 | 1,317 | 1,229 | 628 |
| Steel: | | | | | |
| Crude | 1,403 | 1,678 | 1,746 | 1,543 | 883 |
| Semimanufactures | 1,452 | 1,594 | 1,765 | 1,928 | 1,119 |
| Manganese ore, run-of-mine: | | | | | |
| Gross weight | 43 | 55 | 58 | 51 | 35 |
| Mn content | 11 ^{r,e} | 14 ^r | 15 ^r | 13 | 9 |
| INDUSTRIAL MINERALS | | | | | |
| Cement, hydraulic ^c | 2,800 | 2,100 | 2,000 | 1,870 ^r | 2,022 ³ |
| Clays: | | | | | |
| Bentonite, raw ^c | 5 ³ | 17 | 17 | 17 | 7 |
| Chamotte, refractory clays | 209 | 82 | 86 | 80 ^e | 64 ^e |
| Kaolin, beneficiated | 266 | 239 | 248 | 250 ^e | 318 ^e |
| Other, unspecified | 1,851 | 1,271 | 1,780 ^e | 1,170 ^e | 877 |
| Diatomite metric tons | 1,270 ^r | 2,490 ^r | 1,309 | 1,290 ^r | 434 |
| Gypsum and anhydrite do. | 19,769 ^r | 2,560 ^r | -- | -- | -- |
| Lime, calcined | 210 | 260 | 250 | 230 | 249 |
| Nitrogen, N content of ammonia ^e | 300 | 300 | 300 | 300 | 300 |
| Peat, agricultural use ⁴ | 94 ^r | 49 ^r | 82 | 45 ^r | 123 ^e |
| Perlite | 83 ^r | 71 | 71 | 72 | 64 ^e |
| Quartzite metric tons | 838 ^r | 1,075 ^r | 540 | 319 ^r | 500 ^e |
| Sand and gravel: | | | | | |
| Gravel | 23,406 ^r | 19,157 | 18,350 | 16,750 ^r | 17,662 |
| Sand: | | | | | |
| Common | 9,587 ^r | 5,324 ^r | 4,943 | 5,500 ^r | 6,420 ^e |
| Foundry | 110 ^r | 137 | 144 | 81 ^r | 95 ^e |
| Glass (silica) | 85 | 271 | 287 | 124 ^{r,e} | 145 ^e |
| Stone: | | | | | |
| Dimension, all types | 14,070 ^r | 9,810 ^r | 8,870 ^r | 8,600 ^r | 9,374 |
| Dolomite | 5,200 ^r | 4,125 ^r | 3,550 ^r | 3,171 ^r | 3,200 ^e |
| Limestone | 8,135 ^r | 5,310 ^r | 4,950 ^r | 5,188 ^r | 5,300 ^e |
| Marl | 41 ^r | 25 | 55 ^r | 60 | 65 ^e |
| Sandstone | 31,850 ^r | 30,110 ^r | 15,990 ^r | 11,486 ^r | 23,470 |
| Sulfur, byproduct, elemental, all sources ^e | 60 | 60 | 60 | 60 | 60 |
| Sulfuric acid ^e | 75 | 75 | 75 | 75 | 75 |
| MINERAL FUELS AND RELATED MATERIALS | | | | | |
| Coal: | | | | | |
| Brown | 952 ^r | 910 ^r | 755 ^r | 859 | 719 |
| Lignite | 8,026 ^r | 8,203 | 8,800 ^r | 8,438 | 8,834 |
| Total | 8,978 ^r | 9,113 ^r | 9,555 ^r | 9,297 | 9,553 |
| Coke, metallurgical ^e | 746 | 1,100 | 820 | 870 | 925 |
| Gas, natural, net (marketable) million cubic meters | 3,162 ^r | 3,056 ^r | 2,667 | 2,280 | 2,065 |

See footnotes at end of table.

TABLE 1—Continued
HUNGARY: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

| Commodity ² | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|--------------------|--------------------|--------------------|--------------------|---------------------|
| MINERAL FUELS AND RELATED MATERIALS—Continued | | | | | |
| Petroleum: | | | | | |
| Carbon black | -- | -- | 3,000 | -- | -- |
| Crude ⁵ thousand 42-gallon barrels | 5,038 ^r | 4,610 ^r | 4,205 ^r | 4,147 ^r | 3,819 |
| Refinery: ^{5, e} | | | | | |
| Motor fuel (including aviation fuel) do. | 11,200 | 10,700 | 11,200 | 12,000 | 10,943 ³ |
| Distillate fuels do. | 8,070 | 8,760 | 9,200 | 9,870 | 9,000 |
| Kerosene do. | 1,870 | 1,760 | 1,850 | 1,980 | 1,806 ³ |
| Gas oils do. | 25,600 | 28,800 | 30,200 | 32,400 | 29,546 ³ |
| Other fuel oils do. | 715 | 367 | 385 | 414 | 378 ³ |
| Lubricating oils do. | 1,240 | 1,190 | 1,250 | 1,340 | 1,222 ³ |
| Liquefied propane and butane do. | 2,710 | 2,500 | 2,630 | 2,820 | 2,572 ³ |
| Petroleum jelly, paraffin wax, and other waxes do. | 316 | 328 | 344 | 370 | 337 ³ |
| Petroleum coke, bitumen, and residues do. | 5,410 | 5,120 | 5,380 | 5,770 | 5,262 ³ |
| Total do. | 57,100 | 59,500 | 62,400 | 67,000 | 61,100 |

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through November 21, 2014.

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

³Reported figure.

⁴Data before 2011 may include production of alginite and (or) paludal materials (including paludal mud).

⁵Figures were converted to thousand 42-gallon barrels from production reported in thousand metric tons at a rate of 6.29 42-gallon barrels per metric ton.

TABLE 2
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity holders | Location of main facilities | Annual capacity |
|----------------|---|---|---------------------|
| Alumina | Magyar Aluminium Ltd. (MAL) | Ajka Timfoldgyar plant, about 120 kilometers southwest of Budapest, near Lake Balaton | 400 |
| Alumina, fused | Mofim Electrocorundum Ltd. | Plant at Mosanmagyaróvár | 50 |
| Aluminum | Alcoa-Köfém Kft (Alcoa Inc., 100%) | Székesfehérvár ingot plant. | NA |
| Bauxite | Magyar Aluminium Ltd. (MAL) | Bakony and Halimba Mines, ¹ 5 kilometers south of Ajka, northwest Hungary | NA |
| Bentonite | Bentonit Hungaria Kft (S&B Industrial Minerals S.A., 100%) | Mines and plant at Egyházaskesze | NA |
| Cement | Duna-Drava 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. | Holcim Hungaria Zrt. (Holcim Ltd.) ² | Plant at Labatlan | 500 |
| Do. | Lafarge Cement CE Holding GmbH (Lafarge S.A., 70%, and STRABAG SE, 30%) | NOSTRA plant at Kiralyegyhaza, southwestern Hungary | 1,000 |
| Clays | Agyag-Asvány Kft. | Two opencast mines at Felsopeteny | NA |
| Coal: | | | |
| Brown coal | Vertes Power Plant Ltd. (Magyar Villamos Muvek Zrt., 96.59%) | Markushegy Mine at Oroszlany, 55 kilometers west of Budapest | 1,400 ^e |
| Lignite | Mátrai Erőmű Zrt. (MÁTRA) (RWE AG, 50.9%; Magyar Villamos Muvek Zrt., 25.5%; EnBW AG, 21.7%) | Thorez opencast mine at Visonta, 80 kilometers northeast of Budapest | 4,700 ^e |
| Do. | do. | Opencast mine at Bukkabrany, 130 kilometers northeast of Budapest | 4,000 ^e |
| Coke | ISD Kokszolo Ltd. (ISD Dunaferr Co. Ltd.) | Dunaujvaros, 60 kilometers south of Budapest | 1,000 |
| Iron, pig iron | ISD Dunaferr Co. Ltd. (Industrial Union of Donbass) | do. | 1,400 |
| Manganese | Mangán Mining and Processing Ltd. | Úrkút manganese ore mines, 120 kilometers southwest of Budapest | NA |
| Natural gas | Hungarian Oil and Gas Co. plc. (MOL) (foreign investors, 25.1%; Government, 24.7%; CEZ MH B.V., 7.3%; OmanOil Ltd., 7.0%; others, 35.9%) | Oil and gas fields in southern and southwestern Hungary | NA |
| Perlite | Perlit 92 Kft | Palhaza, northeastern Hungary; opencast mine and processing plant | NA |
| Petroleum: | | | |
| Crude | 42-gallon barrels per day Hungarian Oil and Gas Co. plc. (MOL) (foreign investors, 25.1%; Government, 24.7%; CEZ MH B.V., 7.3%; OmanOil Ltd., 7.0%; others, 35.9%) | Oil and gas fields in southern and southwestern Hungary | 14,800 ^e |
| Refined | Duna Refinery [Hungarian Oil and Gas Co. plc. (MOL), 100%] | Szazhalombatta, 25 kilometers southwest of Budapest | 8,100 |
| Pig iron | ISD Dunaferr Co. Ltd. (Industrial Union of Donbass) | Dunaujvaros, 60 kilometers south of Budapest | 1,300 |
| Silica | Uveg-Asvány Banyaszati Ipari Kft. | Mine and plant at Fehevarcsugo | NA |
| Steel, crude: | | | |
| Primary | ISD Dunaferr Co. Ltd. (Industrial Union of Donbass) | Dunaujvaros, 60 kilometers south of Budapest | 1,600 |
| Secondary | OAM OZD Steelworks Ltd. | 120 kilometers northeast of Budapest | 360 |
| Do. | Dam 2004 Acel-es Hengermu Kereskedemi es Szolgaltato Ltd. ³ | Diosgyor, 145 kilometers northeast of Budapest | 550 |

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

¹Halimba Mine was closed in February 2013.

²Stopped production in October 2013.

³Stopped production in December 2008.