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2012 Minerals Yearbook

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The Mineral Industry of Hungary

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Since the fall of communism in Hungary at the end of 1989, many large state-owned industrial companies were either closed or transformed into smaller privatized companies. In particular, many large uneconomic coal mines were closed in the country. Mining operations for crude construction materials (including aggregates, crushed rock, dimension stone, gravel, and sand) and other industrial minerals continued production, however. In 2012, 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), and Hungary could have accounted for about 2% of the world's production of gallium. Manganese ore was also produced in 2012, but the country accounted for no more than 1% of global mine production. Hungary continued to produce mineral fuels and related materials, but imports still accounted for about two-thirds of the country's total energy consumption (table 1; Bolen, 2013; Corathers, 2013; Hungarian Central Statistical Office, 2013b; Jaskula, 2013; U.S. Central Intelligence Agency, 2014; Encyclopedia of the Nations, undated).

Minerals in the National Economy

In 2012, the value[1] of production by the mining and quarrying sector accounted for 0.35% ($439 million) of the gross domestic product (GDP) compared with about 0.3% (about $417 million) of the GDP in 2011; the value of output by the coke and petroleum refinery products manufacturing sector accounted for 6.4% ($8 billion) of the GDP in 2012 compared with about the same percentage (about $9 billion) in 2011. In 2012, the value added to the GDP by the entire industrial sector accounted for 23% of the GDP, but this had mostly to do with manufacturing assembly activities for export. The country was not a major consumer of nonfuel minerals. The value added to the GDP by the construction sector accounted for about 3.8% of the GDP, and this sector appeared to use at least some domestically produced construction materials (Hungarian Central Statistical Office, 2013c, d; U.S. Department of Commerce, 2013, p. 35).

In 2012, Hungary's trade balance for crude materials (including nonfuel minerals) was $1.1 billion compared with $0.8 billion in 2011; and that for mineral fuels, related materials, and energy (including electricity) was –$8.1 billion compared with about –$8.5 billion in 2011. In 2012, the value of the country's imports of mineral fuels and related materials (including electricity) accounted for 13% of the total value of all imports compared with about 12% in 2011.

[1]Where necessary, values have been converted from Hungarian forints (HUF) to U.S. dollars (US$) at an annual average exchange rate of about HUF200.67=US$1.00 for 2011 and HUF225.02=US$1.00 for 2012. All values are nominal, at current prices, unless otherwise stated.

Hungarian Oil and Gas Co. plc. (MOL) was a participant in the Nabucco natural gas pipeline development project, which could provide Hungary with additional sources (possibly including Azerbaijan) and routes (through Turkey, Bulgaria, and Romania) for importing natural gas. Currently, Hungary obtains more than 80% of its imports of natural gas from Russia. MOL was also in discussions to become a participant in the South Stream pipeline project, however, which could provide an additional route for importing natural gas (possibly directly across the bed of the Black Sea to Bulgaria, then through Bulgaria and Serbia), but the source of the natural gas would be Russia (RT.com, 2012, 2013; Schneeweiss and Shiryaevskaya, 2012; Wiesmann, 2012; Hungarian Central Statistical Office, 2013a; Konstantinova, 2013; Molnár, 2013, p. 35, 40–41, 76; U.S. Central Intelligence Agency, 2014).

Government Policies and Programs

In 2012, the main mining law was Act No. 48, which came into effect in 1993, but it has been amended many times (including by Ministerial Decree no. 81/2012, which was promulgated in 2012 and provided 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 estimating reserves, for providing the geologic and technical information needed to outline concession tender conditions; for determining environmental risks associated with mining; for temporarily stopping mine production; and for regulating exploration, mine operation, and mineral processing, as well as overseeing mine closures and mine site remediation. 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 new royalty rates, including 12% on the value of production of oil, natural gas, and carbon dioxide; 5%, nonmetallic hard minerals (other than hard mineral fuels, such as coal); and 2%, other hard minerals and geothermal energy. Through the end of 2012, information concerning whether or not there had been any changes to these royalty rates was not available (Katona and Fodor, 1998; United Nations Department of Social and Economic Affairs, Division for Sustainable Development, 2009; Hungarian Office for Mining and Geology, undated).

On February 14, 2012, the Government published a new National Energy Strategy. Five main areas were identified for the Government to focus on in order to try to achieve the objectives set forth in the strategy:

- increasing energy savings and energy efficiency,
- increasing the share of renewable energies,

- integrating the Central European grid network and constructing required cross-border capacities,
- maintaining existing nuclear capacities, and
- utilizing domestic coal and lignite resources in an ecofriendly manner for power generation

(Hungarian Ministry of National Development, 2012; Molnár, 2013).

Production

In 2012, production of aluminum in Hungary decreased by 19% compared with that of 2011 in response to decreasing prices in Europe, which Alcoa Inc. of the United States reported were significantly affected by uncertainty in commodity markets as a result of difficulties in managing the sovereign debt of some countries in the region. Also, aluminum demand in most sectors appeared to be lower in 2012 than in 2011 in Europe. The country's production of crude steel decreased by about 12% from that in 2011 in response to a further decrease in demand for steel in Europe, as well as owing to lower cost efficiencies at some of Hungary's steel plants relative to other European producers. Production of manganese (gross weight) in Hungary also decreased by 12% (or by about 14% in terms of Mn content), probably in response to decreased demand from the steel sector during this timeframe. In 2010 and 2011 (the latest years for which this information was available), the global steel sector accounted for approximately 90% of the total consumption of manganese in the world (table 1; Gesamtverband der Aluminiumindustrie e.V., 2012; ISD Dunaferr Co. Ltd., 2012; PR Newswire, 2012; Roskill Information Services Ltd., 2012; Alcoa Inc., 2013, p. 52–54, 62, 76, 90, 129; Gulyas, 2013).

In 2012, total production of clays, not including bentonite, was estimated to have decreased by 29% compared with that of 2011, but detailed production information by type of clay was not available for 2012. Consequently, the 34% 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. Information was also not available concerning the main reasons for the greater than 10% decreases in production of dolomite, gravel, peat, quartzite, and sandstone (table 1).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities. In September 2012, the Government categorized Magyar Aluminium Ltd. (MAL) as a company of strategic importance; at the end of February 2013, it also announced that a state-owned company (Nemzeti Reorganizacios Nonprofit LLC) would take over the management and operation of MAL 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, and MAL's reduced production following the accident. Some analysts expected that these developments could have been precursors to an attempt to fully nationalize MAL, but definitive information regarding possible nationalization plans or a timeline for any possible nationalization of MAL was not available. On September 30, 2012, the Government held approximately a 25% ownership interest in MOL. Information concerning any other government ownership of companies in the mineral industry was not available (table 2; Associated Free Press, 2012; Dékány, 2013b; Hungarian Oil and Gas Co. plc, 2013, p. 12; Szabó and Vitéz, 2013; Velkei, 2013).

Commodity Review

Metals

Aluminum, Bauxite and Alumina, and Gallium.—Alcoa projected that there could be increased cost uncertainty in 2013 and beyond for such energy-intensive industries as primary aluminum production owing to increasing regulation of greenhouse gas (GHG) emissions in Europe. The company expected increased GHG regulations following scientific reports that attributed a significant proportion of the current trend in global warming to be caused by human activities. Electricity is an essential input into the production of alumina (and gallium, as a byproduct of alumina refining) and primary aluminum, and energy expenditures are an extremely important part of the production costs for these commodities, especially in Europe. On February 5, 2013, 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. 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. Decreased production at the Halimba Mine was likely to have been the main cause of the 8% decrease in bauxite production in Hungary in 2012 compared with that in 2011. According to a supply contract that was renewed in 2011, MAL could have imported about 150,000 t of bauxite ore in 2012 from Rudnici Boksita Jajce (a bauxite mining company located in Montenegro), in which MAL reportedly owned a majority stake. Through 2012, about 80% of the ore and concentrates that MAL processed to produce alumina (and gallium) every year had been mined domestically (table 1; SeeNews, 2011; Alcoa Inc., 2013, p. 36, 42, 52–54, 117; AME Group, 2013; Budapest Times, The, 2013; Mining Journal, 2013; Worldal.com, 2013; Magyar Aluminium Ltd., undated).

Industrial Minerals

Cement.—In 2012, production of cement was estimated to have decreased by 5% compared with that of 2011 possibly because increasing production at the NOSTRA cement plant, which was inaugurated in September 2011, may not have been enough to compensate for the decrease in national cement production resulting from the closure of the Hejöcsaba cement plant during the last quarter of 2011. In 2012, Holcim Ltd. announced that it planned to close its plant at Labatlan sometime in 2013. In 2012, the value added to the GDP by the construction sector decreased by 6% compared with that of 2011, but this could have been mostly owing to the decrease

in the prices of output by the sector, on average. According to a volume index of production by the construction sector, the physical volume of production by the sector decreased by only about 2.6% during this timeframe. Nonetheless, domestic demand for construction materials probably decreased in 2012 compared with that of 2011, and STRABAG SE reported that a return to growth in the sector in 2013 and beyond could require Government stimulus funding and approval of funds from the European Union (EU). In 2013, factors that could increase demand for construction materials in the civil engineering sector were expected to be metro construction in Budapest, construction projects to provide new information technology and water management services in the country, and investments in the energy sector (table 1; Hungarian Cement Association, 2011; Zadravecz, 2011; International Cement Review, 2012; Holcim Ltd., 2013, p. 74–75, 207; Hungarian Central Statistical Office, 2013c, e; Maheshwari, 2013; Mining Journal, 2013; STRABAG SE, 2013, p. 4, 14, 20, 89, 98).

Mineral Fuels and Related Materials

Coal, Natural Gas, and Uranium.—Since at least about 2008, production of coal at the Markushegy Mine has decreased steadily, and the mine had been found not to be profitable by the end of 2012. In January 2013, 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. Facing decreasing coal reserves and substantial uncertainty concerning access to natural gas pipelines that were being proposed in 2012, the Government announced 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. If successful, this project could help feed the planned service-life extension project of MVM Paks Nuclear Power Plant Ltd. In addition, the Government had reportedly included measures in its new National Energy Strategy to encourage development of more modern coal mining based on pure coal technology and of new oil and natural gas resources in Hungary (Eddy, 2012; Hungarian Ministry of National Development, 2012; European Commission, 2013; Makan, 2013; Mining Journal, 2013; Molnár, 2013; BudapestTelegraph.com, 2014; MVM Paks Nuclear Power Plant Ltd., undated).

Outlook

If the Government does nationalize MAL (and keeps it operating), or liquidates it by selling it to a new owner who can obtain the same environmental permissions that MAL has to keep it operating, then Hungary could continue to produce alumina, bauxite, and gallium at about the same levels as in 2012. Under no scenario—nationalization and 100% state ownership of MAL, new and at least partially private ownership of MAL, or the same ownership of MAL as in 2012—was a complete return to 2008 levels of production projected. The construction sector was expected to increase output slightly in 2013, but not by more than 1% above that of 2012, and it could possibly increase by between 3% and 4% more in 2014 and again in 2015, especially if the Government budgets more stimulus funds for the sector. Production of cement and other construction materials could increase by about those same percentages through 2015. Also, construction of the Hungarian section of the South Stream pipeline, including a new natural gas storage facility, could begin in 2015, which would significantly increase demand for construction materials in the country above what was projected in 2012 for the period 2015 through 2017, when the pipeline was projected to begin supplying natural gas to Hungary (Hungarian Cement Association, 2011; Associated Free Press, 2012; BudapestTelegraph.com, 2013; Dékány, 2013a; Maheshwari, 2013; Mining Journal, 2013; Szabó and Vitéz, 2013).

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TABLE 1
HUNGARY: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

Commodity[2]		2008	2009	2010	2011	2012
METALS						
Alumina, gross weight, calcined basis		299	185	214	165 r, e	150 e
Aluminum, unwrought, including secondary[e]		280 r	184 [3]	234 [3]	185 r	150
Bauxite, gross weight		511	317 r	365 r	278	255
Gallium[e]	kilograms	5,100	3,400	4,000 r	5,000 r	4,600
Iron and steel, metal:						
Pig iron		1,289	1,050	1,325	1,317 r	1,229
Steel:						
Crude		2,097 r	1,403 r	1,678 r	1,746 r	1,543
Semimanufactures		2,196	1,452	1,594	1,765 r	1,928
Manganese ore, run-of-mine:						
Gross weight		50	43	55	58	51
Mn content		13 r	13 r, e	15	16 r	13
INDUSTRIAL MINERALS						
Cement, hydraulic[e]		3,544 [3]	2,800 r	2,100 r	2,000 r	1,900
Clays:						
Bentonite, raw		7	5	17 r, e	17	17
Chamotte, refractory clays[e]		200	209 [3]	82 [3]	86	80
Kaolin, beneficiated		584	266	239	248	250 e
Other, unspecified		4,900 e	1,851	1,271	1,780 r, e	1,170 e
Diatomite[e]	metric tons	1,500	1,000	1,300	1,309 [3]	1,287 [3]
Gypsum and anhydrite	do.	15,940 r	19,766	20,000 e	0 r	0
Lime, calcined[e]		250	210 [3]	260 [3]	250	230
Nitrogen, N content of ammonia[e]		300	300	300	300	300
Peat, agricultural use[4]		90	85 r, e	54 r	82	60
Perlite		67 e	82	71	71 r	72
Quartzite[e]	metric tons	1,300	1,000	700 r	540 r, 3	313 [3]
Sand and gravel:						
Gravel		25,000 e	23,496	19,157	18,350 r	16,160
Sand:						
Common		5,400	12,095	5,902	4,943 r	4,600 e
Foundry		100	111	137	144 r	150 e
Glass (silica)		220	85	271	287 r	300 e
Stone:						
Dimension, all types[e]		5,700	5,500	5,500	2,919 r	2,826 [3]
Dolomite		6,200 e	4,393	2,503	668 r	549
Limestone		3,200 e	5,082	2,874	4,580 r	4,435
Marl		700 e	506	25	57 r	61
Sandstone[e]		15,000	10,000	15,000	15,150 [3]	9,970 [3]
Sulfur, byproduct, elemental, all sources[e]		65	60	60	60	60
Sulfuric acid[e]		80	75	75	75	75
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Brown		1,373	973	911	758	859
Lignite		8,041	8,027	8,203	8,801	8,438
Total		9,414	9,000	9,114	9,559	9,297
Coke, metallurgical[e]		999	746	1,100 r	820 r	870
Gas, natural, net (marketable)	million cubic meters	2,703	2,748	2,600	2,667 r	2,280

See footnotes at end of table.

TABLE 1—Continued
HUNGARY: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

Commodity[2]		2008	2009	2010	2011	2012
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum:						
Crude[5]	thousand 42-gallon barrels	5,580 r	5,550 r	5,025 r	4,470	4,410
Refinery:[e]						
Motor fuel (including aviation fuel)	do.	13,600 r	11,200 r	10,700 r	11,200 r	12,000
Distillate fuels	do.	9,820	8,070	8,760	9,200	9,870
Kerosene	do.	2,270	1,870	1,760	1,850	1,980
Gas oils	do.	31,100 r	25,600 r	28,800 r	30,200 r	32,400
Other fuel oils	do.	870 r	715 r	367 r	385 r	414
Lubricating oils	do.	1,510	1,240	1,190	1,250	1,340
Liquefied propane and butane	do.	3,300	2,710	2,500	2,630	2,820
Petroleum jelly, paraffin wax, and other waxes	do.	384	316	328	344	370
Petroleum coke, bitumen, and residues	do.	6,580	5,410	5,120	5,380	5,770
Total	do.	69,400 r	57,100 r	59,500 r	62,400 r	67,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. do. Ditto.
[1]Table includes data available through February 18, 2014.
[2]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 is inadequate to make reliable estimates of output.
[3]Reported figure.
[4]Data before 2011 may include production of alginite and (or) paludal materials (including paludal mud).
[5]Figures were converted to thousand 42-gallon barrels from production reported in thousand metric tons.

TABLE 2
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(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	Motim Electrocorundum Ltd.	Plant at Mosanmagyarovar	50
Aluminum	Alcoa-Köfém Kft (Alcoa Inc., 100%)	Székesfehérvár ingot plant	NA
Bauxite	Magyar Aluminium Ltd. (MAL)	Bakony and Halimba Mines, 5 kilometers south of Ajka, northwest Hungary	NA
Bentonite	Bentonit Hungaria Kft (S&B Industrial Minerals S.A., 100%)	Mines and plant at Egyhazaskeszo	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.)	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-Asvany 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 Erömü 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)	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)	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-Asvany Banyaszati Ipari Kft.	Mine and plant at Fehevaresugo	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.[1]	Diosgyor, 145 kilometers northeast of Budapest	550

[e]Estimated. Do., do. Ditto. NA Not available.
[1]Stopped production in December 2008.