THE MINERAL INDUSTRY OF

HUNGARY

By Walter G. Steblez

Hungary continued to produce modest amounts of fossil fuels, industrial minerals, and metals; by European standards, the only significant mine production in Hungary centered around bauxite and its refining to alumina. The output of these commodities, however, declined substantially compared with production levels achieved in the 1980's, owing to Hungary's transition to a market economy system, which entailed adherence to market demands. In 1998, privatization of the economy increased, as did foreign investment in the energy and construction sectors. Compared with 1997, the gross domestic product increased by 5.1%, and the volume of industrial production increased by more than 11% in 1998 (Hungarian Statistical Office, 1999, p. 287). The aggregated output of the mining and quarrying branches declined by more than 20% in 1998. At the same time, domestic sales fell by more than 23% and exports rose by 42% compared with 1997. Similarly, the production of industrial mineral products increased by about 13%; domestic sales and exports grew by 4% and about 35%, respectively. The production of basic metals rose by 2.8%, domestic sales declined by 2.5%, and exports increased by 10% (Hungarian Statistical Office, 1999, p. 403). Taken together, the branches discussed above composed almost 12% of the total value of Hungary's industrial output in 1998 compared with almost 16% in 1990.

Energy consumption remained one of Hungary's main economic concerns because of the country's need to import a substantial share of its fuel requirements. In terms of value, imports of coal and coke in 1998 exceeded exports by almost 5.5 times; petroleum and petroleum products, 2.5 times; and natural and manufactured gas, 80 times (Hungarian Statistical Office, 1999, p. 323). Between 1996 and 1998, imports generally constituted between 55% and 57% of total available energy (measured on a terajoule basis), and in 1998, imports accounted for more than 60% share of net consumption. Hungary's consumption of coal, as a percentage of total energy consumption, has steadily declined as follows: 28.8% in 1980; 19.1% in 1990; 15.2% in 1996; 15% in 1997; and 13.9% in 1998 (Hungarian Statistical Office, 1999, p. 372-373). The consumption of natural gas and petroleum and refinery products showed the following rising trend: 63.6% in 1980; 61.2% in 1990; 69.2% in 1996; 69% in 1997; and 71.5% in 1998. Nuclear power generated electricity composed 10.3% in 1990, 11.9% in 1996, 12.1% in 1997, and 12.1% in 1998 of the total available energy (Hungarian Statistical Office, 1999, p. 372-373).

Hungary classifies its coals into three categories—hard (bituminous), brown, and lignite. Brown coal and lignite, which are sub-bituminous, are mined largely to power the country's thermal electric power stations. Lignite was mined by means of open pit at the Bukkabrany and the Visonta Mines; the output from these mines was used entirely at the Matra electric power plant. The mines and the electric powerplant have been owned by RWE/EVS consortium of Germany since 1995 (Molnar, 1999). RWE/EVS planned to build a new, 2- by 500-megawatt (MW), lignite-fired electric power station at Bukkabrany at a cost of about $925 million. In 1998, Hungary's coal reserves amounted to 2.5 billion metric tons, of which lignite, brown coal, and bituminous coal composed 60%, 25%, and 15%, respectively (Molnar, 1999).

In 1997, Bakonyi Bauxitbanya Kft. (Bakonyi), Hungary's sole bauxite mining enterprise, reported a drop in production to just more than 700,000 metric tons per year (t/yr) from more than 1.0 million metric tons per year (Mt/yr) produced in 1996 (Metal Bulletin, 1997b). The production cutback was attributed to a decline in demand owing mainly to the cancellation of a 350,000-t/yr contract by the Almasfuzito alumina refinery. Almasfuzito, which was denationalized in 1996 after several years of closure, was experiencing financial difficulties. Additional difficulties arose with respect to Ajkai Aluminiumapari Kft. (Ajka), the second alumina refinery, which had a capacity of 300,000 t/yr. Contract orders were delayed following privatization tenders offered in January and again in April 1997 (Metal Bulletin, 1997a, b). Hungarian Aluminum Industrial Corp. (HUNGALU), the parent company of Ajka, sought to sell off 90% of the shares of the enterprise and to reserve the balance for the employees, who would have to pay only 50% of the final bid price. The original January tender stipulated bidding on a cash basis only, strict pollution controls, the use of domestic bauxite as a feedstock, and an agreement to keep the alumina refinery operational for at least 10 years. These provisions were considered to be too rigid and prevented a successful outcome (Metal Bulletin, 1997d). Consequently, Bakonyi considered implementing temporary layoffs and the early closure of the Kincsenbanya open pit mine, which originally was scheduled for closure in 1998 (Metal Bulletin, 1997b). Late in 1997, the final sale of the Ajka alumina refinery was completed. In June, APV Rt., the Hungarian privatization agency, announced the sale of the enterprise to Inotai Aluminiumapari Kft., a subsidiary of Magyar Aluminium (MAL) and the country's sole primary aluminum smelter with a production capacity of about 40,000 t/yr.

MAL, the privatized subsidiary of HUNGALU, reported studying the possible rationalization of its operations by means of constructing a 120- to 130-MW gas-fired electric powerplant (estimated cost—$100 million with startup in 2001) solely to provide electricity to MAL's alumina-refining and metal-smelting operations, the expansion of the non-metallurgical-grade alumina business, and secondary aluminum production (Falush, 1998).

Hungary's total resources of bauxite were estimated to be 26 million metric tons (Mt). Commercial resources were estimated to be about 20 Mt, grading an average of 50.4% Al_2O_3 and 7%

SiO_2. In 1998, production came from the Fenyofo I and the Halimba III underground mines and the Bicske and the Obarok open pits. Two additional open pits were planned at Bakonyoszlop and Iharkut (Molnar, 1999). In 1998, construction at the Fenyofo II underground mine was begun, and the mine was expected to be operational in 1999 when it was to replace Fenyofo I (Metal Bulletin, 1998c; Molnar, 1999). Total investment for the development and startup of the Fenyofo II Mine, with a planned production capacity of 250,000 t/yr of bauxite, could amount to about $3 million.

Noteworthy foreign commercial events in 1998 included efforts by Alcoa-Kofem Kft. to remove the European Union's (EU) 6% tariff on aluminum ingot. Alcoa-Kofem was concerned about potential increases in the cost of aluminum ingot after Hungary's accession to the EU. The company obtained aluminum ingot duty free from Russia and Ukraine for its large-scale aluminium extruding and fabricating works at Szkesfehervar (Regan, 1998).

Although Hungary no longer mined copper, past surveys of the deep-lying (900- to 1,100-meter) Recsk copper ore body in the Matra mountains discovered between 172 and 175 Mt of copper ore grading 1.12% copper and about 20 Mt of polymetallic ore grading 4.22% lead and 0.92% zinc, as well as smaller quantities of gold, molybdenum, and silver. Geological investigations conducted by the Government determined the area of mineralization to be about 10 square kilometers. During 1997-98, foreign commercial interests submitted a number of tenders to purchase the mine. These tenders, however, did not meet the sales conditions stipulated by the Government of Hungary through APV Rt. A major bid by Metallurgical China Construction-Oil Capital Limited (MCC–OLC), the U.S.-Chinese consortium, did not materialize, given the withdrawal by MCC (the Chinese side) from the consortium, leaving OLC looking for new partners and at new tender submission deadlines (Metal Bulletin, 1997a, c). By yearend 1998, closure of the Recsk Mine appeared to be imminent; serious purchase offers receded because the mine's commercial viability was open to question following a decline in copper prices (Metal Bulletin, 1998b).

The denationalization and rationalization of Hungary's steel industry faced more difficulties than most other industries in the country's economy. Because of the sharp reduction in domestic demand for steel during the transitional period to a market economy and the sharp decline in exports to the countries of the former Soviet Union, production of steel by 1997 was about one-half of that in the 1980's. In 1996, Hungary's consumption of raw steel reportedly was about 60% of peak consumption in the 1980's (Falush, 1997).

APV Rt. began rationalizing the country's steel sector in preparation for privatization. In April 1998, Hungary's steel industry requested that the Government provide the industry import protection, especially from rapidly increasing imports of steel from the Czech Republic and Poland. The products considered to be under most duress from foreign imports were rods, tubes, and sections. The industry also was fearful that the collapsing economic situation in Asia would increase exports of Austrian, German, Romanian, Russian, and Slovak steel products to Hungary (Metal Bulletin, 1998e). In 1998, discussions between the Hungarian Iron and Steel Industry Association and the Czech Steel Federation apparently did not end their disagreements concerning the scope of Czech steel exports to Hungary (Metal Bulletin, 1998d).

In April 1997, Ózdi Acélmüvek Kft. (ÓAM), formerly Ózd Steelworks, with a capacity to produce about 360,000 t/yr of rolled steel, was sold to Max Aicher GmbH of Germany, which planned to modernize the plant's rolling mills. ÓAM's modernization plans also included the installation of an electric arc furnace (EAF) that would use domestic scrap to produce billets (Falush, 1997). In 1998, the company's spokespersons indicated that should support from the Government fall short of expectations, the steel plant would not be able to go on-stream until the end of 1999 (Metal Bulletin, 1998a). The need for additional electric power to this site was a serious concern because the Kazinbarcika electric power station, about 30 kilometers from Ózd, was viewed as being less than adequate to meet the new plant's power requirements. Billets for OAM's rolling mill will continue to be imported from Belarus, Poland, and Ukraine.

DAM-Diosgyori Acelmuvek Rt. (DAM), also located in Ózd, operated seven EAF's and three rolling mills with a total capacity of 500,000 t/yr of rolled products. DAM's operating losses in recent years have been increasing; in 1996, they amounted to $4.5 million, or five times as large as those incurred in 1995. To reduce losses, state aid, amounting to about $5 million, was allocated for upgrading DAM's steel- rolling operations. Moreover, DAM's management was seeking ways to eliminate losses with the help of industry consultants financed by the EU's Phare Program. Additionally, ÓAM and DAM were expected to absorb all the country's annual scrap production, when ÓAM's EAF capacities come online. In 1997 and 1998, iron and steel scrap was exported at an annual rate of about 800,000 metric tons (t) (Falush, 1997; Metal Bulletin, 1998e).

In 1998, DAM announced plans to modernize its special steel rolling mills and to complete the installation of a new finishing line for round bars by that September. The new capacities were part of the enterprise's development plan aimed at achieving financial solvency by 2001 (Metal Bulletin, 1998f). DAM's production in the first half of 1998 amounted 148,500 t of semimanufactures, of which 97.6% were continuous-cast billet. Total production by yearend was expected to amount to 370,000 t/yr and was to increase to 420,000 t/yr by 2001 (Metal Bulletin, 1998e). Foreign investment in Hungary's steel sector increased during 1998 when VSZ Ocel of Slovakia acquired 68% equity in DAM.

Dunaferr Dunai Vasmu Rt. (Dunaferr), Hungary's largest steelmaker, was an integrated steel complex with a capacity to produce about 1.4 Mt/yr of crude steel, Dunaferr operated three coke oven batteries with a total capacity of 1 Mt/yr, a sinter plant, and two blast furnaces [a 960-cubic-meter (m^3) unit and a 1,033-m^3 unit] with a combined capacity of 1.2 Mt/yr of pig iron. The 1.4-Mt/yr steelmaking plant incorporated two 130-t basic oxygen converters and a 4,000- to 5,000-t/yr EAF. Additionally, the complex operated continuous casting machines, rolling mills, pipe and tube mills, and coil coating lines (Serjeantson, 1997, p. 173).

In 1997, plans to denationalize Dunaferr continued. Because of the enterprise's large size compared with the country's other

steel producers and in view of global overcapacity, foreign investment was less than forthcoming. As an integrated steel producer, Dunaferr was unable to change its production configuration quickly. The enterprise would require major modernization of its steelmaking process and rolling and casting facilities at an estimated cost of between $330 million and $440 million. The overall privatization plan consisted of two phases. During the first phase, the enterprise was to sell off such noncore commercial subsidiaries as the plate-rolling mill (Lorinci Hengermu, semiprivatized in 1997, 49% owned by Extermetal of the United Kingdom), the cold-rolling operations, formed into DVVA Kft. (40% owned by Voest-Alpine Stahl of Austria since 1991), and such other assets as the enterprise's coal-fired electric power station. The second phase would involve a major modernization of Dunaferr's operations that would require major strategic investors. The operations were considered to be viable at least until 2005 (Falush, 1997). In 1998, Dunaferr planned to focus its efforts on improving product quality and its domestic distribution system. Investment for 1998 was expected to amount to more than $60.4 billion.

Another option that was explored by Dunaferr in 1988 was possible transition to a minimill basis of operation. This transition would require the scrapping of the two blast furnaces and the installation of an EAF, a thin-slab caster, and a ladle furnace; such other options as Corex and direct reduction of iron also were being considered. Also, an agreement was signed during the year with Kvaerner Metals that would allow Kvaerner to purchase a 26.8% stake in Dunaferr's Design and Engineering Office. The new joint venture would trade under the name of Dunaferr Kvaerner Mernokiroda Kft. (Paxon 1998; Steel Times, 1998, Hungary—Going mini?, Steel Times, accessed at URL http://www.dmg.co.uk/steeltimes/review/hung ary.htm). In 1998, Dunaferr reported the modernization of its strip- processing and rolling facilities. Plans for 2000 included installation of galvanized coil and profiles capacities (Paxon, 1998).

The company's sales have been reoriented toward exports to Western countries. Because of the financial crisis in Asia, exports to the region, which amounted to about 30% of Dunaferr's total output in 1993, ceased in 1997, and about 58% of the total 1997 production of 1.4 Mt was exported, of which about 71% was shipped to the EU; 11%, to Middle Eastern countries, and about 4%, to the United States. The increase in Dunaferr's domestic steel sales from 400,000 t/yr to 600,000 t/yr between 1994 and 1998 also was noteworthy (Paxon, 1998).

Industrial minerals continued to play an important role in Hungary's economy, especially in view of their role in the modernization process necessary for the country's infrastructure. According to the Global Cement Report (1998), construction activity in Hungary increased by about 5% in 1997 compared with that of 1996. New commercial building activity rose by about 10%, but housing starts declined by 3%. Between 1998 and 2008, planned highway construction would be provided funding amounting to about $250 million per year. Cement consumption was expected to rise above 3 Mt in 1998, showing real growth for the first time since 1993; the entire sector continued to be heavily invested by foreign companies. Other industrial minerals produced during the year included glass sand, kaolin, and perlite.

References Cited

Falush, Peter, 1997, Hungarian steel seeks suitors: Metal Bulletin Monthly, no. 322, September, p. 41.

Global Cement Report, 1998, Hungary: Global Cement Report, p. 153-54.

Hungarian Statistical Office, 1999, Statistical yearbook of Hungary for 1998: Hungarian Central Statistical Office, 577 p.

———1998, Magyar Aluminium—Moving into profit: Metal Bulletin, no. 8262, March 19, p. 5

Metal Bulletin, 1997a, In brief: Metal Bulletin, no. 8222, October 23, p. 7.

———1997b, Hungarian mines hit by alumina troubles: Metal Bulletin, no. 8157, March 3, p. 5.

———1997c, Recski copper, zinc mines privatisation fails: Metal Bulletin, no. 8151, February 6, p. 3.

———1997d, Hungalu set to repeat failed Ajka tender: Metal Bulletin, no. 8155, February 20, p. 5.

———1998a, Aicher proceeds with Ózd meltshop plans: Metal Bulletin, no. 8329, November 23, p. 21.

———1998b, Closure appears likely for Recski Ercbanya: Metal Bulletin, no. 8325, November 9, p. 11.

———1998c, Construction at Hungarian bauxite mine gets under way: Metal Bulletin, no. 8293, July 9, p. 7.

———1998d, Czechs fail to find agreement on exports to Hungary: Metal Bulletin, no. 8336, December 17, p. 17.

———1998e, Hungarian mills ask for protection from rising imports: Metal Bulletin, no. 8272, April 27, p. 23.

———1998f, DAM Diósgyör plans modernisation of rolling mills: Metal Bulletin, no. 8363, August 20, p. 19.

Molnar, Josef, 1999, Hungary: Mining Journal Mining Annual Review, June 25, p. 47.

Paxon, Robin, 1998, Dunaferr mulls switch to EAF's: Metal Bulletin, June 4, no. 8283, p. 23.

Regan, Bob, 1998, Alcoa Hungarian unit tariff tiff: American Metal Market, February 25, p. 2

Serjeantson, Richard, ed., 1997, Iron and steel works of the world (12th ed): Metal Bulletin Books Ltd., 726 p.

TABLE 1
HUNGARY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1994	1995	1996	1997	1998 e/
METALS						
Aluminum:						
Bauxite, gross weight	thousand tons	836	1,015	1,056	743	909 3/
Alumina, gross weight, calcined basis	do.	177	184	208	76	80
Metal:						
Primary		30,740	25,000	30,000	35,000	35,000
Secondary		3,000 e/	4,000 e/	63,808	63,190	64,000
Total		33,740	29,000	93,808	98,190	99,000
Copper, metal: e/						
Smelter, secondary		100	100	100	100	100
Refined including secondary		11,000	11,000	11,000	12,000 3/	12,000
Gallium, mine output metal content	kilograms	5,577	4,187	5,000	--	--
Iron and steel, metal:						
Pig iron	thousand tons	1,590	1,515	1,548	1,190	1,222 3/
Ferroalloys e/ 4/		8,000	8,000	8,000	8,000	8,000
Steel:						
Crude	thousand tons	1,945	1,865	1,969 r/	1,829 r/	1,934 3/
Semimanufactures, rolled only	do.	2,074	2,117	2,133	2,229	2,346 3/
Manganese ore:						
Run of mine:						
Gross weight		40,000	37,000	65,000	57,000	60,000
Mn content e/		13,000	9,600	15,700	14,000	15,000
Concentrate:						
Gross weight		25,000	25,000 e/	33,813	15,291	15,000
Mn content e/		7,500	7,500	11,000	5,000	5,000
Uranium, U3O8 content		503	277	250	200	100
Zinc, metal, smelter, secondary e/		-- 3/	--	--	--	--
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand tons	2,810	2,875	2,747	2,811	2,999 3/
Clays:						
Bentonite:						
Raw		14,700	22,792	15,376	14,848	20,122 3/
Processed e/		12,000 3/	12,000	9,000	9,000	12,000
Kaolin, raw and washed		15,000	10,959	9,854	10,000	10,000
Gypsum and anhydrite		151,000	198,000	190,000 e/	190,000 e/	190,000
Lime, calcined	thousand tons	464	538	468	498	500
Nitrogen, N content of ammonia e/	do.	250	250	250	250	250
Perlite		85,000	151,000	110,000	120,000	130,000 3/
Refractory materials, n.e.s.:						
Chamotte products	thousand tons	20	19	20 e/	20 e/	20
Chrome magnesite products	do.	5	4	5 e/	5 e/	5
Sand and gravel:						
Gravel	do.	8,103	10,906	11,000 r/ e/	10,000 e/	10,000
Sand:						
Common	thousand cubic meters	104	206	275	284	250
Foundry		12,000	159,000	9,386	72,537	243 3/
Glass		308,000	523,000	324,655	327,569	241,434 3/
Sodium compounds, hydroxide (caustic soda)		132,000	159,215	160,167	150,000	150,000
Stone:						
Dimension, all types	thousand tons	5,206	4,967	5,000 e/	5,000 e/	5,000
Dolomite	do.	933	1,001	582	1,440	1,500
Limestone	do.	4,273	4,340	4,949	4,941	5,000
Sulfur, byproduct, elemental, all sources		30,890	28,802	28,000 e/	30,000 e/	30,000
Sulfuric acid		83,700	106,737	89,712	84,463	85,000
Talc		1,500 e/	1,150	1,200 e/	500	500
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand tons	1,024	844	962	924	877 3/
Brown	do.	5,710	6,458	6,538	6,552	6,004 3/
Lignite	do.	6,760	7,151	7,575	8,089	7,610 3/
Total	do.	13,494	14,453	15,075	15,565	14,491 3/
Coke, metallurgical e/		650 3/	650	650	650	650
Fuel briquets	thousand tons	410	362	323	214	250

See footnotes at end of table.

TABLE 1--Continued
HUNGARY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1994	1995	1996	1997	1998 e/
MINERAL FUELS AND RELATED MATERIALS--Continued						
Gas, natural, marketed	million cubic meters	5,900	5,451	4,756	4,513	4,300 3/
Peat, agricultural use	thousand tons	65 e/	48	45	50 e/	50
Petroleum:						
Crude:						
As reported	do.	1,600	1,669	1,477	1,355	1,258 3/
Converted	thousand 42-gallon barrels	10,700	10,800	9,800 e/	9,100 e/	8,400
Refinery products 5/	do.	41,000	41,000	40,000 e/	40,000 e/	40,000

e/ Estimated. r/ Revised.
1/ Table includes data available through May 2000.
2/ In addition to the commodities listed, diatomite and a variety of other crude construction materials, such as common clays, are produced, but available information is inadequate to make reliable estimates of output levels.
3/ Reported figure.
4/ Hungary is believed to produce some blast furnace ferromanganese.
5/ Excludes refinery fuel and losses.

TABLE 2
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Alumina	Hungarian Aluminum Industrial Corp. (HUNGALU)	Ajka Timfoldgyar plant, about 120 kilometers southwest of Budapest, near Lake Balaton	400
Do.	do.	Almasfuzito Timfoldgyar plant near the Czech Republic border, 63 kilometers northwest of Budapest	240
Do.	do.	Moson-Magyarovar plant, in northwestern corner of Hungary, about 12 kilometers from Austrian and Czechoslavak borders	30
Aluminum, primary	do.	Inota plant, near Varpalota, 75 kilometers southwest of Budapest	46
Bauxite	HUNGALU: Bakony Mining Enterprise	Bakony District, extending roughly 100 kilometers northeast along Lake Balaton	1,500
Cement	Belpafatvalvi Cement es Meszipari Rt Principal investors: Heidelberger & Schwenk (Germany) and Hungarian Group	Belapatfalva, near Miskolc, 125 kilometers northeast of Budapest	1,100
Do.	Beremend Cement es Meszipari Rt Principal Investors: 100%-owned by Heidelberger & Schwenk (Germany)	Beremend, 45 kilometers south of Pecs	1,090
Do.	Dunai Cement es Meszmu Kft Principal Investors: 100%-owned by Heidelberger & Schwenk (Germany)	Vac, 50 kilometers north of Budapest	1,200
Do.	Hejocsabai Cement es Meszipari Rt Principal Investors: Holderbank (Germany) & Hungarian Group	Hejoscaba, 150 kilometers northeast of Budapest	1,450
Do.	Labatlani Cementipari kft Principal Investors: 100%-owned by Holderbank (Germany)	Labatlan, 20 kilometers north of Tatabanya	550
Clays	Agyag-Asvany Kft Principal Investors: Navan Resources PLC (Ireland)	Felsopeteny, one underground and two open pit mines and 5,000-ton-per-year processing plant. Products: ball clay, kaolin, and refractory clay	35
Coal:			
Bituminous and lignite	Magyar Szenbanyaszati Troszt (MSZT) (Hungarian Coal Mining Trust)	Tatabanya and Oroszlany coal mining region, 45 kilometers west of Budapest	8,900
Do.	do.	Mecsek coal mining region, near Pecs and Komlo, north of the Yugoslav border	3,100
Do.	do.	Borsod coal mining region, 130 kilometers northeast of Budapest	5,200

TABLE 2-- Continued
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand of metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Coal--Continued:				
Lignite		Magyar Szenbanyaszati Troszt (MSZT) (Hungarian Coal Mining Trust)	Thorez opencast mine at Visonta, 80 kilometers northeast of Budapest	7,000
Manganese		Orszagos Erc-es Asvanybanyak (National Ore and Mineral Mines)	Urkut manganese ore mines, 120 kilometers southwest of Budapest	160
Natural gas	million cubic feet	Hungarian Oil and Gas Co. (MOL)	Szeged and Algyo gasfields, southern Hungary	152,000
Do.		do.	Hajduszoboszo gasfields, 180 kilometers east of Budapest	50,000
Do.		do.	Smaller gasfields- Szank, Kardoskut, Bekes, Berefurdo, and others	39,000
Perlite		Perlit 92 Kft Principal Investors: Navan Resources PLC (Ireland) and Hungarian Group	Palhaza, northeastern Hungary. Open-pit mine and processing plant	150
Petroleum:				
Crude	million barrels	Hungarian Oil and Gas Co. (MOL)	Szeged-Algyo field, near Romanian-Yugoslav border; 50% of total capacity	7
Refined:		Subsidiaries of MOL:		
Do.	do.	Danube Petroleum Refining Co.	Szazhalombatta	55
Do.	do.	Tisza Petroleum Refining Co.	Leninavaros	22
Do.	do.	Zala Petroleum Refining Co.	Zalaegerszeg	4
Silica		Uveg-Asvany Kft Principal Investors: Navan Resources PLC (Ireland) and Hungarian Group	Mine and plant at Fehevaresugo	660
Steel		Dunaferr Dunai Vasmu Rt	60 kilometers south of Budapest	1,400
Do.		OAM-Ozdi Acelmuvek Kft	120 kilometers northeast of Budapest	360
Do.		DNM-Diosgyori Acelmuvek es Kereskedelmi Kft	Diosgyoer, 145 kilometers northeast of Budapest	850