

HUNGARY

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May 1, 2004, marked an historic moment in the development of the European Union, as it opened its doors to 10 new members and 75 million more people, including Hungary (10 million). The accession negotiations with Hungary were successfully concluded on December 13, 2002 and the Treaty of Accession was signed on April 16, 2003. In a referendum held on April 12, 2003, a majority of Hungarians (84% of the voters, with participation of 46%) expressed their support for membership of the European Union.

The economy

Following stagnation in the preceding two years, 2003 was a year of improvement for the world economy. The Hungarian economy also showed signs of a gradual acceleration, and by the third quarter GDP growth was close to 3%. Although growth was still primarily driven by consumption, in the second half of the year it was being supported increasingly by accelerating exports and a continuous increase in capital investments. With regard to the latter, investments in machinery increased steadily throughout the year (by 16.9% in the third quarter).

Increasing exports encouraged a gradual improvement in industrial output in the second half, with double-digit growth achieved by year end, and exports by Hungarian companies were at a record level. Imports are increasing and being driven by capital investment goods. The rate of inflation declined in 2003 compared with 2002, and was outpaced by the level of wage increases although these began to drop heavily at the end of the year, and this may be contributing to Hungary's improved competitiveness.

There was a significant increase in the current account deficit in 2003, and the budget deficit was higher than projected, despite interim cost-cutting measures. The central bank increased interest rates drastically and by the end of the year there was considerable uncertainty in the financial markets.

Energy sector

Hungary's legislation governing the power sector and the energy sector continued to be brought closer to EU legislation and by the end of 2003 the legislative environment was almost fully conformable to EU legislation. The Electricity Act, regulating the energy sector, became effective in 2003, and an act concerning natural gas supply was also approved. In accordance with the applicable EU legislation, the new acts permit so-called eligible consumers (currently major industrial consumers and, from July 1, 2004, all non-residential consumers) to enter the free market, and select freely their electricity and natural gas supply sources. In order to promote the actual opening of the market, the legislation contains, in accordance with EU

principles, the rules for a transparent market environment, free from discrimination or cross-financing.

The natural gas price-settlement process, expected for a long time, began in 2003. During the year, gas prices reached a level justified by costs for all non-residential consumers, and from January 1, 2004, household consumers also received natural gas at a price that covers the costs. The built-in capacity of Hungary's domestic power plants is 8.07 Gwe. They comprise 23% coal-fired, 23% nuclear: 48.5% oil and methane, 5% GT peak turbines and 0.5 % hydropower. There are eight coal-fired plants with a combined capacity of 1,834 MWe, and a governmental order on emission reductions (in accordance with EU directives) requires a 736 MWe capacity reduction by the end of 2004. This will have a knock-on effect and will lead to the closure of some coal mines as well. There are plans for a major changeover from coal-fired power plants to gas turbines over the next three to four years. Under these plans, eventually only two coal-fired plants will remain, the Mátra plant in the north of Hungary (a lignite mine-mouth plant that currently produces 13% of domestic electricity supply), and the Vértés PP, where a retrofit is in progress with gas desulphurisers.

On April 11, a serious breakdown occurred at the Paks No2 nuclear power plant, when rods in the cleaning pod close to the reactor were overheated and damaged. The damage forced operations to be suspended at the 440 MW capacity reactor (Paks normally provides 42% of domestic electric needs), and caused a US\$60 million loss for the year. The reactor was scheduled to restart in 2004.

Mining activity

Hungary possesses moderate mineral resources and the mining sector generates only 1-1.5% of GDP. There are significant reserves of coal, industrial minerals and aggregates, and all in situ mineral resources are state property, including aggregates. Consequently, the Hungarian State is a stakeholder of multiple interest and function, not only as a legislative and regulatory body but also as a mineral commodity owner.

The country does not have an explicit national mineral policy in a separate legislative document. Act XLVIII of 1993 relates to mining and was tailored to fit the free market, but it does not reflect strategic national, regional and local interests. A major legal tool in mineral management was the concession procedure, whereby the State plans and controls exploitation by opening areas for exploration and the extraction of certain minerals, by announcing tenders. Bid evaluation is based on the mineral management proposals put forward by the applicant companies. However, as a consequence of the limited success of concessions, the Hungarian Bureau of Mining suspended the designation of new areas in 1999. The other permit type, in the form of exploration licences, is working well, reserving exclusive rights for the prospector to establish mining plots over a limited timeframe (normally four years, but extendable). The third type of permit is for a preliminary surface survey. This does not even require a licence, but confers no future rights.

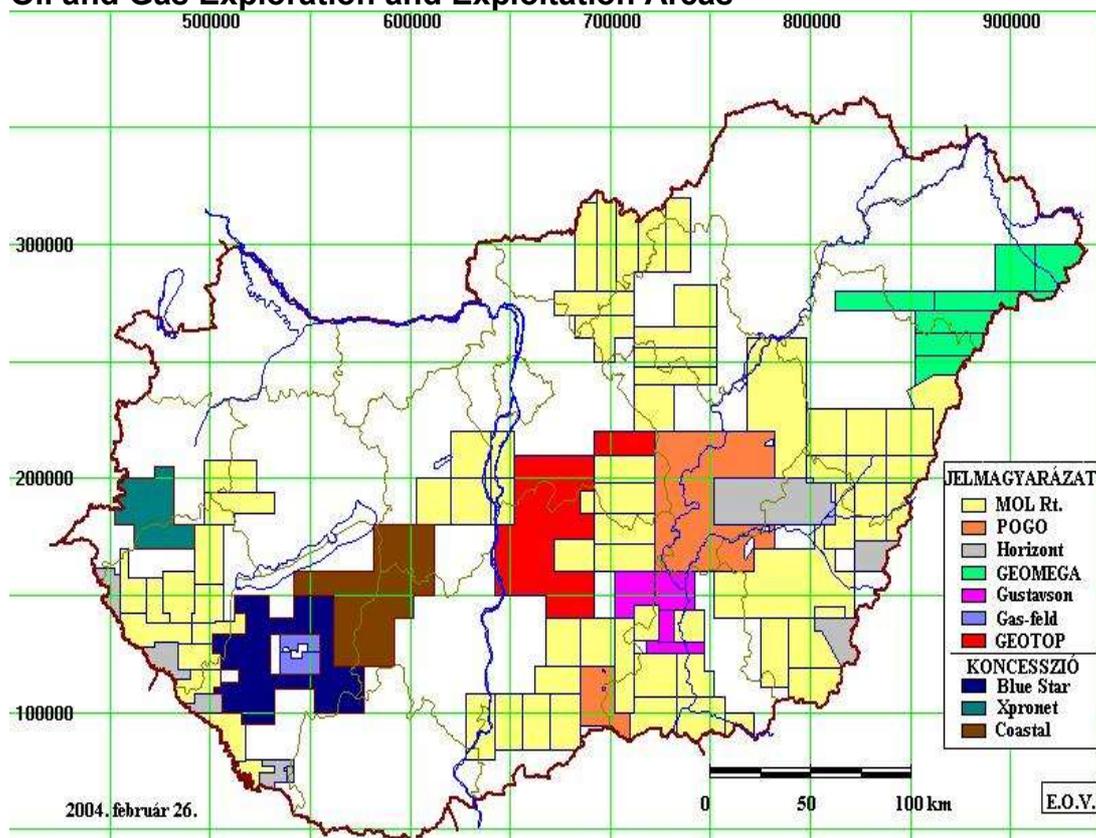
Hungary possesses sufficient reserves of industrial minerals and construction materials to satisfy domestic requirements for many years. However, the country is dependent on substantial imports of oil, natural gas and metallic commodities (eg, 75% of natural gas and approximately 77% of the oil consumed in 2002 was imported). At present, the Hungarian minerals industry produces hydrocarbons, coal, bauxite, manganese ore, industrial minerals and construction materials.

As a duty under law, the Hungarian Geological Survey has a remit to provide a national summary of mineral resources, the annual balance and a preliminary economic assessment. The latest resource table (containing estimated production data for 2003) excludes data for those minerals that exist but are not mined at present. These include gold and silver deposits, copper/lead/zinc occurrences and a uranium deposit where the mine was closed in 1997.

Oil and gas

Hydrocarbon production of Hungary has stabilised at around 1 Mt/y of oil and 3 billion m³/y of methane. Proved oil reserves amount to 22.7 Mt.

Oil and Gas Exploration and Exploitation Areas



Source: Magyar Bányászati Hivatal/Mining Bureau of Hungary

Almost all oil exploration (and production) is carried out by MOL, one of Central Europe's largest integrated oil and gas companies, as well as being the largest company in Hungary in terms of sales. According to MOL's annual

report, its upstream operations in 2003 were characterised by successful domestic exploration (new prospects were localised in the Jászág zone), intensification programmes in selected ageing fields, and trial production in new fields. These activities increased national production by 8% over the year. Domestic exploration and field revisions resulted in a 0.1 Mt increase in oil reserves and 2.6 Gm³ in gas reserves. In MOL's JV with Yukos in western Siberia, the Zapadno-Malobalik field produced 0.62 Mt oil in 2003, and it is already cash-flow positive.

Pogo Hungary Ltd successfully drilled a gas deposit in the middle of the Great Hungarian Plain (Szolnok area). The successful flow-testing of the Örményes-K-1 produced hydrocarbons at a calculated daily rate of approximately 14.2 Mft³/d of natural gas, plus 150 bbl of condensate per day. The other companies having either concessions or prospecting licences performed no fieldwork in 2003.

Coal

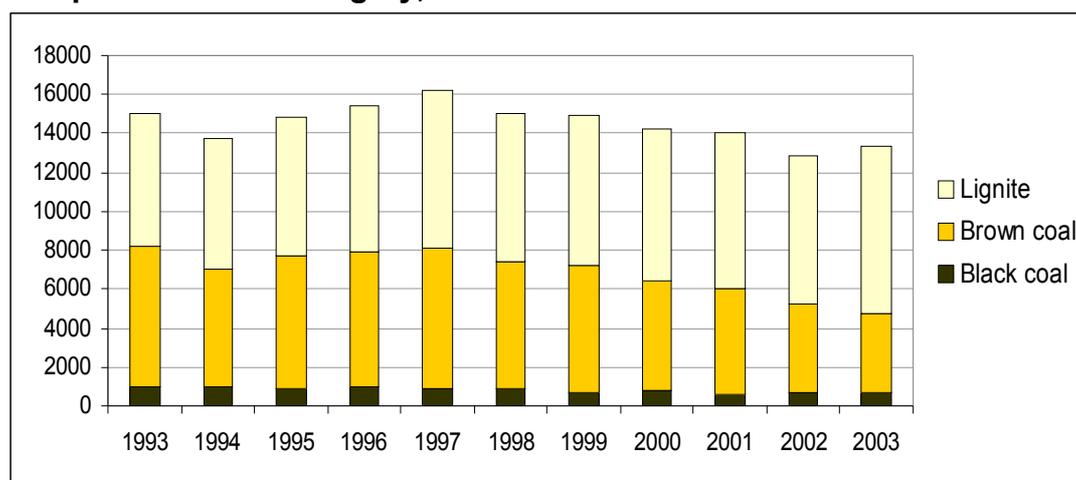
Hungary is moderately endowed with economically exploitable coal reserves (27,441 PetaJoules), of which the lignite deposits are significant (21,922 PJ). Black coal (2,970 PJ) and brown coal (2,549 PJ) can be considered marginal. In addition to the known reserves, there are estimated resources (hypothetical + speculative) of 336 Mt of black coal, 975 Mt of brown coal and 1,236 Mt of lignite. The Liassic coal deposits in the Mecsek Mountains contain a huge resource (120 billion m³) of coalbed methane but there are no plans for its exploitation.

Only 25% of coal production comes from underground mines. Open-pit lignite mines (Visonta and Bükkábrány) are the long-term target mines for the Mátra power plant. The Márkushegy (underground) mine satisfies the need of the Vértes power plant for brown coal for a longer period of time. The Lencsehegy (deep) and Sajókaza (open pit) mines were closed in 2003 owing to the reduction in the capacity of coal-fired plants for environmental reasons. In 2004, the Vasas and Karolina black coal open pits, the Mány deep mine, the Ármin deep mine and the Lyukóbánya brown coal deep mine will be closed.

A decrease in coal production to 11 Mt can be expected from 2004: black coal mining will stop, the production of brown coal will decrease and the production of lignite will remain at the same level. There are no plans for new mines in the near future.

The use of biomass as a fuel in power plants is growing. Pannonpower Holdings is going to use wood industry waste as fuel at its power plant in the Mecsek Mountains, the Borsod power plant is already using forestry waste instead of coal and, at Matra, trials have begun whereby processed mud from Budapest's sewage plants is being used as fuel.

Coal production in Hungary, in '000 t.



Source: Hungarian Geological Survey, Mineral Assessment

Manganese

The only remaining operating manganese mine in Hungary (at Úrkút in the Bakony Mountains) produced 48,000 t of manganese carbonate and carbonate-oxide ore in 2003. Remaining resources are considerable (37 Mt). There are no suitable beneficiation processes at Úrkút and the entire output is sent to Dunaferri Ltd, for use in its steelmaking foundries.

Bauxite

For many years, before and after World War II, bauxite mining in Hungary was an important activity and there were significant exports. Bauxite was first mined around Gánt, in the Vértes Mountains from 1926 onwards. The German wartime aircraft industry was based on aluminium and alumina exported from Hungary. After World War II, bauxite was a strategic resource because the Soviet Union had poor-quality Al-containing resources. Annual production reached almost 3 Mt in the 1980s, when pricing was not so important, and deep bauxite deposits were exploited, with enormous regional dewatering of the Triassic basement.

Once the Comecon countries opened their gates to the international market and bauxite could be purchased on the open market, the Soviet Union (and subsequently Russia) no longer needed to rely on overpriced Hungarian bauxite. Also, environmental concerns halted the regional dewatering in the Transdanubian Middle Ranges, hence deep bauxite mines were closed. Nowadays, annual production is gradually running down to 500,000 t (from 720,000 t in 2002, and 660,000 t in 2003). Only good quality deposits are now mined. About 25% comes from three open pits, and 75% from underground mines (in Halimba and Fenyőfő). All mining is operated by a conglomerate (MAL), to meet the needs of the sole domestic alumina refinery in Ajka. According to a reassessment dated January 1, 2004, Hungary's economic bauxite reserves are calculated to be 38.6 Mt.

Industrial minerals

Hungary's industrial minerals resources include 40 raw material types. Gypsum is mined near the abandoned iron-ore mine at Rudabanya and this is the only evaporite deposit of substantial size in the country. Although only a few industrial mineral commodities represent significant potential, high grade, good quality deposits exist of perlite, zeolite, glass sand, foundry sand, quartzite, refractory clays, bentonite, illite, diatomite, and alginite (a soil-enriching mineral in great demand which occurs in volcanic vents in northern Transdanubia).

Construction minerals

This category includes raw materials for the cement and lime industry, building stones, sand and gravel, and clay for the ceramic industry (including the brick and tile industries). The total economic reserves of these materials are estimated at 7,600 Mt, representing some 56% of all economic reserves in Hungary in terms of volume. The nominal net profit of these materials is 21% of the value of Hungary's total mineral reserves. Production of construction minerals increased by 3.6 Mt in 2003, owing to countrywide motorway construction and a government-prioritised housing programme.

Commodity	Production 2002	Production 2003	NNP realised	Resources	Reserves	Supply (years)
Oil	1.05	1.19	150	222	22.2	21
Natural gas	3,13	3,02	233	172.5	67.1	21
Carbon dioxide	0.10	0.07	0.1	47.7	32.0	> 100
Black coal	0.66	0.70	0.4	1,594.4	197.0	> 100
Brown coal	4.57	4.02	10	3,199.6	193.9	42
Lignite	7.57	8.65	16	5,820.1	2,949.7	> 100
Bauxite	0.72	0.66	3.7	131.4	39.1	54
Manganese ore	0.04	0.05	0.1	77.1	0.3	7
Industrial minerals	3.13	3.10	10	3,200.1	1,070.8	> 100
Cement industry minerals	6.07	6.10	5.4	2,930.6	1,338.0	> 100
Building and decoration stones	9.79	10.50	16	3,827.0	2,115.9	> 100
Sand and gravel	35.41	38.00	15	5,819.1	3,472.8	> 100
Ceramic industry minerals	7.91	8.20	6.2	1,755.2	1,000.8	99
Total	80.30	na	469	29,914.9	12,611.8	-

Mineral production, realised nominal profits in 2002, resources as of January 1 2003

Reserves, resources and production in million tonnes.

Natural gas and carbon dioxide calculated as 1,000 m³ = 1 tonne.

Realised NNP (Nominal Net Profit): quantity of 2002 production multiplied by the difference of specific income (limit of expenses) and specific costs (real costs), in million Euros.

Degree of supply (lifetime) in years.

All 2003 production data are estimated

Oil and gas production in Hungary '000 t

Source: Hungarian Geological Survey, Minerals Assessment

