

# HUNGARY

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In Hungary, the most important event during 2002 was the parliamentary elections, and the resultant replacement of the conservative government by a leftist socialist-liberal coalition in the second quarter. The previous government had planned and carried out important projects during its last two years in office. An outstanding project was the reconstruction of the Mária Valéria Danube-bridge at Párkány, a joint project with Slovakia. This further strengthened the relations between the two countries. The plans included the construction of 800 km of highways and the continuation of the Széchenyi project, which stimulated the development of the Hungarian economy in former years. During the term of the conservative government Hungary was the forerunner among the new democracies of the region.

On the occasion of the millennium celebrations to mark the establishment of the Hungarian State an exhibition, 'World-famous Hungarians' was organised in Budapest at the end of 2001. Part of this exhibition, 'Secrets of the Mines' introduced the activities of the world's first mining academy, established at Selmezbánya in 1735.

In 2002, the government established a permanent exhibition in the so-called 'House of Terror' in memory of the victims of both the fascist and the communist regimes. When visiting this new exhibition, the US Ambassador paid her respect to the victims by lighting candles.

The activities of the new government, especially its delay in fulfilling some of the promises it made during the pre-election campaign, provoked fierce criticism from the opposition. For example, highway construction is almost as slow as it was during the time of the previous government, and the enforcement of the embankments along the Danube is progressing only slowly. The new government has changed the emphasis of economic development but Western investment is still welcome. To facilitate Hungary's foreign investments, the Corvinus International Investment Stock Co. has been established.

Hungary is a candidate for EU membership and its citizens were to cast their votes in a referendum scheduled for April 2003.

Among the more significant industrial developments involving foreign companies, General Electric relocated its regional lighting technical headquarters for Europe, Middle East and Africa from the UK to Hungary. GE is the first multinational company, which has made such a strategic decision. However, some major Western companies (IBM, Philips, Salamander etc) have withdrawn from the country, and some major Hungarian companies (Dunafer, DAM, Ajka Crystal etc) have reorganised their operations. The consequences of these developments are likely to result in approximately

25,000 job opportunities being lost. On the positive side, however, industrial output increased during 2002 and the number of new enterprises exceeds 10,000.

Foreign investment resulted in a few new factories. The Suzuki factory in Esztergom, which produced and sold 85,000 cars in 2001, is increasing its capacity and a new model is to be produced. In spite of tough competition, Suzuki is maintaining its leading position, with a 20% market share. Audi Hungaria Motor Ltd. produced 648,000 engines and 29,000 cars in its factory, located in Győr during the first half of 2002. In Gyöngyös a factory for electronic machinery is to be put into operation. Bosch, with an investment of Ft12 billion, established a factory producing electronic equipment for cars.

Hungarian Tisza Chemical Factory (TVK) launched a multi-billion forint project to develop its production capacity. Development work by the Daimler-Chrysler-Rába joint venture is focusing on the Hungarian Army tender in 2004, but is also monitoring tender offers to supply the UK and Belgian armies.

Hungary's largest steel company, Dunafer, was in the news because of privatization plans. The related negotiations revealed the diverse and complicated interests of the company, as well as the interests of those thousands of workers whose jobs could be at risk. Meanwhile, as privatisation talks have continued, the company continues to produce steel on temporary contracts. The crisis in the steel industry has had a major impact on the Diosgyőr and Ózd steel works and their survival is in doubt because of their heavy debts.

In the energy sector the Paks nuclear power plant plays a significant role, meeting 40% of Hungary's primary energy demand.

In the tourism sector, income fell during 2002 as a result of fewer visitors and a lower occupancy of the hotels.

### **Oil and gas**

All activities related to the hydrocarbon industry are carried out by the Hungarian Oil Co. (MOL).

Hungary's mineable oil reserves amount to 23 Mt and, as a rule, annual production exceeds the annual additions to reserves/resources resulting from new discoveries. The crude oil has a density of 857 kg/m<sup>3</sup> and the sulphur content is low.

In 2002, Hungary produced 1.05 Mt of oil, mainly from the larger fields, eg Algyő, Kiskundorozsma and Nagylengyel. MOL also participated in foreign exploration, especially in the Middle East. Within Hungary, apart from MOL, several foreign companies, including Coastal Hungary Ltd, Blue Star, Mobil Erdgas-Erdöl Gmbh and El Paso, participated in hydrocarbon exploration. El Paso found good-quality natural gas at Törökkoppány (southern TransDanubia) at a depth of 907 m and is selling the product to MOL.

MOL has begun negotiations with national oil companies in neighbouring countries and has already secured an interest in Slovnaft, the largest oil company in Slovakia. Negotiations concerning the ownership of the Aral fuel station network were unsuccessful but there are plans to farm into the Croatian oil company and it is probable that MOL will participate in the tender organized by the Romanian Government for the privatisation of SN, the oil producing and processing company.

Significant natural gas resources are located in the deeper parts of the Algyő, Szeghalom and Üllés hydrocarbon fields. In 2002, 3.3 billion m<sup>3</sup> of natural gas was produced from the 69 billion m<sup>3</sup> reserves. The gas was variable, but it was mainly of good quality and of high heat value. MOL expects a break-even financial result for the year 2002 and is considering the sale of its gas division. Neither crude oil, nor natural gas production meets domestic needs, and Hungary is therefore importing both in significant amounts.

### **Coal**

As of January 1, 2002, Hungary's coal reserves comprised 197 Mt of black coal, 199 Mt of brown coal and 2,959 Mt of lignite. Total coal production was 14 Mt but reserves are sufficient to allow a larger annual production rate.

The black coal reserves are of Lower Jurassic (Lias) age and located in the Mecsek Mts. The seams host a significant amount of methane, of which 120 billion m<sup>3</sup> could be recovered. The brown coal occurrences are of variable quality and located in different parts of the country. In the vicinity of Bükkábrány (eastern Hungary) and Torony (TransDanubia) there are several hundreds of millions of tonnes of Pliocene lignite amenable to open-pit mining and for use in power plants. Of similar size are the occurrences at Kál-Kápolna and Füzesabony, adjacent to the operating open pit at Visonta.

The majority of Hungary's coal mines have now closed and some 119 operating coal mines remain. They are of varying capacity and most are owned by power plants. The largest user of lignite is the Mátra Power Plant owned by RWE AG of Germany. There are two 100 MW units, each connected to the desulphurising system of the exhaust gases.

The power plants play an important role in the economy and environmental protection is important. Hungary's plants rely on the Heller-Forgó cooling system, the most important unit of which is the steel cooling tower. The development of the third generation of this cooling tower was launched within the framework of a research project, supported by the Széchenyi programme.

There is evidence that the market position of coal in Hungary is strengthening, and experts estimate an annual 30% increase in coal consumption by the Hungarian power plants. Uncertainty related to future hydrocarbon supply and the strong protest in Hungary against nuclear power plants are both positive factors for coal demand although, if there are major new coal mines developed for power generation, the technology employed will have to be environmentally friendly.

The closure of many of Hungary's coal mines in recent years has led to major unemployment problems amongst the miners. Some are turning to opportunities in other countries. For example, around 50 miners are now working in coal mines in Leon in northern Spain and a group of around 100 contract miners from Hungary could soon be employed there. There are also job opportunities for Hungarian miners in Spanish phosphate and salt mines.

### **Renewable energy**

Worldwide, over 1,000 MW of electric energy is generated by wind-driven power plants. In Hungary, the share of renewable energy sources in the power mix is about 3.6%, and in the European Union it is 6%. With membership of the EU pending, there is a need to close the gap and Hungary is seeking to double its utilisation of renewable energy resources by 2010.

At present, North-TransDanubian Power Supply Co. (EDASZ) operates two large-capacity wind-driven power plants at Mosonszolnok (TransDanubia). Still at the experimental stage, each 65 m high structure could eventually generate sufficient energy to supply 1,500 families. A German entrepreneur plans to put into operation 40 wind-driven power plants in Békés county (Southeastern part of the Great Plain) within two years. In the southern part of the Great Plain, pilot studies continue on small-scale power plants using biogas. This technology soon will be tried in industrial scale.

### **Bauxite**

The only bauxite mining in Hungary is carried out by Bakony Bauxite Mines Ltd. with an annual production of 720,000 t. The company is going to develop a new underground operation, Halimba II, where the ores will be extracted from 60 to 100 m depth. Production should commence in the second half of 2003.

The estimated production rate for the first year is 40,000 t and the full capacity will be 300,000 t/y. In addition, new open pits will be put into operation in the vicinity of Bakonyoszlop, Óbarok and Némethánya.

On Bakony's eight active mining properties, bauxite reserves amount to 23 Mt at an average grade of 59%  $\text{Al}_2\text{O}_3$  of. The bulk of the reserves is located beneath the karst water-table, and 16% of the total is mineable by open pit. Recent exploration aims to increase the reliability of earlier resource estimates. Some of the bauxite is processed at the Ajka alumina refinery.

### **Manganese**

Both manganese oxide and carbonate ores occur in Úrkút (Bakony Mountains). The processed oxide ore is being sold, but, owing to the lack of suitable beneficiation technology there is only a limited market for the carbonate ore. Oxide reserves amount to 36 Mt averaging 17% MnO.

Manganese also occurs in the vicinity of Eger and Demjén (Bükk Mountains). The carbonate ores have weathered to brown oxide ore near the surface. Deposits of variable thickness average 10-15% MnO and are used as mineral pigments.

## Uranium

Uranium ore production at Kővágószőlős (Mecsek Mountains) was terminated a few years ago because of poor ore grades.

## Industrial minerals

Hungary possesses a diverse range of industrial minerals and emphasis on this sector has increased since the closure of the majority of the country's coal mines. Resources include: sand and gravel, dimension stone, gypsum, perlite, talc, zeolite etc. These raw materials are mined in numerous locations mainly by open-pit. The production rate continues to increase, and total annual output is near to 60 Mt. This industry employs about 30,000 people.

The 5th International Alginite Symposium was organised in Salgótarján (Hungary) and Lucenec (Slovakia). This new type of mineral resource was discovered in Hungary. It has formed in tuffaceous craters associated with Pliocene basalt and has excellent fertiliser properties. It is also applied as a healing mud.

<b>Metal and Mineral Production ('000 t except where stated otherwise)</b>			
<b>Commodity</b>	<b>2000</b>	<b>2001</b>	<b>2002*</b>
Crude oil	1,136	1,063	1,050
Natural gas (million m <sup>3</sup> )	3,000	3,500	3,353
Hard coal	726	573	726
Brown coal	5,207	4,702	4,008
Lignite	7,873	8,043	7,574
Manganese ore/oxide	10	4.1	6
Bauxite	1,046	1,000	720
Bentonite/crude	4.8	5.2	2.8
Perlite/crude	150	151	140
Glass sand	500	339	362
Foundry sand	173	168	167
Crude steel	1,969	2,056	2,141

\* preliminary data