

A SHORT REVIEW OF THE HUNGARIAN PETROLEUM AND NATURAL GAS INDUSTRY FROM THE BEGINNINGS UP TO THE PRESENT DAY

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Abstract

The purpose of this paper is to give insight into the history of the Hungarian hydrocarbon industry, into the earlier and present structure of the industrial branch. The importance of hydrocarbons in our century will be illustrated with a few numerical data. The early "heroic" age of the hydrocarbon industry will be dealt with in more detail, since the past 20-30 years will reach "adult" age in the history of industry in the future only.

Great progress in the history of humanity has always been connected with novel developments in energetics. The 19th century was dominated by steam, our century is the century of petroleum, natural gas and their products. The world celebrated the centennary of the automobile last year. The unmatched career of hydrocarbons shall be illustrated with the following data: world petroleum production was 1 million tons in 1870, 20 million tons in 1900, 300 million tons in 1940, 1 billion tons in 1960, 2.8 billion tons in 1986. By now, 60% of the energy consumption of the world is provided by hydrocarbons.

In Hungary after 1840, similarly to more developed countries, municipal gas factories based on coal were set up in several larger towns, above all for satisfying the demands of the population for lighting and heating. Municipal gas became in many respects the precursor and basis of natural gas supply. 100 years later, electricity took the place of municipal gas in lighting. Today energetics and supply of the population with heating energy are dominated by petroleum and natural gas.

Hungarian petroleum production (prospecting, exploration, production) as well as processing and consumption—similarly to most oil-producing countries of the world—has a past of about 120 years. Up to the turn of the century mainly private contractors explored on the basis of observations based on experience. Simple asphalt and petroleum stills were the beginnings of petroleum processing. The first refinery began operation in Fiume, (at present

Rijeka, Yugoslavia) in 1882. From 1906 on the government commissioned specialized companies with prospecting and subsequently a state prospecting company was established. Several smaller petroleum refineries processing mainly imported petroleum were built. Hungary was the first in the world to declare the state's monopoly of hydrocarbon prospecting and production, in Act VI, 1911.

Prospecting was accelerated by war preparations. 3000 tons of petroleum were produced near the village Egbell (Nyitra county, today Slovakia) between 1914 and 18, in Muraköz 8000–9000 tons till 1919. Exploration of natural gas in Transylvania (1909) (today Rumania) and its utilization were also of great importance.

Hugo Böckh, the major geologist in Hungarian petroleum and natural gas prospecting drew the attention of Hungarian geologists in 1911 and subsequently in 1914 to the Great Hungarian Plain, where, in the second half of the 19th century, natural gas had been found when artesian wells were drilled. The amounts were, however, insignificant on a commercial scale.

The political and economic consequences of the first World War, the loss of the earlier hydrocarbon deposits gave the incentive for intense prospecting. The Hungarian Royal Treasury continued prospecting in the vicinity of Hortobágy, Hajduszoboszló, Karcag, Debrecen, Tiszaörs etc. Wells with slightly gaseous mineral waters were found. The petroleum field at Bükkszék, of small significance, was discovered in April 1937.

The Hungarian government sought for contractors disposing of sufficient capital for prospecting in Transdanubia and gave the concession to the prospecting enterprise of the Anglo-Persian Petroleum Company. Between 1921 and 1926 they made three unsuccessful drillings in the environment of Budafa, Kurd and Baja. (These were only at a distance of 1 km from the first wells yielding petroleum and natural gas in 1937.) In the mean while, several outstanding Hungarian experts worked abroad as employees of foreign petroleum companies and gathered extensive experiences in almost all parts of the world.

In the autumn of 1931 EUROGASCO (European Gas and Electric Co.) started negotiations with the Hungarian Ministry of Finances about a natural gas and petroleum concession. This period I shall discuss in greater detail, because the events of the "MAORT" period (*Magyar–Amerikai Olajipari Részvénytársaság* = Hungarian–American Petroleum Company Ltd) were of basic importance for the development of the petroleum industry, for its present state, for the evolution of a consistent Hungarian petroleum industry. Although the hydrocarbon deposits explored in the time of MAORT make up barely 5% of the hydrocarbon resources known now, one must nonetheless regard the pioneers, the great predecessors working conscientiously and self-sacrificingly under frequently very difficult conditions with the highest respect.

On June 28, 1933 the Parliament sanctioned the "Agreement" and "Contract" transferring the prospecting rights for the whole Transdanubian territory for five years to EUROGASCO which meanwhile financially came into the sphere of interest of the petroleum company Standard Oil of New Jersey.

EUROGASCO introduced the most up-to-date geophysical tests and drilling technologies in Hungary. The Hungarian experts with extensive experiences from abroad played important parts in the management of the petroleum industry.

Drilling was started in Mihályi in 1935, where instead of oil, important CO₂ layers, with small amounts of combustible gas and insignificant traces of oil were found in later wells too. The next deep drillings at Görgeteg and Inke were without results. Finally, drillings at Budafapuszta in West Hungary were successful: the drilling B1 produced petroleum and natural gas on February 9, 1937. The steam boilers of the drilling B2 started on April 14, 1937 were already fired with the gas from the well B1. Drilling was terminated on September 29 and from November 26, 1937 the well was in continuous operation. That day is counted as the birth of the Hungarian industrial-scale petroleum industry.

Based on the above success, the company Magyar–Amerikai Olajipari RT the (Hungarian–American Petroleum Co.) MAORT was established on July 15, 1938. Further prospecting was successful at Lovászi, Ujfalu and Pusztaszentlászló. Production increased by applying modern, economic methods, the country changed from the former petroleum-importing country into a self-supporting one.

The events of the second World War, particularly towards its end, acted adversely on MAORT's activities too; however, its major endeavour remained economic production.

MAORT represented up-to-date technology in all sectors of the petroleum industry. The atmosphere within this enterprise organized after the pattern of capitalist enterprises was democratic. The workers lived on a relatively high standard, modern housing, cultural establishments, good roads were built around works. Under the direction of Simon Papp, the eminent general manager and vice-president of the company, a team of experts grew up, who—as successful pupils—did much for the development of the petroleum industry. Some of them still live among us in well-deserved retirement.

Already in the first days after the Second World War MAORT was active in the reconstruction of the country. However, in that intricate period by far not free of contradictions, conditions became increasingly difficult for running the company. The representatives of the faulty policies of the time in Hungary put several outstanding MAORT experts innocently in prison for years.

The conflict forced by bad policies was not alleviated by taking MAORT into state management (September 24, 1948) nor by its nationalization

(December 31, 1949). The hydrocarbon industry could develop only along the deliberate path elaborated by experts.

In the Great Hungarian Plain, the Hungarian–German Petroleum Company Ltd. carried out thorough prospecting between 1940 and 1945. Deep drillings were made in the Tótkomlós, Sándorfalva, Ferencszállás, Köröshegy and Muraköz regions. The drillings did not lead to results, but their scientific and geological value was great.

By the terms of the armistice, German property and interests passed into the possession of the Soviet Union. On April 8, 1946, two joint Hungarian–Soviet companies were founded: MASZOVOL for obtaining and MOLAJ for processing petroleum, and these were united, on January 1, 1950, in the Magyar–Szovjet Olaj RT (Hungarian–Soviet Petroleum Company) MASZOLAJ. From the beginning of that year on—following the nationalization of MAORT and other companies with Western interests—petroleum enterprises with various profiles were established. The first important success after the war was the discovery of the Nagylengyel petroleum field in 1951. For processing this petroleum the refinery in Zalaegerszeg was started in 1952. In 1957 the Kőolajipari Tröszt (Petroleum Trust), a general organization for the total petroleum industry was established, its successor, from 1960 on, is the Országos Kőolaj- és Gázipari Tröszt (National Petroleum and Natural Gas Trust).

As production in the Transdanubian region decreased, prospectings in the Great Hungarian Plain were reinforced. Successes in this region transferred the centre of interest to this part, at present, about 95% of hydrocarbon production (in petroleum equivalents) stems from the Great Plain.

After exploring petroleum and natural gas deposits of minor importance, in 1961 the natural gas field in Hajduszoboszló was discovered. As the result of this discovery, of great significance for the country, the natural gas industry developed vigorously. The largest petroleum and natural gas field of Hungary started operation on October 28, 1965 in Algyő. Up till 1970 59 hydrocarbon reservoirs were explored in the Great Plain. Prospecting and exploration are carried out by the Petroleum Prospecting Company (Kőolajkutató Vállalat, KÖV).

Production in Algyő, the largest hydrocarbon field of Hungary was started in 1965. After 1970, several productive petroleum and gas wells were drilled in the area between the Danube and the river Tisza. Tests and calculations indicated that the plains are most promising, that is why more wells are drilled in these areas.

Several secondary and tertiary methods are now being used in the Transdanubian oil fields and already also in the fields of the Great Plain to increase the yield of fields long exploited. In the fields of Zala county the carbon dioxide secondary technique is the most employed. In the oil field of Demjén, thermal working is applied with success.

The Transdanubian petroleum enterprises have also been reorganized several times. At present they are united in one large company: the Kőolaj- és Földgázbányászati Vállalat (Petroleum and Natural Gas Co.). Drilling and exploitation activities of the enterprise extend to the area between the Danube and the Tisza too.

Hungary's petroleum production has been only slightly above 2 million tons for the past years. Consumption per year is between 8 and 9 million tons, its major part being imported from the Soviet Union by pipeline.

The capacity of petroleum processing exceeds 11 million tons/year. The largest enterprise is the Dunai Kőolajipari Vállalat (Danube Petroleum Processing Company). The Tiszai Kőolajipari Vállalat (Tisza Petroleum Processing Company), the Zalai Kőolajipari Vállalat (Zala Petroleum Processing Company) and the Komáromi Kőolajipari Vállalat (Komárom Petroleum Processing Company) (with a long past) should also be mentioned.

The petroleum and natural gas pipelines are being operated by the Gáz- és Olajszállító Vállalat (Gas and Petroleum Conveying Company).

Over half of natural gas consumption: 10 billion m³ are produced in the country; the rest is being imported from the Soviet Union. All activities connected with natural gas supply—constantly increasing with the increasing number of natural gas consumers—are performed by five regional gas supplying companies.

The major research basis of hydrocarbon prospecting, production, processing and application is today the Magyar Szénhidrogénipari Kutató és Fejlesztő Intézet (Hungarian Hydrocarbon Research and Development Institute SZKFI). This institute maintains the Magyar Olajipari Múzeum (Museum of the Hungarian Petroleum Industry) which since 1969 collects, and exhibits the technological relics and documents of the petroleum and natural gas industry.

The Hungarian hydrocarbon industry employs close to 50.000 workers.

According to forecasts the present petroleum production level—around 2 million tons/year—will only slightly decrease till the turn of the century. In the future, mainly the exploration of minor occurrences is to be expected.

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