

REVIEW OF THE HUNGARIAN ENERGY POLICY BETWEEN 1990 AND TODAY

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Abstract—The change of regime in Hungary between 1989 and 1990 was an economic and social transformation at the same time. These processes had an effect on energy consumption and thereby on energetics too. The high energy needs of industry decreased and the structure of industry changed. Hungary had to face a one-sided and heavy energy-dependence from the Soviet Union. Inevitably, this made establishing unified energy consumption indispensable. In this article, I aim to examine what economic and political events have led to changes in energy policy and with all the changes what major principles have remained unchanged in the past 25 years.

Keywords—Energy policy, energetics, renewable energy resources

I. INTRODUCTION

Before describing the details of the energy policy in Hungary, I would like to define the concept. Energy policy is, in fact, the strategy of energy supply. It includes imposing the overall conditions of energy supply and energetics, providing long-term harmony between future energy needs, and accountable energy resources, taking into account economic boom as well as enforcing social interests. The following factors are of key-importance in energy-policy: consumer protection, environment protection as well as complying with international obligations beside secure energy supply and tasks of legislation [1]. The main goal of energy policy is to enforce provision of secure energy supply for the population and the economy, while keeping environment pollution and service prices at a socially acceptable level so as to meet the justified energy needs of the country with caution [2]. The energy policy of a country and the requirements of energy supply arising can be summarized as follows: The energy supply needs to be safe, available for everyone, economically viable, socially acceptable, and suitable for environment protection.

II. A REVIEW OF THE ENERGY STRATEGY OF HUNGARY

Hungary is a country poor in natural resources so it heavily relies on permanent and safe energy import. This fact, basically determines now and in the future the opportunities available for the country and its energy policy. The change of regime and its concomitant economic transformation inevitably had an impact on the energy sector too. The Laws of 1988 on economic

corporations and the 1989 Laws of Transformation made it possible for new ownership structures to appear in the energy sector. As a result, the system of corporations of energetics changed too. For example, gas-supply companies left OKGT (the Hungarian Oil and Gas Industry Trust) in 1990. In 1991 MOL Plc. (the Hungarian Oil and Gas Industry Plc), and the Hungarian Electricity Plc were established. At the same time, laws related to the operation of Corporate System and of the energy industry were passed. Mining Law, Concession Law, Gas Law and Electricity Law were all passed. To supervise markets regulated by the laws, the Hungarian Office of Mining and the Hungarian Energy Office were established.

The basic principles of the new national energy policy had been outlined earlier based on a document submitted to the Hungarian Parliament in the regulation of 21/1993. They are as follows [3]:

- 1) *To keep and increase the security of energy-supply. To decrease one-sided import dependence and lay down the right economic-political conditions of diversified energy purchase.*
- 2) *To enhance energy efficiency and energy saving, whereby the competitiveness of the market increases.*
- 3) *To create suitable economic and legal environment so that the Hungarian energy economy can gradually be adapted to the emerging, unified European energy market.*
- 4) *To enforce the principle of the lowest cost in the development and operation of the energy system.*
- 5) *To enforce environmental aspects in both the energy-producing and energy-consuming systems and in future developments.*
- 6) *To normalize the situation of coal-mining while prioritizing interests of the national economy.*

Most of the principles and strategic planning listed above have been implemented, while the rest are in progress. Laying down these basic principles, however, was especially significant because they have provided a decisive framework for implementing our energy policy up to the present day.

The Government was authorized by the Parliament in Regulation 21/1993 [3] to submit a biannual report to the Parliament on the energy-policy being implemented. The first report of this kind was prepared for the Parliament in 1995. In the very same year the Law of Privatization and its amendment were passed, which actually narrowed

down the possible rate of state property in the energetics-corporations. During the first phase of privatization of the electrical-energy sector HUF 180 billion profit was obtained out of a total of HUF 245 billion, most of which was a result of selling electricity service-providers. The Hungarian Electricity Works made long-term agreements with power stations for electricity purchase contracts.

The next account was completed at the end of 1997, which would have been submitted to the Parliament at the beginning of 1998, had there not been elections and a new government. A report was submitted on how the principles of energy policy were observed in 1999, which was passed by the Government in a regulation [4]. This report contained relevant information about changes in the energy sector between 1995 and 1999, as well as analyses of events and official standpoints. A few new principles of the energy policy detailed in the proposal were also defined:

- 1) *To create a home market allowing for the competitiveness of the economy as well as the national features in order to protect consumers' interests, as part of the unified European market.*
- 2) *To emphasize the importance of sustainable development.*
- 3) *It is of vital importance to regulate monopolies in a transparent way.*

The information bulletin published in 2001 outlined another two principles in addition to the earlier basic principles:

- 1) *Increasing the rate of renewable energy resources in energy consumption as well as,*
- 2) *Protecting the interests of energy consumers.*

The next information bulletin was made in 2005. There were basic changes taking place in the Hungarian national economy and in the energy sector forming part of it. The energy needs of the economy had largely decreased, the pollution of the environment had dropped significantly, and the energy sector had become basically privatized with the emergence of multiple ownership, and the conditions of a competitive market had been laid down both in the field of oil derivatives and pipeline energy resources. Simultaneously, the import-dependence of the country had increased and the high rate of fossil energy remained. At the same time, the price of oil increased on the energy market, followed by a rise in the price of natural gas. The fact that Hungary joined the EU in 2004 also involved changes in the regulatory laws of energetics. The factors mentioned above made the definition of energy policy, as part of the economic policy indispensable.

The energy policy of 2007-2020 was determined by the Parliament, which involves supply security, competitiveness, sustainability, and the overall long-term implementation of primary goals. At the same time, goals of the energy policy are laid down, such as meeting the energy needs of the population in a secure, economical way, allowing for aspects of environment protection, while reinforcing competitiveness in the energy market,

as well as facilitating the implementation of community objectives defined within the framework of the European Union.

The regulation passed on "the Energy Policy of 2007-2020" [5] can be regarded as a "frame-document", a new concept of the energy policy replacing the old 1993 Parliament regulation. The Parliament registered the following main goals in the decree of [5].

- 1) *The strategic goal of the energy policy is to optimize supply security, competitiveness and sustainability, while considering long-term aspects as the overall realization of primary goals. Harmony needs to be achieved between the Hungarian energy policy and climate policy within the energy policy.*
- 2) *When taking on introducing measures to decrease greenhouse gases, their influence on the energy supply security, the economy and competitiveness of Hungary also need to be accounted for.*
- 3) *Implementing the goals of energy policy, especially improving energy efficiency and increasing energy saving and encouraging the use of renewable energy resources and energy gained from waste, is to be encouraged by state subsidizing and sources made available for Hungary by the European Union. Special attention should be paid to environmental effects, nature conservation as well as effects related to food and fodder production, while encouraging the use of renewable energy resources.*
- 4) *To ensure that a regulatory environment be formed and developed complying with the goals of energy policy and EU laws, one meeting the right conditions of a competitive market while allowing for consumer protection, supply security, technical security, environment protection and nature conservation as well as labour hygiene.*

In the very same year, the government passed the "National Energy Efficiency Action Plan" [6], the "Strategy of Renewable Energy Resources" [7] concept too. Increasing the rate of renewable energy resources both decreases the import dependence of Hungary and contributes to laying down conditions for sustainable development, and to implementing goals of environment protection, nature conservation and climate protection [7]. The main goal of energy policy is to increase the rate of renewable energy use facilitating the competitiveness of the economy in accordance with the current financial load-bearing capacity of the country and region. It is primarily utilizing biomass, wind energy, geothermal energy and solar energy of the renewable energy resources that offer excellent opportunities allowing for the potentials of Hungary. There are significant potentials in the use of biomass, but planning and implementation must largely allow for all the major aspects of environmental protection and sustainability. Special attention must be paid to the use of biomass derived from field and forest management as they might allow for environment protection, nature conservation aspects of sustainability to be considered.

When planning the use of renewable energy resources the following factors need to be allowed for:

- 1) *The use of renewable energy resources is generally more expensive than of carbohydrates. The difference is gradually decreasing, especially when accounting for costs of climate change, and predictable world market price rise of oil and natural gas.*
- 2) *Renewable energy resources improve the security of energy supply by decreasing the rate of import energy, diversifying sources of procurement, increasing the rate of energy coming from the county regions and creating new jobs.*
- 3) *While using renewable energy resources no (e.g. wind energy) or only little amount of greenhouse gases is released.*

Energy policy decisions have to be made by reducing (in the European Union and internationally) CO₂ emissions and observing emissions of other pollutants. In the sense of the Kyoto protocol, the rate of greenhouse gases has to be reduced in Hungary by 6 % on average in 2008-2012 compared to the period of 1985-87. Mid-term reduction of emissions in Hungary largely depends on load distribution agreements in the European Union.

Hungary has to define what extent of emission reduction can be achieved when accounting for the load-bearing capacity of society and the economy. Far more radical international climate protection requirements will have to be considered by 2030 than the current ones. To achieve goals of climate protection both increasing energy efficiency and utilizing renewable energy will gain ground. The goals mentioned above had to be modified due to the world crisis of 2008-2009 as well as the new European directives. The earlier strategy had not actually accounted for the energy need reducing effect of the economic recession of 2008-2009. Most recent energy need predictions forecast significantly lower energy needs for 2020 than the goals of the earlier strategy.

Considering changes in energy needs 2020 energy saving expectations were modified by the EU, thus making them lower than goals of the earlier strategy.

The guiding principle 2009/28/EC of the European Parliament and Council [8] suggests that the goal renewable energy value within the overall primary energy set by 2020 be 20 %. The rate of bio fuel within all fuels should reach 10 %. This guiding principle aiming at a 20% renewable energy rate in fact allows for potentials and special features of the member states respectively. This means, for example, that Hungary is expected to reach 13% renewable energy use of the overall energy consumption by 2020.

It is also prescribed by the guiding principle that the member states prepare National Renewable Energy Action Plan by the end of June of 2010, to be submitted on a unified form of the European Committee. The schedules of the National Renewable Energy Action Plan is to be based on the base year of 2005.

The goals of the National Renewable Energy Action Plan voted by the Government in regulation 1076/2010

are as follows:

The National Renewable Energy Action Plan bases on the Renewable Energy Strategy of Hungary already voted by the government in regulation 2148/2008 in 2008 [7]. However, allowing for significant changes that have taken place, the global economic recession, the economic reconstruction as well as economic development program defined by the Hungarian government, they rewrite and overwrite them. As a result, Hungary does not only consider the use of renewable energy resources an obligation, but much rather an excellent opportunity to contribute to economic development. In this respect, the use of renewable energy resources is a need and opportunity at the same time. First, it is a fundamental need to find an answer to problems caused by the excessive use of fossil energy resources (such as climatic change, import dependence, imbalance of trade balance, shortage of energy etc.) which might be advantageous both economically and in terms of environment protection for the country and our society too. On the other hand, it offers an opportunity for a structural change in the national economy, for comprehensive production and market reforms. Accordingly, the goals of the National Renewable Energy Action Plan are to be determined, encouraging small and medium-sized energy producing units having rather large job-creating capacity, more adaptable for local resources, to produce energy at the highest possible level of efficiency and achieve long-term sustainable environment use.

Changes in external conditions (technological development, decreasing investment costs, direct community resources etc.), revision of the regulatory system and its inevitable transformation, reconsidering support systems, and simplifying licensing processes might offer an opportunity for this.

In harmony with the factors above, measures of the National Renewable Energy Action Plan concern the following public tasks:

- 1) *It is necessary to pass a new law on sustainable energetics.*
- 2) *Transforming, simplifying current support programs and making them efficient.*
- 3) *Launching an independent (co-financed by the EU) energetics support program.*
- 4) *All-round transformation of the compulsory system of taking over electric energy produced from renewable energy resources (hereinafter called green energy).*
- 5) *Examining supporting alternatives of energy produced from renewable energy resources.*
- 6) *Promoting more active participation in direct community and other support programs.*
- 7) *Revision of incentives built into building energetics.*
- 8) *Revision of country planning and forming regional energetics concepts.*
- 9) *Revision and simplification of regulatory, licensing systems and procedures.*

10) *Programs aimed at forming views, information campaigns and elaborating (integrated information programs).*

11) *Launching development programs in order to develop industries related to renewable energy use.*

Launching programs aimed at disseminating second generation bio and alternative fuels. The main goal of the National Renewable Energy Action Plan is to produce the greatest possible overall social profit based on the natural, economic, social, cultural and geopolitical potentials of Hungary. The primary goal of utilizing renewable and alternative energy is to decrease the gas and oil import-dependence of the country.

III. CONCLUSION

Import has a high proportion in the energy supply of Hungary. Local production makes up one fifth of oil needs, one sixth of natural gas consumption and the currently available and predictable stock data make it even more likely for this rate to decrease.

Increasing world market energy prices will continue long term. The world market prices of energy, mainly oil and natural gas has doubled in the past one or two years due to a growing demand in quickly developing Asian countries, production costs and various political events. Increasing the security of supply requires significant investments (new sources and network capacities and security stocks), which increase the energy costs of consumers further. Further restriction of the climate policy, environment protection and nature conservation may influence the operational framework of energetics.

Environment protection and decreasing pollution will become an inevitable constraint in the next quarter century. Decisions on energetics will have to be made considering the fact that regulations of environment protection, nature conservation and climate policy will become stricter. Energy supply and energy use have significant environmental effects, and a key issue of energy policy is to moderate these effects. Regulations of

Environment protection, nature conservation and climate policy, limit values and observing laws are external consequences of energy policy.

The Union prescribes goals in contracts, guiding principles and regulations so that the goals accepted be implemented. Executing the regulations connected with energetics is compulsory for member states, so they need to be integrated into goals of energy policy and means of execution. Strategic goals of competitiveness, supply security, and sustainability are vital, and within these regulations related to environment protection, promoting energy security and transparent market competition are of special importance.

Hungary has to face the same challenges. It is a vital interest of Hungary that the European Union can find answers to these questions, ones that are favourable for Hungary too. The overwhelming majority of tasks controlled by energy policy can be deduced from goals of

supply security, non-committed competitiveness and environment protection (within this climate protection). Official Hungarian energy policy handles issues of energy saving, increasing the use of renewable energy and nature conservation in an identical unified way.

70 % of energy resources are imported into Hungary, and this rate is going to increase due to dwindling local resources. The most important strategic aim of the Hungarian energy policy is to optimize supply security, competitiveness and sustainability as an overall set of goals. Several interactions can be imagined between the three goals above, and, in many cases their implementation may conflict those of the others, but they may also reinforce each other. The measures taken to achieve the goals require a special emphasis on common effects, to be able to resolve contradictions between them and create the greatest harmony.

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